Referring to FIG. 4C, in another embodiment, the mobile phone device receives a digital receipt that is then transmitted to the smart card, and is then utilized by an application on the smart card such as a transit token or e-Cash application as the authorization to generate digital goods. Following the payment authorization from the financial institution 112 a confirmation of the payment transaction is transmitted to the payment server 106 (132). The payment server 106 routes the payment confirmation to the merchant server 104 (134) and routes the payment confirmation to the authentication server 107 (136). The authentication server 107 sends a digital receipt 110 and an SMS message confirming the payment transaction to the customer's mobile phone (138). The mobile phone 110 receives the confirmation message and the digital receipt for digital goods from the authentication server 107 and the customer 102 receives a message that digital goods are available. An application on the smart card or on the mobile phone generates the digital goods based on the information contained within the digital receipt. The digital goods are created and transferred to the smart card 190 (189).

In another embodiment, the payment authentication instrument may be contained on one or many Subscriber Identity Module (SIM) smart cards for GSM wireless networks or Universal Subscriber Identity Module (USIM) smart cards for 3G wireless networks within the mobile phone 110, or within full-size smart cards inserted into a smart card reader 153 that is either attached to or embedded in the mobile phone device 110 or contained on a contactless smart card that can be accessed by a mobile phone device 110 with a contactless reader. The general concept of connecting additional smart card readers by implementing a connection to the existing SIM connector on a mobile phone is defined in the prior art "Communication Method and Apparatus Improvements" (PCT International Publication Number WO 99/66752), the entire content of which is incorporated herein by reference. This prior art defines the implementation of a mobile phone device attachment 200 that utilizes a Central Processor Unit to coordinate the activities of multiple SIM cards and full-size smart cards (See FIG. 2). The prior art defines the basic design of a mobile phone that provides a smart card reader either attached to the phone as an accessory or embedded into the design of the phone. Co-pending patent application entitled "Mobile Device Equipped with a Contactless Smart Card Reader", the entire content of which is incorporated herein by reference, describes a mobile phone that provides a

"contactless" smart card reader 300 to read/write data to a contactless smart card (see FIG. 3).

In another embodiment, the receiver of the digital goods can be one or many Subscriber Identity Module (SIM) smart cards for GSM wireless networks or Universal Subscriber Identity Module (USIM) smart cards for 3G wireless networks within the mobile phone 110, or a full-size smart cards inserted into a smart card reader that is either attached to or embedded in the mobile phone device 110 or a contactless smart card that can be accessed by a mobile device 110 with a contactless reader or the mobile phone itself.

In another embodiment, the payment authentication card can be a magnetic stripe payment card that is accessed by the mobile phone device utilizing the magnetic stripe card reader 500 described in a co-pending patent application entitled "Mobile Communication Device Equipped with a Magnetic Stripe Reader", the entire content of which is incorporated herein by reference, (see FIG 5).

Other embodiments are within the scope of the following claims. For example, the smart card reader and/or payment card reader is adapted to connect to the mobile phone device through the mobile phone device's accessory connection point such as serial, USB, Compact Flash, Infrared, Bluetooth and Secure Digital. The digital goods may be fulfilled to a dual-interface contact/contactless smart card, or to a multi application "combi" contact/contactless smart card. The authentication of the customers Personal Identification Number (PIN) may be processed online at the financial institution or with a third-party server-side wallet account. The payment instrument may an account established with a server-side wallet. A browser on the mobile device may be utilized for entering the payment information. The payment information may be verbally transcribed to a customer service representative or a speech recognition system. The payment information may also be transcribed utilizing an Interactive Voice Response system. The digital goods are transferred to a customer's virtual or server-side account. The digital goods that are downloaded may be a digital receipt for goods to be fulfilled at a later time by the customer such as the online generation of a Hidden Rechargeable Number (HRN) for pre-paid top up that the customer will utilize to top up a pre-paid mobile, utility or other type of pre-paid

account. The mobile device may be held by a merchant to accept payment from and fulfill digital goods to a plurality of customers. In addition to SMS messaging via the SMS Carrier 109 between the authentication server 107 and the mobile phone 110, the communication between the authentication server 107 and the mobile phone 110 may be via a proprietary message protocol that utilizes User Datagram Protocol (UDP) on top of Internet Protocol (IP). This proprietary message protocol is adapted to be used with wireless networks that support Transmission Control Protocol/Internet Protocol (TCP/IP). These wireless networks include Bluetooth, 3G, GPRS, 2.5G, Infrared, WCDMA, CDMA200, 802.11a and 802.11b. The mobile phone identification information may be an Internet Protocol (IP) address. The communication networks 80, 82, 84, 86, 88 and 90 may be wireless or wired networks. The communication networks 80, 82, 84, 86, 88 and 90 may be non face-to-face via the Internet, VPN (Virtual Private Network), cable network, data network, telephone network, private voice and data networks, public voice and data networks, and mail or person to person. Payment card identification may occur via the payment card number or via an encrypted transaction signature that can only be decrypted by the financial institution that has issued the payment card. The authentication server may also utilize a password, digital signature, or a biometric identifier, i.e., retina scan, fingerprint, voice characteristics, to authenticate the payment transaction. The payment authentication instrument may be contained in the contactless smart card, on the SIM smart cards within the mobile phone 110, or within another full-size smart card that needs to be inserted into a smart card reader slot. The communication mobile phone device may be a mobile wireless device and the second network may be a wireless network. The mobile wireless device may be a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, or combinations thereof. The second network may be a wireless wide area network (WWAN), a wireless local area network (WLAN) or a wireless personal area network (PAN). The communication device may also be a wired communication device and the second network may be a wired network. The wired communication device may be a telephone or a computer and the wired network may be a telecommunications network or the Internet, respectively. The first network may be the Internet or a telecommunication network.

Several embodiments of the present invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. Accordingly, other embodiments are within the scope of the following claims.

What is claimed is:

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1. An electronic payment and fulfillment system utilized by a customer for purchasing a digital good comprising:

a merchant server adapted to receive a purchase order from said customer for the purchase of said digital good, and to create a digital order comprising purchase order information;

a payment server adapted to receive said digital order from said merchant server and to further route said digital order;

an authentication server adapted to receive said digital order from said payment server, format said digital order into a first message and further route said first message;

a communication device comprising a payment card module wherein said payment card module is adapted to receive a payment card and read payment card identification information stored in said payment card, and wherein said communication device is adapted to receive said first message from said authentication server, display said first message to said customer, request and receive authorization for payment for said purchase order with said payment card from said customer, retrieve said payment card identification information, request and receive payment card security information from said customer, and route said authorization and said payment card identification and security information to the authentication server, and wherein said authentication server further routes said authorization and payment card identification and security information to said payment server and from said payment server to a financial institution, wherein said financial institution is asked to execute said payment and to send a payment confirmation through said payment server to said merchant server and to said authentication server; and

a fulfillment server adapted to receive said payment confirmation from said payment server and transmit said digital good via said authentication server to said communication device, wherein said communication device stores said digital good onto said payment card.

2. The system of claim 1 wherein said communication device comprises a wireless communication device.

3. The system of claim 1 wherein said communication device comprises a wired communication device.

4. The system of claim 3 wherein said merchant server, said payment server, said authentication server, said fulfillment server and said communication device are adapted to send and receive messages among each other via a first network.

5. The system of claim 2 wherein said merchant server, said payment server, said authentication server, and said fulfillment server are adapted to send and receive messages among each other via a first network and said wireless communication device is adapted to send and receive messages to said authentication server via a second network and wherein said second network comprises a wireless network.

6. The system of claim 2 wherein said wireless communication device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, programmable versions thereof and combinations thereof.

7. The system of claim 5 wherein said wireless network is selected from a group consisting of a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

8. The system of claim 7 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile Communications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).

9. The system of claim 4 wherein said wired communication device comprises a telephone and said first network comprises a telecommunications network.

10. The system of claim 4 wherein said wired communication device comprises a computer and said first network comprises the Internet.

11. The system of claim 1 wherein said payment card comprises a smart card selected from a group consisting of a full size smart card, a contactless smart card, a SIM smart card, a USIM smart card, a credit card, a debit card, a stored-value card, a

coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

12. The system of claim 1 wherein said payment card comprises a magnetic stripe card.

13. The system of claim 1 wherein said merchant server receives said purchase order by said customer via a route selected from a group consisting of the Internet, telephone connection, mail order form, fax, e-mail, voice recognition system, shot message service, interactive voice recording (IVR), and face-to-face communication with the customer.

14. The system of claim 2 wherein said wireless communication device comprises a subscriber identification module (SIM) card slot and said payment card module is electrically connected to said SIM card slot.

15. The system of claim 1 wherein said payment card information is selected from a group consisting of cardholder identification information, card identification information, authentication information, card issuer information, and financial institution information.

16. The system of claim 1 wherein said digital good is selected from a group consisting of electronic cash, electronic tickets, electronic coupons, loyalty points, credits for pre-paid mobile airtime, credits for pre-paid utilities, electronic gift certificates, digital rights managements(DRM) certificates, electronic transit tokens, music, software, movies, and books.

17. The system of claim 1 wherein said merchant server and said fulfillment server comprise one entity.

18. The system of claim 1 wherein said customer places said purchase order to said merchant server via said communication device.

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19. The system of claim 1 wherein said communication device further comprises a shopping application and wherein said customer utilizes said shopping application, to select said digital good, to place said purchase order, to authorize, authenticate and pay with said payment card, and to store said digital good onto said payment card.

20. The system of claim 1 wherein said payment card module comprises a payment card reader and writer module.

21. The system of claim 1 wherein said communication device further comprises a digital good generation application and wherein said digital good generation application receives a digital receipt for said digital good and generates said digital good.

22. The system of claim 1 wherein said first message comprises a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.

23. An electronic payment and fulfillment method utilized by a customer for purchasing a digital good comprising:

placing a purchase order with a merchant server for said digital good and choosing to pay via a communication device;

providing said merchant server with identification information for said communication device;

creating a digital order comprising purchase order information and said identification number for said communication device by said merchant server;

routing said digital order to a payment server and from said payment server to an authentication server;

formatting said digital order into a first message by said authentication server and routing said first message to said communication device;

displaying said first message on said communication device and requesting and receiving authorization of payment from the customer;

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retrieving identification information of a payment card from said communication device;

requesting and receiving security information of said payment card from said customer via said communication device;

routing said authorization and said payment card identification and security information through said authentication server to said payment server and from said payment server to a financial institution;

executing said payment at said financial institution and sending a payment confirmation to said payment server;

routing said payment confirmation from said payment server to said merchant server and to a fulfillment server;

transmitting said digital good from said fulfillment server via said authentication server to said communication device; and

storing said digital good onto said payment card by said communication device.

24. The method of claim 23 wherein said communication device comprises a payment card module adapted to receive said payment card and read said payment card identification information stored in said payment card and to receive a digital good and store said digital good onto said payment card.

25. The method of claim 23 wherein said communication device comprises a wireless communication device.

26. The method of claim 23 wherein said communication device comprises a wired communication device.

27. The method of claim 26 wherein said merchant server, said payment server, said authentication server, said fulfillment server and said communication device are adapted to send and receive messages among each other via a first network.

28. The method of claim 25 wherein said merchant server, said payment server, said authentication server, and said fulfillment server are adapted to send and receive messages among each other via a first network and said wireless communication

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device is adapted to send and receive messages to said authentication server via a second network and wherein said second network comprises a wireless network.

29. The method of claim 25 wherein said wireless communication device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, programmable versions thereof and combinations thereof.

30. The method of claim 28 wherein said wireless network is selected from a group consisting of a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

31. The method of claim 30 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile Communications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).

32. The method of claim 26 wherein said wired device comprises a telephone and said first network comprises a telecommunications network.

33. The method of claim 26 wherein said wired device comprises a computer and said first network comprises the Internet.

34. The method of claim 23 wherein said payment card comprises a smart card selected from a group consisting of a full size smart card, a contactless smart card, a SIM smart card, a USIM smart card, a credit card, a debit card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

35. The method of claim 23 wherein said payment card comprises a magnetic stripe card.

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36. The method of claim 23 wherein said placing a purchase order comprises placing a purchase order via a route selected from a group consisting of the Internet, telephone connection, mail order form, fax, e-mail, voice recognition system, shot message service, interactive voice recording (IVR), and face-to-face communication with the customer.

37. The method of claim 24 wherein said communication device comprises a subscriber identification module (SIM) card slot and said payment card module is electrically connected to said SIM card slot.

38. The method of claim 23 wherein said payment card information is selected from a group consisting of cardholder identification information, card identification information, authentication information, card issuer information, and financial institution information.

39. The method of claim 23 wherein said digital good is selected from a group consisting of electronic cash, electronic tickets, electronic coupons, loyalty points, credits for pre-paid mobile airtime, credits for pre-paid utilities, electronic gift certificates, digital rights managements(DRM) certificates, electronic transit tokens, music, software, movies, and books.

40. The method of claim 23 wherein said merchant server and said fulfillment server comprise one entity.

41. The method of claim 23 wherein said customer places said purchase order to said merchant server via said communication device.

42. The method of claim 23 wherein said communication device further comprises a shopping application and wherein said customer utilizes said shopping application, to select said digital good, to place said purchase order, to authorize, authenticate and pay with said payment card, and to store said digital good onto said payment card.

43. The method of claim 24 wherein said payment card module comprises a payment card reader and writer module.

44. The method of claim 23 wherein said communication device further comprises a digital good generation application and wherein said digital good generation application receives a digital receipt for said digital good and generates said digital good.

45. The method of claim 23 wherein said first message comprises a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.

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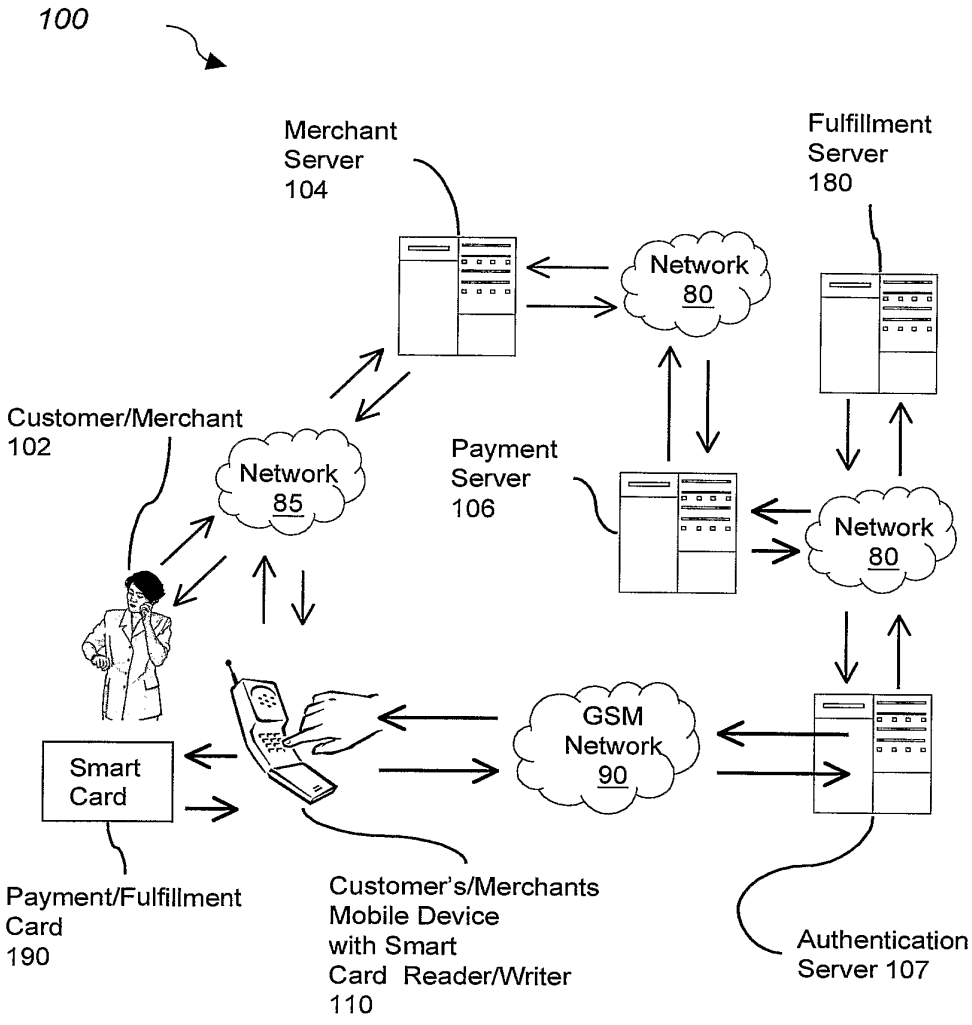

100
Merchant Server 104
Fulfillment Server 180
Network 80
Customer/Merchant 102
Network 85
Payment Server 106
Network 80
Smart Card
GSM Network 90
Payment/Fulfillment Card 190
Customer's/Merchants Mobile Device with Smart Card Reader/Writer 110
Authentication Server 107

FIG. 1

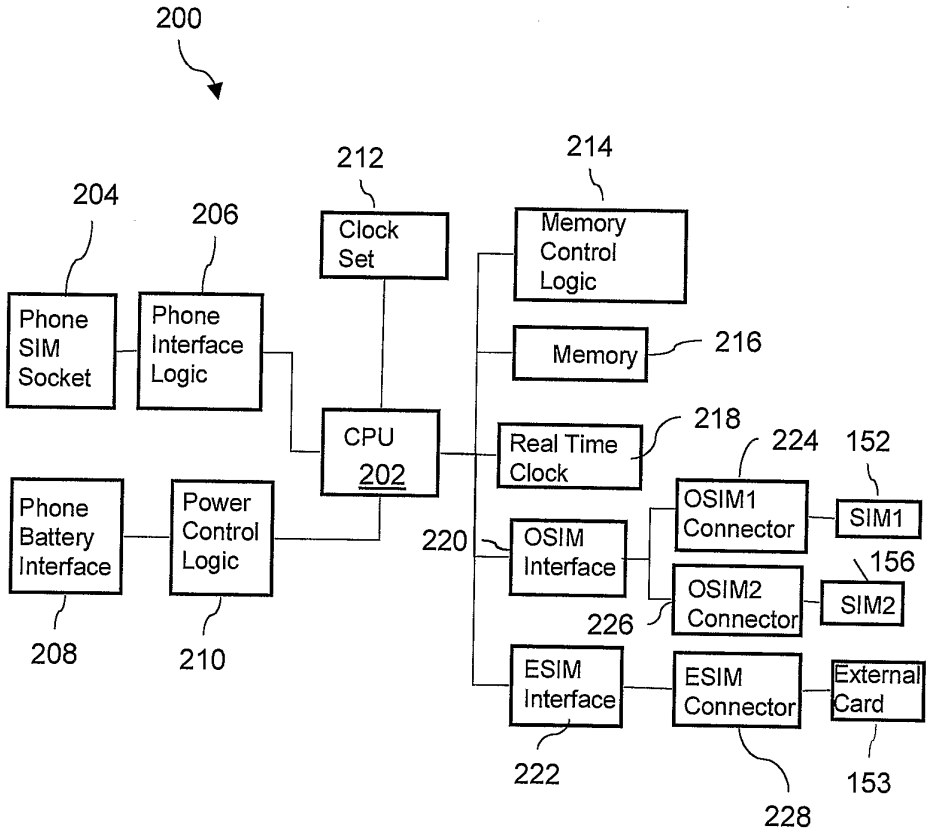


FIG. 2
(Prior Art)

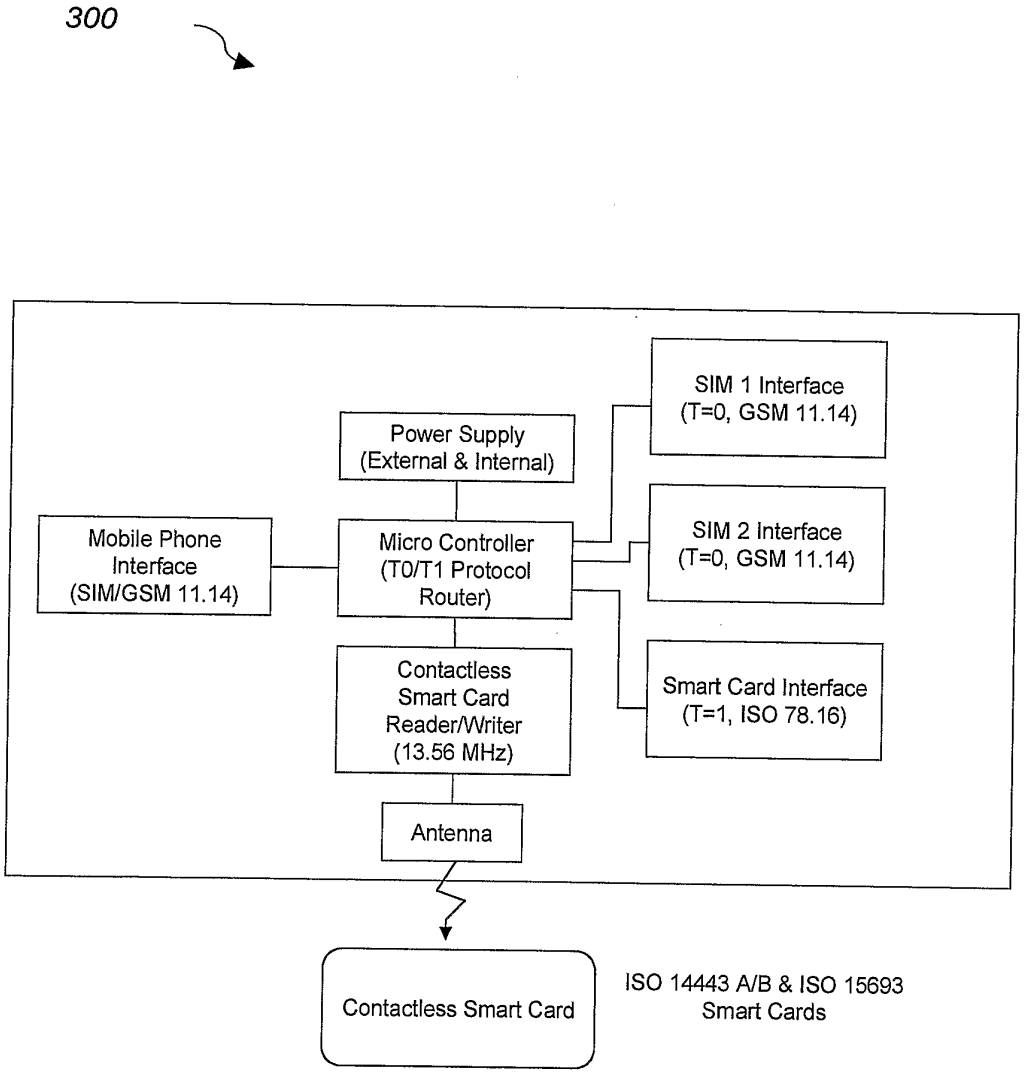

300
SIM 1 Interface
(T=0, GSM 11.14)
Power Supply
(External & Internal)
Mobile Phone
Interface
(SIM/GSM 11.14)
Micro Controller
(T0/T1 Protocol
Router)
SIM 2 Interface
(T=0, GSM 11.14)
Contactless
Smart Card
Reader/Writer
(13.56 MHz)
Smart Card Interface
(T=1, ISO 78.16)
Antenna
Contactless Smart Card
ISO 14443 A/B & ISO 15693
Smart Cards

FIG. 3

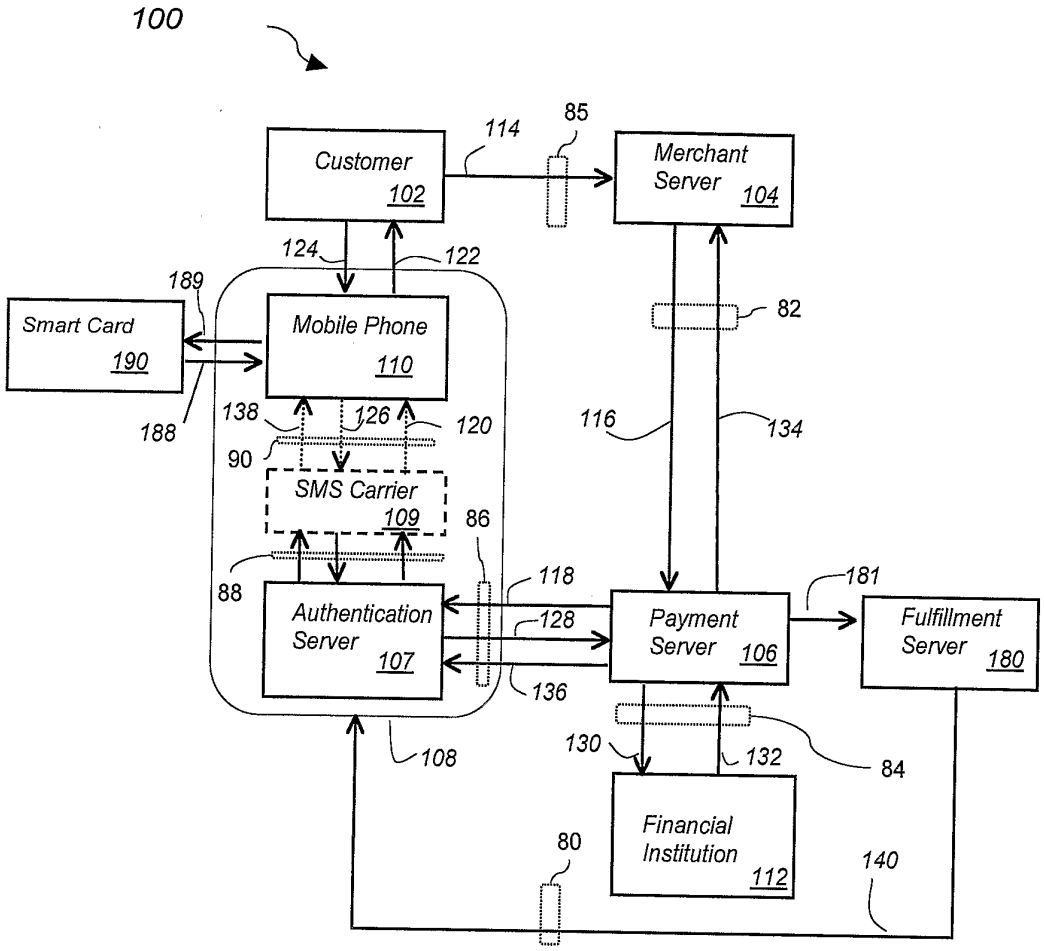

100
Customer 102
Merchant Server 104
Mobile Phone 110
Smart Card 190
SMS Carrier 109
Authentication Server 107
Payment Server 106
Fulfillment Server 180
Financial Institution 112
85
114
124
122
189
82
188
138
126
120
116
134
90
86
118
181
88
128
136
108
130
132
84
80
140

FIG. 4

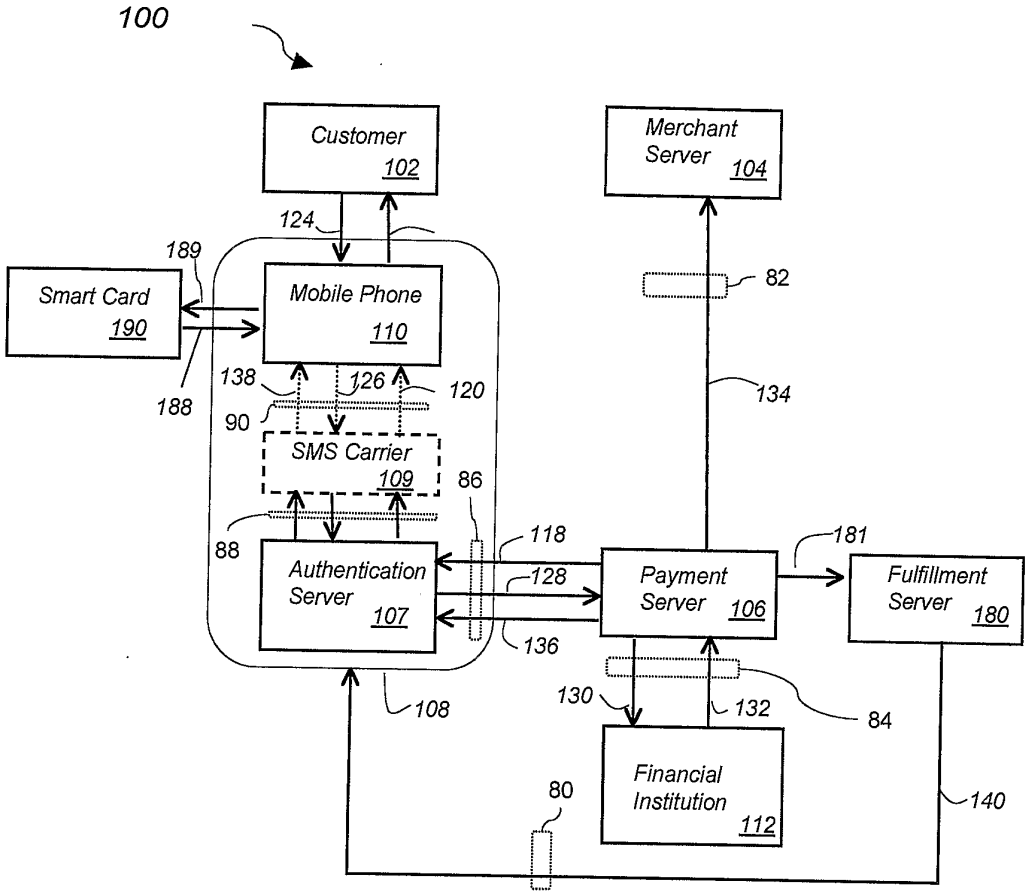

100
Customer 102
Merchant Server 104
124
189
Smart Card 190
Mobile Phone 110
82
138
126
120
188
90
SMS Carrier 109
134
86
88
118
181
Authentication Server 107
128
Payment Server 106
Fulfillment Server 180
136
130
132
84
108
Financial Institution 112
80
140

FIG. 4A

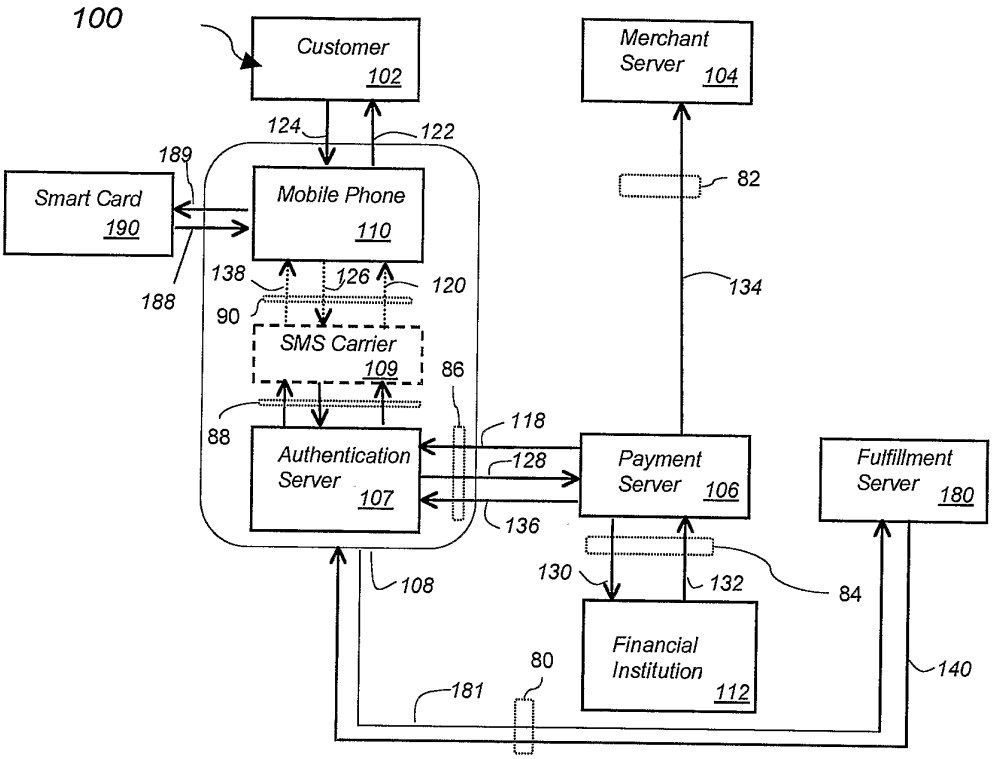

100
Customer 102
Merchant Server 104
124
122
189
Smart Card 190
Mobile Phone 110
82
138
126
120
134
188
90
SMS Carrier 109
86
88
Authentication Server 107
118
128
Payment Server 106
Fulfillment Server 180
136
130
132
84
108
Financial Institution 112
80
181
140

FIG. 4B

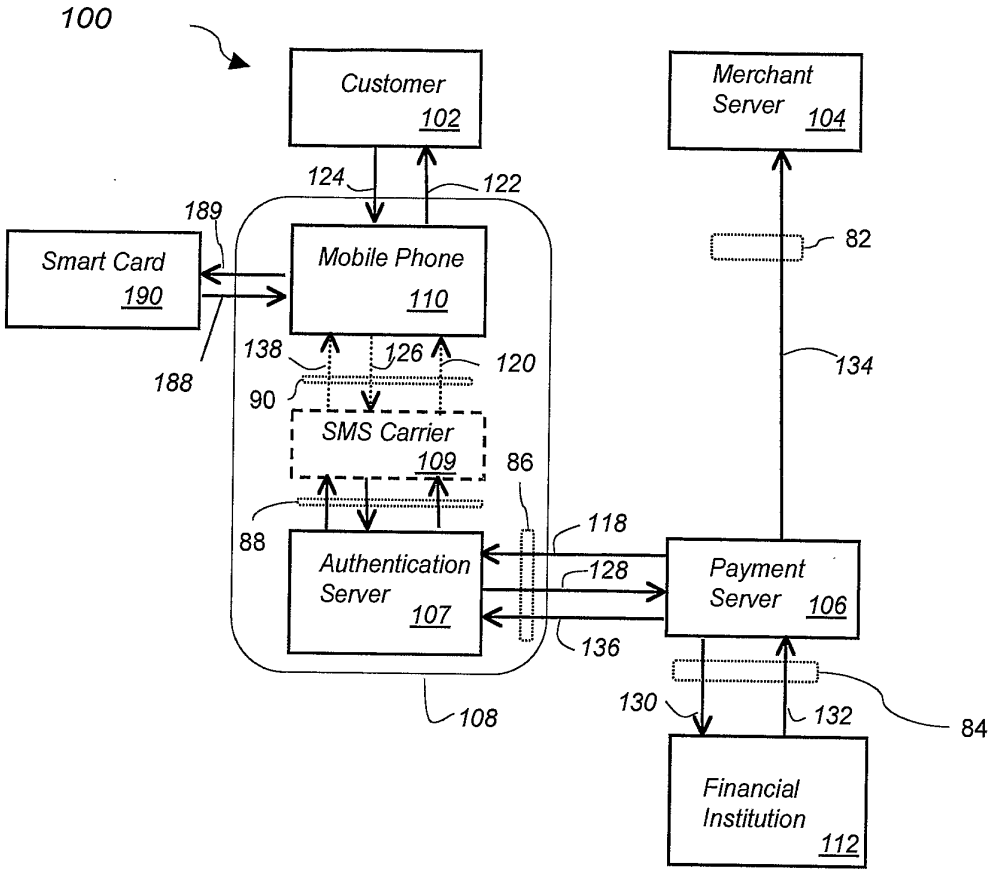

100
Customer
102
Merchant
Server
104
124
122
189
Smart Card
190
Mobile Phone
110
82
138
126
120
188
90
134
SMS Carrier
109
86
88
118
Authentication
Server
107
128
Payment
Server
106
136
130
132
84
108
Financial
Institution
112

FIG. 4C

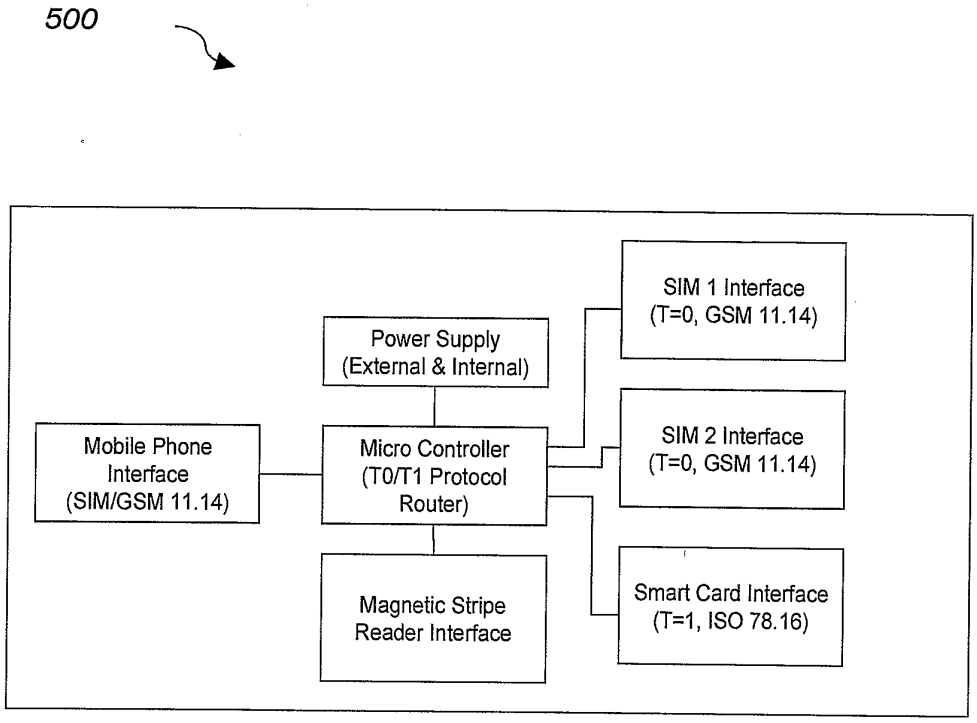

500
SIM 1 Interface
(T=0, GSM 11.14)
Power Supply
(External & Internal)
SIM 2 Interface
(T=0, GSM 11.14)
Mobile Phone
Interface
(SIM/GSM 11.14)
Micro Controller
(T0/T1 Protocol
Router)
Smart Card Interface
(T=1, ISO 78.16)
Magnetic Stripe
Reader Interface

FIG. 5

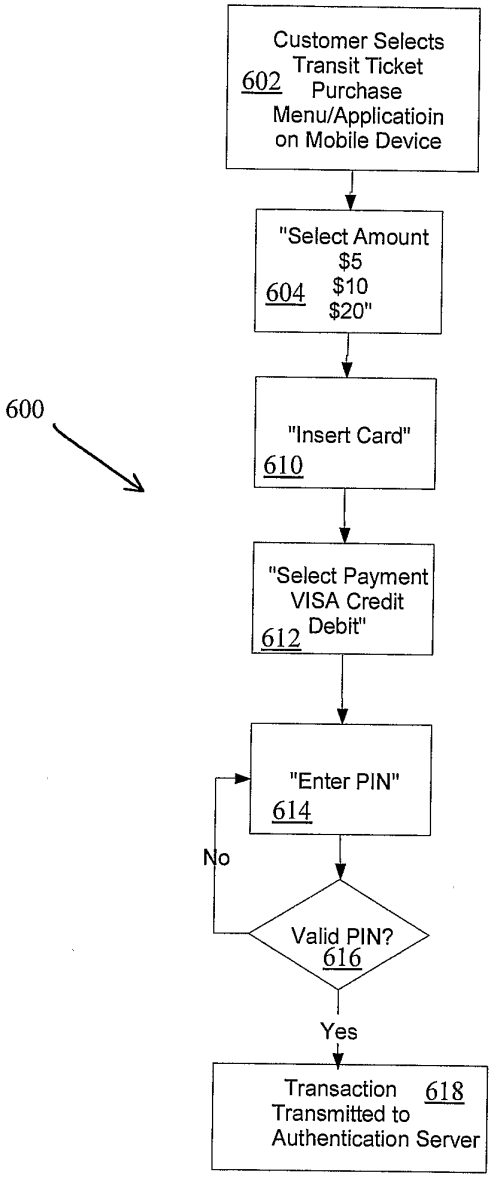
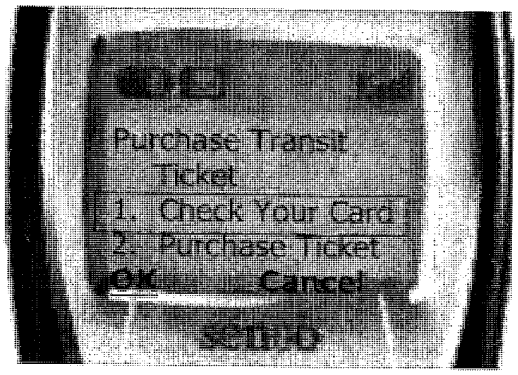
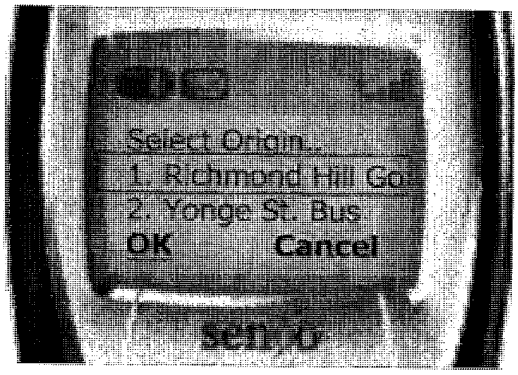

600
Customer Selects Transit Ticket Purchase Menu/Applicatioin on Mobile Device
602
"Select Amount $5 $10 $20"
604
"Insert Card"
610
"Select Payment VISA Credit Debit"
612
"Enter PIN"
614
No
Valid PIN?
616
Yes
Transaction Transmitted to Authentication Server
618

FIG. 6



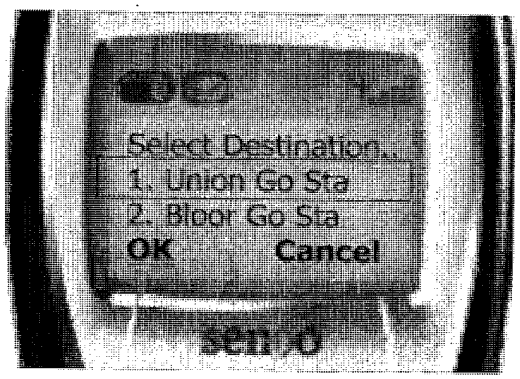
Customer chooses the Purchase Ticket option from the Phone's GO Transit Menu.

FIG. 6A



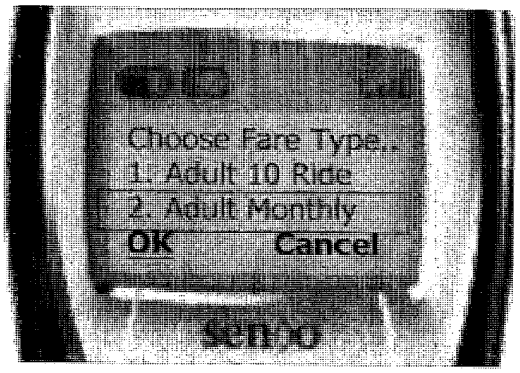
Customer Selects Origin...

FIG. 6B



Customer Selects Destination...

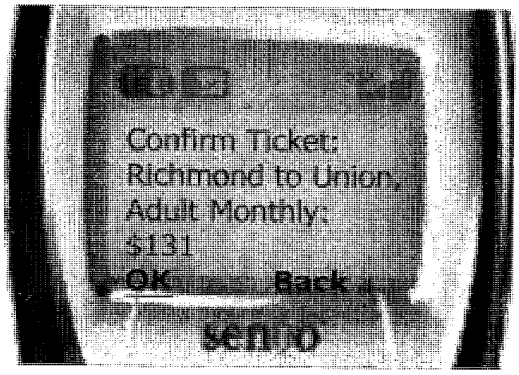
FIG. 6C



607

Customer chooses fare type...

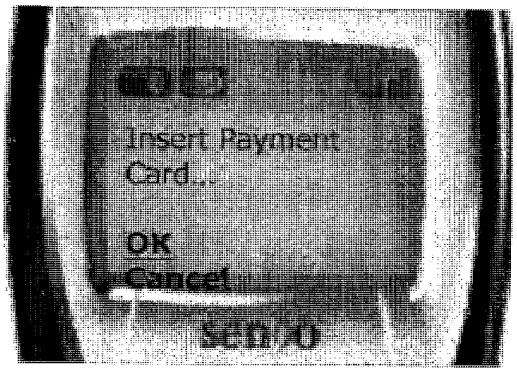
FIG. 6D



608

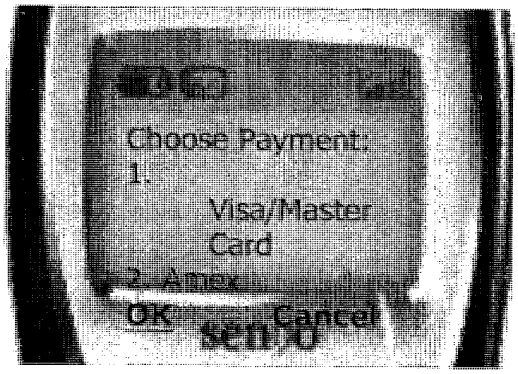
Fare is calculated and customer confirms ticket purchase

FIG. 6E



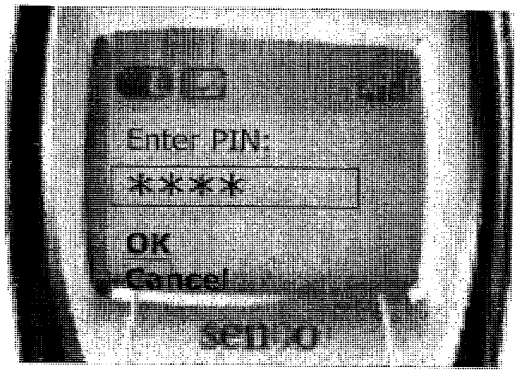
Customer Initiates Payment and Inserts Payment Card

FIG. 6F



Customer Selects Payment Instrument on Card

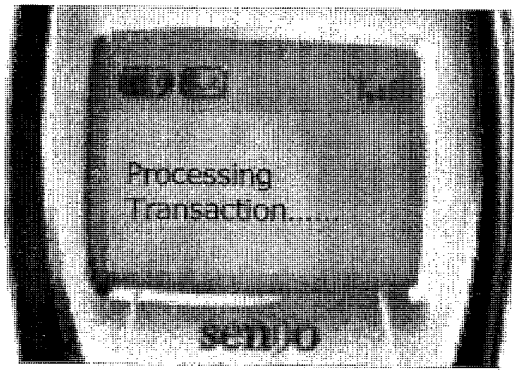
FIG. 6G



614

Customer Authenticates transaction with Personal Identification Number (PIN)

FIG. 6H



618

Transaction Transmitted to Authentication Server and then processed by Merchant, Financial Institution and Fulfillment Server

FIG. 6I



620

Customer presents transit card to the mobile phone

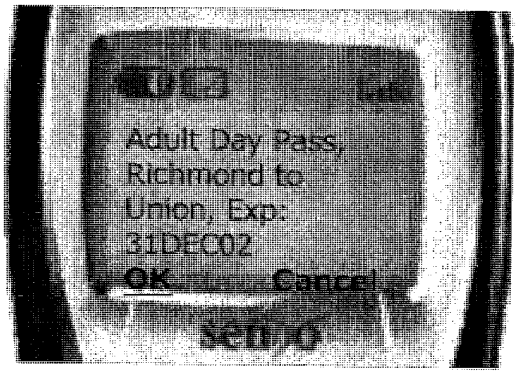
FIG. 6J



622

Digital Goods are fulfilled to the Transit Card

FIG. 6K



624

Digital Goods fulfillment is completed

FIG. 6L

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International Bureau

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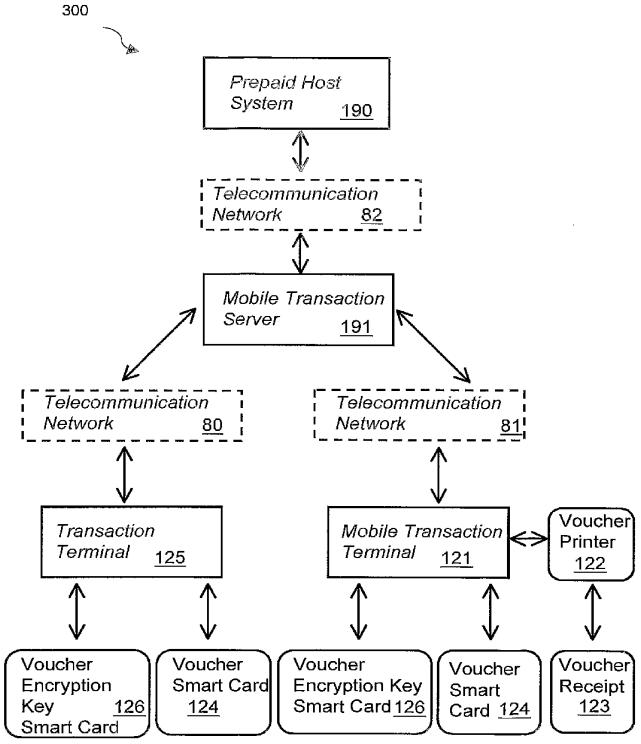
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(54) Title: SYSTEM AND METHOD FOR SECURELY STORING, GENERATING, TRANSFERRING AND PRINTING ELECTRONIC PREPAID VOUCHERS



(57) Abstract: The present invention describes a system and a method that utilizes transaction terminals (125, 121) equipped with smart card readers to download and store a batch of multiple prepaid electronic vouchers to a smart card (124), retrieve and decrypt individual prepaid vouchers from the smart card and print a voucher receipt with a printer (122) in connection with the transaction terminal. The transaction terminals (125, 121) are in connection with a mobile transaction server (191) that acts as a gateway to a prepaid system (190) and routes transactions between transaction terminals and the prepaid system and between transaction terminals. The present invention also describes a method for storing a voucher encryption key on a second smart card or hardware security module. The voucher encryption key is utilized to decrypt encrypted vouchers on a voucher repository smart card. The present invention also describes a method of transferring encrypted vouchers between voucher smart cards using a single transaction terminal or multiple transaction terminals. The transaction terminals may be mobile devices communicating to the mobile transaction server over wireless networks or computers connected to a wired network.

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SYSTEM AND METHOD FOR SECURELY STORING, GENERATING, TRANSFERRING AND PRINTING ELECTRONIC PREPAID VOUCHERS

Cross Reference to related Co-Pending Applications

This application claims the benefit of U.S. provisional application Serial No. 60/457,716 filed on March 26, 2003 and entitled SYSTEM AND METHOD FOR SECURELY STORING, GENERATING, TRANSFERRING AND PRINTING ELECTRONIC PREPAID VOUCHERS, which is commonly assigned and the contents of which are expressly incorporated herein by reference.

This application is also a continuation in part of U.S. applications Serial No. 10/205,768, 10/625,823, and 10/695,585, filed on July 26, 2002, July 23, 2003, and October 28, 2003, and entitled "SYSTEM AND METHOD FOR PAYMENT TRANSACTION AUTHENTICATION", "MOBILE DEVICE EQUIPPED WITH A CONTACTLESS SMART CARD READER/WRITER", and "MOBILE COMMUNICATION DEVICE EQUIPPED WITH A MAGNETIC STRIPE READER", respectively, the contents of which applications are expressly incorporated herein by reference.

Field of the Invention

The present invention relates to a system and a method for securely storing prepaid top up vouchers on a smart card and utilizing mobile devices to generate the vouchers at the time of purchase.

Background of the Invention

The market for mobile/wireless phone usage has rapidly expanded to reach over 1 billion subscribers throughout the world by the end of 2002. Over 60% of these subscribers prepay for mobile phone usage. The greatest growth of mobile phone subscribers occurs in economically underdeveloped and emerging economies, where it is also common to prepay for many other recurring services, such as utility bills, due to the lack of consumer credit infrastructure.

Referring to FIG. 1 and FIG. 2, a prior art method 100 for prepaying for mobile phone services includes the following steps. First, a customer 110 pays a merchant 120 (111) and receives a scratch card 160 in return (112). Scratch card 160 includes a hidden authorization code 180 covered with a protective coating 170. Customer 110 removes the protective coating 170 using a coin or fingernail to reveal the hidden authorization code 180. Authorization code 180 is also referred to as a "hidden recharge number" (HRN) or a "voucher" or a "voucher number". Next, customer 110 contacts a mobile operator 130 and provides the mobile operator 130 with the authorization code 180 through the mobile operator's call center or an interactive voice response system (113). Mobile operator 130 validates the authorization code 180, "recharges" or "tops up" customer's mobile account with the value associated with the authorization code 180, and notifies customer 110 upon completion of the top up transaction (114). The merchant 120 purchases scratch cards in bulk in multiple denominations for multiple mobile operators 130 from either a scratch card distributor 150 (115) or a wholesaler 140 (118). Typically wholesaler 140 purchases mobile airtime minutes in bulk in advance from several mobile operators 130 (117), manufactures the scratch cards 160 and sells the cards either directly to merchants 120 (118) or through a distributor 150 (116). Typically, merchants 120 are convenience stores, department stores or supermarkets that sell many other types of consumer merchandise. In one example, merchant 120 is a Sam's Club and scratch card 160 is an AT&T phone card. Although this is the most widely used method for topping up mobile phone accounts, the costs associated with scratch card manufacturing, distribution, inventory and potential fraud result in reduced profitability for the mobile operator 130. These costs could represent up to 30% of the face value of the scratch card 160. For example for a typical scratch card 160 with a face value amount of $100, the mobile operator only realizes about $70 in revenue due to the above mentioned costs associated with scratch cards.

Dedicated Point of Sale (POS) terminals and Automated Teller Machines (ATMs) are also used to provide a more cost effective way to top up mobile prepaid accounts by electronically generating and printing the voucher at the time of the purchase. Referring to FIG 3, a prior art method 200 for topping up mobile prepaid accounts includes the following steps. First, customer 110 pays merchant 120 (211). Merchant 120 engages a Point of Sale (POS) Terminal 121 to connect over a telecommunication

network 80 to a remote prepaid system 190 (210, 215). Merchant 120 generates a voucher number (not shown) and prints the voucher number onto a receipt 123 using a printer 122 that is in connection with the POS terminal 121. Next, merchant 120 provides the customer 110 with the voucher receipt 123 that contains the voucher number (not shown) (212). Next, customer 110 provides the mobile operator 130 with the voucher number printed on the voucher receipt 123 (213), the mobile operator 130 validates the voucher number and tops up the customer's mobile account with the value associated with the voucher number (214). Mobile operator 130 also notifies customer 110 upon completion of top up transaction (214). These electronic vouchers are created "online" one at a time by the POS terminal 121 by connecting to prepaid system 190 for each customer 110. Alternatively, the POS terminal 121 connects to the prepaid system 190 less frequently, downloads a batch of multiple vouchers that are securely stored within the memory of the POS terminal 121 and subsequently generates the electronic vouchers "offline" for each customer 110. The problem with this prior art method is the fact that there are not many POS or ATMs readily available to accommodate the number of transactions and users. Accordingly, there is a need for a low cost alternative for a mobile POS or ATM that can securely, store, generate, transfer and print electronic prepaid vouchers.

Summary of the Invention

In general, in one aspect of this invention features a system for generating and storing one or more prepaid electronic vouchers in a voucher smart card. The system includes a voucher host system adapted to generate the prepaid electronic vouchers and a voucher terminal adapted to receive the prepaid electronic vouchers from the voucher host system over a network connection and to store the prepaid electronic vouchers in the voucher smart card.

Implementations of this aspect of the invention include the following. The system may further include a transaction server adapted to mediate and aggregate transactions and communications between the voucher terminal and the voucher host system over the network connection. The voucher smart card may be a removable smart card such as a "full size" smart credit card, a "full size" smart debit card, a "plug-in" Subscriber Identification Module (SIM) smart card, a "plug-in" Secure Access Module (SAM)

smart card, a contactless smart card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card or combinations thereof. The voucher smart card may be a hardware security module (HSM) such as microprocessors or storage accessories. The voucher terminal may be a wireless communication device equipped with a smart card reader/writer module such as a mobile phone, a personal digital assistant (PDA), a pager, a point of sale (POS) terminal, a television remote control, a personal computer or combinations thereof. The smart card reader/writer module is adapted to receive and read/write information stored in/to the voucher smart card, respectively. The voucher terminal may be a wired communication device equipped with a smart card reader/writer module such as a phone, a wired personal digital assistant (PDA), a point of sale (POS) terminal, a television, a personal computer or combinations. The voucher terminal may be a wireless communication device having a subscriber identification module (SIM) card slot, a smart card reader/writer module electrically connected to the SIM card slot and the smart card reader/writer module is adapted to receive and read/write information stored in/to the voucher smart card, respectively. The network may be the Internet, a telecommunications network, a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) or a private communication network. The wireless wide area network (WWAN) may be a Global System for Mobile Communications (GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access (CDMA), CDMA 2000, or wideband CDMA (WCDMA). The communications between the voucher host system and the voucher terminal may have a format such as Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), or proprietary message formats. The system may also include a printer adapted to connect to the voucher terminal for printing hard copies of the prepaid electronic vouchers. The printer may be connected to the voucher terminal via a wired connection such as a serial connection, a parallel connection, a Universal Serial Bus (USB) connection or a mini USB connection. Alternatively, the printer may connect to the voucher terminal via a wireless connection such as infrared, Bluetooth, 801.1x, or other short-range radio frequency connections. The prepaid electronic vouchers may have data such as a mobile operator code, a voucher number, a voucher expiration date, the voucher number in an

encrypted format, a voucher value, a voucher currency code, a voucher product code, a voucher product description, a voucher owner code, or a voucher owner. The prepaid electronic vouchers may have encrypted data and the system may further include a voucher encryption smart card that has a voucher encryption key for decrypting the encrypted data. The voucher encryption key may be a personal identification number (PIN), a private key, a public key, a symmetric key or an asymmetric key. The decrypting may utilize techniques such as symmetric keys, asymmetric keys, data encryption standard (DES, 3DES), RSA, elliptical curve cryptography (ECC), message authentication codes (MAC, HMAC, SHA-1, AES, and public key infrastructure (PKI). The voucher terminal may further include a first voucher application and the first voucher application may provide for retrieving of the stored electronic prepaid vouchers from the voucher smart card and printing hard copies of the prepaid electronic vouchers. The first application may further provide decrypting encrypted data stored in the electronic prepaid vouchers. The voucher terminal may further include a second voucher application and the second voucher application may provide transferring one or more of the stored prepaid electronic vouchers from the voucher smart card to another voucher smart card.

In general in another aspect the invention features a method for generating and distributing one or more prepaid electronic vouchers issued by a merchant for providing a service or a product. The method includes providing a voucher host system adapted to generate the prepaid electronic vouchers and providing a voucher terminal adapted to receive the prepaid electronic vouchers from the voucher host system over a network connection and to store the prepaid electronic vouchers in a voucher smart card. Next, placing a purchase order and paying for one of the one or more prepaid electronic vouchers from the voucher terminal to the voucher host system over the network connection. Next, downloading the one prepaid electronic voucher from the voucher host system to the voucher terminal over the network connection and storing the one prepaid electronic voucher in the voucher smart card. Next, retrieving the one prepaid electronic voucher from the voucher smart card and presenting the one prepaid electronic voucher to the merchant and receiving the service or product.

Implementations of this aspect of the invention include the following. The method may further include printing a hard copy of the one prepaid electronic voucher before presenting the one prepaid electronic voucher to the merchant. The electronic prepaid voucher may have encrypted data and the method may further include decrypting the encrypted data by inserting an encryption smart card in the voucher terminal, retrieving an encryption key and using it to decrypt the encrypted data. The method may further include transferring the one prepaid voucher from the voucher smart card to a second voucher smart card or to a second voucher terminal.

Among the advantages of this invention may be one or more of the following. When compared to the scratch card method the advantages to storing vouchers on a smart card instead of printing the vouchers onto scratch cards are cost and security. Although the cost of a smart card is significantly higher than a paper or plastic scratch card, the smart card can be used thousands of times to store vouchers whereas the scratch card is used once by the customer and then discarded. Vouchers represent monetary value and therefore security is extremely important. Storing encrypted voucher numbers on a smart card is inherently more secure than scratch cards for several reasons. Scratch cards themselves have no "built in" securities features and rely on a secure manufacturing, distribution and sales environment. In the event of theft of a batch of scratch cards, the person in possession of the scratch cards needs only to remove the protective coating on the card to access the voucher number, a breach in security can occur at the merchant location or at any point in the scratch card manufacturing and distribution process. Smart Cards, however, have many "built in" security features that establish a tamper resistant environment for securely storing data from logical and physical attacks which is the primary reason that the financial industry is moving away from magnetic stripe cards to smart cards for debit, credit and electronic cash applications and the primary reason that mobile network operators utilize Subscriber Identity Module (SIM) smart cards. In the event of theft of a smart card with vouchers, the person in possession of the smart card would first have to compromise the security of the smart card to access the encrypted vouchers, then compromise the voucher encryption key that may be stored on the same card or on a different card. The expense and time required to successfully carry out such an attack is significantly more costly than the value of the vouchers on the smart card.

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When compared to other Point of Sale (POS) voucher methods, the present invention has the advantage of mobility. The existing prior art POS voucher methods store the vouchers within the device but do not separate storage from fulfillment, i.e., one device is used for both purposes. In the present invention, vouchers are stored on a removable smart card that can be used by one device for voucher storage transactions and then removed and inserted into another device for voucher generation and printing. The present invention provides secure mobility for voucher generation and printing enabling one transaction device to store transactions on a smart card and multiple devices can be deployed to service customer needs remotely.

Brief Description of the Drawings

FIG. 1 is a block diagram of a prior art system for prepaying for mobile phone services;

FIG. 2 is a schematic diagram of a prior art prepaid phone scratch card;

FIG. 3 is schematic diagram of a prior art electronic prepaid voucher system;

FIG. 4 is schematic diagram of an electronic prepaid voucher system that utilizes smart cards according to this invention;

FIG. 5 is a flow diagram of a voucher download transaction to a smart card according to this invention;

FIG. 6 is a flow diagram of a voucher generation transaction from a smart card and print transaction according to this invention;

FIG. 7 is a diagram representing the screen flow and application logic of a mobile transaction terminal application according to this invention;

FIG. 8 is a flow diagram of a voucher transfer transaction according to this invention; and

FIG. 9 is a diagram representing the screen flow and application logic of a voucher transfer transaction according to this invention.

Detailed Description of the Invention

The present invention describes a system and a method for using a transaction terminal for downloading and storing prepaid electronic vouchers on a first smart card, retrieving and decrypting prepaid vouchers from the first smart card and printing a voucher receipt in a printer that is connected with the transaction terminal. The present invention also describes a system and a method for storing a voucher encryption key on a second smart card and then using the second card to decrypt encrypted vouchers on the first smart card. The present invention also describes a system and a method of transferring prepaid vouchers between voucher smart cards.

Referring to FIG. 4, a system 300 for downloading and storing prepaid electronic vouchers on a smart card includes a Prepaid Host System 190, a Mobile Transaction Server 191, a Transaction Terminal 125, a Mobile Transaction Terminal 121, a Printer 122, a Voucher Smart Card 124, a Voucher Encryption Key Smart Card 126, and a Voucher Receipt 123. The Prepaid Host System 190 is the primary source for generating voucher information. The Mobile Transaction Server 191 connects to the Prepaid Host System 190 over telecommunication network 82 and to the transaction terminal 125 and the mobile transaction terminal 121 over telecommunication networks 80, and 81 respectively. Mobile Transaction Server 191 functions as a gateway that mediates and aggregates the transactions between the Prepaid Host System 190 and the transaction terminal 125 and the mobile transaction terminal 121. In one example, Voucher Smart Card 124 and Voucher Encryption Key Smart Card 126 are removable smart cards including "full-size" smart cards, such as credit cards, debit cards, contactless smart cards, stored-value cards, coupon cards, reward cards, electronic cash cards, loyalty cards, identification cards and secure access application or "plug in" format smart cards like those used for Subscriber Identity Modules (SIM's) smart cards utilized by mobile telephones or Secure Access Modules (SAM's) smart cards utilized by Point of Sale (POS) devices. In another example Voucher Smart card 124 and Voucher Encryption Card are hardware security modules (HSM) including accessories that are added to computers, servers and Personal Digital Assistants (PDA's) for banking and secure access applications and secure

microprocessors that are utilized by Point of Sale (POS) devices. Voucher Encryption Key smart cards have the ability to securely store data and resist tampering and can generate cryptographic keys and encrypt/decrypt data utilizing a cryptographic co-processor. Telecommunications networks 80, 81 and 82 can be the Internet, a public telecommunication network, a private telecommunication network, a local area network (LAN) wireless wide area network (WWAN), a wireless local area network (WLAN) or a personal area network (PAN). The data exchanged using telecommunications networks 80, 81 and 82 have a format such as Short Message Service (SMS), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), or Simple Network Management Protocol (SNMP) over Transmission Control Protocol/Internet Protocol (TCP/IP). Transaction Terminal 125 and Mobile Transaction Terminal 121 are capable of receiving a voucher smart card and printing a voucher receipt 123 via a printer 122 (not shown for Terminal Transaction 125).

Referring to FIG. 10, in one example, the transaction terminal 125 is a mobile phone that is capable of receiving smart cards 902, 903, 904 as described in PCT application WO 99/66752 entitled "Communication Method and Apparatus Improvement", the entire content of which is incorporated herein by reference. In other examples, the transaction terminal 125 is a Point of Sale terminal equipped with a smart card reader, or a Personal Computer (i.e. lap top, desk top, workstation) equipped with a smart card reader or a Personal Digital Assistant (PDA) equipped with a smart card reader. Similarly, the mobile transaction terminal 121 is a mobile phone as shown in FIG. 10 equipped with a smart card reader, or a Personal Computer (i.e. lap top, desk top, workstation) equipped with a smart card reader or a Personal Digital Assistant (PDA) equipped with a smart card reader. In another example, the mobile transaction terminal 121 is a smart card reader equipped with a keypad and a display.

A merchant utilizes the present invention to sell prepaid vouchers to consumers, and the consumers use this invention to recharge their prepaid account. For example, at the beginning of each day, the merchant uses the transaction terminal device described in this invention to connect to a prepaid host system and download a batch of prepaid vouchers in various denominations to a smart card. The merchant may be a small convenient storeowner, a large supermarket sales clerk, an independent sales representative or a sales representative working for a telecommunication company.

Throughout the day the merchant sells the prepaid vouchers to customers who are interested in purchasing a voucher. The customers pay the merchant with cash, credit or debit card. Alternatively, a customer approaches the merchant for purchasing a voucher. The merchant uses the transaction terminal device of this invention to retrieve a voucher from the smart card and prints a receipt for the customer with the voucher number on it. The customer then contacts his service provider and gives the voucher number to the service provider at which point the service provider validates the voucher number and "tops up' or "recharges" the customer's account. The voucher numbers are encrypted on the smart card. The encryption key required to decipher the encrypted information is stored on another smart card. Both cards, i.e., the smart card with the encrypted voucher number and the smart card with the encryption key, need to be present in the transaction terminal device of this invention in order to decrypt, retrieve and present a voucher number for the customer. This process of batch downloading and individual retrieving of vouchers may be distributed among several individuals. For example, a sales manager may download batches of vouchers to multiple smart cards and give each smart card to individual sales representatives. The sales manager may utilize separate smart cards for individual prepaid products, i.e. one card for a mobile operator and another smart card for a long distance telecommunication provider. The sales manager may require the individual sales representatives to pay a deposit or the full amount of value of the vouchers stored on the smart card in advance. Throughout the day, as the sales representatives deplete their inventory the sales manager may also transfer additional vouchers to sales representatives remotely using the transaction terminal device and system described in the present invention. At the end of the day, the sales representatives return their smart cards to the sales manager at which point the sales representatives and the merchant reconcile the financial transactions. Alternatively, the financial settlement may occur remotely and electronically.

Referring to FIG. 5, the process of downloading a voucher includes the following steps. First, the transaction terminal 125 establishes a connection with the mobile transaction server 190 over network 80 (410). Next, mobile transaction server 191 routes the transaction request to the prepaid host system 190 through network 82 (411). The prepaid host system 190 validates the connection and transmits a specified

quantity and types of vouchers to the mobile transaction server 191 over network 82 (412). The mobile transaction server 191 routes the downloaded vouchers to the transaction terminal 125 through network connection 80 (413). In one example, the data in the voucher download transaction for a single voucher include, a code representing the mobile operator that the voucher is associate with, a voucher serial number, a voucher expatriation date, the voucher number in its encrypted format, the voucher value and a code representing the currency of the voucher value. Upon completion of the voucher download transaction, the transaction terminal 125 transmits a transaction complete acknowledgement to the mobile transaction server 191 through network connection 80 (416) and the mobile transaction server 191 transmits this acknowledgement to the prepaid host system 190 over network 82 (417). The transaction terminal 125 is in connection with a voucher smart card 124 and sends the voucher data to the voucher smart card 124 (414). Upon completion of the transaction the transaction terminal 125 receives an acknowledgement from the voucher smart card 124 (415). In one embodiment, the Prepaid Host System 190 determines the quantity and types of vouchers that are downloaded to the Transaction Terminal 125. In this embodiment the connection is initiated by the prepaid host system 190 (408, 409). In another embodiment, the Transaction Terminal 125 determines the quantity and types of vouchers that are downloaded to the Transaction Terminal 125.

Referring to FIG. 6 and FIG. 7, a method 500 for retrieving a voucher from a smart card 124 and printing a voucher receipt 124 includes the following steps. First, a user utilizes a mobile transaction application 600 stored on the mobile transaction terminal 121 to start a new transaction (610). The user is then prompted to insert the voucher smart card 124 into the mobile transaction terminal 121 (612). The mobile transaction application 600 on the mobile transaction terminal 121 accesses the voucher smart card 124 (517) and retrieves the inventory of available vouchers (518). The inventory of available mobile operators is displayed on the mobile transaction terminal application and the user is prompted to make a selection (614). Following the selection of a specific mobile operator, the inventory of available voucher values for the selected mobile operator is displayed and the user is prompted to make a selection (616). Following the selection of a specific voucher, the user is prompted to confirm the selection (618). Upon confirmation, the mobile transaction application

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600 accesses voucher smart card 124 (519), retrieves the voucher data associated with the confirmed selection (520), updates the inventory on the voucher smart card 124 (521) and stores the voucher data within the memory (not shown) of the mobile transaction terminal 121. Next, the mobile transaction application 600 accesses the voucher encryption key smart card 126 (510), and if the mobile transaction terminal 121 is not in connection with the voucher encryption key smart card 126, the user is prompted to insert the voucher encryption key smart card 126 (620). The mobile transaction application 600 accesses the voucher encryption key smart card 126 to retrieve smart card profile information (511). If the mobile transaction terminal 121 is configured to receive only one smart card, the user is asked to remove the voucher smart card 124 and replace it with the voucher encryption key smart card 126. In one example, the voucher encryption key smart card 126 is protected from unauthorized access with a Personal Identification Number (PIN) and the user is prompted to enter a valid PIN (622). The users types the PIN and the mobile transaction application 600 presents the PIN to the voucher encryption key smart card 126 (512) for authorization. The authorization result is returned to the mobile transaction application 600 (513) and upon successful authorization, the mobile transaction application 600 retrieves the voucher encryption key (not shown) (514). The voucher encryption key is utilized by the mobile transaction application 600 to decrypt the encrypted voucher information that was previously retrieved by the mobile transaction application 600 from the voucher smart card 124. The decryption process (not shown) utilizes symmetric keys or asymmetric keys and cryptographic techniques such as Data Encryption Standard (DES, 3DES), RSA, Elliptical Curve Cryptography (ECC), Message Authentication Codes (MAC, HMAC), SHA-1, AES and Public Key Infrastructure (PKI). When the voucher decryption is completed, the user is prompted to either print or view the decrypted voucher information on the screen (626). The mobile transaction terminal 121 is in connection with a printer 122. Communication 70 with the printer 122 is either wired (i.e. serial, parallel, USB) or wireless (i.e. infrared, Bluetooth, 802.1x). If the user selects the print option, the mobile transaction terminal 121 establishes connection 70 with the printer 122 and sends the voucher data to the printer (522). The printer 122 formats the voucher data accordingly, generates voucher receipt 123 (524) and acknowledges results of print process to the mobile transaction terminal 121 (523). Alternatively, the user selects to present the voucher data on the display (not shown) of the mobile transaction terminal

121. The mobile transaction application 600 reestablishes connection with the voucher smart card 124 to update the voucher inventory with the completed transaction details (525). Once a voucher is retrieved, the voucher is either deleted from the inventory or its status is changed such that it can no longer be retrieved.

The present invention also defines a process for transferring vouchers between voucher smart cards. In one case, the voucher transfer process is local and it uses the same transaction terminal (mobile or otherwise) to transfer vouchers from one voucher smart card to another voucher smart card. In another case the voucher transfer process is remote and it uses one transaction terminal (mobile or otherwise) to transmit voucher data to another transaction terminal (mobile or otherwise). Referring to FIG. 8 and FIG. 9, using voucher transfer application 800, a user initiates a voucher transfer transaction 700. The user is prompted to insert the origin voucher smart card 124 that stores the vouchers into the transaction terminal 125. The voucher transfer application 800 accesses voucher smart card 124 (717) and retrieves the inventory of available vouchers (718). The inventory of available mobile operators is displayed on the transaction terminal application and the user is prompted to make a selection (814). Following the selection of a mobile operator, the inventory of available voucher values for the selected mobile operator is displayed and the user is prompted to make a selection (816). Following the selection of a voucher value, the inventory of available vouchers for the selected operator and value denominations are displayed and the user is prompted to select a quantity of vouchers that is less than or equal to the total quantity of vouchers available (818). Following the selection of one or more vouchers, the use is prompted to confirm the selection (819). Upon confirmation, the voucher transfer application 800 accesses voucher smart card 124 (719), retrieves the voucher data associated with the confirmed selection (720), updates the inventory on the voucher smart card 124 and stores the voucher data within the memory (not shown) of the transaction terminal 125 (721). In one example, the transfer of vouchers requires authorization. If the transaction terminal 125 is configured to receive only one smart card, the user is required to remove the voucher smart card 124 and replace it with the voucher encryption key smart card 126. In one example, the voucher encryption key smart card 126 is protected from unauthorized access with a Personal Identification Number (PIN) and the user is prompted to enter a valid PIN (822). The users types the PIN, the voucher transfer

application 800 presents the PIN to the voucher encryption key smart card 126 for authorization (712) and the authorization result is returned to the voucher transfer application 800 (713). Upon successful authorization, the voucher data are transferred from the memory (not shown) of the transaction terminal 125 to a temporary storage repository on the voucher encryption key smart card 126 (714) and then the user is prompted to choose the transfer method (824). The transfer method is either a local "card to card" transfer or a remote transfer. If the user selects the local "card to card" transfer option, the user is prompted to insert the destination voucher smart card 124a (828). The voucher transfer application 800 retrieves the voucher data from the temporary storage repository on the voucher encryption key smart card 126 (715) and appends the voucher data to the destination voucher smart card 124a (722). After receiving the voucher data, the destination voucher smart card 124a provides an acknowledgement response to the transaction terminal application (723) that is further routed to the voucher encryption key smart card 126 to complete the card transfer transaction (716). If the transaction terminal is configured to receive only one smart card, the user is prompted to remove and insert the origin voucher smart card 124, the voucher encryption key smart card 126 and the destination voucher smart card 124a in the appropriate sequence to complete the transaction (830). If the user selects the remote transfer option, the user is prompted to enter the Identification Number of the destination transaction terminal (826). The voucher transfer application 800 transmits the voucher data to the mobile transaction server 191 over network 80 (724). Mobile transaction server 191 transmits an acknowledgment of the receipt of the voucher data over network 80 to transaction terminal 125 which is then routed to the voucher encryption key smart card 126 to complete the transaction from the origin of the transfer (716). The mobile transaction server 191 transmits a notification to the mobile transaction terminal 121 designated by the origin 826 over network 81 (726). The mobile transaction terminal 121 receives the notification (726) and transmits an acknowledgement and a download request from the mobile transaction server 191 over network 81 (727). The mobile transaction server 191 transmits the voucher download to mobile transaction terminal 121 over network 81 (728). The user is prompted to insert the voucher smart card 124b and a voucher transaction application 800a on the mobile transaction terminal 121 appends the voucher data to the destination voucher smart card 124b (729). A voucher data transfer acknowledgement is transmitted to the mobile transaction

terminal 121(730) and routed to the mobile transaction server 191 over network 81 to complete the remote transfer transaction (731).

In another embodiment, the transaction terminal (mobile or otherwise) is also a payment terminal that enables the user to accept and process electronic payments as described in a co-pending patent application entitled "System and method for payment transaction authentication", the entire content of which is incorporated herein by reference. In another embodiment, the transaction terminal (mobile or otherwise) is also configured to receive magnetic stripe payment cards as described in a co-pending patent application entitled "Mobile Communication Device Equipped with a Magnetic stripe Reader". In another embodiment, the mobile transaction terminal 121 has no connection to the mobile transaction server. The voucher encryption key smart card 126 and the voucher smart card 124 1 store all transaction information that is transferred to another transaction terminal utilizing the "card to card" transfer method described in FIG. 8 and FIG. 9. In another embodiment, the Prepaid Host System 190 is any type of service that utilizes vouchers such as utilities, local phone service, long distance phone service, pay-per-view entertainment, electronic ticketing. In another embodiment, the encrypted vouchers are stored in the memory of the mobile transaction terminal 121 or transaction terminal 125. The memory is either internal to the mobile device or external and in connection with the mobile device (i.e. Compact Flash, Secure Digital, USB Flash memory, external hard drive). In yet another embodiment, the encrypted vouchers are stored in the memory 901 of the mobile phone attachment as described in PCT application WO 99/66752 entitled "Communication Method and Apparatus Improvement", shown in FIG. 10. Referring to FIG. 4, in another embodiment the mobile transaction terminal 121 has no network connection 81 with the mobile transaction server 191 and is a non-network connected device with the ability to interact with voucher encryption key smart card 126, voucher smart card 124 and optionally voucher printer 122.

Several embodiments of the present invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. Accordingly, other embodiments are within the scope of the following claims.

What is claimed is:

1. A system for generating and storing one or more prepaid electronic vouchers comprising:

a voucher host system adapted to generate said prepaid electronic vouchers;

a voucher smart card; and

a voucher terminal adapted to receive said prepaid electronic vouchers from said voucher host system over a network connection and to store said prepaid electronic vouchers in said voucher smart card.

2. The system of claim 1 further comprising a transaction server adapted to mediate and aggregate transactions and communications between said voucher terminal and said voucher host system over said network connection.

3. The system of claim 1 wherein said voucher smart card comprises a removable smart card selected from a group consisting of a "full size" smart credit card, a "full size" smart debit card, a "plug-in" Subscriber Identification Module (SIM) smart card, a "plug-in" Secure Access Module (SAM) smart card, a contactless smart card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

4. The system of claim 1 wherein said voucher smart card comprises a hardware security module (HSM) selected from a group consisting of microprocessors and storage accessories.

5. The system of claim 1 wherein said voucher terminal comprises a wireless communication device equipped with a smart card reader/writer module selected from a group consisting of a mobile phone, a personal digital assistant (PDA), a pager, a point of sale (POS) terminal, a television remote control, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

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6. The system of claim 1 wherein said voucher terminal comprises a wired communication device equipped with a smart card reader/writer module selected from a group consisting of a phone, a wired personal digital assistant (PDA), a point of sale(POS) terminal, a television, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

7. The system of claim 1 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (SIM) card slot, a smart card reader/writer module electrically connected to said SIM card slot and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

8. The system of claim 1 wherein said network is selected from a group consisting of the Internet, a telecommunications network, a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

9. The system of claim 8 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile Communications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).

10. The system of claim 2 wherein said communications comprise a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.

11. The system of claim 1 further comprising a printer adapted to connect to said voucher terminal for printing hard copies of said prepaid electronic vouchers.

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12. The system of claim 11 wherein said printer is connected to said voucher terminal via a wired connection selected from a group consisting of a serial connection, a parallel connection, a USB connection and a mini USB connection.

13. The system of claim 11 wherein said printer is connected to said voucher terminal via a wireless connection selected from a group consisting of infrared, Bluetooth, 801.1x, and short-range radio frequency (RF) connections.

14. The system of claim 1 wherein said prepaid electronic vouchers comprise data selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner.

15. The system of claim 1 wherein said prepaid electronic vouchers comprise encrypted data.

16. The system of claim 15 further comprising a voucher encryption smart card wherein said voucher encryption smart card comprises a voucher encryption key for decrypting said encrypted data.

17. The system of claim 16 wherein said voucher encryption key is selected from a group consisting of a personal identification number (PIN), a private key, a public key, a symmetric key and an asymmetric key.

18. The system of claim 16 wherein said decrypting utilizes techniques selected from a group consisting of symmetric keys, asymmetric keys, data encryption standard (DES, 3DES), RSA, elliptical curve cryptography (ECC), message authentication codes (MAC, HMAC, SHA-1, AES, and public key infrastructure (PKI).

19. The system of claim 1 wherein said voucher terminal further comprises a first voucher application wherein said first voucher application provides retrieving of said

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stored electronic prepaid vouchers from said voucher smart card and printing hard copies of said prepaid electronic vouchers.

20. The system of claim 19 wherein said first application further provides decrypting encrypted data stored in said electronic prepaid vouchers.

21. The system of claim 1 wherein said voucher terminal further comprises a second voucher application wherein said second voucher application provides transferring one or more of said stored prepaid electronic vouchers from said voucher smart card to another voucher smart card.

22. A method for generating and distributing one or more prepaid electronic vouchers issued by a merchant for providing a service or a product, said method comprising:

providing a voucher host system adapted to generate said prepaid electronic vouchers;

providing a voucher terminal adapted to receive said prepaid electronic vouchers from said voucher host system over a network connection and to store said prepaid electronic vouchers in a voucher smart card;

placing a purchase order and paying for one of said one or more prepaid electronic vouchers from said voucher terminal to said voucher host system over said network connection;

downloading said one prepaid electronic voucher from said voucher host system to said voucher terminal over said network connection and storing said one prepaid electronic voucher in said voucher smart card;

retrieving said one prepaid electronic voucher from said voucher smart card; and

presenting said one prepaid electronic voucher to said merchant and receiving said service or product.

23. The method of claim 22 further comprising providing a transaction server adapted to mediate and aggregate transactions and communications between said voucher terminal and said voucher host system over said network connection.

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24. The method of claim 22 further comprising printing a hard copy of said one prepaid electronic voucher before presenting said one prepaid electronic voucher to said merchant.

25. The method of claim 22 wherein said one electronic prepaid voucher comprises data selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner.

26. The method of claim 22 wherein said one prepaid electronic voucher comprises encrypted data.

27. The method of claim 26 wherein an encryption key for said encrypted data is stored in an encryption smart card.

28. The method of claim 27 further comprising decrypting said encrypted data by inserting said encryption smart card in said voucher terminal, retrieving said encryption key and using it to decrypt said encrypted data.

29. The method of claim 22 wherein said voucher smart card comprises a removable smart card selected from a group consisting of a "full size" smart credit card, a "full size" smart debit card, a "plug-in" Subscriber Identification Module (SIM) smart card, a "plug-in" Secure Access Module (SAM) smart card, a contactless smart card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

30. The method of claim 22 wherein said voucher smart card comprises a hardware security module (HSM) selected from a group consisting of microprocessors and storage accessories.

31. The method of claim 22 wherein said voucher terminal comprises a wireless communication device equipped with a smart card reader/writer module selected from a group consisting of a mobile phone, a personal digital assistant (PDA), a

pager, a point of sale (POS) terminal, a television remote control, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

32. The method of claim 22 wherein said voucher terminal comprises a wired communication device equipped with a smart card reader/writer module selected from a group consisting of a phone, a wired personal digital assistant (PDA), a point of sale(POS) terminal, a television, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

33. The method of claim 22 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (SIM) card slot, a smart card reader/writer module electrically connected to said SIM card slot and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

34. The method of claim 22 wherein said network is selected from a group consisting of the Internet, a telecommunications network, a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

35. The method of claim 34 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile Communications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).

36. The method of claim 23 wherein said communications comprise a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.

37. The method of claim 22 wherein said prepaid electronic vouchers comprise data selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner.

38. The method of claim 27 wherein said voucher encryption key is selected from a group consisting of a personal identification number (PIN), a private key, a public key, a symmetric key, and an asymmetric key.

39. The method of claim 28 wherein said decrypting utilizes techniques selected from a group consisting of symmetric keys, asymmetric keys, data encryption standard (DES, 3DES), RSA, elliptical curve cryptography (ECC), message authentication codes (MAC, HMAC, SHA-1, AES, and public key infrastructure (PKI).

40. The method of claim 22 wherein said voucher terminal further comprises a first voucher application wherein said first voucher application provides said retrieving of said stored electronic prepaid vouchers from said voucher smart card and printing hard copies of said prepaid electronic vouchers.

41. The method of claim 40 wherein said first application further provides decrypting of encrypted data stored in said electronic prepaid vouchers.

42. The method of claim 40 wherein said voucher terminal further comprises a second voucher application wherein said second voucher application provides transferring one or more of said stored prepaid electronic vouchers from said voucher smart card to another voucher smart card.

43. The method of claim 22 further comprising transferring said one prepaid voucher from said voucher smart card to a second voucher smart card.

44. The method of claim 22 further comprising transferring said one prepaid voucher from said voucher smart card to a second voucher terminal.

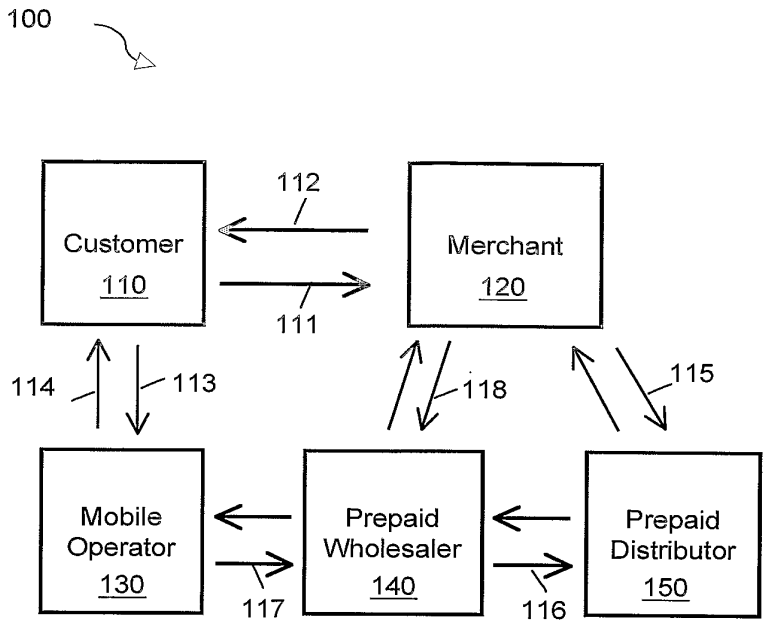


FIG. 1
(Prior Art)

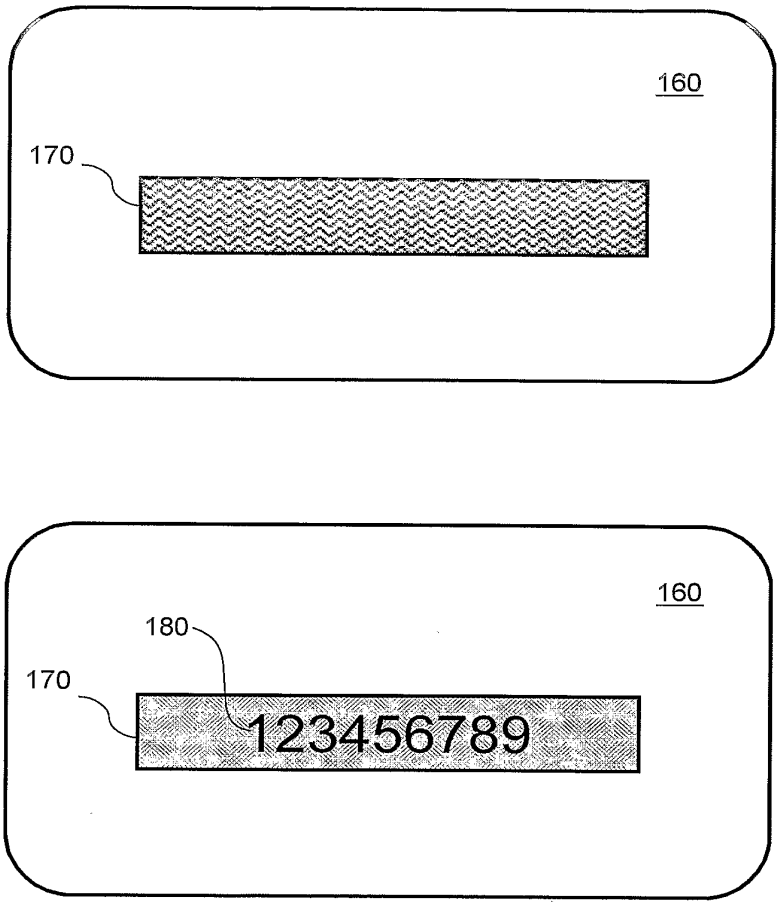


FIG. 2
(Prior Art)

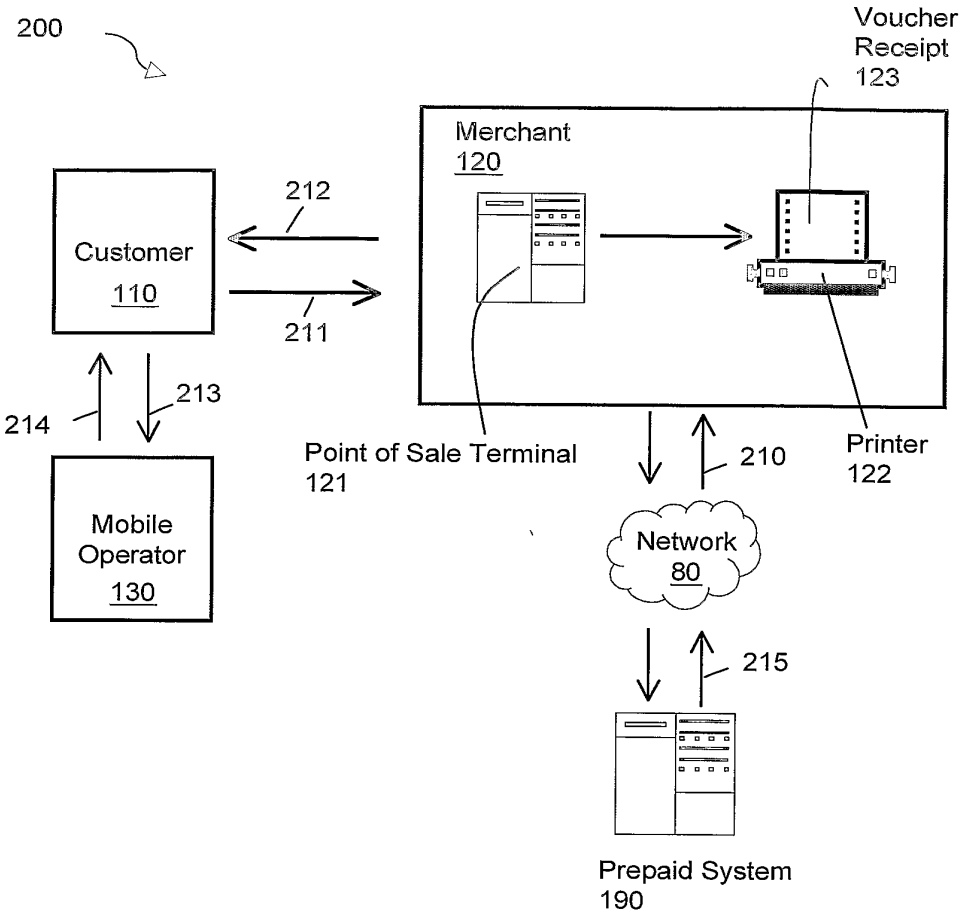


FIG. 3
(Prior Art)

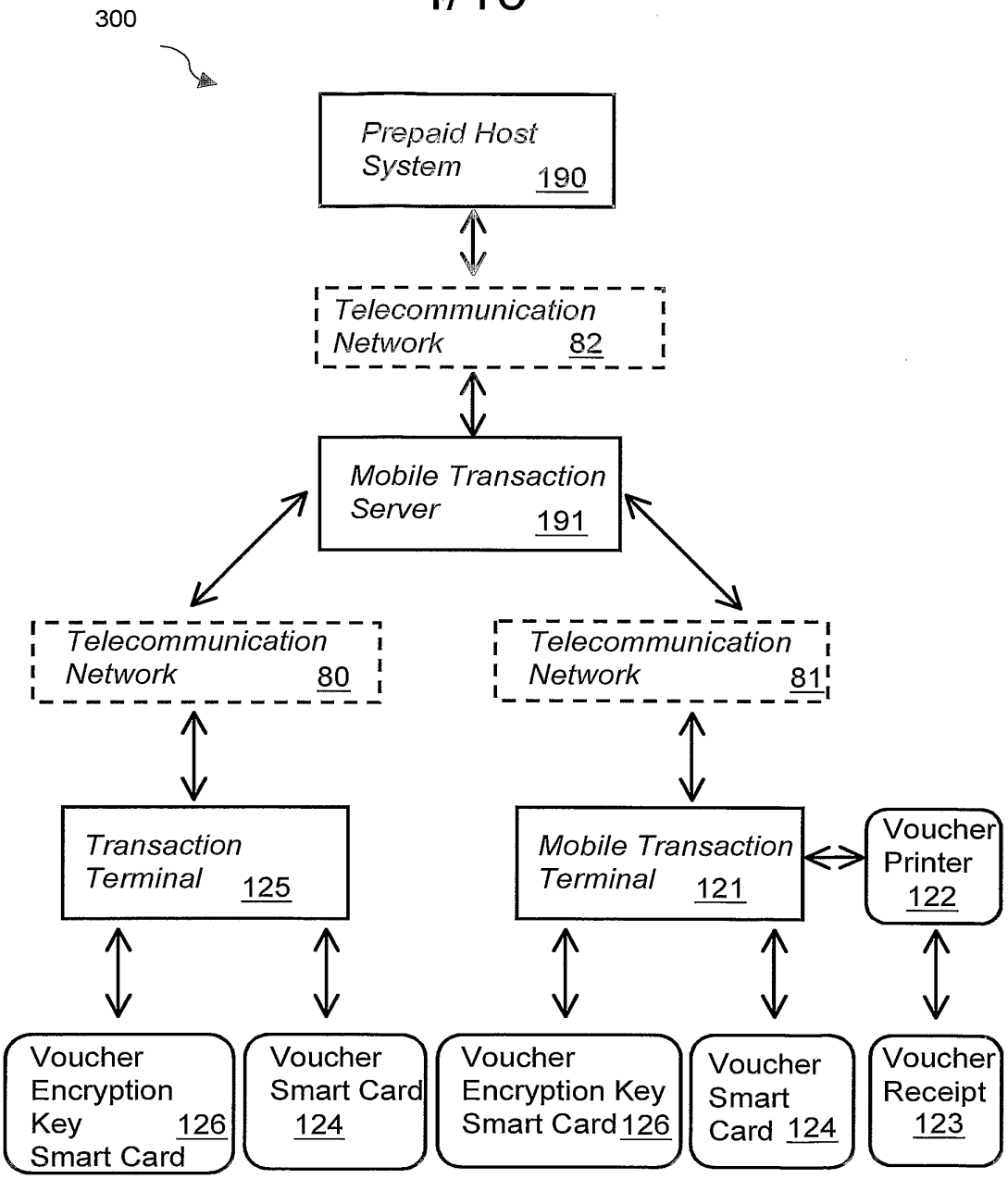

300
Prepaid Host System 190
Telecommunication Network 82
Mobile Transaction Server 191
Telecommunication Network 80
Telecommunication Network 81
Transaction Terminal 125
Mobile Transaction Terminal 121
Voucher Printer 122
Voucher Encryption Key Smart Card 126
Voucher Smart Card 124
Voucher Encryption Key Smart Card 126
Voucher Smart Card 124
Voucher Receipt 123

FIG. 4

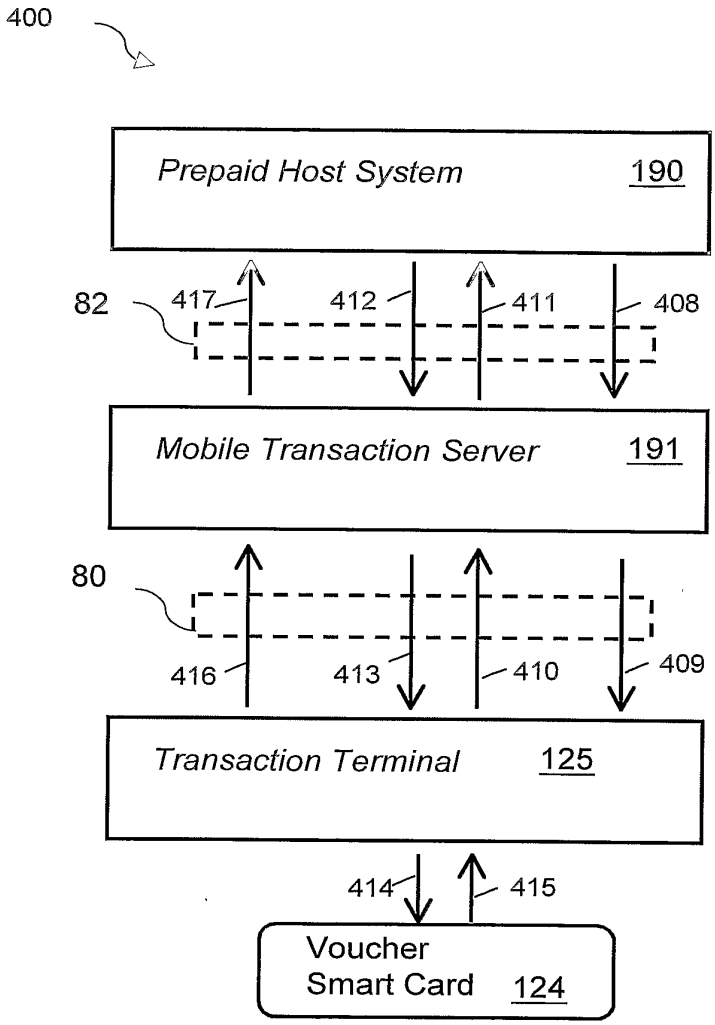

400
Prepaid Host System 190
82
417
412
411
408
Mobile Transaction Server 191
80
416
413
410
409
Transaction Terminal 125
414
415
Voucher
Smart Card 124

FIG. 5

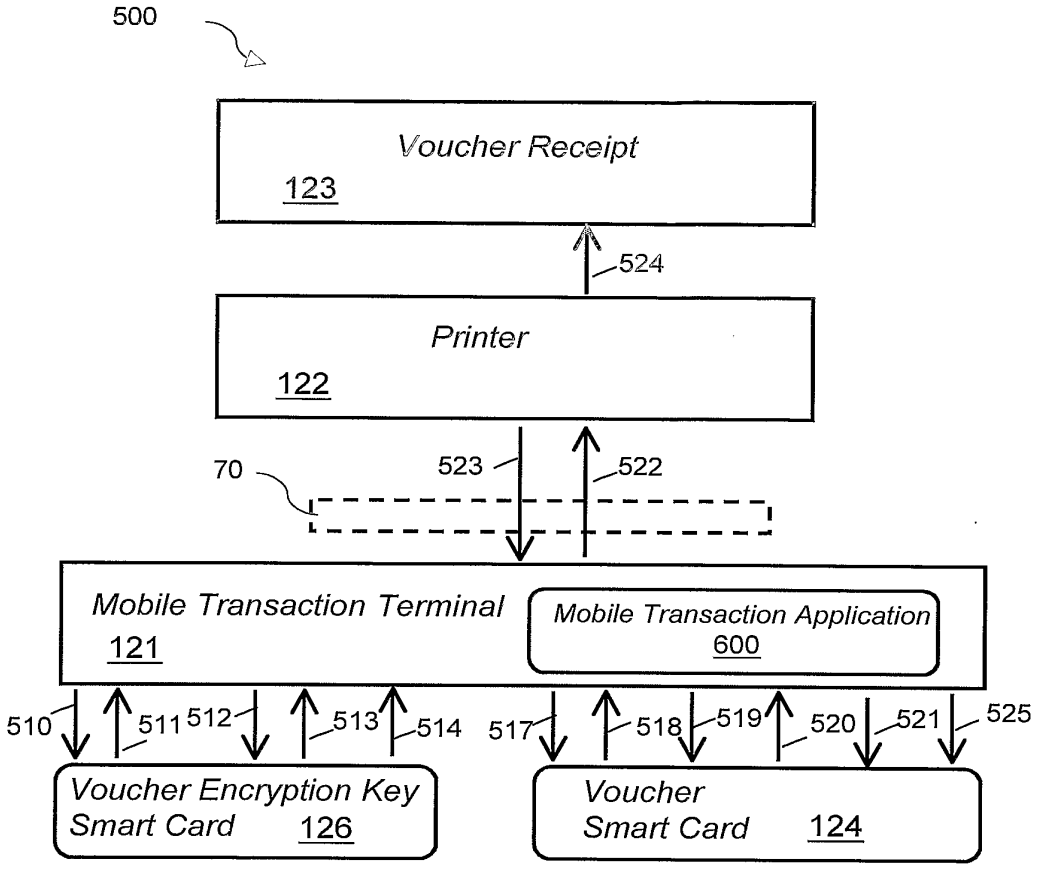

500
Voucher Receipt
123
524
Printer
122
70
523
522
Mobile Transaction Terminal
121
Mobile Transaction Application
600
510
511
512
513
514
517
518
519
520
521
525
Voucher Encryption Key
Smart Card
126
Voucher
Smart Card
124

FIG. 6

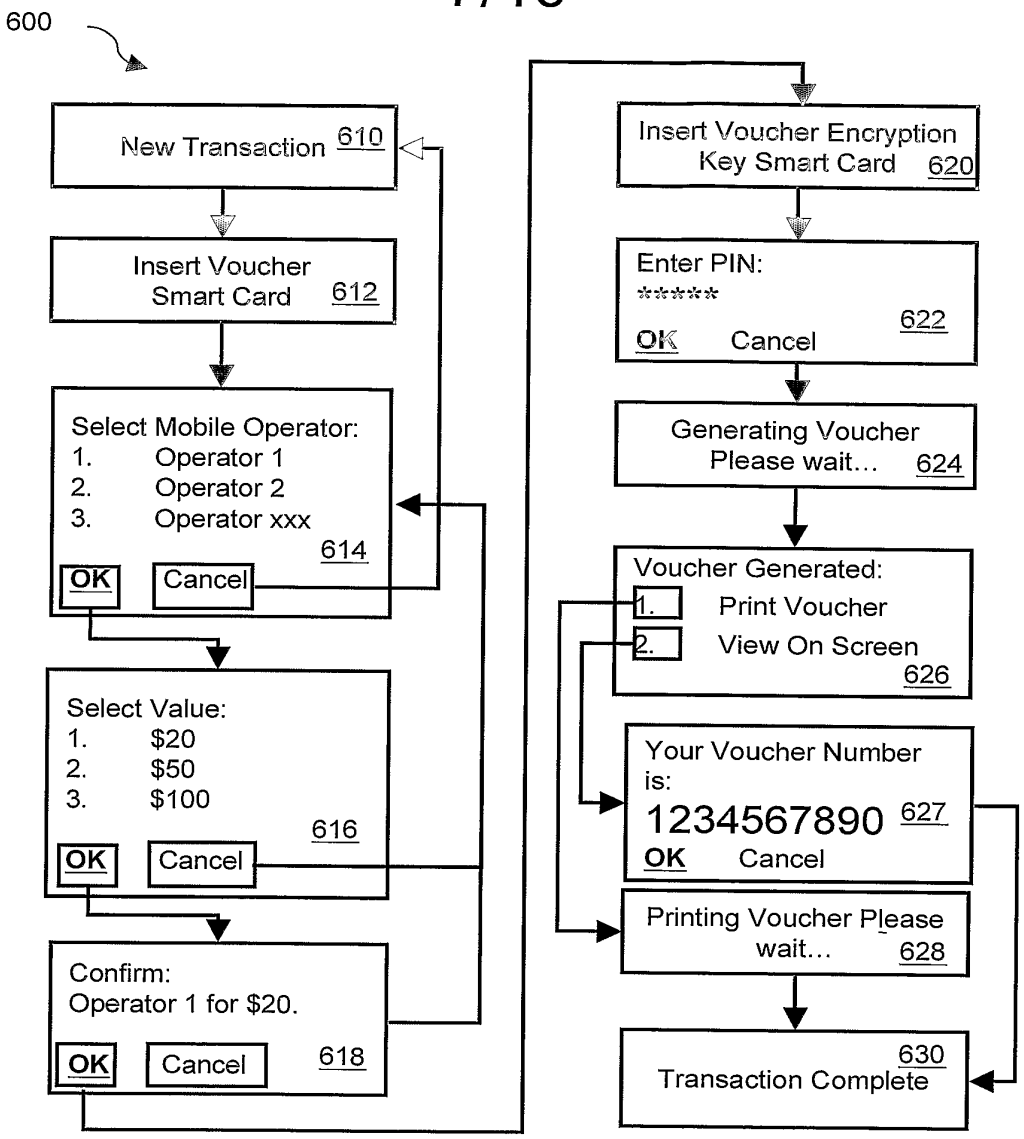

600
New Transaction 610
Insert Voucher Smart Card 612
Select Mobile Operator:
1. Operator 1
2. Operator 2
3. Operator xxx
614
OK
Cancel
Select Value:
1. $20
2. $50
3. $100
616
OK
Cancel
Confirm:
Operator 1 for $20.
OK
Cancel
618
Insert Voucher Encryption Key Smart Card 620
Enter PIN:
*****
622
OK
Cancel
Generating Voucher Please wait... 624
Voucher Generated:
1. Print Voucher
2. View On Screen
626
Your Voucher Number is:
1234567890 627
OK
Cancel
Printing Voucher Please wait... 628
630
Transaction Complete

FIG. 7

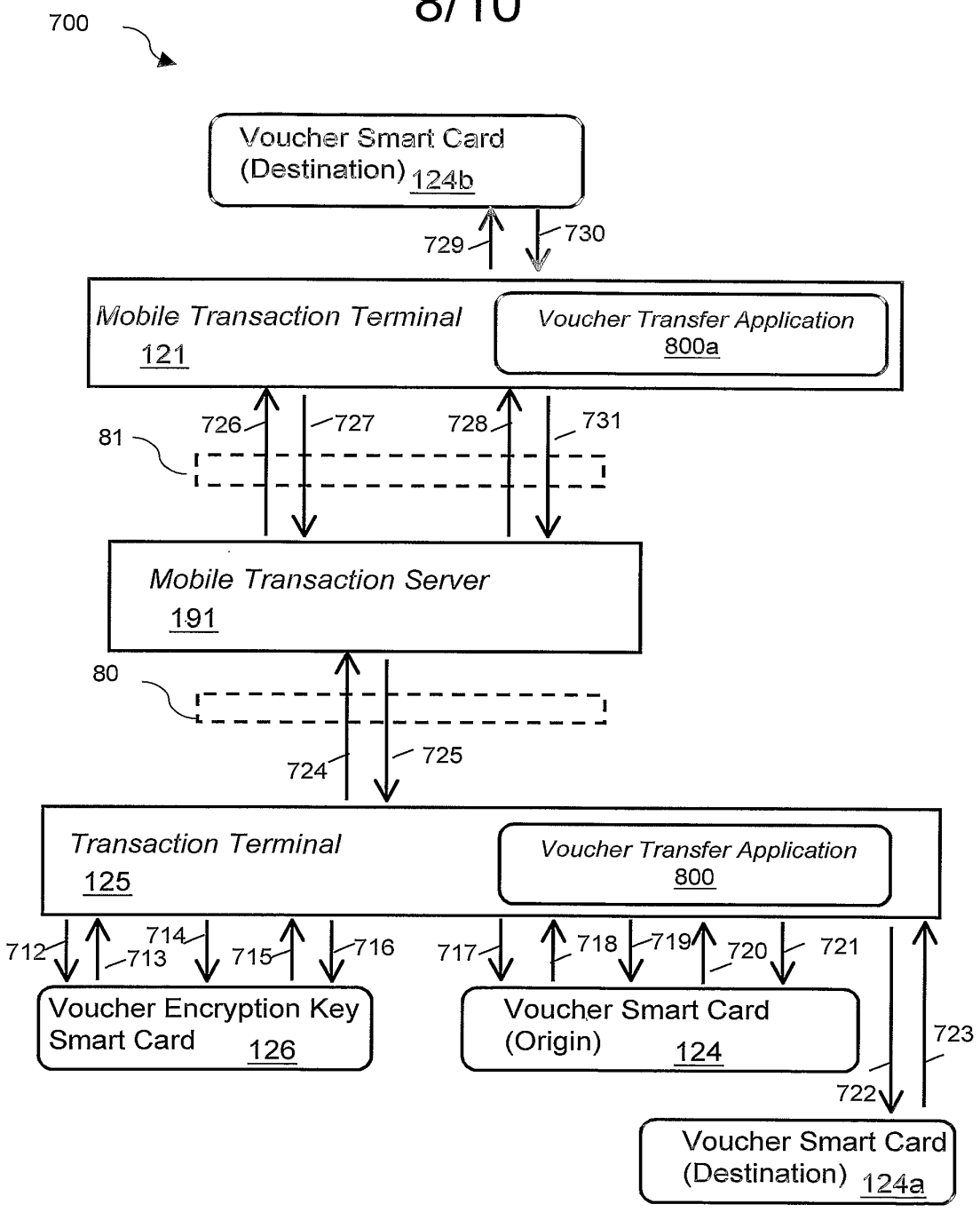

700
Voucher Smart Card (Destination) 124b
729
730
Mobile Transaction Terminal 121
Voucher Transfer Application 800a
81
726
727
728
731
Mobile Transaction Server 191
80
724
725
Transaction Terminal 125
Voucher Transfer Application 800
712
713
714
715
716
717
718
719
720
721
723
722
Voucher Encryption Key Smart Card 126
Voucher Smart Card (Origin) 124
Voucher Smart Card (Destination) 124a

FIG. 8

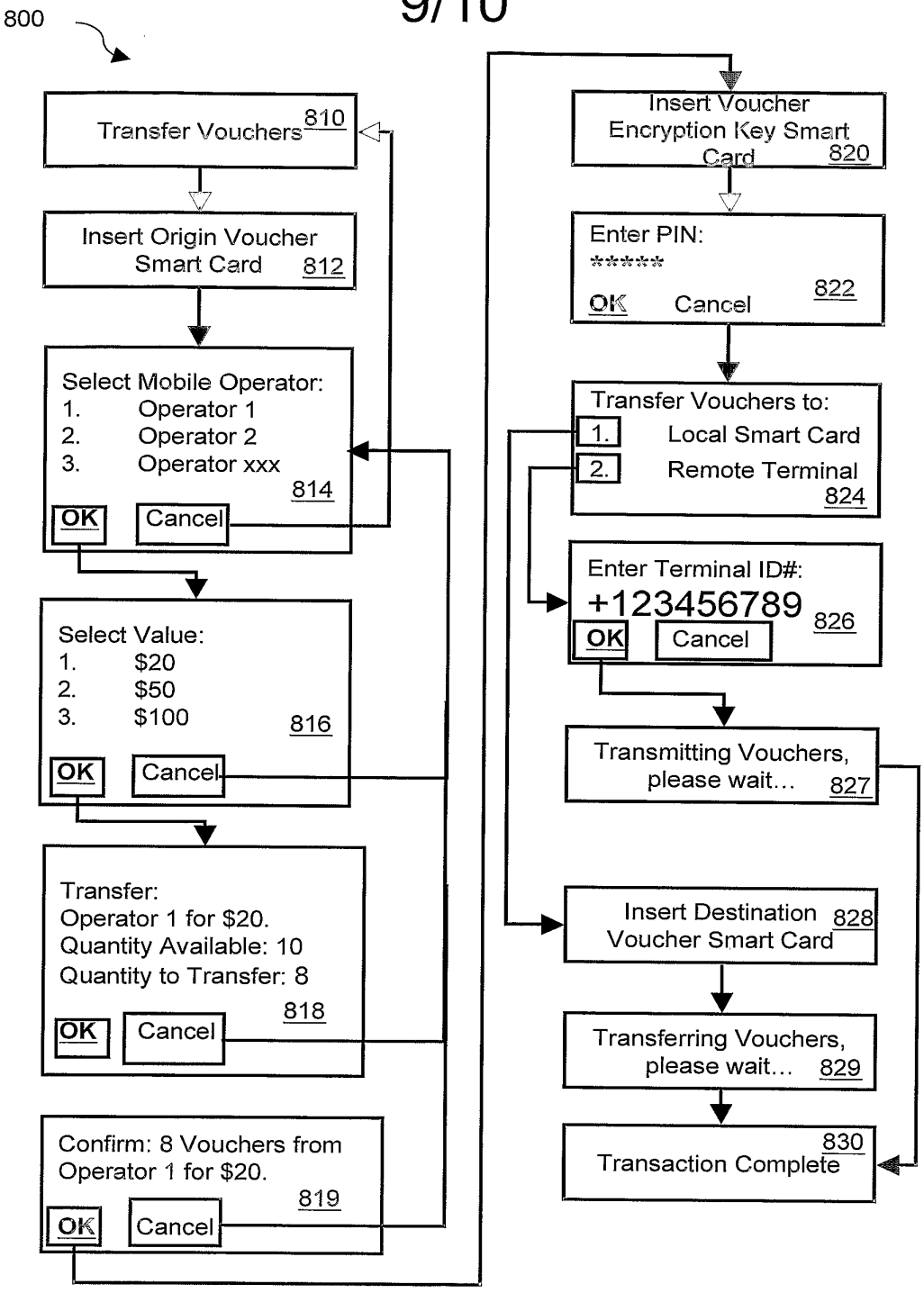

800
Transfer Vouchers 810
Insert Origin Voucher Smart Card 812
Select Mobile Operator:
1. Operator 1
2. Operator 2
3. Operator xxx
814
OK
Cancel
Select Value:
1. $20
2. $50
3. $100
816
OK
Cancel
Transfer:
Operator 1 for $20.
Quantity Available: 10
Quantity to Transfer: 8
818
OK
Cancel
Confirm: 8 Vouchers from Operator 1 for $20.
819
OK
Cancel
Insert Voucher Encryption Key Smart Card 820
Enter PIN:
*****
822
OK
Cancel
Transfer Vouchers to:
1. Local Smart Card
2. Remote Terminal
824
Enter Terminal ID#:
+123456789
826
OK
Cancel
Transmitting Vouchers, please wait... 827
Insert Destination Voucher Smart Card 828
Transferring Vouchers, please wait... 829
830
Transaction Complete

FIG.9

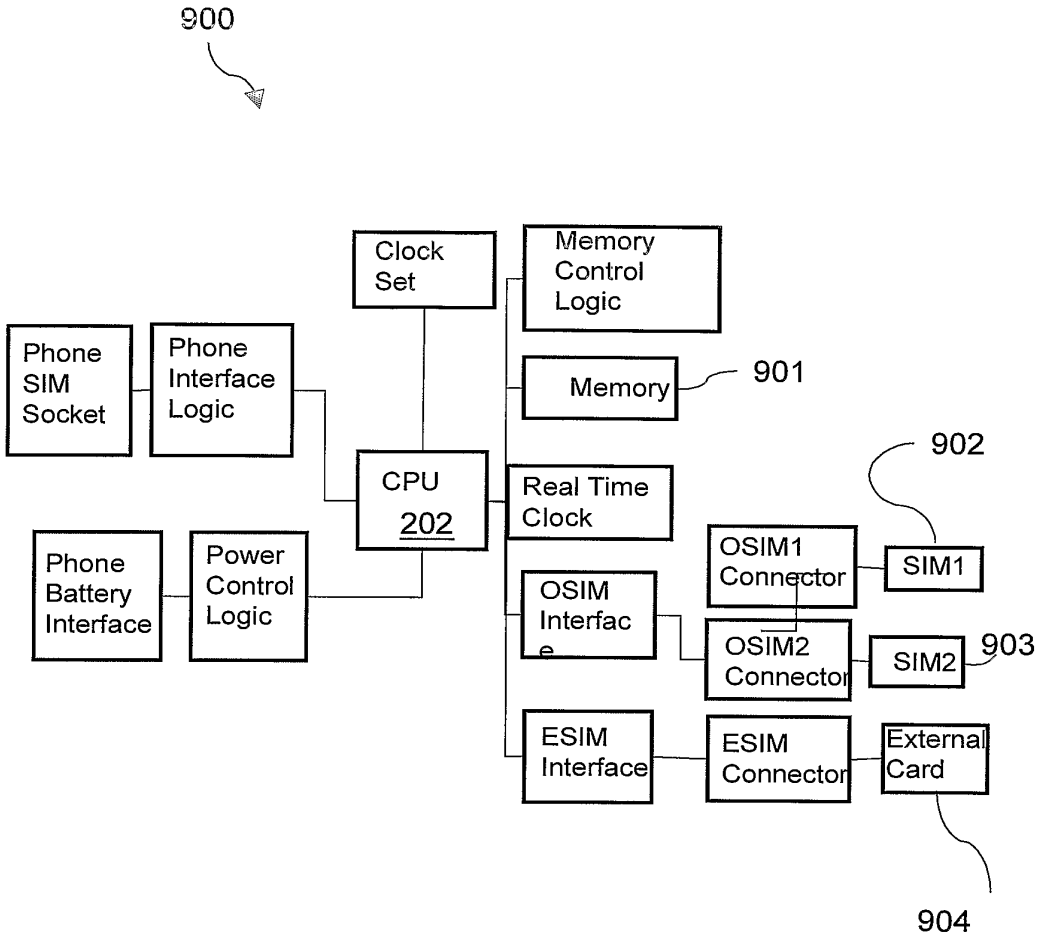

900
Clock Set
Memory Control Logic
Phone SIM Socket
Phone Interface Logic
Memory
901
902
CPU 202
Real Time Clock
Phone Battery Interface
Power Control Logic
OSIM1 Connector
SIM1
OSIM Interfac e
OSIM2 Connector
SIM2
903
ESIM Interface
ESIM Connector
External Card
904

FIG. 10

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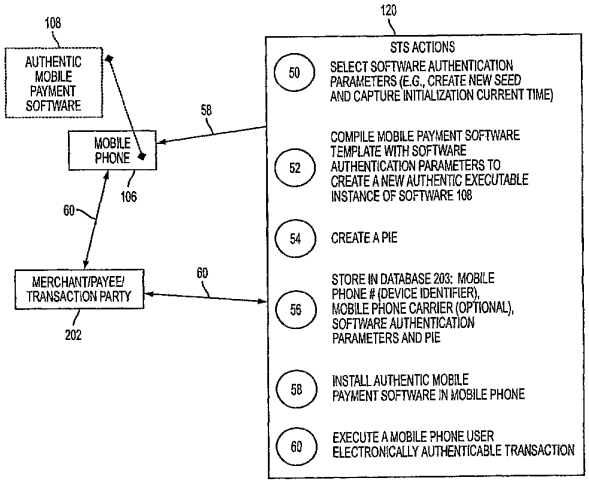
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(54) Title: WIRELESS WALLET



(57) Abstract: A mobile phone system and method of initializing, at a secure transaction server (STS), a mobile payment software with a software authentication parameter, as an authentic mobile payment software; providing an STS correlation between a personal identification entry (PIE) and the authentic mobile payment software; installing, in a mobile phone, the authentic mobile payment software; and inputting, by a user, the PIE to the installed authentic mobile payment software to generate according to the PIE and the software authentication parameter a transformed secure authenticable mobile phone cashless monetary transaction over the mobile phone network, as a mobile phone wireless wallet of the user of the mobile phone. The mobile phone authenticable cashless monetary transaction is performed according to an agreement view(s) protocol.

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WIRELESS WALLET

CROSS-REFERENCE TO RELATED APPLICATION(S)

[0001] This application is related to and is a continuation-in-part of US application no. 10/458,205, filed June 11, 2003, which claims the benefit of US provisional application no. 60/401,807, filed August 8, 2002; and also a continuation-in-part of US application no. 10/628,584 filed July 29, 2003, which claims the benefit of US provisional application no. 60/401,807 filed August 8, 2002; and also a continuation-in-part of US application no. 10/628,569 filed July 29, 2003, which claims the benefit of US provisional application no. 60/401,807 filed August 8, 2002; and also a continuation-in-part of US application no. 10/628,583 filed July 29, 2003, which claims the benefit of US provisional application no. 60/401,807 filed August 8, 2002.

[0002] This application is also related to and also claims the benefit of priority to, Provisional Application U.S. Serial Number 60/544,300, Attorney Docket No. 1634.1002P2, entitled A UNIVERSAL PERVASIVE TRANSACTION FRAMEWORK APPLICATION: WIRELESS WALLET ON A MOBILE PHONE, by Yannis Labrou, Jonathan Agre, Lusheng Ji, Jesus Molina Terriza, Wei-lun Chen, and, filed February 17, 2004 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0003] This application is also related to, and also claims the benefit of priority to, Provisional Application U.S. Serial Number 60/549,148, Attorney Docket No. 1634.1002P3, entitled WIRELESS WALLET, by Yannis Labrou, Jonathan Agre, Lusheng Ji, Jesus Molina Terriza, Wei-lun Chen, and, filed March 3, 2004 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0004] This application is also related to, and also claims the benefit of priority to, Provisional Application U.S. Serial Number 60/575,835, Attorney Docket No. 1634.1002P4, entitled A WIRELESS WALLET FOR PERSON-TO-PERSON TRANSACTIONS, by Yannis Labrou, Jonathan Agre, Lusheng Ji, Jesus Molina Terriza, Wei-lun Chen, and, filed June 2, 2004 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0005] This application is related to Provisional Application U.S. Serial Number 60/401,807, Attorney Docket No. 1634.1002P, filed August 8, 2002 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0006] This application is related to U.S. Serial Number 10/458,205, Attorney Docket No.

1634.1003, entitled SECURITY FRAMEWORK AND PROTOCOL FOR UNIVERSAL PERVASIVE TRANSACTIONS, by Yannis Labrou, Lusheng Ji, and Jonathan Agre, filed June 11, 2003 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0007] This application is related to U.S. Serial Number 10/628,584, Attorney Docket No. 1634.1002, entitled METHODS FOR PURCHASING OF GOODS AND SERVICES, by Yannis Labrou, Lusheng Ji, and Jonathan Agre, filed July 29, 2003 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0008] This application is related to U.S. Serial Number 10/628,569, Attorney Docket No. 1634.1004, entitled APPARATUSES FOR PURCHASING OF GOODS AND SERVICES, by Yannis Labrou, Lusheng Ji, and Jonathan Agre, filed July 29, 2003 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

[0009] This application is related to U.S. Serial Number 10/628,583, Attorney Docket No. 1634.1005, entitled FRAMEWORK AND SYSTEM FOR PURCHASING OF GOODS AND SERVICES, by Yannis Labrou, Lusheng Ji, and Jonathan Agre, filed July 29, 2003 in the U.S. Patent and Trademark Office, the contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0010] The present invention is directed to wireless computing device authenticable transactions, for example, authenticable cashless monetary transactions. For example, a mobile phone wireless wallet.

2. Description of the Related Art

[0011] The future ubiquitous computing environment will consist of mobile users with information computing appliances (mobile devices), such as cellular phones or Personal Digital Assistants (PDA's), that will be wirelessly communicating and interacting with the varied services and devices encountered at any particular moment and place. Many applications that operate in such environments have been proposed from the research and business community, but there has not yet been a strong market pull for any particular one. It is apparent that a crucial enabler for ubiquitous computing to emerge into the marketplace is the ability to safely conduct financial transactions using mobile devices in this form of environment.

[0012] However, mobile devices, and, in particular, mobile phones, can present certain characteristics, such as limited capabilities (computation power, communication bandwidth,

battery capacity, small display, limited keyboard, etc), a typical user who is not technically savvy and cannot be overly burdened with a complex application for executing transactions with other parties, and a wireless transport network that is deemed insecure at the network layer.

[0013] There have been many approaches and solutions proposed for the mobile commerce (m-commerce) problem. A few small manufacturers have offered Wireless Local-Area Network (WLAN)-enabled mobile phones and both MOTOROLA and NOKIA have made announcements of plans to offer such phones in 2004.

[0014] The current m-commerce practice involves Web Store-Front Payment, in which a consumer pays for goods or services offered by a retailer that has Internet presence. For web pages that are specially prepared for mobile devices, such as those that are WAP-enabled, one could use the mobile device to make a purchase as it is normally done in e-commerce transactions using a web browser on a personal computer. But, since payment typically requires logging in and typing a username and password, this approach is impractical and inefficient on a mobile device, even if the transaction uses Wireless Application Protocol (WAP) and has occurred through a secured network link such as through https or Secure Socket Layer (SSL). In many current web browsing applications, the consumer can pre-register one or more financial accounts with a merchant to save time and avoid repeatedly entering ones financial information, but this approach requires a consumer to register multiple user account information with multiple merchants. Further, in case of a physical point-of-sale (POS) case it is too complex to deploy from a business point of view because it frequently involves integration with the back-end store systems and some form of binding between the payer and the physical goods purchased.

[0015] From a data security perspective, existing m-commerce data security solutions rely on Public Key Infrastructure (PKI) technologies. However, PKI solutions suffer from poor computational performance in mobile device environments and complexity of the user experience. There are many different ways PKI can be used for mobile payments. One proposed PKI-based solution for mobile payments is by MET LIMITED, which is discussed at [www.mobiletransaction.org, retrieved on January 5, 2005]. Under existing m-commerce security solutions, a user signs a transaction (a purchase order) with a certificate that authenticates the identity of the user (it is unclear whether each user has a single such certificate or a variety of them, each for every eligible account). For example, handling of multiple security certificates from many vendors is confusing, at best, and can be dangerous if left up to the user. Since these certificates are stored on the mobile device, the certificate store needs to be protected and "unlocked" on a per use basis. If the certificate storage is

implemented in software the key used to unlock the storage should be of sufficient length to protect this storage, or it can be instead implemented in hardware, which in case of a mobile phone would require the phone to be designed for this purpose. Such an approach requires an infrastructure for dissemination of certificates (including revocation), possibly specialized mobile phones and possibly some basic understanding by the user of certificates and their usage.

SUMMARY OF THE INVENTION

[0016] The embodiments described herein relate to wireless mobile computing device user electronically authenticable transactions, for example, mobile phone user authenticable cashless monetary transactions. For example, a user mobile phone wireless wallet.

[0017] A mobile phone system and method of initializing, at a secure transaction server (STS), a mobile payment software with a software authentication parameter, as an authentic mobile payment software; providing an STS correlation between a personal identification entry (PIE) and the authentic mobile payment software; installing, in a mobile phone, the authentic mobile payment software; and inputting, by a user, the PIE to the installed authentic mobile payment software to generate according to the PIE and the software authentication parameter a transformed, secure authenticable mobile phone cashless monetary transaction over a mobile phone network, as a mobile phone wireless wallet of the user of the mobile phone. The mobile phone authenticable cashless monetary transaction is performed according to an agreement view(s) protocol.

[0018] The above as well as additional aspects and advantages will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the described embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] These together with other aspects and advantages which will be subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

FIG. 1A is a flow chart of activating a mobile phone cashless monetary transaction capability, according to an embodiment of the present invention.

FIG. 1B is a flow chart of activating a mobile phone cashless monetary transaction capability, according to another embodiment of the present invention.

FIG. 1C is a diagram of mobile phone display screen user interface images to activate a mobile phone cashless monetary transaction, according to an embodiment of the

present invention.

FIG. 2 is a functional block diagram of Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) system architecture to execute a mobile device cashless monetary transaction, according to an embodiment of the present invention.

FIG. 3 is functional block diagram of a UPTF based system architecture to execute a mobile phone cashless monetary transaction with a physical point of sale (POS), according to an embodiment of the present invention.

FIG. 4 is a diagram of UPTF cashless monetary transaction messages based upon Secure Agreement Submission (SAS) protocol to execute a mobile phone cashless monetary transaction, according to an embodiment of the present invention.

FIG. 5 is a flow chart of a UPTF based mobile phone cashless monetary transaction with a merchant, according to an embodiment of the present invention.

FIG. 6 is a flow chart of a UPTF based mobile phone cashless monetary transaction to purchase a movie ticket, according to an embodiment of the present invention.

FIGS. 7A-B are mobile phone display screen user interface images to execute mobile phone cashless monetary transaction to purchase a movie ticket, and to obtain, store, and retrieve a transaction receipt, according to an embodiment of the present invention.

FIG. 8 is a flow chart based upon mobile phone display screen user interface images and message flow between a requestor device, a secure transaction server (STS) and a requestee to execute a person-to-person mobile phone cashless payment transaction, according to an embodiment of the present invention.

FIG. 9 is a flow chart based upon mobile phone display screen user interface images and message flow between a requestor device, a secure transaction server (STS) and a requestee to execute a person-to-person mobile phone cashless payment request transaction, according to an embodiment of the present invention.

FIG. 10 is overall mobile phone display screen user interface images and possible workflows available to an operator of a wireless wallet on a mobile phone to execute peer-to-peer cashless monetary transactions, according to an embodiment of the present invention.

FIGS. 11-12 are diagrams of mobile phone cashless monetary transaction message formats to execute various mobile phone person-to-person cashless monetary transactions, according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] Reference will now be made in detail to the present embodiments of the present invention, examples of which are illustrated in the accompanying drawings. The embodiments are described below to explain the present invention by referring to the figures.

[0021] Generally, there can be three classes of mobile commerce transactions, as follows:

[0022] 1. Person-to-person payments: A consumer can directly make an agreed upon payment to another consumer using their mobile devices.

[0023] 2. Web Store-Front Payment: A consumer pays for goods or services offered by a retailer that has an Internet presence. A user browses the retailer's web pages using a mobile device to identify the good or service to be purchased and then conducts payment. Examples of this case would be paying for a book or purchasing movie tickets through a web service.

[0024] 3. Physical Point-of-Sale (POS) purchase: A consumer pays a retailer at a check-out station using the mobile device, such as when making a payment at a "brick and mortar" store or restaurant.

[0025] The boundaries between these categories are malleable and their common properties can be exploited using the transaction agreement point of view. The embodiment(s) described herein accommodates these and/or other mobile commerce transactions.

[0026] In the described embodiments herein, a mobile device is any wireless handheld, or hand size, electronic computing device, including, without limitation, a mobile phone. The embodiment(s) described herein relate to wireless mobile computing device user electronically authenticable transactions based upon Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) protocol, such as (without limitation) mobile phone user authenticable transactions that may or may not result in a financial settlement, and/or mobile phone user authenticable cashless financial/monetary transactions. For example, a user authenticable mobile phone wireless wallet. More particularly, according to an aspect of the embodiment(s) described herein, a wireless mobile computing device provides user electronically authenticable transactions according to time and software dependent secured (e.g., encrypted), matched (verified against each other), and transaction party anonymous, transaction view(s) of one or more parties (i.e., in a typical embodiment paired and/or more than two transaction views).

[0027] FIG. 1A is a flow chart of activating a mobile phone cashless monetary transaction capability, according to an embodiment of the present invention. A computer system and method for a wireless mobile computing device user electronically authenticable transactions (i.e., electronic authentication of a user and/or the user's transaction) comprises, at operations 50 and 52, initializing, at a secure transaction server (STS) 120, a mobile payment software template with software authentication parameter(s), as an authentic mobile payment software 108. At operations 54 and 56, correlating, at the STS

120, a personal identification entry (PIE) and an identifier of a mobile phone 106 with the authentic mobile payment software 108. At operation 58, installing, in the mobile phone 106, the authentic mobile payment software 108. At operation 60, executing, at the mobile phone 106, the installed authentic mobile payment software 108 using the PIE to execute a mobile phone authenticable cashless monetary transaction as a mobile phone wireless wallet of a user of the mobile phone 106. More particularly, at operation 60, inputting by a user the PIE to the installed authentic mobile payment software to generate according to the PIE and the software authentication parameter, a transformed secure authenticable mobile phone cashless monetary transaction. According to an aspect of the embodiment described herein, at operation 50, one or more software authentication parameters are selected, which can be (without limitation) creation of a new seed, such as a new random seed number, and an initialization time. At operation 56, the STS 120 stores in a database 203, a unique identifier (referred to as Device ID, or DID) for the mobile phone 106, which can, for example, be a mobile phone number of the mobile phone 106 or some randomly generated globally unique identifier (GUID), a mobile phone carrier (as the case may be), the software authentication parameter(s) selected at operation 50, and the generated PIE. According to an aspect of the described embodiment, a mobile phone number can also be used as a device identifier for the mobile phone 106. The unique identifier (device ID (DID)) of the mobile phone 106 is used by the STS 120 to correlate a transaction message with authentic mobile phone payment software 108; to correlate the DID with the software authentication parameter(s) and the PIE stored at the STS 120 so that the STS 120 can generate a key that corresponds to a device 106 having the DID. The mobile phone number can be used to communicate (e.g., notifications, etc.) with the mobile phone 106 (e.g., Short Message Service (SMS) and/or Multimedia Message Service (MMS)). The mobile phone 106 can be an Internet enabled, according to known techniques, mobile phone. The PIE is described in more detail further below. The mobile phone authenticable cashless monetary transaction is performed according to an agreement view(s) protocol known as Universal Pervasive Transaction Framework (UPTF) (described in more detail below) and secured (e.g., encrypted) according to a protocol known as Secure Agreement Submission (SAS) (described in more detail below). According to an aspect of the embodiment(s) described herein, a transaction message is bound to a unique combination of a user and a device (e.g., mobile phone wireless wallet 106), the binding to the user is via the PIE and the binding to the device 106 is via the software authentication parameter(s) of the authentic mobile payment software 108. In particular, a transaction is an SAS based encrypted message and the encrypted message can be traced back to a combination of the user and the device 106 through the PIE and the software authentication parameter(s) of the authentic mobile payment software

108.

[0028] FIG. 1B is a flow chart of activating a mobile phone cashless monetary transaction capability, according to another embodiment of the present invention. In FIG. 1B, a computer system and method comprises, at operation 100, providing to a user a mobile phone cashless monetary transaction activation link at a computing device 102 (sign-up application 102), at operation 104, registering a phone number of a mobile phone 106 of the user via the activation link, at operation 105, associating a mobile payment software 108 with software authentication parameters, as an authentic mobile payment software 108, and, at operation 110, providing a correlation between a personal identification entry (PIE) and the authentic mobile payment software 108, at the STS 120. At operation 112, a mobile phone download link to the mobile payment software 108 is transmitted to the mobile phone 106, using the registered phone number of the mobile phone 106. At operation 114, the mobile payment software 108 is downloaded to the mobile phone 106 via the download link. At operation 116, the user can activate the downloaded mobile payment software 108 using an optional activation code. After installation of the authentic mobile payment software 108, as a user mobile phone wireless wallet 106 of the mobile phone user (i.e., a mobile phone wireless wallet application 108), the user can execute a mobile phone user electronically authenticable cashless monetary transaction using the user mobile phone wireless wallet 106.

[0029] The mobile payment software 108 is implemented according to an application platform of the mobile phone 106. For example, the mobile payment software 108 can be implemented according to Java 2 Platform Micro Edition (J2ME). According to an aspect of the embodiment described herein, at operation 112, the mobile payment software downloaded link is transmitted to the mobile phone 106 using short message service (SMS) and/or multimedia message service (MMS).

[0030] In FIG. 1B, after operation 116, a mobile phone cashless monetary transaction may be performed according to Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) protocol. The UPTF SAS protocol is discussed in related commonly assigned pending US patent application nos. 10/458,205, filed June 11, 2003; 10/628,584, filed July 29, 2003; 10/628,569, filed July 29, 2003; and 10/628,583, filed July 29, 2003, owned by FUJITSU LIMITED assignee of the present Application, the entire disclosures of all of which are hereby incorporated herein by reference.

[0031] In FIG. 1B, at operation 105, the associating of the mobile payment software 108 with the software authentication parameters comprises generating a UPTF random number identifier by a provider 122 of the mobile phone cashless monetary transaction activation, so

that the UPTF random number can be associated with the user and transmitting the UPTF random number identifier and the registered phone number of the mobile phone 106 to a secure transaction server (STS) 120. For example, at operation 105, in case the provider 122 is a payment service 122 at which a transaction party (a user) registers financial account information, the payment service 122 can assign a UPTF random number identifier (abstracted identifier) 123 to identify the user when communicating with the STS 120. Accordingly, the STS 120 can communicate with the provider 122 to execute a UPTF based transaction based upon the provider 122 UPTF random number and without knowledge of actual transaction party account information. Further, operation 110, comprises generating, by the STS 120, an executable mobile payment software including the initialization parameters, as the authentic mobile payment software, and generating the PIE that is correlated in the STS with the authentic mobile payment software 108. At operation 112, the transmitting of the mobile payment software download link comprises transmitting, by the STS 120, via short message service (SMS) the mobile payment software 108 download link to the mobile phone 106 of the user; and providing, by the STS 120, the PIE to the user. The described embodiment is not limited to the above-described authentic mobile payment software 108 generation, activation, and installation, and, at operation 58, an authentic mobile payment software 108 can be installed or provided for a mobile phone 106 via mobile phone removable/installable (e.g., smart card) and/or embedded computer readable media, embedded in a mobile phone computing processor, via an emailed download link, emailed attachment, etc.

[0032] FIG. 1C is a diagram of mobile phone display screen user interface images to activate a mobile phone cashless monetary transaction, according to an embodiment of the present invention. User interface screen image 150 is displayed at operation 112, when the mobile phone 106 receives an SMS message from the STS 120 on behalf of the provider 122. User interface screen image 152 displays the received SMS message directing the mobile phone user to go to an Internet address to download the authentic wireless wallet software 108. The user interface screen image 154 is displayed after operation 114, when downloading of the authentic wireless wallet software 108 to the mobile phone 106 is completed. The user interface screen image 156 is displayed when installing the authentic wireless wallet software 108. The user interface screen image 158 is displayed at operation 116, when an optional activation code for the authentic wireless wallet software 108 has been provided to be input at the mobile phone 106. After input of the activation code via the user interface screen image 158, the user interface screen image 160 is displayed, confirming to the user that the authentic wireless wallet software 108 has been activated and ready for executing mobile phone user electronically authenticable cashless monetary

transactions.

[0033] According to an aspect of the described embodiment herein, at operation 100, a provider 122, such as an online payment system/service, a merchant/service provider, a financial institution, etc., provides the mobile phone cashless monetary transaction activation link to a member of the provider 122 as the user. In case of an online payment system 122, the described embodiment provides member-to-member mobile phone cashless monetary transactions using the user mobile phone wireless wallet 108.

[0034] According to an aspect of the described embodiment herein, at operation 110, the STS 120 sends the PIE to the provider 122, and, at operation 111, the provider 122 receives the PIE and displays the PIE to the user at the computer 102. At operation 111, for additional security, the PIE might only be an image so that the provider 122 does not know the PIE, thereby allowing for anonymity of the transaction parties. The PIE can be delivered according to other secured ways, such as mail, email, a customer service representative, etc.

[0035] Therefore, with reference to FIGS. 1A and 1B, in an unlimiting example, the wireless wallet application 108 is implemented as a J2ME application than can be downloaded and executed on the mobile phone 106 and enables users to make purchases and payments leveraging Universal Pervasive Transaction Framework (UPTF). Currently, many mobile phones offered by carriers in the US are J2ME enabled and web-enabled, such that the wide-spread availability of J2ME on mobile phones enables new business models with respect to the delivery of content and services to mobile users. With J2ME, anyone can develop downloadable J2ME applications for custom content or service delivery to the mobile. This is the case of the wireless wallet application 108, which allows offering the service of secure payments using mobile phones 106.

[0036] The J2ME wireless wallet application is a relatively small application (typically according to the present invention less than 90 Kbytes) which combines the functionality of a web browser (for example, a cHTML web browser) and that of the purchasing application that implements the UPTF SAS framework and security protocol. It allows mobile users to enable or disable the payment functionality and to store receipts of purchase. The wireless wallet method can be offered by any retailer or payment service in order for consumers to make payments with their mobile phone. It is a completely software solution to the problem of secure payments using a mobile device. If the provider of the wireless wallet is a web store-front retailer, such as a movie ticket provider, the wireless wallet application 108 can be used to make payments with any of the accounts registered with the retailer. If the provider is an Online Payment Service, the wireless wallet software 108 can be used to make

payments to other online payment service users (person-to-person) or to "brick and mortar" retailers that accept payment with this payment service or a central service/system that can interface a plurality of payment services. In the latter case, the merchant can use a merchant's version of the wireless wallet client 108 to specify transaction information, such as the payment amount. The issue of identifying what is being paid for by the consumer via a mobile phone 106 is addressed by having the consumer enter a receipt number (e.g., as printed in the receipt of the restaurant where the meal is paid for) and/or a merchant identifier (e.g., a phone number of the merchant, including merchant POS identifier, etc.) on their wireless wallet application 108 to interface with the merchant retail application software; the goal being to bind a virtual shopping cart to a specific consumer.

[0037] A more detailed mobile payment software 108 download and activation is described as follows:

[0038] 1. After a user logs into a Provider's 122 web site using a computer device, such as personal computer 102, the option of using one's mobile phone for payments is presented and the user is re-directed to a page where one is asked for a phone number of the mobile phone to be used for mobile phone cashless money payments.

[0039] 2. The Provider 122 generates a UPTF_ID (random number) for the already captured username and password (operation 105) and sends to the STS 120 the UPTF_ID and mobile number. Therefore, in this example, the Provider 122 does not have to share with the operator of the STS 120 real account information of the user, but the provider 122 and the STS 120 relate transactions to a user based upon a random identifier generated by the provider 122.

[0040] 3. The STS 120 then creates a new wireless wallet executable 108 (with "fresh" initialization parameters per the UPTF requirements), a link to download this executable, an optional activation code, and a personal identification entry (PIE), all of which are correlated at and maintained by the STS 120 (operations 50-56 and 110). The STS 120 can send the PIE to the Provider 122.

[0041] 4. If the STS 120 sends the PIE to the Provider 122, the PIE is received by the provider 122 and displayed to the user (operation 111). Optionally, the STS 120 can provide an activation code to the user via SMS (e.g., at operation 116) or via the provider 122 (e.g., at operation 111). Alternatively, the PIE and the activation code (as the case may be) can be communicated to the user through channels other than the provider 122 or SMS, for example, via mail, email, etc. Typically in the present invention, the activation code is a number (for easier user entry) and used as a one time password that encrypts the UPTF-

related initialization parameters of the downloaded software 108, so that if a third party attacker intercepts the software while in transit, the attacker cannot have access to the device-specific initialization parameters.

[0042] 5. The STS sends a Short Message Service (SMS) message to the previously entered mobile's phone number with the download link (operation 112).

[0043] 6. The mobile user downloads the wireless wallet software 108 (e.g., at operation 114, the link can be easily followed directly from the SMS text itself) and subsequently uses the wireless wallet software 108 (operation 116). An initial activation can involve using the activation code. Otherwise, at operation 116, the user can subsequently use the wireless wallet software 108 to execute a mobile phone cashless monetary transaction by using only the PIE.

[0044] After operation 114 (after downloading wireless wallet application 108 into the mobile phone 106), the wireless wallet 108 is ready for use; purchases and/or financial transactions can be paid for with any of the accounts registered with the wireless wallet provider 122. This scheme for distributing the software ensures a secure distribution of the software, on request, and a safe dissemination of the PIE. A mobile phone wireless wallet software 108 distribution model has been implemented for downloading and installing a J2ME executable on the mobile phone 106. Operation of the software 108 is very easy and transaction time largely depends on the speed of the mobile phone carrier's network. Based on tests, a mobile phone cashless monetary transaction time can vary between 30 and 45 seconds, the differences due to a mobile carrier's network-related delays. The traffic generated by the mobile payment software application 108 (following the determination of what is purchased) is less than 1KByte (send/receive) for each transaction, as each mobile phone cashless monetary transaction message can be smaller than 256 bytes. In an unlimiting example, communication between the mobile phone 106 and the STS 120 during payment was routed either through a provider 122 or directly to the STS 120 (depending on the type of financial transaction and as will be described in more detail below) and was carried over Internet Hypertext Transfer Protocol (HTTP) on a mobile phone communication network. More particularly, because the UPTF SAS security is session-less based upon message view (as described in more detail below) encryption (i.e., not based upon communication session security), such as secure socket layer (SSL), secured transaction processing efficiency by the mobile phone 106 is substantially improved.

[0045] FIG. 2 is a functional block diagram of Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) system architecture to execute a mobile device cashless monetary transaction, according to an embodiment of the present

invention. In FIG. 2, colors are used to highlight features/concepts described herein. The Universal Pervasive Transaction Framework (UPTF) defines a system architecture based upon independent and anonymous transaction agreement views and a communication security protocol called the Secure Agreement Submission (SAS) protocol to transmit the views. Essentially the UPTF offers a vessel, which is able to securely carry the individual views of a transaction agreement from each party involved in the transaction to a trusted third party for verification, using a communication network which may consist of insecure segments such as wireless LANs or cellular links. When used for financial applications, such as the electronic wireless wallet, the transaction parties are payer 200 and a payee 202, for example, a customer payer 200 and a merchant payee 202, and a typical example of an "agreement" may read: "Party A will pay Party B $X for item Y."

[0046] The UPTF SAS protocol encrypts/decrypts a transaction message using a symmetric, secret-key approach where the secret key is producible only by an individual party's device 106 and a trusted third party (e.g., implemented as STS 120) and without transmission of the secret key among the parties. In other words, the UPTF SAS provides an implicit user authentication, because decryption by a trusted third party, such as STS 120, of a sending party's encrypted message, authenticates the sending party. The SAS insures that the authenticity of the parties is verified and during delivery, the privacy of the information is preserved (transaction party anonymity), even when the parties distrust each other and the messages from one party may be forwarded by the other to the third party verification. The UPTF also provides the mechanism for the trusted third party to verify that the independent views of the agreement are consistent with each other.

[0047] After the agreement data is extracted from the transaction views received from the parties and the data is verified by the trusted third party, further actions may need to be taken to actually execute the agreement. This is realized by the trusted third party interacting with the financial institutions associated with the payer 200 and the payee 202 to cause the transfer of the specified funds between the customer payer 200 and the merchant payee 202.

[0048] The wireless wallet UPTF system architecture is shown in FIG. 2 and comprises: a Payer 200 operating a UPTF device (called a UPTD), such as a mobile phone 106 loaded with a mobile phone wireless wallet 108, a Payee 202 operating another UPTF device, a Secure Transaction Server (STS) 120, a number of financial institutions 204, and several communication channels among them. For example, the payer 200 operates the mobile phone wireless wallet 106 to interact with the Payee 202 to determine the details of a purchase transaction and executes the UPTF protocol and its corresponding security

operations SAS. The mobile phone wireless wallet 106 can support wireless communication capability necessary for discovering/interfacing with the payees 202 via service spots of the payees 202 (a place where a signal can exist to connect to the mobile phone wireless wallet 106). The wireless communication capability of the mobile phone wireless wallet 106 to communicate with a service spot payee 202 and/or an STS 120 can be wireless local area network (WLAN) and/or mobile phone communication (cellular) network. The mobile phone wireless wallet 106 can also have a user interface for interacting with the payee 202 through some common application and to the STS 120 as needed. The Payee 202 can also operate a UPTD, such as a merchant transaction server (MTS) 302 that implements a retail application, and is responsible for interacting with the payer 200, executing the UPTF protocol and its corresponding security operations and interacting with the STS 120. In FIG. 1B, in case the provider 122 is an online payment system, the provider 122 would correspond to the financial institutions 204 of FIG. 2, which allows any type of UPTD person-to-person cashless monetary transactions via Channels A, B, and C as logical communication channels. Of course, the STS 120 and the financial institutions 204 might be implemented by a single entity or separate entities, as the case may be.

[0049] According to an aspect of the embodiment described herein, the STS 120 is a backend verification server on which both the payer 200 and the payee 202 have registered and provided identifying account information that is maintained in a secure STS database 203. The secret information used for encrypting the messages to/from each payer 200 and payee 202 are also stored in this DB 203. The STS 120 receives independently generated UPTF SAS transaction views (described in more detail further below) from both the payer 200 and the payee 202 regarding a financial transaction conducted between them. The STS 120 is able to decode both of the views using information from UPTF SAS cashless monetary transaction messages and the information stored in the STS 120 database 203. Following successful decoding, the STS 120 verifies that the view messages are original, authentic, involve the intended payer 200 and payee 202 and that the information fields in the agreement views are consistent with each other. The STS 120 will maintain a log of messaging activity for non-repudiation purposes.

[0050] In FIG 2, a generic set of communication channels are explicitly indicated. The indicated communication channels reflect anonymity of the transaction party communications (anonymous transaction party communication channels) according to the UPTF. Channel A (Ch A) logically represents the link between the payer 200 and the payee 202. This link is used to negotiate the details of a cashless payment transaction. This aspect is application dependent and is not considered to be part of the UPTF framework. Ch

A may or may not exist, and if it exists it can be a wireless channel, for example, in case of a WLAN enabled mobile phone 106, and/or channel A can be oral communication between the payer 200 and payee 202 in case of a non-WLAN mobile phone 106 used in a point of sale financial transaction. Channels B and C, are example logical links among the Payer 200, the Payee 202, and the STS 120. In case of a mobile phone wireless wallet 106, Channels B and C are mobile phone communication networks that can carry Internet traffic. In most situations these are not direct links, but involve communicating through the mobile communications network and/or the Internet. In general, these are insecure channels. Channel D, from the STS 120 to the Financial Institutions 204 is a different type of channel and is assumed to be a highly secure communication path. In addition, STS 120 itself is assumed to be housed in a protected facility so that its database 203 is physically secure and inaccessible from the network.

[0051] The mobile phone wireless wallet 106 operations involved in an example transaction with reference to FIG. 2 is described. The payer (operator) 200 initiates the SAS protocol through an explicit action, enters the PIE generated in operation 110 by the STS 120. This allows the payer 200 to generate a view of the transaction and to encrypt this with its private key based upon the PIE and the software authentication parameter(s) and then to send the encrypted view as a message to the STS 120. Similarly, the payee (operator) 202 enters its PIE that is also generated in operation 110 by the STS 120 and generates it's own view of the transaction, encrypts the view with its private key based upon the PIE and the software authentication parameter(s) and then sends its view to the STS 120. The STS 120 receives both encrypted views and verifies the views, through a successful view decryption (i.e., a successful view decryption authenticates a user) and a successful comparison of two or more views (as the case may be) (i.e., a successful comparison of transaction party views authenticates a transaction). The STS 120 then uses the secure back channels D to interact with the financial institutions 204 of the payer 200 and the payee 202 for transferring the funds. The STS 120 sends receipts (or failure notices) back to the payer 200 and the payee 202 to complete the transaction. The response messages are also encrypted by the STS 120 for each intended destination.

[0052] Other examples described herein are particular instances of the FIG. 2 UPTF system architecture. In particular, the physical POS deployment represents a common variation of this scheme. For this situation, the Payer 200 is a customer device, such as the mobile phone 106 that executes the wireless wallet application 108, the Payee 202 is the merchant operated device. The merchant operated device is located at a fixed site and can be a more powerful computer and provide additional network services, such as an Internet

connection. A direct payer 200 to STS 120 Ch B is not used, but rather the Payer 200 UPTF cashless monetary transaction messages are forwarded to the STS 120 through the merchant 202. In this case, channels A and B would be a mobile communication channel between the payer 200 and the merchant server 302 to bind the mobile phone user with transaction information of the merchant, such as the merchant products/services available for purchase and to forward, by the merchant server 302 to the STS 120, the payer 200 UPTF transaction messages (see FIGS. 3, 5 and 6). The properties of the protocol prevent the merchant from gathering personal information from the customer 200. Further details of the encryption procedures as part of the SAS are described further below.

[0053] Therefore, the mobile phone 106 wireless wallet application 108 is based on a general framework, called the Universal Pervasive Transaction Framework (UPTF), a generic architecture and a new security protocol for conducting secure multi-party agreements, using mobile devices over a wireless transport network. The framework is designed to address several key aspects specific to the envisioned pervasive environments.

[0054] FIG. 3 is functional block diagram of a UPTF based system architecture to execute a mobile phone cashless monetary transaction , according to an embodiment of the present invention. A universal pervasive transactions device (UPTD) is a wireless mobile computing device, such as mobile phones 106a-n, based upon the UPTF SAS to implement a wireless wallet by installing in the mobile phones 106a-n corresponding authentic mobile payment software 108a-n. A computer system and method of binding the mobile payment software 108a with transaction information of a transaction party (e.g., merchant online retail application 302); inputting the PIE by the user at the mobile phone 106a of the user; executing the authentic mobile payment software 108a and presenting, by the STS at the mobile phone 106a, a selectable list of abstracted relationship identifiers (identifiers that are a level removed from actual identifiers), corresponding to the registered financial entities of the user, that are correlated with the authentic mobile payment software 108a; and executing the mobile phone cashless monetary transaction with the transaction party 302 using the PIE and the software authentication parameter and according to UPTF transaction messages comprising an identifier of the mobile phone 106a, an identifier of the transaction party 302, and an identifier of the transaction, thereby providing the mobile phone wireless wallet based upon a combination of the authentic mobile payment software 108a at the mobile phone 106a and the STS 120 correlations of the authentic mobile payment software 108a with the PIE, the software authentication parameter, and the financial entities of the user, and independent, anonymous exchange of the UPTF transaction messages between the user, the transaction party and the STS. As described in more detail below, the authentic mobile

payment software 108 and the STS 120 correlations result in generation of a security tool (e.g., an encryption key) to secure (e.g., encrypt) messages, and, thus, successfully decrypting each message authenticates a sender, and, in case of UPTF transaction messages, by decrypting and matching UPTF transaction views of one or more transacting parties authenticates the transaction.

[0055] A UPTD wireless wallet can be a WLAN enabled wallet-sized computing device, including a WLAN enabled mobile phone, able to detect UPTF-enabled physical points of sale (POS), to wirelessly connect to the POS using a wireless local area network/short range radio technology (e.g., 802.11, BLUETOOTH, Infrared, etc.), and to allow their owners to make purchases and or payments with the UPTD wireless wallet. A UPTD wireless wallet can also be a mobile phone without WLAN capability. UPTF authenticable transactions using a UPTD that is a WLAN enabled mobile phone is described in, and can also be understood, for example, by referring to, the pending US patent application no. 10/628,583 (attorney docket no. 1634.1002) filed July 29, 2003 and owned by FUJITSU LIMITED assignee of the present patent application, which is incorporated herein by reference. In a typical embodiment described herein, the UPTD wireless wallet is an Internet and/or web capable/enabled mobile phone 106 (hereinafter referred to as a mobile phone 106 or as a mobile phone wireless wallet 106). For example, a mobile phone wireless wallet 106 could be used to place an order at a restaurant and subsequently make payment, as follows: (1) the user consumer 200, through activating a UPTD mobile phone wireless wallet software 108 function, according to the processes of FIG. 1A, interfaces over a mobile phone communication network 317 with a service spot merchant 202 (which, for example, could be a retail application server 302 on Internet 310 for a movie theater ticket, a gas station, etc., a point of sale 315 at a physical location of the merchant 202) - the retail application 302 implements a virtual store front (for ordering goods or retrieving the payment amount and is accessible through a web server) and implements the UPTF-related functions for effecting mobile phone cashless purchasing; (2) the mobile phone wireless wallet 106 displays a listing of the available merchant 202 offered services (via Channel A between the mobile phone wireless wallet 106 and the retail application 302 in FIGS. 2 and 3); (3) the consumer 200 selects the service (e.g., ordering a meal, or payment at checkout station) with a simple keypad input at the mobile phone wireless wallet 106; (4) once a purchase amount is determined, the consumer 200 presses a designated payment button on the mobile phone wireless wallet 106, which begins the payment stage and results in retrieval of a purchase order (i.e., the agreement) from the merchant 202; following a visual inspection by the consumer 200, the consumer 200 is requested to input the consumer's security PIE (also optionally selecting which financial entity account to use for payment); (5) the consumer 200

receives on the mobile phone wireless wallet 106 a confirmation and a receipt, if the transaction was successful (the service spot merchant 202 also receives a notification of the successful transaction).

[0056] It is important that the payment stage (5) is explicitly initiated by the consumer 200, so that the consumer cannot be spoofed into typing a PIN into an attacker-served page. In a typical implementation of the embodiment described herein, pressing the payment button results in termination of a browsing application (e.g., an execution thread) executed at the mobile phone 106 and the launching of new application (e.g., another execution thread) for user entry (albeit transparent to the user). As long as the user never entered a PIE without first pressing a payment button, hijacking of the PIE can be prevented.

[0057] The retail application 302 implements a virtual store front (for ordering goods or retrieving the payment amount and is accessible through the web server) and the UPTF-related functions for effecting purchasing.

[0058] The mobile phone wireless wallet 106 can deliver a user experience to execute UPTF SAS based cashless monetary transactions in a fast and intuitive manner. The mobile phone wireless wallet software 108 delivers an implicit localization by allowing interfacing at any location (location independent) to merchants 202. The speed and its simple and unified interface are effective and with some practice, performing a transaction could be accomplished in seconds (e.g., 30 seconds, or less than 12 seconds in case of a WLAN mobile phone wireless wallet 106); which can be less than a typical cash or card transaction involving getting change or physical paper receipts. A consumer 200 could purchase (or be offered) a mobile phone wireless wallet 106, for example, on-line via the sign up application computer 102. In other words, the consumer 200 would obtain a PIE as well as obtain (download) a wireless wallet software 108 for a mobile phone to execute mobile phone UPTF SAS based transactions. Merchants 202 would provide UPTF SAS functions in retail and purchasing applications 302, 315.

[0059] FIG. 4 is a diagram of UPTF cashless monetary transaction messages based upon Secure Agreement Submission (SAS) protocol to execute a mobile phone cashless monetary transaction, according to an embodiment of the present invention. In FIG. 4, colors are used to highlight features/concepts described herein. The SAS protocol is used for encrypting and submitting views of desired UPTF based cashless financial transactions. The message structure and encryption mechanism of SAS are designed to provide many of the desired security properties in an insecure pervasive communication environment envisioned for wireless purchasing, such as:

[0060] o Authentication: the agreement parties and the verification party are authenticated to each other, as is the integrity of the agreement group;

[0061] o Anonymity: agreement parties may remain anonymous to each other and personal and/or other account related information is not revealed to the other party;

[0062] o Protection of the agreement content: the agreement is kept private, it is tamper-resistant, non-replayable, and strong non-repudiation proper-ties are provided. In particular, a continuously changing, time dependent, device specific key is used to encrypt the views.

[0063] The underlying SAS algorithms are well-suited for a system using low-cost user devices, which have limited computing resources, while minimizing the complexity of use for the user. In addition, some of the information necessary to use the SAS, in particular the PIE, is not permanently stored on the UPTD 106 and not included in any data transmissions, so that if the UPTD 106 is lost or stolen, the UPTD 106 cannot be used. Additional details of the SAS and the encryption mechanism are provided with reference to FIG. 4, as follows.

[0064] The internal structure and the generation process of view messages 402, 404 (i.e., UPTF SAS cashless monetary transaction messages) are shown in FIG. 4. The UPTF SAS based views 402, 404 are implemented in software and/or computing hardware as the electronic wireless wallet software application 108 that is executed in the UPTD 106, such as the mobile phone 106. Since the views 402, 404 from the payer and the payee are symmetrical, the payer's 200 view 402 is only described. The symbols used in FIG. 4 are explained below:

[0065] o DIDc: device ID, a unique identifier for the Payer's UPTD device 106 (the consumer (c) or source transaction party).

[0066] o DIDm: device ID, a unique identifier for the Payee's device (the merchant (m) or destination transaction party).

[0067] o RSN: random sequence number.

[0068] o TS: local current timestamp.

[0069] o TID: transaction ID, a unique identification number assigned to an agreement, which is maintained by the STS 120 to identify corresponding UPTF agreement views 402, 404.

[0070] o MD: message digest

[0071] o PIE: Personal identification entry, a user and STS 120 maintained input secret

entry, such as an alphanumeric string. In a typical embodiment described herein, the PIE is only maintained by the user and the STS 120, is not known to and/or maintained by another party to a transaction and/or the financial institutions 122, 204, and is temporally known as an intermediate parameter to the mobile phone 106 of the payer 200 for encrypting the payer view 402. More particularly, the PIE is not included in transaction messages (e.g., UPTF SAS messages and/or SAS based informational messages) and, thus, the wireless wallet software 108 does not transmit the PIE. The PIE can be non-secure by being a substantially short alphanumeric string, such as a 4 digit number. The user enters the PIE whenever the user attempts a transaction. Preferably the PIE is issued to the user following the registration of the user for the application 108 that the client device 106 is used for. The user can also select the PIE at such time. The PIE is an alphanumeric string. In order to speed up the user entry to make it easier for the user to remember it, the PIE can be a number such as 4-digit or 5-digit PIN. The PIE is, however, a piece of highly secure information in the sense that it is never transmitted during the UPTF protocol execution, it is only known to the user and the STS 120, and its secrecy should be well protected. It is assumed that the PIE can be input by the user on a mobile phone 106 in a secure fashion or it may be deterministically generated using a biometric device such as a fingerprint sensor. For example, a computation applied on the fingerprint data received from a fingerprint sensor can be used to generate a PIE that is initially communicated by the user to the STS 120. Whenever the user attempts a transaction, the user applies her finger to the fingerprint sensor, thus generating the PIE. The PIE is not kept in permanent storage on the mobile phone 106, but is used as an intermediate parameter required for the generation of the encryption key for a transaction and it should not be retained by the device 106 for a period longer than the transaction execution time. If a particular implementation of the present invention uses a form of PIE that is not convenient for a user to input for each agreement transaction and the device needs to store its user's PIN, the storage must be secure and tamper-resistant.

[0072] As shown in the FIG. 4, a view 402 comprises a cipher text part (or encrypted part) 406 and a perceptible (e.g., plaintext) part 408. A plaintext part 408 includes the TID, the DIDc of the payer 200 generating the view 402, and the local current timestamp (TS) of device 106. The TS, among other functions described herein, is also used to prevent transaction replay. The encrypted part 406 includes two critical fields: the agreement data and the DIDm of the payee's 202 device 106 involved in the agreement. The DIDm is the minimum necessary reference field in order to provide the desired verification properties of the UPTF protocol. Therefore, a user can execute a UPTD 106 cashless monetary transaction with a transaction party according to a PIE and a wireless wallet software 108

authentication parameter RSN and transaction messages comprising an identifier of the mobile phone, an identifier of the transaction party and an identifier for a transaction (for example, an identifier and/or other transaction related data such as payment amount, etc.) thereby providing the UPTD wireless wallet based upon a combination of the mobile payment software at the UPTD and STS association of the PIE and the software authentication parameter with financial entities of the user and exchange of the transaction messages between the user, the transaction party and the STS 120.

[0073] First, DIDc and the TS obtained from the UPTD's local clock (and/or as provided as a part of the agreement data), are utilized by the device's 106 pseudorandom number generator to generate a time-dependent RSN. Therefore, the parameters of the generator are particular to each device 106. The encryption key K is then generated from the RSN and user input PIE (shown in FIG. 4 with green coloring), where the PIE is generated by the STS 120 as shown in FIG. 1A. Firstly, the RSN and PIE are combined using a function F and then a hash function H is applied to the result (typically a string) to generate the encryption key:

[0074] K = H (F ((PIE, RSN))

[0075] A message digest function can be applied to the agreement data, the DIDm, and the DIDc to generate a MD of the view. The MD can further strengthen the security by ensuring that no other party has tampered with or modified the contents of the view 402 in any way. The encryption algorithm with the encryption key K is then applied to the MD, the agreement data, the DIDc, and the DIDm to generate the cipher text part of the view 402, as shown in FIG. 4 with yellow coloring. For further protection, the SAS protocol uses random message padding in order to further prevent "known-text" attacks. According to an aspect of the embodiment described herein, the embodiment uses Advanced Encryption Standard (AES) for encryption, a Keyed-Hashing for Message Authentication (HMAC)-based scheme for random number generation, and SHA1 Secure Hash Algorithm for the hash function.

[0076] The STS 120 has sufficient prior knowledge of the functions and specific parameters used by each device 106 in the encryption process, so that when combined with the plaintext portions of a message 402, 404, it is possible to decrypt the message 402, 404 by reversing the above process. For example, from the plaintext part 408 of the view 402, the STS 120 recovers the DIDc and TS, which are used to look-up the customer's 200 PIE and other parameters of the RSN generator that can be stored in the STS database 203. These are used to compute the RSN. The encryption key K can then be computed using the same method with which the customer UPTD 106 generates the encryption key. The cipher text part 406 of the view message 402 is then decoded.

[0077] After all applicable fields of the payer 200 view 402 are acquired, the STS 120 locates the payee's 202 view 404 for the same transaction, using the DIDm and TID included in the previously decoded payer 200 view 402. After going through a similar decryption process, the decoded fields of the agreement data of the payee 202 view 404 are compared with the corresponding fields from the payer 200 view 402. If all applicable corresponding fields match (correspond according to application design), the received views 402, 404 are considered verified. Further processing is then carried out and external executions are triggered as necessary.

[0078] Any responses from the STS 120 to the payer 200 or payee 202 are encrypted by the STS 120 using the same encryption methods and using the parameters for the destination devices 106, 302 and the TS of the original transaction. Only the intended recipient can decrypt the response message, insuring privacy protection and authentication of the STS.

[0079] Another example encryption key generation for the UPTF SAS is described herein. In FIG. 4, using the view 402, the key KEYc is a hash of a RSNc and a PIEc; the detailed key generation procedure is as follows:

[0080] The initialization data for the RSNc are created when a new UPTD account is created by the STS (e.g., when the code executable 108 is created by the STS 120 at operation 110 in FIG. 1A). Specifically:

[0081] 1. a random 128-bit seed is generated using a software service function.

[0082] 2. a random 160-bit initialization timestamp is created also at new UPTD account creation time, using software service function. Therefore, in FIG. 1A, at operation 110, the STS 120 generates device 106 specific initialization parameters of a random number and an initialization time stamp, both of which, at operation 114 are transmitted via the wireless wallet application 108 to the UPTD device 106 (e.g., mobile phone 106).

[0083] In FIG. 1A, at operation 110, the PIE is created by the STS 120 when a new account is created at the STS 120, as follows: a 32-byte random value is created using a software service function , convert each byte to a decimal value string, and concatenate them all to produce a long string. Randomly chop 4 digits from this string to create PIE.

[0084] When the key needs to be created in order to encrypt a transaction message, the following steps take place:

[0085] 1. A 160-bit current timestamp is generated, as follows:

[0086] a. Convert current time to string, for example, converting the current time to a 16

characters string, e.g., 5:04pm, Jan 26, 2004 is written in "0000170401262004."

[0087] b. Take the string and a one way function to output another value, for example by hashing the current time string using SHA1 algorithm, which produces a 160-bit output.

[0088] 2. XOR an init timestamp and current timestamp to produce a 160-bit output. This operation is essentially a form of deterministically calculating a difference between two values of time (i.e., a deterministic transformation between two values).

[0089] 3. Use the 128-bit seed software authentication parameter as data, and the XORed value of the two time stamps as the key, compute the HMAC result (a 160-bit value). The result of the HMAC is the RSNc. Use of the HMAC accommodates unpredictability in the RSNc generation.

[0090] 4. Chop the first 128-bit of the HMAC result, combine (e.g., concatenate) with the 32-bit PIE (convert from a 4 digit string) for a 160-bit value.

[0091] 5. Compute the hash (SHA1) value of the 160 bit stream in operation (4), and chop the first 128 bit as the final key.

[0092] In the encrypted part of the message a hash of the transaction part of the message (with the padding) using SHA1 (alternatively a CRC can be used) is used.

[0093] In the above-described embodiment, the values of a number of bits are provided as unlimiting examples, and the present invention is not limited to a specific number of bits values. Therefore, as illustrated with reference to FIGS. 1, 2, 3 and 4, a UPTF SAS based transaction requires a device 106 which provides device-specific parameters that determine a device-specific and time-specific key and an operator for the device who provides a fixed PIE that is only known to the STS 120 and the operator. The combination of the two is required for an encrypted transaction request that can be validated by the STS 120. Intercepting one (or more) transaction message and successfully decrypting it would not be sufficient for purposes of inferring either the PIE, or the device specific parameters employed in the key generation process. Moreover, a single, time-dependant key is not re-usable because of the pair-wise agreement notion of transactions processed by the STS 120.

[0094] Accordingly, a system and method of generating, by the mobile phone, a first view of the mobile phone cashless monetary transaction, and transmitting the first view of the transaction to the STS according to the SAS; generating, independently by a party to the transaction, a second view of the transaction, and transmitting the second view of the transaction to the STS according to the SAS; and verifying, by the STS, the first and second views to authenticate the transaction, and causing, by the STS, execution of the transaction

based upon the verifying. The first and second views are symmetrical and the SAS comprises generating as each independent view of the transaction an unencrypted perceptible part comprising an identification of a first mobile phone for the first view and a current timestamp, and an encrypted part by performing a combination of time and authentic mobile payment software dependent transformations based upon the PIE, on a transaction message comprising data of the transaction, the identification of the first mobile phone and an identification of a second mobile phone for the second view.

[0095] An authentic mobile phone wireless wallet software 108, which generates the UPTF SAS views, comprises therein software authentication parameters of an initialization time stamp and an initialization random seed number, and wherein the first and second views are symmetrical and the SAS comprises generating as each independent view of the transaction, an unencrypted perceptible part comprising an identification of a first mobile phone for the first view and a current timestamp, and an encrypted part by performing a combination of transformations based upon the PIE and the software authentication parameters included in the authentic payment software from the STS, on a transaction message comprising data of the transaction, the identification of the first mobile phone and an identification of a second mobile phone for the second view. The combination of transformations to encrypt comprises generating a transaction random sequence number based upon the software authentication parameters of the authentic payment software; and generating an encryption key based upon the transaction random sequence number and the PIE.

[0096] The generating of the encryption key further comprises generating a current time stamp; converting the current time stamp to a string; using a one way function, such as a hash function, to convert the current time stamp string to a current time stamp value; determining a time difference value between the current time stamp and the initialization time stamp; computing a Keyed-Hashing for Message Authentication (HMAC) result, based upon the initialization random seed number and the time difference value, to generate the transaction random sequence number; selecting a number of bits from the HMAC result as the transaction random sequence number and combining the selected number of bits fwith the PIE; computing a hash value of the combination; and selecting a number of bits of the hash value to generate the encryption key. The number of bits is about 128.

[0097] FIG. 5 is a flow chart of a UPTF based mobile phone cashless monetary transaction with a merchant, according to an embodiment of the present invention. A computer system is described that comprises an Online Payment Service (122, 204), a Secure Transaction Server (STS) 120, and a mobile phone wireless wallet application 108

comprising mobile phone specific electronic financial transaction initialization parameters, that is downloadable to a mobile phone 106 for consumers to execute a mobile phone cashless monetary transaction with a merchant, send money to other consumers using their mobile phone or for consumers to request money from other consumers using their mobile phone. When making payments using a mobile phone, the consumer can select any of the accounts registered with the online payment service 122, 204 to make the payment using that account.

[0098] An Online Payment Service (OPS) 122, 204 is a web accessible service that enables consumers to make payments to other consumers or merchants, or consumers or merchants to request payments from other consumers. In current Online Payment Services 122, 204, a consumer 200 identifies a merchant 202 or another consumer 200 by an e-mail address (or some other user identifier, such as a user name, etc.) that has been verified by the OPS 122, 204. Users 200, 202 of the OPS 122, 204 provide to the online payment service 122, 204 the information of their personal accounts (credit cards, bank accounts, etc.), so that any of those accounts can be used when making a wireless device cashless payment. The Secure Transactions Server (STS) 120 is a Universal Pervasive Transaction Framework (UPTF) based system that verifies transaction requests that observe the UPTF.

[0099] As also described above with reference to FIG. 1B, when the user is logged on, over the web, to the OPS 122, 204, the user might see an option that enables them to make payments or request payments from a mobile phone 106. Upon following the link associated with this option, the user will be asked for the phone number of the mobile phone 106 that she would like to use for such transactions and possibly the mobile carrier for that phone number. Upon submitting this information, the user will be shown a PIE to be used for making payments and requesting money from her mobile phone 106 and she will also receive a SMS (Short Messaging Service) message on the specified mobile phone, with a link that if followed will enable her to download to her mobile phone 106 the mobile phone wireless wallet software 108 that will enable her to make payments and request money using her mobile phone 106. The link points to a unique downloadable executable associated with this user at the STS 120 via the STS 120 maintained software authentication parameters and PIE. If the user has access to the web from the mobile phone 106, she will be able to follow that link and download the software 108 to the mobile phone 106. Upon completing the download of the mobile phone wireless wallet application 108, the user will be asked to save the application on the mobile phone 106. From that point on the application 108 is ready for use. The downloaded application can be referred to as mobile phone electronic wireless wallet 108. A consumer 200 who is also an OPS 122, 204 user and has

downloaded a mobile phone wireless wallet 108 to her mobile phone 106 will be referred to as a mobile OPS user (as opposed to a OPS user). All mobile OPS users are also OPS users, so when using the term OPS users, it refers to both OPS users and mobile OPS users.

[00100] As discussed above with reference to FIG. 1A, the mobile phone wireless wallet software 108 is an executable written in a language that is installable and executable on the mobile phone 106, such as Java 2 Platform, Micro Edition (J2ME), Binary Runtime Environment for Wireless (BREW), any other language that might be installable on the mobile phone 106 so that applications written in that language can be executed on the mobile phone 106, or any combination thereof. The executable 108 is created by the STS 120 entirely, or at least partially as the STS 120 needs to create, store and retrieve data that is used to identify this executable 108 and the user associated with it for each future transaction. The STS 120 also creates and stores the PIE that is used for such transactions. The PIE is not stored on the executable 108 or the mobile phone 106 that this executable 108 will be eventually downloaded to. Only the software authentication parameters (operations 50, 52) are included in the mobile phone wireless wallet software 108.

[00101] Also, an OPS user can make a payment from the web-accessible OPS 122, 204 to a mobile OPS user, by using the mobile phone number of the mobile OPS user to identify the consumer who will receive the payment. Typically, OPS users identify other OPS users with an e-mail address. If an OPS user knows the mobile phone number of a mobile OPS user, she can identify that user by the mobile phone number and makes a payment to that user. Similarly if an OPS user wants to request money from a mobile OPS user, she will have to identify that user by a mobile phone number. In the latter case, the mobile OPS user might receive a SMS notification on her mobile phone notifying her that someone has requested money from her. The requestee can the use her mobile phone 106 to make a payment to that OPS user.

[00102] Also a mobile OPS user can use her mobile phone the make payments to other OPS users. If the payee is also a mobile OPS user, the payer can identify the payee by mobile phone number, although she can also identify that payee by e-mail address if she so chooses. Entering a phone number in a mobile phone is easier and faster than typing an e-mail address. If the payee was identified by phone number, the payee will receive a SMS notification about the payment. The payer also will receive a notification SMS if the payment is successful. The payer can select any of the OPS-registered accounts to make the payment from.

[00103] A mobile OPS user can also use her mobile phone to request a payment by an

OPS user, by similarly specifying the OPS user by either e-mail address or mobile phone number if the user knows it. Requestor and requestee will receive a SMS message notifying them of successful request. Mobile OPS users can also view in their mobile phone a list of transactions that involved their mobile wireless wallet software 108 from a relevant menu of the application 108. This list can include all transactions that involved the mobile phone 106 in order to effect the transaction. Specifically, this includes payments that were made from the mobile phone 106 (including a payment made in response to a request for payment) and requests for payments to other OPS users. OPS users can view in the web-accessible OPS, a list of all transactions that they have performed, regardless of whether they were made from the web-accessible OPS or from their mobile phone 106.

[00104] Payments and request for payments from the mobile phone 106 using the mobile phone wireless wallet software 108 result in UPTF messages (e.g., 402, 404), encrypted according to UPTF, send by the mobile phone's 106 wireless wallet 108 to the STS 120 and/or generated by the STS 120 (i.e., in case of a person-to-person mobile phone payment, the STS may or may not create a second view for the payment transaction depending on system configuration and/or application design and/or transacting party preference). For example, in FIG. 5, in case of a member-to-member, as a person-to-person transaction example, cashless payment transaction involving one payment service 122, 204 in which both members have registered accounts, the merchant 202 transaction system 302 and the payment service 122, 204 could be logically (conceptually) one entity/system 500 for through processing (via a channel D between the OPS 122, 204 and the STS 120) the UPTF views 402, 404 to/from the STS 120. In general, in a person-to-person type transaction scenario, each transacting party creates its own view. In case of a payment by one person to another person using the mobile phone wireless wallet 106, because the other person (payee) may not require (or be required) to approve a payment made to the payee, the payee might not need to create a view to accept the payment. Therefore, in case of a payment transaction, the payee's view can be omitted and the STS 120 may simply only verify a first payment request view 402 from a payer 200, or the STS 120 may create the other person's (payee 202) second view 404 on the payee's behalf. Paired views 402, 404 are used in case of a plurality of online payment services 122, 204 to achieve person-to-person mobile payment transactions. According to an aspect of the embodiment described, the system 500 can also comprise the STS 120. Also, responses to messages from the STS 120 to a mobile phone 106 are UPTF SAS messages, encrypted according to UPTF SAS. The OPS 122, 204 has a secure connection (i.e., channel D) to the STS 120.

[00105] According to an aspect of the embodiment described herein, in case of person-to-person payment transaction, a payment action from the web-accessible OPS 122 (i.e., in case of a payment from a desktop to a mobile phone wireless wallet 106), 204 can be carried through the secure connection D to the STS 120 and need not be encrypted according to UPTF SAS. As discussed above, payment from the web-accessible OPS is effective immediately and does not require an action by the payee. Still, the STS 120 will receive that payment action, decrypt the payment action, which according to the UPTF SAS serves to authenticate the originating payment action requester, including the transaction, and will determine if the payee is a valid mobile OPS user, who is still active with the STS 120, and possibly notify the payee 202 mobile phone wireless wallet 106.

[00106] According to another aspect of the embodiment described herein, the STS 120 through the secure connection D between the STS 120 and the OPS 122, 204, can receive a request for payment to a mobile OPS user (i.e., in case of a request for payment from a desktop to a mobile phone wireless wallet 106). Upon receipt of the request the STS 120 will send a notification SMS to the mobile phone 106 of the mobile OPS requestee. When the mobile OPS user, using her mobile phone 106 and the mobile phone wireless wallet software 108 checks for pending requests she will see that request and can decide to make a payment to the requestor. Upon receipt of the payment message by the STS 120, the STS 120 will check against the pending request by the request, will determine according the UPTF methods that the complete transaction is valid and accordingly notify requestor and requestee.

[00107] According to another aspect of the embodiment described herein, a request for payment by a mobile OPS user that uses her mobile phone for that request, is handled similarly. If the requestee was identified as a mobile OPS user, the requestee will receive a notification SMS and will see the request upon checking for pending requests with the wireless wallet software 108 and can decide to complete a payment. The STS 120 will use the UPTF criteria to compare with the requestor's messages to the STS 120 and determine the validity of the complete transaction. Upon such determination the STS 120 will notify the OPS and the requestor and requestee.

[00108] All of the above described transaction examples, only require that the mobile OPS user use her mobile phone 106 and the mobile phone wireless wallet software 108 and entering the designated PIE for those transactions. The STS 120 and OPS 122, 204 may be operated by the same entity and/or execute in the same computer system, or they me be operated by different entities. According to an aspect of the embodiment(s) described herein, a user can be notified at the mobile phone wireless wallet 106 of a status (e.g.,

result, confirmation, state, success/failure, problem/help notification, etc.) of the mobile phone UPTF authenticable cashless monetary transaction using Short/Multimedia Message Service, email, and/or voice message.

[00109] FIG. 6 is a flow chart of a UPTF based mobile phone cashless monetary transaction to purchase a movie ticket, according to an embodiment of the present invention. FIGS. 7A-B are mobile phone display screen user interface images to execute mobile phone cashless monetary transaction to purchase a movie ticket and to obtain, store and retrieve a transaction receipt, according to an embodiment of the present invention. With reference to FIGS. 5, 6, and 7A-7B, an example mobile phone cashless monetary transaction with a merchant is described. In FIG. 5, at operation 502, a mobile phone 106 user/consumer 200 uses an installed (FIGS. 1A, 1B, 1C) mobile phone wireless wallet 108 to request a purchase order from the merchant 302 payee 202. In FIGS. 5 and 6, operation 502 comprises binding the consumer 200 with the merchant 302 transaction information, for example, by browsing a merchant ticket sales application (merchant transaction server (MTS)) 302 (FIGS. 2, 3) for purchasing a movie ticket via a mobile phone (cellular) communication network. The binding of the user with a merchant's virtual shopping cart can also be performed by inputting at the mobile phone wireless wallet software 108 an identifier for the merchant (e.g., a POS 135 transaction paper receipt information) and/or the mobile phone wireless wallet might have pre-stored a merchant identifier (e.g., Internet Universal Resource Locator (URL) address). In FIG. 7A, for example, at operation 502, mobile phone user interface screen images 702a-h are displayed for browsing the merchant ticket sales application 302, which comprise, at 702a, selecting the mobile phone wireless wallet software 108, at 702b, selecting "Go shopping," at 702c, selecting "Movie Theater," at 702d, selecting "Movies Playing Next," at 702e, selecting movie times from displayed movie time information, at 702f, selecting a movie from displayed movies at the selected time, and, at 702g, completing a purchase order form request to be sent to the merchant 302, and, at 702h, transmitting to the merchant 302 the purchase order request , which is a binding of the consumer 200 with the merchant 302 transaction information by identifying what is being paid for (electronic shopping cart) and payment information.

[00110] At operation 504, the mobile phone wireless wallet software 108 receives a purchase order from the merchant ticket sales application 302, which, for example, can result in mobile phone user interface screen image 704 that displays a summary of the electronic shopping cart, including payment information, from the merchant 302, and a "Please press PAY button" selection. According, to an aspect of the invention, at operation 504, information used as a device identifier of the merchant (DIDm) (FIG. 4) can be identified

by the mobile phone wireless wallet 108 based upon the purchase order received from the merchant 302 payee 202.

[00111] At operation 506, selection of the "PAY" button at 704 begins the UPTF SAS functions of the embodiment. In particular, via the mobile phone user interface screen images 706a, 706b, the mobile phone wireless wallet software 108 requests input of the PIE (e.g., a PIN) and generates a UPTF SAS view 402 (as described with reference to FIG. 4), as a consumer 200 REQuest transaction, and transmits the REQuest transaction to the merchant 302. As shown in FIG. 6, the UPTF SAS based messages 402 from the mobile phone wireless wallet software 108 are carried over the mobile carrier's network, either directly to the STS 120 or indirectly through the merchant application 302, as indicated by Channel B. The transport layer between client 108 and MTS 302 and/or STS 120 uses Internet (Internet Protocol) HTTP communication. However, the transport layer can by any known transport layer, such as HTTP, web service calls, socket based communication, etc. According to an aspect of the embodiment(s) described herein, the MTS 302 is implemented with a web interface for sending and receiving messages from and to the mobile phone client 106; specifically the mobile phone wireless wallet software client 108 running on the mobile phone 106 sends its messages to the MTS 302 by submitting them to a pre-specified CGI-like interface, and the MTS 302 forwards/receives the same/responses to/from the STS 120 using web service calls. In other words, a UPTF message is an HTTP parameter. Since HTTP is stateless, the MTS 302 uses a small database to keep track of state(s) during the sending and receiving the messages. Also, because messages are carried over HTTP, a hex encoding of the encrypted UPTF SAS based message is used to avoid problems with special ASCII characters in the encrypted form of the message, as it is transported over HTTP.

[00112] At operation 508, the MTS 302 generates an MTS UPTF SAS view 404, as an MTS REQ, and transmits the MTS REQ and the Consumer REQ (i.e., views 402, 404) to the STS 120. According to an aspect of the embodiment, at operation 506, information used as a device identifier of the consumer (DIDc) is obtained by the MTS 302 from the unencrypted part of the consumer REQuest view 402, based upon which the MTS 302 generates the MTS REQuest view 404.

[00113] At operation 510, the STS 120 gets abstracted account listing for the consumer 200 from the payment service 122, 204. In particular, if at 706b, the consumer 200 inputs a request to use a financial account other than a default account, the consumer REQuest view 402 includes a request for financial account information. At operation 510, the STS 120 uses an account association 123 for the consumer 200, which is provided from the payment

service 122, 204 (i.e., operations 105 in FIG. 1A), to confirm the consumer REQuest with the payment service 122, 204. At operation 512, the STS 120, receives an account reference listing (not actual account numbers) from the payment service 122, 204. At operations 514, 516, the STS 120 forwards via the MTS 302, an STS Response to the consumer REQuest view 402, which includes the account reference listing. At operation, 516, the mobile phone user interface screen image 708 displays a selectable user account reference listing. At operation 518, the consumer 200 authorizes the transaction. At operation 520, the MTS 302 sends an MTS authorization and the consumer authorization to the STS 120.

[00114] At operation 522, in response to the MTS and consumer authorization requests of operation 520, the STS 120 sends an AUTHorization transaction to payment service 122, 204 and, at operation 524, receives a payment service response. At operation 526, the STS 120, forwards to the MTS 302 the payment service response to the AUTHorization transaction, which, at operation 528, the MTS 302 forwards the STS response to AUTHorization transaction to the consumer 200. In particular, at operation 528, the mobile phone user interface screen image 710 displays a transaction success confirmation message. Accordingly, at operations 508 and 520, the STS 120 receives and verifies the UPTF SAS based merchant and consumer views 402, 404 (e.g., decrypting and cross-referencing the UPTF SAS based MTS REQ and consumer REQ messages and the MTS AUTH and consumer AUTH messages).

[00115] According to an aspect of the described embodiment herein, the wireless wallet application 108 running on the mobile phone 106 receives receipt related information, as shown in the display screen image 712, which according to an aspect of the embodiment is in the form of a barcode image on a computer display screen, as shown in a barcode image 714 displayed on the mobile phone display screen 106, after every successful purchase and stores these receipts on the mobile phone 106 for further reference and reuse (e.g., to be displayed on a display screen of the mobile phone wireless wallet 106 and read from the computer displayed barcode image by a barcode reader 315 to gain physical access to the paid service at a physical merchant service spot, such as a cinema point of sale (POS) 315). The transaction receipt related information could be remotely stored and retrievable. Therefore, the wireless wallet application 108 provides transaction receipt management and in FIG. 7B, an example of mobile phone display screen user interface images 716a-d is illustrated for retrieving transaction receipt related information. According to another aspect of the embodiment(s) described herein, provided is a system and method of notifying the user at the mobile phone of a status of the mobile phone UPTF authenticable cashless monetary transaction using Short/Multimedia Message Service, email, and/or voice

message, including transaction receipt information, wherein the receipts can be forwarded to another (e.g., in case of a movie ticket purchase, a barcode image movie ticket receipt delivered to the mobile phone wireless wallet 106 can be forwarded to another person for theater entry). Therefore, the wireless wallet software 108 includes a general receipt management mechanism based upon a computer display screen image of a barcode 714. In FIG. 6, the VPN is a Virtual Private Network.

[00116] The wireless wallet application 108 running on the mobile phone 106 combines both a browser and a payment application. The browser (lightweight web client) is used for purchasing and the payment application component is used for executing a UPTF SAS transaction.

[00117] FIG. 8 is a flow chart based upon mobile phone display screen user interface images and message flow between a requestor device, a secure transaction server (STS) and a requestee to execute a person-to-person mobile phone cashless payment transaction, according to an embodiment of the present invention. FIG. 9 is a flow chart based upon mobile phone display screen user interface images and message flow between a requestor device, a secure transaction server (STS) and a requestee to execute a person-to-person mobile phone cashless payment request transaction, according to an embodiment of the present invention. FIG. 10 is overall mobile phone display screen user interface images and possible workflows available to an operator of a wireless wallet on a mobile phone to execute person-to-person cashless monetary transactions, according to an embodiment of the present invention. FIGS. 11-12 are diagrams of mobile phone person-to-person cashless monetary transaction message formats to execute various mobile phone cashless monetary transactions, according to an embodiment of the present invention. An example of a person-to-person payment and a person-to-person payment request will be described with reference to FIGS. 8, 9, 10 and 11. FIG. 8 is a flow chart of a person-to-person payment when a mobile phone payer 200 makes payment via a payment request or via responding to a received request for payment from a payee 202. In FIG. 8, at operation 802, a mobile OPS payer 200 starts the mobile phone wireless wallet 108 and chooses option "P2P Payment," corresponding to the mobile phone user interface display screen image 1002 (Form 0). At operation 804, the user selects option "Make Payment," corresponding to the mobile phone user interface display screen image 1004 (Form 1). Also, at operation 806, the user can select option "Pending Requests," corresponding to the mobile phone user interface display screen image 1004 (Form 1). If, at operation 804, the user selects "Make Payment," at operation 810, the user is prompted, via the mobile phone user interface display screen image 1006 (Form 2), to enter a phone number/email address. After

operation 804 and operation 806 (as the case may be), the user is prompted, via the mobile phone user interface display screen images 1010 (Form 4) or 1018 (Form 7), to enter a PIE, such as a PIN. At operation 812, when the user enters the PIN, the mobile phone wireless wallet software 108 uses the input PIN to create encrypted payee id request/pending list request (as the case may be) according to UPTF SAS message view 402 and sends the message view 402 to the STS 120. At operation 814, the STS 120 receives the message views 402 and authenticates the user payer 200, and identifies payee 202/returns a pending request list (as the case may be).

[00118] At operation 814, the STS 120 creates and transmits response requests to a "payment request" or a "pending payment request list," according to UPTF SAS message views 402. At operation 816, in case of a "payment" transaction, the mobile phone wireless wallet software 108 receives from the STS 120 a payee id (e.g., udid, id, fullname), and the user is prompted, via the mobile phone user interface display screen images 1012, 1014 (Forms 5, 6), respectively, to enter amount the user payer 200 wants to pay and confirm. At operation 818, in case of a "pending payment requests" transaction, the mobile phone wireless wallet software 108 receives from the STS 120 a pending payment request list, and the user is prompted, via the mobile phone user interface display screen images 1016, 1018 (Forms 8, 6), respectively, to select from a pending payee payment request list and confirm. At operation 814, for a make payment transaction, if a payee 202 confirmation message view 404 is not required, the STS 120 only authenticates payer 200 message view 402 and identifies payee 202. At operation 814, for a make payment transaction in response to a payment request from another person, the STS 120 verifies both message views 402, 404 of the payer 200 and the payee 202, respectively, according to the UPTF SAS.

[00119] At operations 816 and 818, the mobile phone wireless wallet software 108 sends a payment message view 402 that comprises payer, payee and amount information, and, at operation 820, the STS 120 receives and processes the payment message view 402 (display screen image 1020), and returns a final result to payer 200. If the payment transaction is successful, the payee 202 can be notified as well. In particular, at operation 822, the mobile phone wireless wallet software 108 receives a payment result message view 402 and informs the user payer 200, via the mobile phone user interface display screen image 1022b (Form 10), of the payment result and ask if the user wants to bookmark payee. At operation 820, a notification to payee 202, via SMS or email, can be sent.

[00120] FIG. 9 is a flow chart of a person-to-person payment when a mobile phone payee 202 requests payment from a payer 200. In FIG. 9, at operation 902, a mobile OPS payee 202 starts the mobile phone wireless wallet 108 and chooses option "P2P Payment,"

corresponding to the mobile phone user interface display screen image 1002 (Form 0). At operation 904, the user selects option "Request Payment," corresponding to the mobile phone user interface display screen image 1004 (Form 1). At operation 906, the user is prompted, via the mobile phone user interface display screen image 1006 (Form 2), to enter a phone number/email address for the payer 200. Also, at operation 908, the user can be prompted, via the mobile phone user interface display screen images 1006 and 1008 (Forms 2 and 3), respectively, to select a payer 200 from a favorite list. After operation 906 and operation 908 (as the case may be), the user is prompted, via the mobile phone user interface display screen image 1010 (Form 4), to enter a PIE, such as a PIN. At operation 910, when the user enters the PIN, the mobile phone wireless wallet software 108 uses the input PIN to create encrypted payer identification request according to UPTF SAS message view 402 and sends the message view 402 to the STS 120. At operation 912, the STS 120 receives the payer identification request message view 402 and authenticates the user payee 202, identifies payer 200 and resolves payer 200 information and returns payer 200 information to the mobile phone wireless wallet software 108.

[00121] At operation 912, the STS 120 creates and transmits response requests according to UPTF SAS message view 402. In particular, at operation 912, the STS 120 creates a payer 200 information (e.g., udid, id, full name) response message view 402. At operation 914, the mobile phone wireless wallet software 108 receives from the STS 120 the payer 200 information (e.g., udid, id, fullname), and the user is prompted, via the mobile phone user interface display screen images 1012, 1014 (Forms 5, 6), respectively, to enter amount the user payee 202 asks to be paid from the payer 200 and confirm.

[00122] At operations 914, the mobile phone wireless wallet software 108 sends a payment request from payer 200 message view 402 that comprises payer, payee and amount information, and, at operation 916, the STS 120 receives and processes the payment request from payer 200 message view 402 (display screen image 1020). At operation 916, the STS 120 processes (i.e., decrypting according to SAS and logging) the received payment request from the mobile phone wireless wallet software 108 by creating a new payment request entry for the payer 200, which can be requested by the payer via operation 806. In particular, at operation 916, the STS logs a transaction identifier of the message view 402, and with reference to FIG. 8, at operation 806, the payer 200 can select "Pending Payment Requests" to receive the created payment request, including the transaction identifier, of operation 916. In FIG. 8, via operations 812, 814 and 816, the payer 200 creates a corresponding agreement view 404, including the transaction identifier of the payment request, which corresponds to the created payment request of operation 916 and

can be processed by the STS 120 according to UPTF SAS by decrypting and verifying both views 402, 404 of the payer 200 and payee 202, respectively. At operation 916, if payer 200 is a mobile phone wireless wallet software 108 user, SMS can be sent to the payer 200 or otherwise an email notification can be sent to the payer 200. At operation 916, the STS 120 returns a request result to payee 202. In particular, at operation 918, the mobile phone wireless wallet software 108 receives a payment request result message view 402 and informs the user payee 202, via the mobile phone user interface display screen image 1022a (Form 10), of the payment request result and ask if the user wants to bookmark payer.

[00123] More particularly, FIG. 11 is a format diagram of six example mobile phone person-to-person cashless monetary transaction message views 402, 404, including unencrypted part 408 and encrypted part 406, for executing mobile phone person-to-person payment transactions. In FIG. 11, according to an aspect of the embodiments described herein, messages A and C are informational message views that are essentially SAS messages (encrypted according to SAS, which authenticates a sender of a message and the content). Responses from the STS 120 to the mobile phone wireless wallet 106 (messages B, D, and G) are also SAS messages (encrypted according to SAS, which authenticates a sender of a message and the content) (i.e., the messages are encrypted with a generated key (FIG. 4) corresponding to the device 106, even though the messages are sent by the STS 120, thus from the device 106 perspective, authenticating the sender (the STS 120 in this case) and the content, because only the corresponding device 106 with the installed authentic wireless wallet software 108 (via software authentication parameter(s) and the STS 120 can possibly successfully reconstruct the key used for encrypting a message at a particular time (timestamp). Messages E/F are essentially agreement message views (a transaction message, including a transaction identifier, for an agreement that involves or relates to two or more parties) that comply with UPTF and are also secured according to SAS encryption, hence UPTF SAS. Therefore, in the embodiments described herein, mobile phone transactions are executed according to SAS as well as UPTF SAS. For example, message A is a pending payment request list message view 402 created at operation 806, which is provided after operation 812 to the STS 120. Message B is a pending payment request list reply message view 402 created at operation 814 by the STS 120. Message C is a person (e.g., peer) identification request message view 402 created at operation 810 by the mobile phone wireless wallet 108, which is provided after operation 812 to the STS 120. Message D is a person (e.g., peer) identification reply message view 402 created by the STS 120 at operation 814, which is transmitted to the mobile phone wireless wallet software 108 at operation 816. Messages E/F are make payment request/request payment request message views 402 created by the mobile phone wireless wallet software 108 at operations

816 and 818, respectively, and transmitted to the STS 120 for processing at operation 820. Message G is a transaction result message view 402 created by the STS 120 at operation 820, which is transmitted to the mobile phone wireless wallet software at operation 822.

[00124] FIG. 10 illustrates and describes three possible flows for mobile phone user interface display screen images. In FIG. 10, flow I is mobile phone user interface display screen images 1002, 1004, 1006, 1008, 1010, 1012, and 1014. In FIG. 10, flow II is mobile phone user interface display screen images 1002, 1004, 1006, 1010, 1012 and 1014. In FIG. 10, flow III is mobile phone user interface display screen images 1002, 1004, 1018, 1016 and 1014. FIG. 12 is a diagram of an example envelope of a mobile phone cashless monetary transaction message view 402 for a pending payment request list reply (Message B in FIG. 11). In FIG. 12, the message B view 402 is according to the SAS. The "message" portion contains an actual content of a message, as encrypted according to SAS. FIG. 12 shows example of message B (FIG. 11) for a Pending Payment Request List Reply. The message format 1202 is an example format of the "message" portion for a Pending Payment Request List Reply message B sent by the STS 120 in reply to message A. The message format 1202 comprises a list of pending payment requests and a list of abstracted account identifiers to select from for payment. Padding 1 and padding 2 can be random numbers to hide location of the "message" portion. Ptr1 and ptr2 are pointers indicating where the "message" portion begins.

[00125] A true mobile (service spot independent) electronically anonymously authenticable wireless wallet 106 is provided in which the user does not carry any financial account information, the mobile device does not temporally and/or permanently store any actual user financial account information, the mobile device does not require/need to be swiped over and/or even interface with a point of sale (POS) reader (i.e., a user is not bound to a payee location) to execute mobile authenticable cashless monetary transactions, and no bank card swiping is performed by the user at the mobile device and/or via the mobile device. A mobile phone, comprises a computer readable medium storing a mobile payment software initialized at a secured transaction server (STS) with a software authentication parameter, as an authentic mobile payment software; and a programmed computer processor executing the authentic mobile payment software controlling the mobile phone according to a process comprising prompting a user to input a personal identification entry (PIE) that is correlated by the STS with a phone number of the mobile phone and the authentic mobile payment software, and generating according to the PIE and the software authentication parameter a transformed authenticable mobile phone cashless monetary transaction, as a mobile phone wireless wallet of the user of the mobile phone, thereby

accommodating mobile phone UPTF SAS based transactions.

[00126] Although the above-described embodiments are directed to mobile phone user electronically authenticable cashless monetary transaction, the embodiments are not limited to cashless monetary transactions, any type of user electronically authenticable transaction can be accommodated. The user mobile phone wireless wallet 106 provides an always-on, always-available, always-accessible "footprint" for accessing, delivering and paying (for) services with selectable accounts. The "footprint" is an authentic mobile phone wireless wallet application 108 according to a mobile phone application platform, such as J2ME, and running on a consumer's mobile phone 106. The authentic mobile phone wireless wallet application 108 can be distributed and managed directly by the "business" without the collaboration, participation and consent of a mobile phone communication carrier. The services that include "sensitive" data, such as payment, are securely accessible by the user, with a simple user maintained (i.e., not permanently stored on the mobile phone 106) identifier, such as a 4 digit PIN. Further, a provider-controlled "footprint" for additional services beyond payment can be accommodated.

[00127] For example, in case of a movie ticket purchase service using the user mobile phone wireless wallet 106, a main service would be payment for movie ticket at any location (mobile) and redemption at a service spot in the movie theater to gain entry admission. Some example additional services can be browsing movie schedules prior to purchasing, rating of movies for a reward (discount) to be applied towards future purchases, loyalty programs with immediate awards, download previews, and provide notifications of movie times based on customer profile. Also, ability to send notifications (SMS) for promotions/advertisements that are accessible once starting the mobile phone wireless wallet application 108 and/or redeemed with the wireless wallet application 108 (e.g., in combination with payment towards something that is paid for and the promotion is applied towards).

[00128] Other example mobile phone wireless wallet application 108 services comprise financial related transactions for person-to-person and customer-online merchant. Additional services can be online auction related services, such as initial informational services for an online auction service customer, checking watched auctions, etc., and payment to another transaction party for a successful bid. Also, ringtone, game, digital/media content, software, advertisements, coupons, etc. rewards mechanism (or credits for ringtone, game, digital content/media, software, etc. purchasing) can be provided in connection for mobile to mobile payments using the mobile phone wireless wallet application 108. More particularly, according to an aspect of the embodiment(s) described herein, a system and method is

provided that ties transactions with a wireless wallet 106 (e.g., wireless wallet software 108 payment transactions/purchases) to a reward system for receiving/purchasing mobile phone related items, such as ringtone, game, digital/media content, software, etc. According to another aspect of the embodiment described herein, a mobile phone reward system and method is provided in which a reward is immediately deliverable to a mobile phone, for example, after completion of a wireless wallet 106 payment, an automatic ringtone download, via a mobile phone communication network, to the mobile phone 106. The mobile phone wireless wallet application 108 makes the process of earning and redeeming credits much easier. Customers can be online payment services, banks, credit card companies, online merchants, and/or physical merchants using a mobile phone wireless wallet 106 as a point of sale (POS).

[00129] Other example mobile phone wireless wallet application 108 services comprise ordering and payment for medical prescriptions and refills prior to pickup at an authorized merchant. Additional services of notification (SMS) of refill due, when ready for pickup, rewards, transfer prescriptions by providing doctor's identifier and prescription number from mobile phone and incorporating validation of doctor and prescription.

[00130] Other example mobile phone wireless wallet application 108 services comprise payment, in-store, using the store loyalty card with the mobile phone wireless wallet 106, along with additional services of augmenting a royalty program, delivering and accessing rewards, coupons, etc. and redeeming.

[00131] Other example mobile phone wireless wallet application 108 services comprise various types of financial transactions, such as browsing accounts, funds, stocks, selling, buying, transferring stocks/funds/bonds using funds, broker accounts, banks, debit/credit cards. Additional services of notification onto the mobile phone wireless wallet 106 if stock meets price range, delivering and accessing recommendations, reports, analysis, trends, tracking, and voice activation.

[00132] The above-described processes of the present invention are implemented in software and/or computing hardware. The embodiment(s) described herein can be thought of as a server-side wallet to which access can be controlled through a four digit PIN, with the UPTF notions of multi-party agreements and time-of-transaction dependent key generation combining to provide expected security properties. The combined solution does not require any storage of critical data on the mobile device, it does not impose special hardware requirements and "reduces" security to a 4-digit PIN which is a major convenience for the user. The mobile phone wireless wallet described herein is computationally fast; on mobile phones the key generation and encryption (or decryption) (i.e., SAS portion) can take

approximately 100 ms on a fast available mobile phone (approximately 500 ms on a slow mobile phone) using J2ME for 160-bit AES encryption for each message. Thus, the security-related computational time is non-noticeable with respect to the transaction time (time it takes for messages to travel over a communication link).

[00133] In view of the above described examples of preferred embodiments, a computing device 106 suitable for use in implementing the present invention can be any electronic computing device (a programmable electronic device that can store, retrieve, and process data) allowing mobile (wireless) telecommunication with other computing devices and having one or more communicably connected components of computer/computing processors, such as Central Processing Units (CPUs); input unit(s)/device(s) (e.g., microphone for voice command/control, etc., keyboard/keypad, pointing device (e.g., mouse, pointer, stylus), touch screen, etc.); output unit(s)/device(s) (e.g., computer display screen (including user interface thereof, such as graphical user interface), speaker(s), printer(s), etc.); computer network interface(s), including known communication protocols thereof, (e.g., mobile telephone (voice/data (Internet)) (cellular radio networks, satellite, etc.) network, radio frequency technology, local area network, etc.); and computer readable recording media to store electronic information, such as software (e.g., operating system, wireless wallet software 108) and/or electronic data (any known computer readable media, such as volatile and/or non-volatile memory (Random Access Memory), hard disk, flash memory, magnetic/optical disks, etc.) for execution by computer/computing processors and/or electronic circuitry.

[00134] The many features and advantages of the invention are apparent from the detailed specification and, thus, it is intended by the appended claims to cover all such features and advantages of the invention that fall within the true spirit and scope of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation illustrated and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

CLAIMS

What is claimed is:

1. A method, comprising:

initializing, at a secure transaction server (STS), a mobile payment software with a software authentication parameter, as an authentic mobile payment software;

providing an STS correlation between a personal identification entry (PIE) and the authentic mobile payment software;

installing, in a mobile phone, the authentic mobile payment software; and

inputting, by a user, the PIE to the installed authentic mobile payment software to generate according to the PIE and the software authentication parameter a transformed secure authenticable mobile phone cashless monetary transaction over a mobile phone network, as a mobile phone wireless wallet of the user of the mobile phone.

2. The method of claim 1, further comprising implementing the authentic mobile payment software according to an application platform of the mobile phone.

3. The method of claim 1, further comprising implementing the authentic mobile payment software according to Java 2 Platform Micro Edition (J2ME) and/or Binary Runtime Environment for Wireless (BREW).

4. The method of claim 1, further comprising:

providing to the mobile phone a download link to the authentic mobile payment software; and

downloading to the mobile phone the authentic mobile payment software via the download link, thereby performing the installing of the authentic mobile payment software.

5. The method of claim 4, wherein the authentic mobile payment software downloaded link is transmitted to the mobile phone using short/multimedia message service.

6. The method of claim 1, wherein the mobile phone authenticable cashless monetary transaction is performed according to Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) protocol.

7. The method of claim 1,

wherein the authenticable mobile phone cashless monetary transaction is performed

according to Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) protocol,

wherein the initializing of the authentic mobile payment software comprises:

providing to the user a mobile phone cashless monetary transaction activation link at a computing device;

registering a phone number of the mobile phone of the user via the activation link;

transmitting the registered phone number of the mobile phone to the STS;

generating, by the STS, an executable mobile payment software including the initialization parameter, as the authentic mobile payment software; and

generating, by the STS, the PIE correlated in the STS with the authentic mobile payment software, and

wherein the installing of the authentic mobile payment software download link comprises:

transmitting, by the STS, via short/multimedia message service using the registered mobile phone number, a download link to the authentic mobile payment software to the mobile phone of the user;

downloading to the mobile phone the authentic mobile payment software via the download link, thereby performing the installing of the authentic mobile payment software; and

providing, by the STS, the PIE to the user.

8. The method of claim 6, further comprising:

correlating, at the STS, abstracted registered financial entities information of the user with the authentic mobile payment software;

binding the authentic mobile payment software with transaction information of a transaction party;

presenting, by the STS at the mobile phone, a selectable list of abstracted identifiers corresponding to the registered financial entities of the user correlated with the authentic mobile payment software; and

executing the mobile phone cashless monetary transaction with the transaction party using the PIE and the software authentication parameter and according to UPTF transaction messages that comprise an identifier of the mobile phone, an identifier of the transaction party, and an identifier of the transaction, thereby providing the mobile phone wireless wallet based upon a combination of the authentic mobile payment software at the mobile phone and the STS correlations of the authentic mobile payment software with the PIE, the

software authentication parameter, and the financial entities of the user, and exchange of the UPTF transaction messages between the user, the transaction party and the STS.

9. The method of claim 6, wherein the UPTF SAS comprises

generating, by the mobile phone, a first view of the mobile phone cashless monetary transaction, and transmitting the first view of the transaction to the STS according to the SAS;

generating, independently by a party to the transaction, a second view of the transaction, and transmitting the second view of the transaction to the STS according to the SAS; and

verifying, by the STS, the first and second views to authenticate the transaction, and

causing, by the STS, execution of the transaction based upon the verifying.

10. The method of claim 9, wherein the first and second views are symmetrical and the SAS comprises generating as each independent view of the transaction an unencrypted perceptible part comprising an identification of a first mobile phone for the first view and a current timestamp, and an encrypted part by performing a combination of time and authentic mobile payment software dependent transformations based upon the PIE, on a transaction message that comprises data of the transaction, the identification of the first mobile phone and an identification of a second device for the second view.

11. The method of claim 9,

wherein the software authentication parameter comprises a plurality of parameters of an initialization time stamp and an initialization random seed number, and

wherein the first and second views are symmetrical and the SAS comprises:

generating as each independent view of the transaction, an unencrypted perceptible part comprising an identification of a first mobile phone for the first view and a current timestamp, and an encrypted part by performing a combination of transformations based upon the PIE and the software authentication parameters included in the authentic payment software by the STS in the initializing, on a transaction message that comprises data of the transaction, the identification of the first mobile phone and an identification of a second device for the second view.

12. The method of claim 11, wherein the combination of transformations to encrypt comprises:

generating a transaction random sequence number based upon the software

authentication parameters of the authentic payment software; and

generating an encryption key based upon the transaction random sequence number and the PIE.

13. The method of claim 12, wherein the generating of the encryption key further comprises:

generating a current time stamp;

converting the current time stamp to a string;

using a one way function to convert the current time stamp string to a current time stamp value;

determining a time difference value between the current time stamp and the initialization time stamp;

computing a Keyed-Hashing for Message Authentication (HMAC) result, based upon the initialization random seed number and the time difference value, to generate the transaction random sequence number;

selecting a number of bits from the HMAC result as the transaction random sequence number and combining the selected number of bits with the PIE;

computing a hash value of the combination; and

selecting a number of bits of the hash value to generate the encryption key.

14. The method of claim 13, wherein the number of bits is about 128.

15. The method of claim 4, wherein an online payment system provides the mobile phone cashless monetary transaction activation link to a member of the online payment system as the user, thereby providing person-to-person mobile phone authenticable cashless monetary transactions using the user's mobile phone wireless wallet.

16. The method of claim 15, further comprising:

displaying on the mobile phone of the user a graphical user interface presenting selectable menu items comprising person-to-person payment, person-to-person transaction, a pending payment request by another person, setup, or any combination thereof;

upon selection of the person-to-person payment or the pending payment request menu items, displaying a graphical user interface accepting inputs comprising a mobile phone number, an email address or any combination thereof, of a transaction party; and

upon input of a mobile phone number and/or an email address of the transaction party, and the PIE, executing the mobile phone cashless monetary transaction with the

transaction party using the mobile phone wireless wallet of the mobile phone user.

17. The method of claim 16, wherein the accepting inputs further comprises accepting abstracted previously registered financial account reference identifiers of the mobile phone user to execute the transaction.

18. The method of claim 1,

wherein the mobile phone authenticable cashless monetary transaction is performed according to Universal Pervasive Transaction Framework Secure Agreement Submission (UPTF SAS) protocol, and the method further comprises:

correlating, at the STS, abstracted financial entity information of the user with the authentic mobile payment software; and

providing person-to-person mobile phone UPTF authenticable cashless monetary transactions using the user mobile phone wireless wallet.

19. The method of claim 1, wherein the PIE is an alphanumeric string having less than or equal to 5 characters.

20. The method of claim 6, further comprising transmitting the mobile phone authenticable cashless transaction messages over a mobile phone communications network according to Hypertext Transfer Protocol (HTTP), socket based communication, and/or web service calls.

21. The method of claim 8, wherein the executing of the mobile phone cashless monetary transaction further comprises:

receiving a mobile phone display screen displayable barcode image as a receipt of the executed mobile phone cashless monetary transaction and/or other transaction, receipt related information;

displaying the barcode image on a display screen of the mobile phone; and

reading, at a physical point of service of the transaction party, the displayed barcode image for transaction management by the transaction party.

22. The method of claim 18, wherein the person-to-person mobile phone UPTF authenticable cashless monetary transactions comprise sending a payment to a person, requesting a payment from another person, checking a pending request for payment from another, storing and retrieving records of transactions, or any combination thereof.

23. The method of claim 1, wherein the installing of the authentic mobile payment software in the mobile phone comprises downloading the authentic mobile payment software to the mobile phone, storing the authentic mobile payment software on a mobile phone installable computer readable medium, storing the authentic mobile payment software in a mobile phone embedded computer readable medium, or any combination thereof.

24. The method of claim 7, wherein the providing of the PIE to the user comprises delivering the PIE to the user as an image through a third party.

25. The method of claim 21, further comprising storing in the mobile phone the barcode image transaction receipt.

26. The method of claim 1, further comprising rewarding a mobile phone wireless wallet transaction with an automatic download of a mobile phone content comprising a ringtone, a game, a digital/media content, software, or any combination thereof, and/or a credit towards any thereof.

27. The method of claim 22, further comprising notifying the user at the mobile phone of a status of the mobile phone UPTF authenticable cashless monetary transaction using Short/Multimedia Message Service, email, and/or voice message.

28. The method of claim 21, further comprising notifying the user at the mobile phone of a status of the mobile phone UPTF authenticable cashless monetary transaction using Short/Multimedia Message Service, email, and/or voice message, including transaction receipt information.

29. The method of claim 18, wherein the PIE is an alphanumeric string having less than or equal to 5 characters.

30. A mobile phone, comprising:

a computer readable medium storing a mobile payment software initialized at a secured transaction server (STS) with a software authentication parameter and correlated with a personal identification entry (PIE), as an authentic mobile payment software; and

a programmed computer processor executing the authentic mobile payment software controlling the mobile phone according to a process comprising:

prompting a user to input the PIE, and

generating according to the PIE and the software authentication parameter a transformed secure authenticable mobile phone cashless monetary transaction over a mobile phone network, as a mobile phone wireless wallet of the user of the mobile phone.

31. A computer system, comprising:

a computer server comprising a programmed computer controlling the server according to a process comprising:

initializing a mobile payment software with a software authentication parameter, as an authentic mobile payment software,

generating a secured personal identification entry (PIE);

providing a secured correlation between the PIE and the authentic mobile payment software, and

providing an online purchasing interface; and

a mobile phone in mobile phone network communication with the server and comprising:

a computer readable medium storing the authentic mobile payment software, and

a computer processor executing the authentic mobile payment software controlling the mobile phone according to a process comprising:

interfacing with the online purchasing interface to generate a virtual shopping cart,

prompting a user to input the PIE,

generating according to the PIE and the software authentication parameter a transformed secure authenticable mobile phone cashless monetary transaction based upon the virtual shopping cart, and

transmitting over the mobile phone network the transformed secure authenticable mobile phone cashless monetary transaction to the computer server to execute the transaction.

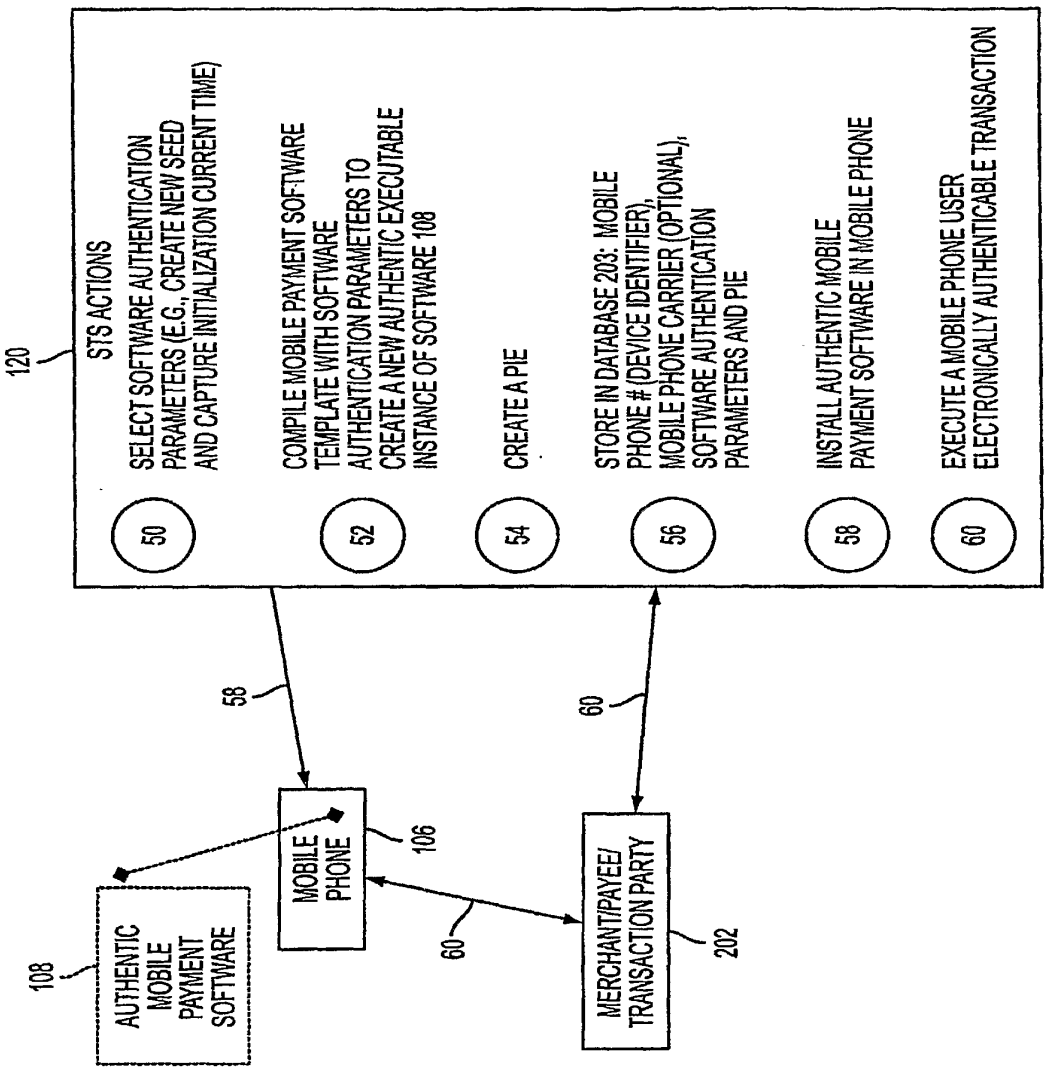

120
STS ACTIONS
50
SELECT SOFTWARE AUTHENTICATION PARAMETERS (E.G., CREATE NEW SEED AND CAPTURE INITIALIZATION CURRENT TIME)
52
COMPILE MOBILE PAYMENT SOFTWARE TEMPLATE WITH SOFTWARE AUTHENTICATION PARAMETERS TO CREATE A NEW AUTHENTIC EXECUTABLE INSTANCE OF SOFTWARE 108
54
CREATE A PIE
56
STORE IN DATABASE 203: MOBILE PHONE # (DEVICE IDENTIFIER), MOBILE PHONE CARRIER (OPTIONAL), SOFTWARE AUTHENTICATION PARAMETERS AND PIE
58
INSTALL AUTHENTIC MOBILE PAYMENT SOFTWARE IN MOBILE PHONE
60
EXECUTE A MOBILE PHONE USER ELECTRONICALLY AUTHENTICABLE TRANSACTION
58
60
MOBILE PHONE
106
AUTHENTIC MOBILE PAYMENT SOFTWARE
108
60
MERCHANT/PAYEE/ TRANSACTION PARTY
202

FIG. 1A

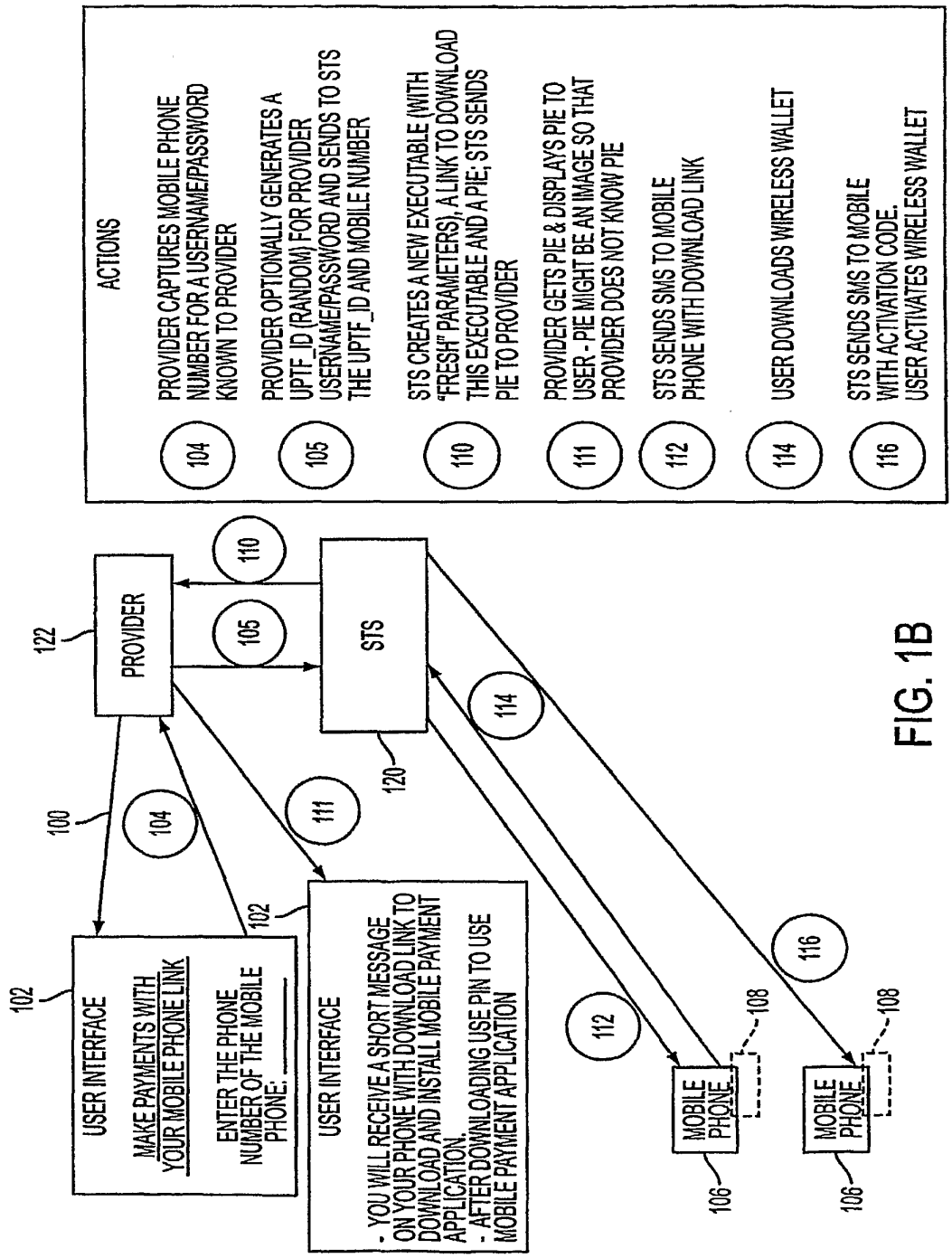

ACTIONS
104 PROVIDER CAPTURES MOBILE PHONE NUMBER FOR A USERNAME/PASSWORD KNOWN TO PROVIDER
105 PROVIDER OPTIONALLY GENERATES A UPTF_ID (RANDOM) FOR PROVIDER USERNAME/PASSWORD AND SENDS TO STS THE UPTF_ID AND MOBILE NUMBER
110 STS CREATES A NEW EXECUTABLE (WITH "FRESH" PARAMETERS), A LINK TO DOWNLOAD THIS EXECUTABLE AND A PIE; STS SENDS PIE TO PROVIDER
111 PROVIDER GETS PIE & DISPLAYS PIE TO USER - PIE MIGHT BE AN IMAGE SO THAT PROVIDER DOES NOT KNOW PIE
112 STS SENDS SMS TO MOBILE PHONE WITH DOWNLOAD LINK
114 USER DOWNLOADS WIRELESS WALLET
116 STS SENDS SMS TO MOBILE WITH ACTIVATION CODE. USER ACTIVATES WIRELESS WALLET
122
PROVIDER
STS
120
100
102
USER INTERFACE
MAKE PAYMENTS WITH YOUR MOBILE PHONE LINK
ENTER THE PHONE NUMBER OF THE MOBILE PHONE: ____
USER INTERFACE
- YOU WILL RECEIVE A SHORT MESSAGE ON YOUR PHONE WITH DOWNLOAD LINK TO DOWNLOAD AND INSTALL MOBILE PAYMENT APPLICATION.
- AFTER DOWNLOADING USE PIN TO USE MOBILE PAYMENT APPLICATION
MOBILE PHONE
MOBILE PHONE
106
108

FIG. 1B

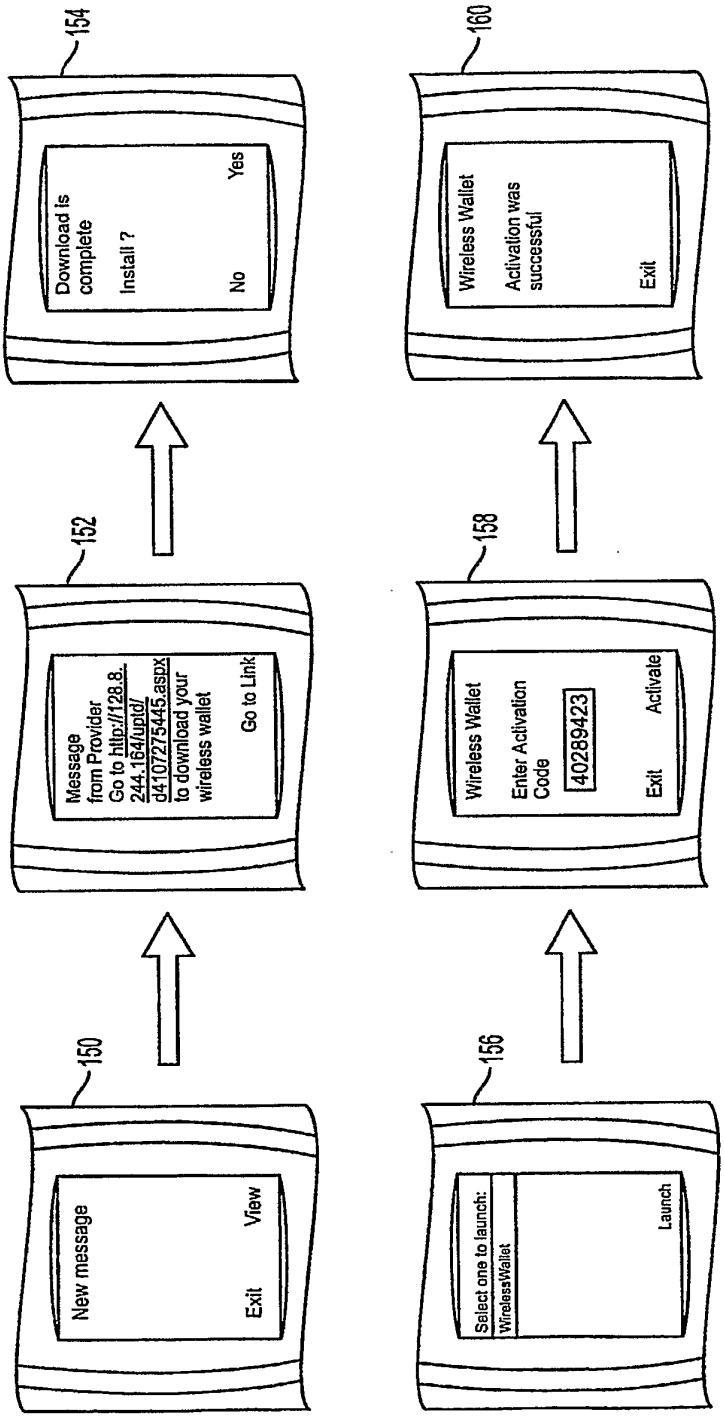

154
Download is complete
Install ?
Yes
No
160
Wireless Wallet
Activation was successful
Exit
152
Message from Provider
Go to http://128.8.244.164/uptd/d4107275445.aspx to download your wireless wallet
Go to Link
158
Wireless Wallet
Enter Activation Code
40289423
Exit
Activate
150
New message
Exit
View
156
Select one to launch:
WirelessWallet
Launch

FIG. 1C

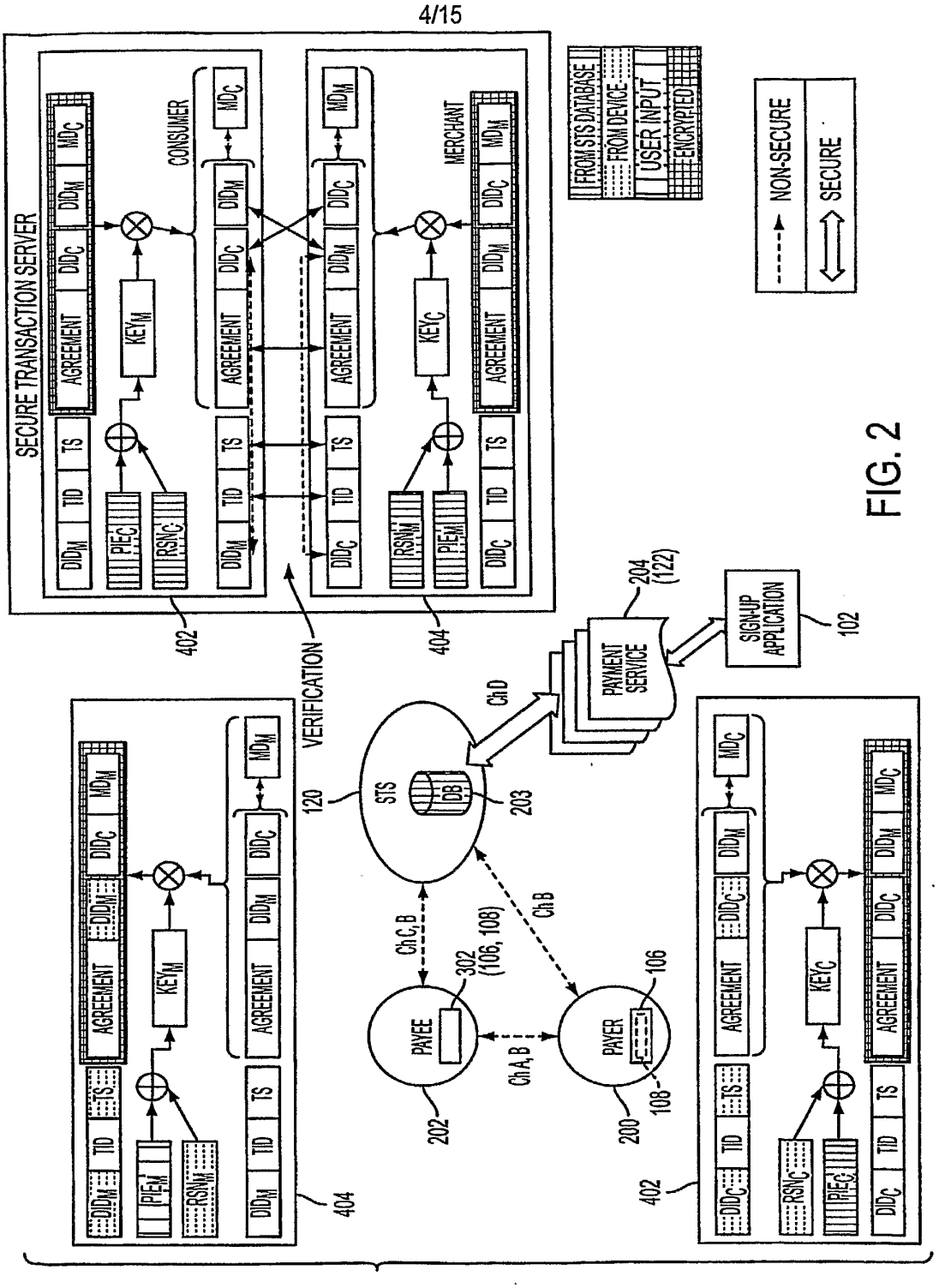

SECURE TRANSACTION SERVER
CONSUMER
MERCHANT
AGREEMENT
KEY$_M$
KEY$_C$
DID$_M$
DID$_C$
MD$_M$
MD$_C$
TID
TS
PIE$_C$
RSN$_C$
PIE$_M$
RSN$_M$
402
404
VERIFICATION
FROM STS DATABASE
FROM DEVICE
USER INPUT ENCRYPTED
NON-SECURE
SECURE
204 (122)
PAYMENT SERVICE
SIGN-UP APPLICATION
102
120
STS
DB
203
Ch D
Ch C, B
Ch B
Ch A, B
PAYEE
302 (106, 108)
202
PAYER
106
108
200

FIG. 2

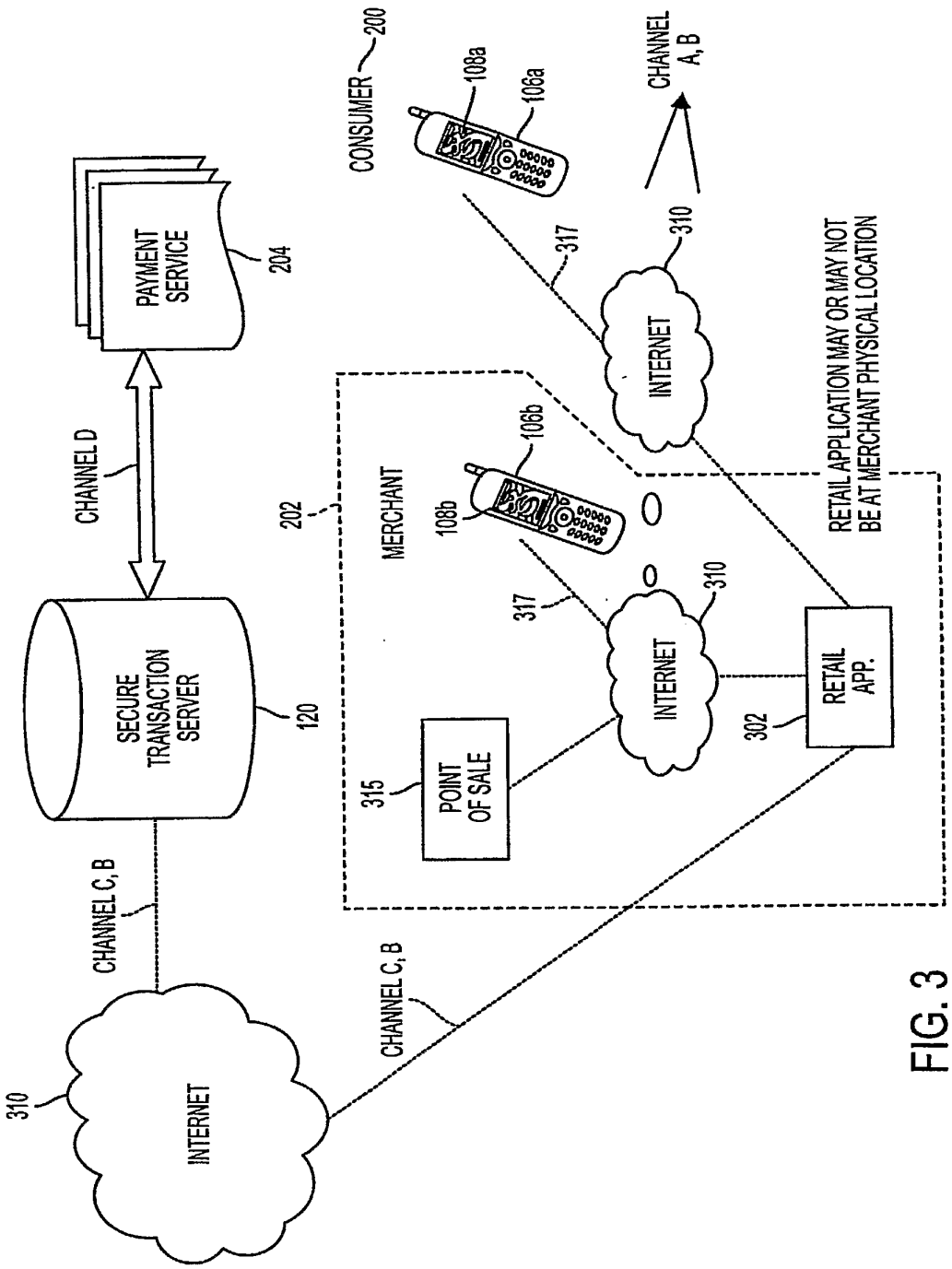
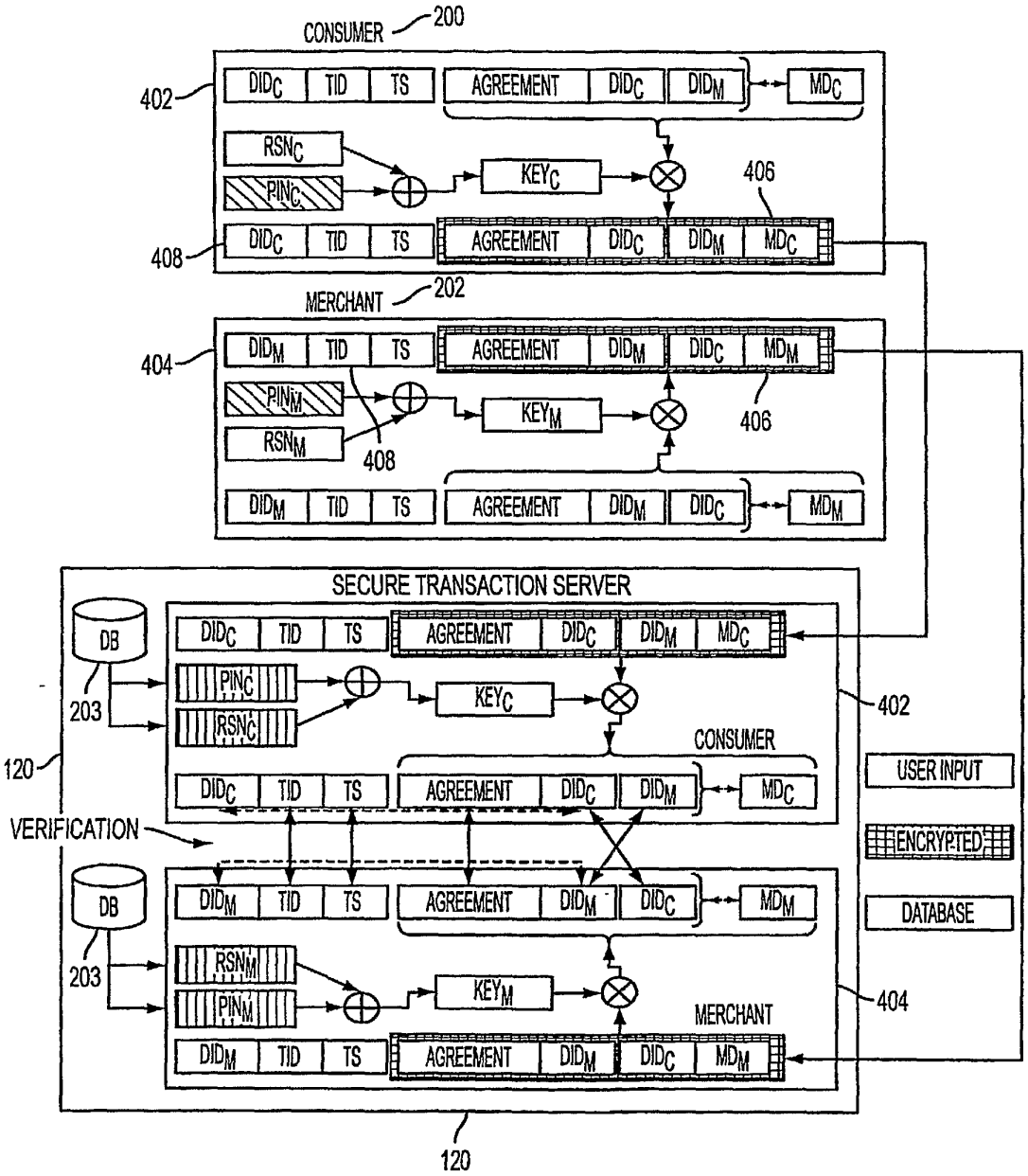

CONSUMER
200
108a
106a
CHANNEL A, B
PAYMENT SERVICE
204
317
310
INTERNET
CHANNEL D
MERCHANT
202
106b
108b
RETAIL APPLICATION MAY OR MAY NOT BE AT MERCHANT PHYSICAL LOCATION
SECURE TRANSACTION SERVER
120
317
310
INTERNET
RETAIL APP.
302
315
POINT OF SALE
CHANNEL C, B
CHANNEL C, B
310
INTERNET

FIG. 3



CONSUMER AND MERCHANT MESSAGE ENCRYPTION AND SECURE TRANSACTION SERVER PROCESSING

FIG. 4

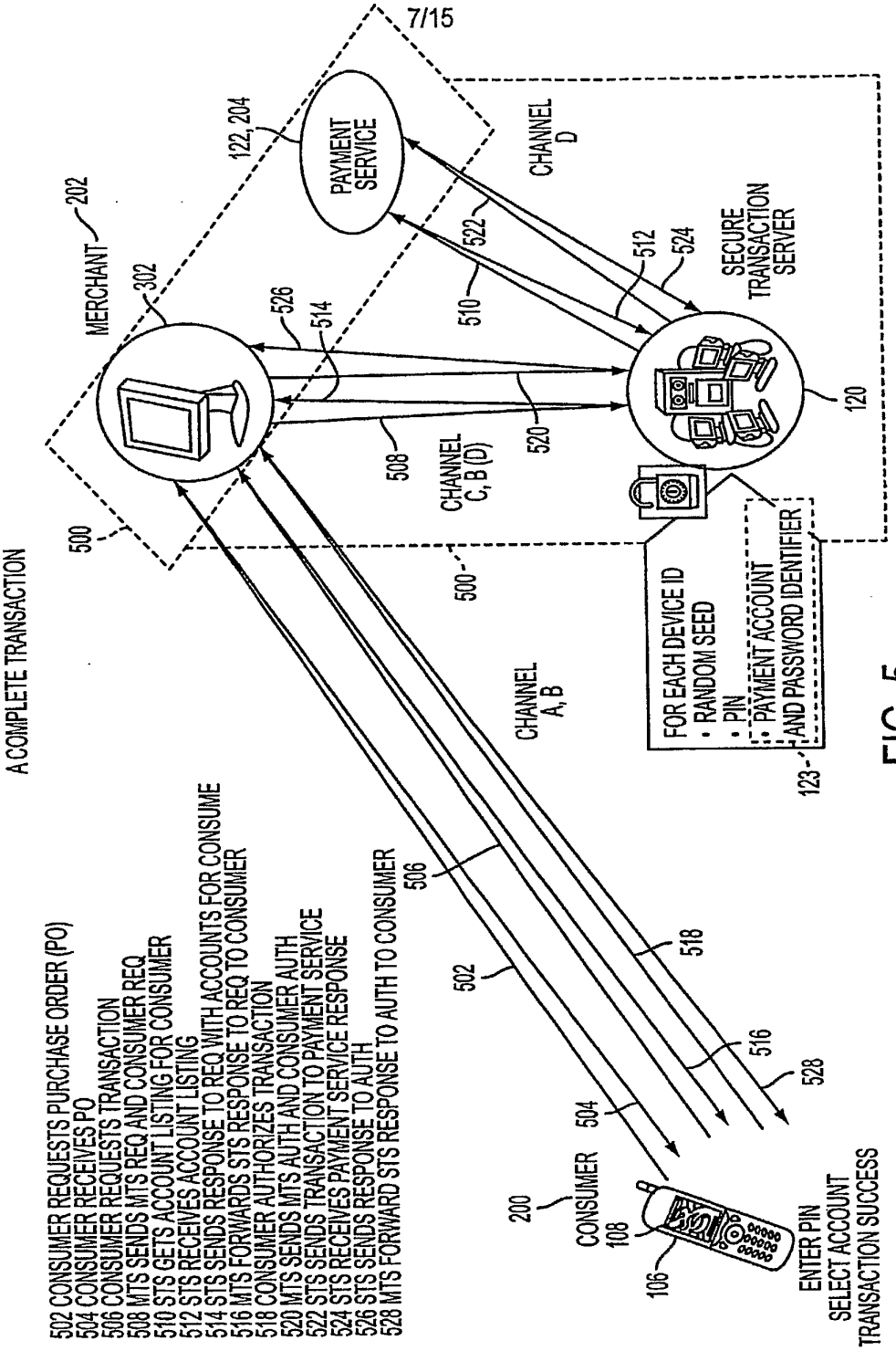

7/15
A COMPLETE TRANSACTION
502 CONSUMER REQUESTS PURCHASE ORDER (PO)
504 CONSUMER RECEIVES PO
506 CONSUMER REQUESTS TRANSACTION
508 MTS SENDS MTS REQ AND CONSUMER REQ
510 STS GETS ACCOUNT LISTING FOR CONSUMER
512 STS RECEIVES ACCOUNT LISTING
514 STS SENDS RESPONSE TO REQ WITH ACCOUNTS FOR CONSUME
516 MTS FORWARDS STS RESPONSE TO REQ TO CONSUMER
518 CONSUMER AUTHORIZES TRANSACTION
520 MTS SENDS MTS AUTH AND CONSUMER AUTH
522 STS SENDS TRANSACTION TO PAYMENT SERVICE
524 STS RECEIVES PAYMENT SERVICE RESPONSE
526 STS SENDS RESPONSE TO AUTH
528 MTS FORWARD STS RESPONSE TO AUTH TO CONSUMER
MERCHANT
202
302
500
122, 204
PAYMENT SERVICE
CHANNEL D
SECURE TRANSACTION SERVER
120
CHANNEL C, B (D)
CHANNEL A, B
FOR EACH DEVICE ID
• RANDOM SEED
• PIN
• PAYMENT ACCOUNT
AND PASSWORD IDENTIFIER
123
CONSUMER
200
108
106
ENTER PIN
SELECT ACCOUNT
TRANSACTION SUCCESS

FIG. 5

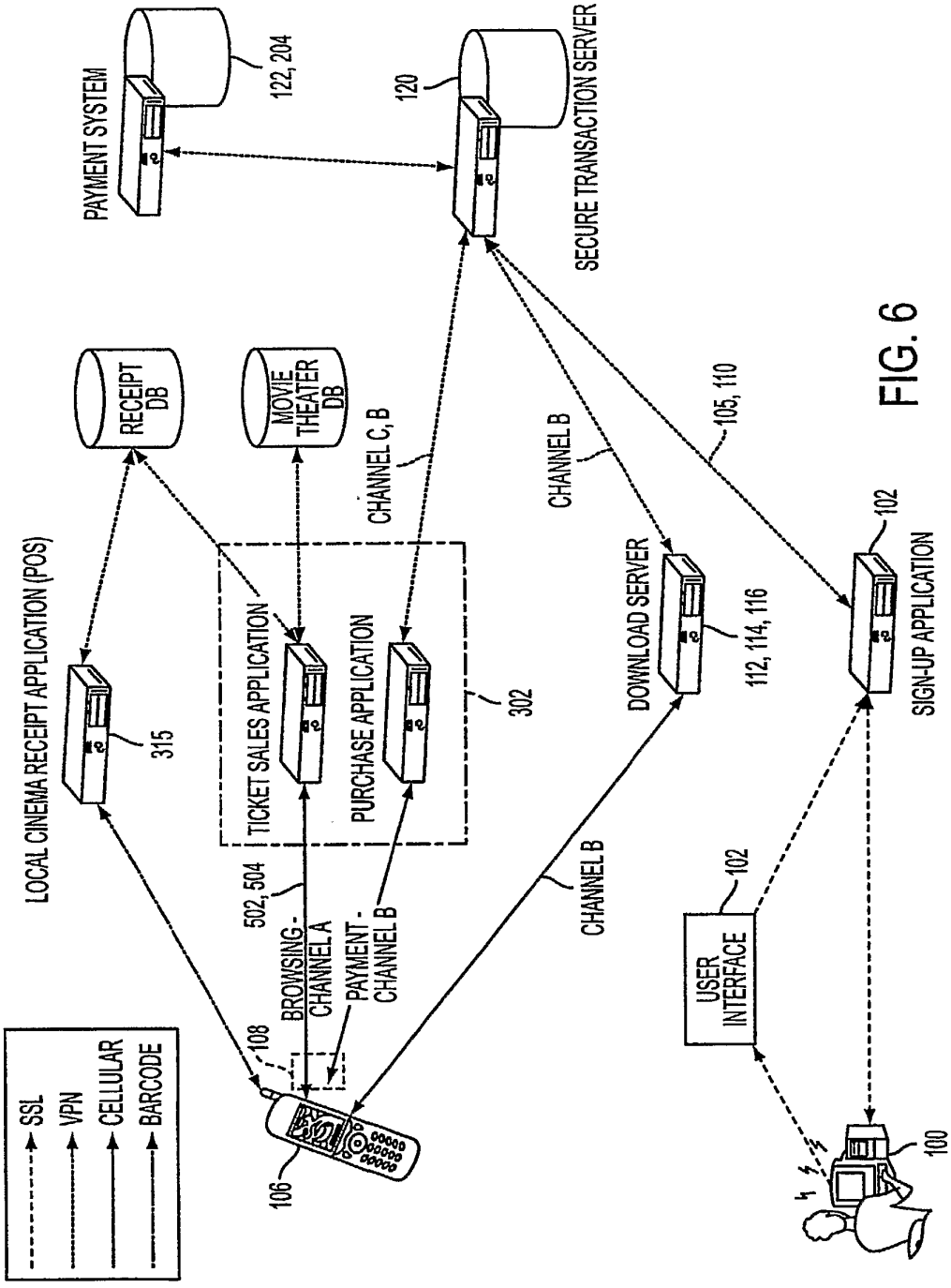

PAYMENT SYSTEM
122, 204
120
SECURE TRANSACTION SERVER
RECEIPT DB
MOVIE THEATER DB
CHANNEL C, B
CHANNEL B
105, 110
LOCAL CINEMA RECEIPT APPLICATION (POS)
315
TICKET SALES APPLICATION
PURCHASE APPLICATION
302
DOWNLOAD SERVER
112, 114, 116
102
SIGN-UP APPLICATION
502, 504
BROWSING - CHANNEL A
PAYMENT - CHANNEL B
CHANNEL B
USER INTERFACE
102
108
106
100
SSL
VPN
CELLULAR
BARCODE

FIG. 6

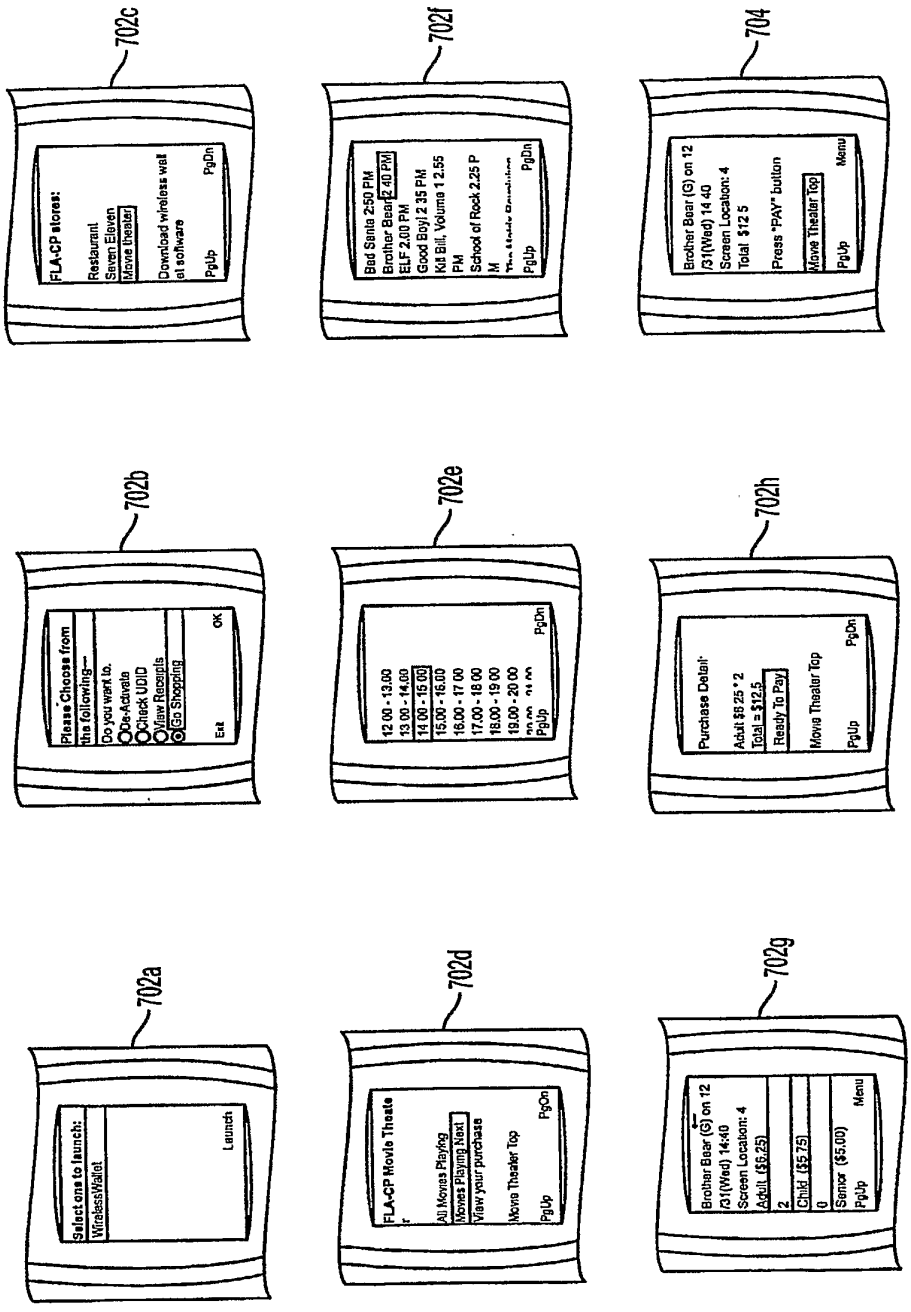

702c
FLA-CP stores:
Restaurant
Seven Eleven
Movie theater
Download wireless wall st software
PgUp
PgDn
702f
Bad Santa 2:50 PM
Brother Bear 2:40 PM
ELF 2:00 PM
Good Boy! 2:35 PM
Kill Bill, Volume 1 2:55 PM
School of Rock 2:25 P M
PgUp
PgDn
704
Brother Bear (G) on 12 /31(Wed) 14:40
Screen Location: 4
Total $12.5
Press "PAY" button
Movie Theater Top
PgUp
Menu
702b
Please Choose from the following—
Do you want to.
De-Activate
Check UDID
View Receipts
Go Shopping
Exit
OK
702e
12:00 - 13:00
13:00 - 14:00
14:00 - 15:00
15:00 - 16:00
16:00 - 17:00
17:00 - 18:00
18:00 - 19:00
19:00 - 20:00
PgUp
PgDn
702h
Purchase Detail
Adult $8.25 * 2
Total = $12.5
Ready To Pay
Movie Theater Top
PgUp
PgDn
702a
Select one to launch:
WirelessWallet
Launch
702d
FLA-CP Movie Theate
All Movies Playing
Movies Playing Next
View your purchase
Movie Theater Top
PgUp
PgDn
702g
Brother Bear (G) on 12 /31(Wed) 14:40
Screen Location: 4
Adult ($8.25)
2
Child ($5.75)
0
Senior ($5.00)
PgUp
Menu

FIG. 7A

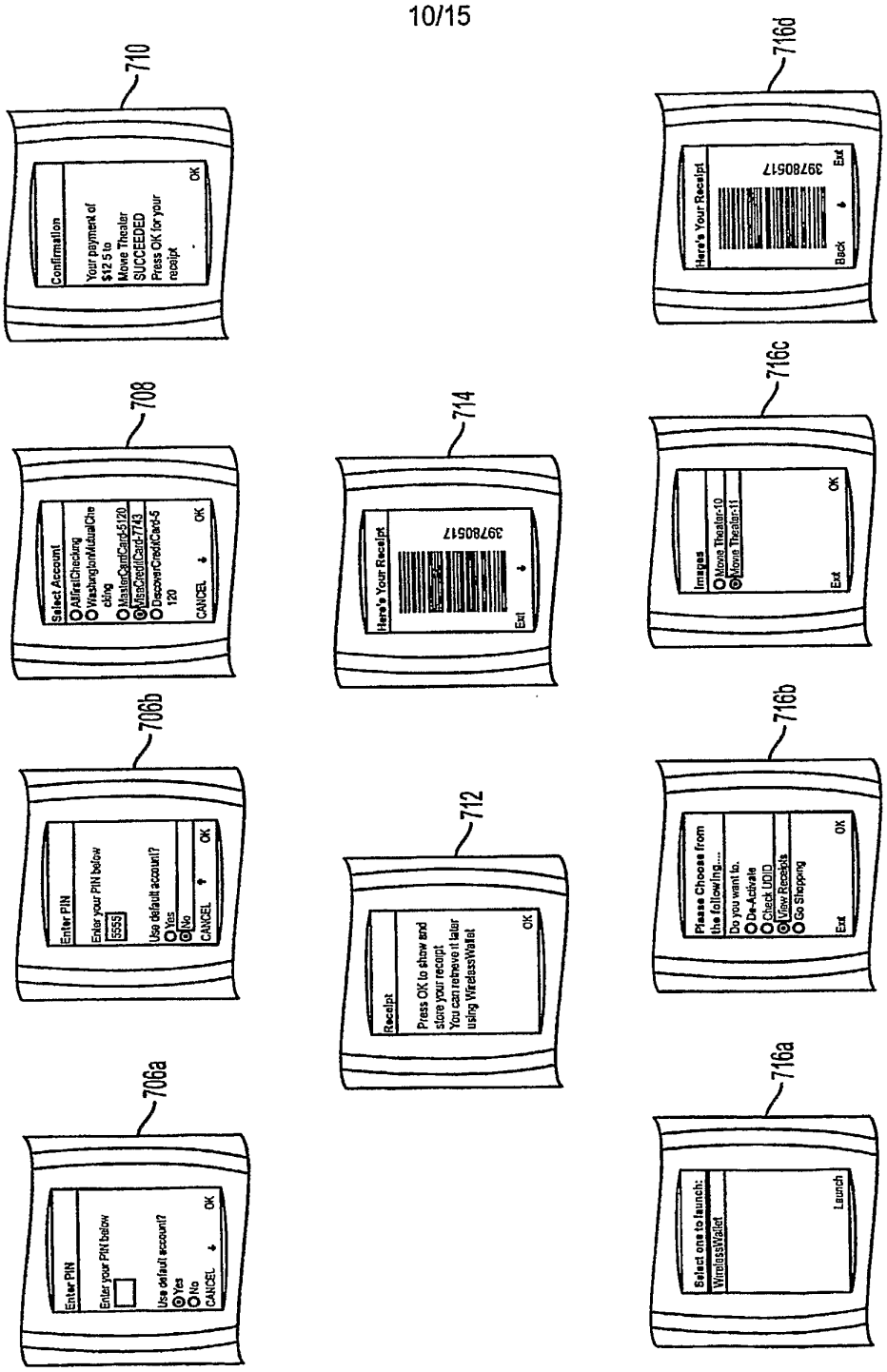

710
Confirmation
Your payment of
$12.5 to
Movie Theater
SUCCEEDED
Press OK for your
receipt
OK
716d
Here's Your Receipt
39780517
Back
Exit
708
Select Account
AtFirstChecking
WashingtonMutualChe
cking
MasterCardCard-5120
MileCreditCard-7743
DiscoverCreditCard-5
120
CANCEL
OK
714
Here's Your Receipt
39780517
Exit
716c
Images
Movie Theater-10
Movie Theater-11
OK
Exit
706b
Enter PIN
Enter your PIN below
5555
Use default account?
Yes
No
CANCEL
OK
712
Receipt
Press OK to show and
store your receipt
You can retrieve it later
using WirelessWallet
OK
716b
Please Choose from
the following....
Do you want to.
De-Activate
Check UDID
View Receipts
Go Shopping
OK
Exit
706a
Enter PIN
Enter your PIN below
Use default account?
Yes
No
CANCEL
OK
716a
Select one to launch:
WirelessWallet
Launch

FIG. 7B

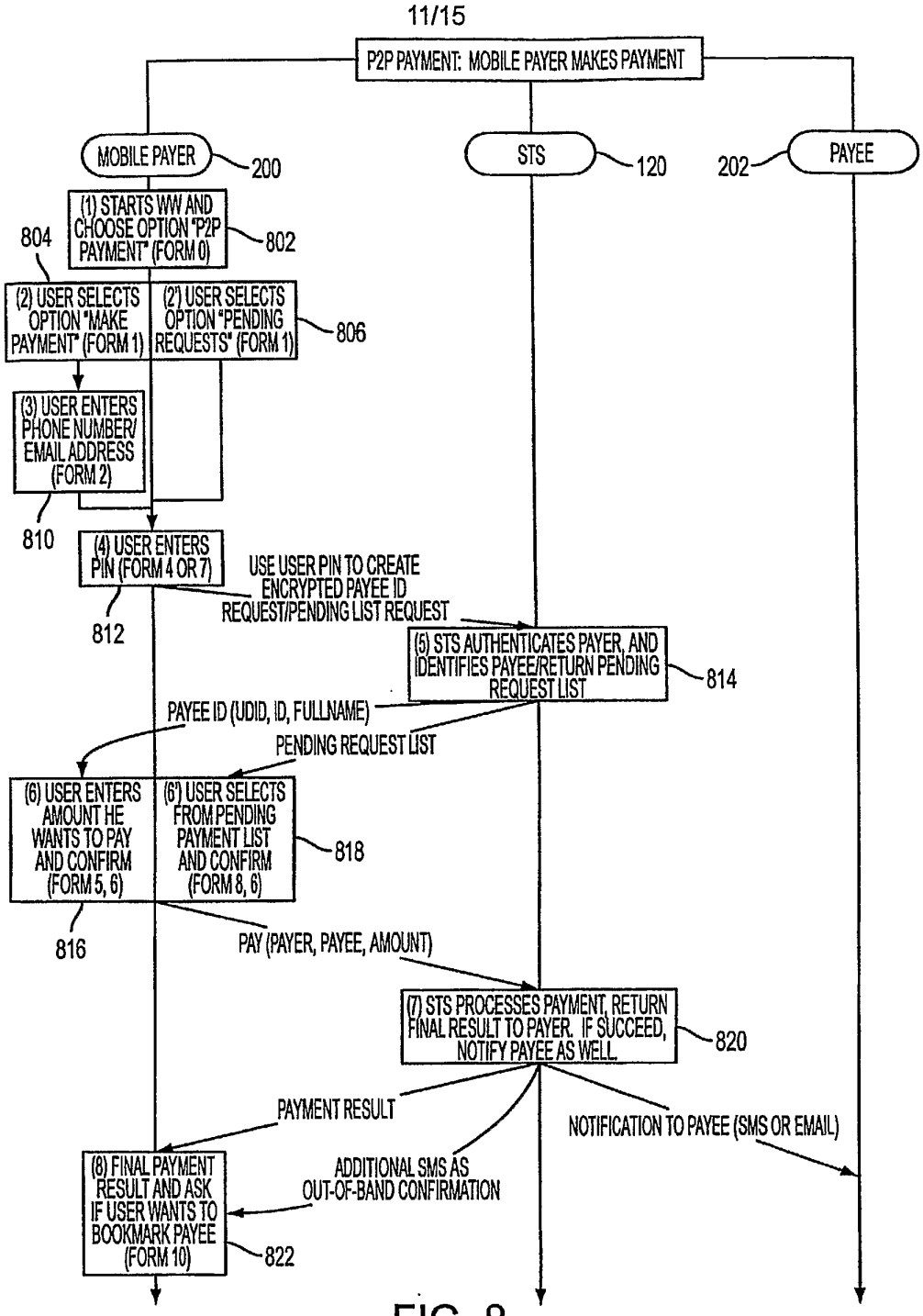

P2P PAYMENT: MOBILE PAYER MAKES PAYMENT
MOBILE PAYER
200
STS
120
202
PAYEE
(1) STARTS WW AND CHOOSE OPTION "P2P PAYMENT" (FORM 0)
802
804
(2) USER SELECTS OPTION "MAKE PAYMENT" (FORM 1)
(2') USER SELECTS OPTION "PENDING REQUESTS" (FORM 1)
806
(3) USER ENTERS PHONE NUMBER/ EMAIL ADDRESS (FORM 2)
810
(4) USER ENTERS PIN (FORM 4 OR 7)
812
USE USER PIN TO CREATE ENCRYPTED PAYEE ID REQUEST/PENDING LIST REQUEST
(5) STS AUTHENTICATES PAYER, AND IDENTIFIES PAYEE/RETURN PENDING REQUEST LIST
814
PAYEE ID (UDID, ID, FULLNAME)
PENDING REQUEST LIST
(6) USER ENTERS AMOUNT HE WANTS TO PAY AND CONFIRM (FORM 5, 6)
(6') USER SELECTS FROM PENDING PAYMENT LIST AND CONFIRM (FORM 8, 6)
818
816
PAY (PAYER, PAYEE, AMOUNT)
(7) STS PROCESSES PAYMENT, RETURN FINAL RESULT TO PAYER. IF SUCCEED, NOTIFY PAYEE AS WELL.
820
PAYMENT RESULT
NOTIFICATION TO PAYEE (SMS OR EMAIL)
(8) FINAL PAYMENT RESULT AND ASK IF USER WANTS TO BOOKMARK PAYEE (FORM 10)
822
ADDITIONAL SMS AS OUT-OF-BAND CONFIRMATION

FIG. 8

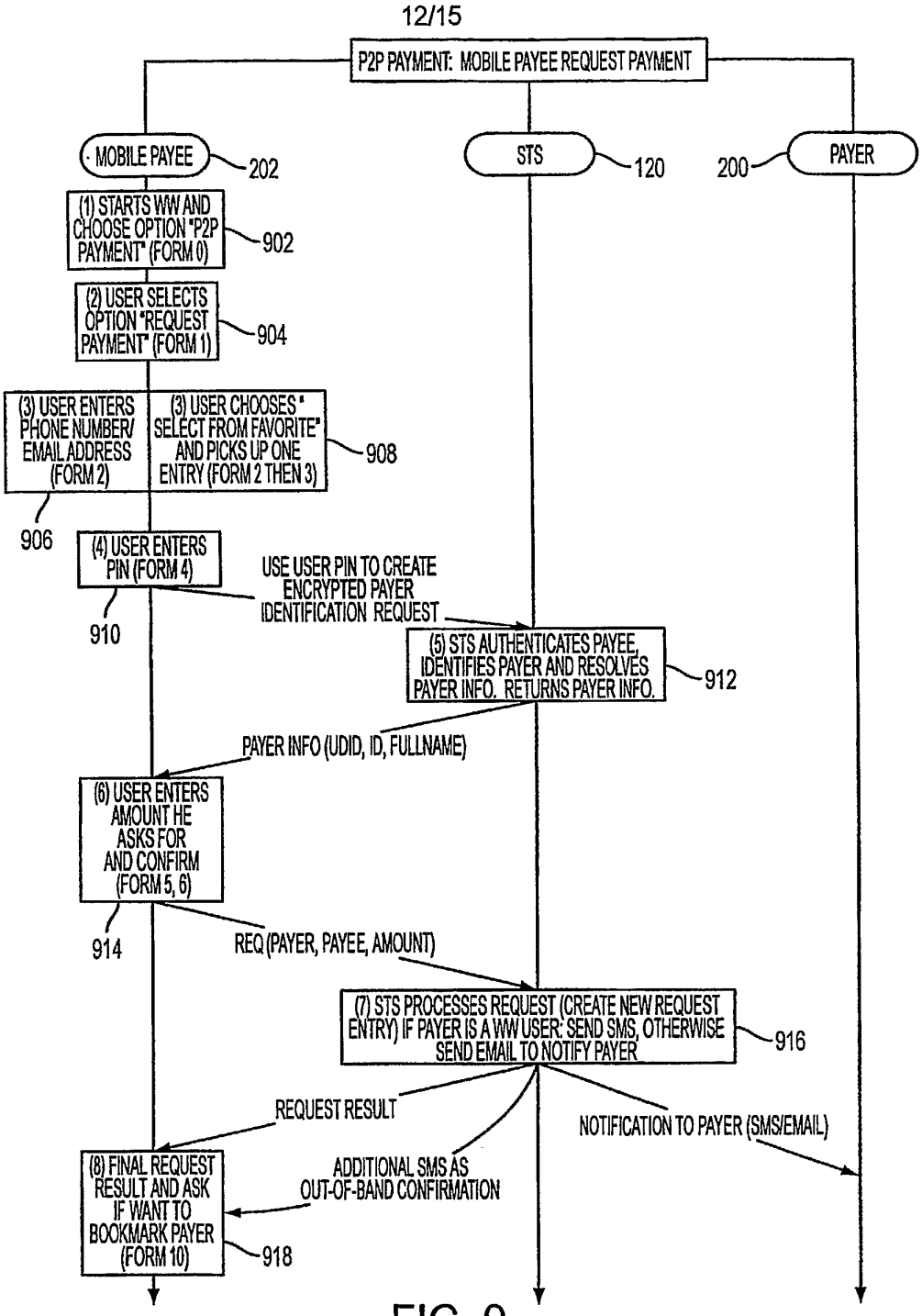

P2P PAYMENT: MOBILE PAYEE REQUEST PAYMENT
MOBILE PAYEE
202
STS
120
200
PAYER
(1) STARTS WW AND CHOOSE OPTION "P2P PAYMENT" (FORM 0)
902
(2) USER SELECTS OPTION "REQUEST PAYMENT" (FORM 1)
904
(3) USER ENTERS PHONE NUMBER/ EMAIL ADDRESS (FORM 2)
(3) USER CHOOSES "SELECT FROM FAVORITE" AND PICKS UP ONE ENTRY (FORM 2 THEN 3)
908
906
(4) USER ENTERS PIN (FORM 4)
910
USE USER PIN TO CREATE ENCRYPTED PAYER IDENTIFICATION REQUEST
(5) STS AUTHENTICATES PAYEE, IDENTIFIES PAYER AND RESOLVES PAYER INFO. RETURNS PAYER INFO.
912
PAYER INFO (UDID, ID, FULLNAME)
(6) USER ENTERS AMOUNT HE ASKS FOR AND CONFIRM (FORM 5, 6)
914
REQ (PAYER, PAYEE, AMOUNT)
(7) STS PROCESSES REQUEST (CREATE NEW REQUEST ENTRY) IF PAYER IS A WW USER: SEND SMS, OTHERWISE SEND EMAIL TO NOTIFY PAYER
916
REQUEST RESULT
NOTIFICATION TO PAYER (SMS/EMAIL)
(8) FINAL REQUEST RESULT AND ASK IF WANT TO BOOKMARK PAYER (FORM 10)
ADDITIONAL SMS AS OUT-OF-BAND CONFIRMATION
918

FIG. 9

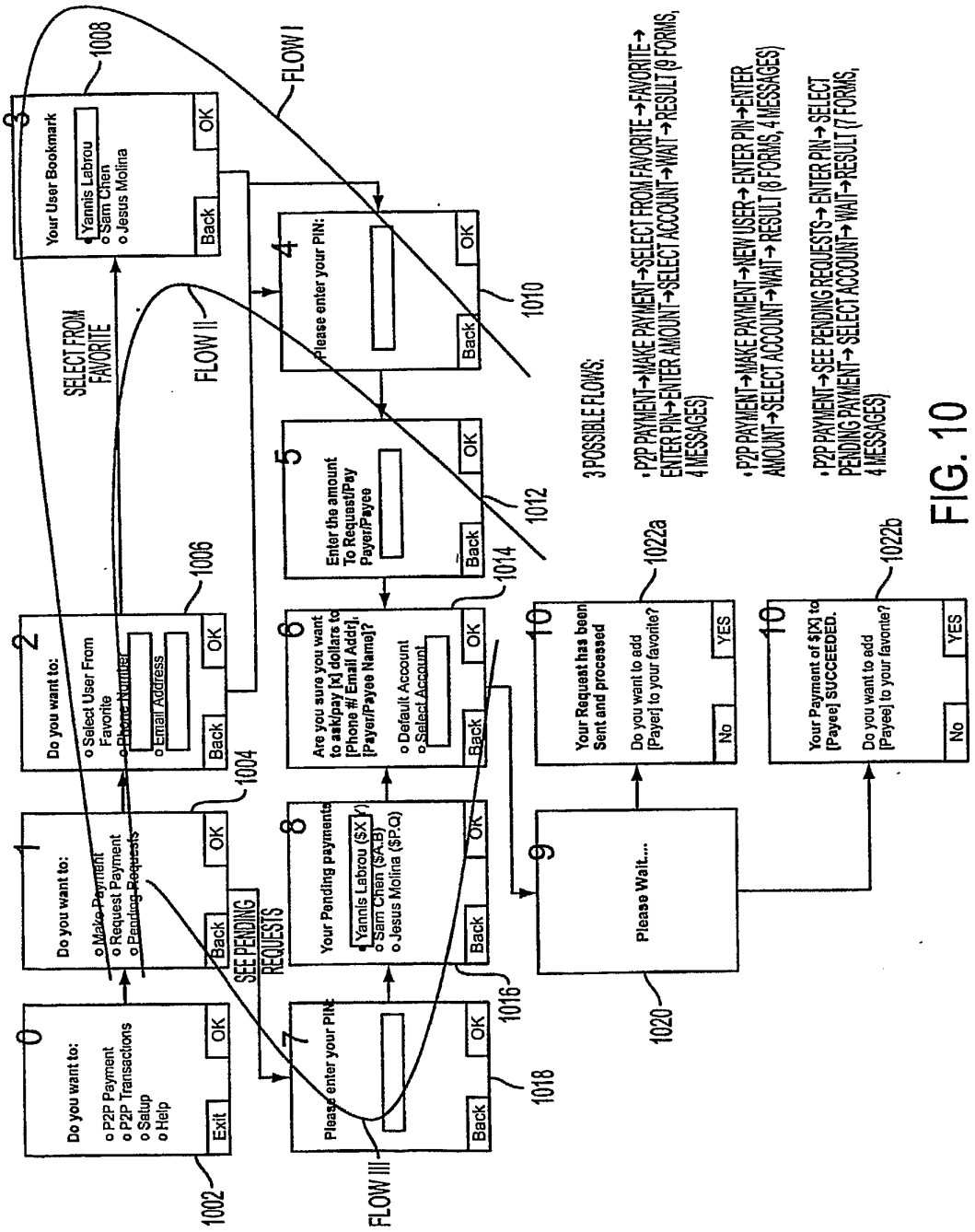

0
Do you want to:
o P2P Payment
o P2P Transactions
o Setup
o Help
Exit
OK
1002
1
Do you want to:
o Make Payment
o Request Payment
o Pending Requests
Back
OK
1004
2
Do you want to:
o Select User From Favorite
o Phone Number
o Email Address
Back
OK
1006
3
Your User Bookmark
Yannis Labrou
Sam Chen
Jesus Molina
Back
OK
1008
4
Please enter your PIN:
Back
OK
1010
5
Enter the amount To Request/Pay Payer/Payee
Back
OK
1012
6
Are you sure you want to ask/pay [x] dollars to [Phone # / Email Addr], [Payer/Payee Name]?
o Default Account
o Select Account
Back
OK
1014
7
Please enter your PIN:
Back
OK
1016
8
Your Pending payments
Yannis Labrou ($X.A)
Sam Chen ($X.B)
Jesus Molina ($P.Q)
Back
OK
1018
9
Please Wait....
1020
10
Your Request has been Sent and processed
Do you want to add [Payer] to your favorite?
No
YES
1022a
10
Your Payment of $[X] to [Payee] SUCCEEDED.
Do you want to add [Payee] to your favorite?
No
YES
1022b
SEE PENDING REQUESTS
SELECT FROM FAVORITE
FLOW I
FLOW II
FLOW III
3 POSSIBLE FLOWS:
• P2P PAYMENT→MAKE PAYMENT→SELECT FROM FAVORITE→FAVORITE→ ENTER PIN→ENTER AMOUNT→SELECT ACCOUNT→WAIT→RESULT (9 FORMS, 4 MESSAGES)
• P2P PAYMENT→MAKE PAYMENT→NEW USER→ENTER PIN→ENTER AMOUNT→SELECT ACCOUNT→WAIT→ RESULT (8 FORMS, 4 MESSAGES)
• P2P PAYMENT→SEE PENDING REQUESTS→ ENTER PIN→ SELECT PENDING PAYMENT→ SELECT ACCOUNT→ WAIT→RESULT (7 FORMS, 4 MESSAGES)

FIG. 10

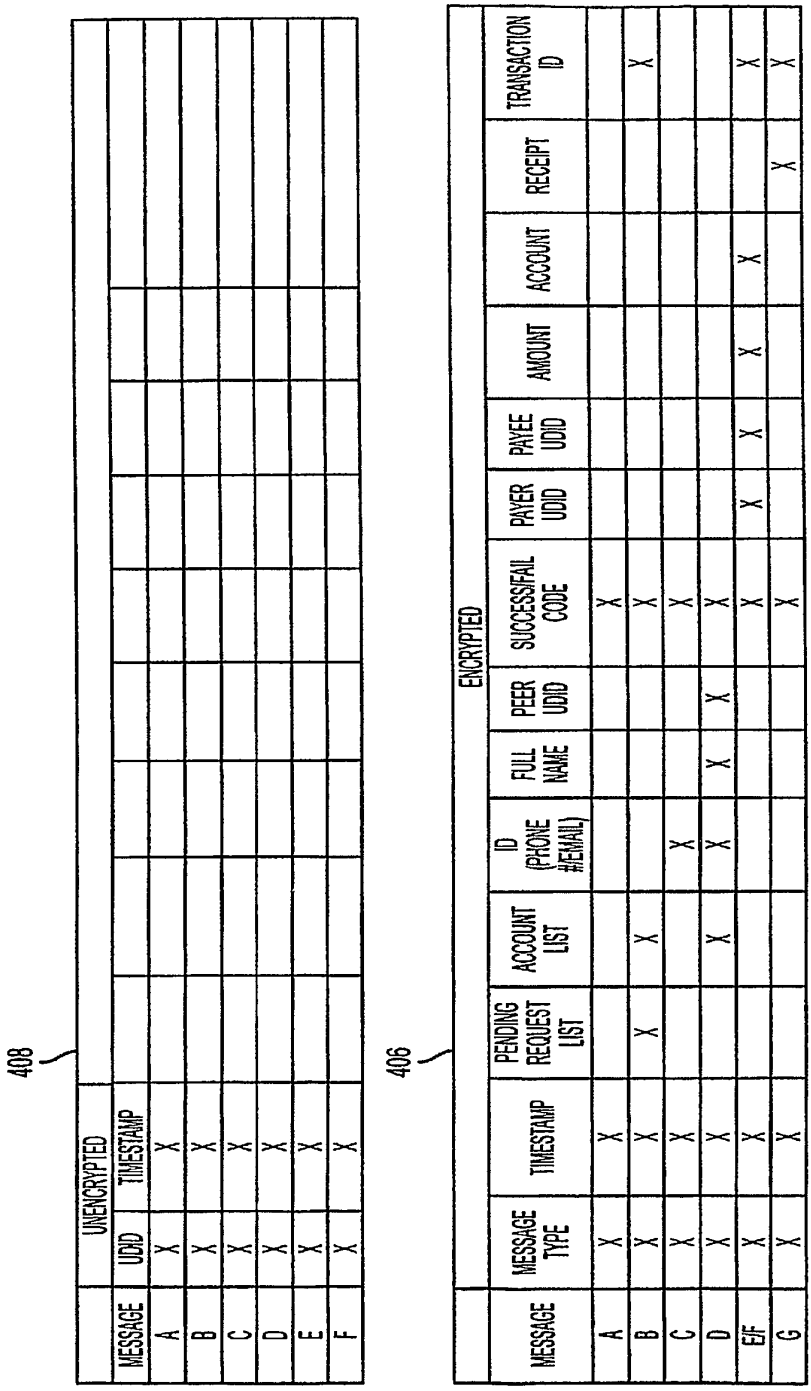

408
UNENCRYPTED
MESSAGE
UDID
TIMESTAMP
A X X
B X X
C X X
D X X
E X X
F X X
406
ENCRYPTED
MESSAGE
MESSAGE TYPE
TIMESTAMP
PENDING REQUEST LIST
ACCOUNT LIST
ID (PHONE #/EMAIL)
FULL NAME
PEER UDID
SUCCESS/FAIL CODE
PAYER UDID
PAYEE UDID
AMOUNT
ACCOUNT
RECEIPT
TRANSACTION ID
A X X X X X
B X X X X X X X
C X X X X X
D X X X X X X X X
E/F X X X X X X X
G X X X X X
MESSAGE A: PENDING REQUEST LIST REQUEST
MESSAGE B: PENDING REQUEST LIST REPLY
MESSAGE C: PEER IDENTIFICATION REQUEST
MESSAGE D: PEER IDENTIFICATION REPLY
MESSAGE E/F: MAKE PAYMENT REQUEST / REQUEST PAYMENT REQUEST
MESSAGE G: TRANSACTION RESULT

FIG. 11

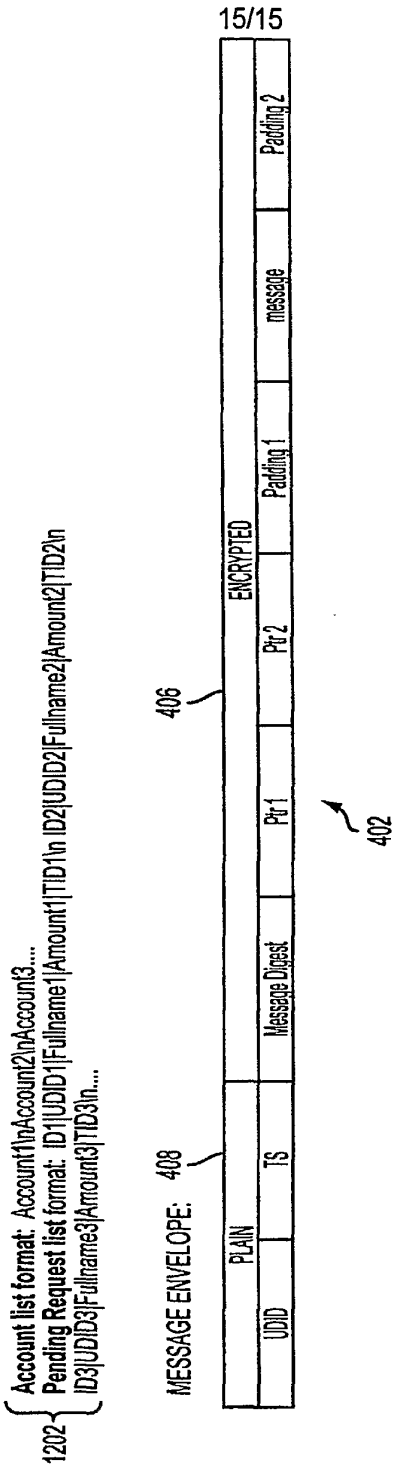

Account list format: Account1\nAccount2\nAccount3....
Pending Request list format: ID1|UDID1|Fullname1|Amount1|TID1\n ID2|UDID2|Fullname2|Amount2|TID2\n ID3|UDID3|Fullname3|Amount3|TID3\n....
1202
MESSAGE ENVELOPE:
408
406
402
PLAIN
ENCRYPTED
UDID
TS
Message Digest
Ptr 1
Ptr 2
Padding 1
message
Padding 2

FIG. 12

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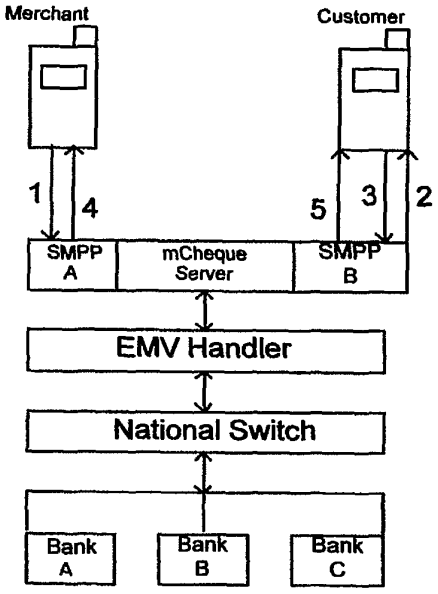
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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[Continued on next page]

(54) Title: INTER-OPERABLE, MULTI-OPERATOR, MULTI-BANK, MULTI-MERCHANT MOBILE PAYMENT METHOD AND A SYSTEM THEREFOR



(57) Abstract: This invention relates to an inter-operable Multi-operator, Multi-bank, Multi-merchant Mobile Payment System. This invention makes the mobile phone a debit/credit instrument for payment as well as an instrument to carry out payment terminal functions. The debit/credit card(s) on the mobile phone could be used to carry out payment transactions with another mobile phone, a regular Point-of-Sale terminal, an ATM, a Vending Machine or Internet.

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LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *without international search report and to be republished upon receipt of that report*

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AN INTER-OPERABLE MULTI-OPERATOR, MULTI-BANK, MULTI-MERCHANT MOBILE PAYMENT METHOD AND A SYSTEM THEREFOR.

This invention relates to an Inter-operable Multi-operator, Multi-bank, Multi-merchant Mobile Payment System. This invention makes the mobile phone, a debit/credit instrument for payment as well as an instrument to carry out payment terminal functions. The debit/credit card(s) on the mobile phone could be used to carry out payment transactions with another mobile phone, a regular Point-of-Sale terminal, an ATM, a Vending Machine or Internet.

Introduction:

The existing financial transaction systems involve use of physical currency, debit and credit cards based on Magnetic Stripe technology. The Magnetic Stripe debit/credit card based transactions are inherently prone to security violations given to the fact that Magnetic Stripes can be easily read and duplicated. Also, there are disadvantages in terms of physical damage to the Magnetic Stripe after some swipes on a physical merchant terminal. The existing smartcard based transaction systems are secure, but mandate use of an expensive Point-of-Sale Terminal to carry out a financial transaction, be it a stored value transaction or an online/offline debit/credit transaction.

The secure and more reliable alternative lies in use of a mobile phone, which offers computational capabilities and guarantees security with cryptographic support in the phone/SIM operating system.

Europay Mastercard Visa (EMV) and Common Electronic Purse Scheme (CEPS) standards provide means for development of interoperabe payment scheme. In this context A.Little.World is implementing a new interoperable payment brand in India and abroad known as mCheque. mCheque platform provides a secure all-purpose debit/credit payment system on mobile phones.

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The proposed solution enables the consumer (hereby referred to as 'payer' or 'customer') to carry out financial transactions from his/her Mobile Phone with debit/credit cards configured on the Mobile Phone and helps the merchant (hereby referred to as 'payee' or 'merchant') to use a hosted Virtual Terminal service, while the mobile phone of the merchant is used as the payment terminal. However the payer can use the debit/credit card(s) configured on the Mobile Phone to engage in a payment transaction with the payee application on the regular Point-of-Sale Terminal, Vending Machine, Internet or ATM.

Large-scale use of mobile-to-mobile payment between customers and merchants - using any mobile phone as an EMV debit/credit payment instrument issued by a Bank, to pay any merchant who has another mobile phone. No additional terminal infrastructure apart from mobile phone is required by Bank or by merchants. No compromises made on transaction security.

Funds flow will be handled entirely through the banks, using proven EMV security with the added layer of mobile network security for secure communications. The EMV handler will provide an effective intermediary solution to the Bank without need for the Bank having to upgrade its back-end infrastructure to EMV.

Public Key Infrastructure (PKI) will be used for non-repudiation in specific application areas. Mobile Phones will have the capability of a universally usable digital ID (to be issued as an X.509 certificate by a Certification Authority) for digitally signing transactions for non-repudiation. RSA is the preferred standard for security implementation for PKI applications of mCheque.

The application download and personalization of the mobile phone can be done both over-the-counter (OTC) and over-the-air (OTA). The complete application functionality for the customer's payment card will be provided on the phone. The application functionality for the merchant's terminal will be provided at the back-end as a Virtual Terminal, with the phone used for confirmation of the transaction (transaction receipt).

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The ready availability of communications network; the display screen; and the large memory on the phone to store and view transaction records helps enhance the Bank's product value for the customer and makes this the most user friendly and versatile payment instrument the customer will ever use. The mobile phone can be used both as a credit and debit cards at the same time multiple debit/credit accounts from different banks can be configured on the same mobile phone without any security compromise. A single PIN for all accounts will simplify banking and payment for the customer.

PRIOR ART:

There are known instances of various forms of payment mechanisms using mobile devices, such as Singapore Patent Publication No. 86428 using a payment center backend without use of real debit/credit card and involving a bank in the transaction.

US Patent No. 6,612,488 describes a method of payment using credit cards using a portable communication terminal such as a cellular phone. However, this method does not avoid the use of the credit card or debit card. The portable communication terminal is used to only identify the purchaser to avoid fraudulent use of the cards.

US Patent No. 6, 678, 664 issued to CheckFree Corporation suggests cashless transactions, e.g. purchases of goods and services without making cash payments at the time of purchase, by transmitting, preferably from a point of purchase, information identifying the purchaser of a product without identifying a payment account for the purchaser, the point of purchase being, for example, a register within a retail store or a server at an internet site.

Though the aforesaid US patent suggests the use of personal identification information such as purchaser's name, address and drivers license or passport number or any other identification code, this process of identification is little cumbersome and yet requires some document to be carried by the purchaser. Further, the transaction cannot be completed by using a wireless communication device and also it does not offer a virtual terminal to the seller. In other words, the seller is required to have a terminal, a scanner or other similar means to transmit the personal identification details to the bank or to the payment operator.

Objects of The Invention:

- The primary object of the present invention is to provide an inter-operable, multi-operator, multi-bank, multi-merchant, mobile payment method and system.

- In the proposed payment method/system, a regular mobile phone is used as a bank-account linked debit/credit payment instrument to pay any merchant with a regular mobile phone, without customisation of phone hardware. The merchant does not need a regular payment terminal. However, the merchant terminal can be a regular Point-of-Sale terminal, vending machine, Internet or ATM.

- Genuine 'card present' transactions using debit/credit cards configured on the mobile phone.

- EMV Handler solution enabling banks to participate in the secure debit/credit card based transactions without having to migrate to EMV.

The following is the scope of the mCheque payment method/system:

Use a regular mobile phone as an EMV-based payment instrument linked to a debit or credit account in a Bank, to pay any merchant who has a mobile phone or an on-line EMV capable terminal. The merchant does not need a regular payment terminal. EMV security is fully implemented for this product.

The ready availability of a communications network; the display screen on the mobile; and the large memory on the phone to store and view transaction records helps enhance the product value for the customer and makes this the most user friendly and versatile payment instrument the customer will ever use. The mobile phone can be used both as a credit and debit cards at the same time. Multiple debit/credit accounts from different banks can be configured on the same mobile phone without any security compromise. A single PIN for all accounts will simplify banking and payment for the customer.

In case of availability of a Subscriber Identification Chip module on the phone (SIM for GSM and R-UIM for CDMA), the application is developed without need to customize either the phone hardware or software. The only change is made to the SIM/R-UIM software through the use of the SIM Application Toolkit or a script using existing SIM/R-UIM browsing environment. In case of phones without having a Subscriber Identification Chip module, the application is developed on the phone. As a result, nearly the entire base of mobile phones can be used as cards and terminals without extra investment required in cards or terminals. The payment application for debit/credit card on payer's mobile phone and the merchant terminal on payee's mobile phone use security mechanisms prescribed by EMV.

The application download and personalization of the mobile phone will be done both over-the-counter (OTC) and over-the-air (OTA). The complete application functionality for the customer's payment card will be provided on the phone. The application functionality for the merchant's terminal will be provided at the back-end, with the phone or a connected PoS terminal being used for confirmation of the transaction (transaction receipt).

The EMV handler solution will be used to provide an effective intermediary solution to banks that have not yet upgraded their back-end infrastructure to EMV. This applies both to the debit/credit card issuance, transaction authorization and merchant acquiring systems of the bank.

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The transactions will be cleared and settled domestically through the inter-bank switch for domestic transactions or an international settlement agency for cross-border transactions. Security Key management will be provided by the scheme operator or the domestic banking regulator for both Symmetric Keys based on 3-DES or AES and Asymmetric Keys based on RSA.

Multiple mobile operators and multiple issuer and acquiring banks can be part of the system. Funds flow is handled entirely through the banking system, using proven EMV security with the added layer of GSM/CDMA security for secure communications.

The mCheque Platform in its true sense of 'Interoperability' is intended to support existing systems and technologies used by mobile operators, mobile phones, transaction systems and banks.

The following are the unique features of the present invention:

a. Use of mobile phone as a debit/credit card.
b. Use of mobile phone as a merchant terminal.
c. Use of mobile phone to have multiple debit/credit cards
d. Use of mobile phone to store Track-2 data of a debit/credit card.
e. Responsibility of Authentication of mobile debit/credit card transaction lies with the bank and not with mobile operator.
f. Provisioning of debit/credit card on mobile phone without a contact interface using OTA interface.
g. Provisioning of digital certificate on mobile phone without a contact interface using OTA interface.
h. EMV Handler: Authorization of transaction security on behalf of banks. Ability to handle EMV Transactions in a multibank interoperable environment without enforcing the banks to change their existing infrastructure.

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i. Providing printed payment receipt using a mobile phone, wherever possible without making any change on the mobile phone hardware using an external receipt printer.

j. Payment over Internet using debit/credit card on mobile phone.

k. ATM cash-withdrawal using bank card on mobile phone.

l. Person-to-person transfer of payment or funds transfer using mobile phone both domestic and international.

m. Use of Public Key Infrastructure on mobile phones for transactions requiring non-repudiation.

n. Maintaining and managing loyalty pools and coupons on mobile phone.

This invention thus provides a multi-bank interoperable payment system using mobile phone as debit/credit card which comprises the steps of:

(i) establishing connectivity with multiple mobile operators, issuing banks and acquiring banks participating in the "interoperable mCheque system" and inter-bank clearing & settlement systems, both domestic and international, via the mCheque back-end system/issuance system;

(ii) establishing a link with mutual authentication and trust using standard security mechanism between mCheque issuance system, participating bank and the mobile operator. A third party Certification Authority can provide certificates to establish mutual authentication and trust between different systems.

(iii) providing transaction security which is dependent on the bank's security domain defined on the mobile phone. The mobile network is used as a transport and the system does not necessarily depend on the security provided by the mobile network to guarantee transaction security. However, the security provided by the mobile network is treated as a complementary measure.

(iv) Application Provisioning Step-1: loading of payment application containing the basic menus, transaction logic, application security keys

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and application configuration data; on the target mobile phone of payer/payee using the over-the-air system of the mobile operator;

(v) Application Provisioning Step-2: loading of a conventional Track-2 data provided by the participating bank with EMV security keys and risk management parameters on the target mobile phone of payer using the over-the-air system of the mobile operator; and

(vi) Application Provisioning Step-3 (optional): loading of a digital certificate on the target mobile phone of payer/payee using the over-the-air system of the mobile operator requiring non-repudiation; and

(vii) establishing a link between the PIN number allotted to the customer and a common mCheque PIN.

The system takes care of post-issuance activities including blocking/unblocking of debit/credit card, creation/deletion of debit/credit cards, update loyalty pool, loyalty redemption, offering of loyalty coupons, blocking/unblocking/resetting of PIN, key version control, application version control, restoration of debit/credit accounts and loyalty details for a lost/stolen mobile phone.

This invention will now be described with reference to the accompanying drawings, wherein:

Fig. 1 illustrates the mCheque transaction flow;

Fig. 2 illustrates the mCheque transaction system;

Fig. 3 illustrates the mCheque Card Issuance/Merchant Configuration System; and

Fig. 4 illustrates the mCheque Digital Certificate System.

The use of mobile phone as a debit or credit card involves the following five steps, which is illustrated in Fig. 1.

1. Payee Mobile sends a message through mobile network to mCheque back-end with Payer Mobile Number, Transaction Amount and a Random Number.

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2. mCheque back-end sends a message through mobile network to Payer Mobile with Random Number, Request for Payment and Merchant Details.
3. Payer Mobile sends a message to mCheque back-end through mobile network with EMV Cryptogram.
4. mCheque back-end through mobile network sends a message to Payee Mobile with Transaction Receipt.
5. mCheque back-end through mobile network sends a message to Payer Mobile with Transaction Receipt.

Message-1: Payment Request Message Originating from Merchant

1. Merchant enters the Amount of Transaction, Customer's ID (generally customer's mobile number or a proxy number similar to the mobile number assigned by mCheque) and Merchant PIN using mCheque menus.
2. mCheque Application on Merchant device generates a Random Number (to be used as the seed for the Application Request Cryptogram to be generated on Customer's Mobile Phone for EMV transaction) and signs the transaction data.
3. The Merchant Mobile Phone initiates a session with the mCheque Server and sends the signed data.

Message-2: Confirmation Request Message Terminating on Customer Mobile

1. The signed message from Merchant reaches mCheque Virtual Terminal Application Server (VTAS), which verifies the signature and adds EMV specific terminal risk management parameters and Merchant's Name to the original transaction attributes provided by the merchant.
2. mCheque VTAS initiates a session with Customer Mobile Phone.

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Message-3: Confirmation Response Message Originating from Customer Mobile

1. Customer Mobile Phone receives the message-2 and displays a confirmation message consisting of Merchant Name, Transaction Amount and Merchant Id. Up on confirmation by the customer, a PIN entry is requested.
2. Up on successful PIN entry, the Customer Mobile Phone generates an Application Request Cryptogram (ARQC) as per EMV specifications using the Card Risk Management Parameters, Random Number, Card Master Key (of the key index assigned for the application in the card security domain).
3. Customer Mobile Phone sends the transaction data with the ARQC to mCheque VTAS.

Message-4: Transaction Receipt Message Terminating on Merchant

1. mCheque VTAS sends the transaction online for authorization of funds
2. After receiving transaction authorization from the Issuing Bank of the Debit/Credit Card on Customer's Mobile Phone, mCheque VTAS sends a Payment Receipt to the Merchant.
3. After confirmation of Receipt delivery, mCheque VTAS issues a Transaction Certificate to the online authorization system of Issuing Bank (denoting completion of transaction).

Message-5: Transaction Receipt Message Terminating on Customer Mobile Phone

1. After receiving transaction authorization from the Issuing Bank of the Debit/Credit Card on Customer's Mobile Phone, mCheque VTAS sends a Payment Receipt to the Customer Mobile Phone.

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To achieve the above, the present invention provides a transaction system (refer Fig. 2 and 3) which comprises of an unique mCheque virtual terminal capable of handling communications from mobile phones of the payer and payee and also ensure security of the transaction, said server having means for customer database and merchant data base, means for providing hardware security, means for storing the digital certificates and application software for life cycle management of payer/payee application.

The process of obtaining a Digital certificate is illustrated in Fig. 4. The mobile phone of the user or purchaser through the personalization system of mCheque issuance system will send in the necessary request to the certification authority and after processing the request, the certification authority will forward the required certificate through to the personalization system of mCheque issuance system back to the mobile phone of the payer/payee.

The following middleware and application systems constitute the mCheque technology platform:

Backend and Middleware Modules:

- **Virtual Terminal Application Server (VTAS):**

VTAS is a secure cluster of virtual EMV terminals, security systems, loyalty systems, bank/operator interfaces running on a High-Availability platform. All mCheque messages originating from the merchant as well as the customer mobile are routed to the VTAS Server. VTAS spawns one instance of Virtual Terminal Application per Merchant Terminal registered in the mCheque system.

- **USAT Interpreter:**

Application Gateway to interpret and perform application codec (encoding/decoding) functions for data flow between VTAS and Mobile phone.

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- **EMV Handler:**

The mCheque EMV Handler performs secure authorization of EMV Application Request Cryptogram (ARQC) generated by the chip card EMV application (debit/credit card) on the customer's mobile phone and generates an EMV Application Response Cryptogram (ARPC). The EMV Handler filters EMV specific data from the financial transaction message and the transaction is sent to the Issuing Bank for funds authorization as if it were a regular magnetic stripe transaction authorization request. The EMV Handler therefore provides an effective intermediary Issuing and Acquiring solution for Banks to work with chip cards based on EMV security without having to upgrade their back-end systems to EMV. In case an Issuing Bank is capable of handing EMV transactions directly, the transactions will be directly passed through for authorization by the Bank's EMV Switch. The EMV handler system uses a Hardware Security Module compliant to FIPS-140-2 and PKCS#11 standards to carry out all security operations.

- **Remote Personalization System:**

The mCheque Remote Personalization System provides secure personalization of EMV based secure Debit/Credit cards, Loyalty Pools, Coupons on Mobile phone of mobile phones Over-the-Air (OTA). The Remote Personalization System also uses the OTA bridge for personalization as well as application updates (such as update of EMV risk parameters). Multiple accounts can be handled on a single Mobile phone by this system. The remote personalization system uses a Hardware Security Module to carry out security operations.

- **OTA Bridge:**

Application system providing a secure transport of personalization and transaction data between the mCheque Application Backend (VTAS) and the Network Gateway of mobile operators (USSD Center/SMS Center) for all Over-the-Air application operations on payer/payee mobile phones. The OTA Bridge also takes care of security requirements of the mobile operator.

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- **USSD-IP Gateway:**

Network gateway providing exchange of Unstructured Supplementary Service Data (USSD) messages between the Mobile Station and the IP-based backend of mCheque Payment Platform. The mCheque USSD-IP Gateway is co-located with the Master Switching Centre (MSC) of the Mobile Operator through an SS7 (Signaling System 7) link.

- **Transaction Switch:**

Host system to switch financial transactions between Switches of participating banks in ISO 8583/XML formats. This system is also used to log the clearing data provided as input to the central Clearing and Settlement Host.

- **Clearing and Settlements Host:**

This system is used process the data that passes through the Transaction Switch to create logs for daily reconciliation to be performed either through a Clearing and Settlements Bank or an automated system. The Clearing and Settlement Institution will be given summaries for net settlements between participating Banks and each participating bank will be given detailed logs of all transactions performed by its customers.

- **MIS and Reporting Tools:**

Management Information System of mCheque Payment Platform includes reporting, logging and audit trail of transactional and operational data for all participating entities in the system, including merchants, customers, issuing banks, acquiring banks, mobile operators and personalization system.

- **ATM Module:**

An application specification will be provided for enhancement of the ATM customer screen to be able to accept ATM cash withdrawal transactions using mCheque. This requires collaboration with ATM vendors and the respective Banks.

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Applications

- Over-the-counter debit/credit payment for small, large and very large amounts. PIN based debit/credit using secure EMV based technology on any mobile phone.
- More versatile than debit/credit cards.
- Display screen, PIN pad and storage add tremendously to usability, convenience and control.
- Multiple cards/accounts can be issued by multiple banks on one mobile.
- Only one PIN to remember - common PIN for all cards/accounts.
- Transaction amount limits and daily limits can be managed on mobile phone.
- Common rewards points pool across all cards/accounts.
- Small value transactions feasible in both credit and debit mode.
- Transaction details stored on mobile phone.
- Balance enquiry.
- Full audit and traceability.
- Unique new method to receive payments: eliminates need of cheque-book.
- PKI based non-repudiable digital-ID and signatures on mobile phone. Ideal for all kind of Government payments and transactions.
- Secure and convenient payment for Internet purchases (unique new method with highest level of security and convenience).
- Instant, anywhere, anytime payment of utility bills; insurance premiums; mobile phone bills; pre-paid top-ups.
- Payment to vending machines (snacks, beverages, etc.).
- Cash withdrawal at ATM machines with subscription based access to large number of ATMs in arrangement with banks.
- Loyalty points-pool-on-mobile phone for accumulating rewards from different merchants. Instant over-the-counter redemption.

The applications are developed without need to customize either the mobile phone hardware. As a result, the entire base of mobile phones available can be used as debit/credit cards and payment terminals without any significant extra investment.

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CLAIMS:

1. An inter-operable, multi-operator, multi-bank, multi-merchant mobile payment method using mobile phone as debit/credit card comprising the steps of:
   a. establishing connectivity with each mobile operator, issuing bank and acquiring bank participating in the "interoperable mCheque system" and in any inter-bank clearing & settlement systems, via the mCheque back-end system/issuance system;
   b. establishing a link with mutual authentication and trust using standard security mechanism between mCheque issuance system, participating bank and the mobile operator;
   c. providing transaction security which is dependent on the bank's security domain defined on the mobile phone;
   d. loading of payment application containing the basic menus, transaction logic, application security elements and application configuration data;
   e. loading of at least one conventional Track-2 data provided by the participating bank of the payer, EMV security elements and risk management parameters on the target mobile phone using the over-the-air system of the mobile operator; and
   f. optional loading of digital certificate on the target mobile phone using the over-the-air system of the mobile operator to support applications requiring non-repudiation; and
   g. establishing a link between the PIN number allotted to the customer and the common mCheque PIN.

2. An inter-operable mobile payment method as claimed in claim 1, wherein the loading of payment application is carried out using application provisioning step- 1.

3. An inter-operable mobile payment method as claimed in claim 1, wherein the loading of Track-2 data provided by the participating bank is carried out using application provisioning step-2.

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4. An inter-operable mobile payment method as claimed in claim 1, wherein the optional loading of the digital certificate on the target mobile phone using the over-the-air system of the mobile operator to support applications requiring non-repudiation is carried out using application provisioning step-3.

5. An inter-operable mobile payment method as claimed in claim 1, wherein multiple debit/credit card Track-2 data are loaded on the mobile phone.

6. An inter-operable mobile payment method as claimed in claim 1, including an EMV handler for handling EMV Transactions in a multi-bank interoperable environment.

7. An inter-operable mobile payment method as claimed in claim 1, including software for maintaining and managing loyalty pools and coupons on mobile phone.

8. An inter-operable, multi-operator, multi-bank, multi-merchant mobile payment system using mobile phone as debit/credit card comprising of;
   a. mCheque back-end system/issuance system comprising means for establishing connectivity with each mobile operator and issuing bank participating in the "interoperable mCheque system" and in any inter-bank clearing and settlement systems;
   b. Means for establishing a link with mutual authentication and trust using standard security mechanism between mCheque issuance system, participating bank and the mobile operator;
   c. Means for providing transaction security which is dependent on the bank's security domain defined on the mobile phone;
   d. Application provisioning software I to enable loading of payment application containing the basic menus, transaction logic and application configuration data;
   e. Application provisioning software II to enable loading of at least one conventional Track-2 data provided by the participating bank on the target mobile phone using the over-the-air system of the mobile operator;

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f. Application provisioning software III for optional loading of digital certificate on the target mobile phone using the over-the-air system of the mobile operator to support applications requiring non-repudiation; and

g. Means for establishing a link between the PIN number allotted to the payer and the common mCheque PIN.

9. An inter-operable mobile payment system as claimed in claim 7, wherein multiple debit/credit Card Track-2 data are loaded in the mobile phone.

10. An inter-operable mobile payment system as claimed in claim 7, including an EMV handler for handling EMV Transactions in a multi-bank interoperable environment.

11. An inter-operable mobile payment system as claimed in claim 7, including software for maintaining and managing loyalty pools and coupons on mobile phone.

12. An inter-operable mobile payment system as claimed in claim 7, wherein the mobile phone of user is used as debit/credit card.

13. An inter-operable mobile payment system as claimed in claim 7, wherein the mobile phone of the merchant is used as merchant terminal.

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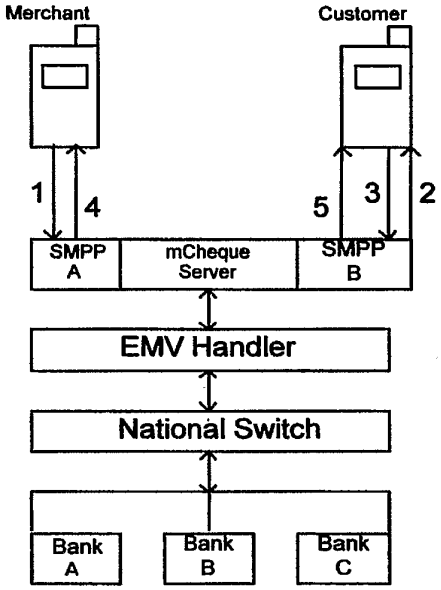

Merchant
Customer
1
4
5
3
2
SMPP A
mCheque Server
SMPP B
EMV Handler
National Switch
Bank A
Bank B
Bank C

Fig. 1.

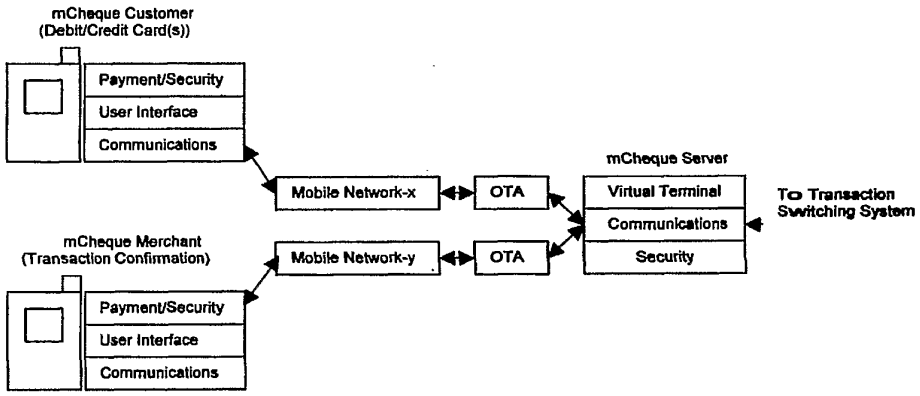

mCheque Customer
(Debit/Credit Card(s))
Payment/Security
User Interface
Communications
Mobile Network-x
OTA
mCheque Server
Virtual Terminal
Communications
Security
To Transaction
Switching System
mCheque Merchant
(Transaction Confirmation)
Mobile Network-y
OTA
Payment/Security
User Interface
Communications

Fig. 2

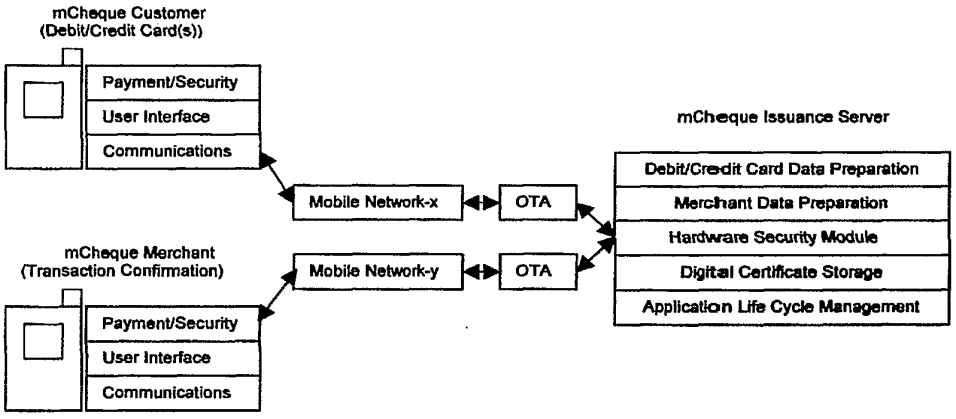

mCheque Customer
(Debit/Credit Card(s))
Payment/Security
User Interface
Communications
Mobile Network-x
OTA
mCheque Issuance Server
Debit/Credit Card Data Preparation
Merchant Data Preparation
Hardware Security Module
Digital Certificate Storage
Application Life Cycle Management
mCheque Merchant
(Transaction Confirmation)
Mobile Network-y
OTA
Payment/Security
User Interface
Communications

Fig. 3

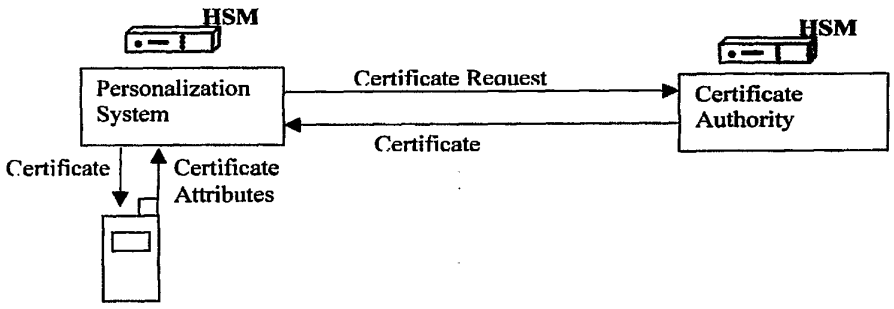

HSM
HSM
Personalization System
Certificate Request
Certificate Authority
Certificate
Certificate
Certificate Attributes

Fig. 4.

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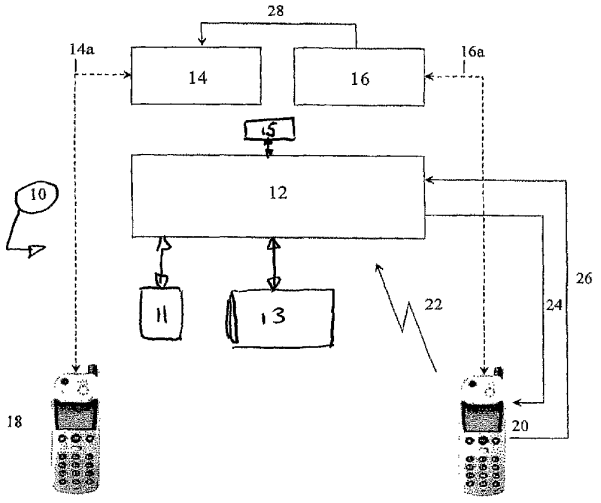
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Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

[Continued on next page]

(54) Title: TRANSACTION SERVER



(57) Abstract: A transaction server is disclosed that has a receiver module configured to receive an instruction message from a first mobile communications device for a transaction from a first account to a second account. The transaction server also has a transmission modul configured to send a response message to the first mobile communications device a request for a validation instruction for the transaction, the response message being in response to the receipt of the instruction message. The server is configured to record receipt of the validation instruction. The server is also configured to record receipt of the validation instruction. In response to the validation instruction, the server validates and effects the transaction. A corresponding method is also disclosed.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

TRANSACTION SERVER

Technical Field

The invention relates to a transaction server for effecting transactions from a user account. More particularly, the invention relates to validating transactions from the user account.

Background

Systems for implementing mobile phone based payments where, essentially, a mobile telephone acts as an electronic wallet (e-wallet) are known. In such systems, a monetary value is held in an e-wallet for each user, and the details of each e-wallet are stored centrally in a server database.

With a mobile telephone, transactions may be conveniently and commonly effected using a messaging service such as SMS. For example, to send $20 from a first e-wallet identified or associated with a first mobile phone +60122070239 to a second e-wallet identified with a second mobile phone +60164452228, the following SMS is sent:

```
PAY 0164452228 20 753535
```

As can be seen, the text string of the message comprises several fields: "0164452228" is the recipient mobile telephone's number; "20" is the transfer amount (e.g. $20); and 753535 is a six-digit PIN associated with the user and/or the e-wallet +60122070239. The server receives this SMS through a telecommunication link to an SMS centre or portal.

Such a system is attractive because it facilitates money movement. It means practically anyone, anytime, anywhere can be paid. For example, to pay a friend several miles away all a user need do is to use their mobile telephone to send a simple SMS to the SMS portal to effect payment from the e-wallet or account.

Unfortunately, such a system has several drawbacks which, if not properly addressed, can adversely affect its implementation and security.

Messaging services such as SMS as a means of communication are never 100% reliable. A sender of an SMS never knows for certain if the message will be delivered or when. Sometimes an SMS is delivered to the same recipient multiple times. These failings of SMS are particularly problematic for e-wallet transactions. For example, a user may be at a shop and use their mobile telephone to send an SMS to the server's SMS portal requesting payment for goods to the shop owner's account. However, it is possible that the mobile telephone may not receive acknowledgement from the server that the payment request has been either received, or that payment has been initiated. Such situations can arise during a period of peak use of the SMS system or, simply, the SMS is "dropped" by the messaging service. In such situations, the user is presented with a quandary. What should the user do? Should the user just leave? Should the user send another payment request? The server might receive the user's first SMS and effect the transaction the moment after a second instruction SMS is sent, or the user gives up and leaves the shop. Alternatively, the server might receive several copies of the single SMS and the server effects multiple payments to the shop owner for a single transaction. The user is unlikely to be able to receive any real help from the help centre for the server as the call centre may advise the user that the SMS has not arrived yet and that no transaction has been effected so far. Conceivably, the SMS could arrive at the server the very moment the user terminates the telephone call with the call centre.

Another problem is human error. Inevitably, users will key in a wrong recipient's mobile number or incorrect transaction amount in the SMS. The user may call the call centre to request a reversal. In cases like these, security for the recipient could be compromised – e.g. the recipient is a shop owner who has provided goods or services in good faith to an e-wallet user. Should the call centre do the reversal? The user may have just bought something from the shop owner and requested a reversal the moment after the goods were collected or the user has left the shop.

Security is another problem. It is a well-known fact that SMS can be spoofed quite easily. If a fraudster somehow manages to obtain a person's PIN, the fraudster can spoof an SMS message to the server to instruct a transaction quite easily.

Summary

The invention is defined in the independent claims. Some optional features of the invention are defined in the dependent claims.

If the transaction instruction (e.g. SMS from the user to the server) is delayed or not delivered, the user knows very well no transaction has been effected from his account (e-wallet) as the user is neither requested to provide the validation instruction and, therefore, it is not possible for the user to provide the validation instruction. If the user receives a request for the validation instruction from the server at a later time seeking validation for the transaction, the user then has the option to proceed with the validation instruction for the transaction or to decline to send the validation instruction. In the event the server receives multiple copies of the transaction instruction (e.g. SMS), the server may be configured also to send multiple requests for validation in the form of SMS messages to the user seeking confirmation and the user can choose how many of these requests for a validation instruction he/she can reply to, if any. In embodiments of the invention, each request for validation provides different instructions for effecting the validation instruction (e.g. different telephone numbers are provided for the user to call to validate the transaction). The user may then selectively choose whether and how many times the recipient in the transaction is to be paid. Optionally, additional information such as the account (e-wallet) balance and details of previous transactions are included in the request for the validation instruction.

Further, the likelihood of user error is now significantly reduced. In embodiments of the server, the server is configured to look up the recipient's name from a server database, and to transmit the requested recipient's details to the user with the request for the validation instruction to the user. Optionally, the transaction amount is also shown.

Yet further, the server provides enhanced security and fraudsters may find it more difficult to spoof the server. The server may selectively choose the means by which the user is to request validation of the transaction; e.g. in embodiments of the invention, a telephone number for the user to call or message to is randomly picked from hundreds of numbers; the user may be requested to enter a URL on the user's internet browser to request validation, or any of many other possible ways in which a communication can be effected. Thus, the fraudster will not know the number to call to confirm a transaction, or the URL to visit. This means the fraudster must intercept the request for validation of the transaction sent by the server and at the same time spoof a user ID.

Brief Description of the Drawings

Exemplary embodiments will now be described, by way of example only, and with reference to the accompanying drawings. In the drawings:

Fig. 1 is a block diagram illustrating implementation of an exemplary;

Fig. 2 is a flow diagram illustrating the process of the implementation of an exemplary embodiment;

Fig. 3 illustrates the process of an exemplary embodiment; and

Fig. 4 illustrates a schematic view of the basic structure of an e-wallet system.

Detailed Description of the Exemplary Embodiments

Implementation of a transaction with a transaction server is illustrated in Figure 1. The system 10 comprises a transaction server 12, a first e-wallet 14 representing/being associated with a first account, and a second e-wallet 16 representing/being associated with a second account. The first e-wallet 14 is associated with the mobile communication device 18 and in particular with the owner of mobile communications device 18. Association with the device 18 is represented by the dashed line 14A. Association of second e-wallet 16 with the second mobile communication device 20 is represented by the dashed line 16A. Mobile communications devices 18, 20 may be a mobile telephone, portable telephone, cellular telephone, PDA, a device such as a "Blackberry", or telecommunications-enabled portable computer such as a laptop computer, notebook computer, tablet computer, and so forth.

To effect a transaction, the second communication device 20 is used to send a message 22 via a messaging service – e.g. SMS, MMS or email – to a receiving module such as, for example, the SMS portal 13 of server 12. The intended transaction is for the transfer of a sum of money to the e-wallet 14 of the first user being the user of communication device 18. The message 22 takes the form of:

```
PAY 0164452228 20 753535
```

As discussed above, the first field is the instruction "PAY", second field in the transaction instruction is an identifier for the recipient account preferably being the telephone number of first communication device 18; third field "20" is the value of the transaction; and the fourth field 753535 is an authentication code for the transaction, for example, a PIN of the second communication device 20 or a specific authentication code for the transaction. This provides a first level of security for the transaction. Responsive to receiving the instruction 22 from the device 20, the server 12 first matches the authentication code of the fourth field with the stored authentication code (extracted from the server 12 by, for example, recognition of the telephone number of the communication device 20 and using a look-up table to find the authentication code) and a transmission module 11 of the server sends to the device 20 a request 24 for the transmission of a validation instruction for the transaction. In embodiments of the server 12, this request may also be sent via a messaging service. Should the second user at device 20 wish for the transaction to be processed, the device 20 is then used to send a validation instruction 26 to the receiving module 13 of server 12. The server 12 records receipt of the validation instruction 26 and, responsive to this, the server 12 validates the transaction. Embodiments of the server then effect the transaction 28 of (in this example) $20 from second e-wallet 16 to first e-wallet 14.

Embodiments of the server 12 allow for the communication device 20 to be used to make a telephone call to a communications module 15 of the server 12 (or another communications portal) to provide the validation instruction. The request for the transmission of a validation instruction may, in embodiments of the server 12, provide details of the telephone number at server 12 to be called.

Embodiments of the server 12 are configured only to allow receipt of reliable means of communication for the request for validation: e.g. a telephone call, a message sent through GPRS (General Packet Radio Services) or through a secure (e.g. encrypted) internet communication.

It will be appreciated that one or more of the communications portals 11, 13, 15 may be distinct from server 12, may be used to send and receive communications from the devices 18, 20. In such embodiments of the server 12, the server 12 is configured to initiate and control sending and receipt of these instructions, so that a transaction may be effected from an account/e-wallet 16.

It will be further appreciated that embodiments of the server 12 allow for the e-wallets 14, 16 to be integral with the server 12.

In embodiments of the server 12, the server 12 is configured to validate the transaction if receipt of the validation instruction is recorded by the server 12 within a pre-determined period from sending, to the communication device 20, the request 24 for the transmission by device 20 of a validation instruction. If the receipt of the validation instruction 26 is not recorded by the server 12 within that pre-determined time period, the transaction may be voided.

After the server 12 receives a transaction request 22 (say at 5:15pm 24th May) from the device 20, the server 12 forwards to the device 20 the following SMS message, seeking confirmation:

```
Please confirm $20 transfer to 0164452228 (Lee Eng
Sia) by calling 0320540301. This message expires
5:25pm 24/05.
```

Thus, the request for the validation instruction confirms the identifier for the recipient account for the transaction. By doing so, the risk of human error in instructing a transaction to a wrong account may be reduced.

In exemplary embodiments of the server 12, the server 12 invites a telephone call to be made from communications device 20 to a telephone number (0320540301 above) to provide the validation instruction 26. In exemplary embodiments, the server 12 employs a pool of several hundreds (or even thousands) of telephone numbers, and 0320540301 is selected from this pool. Exemplary embodiments of the server 12 are configured to select a different telephone number for different transactions. The selection may be random, or organised.

Exemplary embodiments of the server 12 allow for the telephone number to be called by device 20. It is not necessary for the telephone call to be connected; the server need only capture the caller identifier from the telephone call. Either the call may be disengaged the call after, say, two or three rings, or the server is configured to disengage the call once an ID of device 20 has been extracted from the call. From this, the ID may be determined, providing further enhanced security for the transaction. Thus, there is no requirement for incurring unnecessary cost in actually connecting the telephone call to provide the validation instruction.

Thus, in exemplary embodiments of the server 12, the transaction will only be effected by the server 12 if the call 26 from the second mobile communications device 20 is received before 5:25pm on 24th May. This gives a window of 10 minutes to instruct validation of the transaction and, thereby, to confirm payment.

If the sender makes a (missed) call to 0320540301 before the expiry time, the transaction proceeds and both the devices 18, 20 of the sender and the recipient are notified accordingly. Exemplary embodiments of the server 12 allow for this to made via a messaging service – e.g. SMS, MMS or equivalent – and, in the event of messaging service notification failure, a call can be made into a helpline IVR (Interactive Voice Response, not shown) where confirmation of the validation of the transaction is made by providing the last transaction from the e-wallet. Optionally, a call centre can easily handle such enquiries either by receiving a call from or placing a call to one or both of the communication devices 18, 20.

Thus, exemplary embodiments of the server may alleviate the problems associated with prior art e-wallet payment systems.

It will be appreciated that variations on this implementation for a transaction may be effected. For instance, the communications device 18 may be requested to transmit a validation instruction and/or receive confirmation of the payment. Communication with one or other of the devices 18, 20 may be over the Internet or, via GPRS, either of which are relatively reliable forms of communication. When the device 18 must send the validation instruction, further layers of security might be implemented to avoid situations where a device that erroneously receives the request for validation (i.e. the sender keys in a wrong number) can validate the transaction and receive payment. For example, the device 18 may be required to obtain a further authorisation code or the like from the device 20. The validation instruction may be required to include, for example, a PIN. Further security can be implemented in many ways.

Figure 2 illustrates the process flow for a transaction validated by the transaction server 12 of Figure 1.

The process starts at 50. At 52, a transaction instruction 22 is sent to the receiving module 13 of server 12 by SMS. At 54, this instruction 22 is received at the server 12 and, responsive to this, the transmission module 11 of server 12 sends a request 24 for a validation instruction 56. At 58, the server 12 waits for the validation instruction 26. If this is not received, the process may end simply at 66 or the process loops around waiting for the validation instruction 26 as indicated by dashed line 60. When/if it is determined at 58 that the validation instruction 26 is received at receiving module 13, the transaction is validated at 62 and, optionally, the server may effect the transaction at 64. The process ends at 66. As a further option, one or both of the communication devices 18, 20 are sent a confirmation message to confirm that the transaction has been validated and/or effected. Alternatively, the server can call either or both the devices 18, 20 to announce the transaction validation. To save unnecessary costs, the server 12 is optionally configured to disengage (hang up) the call even before the call is answered –

a missed call in reverse. But it serves a simple purpose of letting the sender know the transaction has been validated and/or effected successfully.

In all SMS messages from the server to the devices 18, 20, additional information such as the e-wallet balance, and/or details of previous transactions, may be included.

The owner of the device with the telephone number 0164452228 may not have an authorised account. That is, the user of device 18 is not an existing e-wallet user. Thus, a new account needs to be created for the telephone number 0164452228. Indeed, this mobile number may not be valid because of human input error. In cases like this, the server 12 is configured to request that the (missed) call is made by the communication device 18, instead of the communication device 20. This ensures the mobile number 0164452228 is not keyed in wrongly by the sender for the message sent by SMS. The request for a validation instruction – e.g. an SMS seeking confirmation from the payer – would thus take the form:

```
Please confirm $20 transfer to 0164452228 (NEW USER)
by asking 0164452228 to missed call 0320540322. This
message expires 5:25pm 24/05.
```

The transaction is validated once the server receives a call from 0164452228 to 0325040322. Alternatively, the server 12 is configured for either the sender (payer) or the recipient (payee) to call the telephone number to validate the transaction – irrespective of whether the recipient is a new user or not.

This is an advantageous design feature and may be provided independently as will be discussed below.

Some mobile telephones have their caller ID barred or disabled. Thus, the server 12 is unable to capture the caller ID when such users place a call to provide the validation instruction. To overcome this, and for the creation of each new e-wallet, the number to call for the validation instruction (0320540322 in the above example) is allocated from

a special pool of pre-determined telephone numbers and the server is configured to activate only one number at any one time for one transaction. So when a call without caller ID is received by the server at 0320540322, the server is configured to recognise that this is a validation instruction for a particular transaction, and the fact that the new user (caller) has caller ID feature disabled in his phone is immaterial. Therefore, if the caller mobile has no caller-ID, then the transaction server can still validate one particular transaction based solely on the telephone number called. Generally, if caller-ID is available for caller identification, a single telephone number for validation can be used for validation of simultaneous/multiple transactions.

Further, embodiments of the server 12 are configured to effect all future transactions for this user in the same or similar way. Effectively, the server is configured to identify a category for this transaction in this way. That is, the server identifies that the category of the transaction is such that it is for payment to a particular recipient who does not have an authorised account.

This feature may also be particularly effective for, say, catalogue shopping. For a payer to make a payment to purchase an item from a catalogue, the payer is invited to call a particular number to purchase the item. By the very action of calling that number, the server identifies the category of the transaction (e.g. it is a purchase of a particular goods) and processes the transaction accordingly.

The server may also be configured to validate transactions for catalogue sales where each item in the catalogue is tagged with a product code. When a customer wants to purchase a product, they can enter a message into their mobile device for the device to send an SMS. The message contains the relevant product code. Once the server has received the SMS, a call must be made to confirm the purchase. Similarly, the same principle can be used for soft goods or services such as discounted call airtime, mobile phone airtime top-ups, and so forth.

The method described in the first embodiment above is particularly useful for paying merchants where the sender must know with certainty whether a transaction has been

effected. In certain less formal situations, a quicker payment method is often desirable; for example, when a user wishes to transfer money to, say, the user's sister. However, even in these situations, it is important that a method is in place to ensure the money transfer is not done wrongly.

In a second embodiment, a missed call mechanism is used to build a so-called "buddy list" for each user of e-wallet.

As before an SMS message is sent to the server requesting money transfer:

```
SEND 0164452228 20 753535
```

To initiate such transactions, a different instruction or keyword "SEND" is used to differentiate this from the example in the first embodiment although it will be appreciated that the first field of the transaction request may take a number of different forms.

To prevent the sender incorrectly entering the recipient's number (0164452228), the server checks to determine if 0164452228 is an authorised account. In embodiments of the server, a list of authorised accounts is maintained as a "buddy list". If indeed 0164452228 exists in this list, the $20 is transferred to the e-wallet of 0164452228. No further validation may be required. Thus, upon receipt of a transaction instruction for a transaction to an account for a recipient, responsive to determining that the account for the recipient is an authorised account, the server 12 automatically validates the transaction.

In situations where the recipient account is not an authorised account, once a validation instruction 26 for the transaction to the unauthorised account is received, the server is configured to flag the recipient account as an authorised account.

However if this is not the case, the server 12 sends a message to the payer:

```
0164452228 is not in your buddy list. To add
0164452228 to your buddy list, please ask 0164452228
to call 0320540202.
```

Once 0164452228 makes a (missed) call to 0320540202, the server 12 is configured to flag 0164452228 as being an authorised account for that payer; that is the recipient is added to the payer's "buddy list". The server also effects the transfer from e-wallet 16 to e-wallet 14 once the missed call is received.

Alternatively, the sender can also request 0164452228 to make a (missed) call to 0320540202 even before the sender sends his SMS, assuming 0320540202 has been advertised to him for this purpose. In such a case, the server 12 need not send the above SMS to the sender. Straightaway, 0164452228 shall be added to the sender's buddy list and the transfer can be made.

Embodiments of the server are configured to receive an instruction from a user to add a recipient account as an authorised account. This is particularly helpful in situations where the recipient 0164452228 has caller ID barred, the payer can still add 0164452228 to his buddy list by sending the following SMS to the server:

```
BUDDY 0164452228
```

When a recipient account is an authorised account for one user, embodiments of the server are configured to flag an account associated with the user as an authorised account for a recipient with whom the recipient account is associated. That is, the buddy list can be mutual; if user A is in user B's buddy list, then the server is configured to add user B to user A's buddy list automatically.

The process of the second embodiment is described with reference to Figure 3. The process starts at 100. At 102 communications device 20 sends a request for a transaction to a recipient (user at device 18) account. The server 12 determines whether the recipient account is an authorised account at 104 and upon determination the recipient

account is authorised, the transaction is validated and, optionally, effected at 112. If determined at 104 that the recipient account is not an authorised account, the server 12 sends a request for a validation request. When this validation request has been received 108, the transaction is validated at step 112, subject to the transaction request meeting any requirements for validation. The process may loop around 108 with loop 110 while waiting for the validation transaction.

Optionally, when the transaction to the new (previously unauthorised) recipient account has been validated, the new account is flagged as an authorised account.

Embodiments of the server are configured to de-authorise an authorised account within a pre-determined time period from authorisation of the authorised account. That is, an expiry date is attached to each entry in the buddy list. This means that if a payer does not send money to a recipient before the expiry date, the recipient is removed from the payer's buddy list. The expiry date is renewed every time money is transferred to the recipient.

A further embodiment of the server seeks to address the problem that users are worried their mobile communication devices might be misused when their mobile phones double as a payment instrument.

Thus, embodiments of the server are configured to record receipt of an activation telephone call from a user and, upon recording receipt of the activation telephone call, to activate or deactivate an account for the user. Thus, it is possible for a user to LOCK/UNLOCK his/her account/e-wallet by allocating one or more telephone numbers for the user to call for this purpose.

Embodiments of the server are configured to select between activation and deactivation of the account in dependence of a status of the account. For example, when a user wants to lock his mobile account, the user places a (missed) call to 0320540000. Upon receipt of another call to this number, the server 12 checks the status of the account and, in dependence of this check, toggles the account status: if currently activated, the account

is de-activated and *vice versa*. Alternatively, the user is provided with two telephone numbers: one to lock the account and one to unlock it.

In some embodiments of the server, the server calls the user back through an IVR to prompt him to enter a PIN or UNLOCK code.

If embodiments of the server detect a call to a wrong number 0320540002, the server is configured to disable the mobile payment account associated with that mobile phone. This is to prevent fraud. For example, the server is configured to select from a pool of hundreds or thousands of telephone numbers. For each user the server allocates a different number for LOCKING and UNLOCKING of the account. So, an unauthorized user obtaining an authorised users mobile communications device 18 would not know which number to call to UNLOCK the e-wallet account. Guessing a wrong number from the designated pool will be an indication for the server to lock the e-wallet account.

Figure 4 illustrates a schematic view of the basic structure of an e-wallet system 100 as disclosed in, for example, International Patent Publication No. WO 2006/049582 filed by the present Applicant(s) and hereby incorporated by reference as if disclosed herein in its entirety. The e-wallet system 100 has two sides: a bank sub-system 102 including a bank database 104 and an e-wallet sub-system 202 including an e-wallet database 204.

The bank database 104 has typical banking facilities, including a number of user savings and current accounts, exemplified in Figure 4 by way of a user 1 current account 106, a user 2 current account 108 and a user N-1 current account 110. The bank database 102 also includes a number of user credit accounts, exemplified in Figure 4 by way of a user 1 credit account 112, a user 2 credit account 114, a user N-1 credit account 116 and a user N credit account 118. The user credit accounts contain what may be described as electronic money, but which is generally referred to herein as funds. The user credit accounts may be associated with the respective user current and/or savings accounts, but need not necessarily be. In Figure 4, the user N credit account 118 is not associated with any other bank account.

Additionally, the bank database 104 includes a consolidated e-wallet bank account 120. There is also an e-wallet sub-system credit account 122 and associated e-wallet sub-system current account 124, for the company running the e-wallet system to add money to and withdraw money from the consolidated e-wallet bank account 120. These are operable in similar ways to the user credit and current accounts.

The e-wallet database 204 has a number of user e-wallets 212, 214, 216, 218, one for each user credit account 112, 114, 116, 118 in the bank database 104. Thus, there is a user 1 e-wallet 212, a user 2 e-wallet 214, a user N-1 e-wallet 216 and a user N e-wallet 218. Additionally, the e-wallet database 204 contains an escrow e-wallet 226 and a transaction charges e-wallet 228. Within the e-wallet database 204, the user N e-wallet 118 is treated no differently from the other e-wallets, even though, in the bank sub-system 102, the user N has no bank account other than the user N credit account 118.

Alternatively, in one e-wallet implementation, there is no necessity for an e-wallet account to be associated with any bank account. In this way, large sections of the population of a country who either do not have or seldom use bank accounts – low income workers, foreign workers, inhabitants of rural areas having no banking facilities etc. – may utilise the transaction system. Bank links are there to provide a convenient mechanism to top up their e-wallets. The banks can also act as intermediaries to top up e-wallets for other individuals.

The system of the present server is further enhanced where the user can easily transfer money received in the user's e-wallet to any of the user's bank accounts. Furthermore, by working with selected banks, the user can transfer money automatically from the user's existing bank accounts into the user's e-wallet. All it takes is a simple initial registration of the user's mobile phone number at ATMs of participating banks.

It will be appreciated the invention has been described by way of example only and that various departures in detailed design may be made without departing from the scope of the invention. It will be further appreciated that features presented in association with

one embodiment of the invention may be provided in combination with another embodiment of the invention.

5

THE CLAIMS

1. A transaction server comprising:

a receiver module configured to receive an instruction message from a first mobile communications device for a transaction from a first account to a second account;

a transmission module configured to send a response message to the first mobile communications device a request for a validation instruction for the transaction, the response message being in response to the receipt of the instruction message;

the server being configured to record receipt of the validation instruction; and

the server being configured to record receipt of the validation instruction and, in response thereto, validate and effect the transaction.

2. The transaction server of claim 1, wherein the server is configured to validate and effect the transaction if receipt of the validation instruction is recorded by the server within a pre-determined period from sending the response message.

3. The transaction server of claim 1 or claim 2, wherein the server is configured to send a confirmation message to the first mobile communications device to confirm the transaction has been validated and effected.

4. The transaction server of any preceding claim, wherein the instruction message comprises at least one selected from the group consisting of: an identifier of the second account, a value for the transaction, and an authentication code for the transaction.

5. The transaction server of claim 4, wherein the response message comprises a request for a confirmation of at least one of: the identifier of the second account, and the value for the transaction.

6. The transaction server of any preceding claim, wherein the server is configured to capture an identifier of the first mobile communications device from the validation instruction.

7. The transaction server of any preceding claim, wherein the server is configured to select a telephone number from a pool of pre-determined telephone numbers; the response message comprising the telephone number.

8. The transaction server of any preceding claim, wherein the validation instruction is by a confirmation call between the first mobile communications device and a communications module of the server; the confirmation call being initiated by one of: the communications module of the server, and the first mobile communications device.

9. The transaction server as claimed in claim 8 when dependent on claim 7, wherein the confirmation call is by the first mobile communications device to the communications module using the telephone number.

10. The transaction server of claim 9, wherein the communications module is configured to disengage the confirmation call.

11. The transaction server of claim 10, wherein the communications module is configured to disengage the confirmation call after identifying the first mobile communications device.

12. The transaction server of any preceding claim, wherein the server is configured to identify a category for the transaction from the validation instruction.

13. The transaction server of any preceding claim, wherein the server is configured to determine whether the second account is an authorised account, and to send the response message responsive to a determination the second account is not an authorised account.

14. A transaction server comprising:

a receiver module configured to receive an instruction message from a first mobile communications device for a transaction from a first account to a second account;

the server being configured to determine whether the second account is an authorised account; and

responsive to a determination that the recipient account is an authorised account, validate the transaction.

15. The transaction server of claim 13 or claim 14, wherein the transmission module is configured to send the response message to a second mobile communications device associated with the second account.

16. The transaction server of claim 15, wherein the server is configured to, upon receipt of the validation instruction from the second mobile communications device, flag the second account as an authorised account.

17. The transaction server of any preceding claim, wherein the server is configured to receive an instruction from the first mobile communications device to add the second account as an authorised account.

18. The transaction server of any preceding claim, wherein the server is configured to de-authorise an authorised account a pre-determined time after authorisation of the authorised account.

19. The transaction server of any preceding claim, wherein the server is configured to record receipt of an activation telephone call from a user to the server and, upon recording receipt of the activation telephone call, to activate or deactivate the user account.

20. A transaction server for effecting a transaction from a user account, the server being configured to record receipt of an activation telephone call from a user to the server and, upon recording receipt of the activation telephone call, to activate or deactivate the user account

21. The transaction server of claim 19 or claim 20, wherein the server is configured to select between activation and deactivation of the account in dependence of a status of the account.

22. The transaction server of any of claims 19 to 21, the server being configured to place a telephone call to the user to prompt the user to validate activation or deactivation of the account.

23. A method of validating a transaction comprising:

a server receiving from a first mobile communications device an instruction message for a transaction from a first account to a second account;

responsive to receipt of the instruction message, the server sending a response message to the first mobile communications device, the response message comprising a request for a validation instruction;

the server receiving and recording receipt of the validation instruction; and

responsive to recording receipt of the validation instruction, the server validating and effecting the transaction.

24. The method of claim 23, further comprising validating the transaction if receipt of the validation instruction is recorded within a pre-determined period from sending the response message.

25. The method of claim 23 or claim 24, further comprising sending a confirmation message to the first mobile communications device to confirm the transaction has been validated and effected.

26. The method of any one of claims 23 to 25, wherein the instruction message comprises at least one selected from the group consisting of: an identifier of the second account, a value for the transaction, and an authentication code for the transaction.

27. The method of claim 26, wherein the response message comprises a request for a confirmation of at least one of: the identifier of the second account, and the value for the transaction.

28. The method of any one of claims 23 to 27, wherein the server captures an identifier of the first mobile communications device from the validation instruction.

29. The method of any one of claims 23 to 28, wherein the server selects a telephone number from a pool of pre-determined telephone numbers; the response message comprising the telephone number.

30. The method of any one of claims 23 to 29, wherein the validation instruction is by a confirmation call between the first mobile communications device and a communications module of the server; the confirmation call being initiated by one of: the communications module of the server, and the first mobile communications device.

31. The method as claimed in claim 30 when dependent on claim 29, wherein the confirmation call is by the first mobile communications device to the communications module using the telephone number.

32. The method of claim 30 or claim 31, wherein the communications module disengages the confirmation call.

33. The method of claim 32, wherein the communications module disengages the confirmation call after identifying the first mobile communications device.

34. The method of any one of claims 23 to 33, wherein the server identifies a category for the transaction from the validation instruction.

35. The method of any one of claims 23 to 34, wherein the server determines whether the second account is an authorised account, and sends the response message responsive to a determination the second account is not an authorised account.

36. A method comprising:

a receiver module of a server receiving an instruction message from a first mobile communications device for a transaction from a first account to a second account;

the server determining whether the second account is an authorised account; and

responsive to a determination that the recipient account is an authorised account, validating the transaction.

37. The method of claim 36, wherein a transmission module of the server sends a response message in response to the receipt of the instruction message.

38. The method of claim 35 or claim 37, wherein the response message is sent to a second mobile communications device associated with the second account.

39. The method of claim 38, wherein upon receipt of the validation instruction from the second mobile communications device, the server flags the second account as an authorised account.

40. The method of any one of claims 23 to 39, wherein the server receive an instruction from the first mobile communications device to add the second account as an authorised account.

41. The method of any one of claims 23 to 40, wherein the server de-authorises an authorised account a pre-determined time after authorisation of the authorised account.

42. The method of any one of claims 23 to 41, wherein the server records receipt of an activation telephone call from a user to the server and, upon recording receipt of the activation telephone call, activates or deactivates the user account.

43. A method for activating or deactivating a user account, the method comprising a server receiving and record receipt of an activation telephone call from the user directly

to the server and, upon recording receipt of the activation telephone call, activating or deactivating the user account

44. The method of claim 42 or claim 43, wherein the server selects between activation and deactivation of the account in dependence of a status of the account.

45. The method of any one of claims 42 to 44, wherein the server makes a telephone call to the user to prompt the user to validate activation or deactivation of the account. for the transaction from the validation instruction.

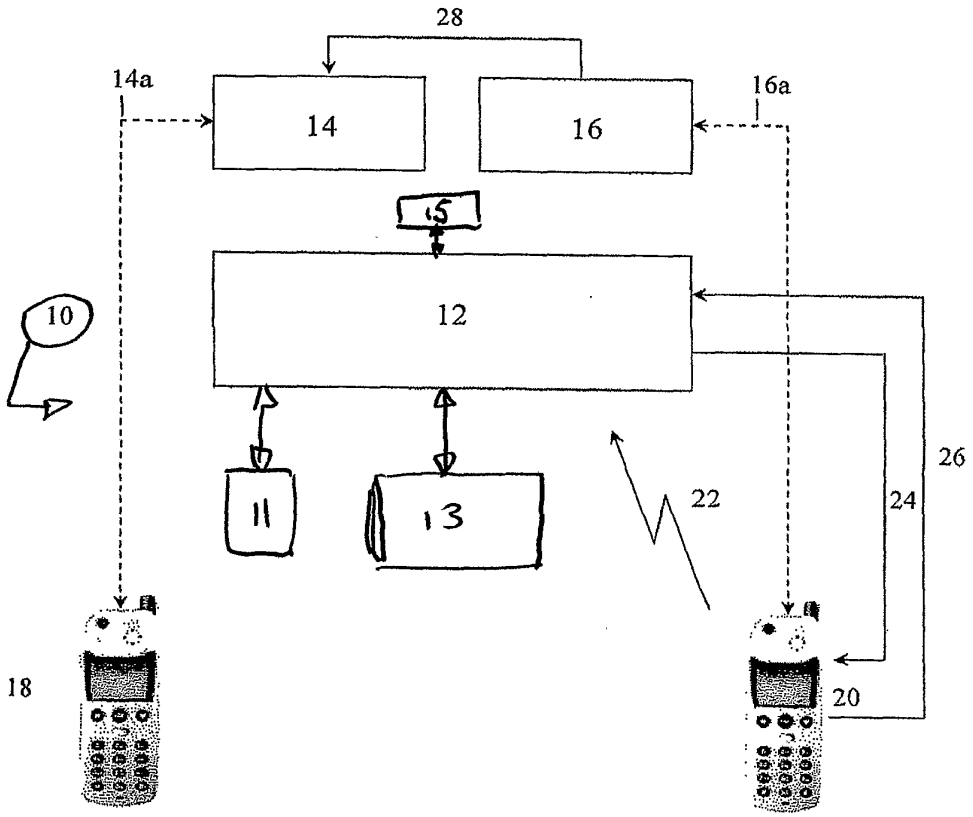


FIG. 1

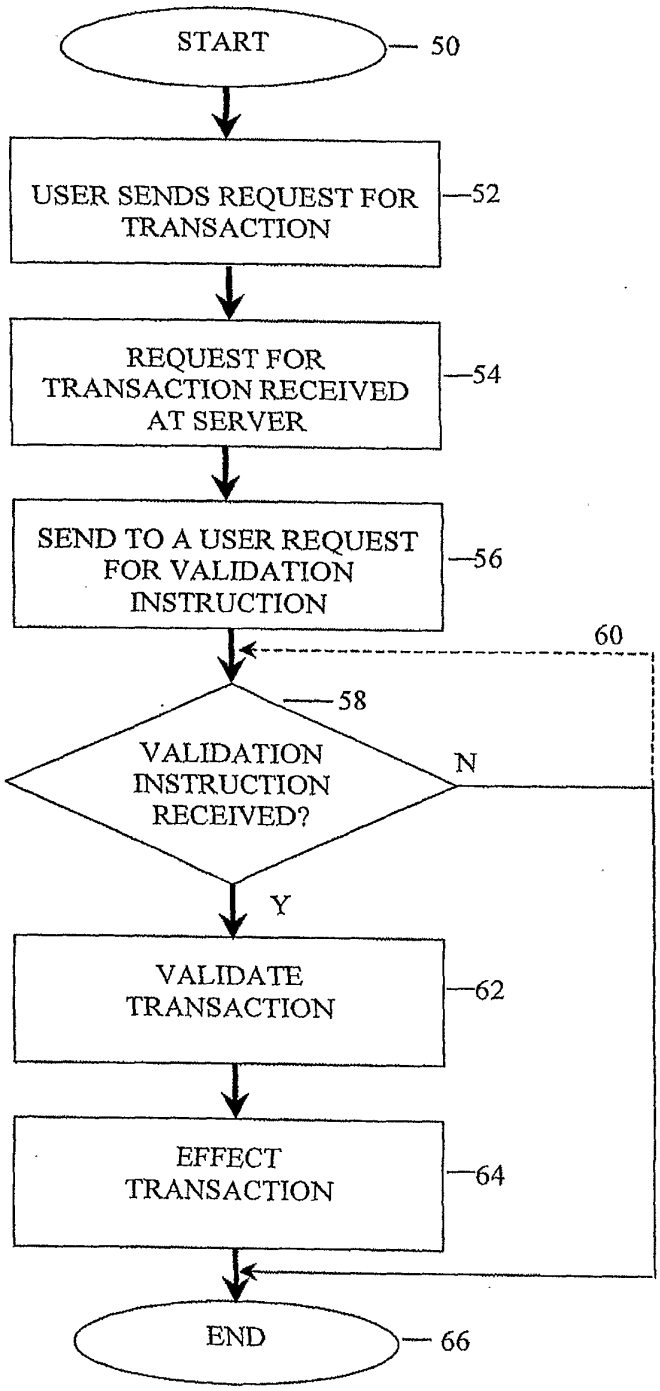

START
50
USER SENDS REQUEST FOR TRANSACTION
52
REQUEST FOR TRANSACTION RECEIVED AT SERVER
54
SEND TO A USER REQUEST FOR VALIDATION INSTRUCTION
56
60
58
VALIDATION INSTRUCTION RECEIVED?
N
Y
VALIDATE TRANSACTION
62
EFFECT TRANSACTION
64
END
66

FIG. 2

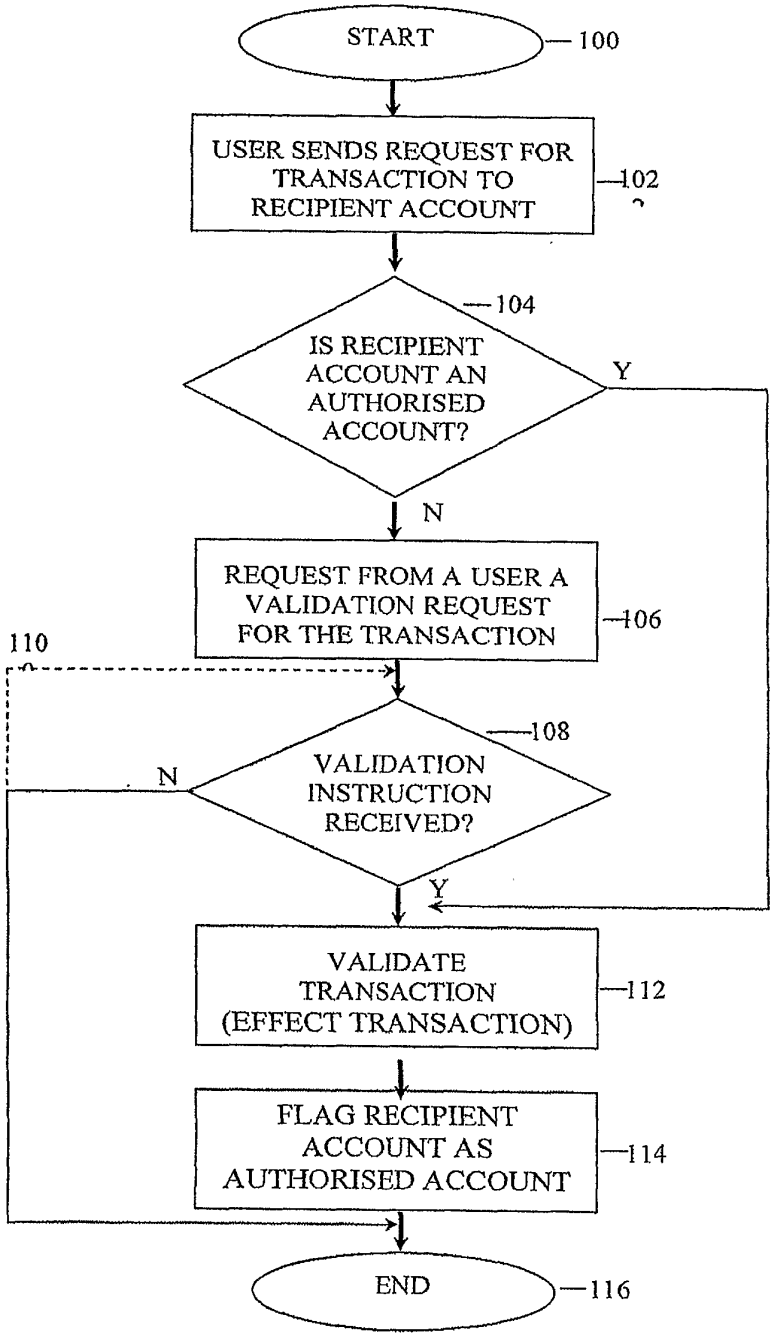

START
100
USER SENDS REQUEST FOR TRANSACTION TO RECIPIENT ACCOUNT
102
104
IS RECIPIENT ACCOUNT AN AUTHORISED ACCOUNT?
Y
N
REQUEST FROM A USER A VALIDATION REQUEST FOR THE TRANSACTION
106
110
108
VALIDATION INSTRUCTION RECEIVED?
N
Y
VALIDATE TRANSACTION (EFFECT TRANSACTION)
112
FLAG RECIPIENT ACCOUNT AS AUTHORISED ACCOUNT
114
END
116

FIG. 3

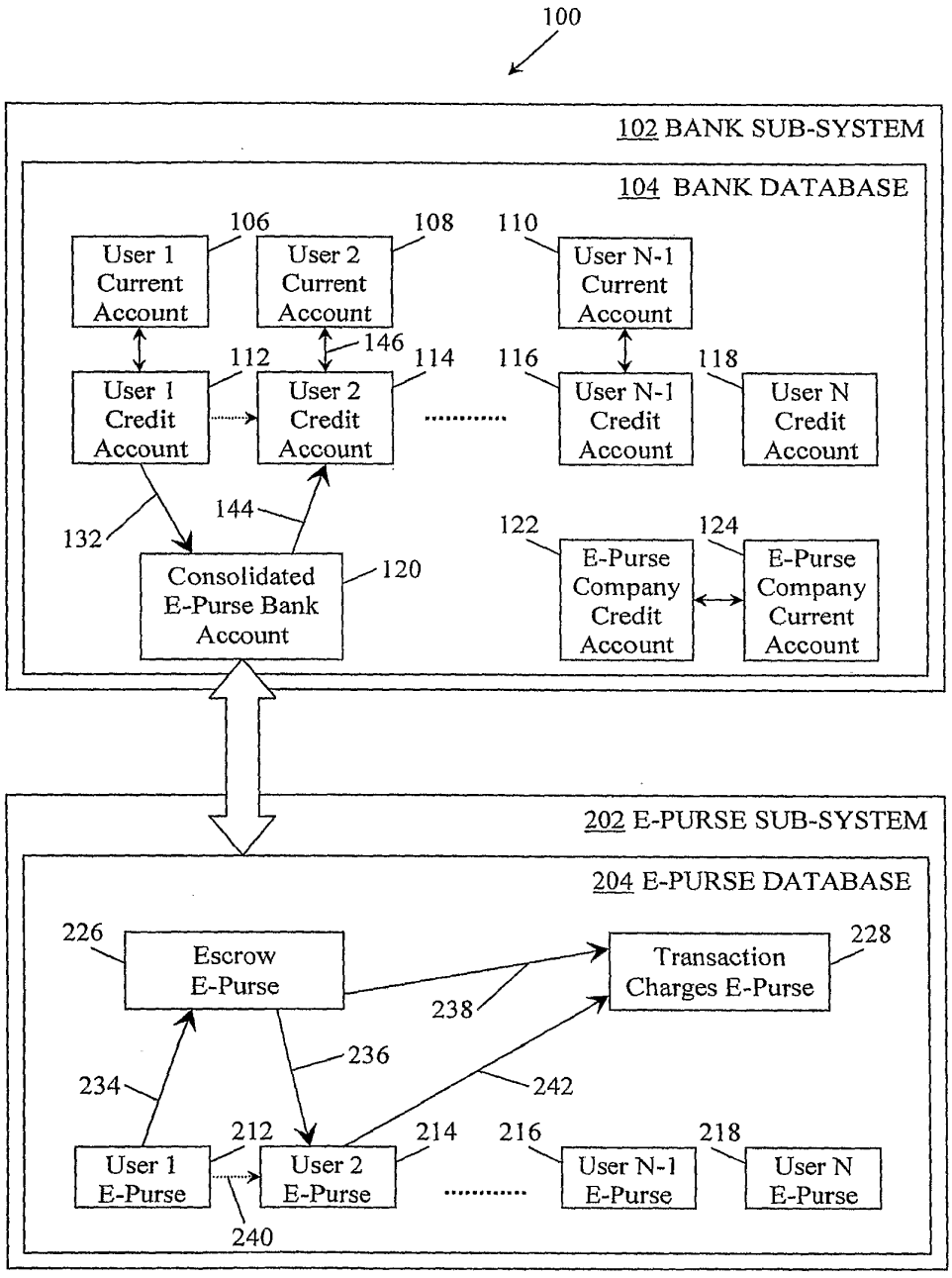

100
102 BANK SUB-SYSTEM
104 BANK DATABASE
106
108
110
User 1 Current Account
User 2 Current Account
User N-1 Current Account
146
112
114
116
118
User 1 Credit Account
User 2 Credit Account
User N-1 Credit Account
User N Credit Account
144
132
122
124
Consolidated E-Purse Bank Account
120
E-Purse Company Credit Account
E-Purse Company Current Account
202 E-PURSE SUB-SYSTEM
204 E-PURSE DATABASE
226
228
Escrow E-Purse
Transaction Charges E-Purse
238
236
234
242
212
214
216
218
User 1 E-Purse
User 2 E-Purse
User N-1 E-Purse
User N E-Purse
240

Figure 4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/MY2007/000038

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ***G07F 19/00*** (2006.01) ***G06Q 20/00*** (2006.01) ***H04M 17/00*** (2006.01)
G06Q 10/00 (2006.01) ***H04M 15/00*** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI + keywords (call, mobile, activate, account, transaction, validate and similar terms)
USPTO + keywords (transaction, mobile, validate and similar terms)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6868391 B1 (HULTGREN) 15 March 2005 Abstract, column 1 line 55 to column 2 line 13, column 3 line 38 to column 9 line 47, figures 1 to 3c.	1 to 45
A	US 2002/0181710 A1 (ADAM et al) 5 December 2002 Whole document	
A	US 2003/0200184 A1 (DOMINGUEZ et al) 23 October 2003 Whole document	
A	WO 2004/079676 A1 (FORTUNATUS HOLDINGS LIMITED) 16 September 2004 Whole document	

☐ Further documents are listed in the continuation of Box C ☒ See patent family annex

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 September 2007	20 SEP 2007
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer **DEREK BARNES** AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No : (02) 6283 2198

Form PCT/ISA/210 (second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/MY2007/000038

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	6868391	AU	70943/98	BR	9808534	CA	2286778
		CN	1260895	EP	0976116	NO	995031
		WO	1998/047116				
US	2002/0181710	AU	32189/01	EP	1221081	IL	134741
		WO	2001/063375				
US	2003/0200184	AU	2003228574	CA	2482558	EP	1497947
		WO	2003/090027				
WO	2004/079676	EP	1604339	GB	2399209		

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX

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(75) Inventors/Applicants *(for US only)*: **GIORDANO, Claeton, J.** [US/US]; C/o Ibreva Corporation, 555 Bryant Street, Suite 322, Palo Alto, CA 94301 (US). **GREEN, Donald, T.** [US/US]; C/o Ibreva Corporation, 555 Bryant Street, suite 322, Palo Alto, CA 94301 (US).

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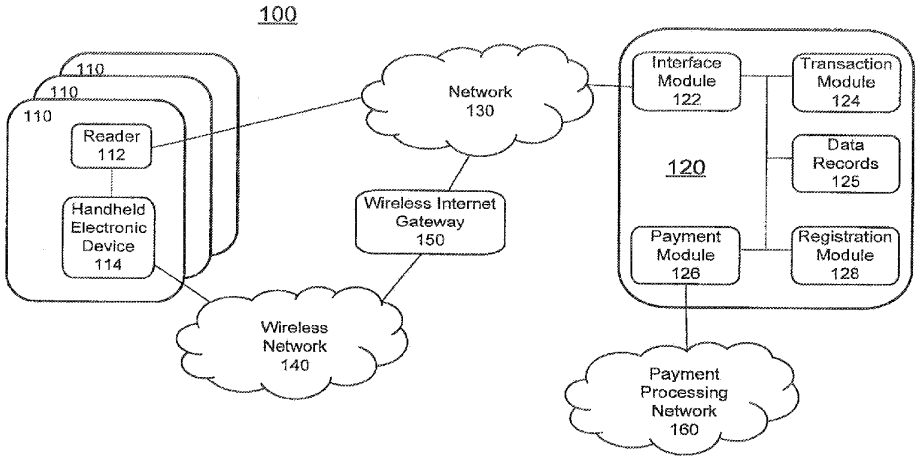
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

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(54) **Title:** TRANSACTION USING HANDHELD ELECTRONIC DEVICES BASED ON UNOBTRUSIVE PROVISIONING OF THE DEVICES



(57) **Abstract:** A system and method enabling consumers to settle payments using a handheld electronic device. The handheld electronic device preferably is provisioned with a unique code in a manner that does not require specialized software or hardware. A reader receives the unique code from the handheld electronic device, determines a consumer ID, and transmits the consumer ID, a reader ID and a payment amount to a service center. The service center retrieves the consumer account and the merchant account based on the consumer ID and the reader ID, and settles the payment by transmitting the accounts and the payment amount to a payment processing network.

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TRANSACTIONS USING HANDHELD ELECTRONIC DEVICES BASED ON UNOBTRUSIVE PROVISIONING OF THE DEVICES

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FIELD OF THE INVENTION

[0001] The present invention relates generally to transactions using handheld electronic devices, for example using mobile phones as payment instruments. More specifically, the present invention relates to the use of handheld electronic devices in a manner where the provisioning of these devices for these transactions can be accomplished in a relatively unobtrusive manner.

BACKGROUND

[0002] Mobile phones and other handheld electronic devices are becoming ubiquitous and are also rapidly becoming more powerful and functional. Many users carry their mobile phones more frequently and to more places than their wallets or car keys. Because mobile phones are becoming an inseparable part of daily life, there is an increasing interest in expanding the functionality of mobile phones beyond just phone calls. For example, there is some interest in enabling mobile phones to make payments or to facilitate other types of transactions.

[0003] One attempt to use mobile phones as payment instruments requires customers to establish and maintain a new account into which they transfer funds from their bank account or credit card account. The mobile phone effectively becomes a sort of prepaid cash card. One drawback is that this approach typically requires a separate dedicated account, meaning that the customer must take the initiative to open a new account and then must manage one more account. Also, because the new account typically is funded by the customer's existing accounts, he may have to pay a higher interest rate if the account is funded by transfer from a credit card account or accept a lower return if the new account is funded from a savings account. More accounts generally results in higher transaction costs, whether it be in the form of higher interest, lower returns or added fees.

[0004] Another approach requires the use of a mobile phone specially designed for use in payment transactions. While this approach may provide users with features specifically designed to make payments, it greatly limits consumers' choices in mobile phones. This is

especially problematic considering that many customers use their mobile phones as personal digital assistants (PDA), game consoles, MP3 players, cameras or other purposes. Requiring customers to use certain types of mobile phones forces them to forego the wider variety of mobile phones that might otherwise meet their specific needs. In addition, customers must purchase a new phone if their current phone is not one of the specially designed phones.

[0005] In a related approach, rather than requiring customers to use specific types of mobile phones, existing mobile phones are provisioned to support payment transactions by adding special technology (hardware and/or software) on an "after market" basis. While this approach avoids some of the drawbacks of the previous two approaches, it also inherits some of the drawbacks from both of the previous two approaches. Requiring the addition of special technology often means that the customer must take the initiative to have the technology added (or at least agree to its addition). In some cases, such as with specialized hardware, the customer will have to take the extra step of either adding the hardware himself (with all of the attendant problems) or making a special trip to a service center where the hardware can be added. In addition, the issue of compatibility almost always means that not all types of mobile phones will be supported, thus limiting the customer's choice. It is even possible that, as new updates of the specialized technology are released, a phone that was compatible with an earlier version may lose compatibility with the newer version and thus lose its payment transaction capability.

[0006] More generally than just payment transactions, a majority of the mobile phones currently on the market have some kind of network accessing capability, enabling mobile users universal access to the wireless Internet. The mobile network technologies are maturing rapidly and the deployed connection speeds are approaching those of DSL. The relevant mobile data services standards are also mature and have broad industry support. However, acquiring and manipulating content using mobile phones is still very inconvenient. This is partly because both the display and the input method of the mobile phone are restricted by its size, causing interactive Internet access using the mobile phone to be inefficient.

[0007] Therefore, there is a need for convenient and unobtrusive approaches to allow consumers to use mobile phones in payment transactions. More generally, there is a need to allow users of all sorts of handheld electronic devices to perform different transactions, including payment transactions and accessing and manipulating content or other relevant information.

SUMMARY

[0008] In certain embodiments of the present invention, consumers can use handheld electronic devices to settle payment transactions. The handheld electronic device is provisioned (preferably in an unobtrusive manner) with a unique code that is associated with the consumer's account that will be used to settle the payment transaction (e.g., a credit card account or bank account). For convenience, this account will be referred to as a payment account. The unique code preferably is not native to the handheld electronic device (e.g., it is not the serial number of the handheld electronic device). As a result, the need for physical access to the device and/or cooperation of device manufacturers is eliminated. A reader acquires the unique code from the handheld electronic device. The reader transmits a corresponding consumer ID based on the unique code and payment transaction data to a remote service center to authenticate the consumer and settle the payment.

[0009] In one embodiment, payments are settled using the Automated Clearing House (ACH) network using mobile phones. As part of the registration process, the mobile phone handset is provisioned by downloading a barcode (or data that can be used to generate a barcode) to the handset. Many handsets are capable of accepting this type of data so provisioning typically is unobtrusive and does not require the addition of specialized software or hardware. Furthermore, if the consumer's payment account in question is a pre-existing one, the inconvenience of establishing a new account can also be avoided. At the point of sale, the consumer displays the barcode on his handset and presents the handset to a reader. The reader optically reads the barcode, optionally acquires a PIN from the consumer, and acquires a transaction amount for the sale. The reader determines a consumer identifier (consumer ID) based on the barcode and transmits the consumer ID, optionally the PIN, the transaction amount and optionally also a reader identifier (reader ID) to a remotely located service center. The service center validates the consumer account identified by the consumer ID, optionally authenticates the identity of the consumer by the PIN, and retrieves a merchant account associated with the reader ID. If this is done successfully, the service center begins settlement of the payment transaction by submitting the identity of the accounts and the payment transaction data to the ACH network. The service center may transmit a confirmation to the reader and/or the mobile phone.

[0010] One advantage is that certain embodiments provide consumers with convenient payment methods. Certain embodiments are designed to work with existing mobile phones and existing consumer accounts. They do not require a hardware modification or application download. They also do not require the opening of a new account. Furthermore, consumers

can enroll in the payment service easily at many different locations. Once the service is activated, consumers can use their mobile phones like a PIN-protected debit card.

[0011] Another advantage of certain embodiments is security. Consumers need both the mobile phone handset and the PIN in order to make a payment. Therefore, an unauthorized person cannot use the mobile phone alone to make payments. Also, in this particular example, the unique code is optically acquired from the mobile phone handset by the reader, a mechanism which is not easily intercepted like a Bluetooth transmission. To further secure the payment system, communications between the reader and the remote service center can be secured. Furthermore, because the consumer's account information is stored at the remote service center, it is not accessible by merchants and is not transmitted between the merchant and service center. This reduces the risk of unauthorized use or disclosure of this sensitive information.

[0012] Still another advantage of embodiments that utilize the ACH network is that the ACH network has lower transaction costs compare to other payment processing networks such as credit card payment processing networks. The merchants also receive other benefits, including shorter check out times, lower fraud rates, and in some cases, an increase in sales.

[0013] The invention is not tied to just payments. For example, in another aspect of the invention, relevant content is transmitted to a user's mobile phone or other handheld electronic device upon the user's request. The user presents the unique code on his handheld electronic device to a reader. The reader transmits a corresponding user ID and reader ID to the remote service center. The service center determines content based on the user ID and reader ID, which provide information about the general context of the request. For example, the service center may retrieve a reader profile (e.g., this reader is located in a mall) and/or a user profile (e.g., this user likes sports) and return content based on the profiles (e.g., a list of sporting goods shops located in the mall).

[0014] Various advantages of this aspect are that various embodiments can determine a user's context and intention, retrieve relevant information based on the user's demand and/or push such information to the user. Another advantage is that certain embodiments deliver relevant information to the handheld electronic device without the need for bilateral relationships between users and merchants. Users do not need to sign up with each merchant or acquire merchant information to receive that merchant's content, and merchants do not need to sign up each user and acquire user information in order to deliver their content. When a new user joins the network, they have access to existing merchants and vice versa.

[0015] In another aspect of the invention, the payment and relevant content aspects are integrated to provide a system for the delivery of messages containing promotional incentives that are later automatically redeemed at the time of payment. Acquisition of the incentive is user-initiated, either at a device located within a merchant's store or elsewhere. The incentive can be activated, for example, via interaction with a web page (promotional) message, or via an SMS message, or by email sent from a handheld device or network connected computer. One advantage to this approach is that the user need not carry anything or recall any information to be supplied at the time of purchase in order to redeem the incentive. Examples of incentives include discounts, free products and the accrual of points. Another advantage is that the redemption of the incentive is integrated into the payment, enabling automatic application of the incentive to the purchase.

[0016] Another advantage is that the mechanism associates a specific presentation of an incentive to the user with a specific store visit and purchase. This enables measurement of the effectiveness of the medium for the presentation of that specific incentive and enables pay-per-action pricing of the medium. For example, an online advertisement might include a place for the user to enter their mobile phone number or instructions to send a number to the service center's SMS shortcode via SMS. The service center would record that a specific user had seen a specific ad and optionally be eligible for a specific promotional offer. A reader in a store could later retrieve this information. The user could receive the promotional discount, and the ad publisher could demonstrate that a specific ad resulted in a specific user's store visit and purchase, motivating premium pricing for that ad.

[0017] These features are not the only advantages of the invention, nor will every embodiment necessarily contain all of these features or advantages. In view of the drawings, specification, and claims, many additional features and advantages will be apparent.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] Fig. 1 is a block diagram illustrating an architecture for one embodiment of the present invention.

[0019] Fig. 2 is a flowchart illustrating one embodiment of a registration process in accordance with the invention.

[0020] Fig. 3 is a flowchart illustrating one embodiment of a payment transaction process in accordance with the invention.

[0021] Fig. 4 is a flowchart illustrating one embodiment of a relevant content delivery process in accordance with the invention.

[0022] The figures depict embodiments of the present invention for purposes of illustration only. One skilled in the art will readily recognize from the following discussion that alternative embodiments of the structures and methods illustrated herein may be employed without departing from the principles of the invention described herein.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Preferred embodiments of the present invention are now described more fully with reference to the accompanying Figures, in which several embodiments of the invention are shown. The present invention may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather these embodiments are provided so that this disclosure will be complete and will fully convey various principles of the invention to those skilled in the art. For example, much of the discussion with respect to Figs. 1-3 focuses on an embodiment that uses barcodes on mobile phones to enable payment transactions on the ACH network. None of these aspects is required and other embodiments may not use barcodes, or mobile phone, or payment transactions, or the ACH network.

[0024] Fig. 1 shows a block diagram illustrating the architecture of a payment system 100 in accordance with an embodiment of the invention. The payment system 100 includes a service center 120, multiple readers 112 and handheld electronic devices 114. In this example, each reader 112 is located in a merchant location 110. The readers 112 are connected to the remotely located service center 120 through a network 130 (e.g., the Internet). The devices 114 are connected to the service center 120 through a wireless network 140, which in this case is connected to the service center 120 via a wireless gateway 150 and the network 130.

[0025] The service center 120 includes an interface module 122, a transaction module 124, a payment module 126, and a registration module 128, that can communicate with each other. The interface module 122 also communicates over the network 130 to the readers 112 and over the wireless network 140 (via the network 130 and wireless gateway 150) to the devices 114. The payment module 126 communicates with one or more payment processing networks 160.

[0026] Considering each of the components in turn, the handheld electronic device 114 is a physical device with wireless or cellular access capability. Examples of the device 114 include mobile phones, wireless enabled personal digital assistants (PDA) and other portable wireless handheld data devices. Further examples include Palmtop computers, handheld GPS navigation devices, iPods, handheld music players, and handheld picture and video players (some have wifi or gprs or other data services). In cases where the device does not have

wireless capability, other communications media (such as the wired Internet) can be used. In the example of Fig. 1, the device 114 is equipped and configured to be able to access the wireless network 140 and to save data received from the wireless network 140.

[0027] The handheld electronic device 114 is used to present a unique code that is then acquired by the reader 112. The unique code can be an image that is displayed by the device 114, for example on a screen of the device. Two examples of images are barcodes and alphanumeric strings. For security, the images preferably are copyrighted such that digital rights management features on the device will prevent forwarding it to another device. The image can be in color or in black and white. The image need not be visible to humans. For example, it can be an infrared image that is not perceivable by humans. Alternatively, the unique code can be an audible sound, for example a ring tone. Similar to visual images, audible sounds need not be detectable by humans.

[0028] The reader 112 is a physical device with network access capability. The reader 112 is configured to include sensors designed to detect the unique code presented by the handheld electronic device 114. Examples of such sensors include barcode scanners, imaging systems, character recognition systems and microphones. The reader 112 preferably also includes a device that allows additional input of data. In this way, the user can input a PIN or other authentication data.

[0029] In this particular example, each reader 112 is deployed in a merchant location 110. The merchant location 110 is a venue where consumers may want to make payments. Examples of the merchant location 110 include movie theaters, amusement parks, paid parking garages, and retail stores. Examples of readers 112 include point-of-sale devices and kiosks.

[0030] The network 130 may be a wired or wireless network. Examples of the network 130 include the Internet, an intranet, or a combination thereof. The wireless network 140 typically is a network different from the network 130. Examples of the wireless network 140 include a Global System for Mobile communication network (also called GSM network), a Code Division Multiple Access network, a Time Division Multiple Access network, a General Packet Radio Service network, a Wideband Code Division Multiple Access network, a Time Division Synchronous Code Division Multiple Access network, a Universal Mobile Telephone System, or a combination thereof. In this example, the network 130 and the wireless network 140 are connected by a wireless gateway 150, although this is not required.

[0031] Referring now to the service center, first note that although each "module" 122-128 is shown in Fig. 1 as a single box, this is for convenience and is not meant to imply that a

module must be implemented as a single device, in a single location, or separately from the other modules. The term "module" is used here generically to refer to any combination of computing and/or communications capability. Modules can be implemented as appliances, servers, software, distributed systems, and other combinations of hardware and/or software, to name a few examples.

[0032] The interface module 122 is the front end to the other modules and functions as a communication gateway into the service center 120. The interface module 122 can be implemented in many different ways. One example is a corporation virtual private network front end. It can also contain multiple components and even networks. For example, one set of components within the interface module 122 may interface to network 130 and readers 112, and a separate set of components within the interface module 122 may interface to wireless network 140 and devices 114. These two sets of components may be physically separate and may not even communicate with each other.

[0033] Furthermore, although the communication channels to the readers 112 and devices 114 overlap in Fig. 1 (both communication paths utilize network 130), this is also not required. For example, the service center 120 may communicate with the readers 112 through a dedicated private network and communicate with the handheld electronic devices 114 through a completely separate public wireless network. Nor is it required that the same communications channel be used to communicate to all readers 112 or to all handheld electronic devices 114. For example, a proprietary interface module 122 may be used to communicate with readers 112 on a proprietary network and a web server 112 to communicate with readers 112 on the Internet.

[0034] The transaction module 124 is the engine that processes the transactions. It typically has access to various data records 125, for example consumer profiles and merchant profiles. A consumer profile typically includes information such as the consumer's name, mobile phone number, consumer identifier (consumer ID), bank account information (e.g., bank name, routing number, account number), personal identification number (PIN), and the like. The consumer profile can also store information such as whether the consumer is in good standing, which can be determined by the consumer's payment history. The transaction module 124 can create, modify, and delete consumer profiles as transactions occur and based on consumers' requests. The consumer profiles can be stored in a database 125 and indexed by the user ID and the mobile phone number. The transaction module 124 preferably can also retrieve a consumer profile from the database based on a user ID.

[0035] The transaction module 124 also manages merchant profiles. Similar to a customer profile, a merchant profile typically includes information such as the merchant's name, merchant identifier (merchant ID), bank account information, and the like. The merchant profiles can be stored in the database 125 together with the customer profiles. The transaction module 124 can create, modify, delete merchant profiles, and retrieve a merchant profile from the database based on a merchant ID.

[0036] The transaction module 124 also receives and services requests from the other modules. For example, the interface module 120 receives requests for payment transactions and passes these to the transaction module, which then accesses the relevant records 125 and processes the requests.

[0037] The payment module 126 settles payment transactions between consumers and merchants. It provides the interface to the payment processing network(s) 160. The payment module 126 can support one or multiple different payment processing networks 160. In one embodiment, the payment module 126 interfaces to the Automated Clearing House (ACH) network. Debit card networks and credit card networks are examples of other payment processing networks 160 that might be supported by the payment module 126.

[0038] The registration module 128 is used for initial enrollment of consumer and merchants and provisioning of the consumers' handheld electronic devices 114.

[0039] The service center 120 can be configured on one or more conventional computing systems having a processor, memory, storage, network interfaces, peripherals, and applicable operating system and other functional software (e.g., network drivers, communication protocols, etc.). In addition, the modules 122-128 are logically configured to function together and can be configured to reside on one physical system or across multiple physical systems. One skilled in the art will recognize that the system architecture illustrated in Fig. 1 is merely exemplary, and that the invention may be practiced and implemented using many other architectures and environments.

[0040] In one specific embodiment discussed in further detail below, the payment system 100 uses barcodes on mobile phones to enable payment transactions on the ACH network. In this embodiment, the handheld electronic device 114 is a mobile phone handset and the reader 112 is a point-of-sale device installed at a retail location for example at the checkout of a grocery store. The unique code is a barcode displayed on the screen of the mobile phone handset and optically read by the reader 112. The reader 112 is connected via a wireless network router to the network 130, and contains a microprocessor, wireless internet card, barcode reader, and a ¼ VGA touch screen. The mobile phone 114 is connected to the

service center 120 via its normal wireless network connection 140. The payment processing network 160 is the ACH network.

[0041] One advantage of using barcodes and mobile phones is their ubiquity and ease of use. Mobile phones are carried almost everywhere and thus will be readily available for use at checkouts. Barcodes can be unobtrusively downloaded to mobile phones and easily displayed on the mobile phone screen at checkout. Barcodes are also familiar to consumers so no lengthy adaptation period is required.

[0042] One advantage to using the ACH network to settle payment transactions is low cost. The cost of using ACH network to settle payments is much lower compared to the cost of using other payment processing networks. For example, the cost of settling a payment transaction over a credit card payment processing network averages approximately 2.5% of the total transaction cost plus a flat fee ranging from 15 to 30 cents per transaction, while an ACH transaction typically costs somewhere between 2.5 and 25 cents. By using the ACH network, the payment system 100 can reduces retailer transaction costs by 50%.

[0043] Figs. 2-3 illustrate operation of the payment system 100 using this specific example. The operation can be divided into two parts: a registration process and a transaction process. During the registration process (Fig. 2), the consumer registers for the payment service and his mobile phone(s) are provisioned to make payments. The consumer typically also creates a profile for the payment system 100. During the transaction process, the consumer uses his provisioned device 114 to settle one or more payment transactions.

[0044] Fig. 2 shows a flow diagram depicting a registration process. In this example, the registration process is initiated by the consumer. The consumer uses a terminal 202 to send 210 a registration request to the registration module 128 through the Internet and the interface module 122. As part of the registration process, the consumer also provides 212 information about the consumer's identity (e.g., name, home address), the consumer's payment account (e.g., bank name, routing number, and account number if it is a bank account, credit card number and expiration date if it is a credit card account), the device 114 (e.g., phone number if the device 114 is a mobile phone, internet protocol address if it is a network enabled PDA). Note that the registration process establishes an account for the consumer with the service center. This account, which will be referred to as the service center account, typically will not be the same as the consumer's payment account.

[0045] The consumer also selects 214 a PIN. The PIN is designed to allow subsequent authentication of the consumer. Examples include a multiple-digit number or an alphanumeric string. The PIN provides additional security to the payment system 100.

Because unauthorized parties do not know the PIN, they cannot make a payment using the consumer's payment account even if they have access to the device 114.

[0046] The terminal 202 can be any conventional computing systems with user input device (e.g., keyboard), network interfaces, and applicable operating system and other functional software (e.g., network drivers, communication protocols, encryption software, etc.). The consumer can send 210-214 the request and related information by using a web browser to visit a web site hosted by the interface module 122. The consumer can also use email to send information to the registration module 128. Alternatively, the consumer can do so by using an application designed for the registration process, in which case the necessary application can be encoded as hardware in the terminal 202. The terminal 202 can be located in a merchant location 110 or elsewhere. In other embodiments, the consumer can choose to provide 210-214 relevant information over the phone or via other conventional communication channels (e.g., the postal system) to the service center 120. In order to keep the consumer's information confidential, sensitive information preferably is encrypted before sending 210-214 to the service center 120.

[0047] In some embodiments, the registration module 128 verifies 219 the provided consumer information. For example, the registration module 128 may verify the provided mobile phone number by sending a confirmation SMS message containing a confirmation code to the mobile phone. The consumer is required to send the confirmation code back to the service center 120 in order to be verified. Alternately, the registration module 128 may confirm with the payment processing networks 160 that the consumer's payment account is a valid account and that the consumer is the account holder.

[0048] The registration module 128 creates 220 a consumer profile for the consumer and stores the received consumer information in the consumer profile within database 125. The registration module 128 also assigns 222 a consumer ID to the consumer. The consumer ID may be newly generated or may be an existing identifier (e.g., the consumer's social security number or some account number).

[0049] The registration module 128 generates 230 a unique code for the consumer profile. The unique code is associated with the consumer ID and the corresponding consumer accounts, so that a reader 112 can determine the associated consumer ID from the unique code. The relationship between the consumer ID and the unique code can be secretive or apparent. In some cases, the unique code can be the same as the consumer ID or a derivative of the consumer ID. The unique code can be an image (e.g., a barcode image), a string (e.g.,

the consumer ID in binary format), a sound sequence (e.g., a ring tone), or any other format that the device 114 can make available to the reader 112.

[0050] The registration module 128 then provisions 240 the device 114 with the unique code. This can be done in a number of different ways. For mobile phones 114, the module 128 may download the unique code to the mobile phone via the wireless network 140 using existing data services. Alternately, if the unique code is the same as the consumer ID or a variation of the consumer ID, the registration module 128 might provision the device 114 by transferring the consumer ID to the device 114.

[0051] More generally, rather than transferring the actual unique code, the registration module 128 may provision the device by transferring data that can be used to generate the unique code. This data will be referred to as digital code data. For example, the digital code data might be a seed that is used to generate the unique code, or that is combined with other data (such as the time of day) to generate the unique code. The unique code may change over time, as would be the case when it is generated based on some combination of digital code data and the time of day. Alternately, the unique code may expire periodically or after each use. This would increase the security of the payment system 100. Different types of coding, compression, hashing and encryption can be used to relate digital code data with the actual unique code used for any particular transaction.

[0052] Provisioning 240 preferably occurs without requiring the alteration of software or hardware on the device 114. One example would be the download of data that can be used to generate the unique code by using only the device's native functionality. One advantage is that this makes the unique code more portable and possible to restore should it be deleted or inadvertently modified. If the consumer changes his mobile phone, it is simpler to provision the new phone and to deactivate the old phone. For example, if the unique code is a barcode, then provisioning the new phone merely requires the download of the barcode to the new phone since the barcodes is not a native part of phones. In contrast, if the unique code was the manufacturer's serial number, which is a native attribute of a phone, then provisioning a new phone would be more complicated since the native attribute of the new phone would have to be associated with the consumer's account credentials. This would require communication of the new phone's native attribute to some registry and some form of authentication and authorization such that only the consumer could initiate use of the new phone's native attribute, in order to prevent malicious changing of the consumer's authorized phone.

[0053] In contrast, provisioning the phone based on the non-native unique code decouples the phone from the authentication scheme by relying on possession of the unique code as opposed to possession of the phone. The phone is a means for carrying the unique code, much like a wallet is a means for carrying a magnetic stripe card. In contrast, if a native attribute of the phone (such as a manufacturer's serial number or a payload bound to some native characteristic of the phone) is used instead, then the phone itself becomes part of the authentication scheme and is subject to the necessary security constraints when changing a factor instance of an n-factor authentication scheme.

[0054] Using a non-native unique code has many advantages. For example, the form, bit depth, and size of namespace for a non-native unique code is neither fixed nor controlled by the phone manufacturer. As a result, the unique ID format can be upgraded without changing the device. In addition, different and appropriate representations of the unique code can be used on different devices. As another advantage, use of a native attribute means that the native attribute must be reliably acquired by a central authority in order to associate it with the consumer's account or identity. In contrast, provisioning a non-native unique code allows the central authority make the association and then send the unique code to the consumer's phone. As another difference, if a native attribute is somehow compromised (e.g. duplicated on another phone or associated with the account of the phone's prior owner not in good standing), it effectively cannot be replaced or otherwise modified. In contrast, an existing non-native unique code can simply be replaced with a new and different one using the same provisioning process that established the original unique code. Provisioning also allows the issuer to use unique codes that are uniform across all phone manufactures. In contrast, a native attribute cannot be controlled by the issuer and may not be uniform across all manufacturers.

[0055] In some embodiments, the registration module 128 may optionally send an application to the handheld electronic device 114. The consumer can install the application (or it may auto-install) and use it to generate the unique code from digital code data received from the service center 120 and stored in the device 114.

[0056] Upon completion of steps 210-240, the registration module 128 may optionally send 250 a confirmation to the terminal 202 through the Internet, indicating that the registration process is completed and the consumer can start using the payment system 100 through the device 114. If any of the steps 210-240 fails, the registration module 128 may notify the consumer that the registration process failed.

[0057] Fig. 3 shows a flow diagram depicting a transaction process. In this example, a consumer with a provisioned mobile phone 114 would like to make a purchase from a merchant that has a reader 112 at the point of sale. The consumer makes the payment transaction using payment system 100 rather than his credit card, cash, check or other means.

[0058] The consumer uses the device 114 to present the unique code, which is acquired 320 by the reader 112. In this example, the unique code is a barcode image. The consumer displays the barcode on the mobile phone and waves the mobile phone under the reader 112. The reader 112 optically reads the barcode. If the unique code were a ringtone, the device 114 would play the ring tone to the reader 112. The reader 112 hears the ringtone through its audio sensors (e.g., microphone). The reader 112 determines 322 the consumer ID corresponding to the unique code. In some cases, the consumer ID is the same as the unique code. The consumer is prompted for his PIN, which he enters at a keypad. The reader 112 receives 330 the entered PIN.

[0059] The reader 112 also receives 340 the payment transaction data. This payment transaction data includes a payment amount, and optionally includes descriptions of the products or services paid for by the transaction. The payment transaction data can be transmitted to the reader 112 from an electronic point of sale system. The reader 112 may confirm the payment transaction data with the consumer before submitting it to the service center 120.

[0060] The reader 112 sends 350 its reader ID, the consumer ID, the payment transaction data, and the PIN (or other consumer authentication data) to the transaction module 124 through the network 130 and the interface module 122. Because this transmitted data is sensitive information, communications between the reader 112 and service center 120 preferably occur over a secure communications channel. For example, the reader 112 can encrypt the data before sending 350 it to the transaction module 124.

[0061] The transaction module 124 validates 360 a consumer payment account identified by the consumer ID, confirming for example that the account is still valid and the payment amount is not over the account limit. The transaction module 124 may also determine the consumer's standing based on the consumer's past payment transactions and make appropriate responses.

[0062] Transaction module 124 also authenticates 370 the consumer based on the received PIN. The module 124 compares the received PIN with the PIN stored in the consumer profile identified by the consumer ID. If the two PINs match, the consumer is authenticated.

[0063] Similarly, the transaction module 126 can validate the reader ID and merchant account.

[0064] Subject to proper validation 360 of the consumer account and authentication 370 of the consumer (and validation of the merchant account if that step is also taken), the transaction module 124 provides 380 the relevant payment transaction data (e.g., consumer account, merchant account, payment amount) to the payment module 126. The payment module 126 settles the payment transaction by submitting 382 the consumer account, the merchant account, and the payment amount to the payment processing network 160.

[0065] After the payment module 126 receives a confirmation that the payment transaction is authorized from the payment processing network 160, the transaction module 124 sends 390 a confirmation to the reader 112. The reader 112 sends a transaction-approval message to the point of sale, which finishes the payment transaction by printing a receipt for the consumer. If the transaction is not authorized by the payment processing network 160, the transaction module 124 sends a negative response to the reader 112.

[0066] The transaction module 124 can also send 395 a separate confirmation to the handheld electronic device 114 via the wireless network 140, for example a text message to the mobile phone stating that the transaction has been approved. Optionally, the transaction module 124 can also store the payment transaction data in database 125, and can then provide the payment transaction history to the consumer upon demand.

[0067] In one implementation, the payment processing network 160 is the ACH network. In this case, each transaction results in an ACH entry that includes the consumer account, the merchant account, and the payment amount. The ACH entries are aggregated. Periodically, a batch processing request is sent to the ACH network for debiting consumer accounts and crediting merchant accounts. The service center may also debit the merchant account (or consumer account, depending on who pays the transaction fee) and credit its own account for the transaction fee. The ACH entries are sent over the ACH network to an Originating Depository Financial Institution (ODFI), who can be any financial institution who does ACH origination. The ODFI deducts the payment amount from the consumer account, and sends the ACH entry to an ACH Operator (usually the Federal Reserve) and is passed on to a Receiving Depository Financial Institution (RDFI), where the merchant account is issued a credit of the payment amount.

[0068] Figs. 2-3 are based on an example in which system 100 uses barcodes on mobile phones to enable payment transactions, for example on the ACH network. The system 100 is not limited to this example and can be used for many other purposes. The system 100 can

also be configured to provide relevant information and content to handheld electronic devices 140 upon the users' request.

[0069] Similar to the mobile phone based payment system described above, overall operation can typically be divided into a registration process and a transaction process. The details of implementation of the processes will depend on the specific application. The registration process can be similar as described above except, for example, users may not provide their payment account information and PIN if payments are not being made.

[0070] In a generic transaction process, assuming the unique code is a barcode image, the user displays the barcode on the device 114 and presents it to the barcode reader 112. The reader 112 determines the user ID (i.e., analogous to the consumer ID except that the user may not be a consumer) from the barcode and transmits the user ID and the reader ID to the service center 120. The service center 120 might retrieve the corresponding user profile and reader profile. The reader profile typically will either expressly or implicitly provide information about the user's location and intention, based on the location and other facts about the reader. For example, if the reader location is known, then the approximate location of the user is also known. The user profile may include information about the user's preferences. The service center 120 determines relevant content based on the user ID and reader ID and pushes the content to the device 114. The content provided can be static or a mobile web application page with which the user can interact via the device 114.

[0071] For example, a user waves his mobile phone 114 with barcode in front of a kiosk 112 located by the entrance to a theater. The service center 120 determines that the user probably intend to receive some information about movies shown on that theater, and pushes information about the five movies starting in the next 15 minutes at that particular theater to the mobile phone. If the reader 112 also implemented payment capability, the user could select a movie and authorize payment for the movie tickets using the mobile phone.

[0072] Fig. 4 is a flowchart illustrating one embodiment of a relevant content delivery process in accordance with the invention. In this example, a consumer with a provisioned mobile phone 114 would like to obtain "relevant" content based on his current context. The consumer receives the content using a modified version of system 100. In the modified version, the payment module 126 is not required if no payments are being made. An additional content module 127 (not shown in Fig. 1) is used to determine the relevant content.

[0073] The consumer uses the device 114 to present the unique code, which is acquired 420 by the reader 112. The reader 112 determines 422 the consumer ID corresponding to the unique code. In some cases, the consumer ID is the same as the unique code. The reader 112

sends 450 its reader ID and the consumer ID to the transaction module 124 through the network 130 and the interface module 122. Because this transmitted data is sensitive information, communications between the reader 112 and service center 120 preferably occur over a secure communications channel. For example, the reader 112 can encrypt the data before sending 450 it to the transaction module 124.

[0074] The transaction module 124 validates 460 a consumer account identified by the consumer ID. In this case, the relevant consumer account may be the consumer's account with the service center, rather than an independent payment account. The transaction module 124 determines 470 consumer context data based on the consumer account and the reader ID. For example, the reader ID may provide information about the consumer's locality (e.g., facing the entrance to a movie theater) and/or intention (e.g., would like to see a movie). The consumer account may provide information about the consumer's preferences (e.g., prefers R-rated action movies over G-rated animation), which may be entered directly by the consumer or determined indirectly by analysis of the consumer's past behavior, for example.

[0075] Subject to proper validation 460 of the consumer account, the transaction module 124 provides 480 the relevant consumer context data (which may be just the reader ID and consumer ID) to the content module 127. The content module 127 determines 482 the relevant content (e.g., a listing of movies that will start in the next 30 minutes, with the R-rated action movies listed before the G-rated animation). This content is sent 495 back to the transaction module, for further transmission to 496, 497 to the reader 112 and/or device 114 for display to the consumer. Note that the content may be transmitted between devices by sending tags, pointers or other identifiers, rather than sending the actual content itself.

[0076] Additional transactions may occur. For example, the consumer may purchase tickets to one of the listed movies (e.g., using the process of Fig. 3). Alternately, the consumer may select a follow-up action, such as requesting a list of other movie theaters within 30 minutes driving (if the consumer does not like any of the listed movies) or a list of restaurants in the local vicinity (if the consumer has decided to eat dinner first).

[0077] Note that the transaction module 124 and content module 127 can be implemented in a distributed fashion by multiple entities and/or interact with other modules or databases operated by other entities. Consider an example where the consumer is in a grocery store and readers are located at different points in the grocery store. The service center may be able to determine only that a specific reader is part of the grocer's account but may not be able to determine the exact location within the grocery store. Instead, the transaction module 124 might send the reader ID to an outside database (e.g., the grocer's backend system), which

returns the product displayed at that location as being Tropicana Juice. Similarly, the service center may not have complete profile information for the consumer. Instead, the transaction module 124 might send the consumer ID (or some other identification for the consumer) to a third party, such as a merchant POS data warehouse, which returns the consumer's relevant purchase history. The content module 127 uses this information to decide to send a marketing promotional message with a discount for the Calcium Fortified version of Tropicana Juice (women in 50's who has prior purchases of calcium supplements) or for the 12-Pack of 12 oz pkgs for lunches (women in 30's with purchasing history of competing Ocean Spray and JuiceBox lunch drink products for children).

[0078] Once a unique consumer ID has been established for a consumer via the provisioning process and the establishment of an account with the service center, a large number of transactions can be enabled. These include various types of payment; implementation and management of loyalty programs; in-store and out-of-store messaging; promotions; print, broadcast, and internet advertising; and the tracking of a consumer's purchase activity across stores. This approach to mobile identity can be used to bring together the various elements of the customer experience by establishing a single identity for each consumer (based on the consumer ID and unique code), thus reducing their ID requirements for a broad range of services to just their phone (or, more generally, to just their handheld electronic device).

[0079] The same consumer ID can also be used for transactions using other devices, for example purchases made over the Internet from a wired desktop computer. Alternately, devices can be provisioned with the unique code using a communications media other than wireless or cellular access. As one example, iPods can be provisioned with the unique code when they are synced with a computer connected to the Internet.

[0080] All of the information associated with a particular consumer ID, be it payment credentials, loyalty status, purchase history, or demographic information, can be stored on servers at the service center and is associated with a given consumer via their mobile phone. When a customer swipes their phone, information about the location and purpose of that device comes together with information about that customer to perform a payment transaction, a coupon redemption, an information push, a update of the person's profile and/or all the above.

[0081] Loyalty programs are one example. Loyalty programs are established by merchants primarily to help them identify and reward their best customers. Existing programs suffer from a number of problems, including the difficulty of registering the

customer, the requirement that the customer carry a program specific identity in the form of a card or a key fob, and the inefficiency of capturing and recording separate payment and loyalty information from the customer. Though all customers must pay, because of these problems, a much lower percentage of customers participate in loyalty programs.

[0082] The approach described above can solve these problems by using the phone for both payment and loyalty. Customers who sign up for a loyalty program do not need to carry anything additional to enjoy the benefits of loyalty participation. When the customer presents his phone for payment, the service center is able to determine that he is a member of that merchant's loyalty program and his account is automatically adjusted to reflect the current purchase. If he is eligible for a reward, that information can be presented on the payment terminal and the customer can decide whether or not he wants to redeem it. In any case, the customer automatically accrues benefits that he is entitled to based upon the current purchase. Typically, this will be done when the consumer pays for the purchases using the mobile phone and unique code, but this is not required. There may be situations where the service center tracks a consumer's loyalty status, though he uses a different payment option. Signing up for additional loyalty programs becomes simple, because the customer need only swipe his phone across a reader at the new merchant, and he can be asked if he wants to join the program. This can be configured such that the consumer is only asked the first time. Alternately, he can be asked more times.

[0083] A merchant's existing loyalty program can be implemented on the platform described above. Alternately, a new loyalty program can be established. Additionally, because the same "token" (phone) is used across all merchants, cross-store programs or general purpose (e.g. point system) loyalty programs can also be implemented. Because the "token" has wireless connectivity, more advanced functions, such as notification to the consumer of his current loyalty status, or one time or limited time member only offers can be automatically transmitted to the consumer in real time.

[0084] For merchants, advantages include greater loyalty participation; automatic, real-time tracking of program status; and more accurate information. For consumers, it is easier to participate in the programs and therefore easier to garner the rewards.

[0085] Out of store promotion/messaging can also be supported by this platform. Merchants can use a range of promotions, including coupons and direct mail. These programs are established to increase store visits and increase the dollars spent during a given visit. The redemption rate of coupons and direct mail promotions are typically low because of poor targeting, the lack of differentiation between programs, and the difficulties in

redemption. For example, a consumer who is mailed a coupon must notice it in a sea of like solicitations, they must be interested in what is offered, and they must remember to bring the coupon to the store to redeem it.

[0086] The approach described above can solve these problems by sending notice of the promotion directly to a consumer's phone via SMS or MMS. Then, when the phone is used for payment, the redemption is automatic. This can be achieved by noting in the service center database that this person is entitled to a given benefit. A message describing the benefit and conditions (locations, time limits, etc) is sent to the customer. When the customer comes into the store and purchases the advertised item (for example), he automatically receives the benefit.

[0087] Using this capability, merchants can target down to the individual customer level. Because this is a new channel for consumers, they are more likely to notice it. In addition, because they do not need to do anything to enjoy the benefits (no coupon clipping, no carrying something extra with them, etc), they are more likely to redeem the benefit.

[0088] For merchants, this means more targeted, lower cost programs with higher conversion rates. It also means that the time between program conception and an increase in customers coming into the store is reduced. (i.e. it tightens up the promotion loop at a lower cost). For consumers, they get more promotions that they are interested in, the consumers are always "carrying" the promotions with them, redemption is automatic and they enjoy the promotion benefits.

[0089] A variation of this type of program is that the promotion could be initiated by the manufactures that supply to the merchants rather than by the merchants themselves. So, for example, a manufacture of soft drinks could send a two for one promotion to a number of consumers in a given area, which they could redeem if they buy the soda within a set number of days at a given merchant. This would drive a large number of customers into that merchant's store.

[0090] In store promotion/messaging can also be supported. Similar to the out of store promotions described above, if a consumer presents his phone to a reader in the store prior to check out, promotions based upon his profile can be sent to him while he is still in the store. These can be restricted to use during a very limited time (e.g. while the customer is still in the store) and they can be automatically redeemed upon check out. The customer gets the benefit of the promotion. The merchant gets a larger dollar sale and improves the customer experience.

[0091] Business intelligence can also be supported. Many merchants and consumer goods manufactures spend significant time and money to sort through their inventory, payment and loyalty data to better understand who is buying what, when and why. Historically, this related date is gleaned from separate sources resulting in a fragmented and incomplete picture of the consumers' behavior. For example, from POS data, merchants typically know what items are selling and when, but they do not know to whom. Similarly, from loyalty data, merchants might know customer spending levels, but not what those dollars were spent on. In addition, it is nearly impossible for a merchant to determine what the consumers' spending habits are outside of the merchant's own sales to the consumer.

[0092] However, because consumers who use the system described above can have a single unique identity across merchants and transaction types (purchases, loyalty, etc), a more holistic view of a given consumer and his behavior can be constructed. Though this data will typically only be shared on an aggregate basis, it will be of higher value in that it will incorporate purchase and loyalty information, response rates to promotions, and advertisements across a wider set of customer transactions. For example, it would be possible for a grocer to learn that a large number of his customers who do not buy meat in fact buy it at a competitor's, and that a significant number of them are responsive to print advertising but not broadcast advertising.

[0093] This platform can also be used to "close the loop" on print, broadcast, and internet advertising. For example, a print ad could have a promotion code associated with it (e.g. a number printed on the ad) which the customer sends to the service center via SMS (or they could e-mail it if it is an online ad). The service center would know who it came from based upon the phone number (or the e-mail address). The service center database would store the item the consumer is interested in and the benefit that he is entitled to at that merchant based upon the advertisement. When the customer then purchases the item or service in the store, he automatically gets the benefit. This could be extended such that the consumer in fact also authorizes payment for the item or service and the merchant either sends it to the consumer, or he can pick it up but it is already paid for. It would also be possible for the consumer to forward the promotional code to someone else for them to use. This allows merchants to determine which ads are driving traffic into their stores and which are not.

[0094] Finally, it should be noted that the language used in the specification has been principally selected for readability and instructional purposes, and may not have been selected to delineate or circumscribe the inventive subject matter. Accordingly, the

disclosure of the present invention is intended to be illustrative, but not limiting, of the scope of the invention, which is set forth in the claims.

WHAT IS CLAIMED IS:

1. A method for carrying out a payment transaction using a handheld electronic device operated by a consumer, the method comprising:

receiving a consumer ID from a remotely located reader, the consumer ID corresponding to a unique code that is acquired by the reader from the handheld electronic device, wherein the unique code is not native to the handheld electronic device;

receiving payment transaction data from the reader;

validating a consumer payment account identified by the consumer ID; and

subject to validation of the consumer payment account, submitting the payment transaction data and an identity of the consumer payment account to a payment processing network for settlement.

2. The method of claim 1, wherein the payment processing network comprises the ACH network.

3. The method of claim 1, further comprising:

receiving consumer authentication data from the reader, the consumer authentication data acquired by the reader from the consumer;

authenticating the consumer based on the consumer authentication data; and

wherein the step of submitting the payment transaction data is further subject to the authentication of the consumer.

4. The method of claim 1, further comprising:

receiving a reader ID from the reader; and

validating a merchant account identified by the reader ID; and

wherein the step of transmitting comprises, subject to validation of the consumer payment account and the merchant account, transmitting the payment transaction data, the identity of the consumer payment account and an identity of the merchant account to the payment processing network for settlement between the consumer payment account and the merchant account.

5. The method of claim 1, further comprising, before carrying out any of the other steps:

associating an existing consumer payment account with the handheld electronic device; and

provisioning the handheld electronic device with the unique code.

6. The method of claim 5 wherein the step of provisioning the handheld electronic device comprises:

transferring digital code data corresponding to the unique code to the handheld electronic device for storage on the handheld electronic device, wherein the handheld electronic device presents the unique code to the reader for acquisition based on the stored digital code data.

7. The method of claim 6, wherein the handheld electronic device is provisioned with the unique code by transferring the digital code data to the handheld electronic device and without altering software or hardware of the handheld electronic device.

8. The method of claim 6, wherein the handheld electronic device comprises a mobile phone handset and the mobile phone handset is provisioned with the unique code by downloading the digital code data over a wireless network connection to the mobile phone handset.

9. The method of claim 5 further comprising:

upon request by the consumer via a handheld electronic device, web site or phone call, re-provisioning the handheld electronic device with the unique code.

10. The method of claim 1, wherein the steps of receiving a consumer ID, payment transaction data and consumer authentication data from the reader occur over a secure communications channel.

11. The method of claim 1, wherein the unique code comprises an image and the reader optically reads the image displayed on the handheld electronic device.

12. The method of claim 1, wherein the unique code comprises a barcode and the reader optically reads the barcode displayed on the handheld electronic device.

13. The method of claim 1, wherein the unique code comprises an alphanumeric string and the reader optically reads the alphanumeric string displayed on the handheld electronic device.

14. The method of claim 1, wherein the unique code comprises an audible sound and the reader aurally acquires the audible sound generated by the handheld electronic device.

15. The method of claim 1, wherein the unique code comprises a ringtone and the reader aurally acquires the ringtone generated by the handheld electronic device.

16. The method of claim 1, wherein the reader comprises a point-of-sale device.

17. The method of claim 1, wherein the reader comprises a kiosk.

18. The method of claim 1, wherein the handheld electronic device comprises a mobile phone handset.

19. The method of claim 1, wherein the handheld electronic device comprises a portable, wireless handheld data device.

20. The method of claim 1, wherein the payment transaction data comprises a payment amount.

21. The method of claim 1, wherein the consumer authentication data comprises a PIN (personal identification number) entered by the consumer, and the step of authenticating the consumer comprises authenticating the consumer based on the entered PIN.

22. The method of claim 1, wherein the payment processing network comprises a debit card network.

23. The method of claim 1, wherein the payment processing network comprises a credit card network.

24. The method of claim 1, wherein the step of receiving payment transaction data from the reader occurs after the payment transaction data is confirmed by the reader to the consumer.

25. The method of claim 1, further comprising:

subject to successful settlement of the payment transaction data, transmitting a confirmation message to the reader; and

subject to unsuccessful settlement of the payment transaction data, transmitting a notification message to the reader.

26. The method of claim 1, further comprising:

receiving consumer authentication data from the reader, the consumer authentication data acquired by the reader from the consumer;

authenticating the consumer based on the consumer authentication data, wherein the step of submitting the payment transaction data is further subject to the authentication of the consumer; and

subject to successful authentication of the consumer, transmitting a confirmation message to the reader; and

subject to unsuccessful authentication of the consumer, transmitting a notification message to the reader.

27. The method of claim 1, further comprising:

subject to successful settlement of the payment transaction data, transmitting a confirmation message to the handheld electronic device via a communications channel different from a communications channel used to communicate with the reader; and

subject to unsuccessful settlement of the payment transaction data, transmitting a notification message to the handheld electronic device via said different communications channel.

28. The method of claim 1, wherein the handheld electronic device comprises a mobile phone handset, and the mobile phone handset is provisioned with the unique code by downloading digital code data corresponding to the unique code over a wireless network connection to the mobile phone handset without altering software or hardware of the mobile phone handset.

29. The method of claim 28, wherein the unique code comprises a barcode, and the reader optically reads the barcode displayed on the handset.

30. The method of claim 28, wherein the payment processing network comprises the ACH network, the payment transaction data comprises a payment amount, and the step of transmitting payment transaction data comprises submitting a debit transaction for the payment amount from the consumer payment account to the ACH network.

31. The method of claim 30, wherein the consumer authentication data comprises a PIN entered by the consumer, and the step of authenticating the consumer comprises authenticating the consumer based on the entered PIN.

32. The method of claim 28, wherein the payment processing network comprises a debit card and/or credit card network, the payment transaction data comprises a payment amount, and the step of transmitting payment transaction data comprises submitting a debit transaction for the payment amount from the consumer payment account to the debit card and/or credit card network.

33. A method for providing content to a handheld electronic device operated by a user, the method comprising:

receiving a user ID from a remotely located reader, the user ID corresponding to a unique code that is acquired by the reader from the handheld electronic device, wherein the unique code is not native to the handheld electronic device;

receiving a reader ID from the reader;

determining content based on the user ID and the reader ID; and

transmitting the content to the handheld electronic device and/or the reader.

34. The method of claim 33, further comprising, before carrying out any of the other steps:

transferring digital code data corresponding to the unique code to the handheld electronic device and without altering software or hardware of the handheld

electronic device, the digital code data to be stored on the handheld electronic device, wherein the handheld electronic device presents the unique code to the reader for acquisition based on the stored digital code data.

35. The method of claim 34, wherein the handheld electronic device comprises a mobile phone handset and the mobile phone handset is provisioned with the unique code by downloading the digital code data over a wireless network connection to the mobile phone handset.

36. The method of claim 33, wherein the unique code comprises an image and the reader optically reads the image displayed on the handheld electronic device.

37. A method for providing relevant content to a handheld electronic device operated by a user, the method comprising:.

receiving a user ID from a remotely located reader, the user ID corresponding to a unique code that is acquired by the reader from the handheld electronic device, wherein the unique code is not native to the handheld electronic device;

receiving a reader ID from the reader;

determining relevant content for a context based on the user ID and the reader ID; and

transmitting the relevant content to the handheld electronic device and/or to the reader.

38. A system for carrying out payment transactions using handheld electronic devices, comprising:

an interface module for:

receiving a consumer ID from a remotely located reader, the consumer ID corresponding to a unique code that is acquired by the reader from the handheld electronic device, wherein the unique code is not native to the handheld electronic device; and

receiving payment transaction data from the reader;

a transaction module in communication with the interface module for validating a consumer payment account identified by the consumer ID; and

a payment module in communication with the transaction module for, subject to validation of the consumer payment account, transmitting the payment transaction data and an identity of the consumer payment account to a payment processing network for settlement.

39. The system of claim 38 wherein:

the interface module is further for receiving consumer authentication data from the reader, the consumer authentication data acquired by the reader from the consumer;

the transaction module is further for authenticating the consumer based on the consumer authentication data; and

the payment module transmits the payment transaction data and an identity of the consumer payment account to a payment processing network further subject to authentication of the consumer.

40. The system of claim 38, further comprising:

a registration module in communication with the interface module, for:

associating an existing consumer payment account with the handheld electronic device; and

causing the interface module to provision the handheld electronic device with the unique code.

41. A computer program product for use in conjunction with a computer system, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism including:

instructions for receiving a consumer ID from a remotely located reader, the consumer ID corresponding to a unique code that is acquired by the reader from the handheld electronic device, wherein the unique code is not native to the handheld electronic device;

instructions for receiving payment transaction data from the reader;

instructions for receiving consumer authentication data from the reader, the consumer authentication data acquired by the reader from the consumer;

instructions for validating a consumer payment account identified by the consumer ID;

instructions for authenticating the consumer based on the consumer authentication data; and

instructions for, subject to validation of the consumer payment account and authentication of the consumer, transmitting the payment transaction data and an identity of the consumer payment account to a payment processing network for settlement.

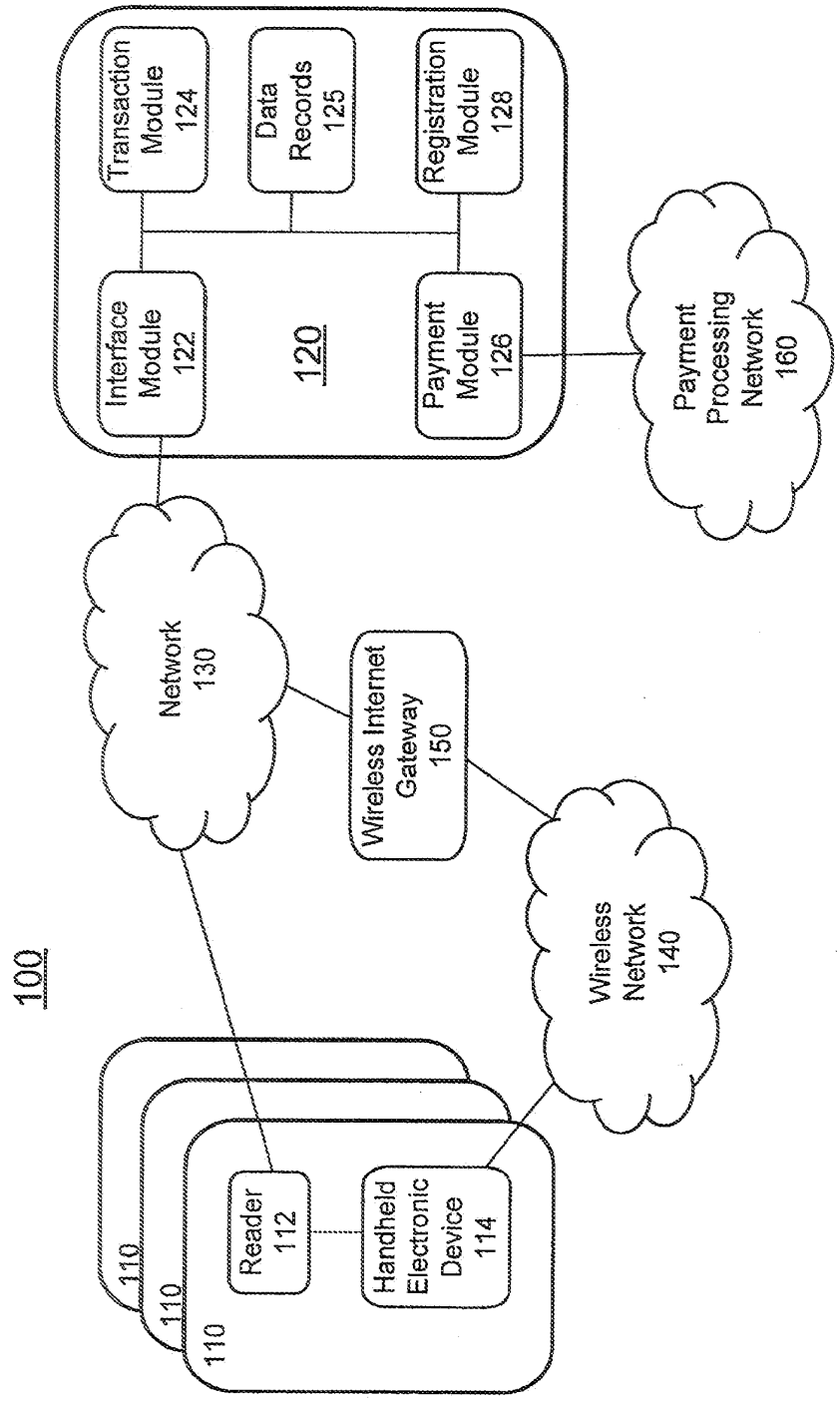

100
110
110
110
Reader 112
Handheld Electronic Device 114
Wireless Network 140
Wireless Internet Gateway 150
Network 130
120
Interface Module 122
Transaction Module 124
Data Records 125
Registration Module 128
Payment Module 126
Payment Processing Network 160

FIG. 1

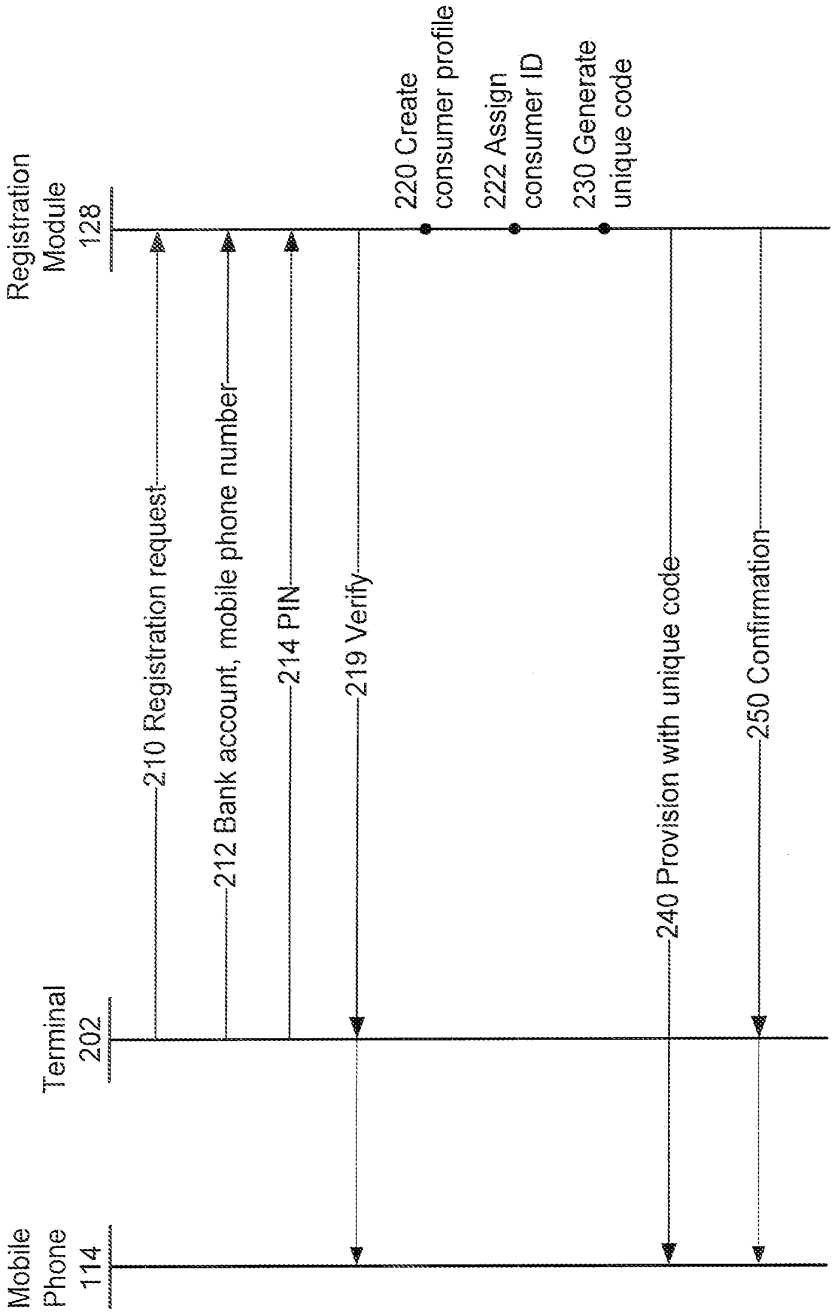

Registration Module 128
Terminal 202
Mobile Phone 114
210 Registration request
212 Bank account, mobile phone number
214 PIN
219 Verify
220 Create consumer profile
222 Assign consumer ID
230 Generate unique code
240 Provision with unique code
250 Confirmation

FIG. 2

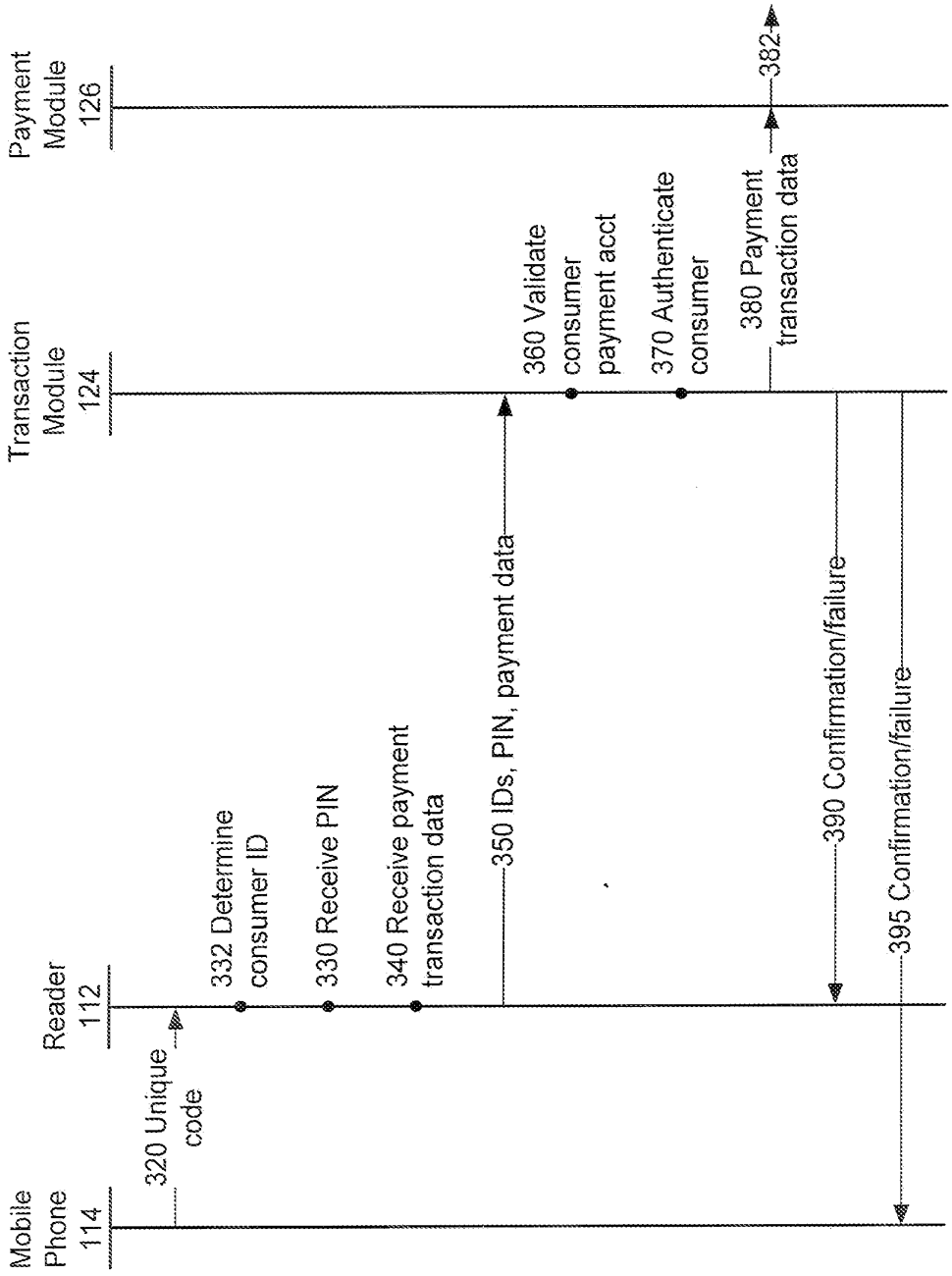

Mobile Phone 114
Reader 112
Transaction Module 124
Payment Module 126
320 Unique code
332 Determine consumer ID
330 Receive PIN
340 Receive payment transaction data
350 IDs, PIN, payment data
360 Validate consumer payment acct
370 Authenticate consumer
380 Payment transaction data
382
390 Confirmation/failure
395 Confirmation/failure

FIG. 3

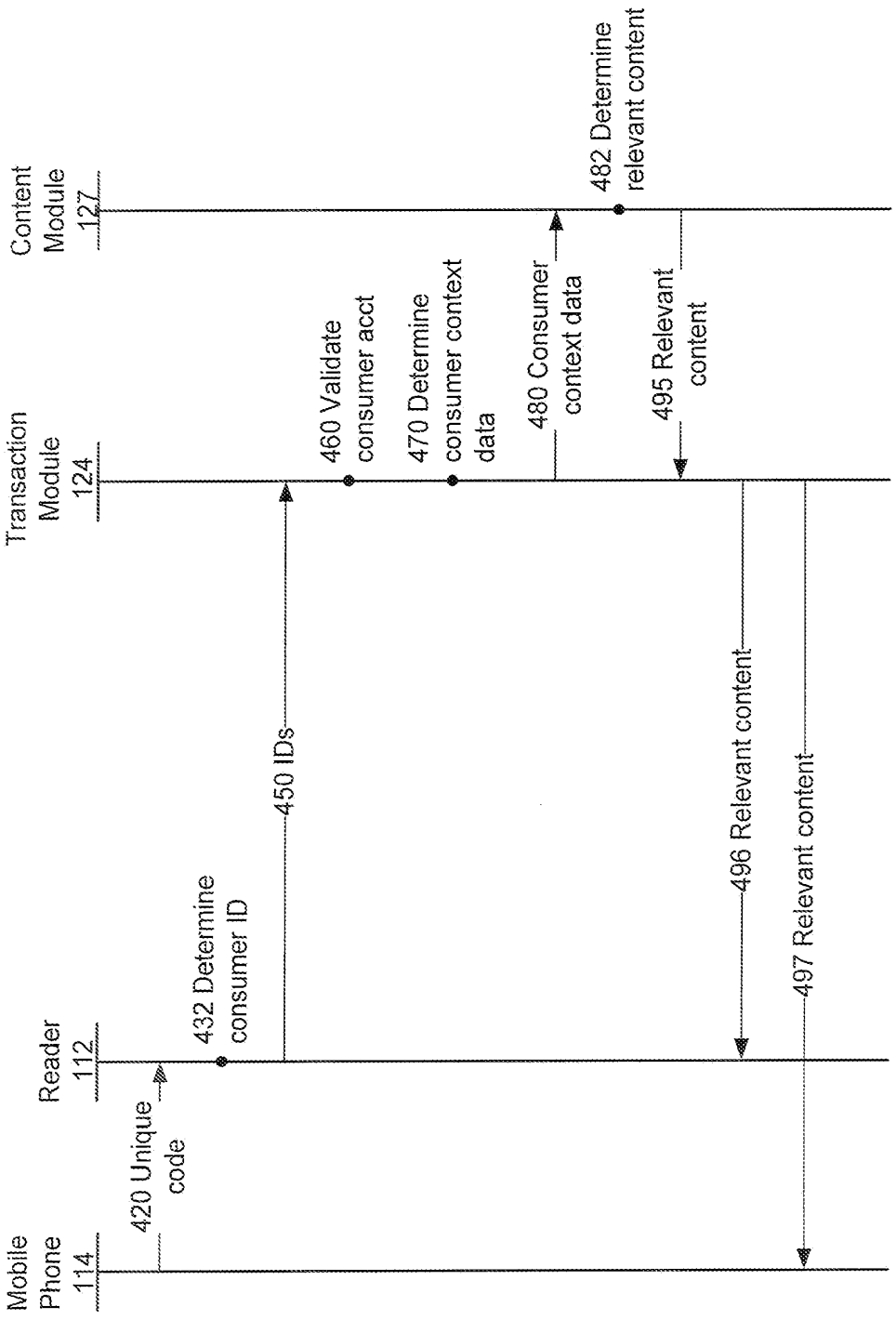

Mobile Phone 114
Reader 112
Transaction Module 124
Content Module 127
420 Unique code
432 Determine consumer ID
450 IDs
460 Validate consumer acct
470 Determine consumer context data
480 Consumer context data
482 Determine relevant content
495 Relevant content
496 Relevant content
497 Relevant content

FIG. 4

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(54) Title: A CUSTOMER LOYALTY SYSTEM IN RETAIL CHAINS AND RESTAURANTS USING WEB SERVERS, MOBILE COMMUNICATION DEVICES, AND POINT-OF-SALE TERMINALS

(57) Abstract: A customer loyalty system assists to build and keep a customer base. The system gathers feedback from customers and enables tracking of goods and services. The customer loyalty system rids a customer of multiple loyalty cards by replacing them with one account. A customer account is associated with, for example, a customer cell phone number. A short¬ lived promotional code enables the customer to pay through a virtual wallet and to receive bonus points or rewards. A point of sale (POS) system generates a bill with a short-lived active promotional or activation code. The code identifies the currently ordered or selected goods or services at a particular establishment. The code expires after a few minutes or other relatively short time. Through, for example, a mobile Internet-enabled device, a customer redeems the short-lived code. Redemption may be done in a variety of ways, and may be done before or after payment, but before code expiration.

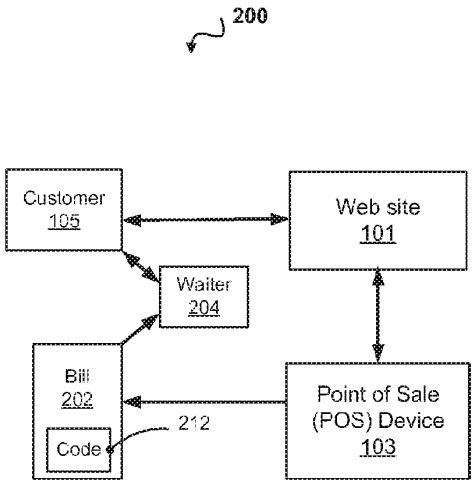


Fig. 2

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A CUSTOMER LOYALTY SYSTEM IN RETAIL CHAINS AND RESTAURANTS USING WEB SERVERS, MOBILE COMMUNICATION DEVICES, AND POINT-OF-SALE TERMINALS

CROSS-REFERENCE TO RELATED APPLICATIONS

For purposes of the USPTO extra-statutory requirements, the present application constitutes a continuation-in-part of United States Patent Application No. 61/355,077, titled A METHOD FOR BUILDING A CUSTOMER LOYALTY SYSTEM IN RETAIL CHAINS AND RESTAURANTS USING WEB SERVERS, MOBILE COMMUNICATION DEVICES, AND POINT-OF-SALE TERMINALS CONNECTED TO THE INTERNET, naming David Yan, Max Nalsky and Artyom Yukhin as inventors, filed 15 June 2010.

The United States Patent Office (USPTO) has published a notice effectively stating that the USPTO's computer programs require that patent applicants reference both a serial number and indicate whether an application is a continuation or continuation-in-part. Stephen G. Kunin, Benefit of Prior-Filed Application, USPTO Official Gazette 18 March 2003. The present Applicant Entity (hereinafter "Applicant") has provided above a specific reference to the application(s) from which priority is being claimed as recited by statute. Applicant understands that the statute is unambiguous in its specific reference language and does not require either a serial number or any characterization, such as "continuation" or "continuation-in-part," for claiming priority to U.S. patent applications. Notwithstanding the foregoing, Applicant understands that the USPTO's computer programs have certain data entry requirements, and hence Applicant is designating the present application as a continuation-in-part of its parent applications as set forth above, but expressly points out that such designations are not to be construed in any way as any type of commentary and/or admission as to whether or not the present application contains any new matter in addition to the matter of its parent application(s).

All subject matter of the Related Applications and of any and all parent, grandparent, great-grandparent, etc. applications of the Related Applications is incorporated herein by reference to the extent such subject matter is not inconsistent herewith.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The invention relates to systems and methods for strengthening customer loyalty in restaurant and retail chains and in other establishments providing goods and services to customers.

RELATED ART

In traditional customer loyalty systems, a customer is usually given a plastic bonus card that the customer then presents when making a payment to a restaurant, restaurant chain, store, retail establishment, wholesale establishment or other similar type company (hereinafter "company"), perhaps one that is a member of a franchise or chain of stores. Upon presentation of the card, the customer may receive bonus points, discounts, and the like.

Typically, customers own many bonus cards issued by different companies. In some companies, the loss of a bonus card by a customer results in the loss of accumulated bonus points and discounts. Additionally, a lost bonus card may be misused be a company's staff or by any other ill-intentioned person that may find it. If the bonus card is associated with a virtual wallet, credits may be lost.

Another drawback of existing customer loyalty systems includes a lack of a means of connecting customers to a social network. Further, loyalty cards do not provide any means for customers to communicate their opinion about the quality of the consumed goods or services directly to the company, and do not enable the company to gather reliable data on consumption of and demand for its specific goods or services.

From the perspective of a company, such company would like to collect certain personal data. Such information might include information to identify and contact customers such as name, phone number, email address, home address or other geographic locator, photograph, date of birth, sex, and identification of friends or relatives who typically accompany the customer, etc. Many companies already collect consumption information such

as what services have been consumed, goods bought, preferences, and details related to each purchase such as the day of week, date of the year, hour of the day, etc. However, a company often cannot connect this information reliably with customers because of the problems associated with loyalty cards.

In terms of applying for a loyalty card, certain existing loyalty systems and companies use paper application forms. Often, a company employee enters the data from the form. Mistakes can be made during data entry assuming that the customer provided correct and legible information. Companies using paper-based forms are saddled with the extra cost of entering or scanning the customer identifying data. Other existing loyalty systems engage and invite customers to fill out an online application form. However, there are many shortcomings with this arrangement. Customers frequently ignore the invitation to do so or forget to do so. When customers do so, the customer does not do so within a reasonable time after a purchase, thus information associated with any recently purchased product or service is lost and unconnectable with a newly issued loyalty card. Further, customers may not enter data in all of the available fields on the online form leaving companies with incomplete customer identification information. As a result, there is a low conversion of customers to known and trackable customers with whom companies can meaningfully engage.

Once a loyalty card has been issued, it is often used at the point of sale by swiping it through a machine to read its magnetic strip or barcode. Frequently, customers complain of having too many loyalty cards to carry in their wallets and thus forget to bring them shopping.

While there may soon be barcodes on screens of mobile devices or devices using near field technology, there are also drawbacks with the use of these devices and technologies. For example, in a restaurant, a customer is required to bring his phone or device near a cash register or point of sale terminal that can detect the device. Customers are not likely to entrust a waiter with their phone! Thus, there is likely to be a low conversion of information gathered

and a low availability of information about a purchase and connectable to an appropriate customer. A dialogue or repeat interaction between such a company and customer is lost.

These and other shortcomings of the current art are overcome by use of the present invention.

SUMMARY

A customer loyalty system, device and method for consumers of goods and services (e.g. guests of restaurants, retail establishments and the like) are disclosed. The customer loyalty system assists to build and keep a customer base. The customer loyalty system enables establishments to gather feedback from customers, to obtain reliable information about the quality of the goods and services offered and about the consumption of goods and services by customers. The customer loyalty system enables establishments to optionally create customer social networks. The customer loyalty system described herein may be implemented with, for example, a Web site and related services, one or more mobile communication devices with Internet access (such as but not limited to cell phones), and point-of-sale (POS) terminals, among others as more fully described herein.

The customer loyalty system, device and method rid a customer of multiple club, bonus, discount, and similar types of cards ("loyalty cards") enabling the customer to receive various privileges from retail outlets, restaurants, gas stations, agencies, etc., by replacing these cards with one account in a loyalty system, the said account being associated with, for example, a customer cell phone number.

The customer loyalty system is able to respond to and interact with registered customers. For example, once the customer enters a code, the loyalty system is able to recognize or acknowledge that the customer is near or otherwise ready to interact with the loyalty system.

In one implementation, a short-lived active promotional code enables the customer to pay for goods and services from his account in the system (such as through a "virtual wallet") and to accumulate bonus points on this account. An establishment or company is able to aggregate consumption data and correlate or connect with data associated with a registered customer. A point of sale (POS) system prints a bill with the short-lived active promotional code or activation code. This short-lived active promotional code identifies the currently

ordered or selected goods or services at the particular establishment. Further, the POS system or device uploads, stores, transmits or sends a corresponding list of goods, services or goods and services of the bill (and provided to the customer) and associates the list with a particular short-lived active promotional code. The POS system may upload, store, transmit or send the entire list of goods, services or goods and services, an identifier of the bill, or other code that can be used to match one or more of the goods, services or goods and services with the promotional code. The POS system or device may be loaded or pre-loaded with a certain number of promotional codes and thus may operate offline. When re-connected, the POS system or device may then be accessed or directed to divulge its bills, lists of goods and services, associated information and promotional codes that were used and unused.

The short-lived active promotional code expires after a few minutes or a relatively short time (e.g., seconds, minutes, hours, days, or weeks depending on the needs or desires of a particular company or business). A customer receives the bill with the short-lived active promotional code. Through, for example, a mobile Internet-enabled device, a customer redeems the short-lived active promotional code. Redemption may be done in a variety of ways, and may be done before or after payment, but before code expiration.

After expiration of the code, a customer may also access the loyalty system from any mobile communication device or computer connected to the Internet or other network by authenticating with the customer loyalty system. The customer may then access his one or more virtual wallets. In one implementation, each virtual wallet is associated with a separate establishment or chain of similarly named establishments.

This Summary introduces a non-exclusive selection of concepts and aspects of the customer loyalty system, device and method in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key or essential features of the claimed subject matter, and it is not intended to be used to limit the scope of the claimed subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the subject matter are set forth in the appended claims. Throughout, like numerals refer to like parts with the first digit of each numeral generally referring to the figure which first illustrates the particular part. The subject matter and a preferred mode of use are best understood by reference to the following Detailed Description of illustrative implementations when read in conjunction with the accompanying drawings.

FIG. 1 is a diagram of an exemplary implementation of a customer loyalty system.

FIG. 2 is a diagram of another exemplary implementation of a customer loyalty system.

FIG. 3 is a diagram of an exemplary computer system or hardware and/or software with which a customer loyalty system may be implemented.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is directed to a customer loyalty system (herein "system" or "loyalty system") for consumers of goods and services (e.g. guests of restaurants, retail establishments, gas stations, agencies, and the like – herein "companies") aimed to build and keep a customer base. The customer loyalty system enables such restaurants, retail establishments and the like to gather feedback from customers and to obtain reliable information about the quality of the goods and services offered and about the consumption of goods and services by customers. The customer loyalty system enables companies to expand a customer base, and to, optionally, create customer social networks and participate in existing customer networks using the techniques described herein. The customer loyalty system described herein may be implemented with, for example, a Web site, database, Web or other server, one or more mobile communication devices with Internet access (such as but not limited to cell phones), and point-of-sale (POS) terminals, among others as more fully described herein.

The customer loyalty system rids a customer of multiple club, bonus, discount, and similar types of cards ("loyalty cards") enabling the customer to receive various privileges from companies by replacing one or more cards with an account in a loyalty system, the said account being associated with, for example, a customer's cell phone number.

One feature of the customer loyalty system is the ease of access to the loyalty system. For example, once a customer registers with the system, the system is able to recognize the customer automatically or in a programmatic way. For example, once the customer enters a code, then the loyalty system is able to recognize or acknowledge that the customer is near or otherwise ready to interact with the loyalty system.

In an exemplary implementation, an active promotional code enables the customer to pay for goods and services from his account in the system (such as through a "virtual wallet") and to accumulate bonus points, reward points, frequently flyer miles, etc. on this account.

The customer may also access the loyalty system from any mobile communication device or computer connected to the Internet or other network by authenticating with the system – for example, entering a login and password or other credential – in which case the customer gets access to his one or more virtual wallets. In the exemplary implementation, each virtual wallet is associated with a separate establishment or a chain connected to or participating in the loyalty system. However, for compatibility with earlier or other systems, the use of previously issued plastic cards may be supported.

Referring now to the figures, implementations of the invention are described in detail. In referring to the figures, like numerals refer to like parts.

FIG. 1 is a diagram of an exemplary implementation of a customer loyalty system illustrating some of its aspects in a scenario involving a restaurant. FIG. 1 shows some of the technical means that may be used to implement such a customer loyalty system. With reference to FIG. 1, the system itself may be accessible as an Internet resource (such as a Web site) hosted on one or more Web or other type of servers 101 (hereinafter "Web server"). The Web server 101 hosts or is electronically in communication with a database (Card Server) (not shown) of customers, which contains information about the customers, their virtual wallets, orders, history of visits, etc. The Web site is accessed from one or more point-of-sale terminals 103 and from customer mobile communication devices (e.g., cell phones, tablets, smart phones, laptops) 105, or from any other device connectable to the Internet or through another means or protocol. While not shown, a point-of-sale terminal 103 may also be connected to or in communication with a server that operates a restaurant management system. Such restaurant management server stores and manages information about orders, their origins, availability of tables, active promotional codes, etc.

Communications 102 between customers 105 and the Web server 101 enable the customers 105 to access their virtual wallets and the promotional codes of their meal or other orders (goods or services). Via one or more communications 102, customers optionally may

order additional dishes, ask for their bill, pay all or part of their bill using their virtual wallet, receive a bonus (e.g., receive a discount on the current or future order), buy a dish for a friend, and rate the dishes, the establishment, the waiter, the information services, etc.

In an exemplary scenario, a customer who has previously registered with the system and provided information regarding a bank account or credit card, upon receiving a promotional code (either electronically or on paper), enters the promotional code into an application or user interface of a portable electronic device, which was also previously registered, recorded or associated with the customer. The customer activates or sends the promotional code through a communication 102 to the Web server 101. The promotional code alone may trigger a subsequent communication 102 to the customer, as long as the promotional code was activated within the limited time. The subsequent communication 102 requests authorization from the customer to pay the bill (for the order) by charging the bill to the customer's credit card or bank account associated with the customer or account with the restaurant. Activation of the promotional code alone may trigger payment if the customer has configured such action to take place. Alternatively, if the customer has agreed or configured his account in the system accordingly, activation of the promotional code automatically charges the bill to the account, credit card or virtual wallet. After the limited time, there is no such prompt and no such automatic payment. The limited time may be just a few minutes in such a scenario, or may be longer depending on the desires of the administrator or company using the system. In this scenario, the system may prompt a customer 105 to confirm his identity, confirm an amount to be paid, ask if an additional gratuity (tip) is to be added to the amount paid, etc. If the promotional code is activated by an unregistered device, the system may prompt for the identity of the customer activating the promotional code and allows one customer to pay for an order of another customer. Thus, while a first customer initiated the order with a waiter, another or second customer may use the promotional code to pay for the order. A promotional code may be passed from device to device, and from customer to

customer in a peer-to-peer fashion. Any of the customers may then activate the promotional code. Once a promotional code has been activated, the system expires the promotional code, at least for payment purposes, and may or may not expire the promotional code in terms of granting of a discount or other promotional offer.

In another implementation, customers may receive and accumulate reward points associated with a particular company for purchasing goods, services or goods and services from the particular company. One company may opt to allow exchanges of these points for cash or for exchange for reward points of another company. Through the Website 101, a customer may exchange points such as from one account to another or from one virtual wallet to another. Companies can set exchange rates and may do so through the system Website 101. In another implementation, participating companies may set exchanges rates for traditional currencies so that they could offer, for example, a two percent discount to customers who pay through their virtual wallet or through the reward system, virtual wallet and use of promotional codes. In another implementation, customers may exchange reward points with each other in a peer-to-peer fashion. For example, a single member of a family may aggregate reward points from other members of the family so that a single member of the family may receive a free meal at a participating restaurant. In principle, each company, business or participating establishment can have its own currency. The amount of money in this currency is effectively its liability to its customers. Thus, a company's liabilities can be traded, traditional cash payments may be eliminated or reduced.

Communications 102 facilitate interactions between customers via the Web server 101. Such customers 105 may be customers that are currently consuming or have recently consumed restaurant goods and/or services (such as within a few minutes, hours, days, etc.). According to another aspect, customers 105 may interact with any other customer having an account in the system and who have patronized a particular establishment. Further, the Web server 101 enables customers 105 to engage in an online text or voice chat with each other.

Communications 104 between a point-of-sale terminal 103 or an administrator terminal (not shown) accessible by a waiter and a device used by a customer 105 enable printing, downloading or otherwise accessing or saving of a receipt. For example, a customer 105 may download a copy of the receipt to his cellular phone. In a preferred implementation, the receipt includes a promotional code as described more fully herein and below.

Other communications 106 transfer information between the Web server(s) 101 and one or more point-of-sale terminals 103. Such other communications 106 may include information about, for example, payment of customer bills (and optionally bonus points granted), completed orders and bonuses, rewards or discounts issued during a particular period, food or service rankings assigned by customers, customer preferences, etc.

FIG. 2 shows another exemplary implementation of a customer loyalty system 200 illustrating some of its aspects. With reference to FIG. 2, a guest or customer 105 joins the loyalty system 200 as follows. During his or her first visit to a restaurant or other establishment, the customer 105 receives a bill 202 from a waiter or cashier for goods or services purchased or consumed. In such implementation, the bill 202 includes an invitation to join the loyalty system 200 to thereby become eligible to receive a discount on the current order, a first order or a subsequent order. As another example, by use of a promotional code, a registering customer receives a free dessert or other reward including an instant reward.

To join the loyalty system 200, the customer 105 visits the Web site 101 of the loyalty system 200, enters requested information and submits this information via a registration function or user interface element. Such may be done through a smartphone or other Web enabled device (not shown). Preferably, registration occurs while the customer is still in the restaurant.

Alternatively, for registration, a customer 105 sends an SMS text message from his cellular phone that corresponds ideally with the cellular phone number assigned to that device. In a preferred implementation, the SMS text message includes a promotional code

212 that was printed or otherwise made available on or through the bill 202. Thus, the promotional code 212 is associable or connected with the goods or services ordered and itemized on the bill 202. The customer cell phone number serves as an authentication mechanism such as a login, user identification, account name, account identifier or authentication scheme.

As one example, the promotional code 212 is a short sequence of letters and/or digits, e.g. a 2, 3, 4, 5, 6 or other-length-digit, character sequence, number or the like. The promotional code 212 may also be a two- or three-dimensional code, picture, etc. For example, a promotional code may be a quick response code or QR code, a bar code or non-human readable code. The promotional code 212 may also be printed with a non-human-visible ink or other material that is detectable by a consumer device. Thus a near field detector, RFID detector and the like may be used to detect, access and use such a promotional code 212. In a preferred implementation, the promotional code 212 is generated by the POS terminal or device 103 using one or more algorithms. In one particular implementation, one of the one or more algorithms involves random number generation to generate a promotional code 212. In another implementation, the Web site 101 generates promotional codes 212. Use of a promotional code may involve manually entering an alphanumeric code, resending an electronically delivered promotional code or may involve scanning or photographing a promotional code.

The promotional code 212 serves as a unique ID of the order in a given restaurant and, preferably, must be activated by the customer within a short period of time after the customer receives the promotional code 212 or a short time after generation of the promotional code 212. Otherwise, the promotional code 212 is or may be recycled. A promotional code 212, or a combination of promotional code 212 and one or more other numbers or digits, may be used to uniquely identify, for example, the following: an order at a particular establishment, an order and patron at a particular establishment, an order across all

establishments registered with the system, etc. Such unique identity is for a particular time interval. A time interval may be just a few minutes, a few hours, a few days, a few weeks, etc. Thus, a promotional code 212 may be unique across all establishments or may be semi-unique in the system 200 across all times or within a time interval.

Activating the promotional code 212 provides a discount on the order or bonus points for the order, or some other benefit or combination of benefits. All promotional codes 212 activated by or put in use by establishments (a variety of retailers, restaurants, etc.) connected to or registered with the loyalty system are known to the system 200 (e.g., to the Web server 101).

Upon joining the loyalty system 200, a customer 105 is registered with the system 200, and the system 200 uses the customer cell phone number (for example) as his account identifier or login. After registration, the customer 105 gets access to his account in the loyalty system 200 and can enter additional personal data, review and change it and supervise one or more virtual wallets. Subsequently, when a customer 105 accesses the loyalty system 200, the system recognizes each customer 105 by his cell phone number, which is likely a unique number in the loyalty system 200. Alternatively, an email-address, unique nickname or one or more other personal data may be used to identify a customer account in the loyalty system 200.

In a subsequent visit to the restaurant, a customer 105 who already has an account in the loyalty system 200 may get immediate access to information about his order by asking the waiter 204 for the promotional code 212 of the newly created food order. The waiter 204 or an employee that registers orders provides the customer 105 with the promotional code 212 generated upon creating the order. The customer 105 may access the information about his order through his smart phone (such as through an application operating on the smart phone, via SMS text message or some other way), Internet enabled device, traditional phone or other device. For example, after entering or otherwise using the promotional code 212, the

customer 105 may access his order from his device by seeing or receiving a status indicator (e.g. "in progress" or "ready"). Through the use of the promotional code 212, the customer 105 may order additional items if desired (dishes, goods, services, etc.), because the promotional code 212 remains active during a period of time after its creation, for example, 20 minutes, one hour, two hours, several hours, one day, etc. The delivery of a promotional code 212 may be done with or without delivery of a customer's receipt or bill, and may be delivered on paper or electronically such as through an SMS text message, email message, through an application operating on a customer's smart phone or voice message to a traditional phone. A customer 105 may use the loyalty system 200 to discover how much money he has in his virtual wallet, and pay his bill from this virtual wallet, by credit card, or by using another method of payment.

Further, once registered with a loyalty system, a customer may view a menu of a restaurant where he is currently at and may view current promotional offers that are available from the restaurant that are only offered to registered members of the loyalty system 200. If the customer orders an item via the restaurant's Web site 101 or loyalty system 200 (instead of through a waiter or other traditional means), the customer may receive bonus points and discounts on the entire order, possibly in addition to any promotion or discount offered for connecting with or using the loyalty system.

In another implementation of the loyalty system 200, a member or customer 105 may also receive additional bonus points by attracting new customers (e.g. friends, family) to a restaurant M at which the customer 105 is registered. In one exemplary scenario to attract a new customer, an existing customer 105 authenticates with restaurant M's Web site 101 or system 200, pays for a dish or drink, and specifies that the dish or drink is intended for a customer with a particular cell phone number N. The recipient or person associated with cell phone number N receives an SMS text message at the cell phone number N inviting him to restaurant M, and notifying him of the dish or drink that has been bought for him there. The

SMS text message may contain the special promotional code of the order. The new prospective customer is required to visit restaurant M, register with the loyalty system 200, and enter the special promotional code into the loyalty system 200. Once the promotional code is accepted, the new customer will see his active pre-paid order. Bonus points for customers who invite their friends to the restaurant may be calculated, for example, as a percentage of the sums of orders subsequently placed by the invitees. Bonus points and rewards are awarded for friends and other persons that subsequently sign up. In yet a further implementation, rewards for attracting and promoting the registration of friends of friends may be given in a fashion akin to pyramid selling rewards. Thus, a first registered customer may accumulate substantial rewards for referring new customers to a particular establishment through the loyalty system 200.

Management of a particular restaurant may issue special promotional codes to grant bonus points to its registered customers or may raise their bonus priorities. To this end, a restaurant's waiter or employee enters one or more parameters and causes the POS terminal or device 103 to issue a particular, special bonus (such as a number of bonus points or a bonus percentage). The special bonus may include a time to live prior to activation, a bonus time to live after activation, etc. A generated promotional code may be printed on a printer and handed over to a customer or may be delivered electronically to the particular customer. When the patron or customer enters or uses the special promotional code associated with the loyalty system, he receives the granted bonuses after fulfilling any particular requirements (if any). This type of promotional code may be granted for free or may require purchase of a good or service or require a customer to purchase this type of promotional code. This type of promotional code may be generated in batches so that, for example, all customers in a particular restaurant in a block of time receive or are eligible for a particular special promotion, promotional code or special bonus. For example, a special batch of codes may be generated and be active for a Happy Hour event at a restaurant.

Additionally, a customer may access the loyalty system without entering a promotional code if the customer is currently not on the premises of a participating establishment, an establishment that is a member of the loyalty system. The customer is still able to view the statuses of his virtual wallets, see promotional offers from the loyalty system restaurants and stores, and possibly, depending on the customer's current location or the location specified by the customer as a preferred destination, see the menus of the corresponding restaurants, the availability of tables to be booked, etc. For example, the customer may book a table and order a dish for a certain time and pay for it from the virtual wallet. At any moment, the customer will be able to see the rankings of the loyalty system restaurants as entered by other members of the loyalty system community. Additionally, the customer may view his restaurant-going history, e.g. which restaurants he visited and when and what dishes he ordered there, and his history of "gifts" to and from friends. Upon making a payment for an order, a customer may have a small questionnaire sent to his account such as to his mobile or other registered device.

In another implementation, if a customer makes certain information about himself known to the loyalty system, for example his name, his photo, or a code word, the customer will be rewarded with extra features. For example, one of these features is the ability to make payments from one or more of his virtual wallets without using a promotional code.

In fast-food restaurants or in a store where payments are made at a POS terminal, the system will automatically detect the customer if his cell phone is turned on using near field technology, a cellular telephone technology, a GPS technology, etc. If the customer expresses his wish to pay from his virtual wallet and/or to receive the applicable discount, the cashier will only need to authenticate the customer by his name, photo, code word or using other suitable information.

Additionally, the use of the loyalty system may prevent fraudulent actions by third parties and, in particular, by employees of the establishments. In traditional customer loyalty

systems, a lost bonus card may often be used by any person that finds it without any authentication or cross reference to other information. The loyalty system requires that the user not only knows the right promotional code, but also owns or possesses the customer device (e.g., cell phone) or provides an identifier (e.g., cell phone number) that was used to register with the loyalty system at this specific place. To further prevent fraud, a location of the given cell phone may be checked by using a geo-location technology, such as GPS, A-GPS or SBAS. The cell phone numbers of restaurant staff are usually known and may be blocked in the loyalty system, at least when the cell phones of the restaurant staff are in physical proximity to the restaurant and when the restaurant staff are working. In case of doubt, one or more additional checks or authentication mechanisms may be applied based on the supplied credentials—for example, additional questions may be sent to the customer by SMS or an account verification may be made through a partnership with a respective mobile carrier (provider).

The loyalty system 200 may also be configured to build, maintain and facilitate a customer social network. The social network may include such functions as Internet Relay Chat (IRC) or other type of chat, a blog, or a customer review forum, recommendation forum, "check-in" tallies and the like. When a registered customer engages with the loyalty system at a participating restaurant, the customer may receive or access a current status indicator for each of his friends or for each of any other registered customer that is also participating at the participating restaurant. Alternatively, the registered customer be able to receive or access a current status indicator for any other registered customer that is in the vicinity of the registered customer. There is provided an option whereby a registered customer's status is set to "invisible" such that other registered customers are not updated as t a registered customer's location or participation at a particular restaurant. Participating customers may be able to send other registered customers personal messages, or make a posting on a common bulletin board for the particular establishment. In this manner, a registered customer may notify his

friends or other members of the loyalty system community about his intention to make a future visit to a particular restaurant.

The loyalty system enables companies to gather accurate information about their customers such as their gender, age, occupation, frequency of visits, preferences, and other participating restaurants visited. Using such data, a loyalty system may provide a company information that a company could use to determine how the company ranks among other similar establishments, get reliable data about the quality of work of his employees (bartenders, waiters, chefs), and learn what customers liked and what customers disliked.

Exemplary Device

FIG. 3 of the drawings shows an exemplary hardware 300 or device that may be used to implement the present invention. Referring to FIG. 3, the hardware 300 typically includes at least one processor 302 coupled to a memory 304. The processor 302 may represent one or more processors (e.g. microprocessors), and the memory 304 may represent random access memory (RAM) devices comprising a main storage of the hardware 300, as well as any supplemental levels of memory, e.g., cache memories, non-volatile or back-up memories (e.g. programmable or flash memories), read-only memories, etc. In addition, the memory 304 may be considered to include memory storage physically located elsewhere in the hardware 300, e.g. any cache memory in the processor 302 as well as any storage capacity used as a virtual memory, e.g., as stored on a mass storage device 310.

The hardware 300 also typically receives a number of inputs and outputs for communicating information externally. For interface with a user or operator, the hardware 300 may include one or more user input devices 306 (e.g., a keyboard, a mouse, imaging device, scanner) and a one or more output devices 308 (e.g., a Liquid Crystal Display (LCD) panel, a sound playback device (speaker)).

For additional storage, the hardware 300 may also include one or more mass storage devices 310, e.g., a floppy or other removable disk drive, a hard disk drive, a Direct Access

Storage Device (DASD), an optical drive (e.g. a Compact Disk (CD) drive, a Digital Versatile Disk (DVD) drive) and/or a tape drive, among others. Furthermore, the hardware 300 may include an interface with one or more networks 312 (e.g., a local area network (LAN), a wide area network (WAN), a wireless network, a cellular network (not shown) and/or the Internet among others including all of the devices or equipment necessary to carry out network communication) to permit the communication of information with other computers or devices coupled to the networks. It should be appreciated that the hardware 300 typically includes suitable analog and/or digital interfaces between the processor 302 and each of the components 304, 306, 308, and 312 as is well known in the art.

The hardware 300 operates under the control of an operating system 314, and executes various computer software applications, components, programs, objects, modules, etc., to implement the techniques described above. In particular, the computer software applications may include a client application, in the case of the client user device or smart phone 302. Moreover, various applications, components, programs, objects, etc., collectively indicated by reference 316 in FIG. 3, may also execute on one or more processors in another computer coupled to the hardware 300 via a network 312, e.g. in a distributed computing environment, whereby the processing required to implement the functions of a computer program may be allocated to multiple computers over a network.

In general, the routines executed to implement the embodiments of the invention may be implemented as part of an operating system or a specific application, component, program, object, module or sequence of instructions referred to as "computer programs." The computer programs typically comprise one or more instruction sets at various times in various memory and storage devices in a computer, and that, when read and executed by one or more processors in a computer, cause the computer to perform operations necessary to execute elements involving the various aspects of the invention. Moreover, while the invention has been described in the context of fully functioning computers and computer

systems, those skilled in the art will appreciate that the various embodiments of the invention are capable of being distributed as a program product in a variety of forms, and that the invention applies equally regardless of the particular type of computer-readable media used to actually effect the distribution. Examples of computer-readable media include but are not limited to recordable type media such as volatile and non-volatile memory devices, floppy and other removable disks, hard disk drives, optical disks (e.g., Compact Disk Read-Only Memory (CD-ROMs), Digital Versatile Disks (DVDs), flash memory, etc.), among others. Another type of distribution may be implemented as Internet downloads.

Systems, devices and methods have been described for facilitating the display or use of displaying or using text and other information in a format that substantially appears as originally displayed or found on or in a medium (e.g., screen, television, paper, book, newspaper, fax, sign, photograph, magazine, etching, sculpture). Throughout, for sake of simplicity in explanation, reference is made to text and/or words. However, text and words refer generally to any information that is capable of being perceived, identified, recognized or used and may be found in or on any medium. While a smart phone is referred to herein, it is merely exemplary. It is to be understood that "smart phone" refers to any device that cannot display an actual sized representation of the menu 202 or to a device with a relatively small display (e.g., tablet, laptop, appliance).

While certain exemplary embodiments have been described and shown in the accompanying drawings, it is to be understood that such embodiments are merely illustrative and not restrictive of the broad invention and that this invention is not limited to the specific constructions and arrangements shown and described, since various other modifications may occur to those ordinarily skilled in the art upon studying this disclosure. In an area of technology such as this, where growth is fast and further advancements are not easily foreseen, the disclosed embodiments may be readily modifiable in arrangement and detail as

facilitated by enabling technological advancements without departing from the principals of the present disclosure.

While the invention has been described with respect to a preferred implementation, other implementations are possible. The concepts disclosed herein apply equally to other non-described systems, devices and methods for displaying or using text (and information generally) in a format that substantially appears as originally displayed or found on or in a medium. Furthermore, the concepts applied herein apply more generally to displaying or using text and breaking adjacent text at word and other logical boundaries such as at, near or around a character or element. The invention is described below with reference to the accompanying figures.

The foregoing discussion has been presented for purposes of illustration and description. Various features from one implementation can be combined with other features from other implementations. The description is not intended to limit the invention to the form or forms disclosed herein. Consequently, variation and modification commensurate with the above teachings, within the skill and knowledge of the relevant art, are within the scope of the present invention. The implementations described herein and above are further intended to explain the best mode presently known of practicing the invention and to enable others skilled in the art to use the invention as such, or in other implementations, and with the various modifications required by their particular application or uses of the invention. It is intended that the appended claims be construed to include alternate implementations to the extent permitted.

CLAIMS

We claim:

1. A method for providing a customer loyalty reward to a customer, the method comprising:

generating a promotional code that is active for a limited time;

associating the promotional code with an order for goods or services;

sending the promotional code that is active for the limited time;

receiving an indication of use of the promotional code within the limited time; and

sending an indication of a customer loyalty reward to the customer after receiving an indication of use of the promotional code within the limited time.

2. The method of claim 1 wherein the method for providing a customer loyalty reward to a customer further comprises:

automatically charging a financial account associated with the customer after receiving the indication of use of the promotional code within the limited time.

3. The method of claim 1 wherein the sending the promotional code that is active for the limited time includes sending the promotional code in an electronic form to an account associated with the customer.

4. The method of claim 1 wherein the sending the promotional code is electronically sending the promotional code to a device accessible by the customer.

5. The method of claim 1 wherein the sending the promotional code is sending a paper to the customer.

6. The method of claim 1, wherein the method for providing a customer loyalty reward to a customer further comprises:

generating a bill for goods or services, wherein the promotional code is associated with the bill for goods or services or with an identifier of at least one of the goods or services.

7. The method of claim 1 wherein the promotional code is a series of digits, and wherein the promotional code is unique for the limited time across all customer orders for a company associated with the customer loyalty reward.

8. The method of claim 1 wherein the promotional code is a series of digits, and wherein the promotional code is unique for the limited time across all customer orders for all participating companies.

9. The method of claim 1 wherein the promotional code is a series of digits, and wherein the promotional code is unique for the limited time across all customer orders for all participating companies.

10. The method of claim 1, wherein sending the promotional code that is active for the limited time includes sending the promotional code to a social network account of the customer, the account being part of a social network.

11. The method of claim 1, wherein the promotional code is associated with a business, and wherein the customer loyalty reward is dependent on a number of times that the customer has interacted with the business.

12. The method of claim 11, wherein the customer loyalty reward is dependent on an amount of money that the customer has transacted with the business over a period of time or in a current transaction.

13. The method of claim 11, wherein the customer loyalty reward is dependent on a number of other customers that transacted money with the business since a last visit to the business by the customer in response to a previous promotional code shared by the customer with the other customers.

14. The method of claim 1, wherein the promotional code is associated with a current transaction with a business or company.

15. The method of claim 14, wherein receiving the indication of use of the promotional code within the limited time is done before payment by the customer.

15. The method of claim 14, wherein receiving the indication of use of the promotional code within the limited time is done after payment by the customer.

16. The method of claim 1 wherein the associating the promotional code with the order for goods or services includes associating the promotional code with information associated with the device accessible by the customer.

17. The method of claim 1 wherein the method for providing a customer loyalty reward to a customer further comprises:

sending the promotional code that is active for the limited time to a server after generating the promotional code, wherein the generating the promotional code is done by a point of sale device; and

sending information identifying the goods or services of the order to the server after generating the promotional code.

18. A device configured to provide a service to a plurality of customers, the device comprising:

a promotional code generator that is capable of generating a promotional code that is active for a limited time, each promotional code corresponding to a customer;

an interface service capable of sending and receiving information to and from a point of sale device;

an authenticator configured to receive promotional codes and to activate a reward corresponding to a respective promotional code when the promotional code is sent electronically to the authenticator within the limited time; and

a recorder configured to record information associated with each promotional code sent to the authenticator.

19. The device of claim 18 wherein the promotional code generator is configured to generate a promotional code in response to the interface service receiving a request from the point of sale device.

20. The device of claim 18 wherein the recorder is further configured to record information related to a consumer redeeming a promotional code.

21. A system comprising:

circuitry for generating a promotional code that is active for a limited time;

circuitry for sending to a device, the device accessible to a customer, the promotional code that is active for the limited time;

circuitry for receiving the promotional code within the limited time; and

circuitry for delivering an indication of a customer loyalty reward to the customer after receiving an indication of use of the promotional code within the limited time.

22. The system of claim 21, wherein the circuitry for generating the promotional code that is active for the limited time is configured to re-issue the promotional code after the limited time.

23. The system of claim 21, wherein the circuitry for receiving the promotional code within the limited time is configured to receive identifying information from the device accessible to the customer, the identifying information corresponding to the device accessible to the customer, the customer or both the device accessible to the customer and the customer.

24. The system of claim 21, wherein the indication of the customer loyalty reward includes information that may be used to acquire the customer loyalty reward.

25. A computer program product comprising one or more tangible computer accessible storage media configured with instructions for executing the following process:

generating a promotional code that is active for a limited time;

sending the promotional code that is active for the limited time to the customer;

receiving an indication of use of the promotional code within the limited time; and

sending an indication of a customer loyalty reward to the customer after receiving an indication of use of the promotional code within the limited time.

26. The computer program product of claim 25, wherein the limited time is variable and the promotional code is active for as long as the customer is within a predetermined geographical area associated with the customer loyalty reward.

27. The computer program product of claim 25, wherein the limited time is variable and the promotional code is active for as long as the customer is within a predetermined geographical area associated with a business location.

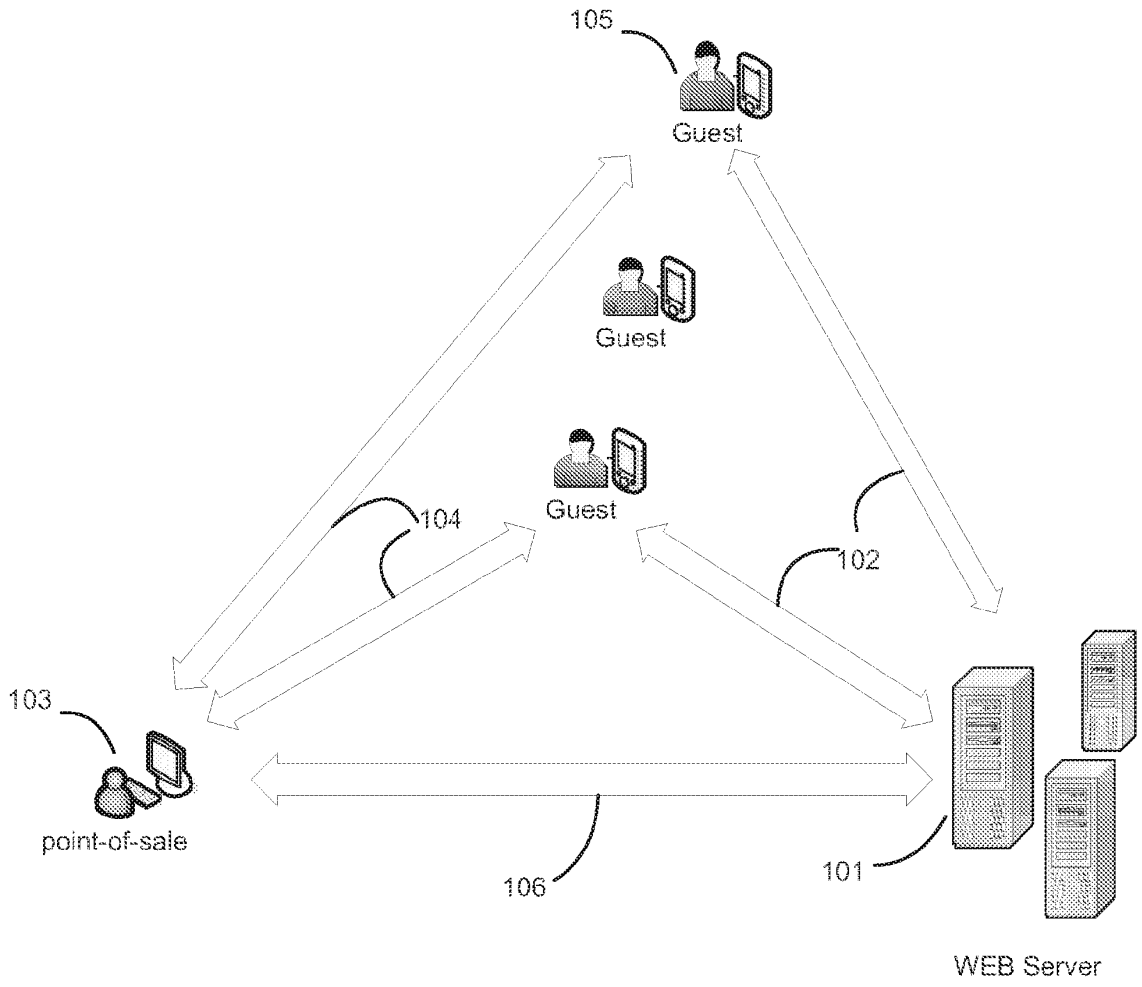

105
Guest
Guest
Guest
104
102
103
point-of-sale
106
101
WEB Server

Figure 1

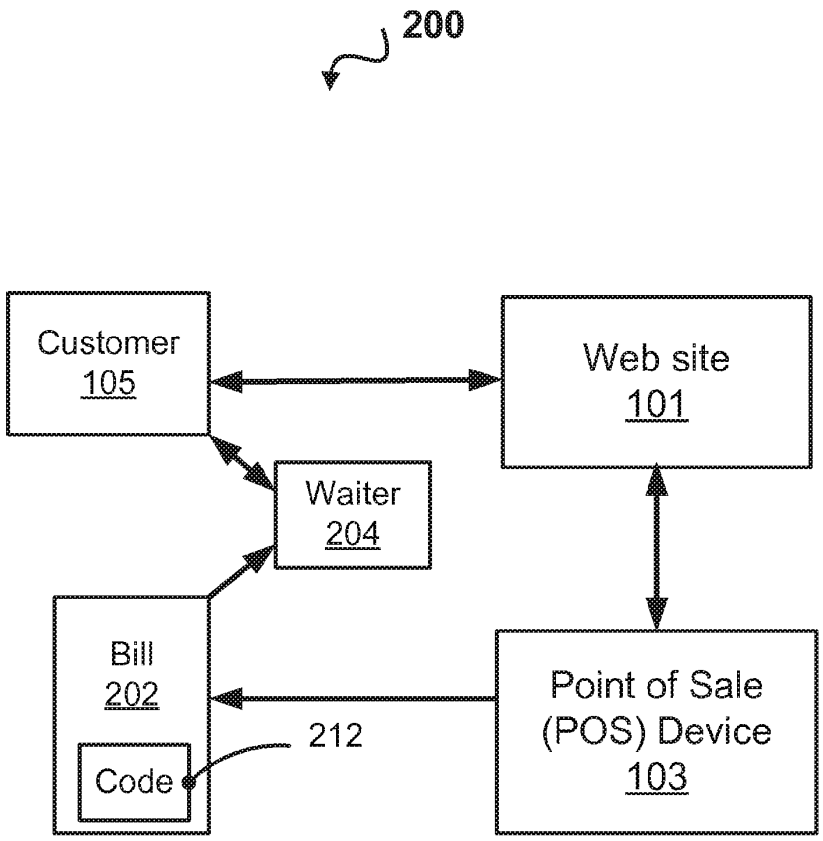

200
Customer
105
Web site
101
Waiter
204
Bill
202
Code
212
Point of Sale
(POS) Device
103

Fig. 2

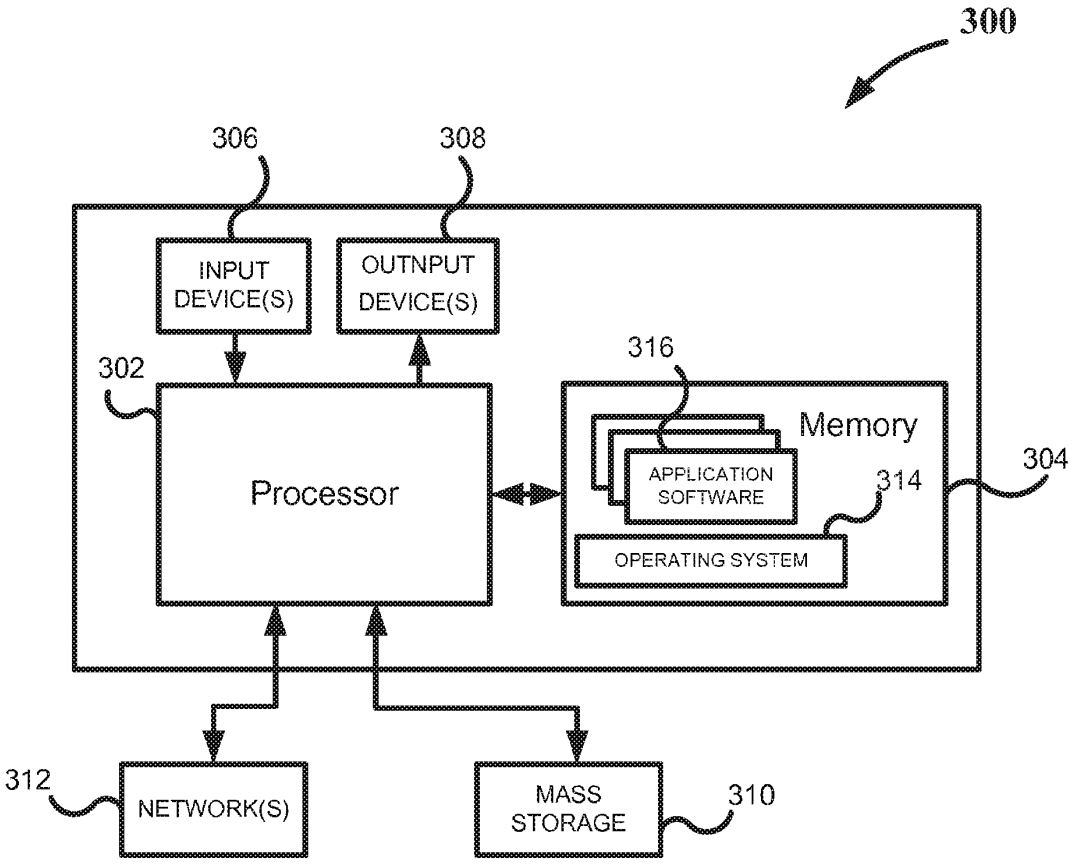

300
306
308
INPUT DEVICE(S)
OUTNPUT DEVICE(S)
316
302
Memory
APPLICATION SOFTWARE
314
304
Processor
OPERATING SYSTEM
312
NETWORK(S)
MASS STORAGE
310

Fig. 3

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(54) **Title**: BUSINESS TO BUSINESS MOBILE VAULT

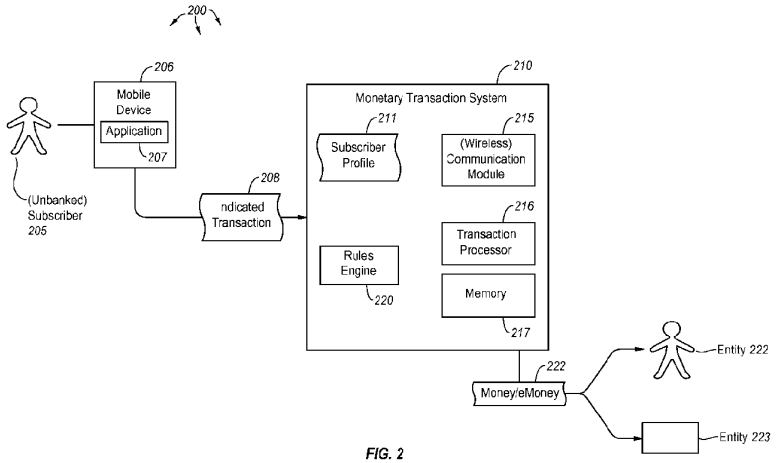


FIG. 2

(57) **Abstract**: Embodiments extend to methods, systems, and computer program products for a business to business mobile vault. Embodiments allow retailers to pay distributors electronically through the use of a mobile device such as a mobile phone. Electronic payment through a mobile phone is more efficient than a currency transaction and reduces the amount of currency that delivery and distributor personnel handle. Further, mobile phone communication is available in many geographic locations, and in some geographic locations is the only form of communication available. Thus, electronic payment through a mobile phone can often be used even when other computer systems and specialized equipment such as point of sale terminals are not available or are not used, and when other types of data connections are not available.

WO 2013/009444 A1

BUSINESS TO BUSINESS MOBILE VAULT

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to and the benefit of U.S. Utility Patent Application Ser. No. 13/527,466, filed on June 19, 2012, entitled "Business to Business Mobile Vault, and also claims priority to and the benefit of U.S. Provisional Patent Application Ser. No. 61/498,957, filed on June 20, 2011, entitled "Business to Business Mobile Vault," and which are incorporated by reference herein in their entirety. This application further claims priority to and the benefit of U.S. Patent Application Ser. No. 13/484,199, entitled "Monetary Transaction System", filed on May 30, 2012, which itself claims priority to U.S. Provisional Application Ser. No. 61/522,099, filed on August 10, 2011, entitled "Mobile Wallet Platform", and U.S. Provisional Application Ser. No. 61/493,064, filed on June 3, 2011, entitled "Mobile Wallet Platform". Each of the aforementioned applications is incorporated by reference herein in its entirety.

BACKGROUND

Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks. For instance, mobile devices allow users to check email, send and receive instant messages, check calendar items, take notes, set up reminders, browse the internet, play games or perform any number of different actions using specialized applications or "apps". These applications allow mobile devices to communicate with other computer systems and perform a wide variety of network-connected tasks previously not possible with a mobile device).

BRIEF SUMMARY

Embodiments of the present invention extend to methods, systems, and computer program products for a business to business mobile vault. Embodiments allow retailers to pay distributors (vendors) electronically through the use of a mobile device such as a mobile phone, tablet or other electronic device. Electronic payment through a mobile device is more efficient than a currency transaction and reduces the amount of currency that delivery and distributor personnel handle. Further, mobile communication is available in many geographic locations, and in some geographic locations is the only

form of communication available. Thus, electronic payment through a mobile device can often be used even when other computer systems and specialized equipment (e.g., point of sale terminals) are not available or are not used, and when other types of data connections are not available.

Embodiments described herein include mobile devices such as mobile phones or tablets interoperating with an electronic payment system to invoice, pay for, and track the payment for delivered goods. A merchant mobile device runs a mobile wallet application that interacts with a merchant mobile wallet at the electronic payment system. A delivery personnel mobile phone runs an invoicing application that interacts with a distributor mobile vault. Embodiments of the invention can be used to both speed up the delivery personnel/merchant transaction (allowing more deliveries per day) and reduce the amount of currency handled by delivery personnel and distributors.

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

Additional features and advantages will be set forth in the description which follows, and in part will be apparent to one of ordinary skill in the art from the description, or may be learned by the practice of the teachings herein. Features and advantages of embodiments described herein may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the embodiments described herein will become more fully apparent from the following description and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

To further clarify the above and other features of the embodiments described herein, a more particular description will be rendered by reference to the appended drawings. It is appreciated that these drawings depict only examples of the embodiments described herein and are therefore not to be considered limiting of its scope. The embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 illustrates a monetary transaction system architecture in which embodiments described herein may operate.

Figure 2 illustrates an alternate example embodiment of a monetary transaction system.

Figures 3A and 3B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber eMoney transfers via a mobile wallet, respectively.

Figure 4 illustrates a monetary transaction system architecture in which embodiments including business to business mobile transactions may take place.

Figure 5 illustrates an example data flow for allowing a merchant to pay a distributor for delivered goods using an electronic payment system.

DETAILED DESCRIPTION

Embodiments of the present invention extend to methods, systems, and computer program products for a business to business mobile vault. Embodiments allow retailers to pay distributors (vendors) electronically through the use of a mobile device such as a mobile phone, tablet or other electronic device. Electronic payment through a mobile device is more efficient than a currency transaction and reduces the amount of currency that delivery and distributor personnel handle. Further, mobile communication is available in many geographic locations, and in some geographic locations is the only form of communication available. Thus, electronic payment through a mobile device can often be used even when other computer systems and specialized equipment (e.g., point of sale terminals) are not available or are not used, and when other types of data connections are not available.

Embodiments described herein include mobile devices such as mobile phones or tablets interoperating with an electronic payment system to invoice, pay for, and track the payment for delivered goods. A merchant mobile device runs a mobile wallet application that interacts with a merchant mobile walled at the electronic payment system. A delivery personnel mobile phone runs an invoicing application that interacts with a distributor mobile vault. Embodiments of the invention can be used to both speed up the delivery personnel/merchant transaction (allowing more deliveries per day) and reduce the amount of currency handled by delivery personnel and distributors.

Embodiments described herein may comprise or utilize a special purpose or general-purpose computer including computer hardware, such as, for example, one or more processors and system memory, as discussed in greater detail below. Embodiments

described herein also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose or special purpose computer system. Computer-readable media that store computer-executable instructions in the form of data are computer storage media. Computer-readable media that carry computer-executable instructions are transmission media. Thus, by way of example, and not limitation, embodiments described herein can comprise at least two distinctly different kinds of computer-readable media: computer storage media and transmission media.

Computer storage media includes RAM, ROM, EEPROM, CD-ROM, solid state drives (SSDs) that are based on RAM, Flash memory, phase-change memory (PCM), or other types of memory, or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions, data or data structures and which can be accessed by a general purpose or special purpose computer.

A "network" is defined as one or more data links and/or data switches that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the computer properly views the connection as a transmission medium. Transmission media can include a network which can be used to carry data or desired program code means in the form of computer-executable instructions or in the form of data structures and which can be accessed by a general purpose or special purpose computer. Combinations of the above should also be included within the scope of computer-readable media.

Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission media to computer storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a network interface card or "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer storage media at a computer system. Thus, it should be understood that computer storage media can be included in computer system components that also (or even primarily) utilize transmission media.

Computer-executable (or computer-interpretable) instructions comprise, for example, instructions which cause a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

Those skilled in the art will appreciate that various embodiments may be practiced in network computing environments with many types of computer system configurations, including personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, tablets, pagers, routers, switches, and the like. Embodiments described herein may also be practiced in distributed system environments where local and remote computer systems that are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, each perform tasks (e.g. cloud computing, cloud services and the like). In a distributed system environment, program modules may be located in both local and remote memory storage devices.

In this description and the following claims, "cloud computing" is defined as a model for enabling on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). The definition of "cloud computing" is not limited to any of the other numerous advantages that can be obtained from such a model when properly deployed.

For instance, cloud computing is currently employed in the marketplace so as to offer ubiquitous and convenient on-demand access to the shared pool of configurable computing resources. Furthermore, the shared pool of configurable computing resources can be rapidly provisioned via virtualization and released with low management effort or service provider interaction, and then scaled accordingly.

A cloud computing model can be composed of various characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, measured

service, and so forth. A cloud computing model may also come in the form of various service models such as, for example, Software as a Service ("SaaS"), Platform as a Service ("PaaS"), and Infrastructure as a Service ("IaaS"). The cloud computing model may also be deployed using different deployment models such as private cloud, community cloud, public cloud, hybrid cloud, and so forth. In this description and in the claims, a "cloud computing environment" is an environment in which cloud computing is employed.

Additionally or alternatively, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), and other types of programmable hardware.

Still further, system architectures described herein can include a plurality of independent components that each contribute to the functionality of the system as a whole. This modularity allows for increased flexibility when approaching issues of platform scalability and, to this end, provides a variety of advantages. System complexity and growth can be managed more easily through the use of smaller-scale parts with limited functional scope. Platform fault tolerance is enhanced through the use of these loosely coupled modules. Individual components can be grown incrementally as business needs dictate. Modular development also translates to decreased time to market for new functionality. New functionality can be added or subtracted without impacting the core system.

Various terminology will be used herein to describe the monetary transaction system (also referred to as a "mobile wallet platform", "mobile wallet program", "mobile wallet transaction system", "mobile financial services (mFS) platform" or "electronic payment system"). The term "agent" is used to refer to an individual with mFS transaction system tools and training to support specific mFS functions. These mFS functions include subscriber registration and activation, and the deposit and withdrawal of funds from the mFS transaction system. Agents are representatives of the mFS transaction system or "program". Agents can be employees or contractors of the program provider, or other companies and organizations that partner with the program provider to provide

these services themselves. Agents may be found in every facet of a typical economy, and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.

The mobile wallet platform includes a mobile wallet application, web interface or some other type of functionality that allows the user to interact with the mFS platform using their mobile device. The mobile wallet application may include a subscriber identity module (SIM) application, an Unstructured Supplementary Service Data (USSD) application, a smartphone application, a web application, a mobile web application, a Wireless Application Protocol (WAP) application, a Java 2 Platform, Micro Edition (J2ME) application, a tablet application or any other type of application or interface that provides tools for the agent to register, activate, and offer other services to the mFS subscriber.

The mobile wallet platform may also include a mobile vault (such as distributor mobile vault 426 in Figure 4). The mobile vault may include a mobile wallet as well as other items including invoicing data. A mobile vault may be used by merchants, distributors or other users to store value (e.g. on the mobile wallet) or other important information such as invoicing data. The mobile vault allows cash (and its corresponding logistical problems) to be replaced with mobile-enabled payment collection and digital invoicing, as well as providing a mobile point of sale (mPOS) for distributors (as will be described further below).

As used herein, a mobile wallet application is a mobile wallet application installed on a mobile device, in some cases on the device's SIM card. The mobile wallet application of a merchant may interact with the mobile wallet of a distribotro distributor which is stored in the distributor's mobile vault. A USSD application is an application that implements USSD for various functionality including prepaid callback service, location-based content services, menu-based information services and other mobile wallet platform services. A web application is one that implements or uses the internet to provide mobile wallet platform functionality. A mobile web application is similar to a web application, but is tailored for mobile devices. A WAP application is one that uses the wireless application protocol to communicate with the mobile wallet platform to provide the platform's functionality. A J2ME application is an application developed in Java and is designed to provide mobile wallet functionality on a variety of different hardware. A tablet application is an application specifically designed for a touchscreen-

based tablet that provides mobile wallet platform functionality for tablet devices, and as part of configuring the phone on the network. Any of these applications (or any combination thereof) may be provided on the user's mobile device. This functionality can also be made available on a retail point of sale (POS) system or web site.

The term "agent administrator" refers to an individual with mFS program tools and training to administrate the allocation of funds to agent branches (e.g. retail locations). As agents perform mFS transactions with subscribers, such as depositing and withdrawing money, the agents are adding and removing money from their own accounts. Any of the applications referred to above may be configured to provide tools used by the agent administrator to view the agent company balance, view the agent branch balances, and transfer funds into and out of agent branch mobile wallets. This functionality can also be made available on a website for easier access.

In some embodiments, the mFS platform application and/or the mobile vault may utilize triple data encryption standard (3DES) encryption (or some other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS transaction system in order to ensure that the transactions are properly secured and authenticated.

The term "agent branch" refers to any location where an agent provides support for subscriber services of the mFS platform. Funds are allocated by the agent administrator from the agent company's main account to each agent branch to fund the subscriber mFS functions such as depositing or withdrawing cash, in-store purchases, bill payments, prepaid airtime top-ups and money transfers. In some cases, multiple agents may work in a single branch. However, at least in some cases, monetary funds are allocated to from the agent company's main account on a per branch basis.

The term "agent branch account balance" refers to the amount of money residing in a particular agent branch account at a given time. Funds can be deposited into the branch account by the agent administrator, or the funds can come from participating in subscriber mFS transactions such as depositing or withdrawing cash from the subscriber's mobile wallet accounts, or making retail purchases with the mobile wallet.

In some embodiments, in countries with more developed economies, it may be beneficial to use program-issued pre-paid debit cards, pre-paid access accounts, stored value accounts or gift cards to conduct business along with the added convenience of card processing networks such as Cirrus, STAR, or Visa for POS and automated teller

machine (ATM) functionality. Agents, particularly those in retail outlets and kiosks, can still support subscribers with deposits, withdrawals, and other transfers, but in this case bank external card processors manage the mobile wallet and branch account balances and provide the real-time transfer of funds.

The term "agent branch ledger" refers to a written (or electronic) ledger maintained by the mFS platform. Agent branch transactions are performed on the agent's and subscriber's mobile phones where an electronic record of the transaction is generated and stored on the mFS platform. These electronic transactions are then reconciled with agent branch ledgers to ensure the security and integrity of the transaction. Agent branch ledgers are printed or electronic transaction logs that are distributed to the agent branch locations in hard copy form to serve as a backup record to the electronic transactions.

The term "agent company" refers to a business that registers to participate in the mFS program as a partner of the mFS program provider or owner. The agent company has one or more agent branches which conduct mFS business with mFS program subscribers. In some cases, the agent company may be referred to as a distributor or retailer.

The term "agent company account balance" refers to the sum of the funds deposited at a "partner bank" (defined below) by the agent company to fund the agent company's daily transactions. The funds in the agent company account are then distributed to agent branches by the agent company's agent administrator to conduct everyday business such as accepting cash deposits and cash withdrawals from mFS subscribers. This balance is sometimes referred to as the "agent company float".

An "agent manager" is a supervisor of company agents for a given company. The agent manager has the training and tools to create, delete or modify agent accounts for a company, as well as monitor the transactions performed by agents. The agent manager may have a special application or an increased level of rights to access applications features not available to other users. The special application is a program installed on the agent manager's terminal. This application provides the agent manager the ability to securely perform agent manager functions such as registering and activating new agent accounts. The mFS agent manager application may be installed on any terminal or device. It communicates with the mFS platform using binary and/or text SMS messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates. In some embodiments, the mFS agent manager

application itself be a mobile vault providing business-to-business cashless transactions, including other functions. In other embodiments, the mFS agent manager application may provide mobile wallet application functions and/or mobile vault functions. System-specific permissions may dictate which functions are available on each mFS agent manager application.

As subscribers, agents, and other mFS program participants conduct business in the mFS program, value is transferred from one account to the next as payment for services rendered or goods purchased. This value can be in the form of real currency or the electronic representation referred to herein as eMoney. Among other situations, eMoney is used in mFS implementations where the real-time processing of financial transactions including card processing is not practical. The mFS platform utilizes an internal transaction processor for managing the real-time balance of mobile wallet and agent accounts as value (eMoney) is transferred from one mobile wallet to another in payment for services.

The term "mFS program master account" refers to a bank account maintained by the mFS program partner bank to provide funds and float for the operation of the mFS platform. Depending on the type of mFS implementation, the master account can include sub-accounts for each of the agent branches and subscriber mobile wallets, giving the bank visibility into all transactions on a per-user basis. The mFS platform can also manage the balance of sub-accounts and interact with the bank's master account when funds need to be deposited or withdrawn from the account.

The term mobile network operator (MNO) refers to a provider of mobile phone service including basic voice, SMS, unstructured supplementary service data (USSD) and data service, and may also be referred to as a "wireless service provider".

The term "mobile wallet" or "mobile wallet account" refers to a stored value account or prepaid access account (PPA) that allows the owner (or "subscriber") to pay for goods and services on the mFS platform from his or her mobile wallet account. When the mFS eMoney transaction processor is used, the mobile wallet balance is maintained by the mFS platform and value is exchanged within the mFS program as eMoney. When the mFS platform is integrated to an external card processor, the mobile wallet utilizes funds from the subscriber's prepaid debit card and bank account to exchange value on the mFS platform.

The term "partner bank" refers to the primary bank participating in the mFS program. The partner bank is responsible for holding the mFS program master accounts that hold the funds for all mFS services and transactions. A "PIN" refers to a numeric password that may be required to perform a transaction via the mobile wallet application.

The term "subscriber" refers to a participant of the mFS mobile wallet platform. The subscriber maintains a mobile wallet balance and performs transactions using the mFS application. An "unbanked subscriber" is a subscriber that does not have (or does not have access to) a bank account or credit union account. The application or "mobile wallet application" provides mobile wallet functionality to the (unbanked) subscriber. The mobile wallet application is installed on a mobile device in the device's memory, on a SIM card (such as a GSM SIM card) or is otherwise accessible to the mobile device. The mobile wallet application provides the subscriber the ability to securely perform subscriber functions such as making retail purchases, paying bills, or transferring money to other mFS subscribers and non-subscribers. The mobile wallet application communicates with the mFS platform using binary and text SMS messages, among other forms of wireless communication. A wireless service provider or MNO provides the GSM network infrastructure on which the mFS platform operates.

Figure 1 illustrates an example system architecture for a mobile wallet platform. Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions. Integration tier 101 can also include a communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111. Other mechanisms include, but are not limited to: International Standards Organization ("ISO") 8583 for Point of Sale ("POS") and Automated Teller Machines ("ATM") devices and Advanced Message Queuing Protocol ("AMQP") for queue based interfaces. Each of channels 111 can be integrated to one or more mechanisms for sending messages to integration tier 101. Notification services 102 is configured to send various notifications through different notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails. Notification services 102 can be configured through a web services API.

Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113. Each connector can be a separate module intended to integrate an external service to the system architecture. Business process services 104 are configured to

implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects. Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors.

Security services 106 are configured to perform subscriber authentication. Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table.

Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers. Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses. Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints.

Name matching engine 110 is configured to match different objects according to specified configuration rules. Matching engine 110 can be use to find similarities between names, addresses, etc. Transaction processor 121 is configured to manage financial accounts and transactions. The transaction processor 121 can be used to hold, load, withdraw and deposit funds to mobile wallet accounts. Transaction processor 121 can also be used as a common interface to a third party processor system. When used as a common interface, financial operations may be delegated to the external processor. A Clearing House subsystem of transaction processor 121 can be used to exchange the financial information with a bank.

Components of a mobile wallet platform can be connected to one another over (or be part of) a system bus and/or a network. Networks can include a Local Area Network ("LAN"), a Wide Area Network ("WAN"), and even the Internet. Accorindlgy, components of the mobile wallet platform can be "in the cloud". As such, mobile wallet platform components as well as any other connected computer systems and their components, can create message related data and exchange message related data (e.g.,

Internet Protocol ("IP") datagrams and other higher layer protocols that utilize IP datagrams, such as, Transmission Control Protocol ("TCP"), Hypertext Transfer Protocol ("HTTP"), Simple Mail Transfer Protocol ("SMTP"), etc.) over the system bus and/or network.

The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below. These services will be described in greater detail below with regard to system Figures 1 and 2, as well as Figures 3-19B.

Figure 2 depicts a monetary transaction system 200 similar to that described in Figure 1. The monetary transaction system 200 may provide a more simplified system structure in which each of the above services may be provided. The system includes a subscriber 205. The subscriber may have access to a bank account, or may be an unbanked subscriber. The subscriber has a profile 211 with the monetary transaction system 210. The profile includes the subscriber's know your customer (KYC) information, as well as any associated bank accounts, credit union accounts, bill pay accounts or other accounts. The subscriber has (or has access to) a mobile device 206 such as a phone or tablet. The mobile device runs the mobile wallet application (or mobile wallet application) 207.

The subscriber can indicate, using the mobile application 207 which transaction or other action he or she would like to perform. The indicated transaction 208 is sent to the mobile wallet platform 210 to be carried out by the platform. The transaction processor 216 (which may be similar to or the same as transaction processor 121 of Figure 1) performs the transaction(s) specified by the (unbanked) subscriber 205. The transaction processor may implement various other components to perform the transaction including memory 217, (wireless) communication module 215, rules engine 210 and/or transaction database 225.

Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction system can transfer money or eMoney 221 to or from an entity such as a user or agent (e.g. entity 222) to or from an establishment such as a retail store or agent company (e.g. entity 223).

In some cases, the monetary transaction system 210 application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application. For instance, mobile wallet application 207 may provide a web interface that allows a user to enroll for a mobile wallet. The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of channels (111 from Figure 1) connected to the monetary transaction system 210. The web interface or mobile wallet application may prompt for and receive enrollment information (e.g. KYC information) for the (unbanked) subscriber 205 over at least one of the plurality of channels (e.g. web, point-of-sale (POS), interactive voice response (IVR, etc.). The web interface or mobile wallet application may then send activation instructions over the same or a different channel to activate the (unbanked) subscriber 205 and create a subscriber account for the (unbanked) subscriber.

Once the subscriber has an account, the monetary transaction system generates a corresponding mobile wallet for the unbanked subscriber (available via the web interface and/or the mobile wallet application. The system then presents the (unbanked) subscriber's account data associated with the mobile wallet and/or a notification indicating that enrollment was successful to the subscriber. Accordingly, the mobile wallet application or the web interface may be used to provide user enrollment functionality. It should also be understood that either the mobile wallet application or the web interface may be used to provide substantially all of the mobile wallet functionality described herein.

It should also be noted that the mobile device 206 may be any type of plan-based phone or tablet, or prepaid phone or tablet. Many subscribers, such as unbanked

subscribers, may primarily use prepaid phones. The mobile wallet application 207 may be installed on both plan-based phones and prepaid phones. The mobile wallet application may be installed on the device's SIM card, or on the device's main memory. Accordingly, the monetary transaction system 200 may be accessed and used via substantially any type of plan-based or prepaid mobile device.

The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by an electronic payment system or a third party), adding a bank/credit union account to a mobile wallet, adding a debit/credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet, making in store purchases from a mobile wallet, or transferring money or eMoney from one business account to another business account (i.e. from one business's mobile vault to another business's mobile vault, as will be shown in Figure 4).

Figure 3A depicts a subscriber-to-subscriber eMoney transfer. In a merchant and distributor scenario, either or both of the merchant and the distributor (including any delivery personnel) may be subscribers. To perform such a transfer, subscriber A (301) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer. The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account. Subscriber A may also receive a notification that the transfer was successful. Accordingly, eMoney may be transferred between two mFS platform subscribers, one or both of which may be unbanked. The monetary transaction system 210 processes the subscribers' requests, updates the subscribers' eMoney balances, logs the transactions, and sends transaction information to a specified bank when needed.

Figure 3B illustrates a subscriber-to-non-subscriber eMoney transfer. Accordingly, as mentioned above, either or both of the merchant and the distributor may be non-subscribers. In graphic 305, subscriber A wishes to send eMoney to another

individual that is not a subscriber to the mFS platform. The transaction is initiated in the same fashion as the subscriber-to-subscriber transfer scenario. However, since non-subscriber B does not have a mobile wallet account, the monetary transaction system 210 cannot credit them with eMoney. Instead, the monetary transaction system 210 sends a notification (e.g. via SMS) to non-subscriber B with instructions for how to pick-up the transferred money, along with an authorization code (306). The monetary transaction system 210 puts a hold on subscriber A's account for the amount transferred. Subscriber B then has a specified number of days to pick up the cash before the hold expires and the amount is credited back to subscriber A's eMoney account by the monetary transaction system 210.

When non-subscriber B goes to pick up the money at an agent branch, the agent branch's manager or agent verifies the authorization code via an agent manager or agent mobile wallet application (that, in turn, accesses the mFS platform). Once the transfer has been validated, the agent gives the cash to non-subscriber B. The agent branch's mFS account is credited with the transfer amount (307) and the user leaves with the cash in hand (308). The mFS platform processes the transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction details to a platform-specified bank.

Figure 4 depicts a physical environment and corresponding computer system architecture 400 for paying using mobile wallets to pay for delivered products.

As depicted in Figure 4, delivery vehicle 404 physically delivers goods 403 from distribution center 401 to retail location 402 (i.e. to merchant 407). It should be noted that retail location 402 may include any location to which goods are distributed including stores, homes, business offices or other locations. Distribution center 401 may be one of a number of distribution centers owned and/or controlled by distributor 462. Delivery of goods 403 to retail location 402 can be part of delivery route that includes deliveries to one or more other retail locations. Thus, before arriving at retail location 402, delivery vehicle 404 may have already made other stops to deliver other goods to one or more other retail locations. Likewise, after leaving retail location 402, delivery vehicle 404 may make additional other stops to deliver other goods to one or more additional retail locations.

After arriving at retail location 402, goods 403 are removed from delivery vehicle 404 (e.g., by one or more of: merchant 403, merchant 403's employees, and delivery

personnel 406) and left at retail location 402 for subsequent sale to patrons of the retail location.

Merchant 407 can use merchant mobile phone 408 (or another mobile device) for wireless (telephonic) communication, as well as running software applications, such as, for example, mobile wallet application 411. Delivery personnel 406 can use delivery mobile phone 409 for wireless telephonic communication as well as running software applications, such as, for example, invoicing application 412. Merchant mobile phone 408 and delivery mobile phone 409 can communicate wirelessly with (e.g., send data to, receive data from, issue commands to, etc.) electronic payment system 421 to utilize the functionality of electronic payment system 421 (i.e. monetary transaction system 210). Wireless communication can occur over a wide area wireless network, such as, for example, a cellular network. Collectively, electronic payment system 421, merchant mobile phone 408, and delivery mobile phone 409 represent a mobile payment platform (i.e. 210). Within this platform, the merchant may be an agent, and the retail location may be an agent company, and thus provide the appertaining functionality (described above) to subscribers and non-subscribers.

As depicted, electronic payment system 421 includes payment processor 422 (e.g., a payment processor used by payment handler 105), an invoice processor 423, merchant mobile wallet 424, and distributor mobile vault 426. Merchant mobile wallet 424 corresponds to merchant 407. Distributor mobile vault 426 further includes distributor mobile wallet 427 and distributor invoicing data 428. Distributor invoicing data 428 defines an invoicing formation for distributor 462. Distributor mobile vault 426 corresponds to distributor 462. Merchant mobile wallet 424 and distributor mobile vault 426 can be stored in a database (e.g., database 108).

Although not depicted, various other modules from the architecture of Figures 1 and/or 2 can also be included electronic payment system 421. The modules expressly depicted in Figure 4 can interoperate with these other modules as appropriate to facilitate desired functionality.

Delivery personnel 406 can use invoicing application 412 to interact with electronic payment system 421 in a limited way on behalf of distributor 462. Upon delivery of goods 403 to retail location 402, delivery personnel can also deliver an invoice to merchant 407. In some embodiments, the invoice is a paper invoice, such as,

for example, invoice 461. Invoice 461 indicates that goods 403 were purchased for amount 463.

In other embodiments, the invoice is an electronic invoice. For example, delivery personnel 406 can use invoicing application 412 to send invoice submission data 429 to invoice processor 423. (Alternatively, the invoice submission data 429 may be sent via a batch file from distributor 462). Invoice processor 423 can receive invoice submission data 429 from invoicing application 412. Invoice submission data 429 can indicate that goods 403 are valued at a specified amount and were physically delivered retail location 402. Invoice processor 423 can refer to distributor invoicing data 428. Invoice processor 423 can generate electronic invoice 431 based on the invoice submission data 429 and the distributor invoicing data 428. Invoice processor 423 can submit electronic invoice 431 to merchant mobile phone 408 on behalf of distributor 462. Electronic invoice 431 indicates that goods 403 were purchased for amount 463. Invoice processor 423 can record generation of invoice 431 in distributor mobile vault 426.

Mobile wallet application 411 can receive invoice 431 from electronic payment system 421. In response to receiving invoice 431, mobile wallet application 411 can indicate receipt of invoice 431 at a user-interface (e.g., display screen) of merchant mobile phone 408.

Upon receiving an invoice (whether it be a paper invoice or an electronic invoice) merchant 407 can log into electronic payment system 421 and access merchant mobile wallet 424 through mobile wallet application 411. Merchant 407 can enter commands through a user-interface (e.g., touch screen or keypad) to request that the invoice (e.g., invoice 461 or invoice 431) be paid partially or in full. Mobile wallet application 411 can send payment instructions 432 to payment processor 422. Payment instructions 432 indicate that amount 463 is to be paid from merchant 407 to distributor 462. Payment processor 422 can validate that the balance of funds in merchant mobile wallet 424 is sufficient to pay amount 463. When the balance of funds is sufficient, payment processor 422 s debits 441 amount 463 from merchant mobile wallet 424 and credits 442 amount 463 to distributor mobile wallet 427.

Payment processor 422 indicates to invoice processor 423 that invoice 431 or invoice 461 was paid as appropriate. Invoice processor 423 receives the indication that invoice 431 or invoice 461 was paid. Invoice processor 423 records the indication that invoice 431 or invoice 461 was paid in the distributor mobile vault 426. Payment

processor 422 (or a separate notification module) can send payment received notification 434 (e.g., a receipt) to mobile wallet application 411. Mobile wallet application 411 can present payment received notification 434 to merchant 407 through a user-interface (e.g., a display screen). Accordingly, merchant 407 is provided verification when an invoice is paid.

Payment processor 422 (or the separate notification module) can send payment received notification 433 to invoicing application 412. Invoicing application 412 can present payment received notification 433 to delivery personnel 406 through a user-interface (e.g., a display screen). Accordingly, delivery personnel 406 are provided verification when an invoice is paid. In response to seeing presentation of payment received notification 433, delivery personnel 406 can leave retail location 402 and delivery other goods to a next delivery stop or return to distribution center 401. The transaction is efficient and saves time relative to a currency based transaction. Accordingly, delivery personnel 406 can makes more deliveries in a specified time period (e.g., a shift or a day).

The features of mobile telephone applications, such as, for example, mobile wallet application 411 and invoice application 412, can be adjusted for mobile telephone capabilities. For example, a lower function, "basic" mobile wallet application may be configured to work on lower capability mobile phones. The basic mobile wallet application can be used for merchant mobile wallet payment for goods. The basic application can provide electronically time-stamped authentication and authorization of payment and automatic deposit.

An "enhanced" mobile wallet application can be configured to work on higher capability mobile phones such as smart phones and tablets. In addition to features of the basic application, the enhanced application also has the capability to tie into a distributor's inventory to produce other features, including: automatic notification to merchant of pending delivery, automatic notification of delays, real-time inventory adjustments that re-calculate the amount due, and automatically close out accounts receivable ("A/R") account upon completion of a transaction.

In addition to linking existing bank accounts to the mobile wallet, the electronic payment system 421 maintains a stored value account for real-time payment of services. For at least some implementations, the electronic payment system may partner with a local bank to provide pre-paid stored value accounts for each mobile wallet (including the

distributor's mobile wallet, the delivery person's mobile wallet (which may be the same as or an extension of the distributor's mobile wallet), and the merchant's mobile wallet. These stored value accounts provide the basis for the exchange of funds between each of the program participants, whether they are distributors, merchants, consumers, agents, or companies providing services on the platform.

A partner bank is used to hold all of the stored value accounts and support settlements between the accounts. Agents deposit funds into and withdraw funds from the bank directly. Distributors, merchants, and consumers interact with agents to deposit and withdraw funds. Integration into a partner bank supports the activation and maintenance of each of the stored value accounts. While the electronic payment system 421 manages the real-time balance of each end-user stored value account, the platform interacts with the bank to move funds from one account to the other as a means of settling the transactions. The partner bank also supports settlement with program participants who don't have an account with the partner bank. The partner bank may support settlements with payment gateways, bill payment providers, and international remittance providers.

Other financial service providers such as bill payment aggregators and international remittance providers are also integrated into the electronic payment system 421. These service providers offer end-users the ability to pay their bills and send money to others. The recipients don't necessarily need to be subscribers to the program to receive their funds (as explained above with regard to Figure 3B). International remittance providers support the ability to both send money as well as receive money transfers in real time into the stored value accounts.

A reconciliation report may be generated and accessible through a portal provided by the electronic payment system 421 to ensure delivery personnel invoices (431) and receipts (433) are reconciled with merchant orders and inventory. The electronic payment system 421 also allows users to view the account balance and transaction history of the driver account and distribution center stored value accounts. Delivery personnel/distributors are able to receive and process payments for client products from merchants using cash, credit cards, debit cards, or a mobile wallet stored value account. Delivery personnel/distributors have the ability to deposit cash in nearby banks or with program agents in order to limit the amount of cash on hand as they complete their deliveries.

Merchants establish a stored value account with their mobile wallet 411 that can be used to make mobile payments to distributors or receive payments from consumers using cash, credit cards, debit cards, or a mobile wallet platform stored value account. The mobile wallet application 411 allows merchants to make electronic bill payments or transfer money from their mobile phone on behalf of customers who have not registered for the client mobile wallet stored value account.

In addition to processing financial transactions, the merchant's mobile wallet account applications allow them to manage their user profile including the linking and unlinking of payment instruments such as credit cards and checking accounts, updating their personal information including address, password and PIN, and methods by which the platform sends receipts, alerts and reminders. Changes made on any channel are updated and stored in the subscriber profile and are applied to each channel (i.e. – a password update on a mobile wallet application applies also to the Web client or USSD client).

The electronic payment system 421 works with all of the program participants to manage fraud and unauthorized access to data on the platform. Every transaction on the electronic payment system 421 is considered an auditable event and is stored with the account information of the person executing the transaction, a unique transaction ID, and time stamp. This data is aggregated on a centralized logging server where it is indexed and made available for reporting and fraud research. Likewise, periodic (e.g. daily) reports are generated to highlight suspicious activity based on patterns, thresholds, and velocities. The electronic payment system 421 also utilizes real-time transactions monitoring and filtering by validating transaction limits and velocities of every transaction to diminish fraudulent usage.

In one embodiment, as described in the flowchart 500 of Figure 5, a computer system is provided. The computer system may be any type of computing device that has one or more processors and some type of memory. The computer system also includes a computer-readable medium that has computer-executable instructions stored on it that, when executed by the one or more processors, causes the computer system to perform a method for allowing a merchant to pay a distributor for delivered goods using an electronic payment system. The method includes receiving a payment instruction 432 from a merchant 407 in step 510. The payment instruction indicates that a distributor's invoice for a specified amount 463 is to be paid from the merchant's mobile wallet 411.

The invoice is generated for goods 403 that were physically delivered from the distributor 462 to the merchant 407. At least in this embodiment, both the merchant and the distributor have mobile wallets (411 and 427, respectively). In other embodiments, one or the other may not be subscribers to the electronic payment system 421 and may not have a mobile wallet.

The electronic payment system 421 validates that the merchant's mobile wallet 411 has a balance of funds sufficient to pay the amount 463 specified in the invoice 431 in step 520, and debits the merchant's mobile wallet by the specified amount of funds in step 530. The electronic payment system 421 then credits the distributor's mobile wallet by the specified amount of funds in step 540 and sends a notification 433 to the distributor indicating that the invoice has been paid in step 550. Accordingly, a business may be able to pay an invoice using a mobile wallet quickly and seamlessly. The delivery person / distributor thus does not have to deal with cash (at least in this transaction), and can avoid the logistical hassles of physical cash.

Thus, in general, a mobile vault and corresponding applications, enable a distributor to accept mobile wallet payments from merchants, increasing the number of merchants drivers can reach within a day while reducing the amount of cash transactions per route. Moreover, a merchant mobile wallet can be used for additional services such as remittances, bill payments, airtime top-up and purchases.

Embodiments of the invention can adhere to Know Your Customer (KYC) rules in the US by performing Customer Identification Program (CIP) checks as required by the Bank Secrecy Act and US PATRIOT Act. A minimum amount of information can be gathered about a customer, such as, for example, First Name, Last Name, Date of Birth, Government ID Type, Government ID Number, Address. The CIP processes are designed to validate customer identity against government blacklists and assists in the prevention of money laundering and terrorist financing. A combination of non-documentary and documentary verification can be used to ensure beyond a reasonable doubt the identity of the customer.

Non-Documentary Verification can occur through the presentment of the information that was collected from the user to an external third party, such as, for example, Lexis Nexis. Documentary Verification can occur if non-documentary verification fails, then the user is asked to present an unexpired government ID. Various differ forms of identification including Driver's license, Passport, Alien identification

(e.g., green card or work visa), and Mexican Consular identification card, can be accepted.

Embodiments of the invention can perform Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) checks. AML and CFT checks can be performed using transaction monitoring methods to flag names and suspicious transactions for further investigation. The electronic payment system can perform AML and CFT checks on all electronic financial transactions to ensure that electronic funds are not being used for money laundering or terrorism. Transaction limits can be placed on user accounts. The transaction limits are fully configurable for each particular use case, channel and payment method that allows maximum flexibility to restrict higher risk use cases. Velocity checks can also be performed. Velocity Checks ensure that subscribers are not abusing the electronic payment system within the allowable limits.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed:

1. A computer system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, causes the computing system to perform a method for allowing a merchant to pay a distributor for delivered goods using an electronic payment system, the method comprising the following:

receiving a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets;

validating that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice;

debiting the merchant's mobile wallet by the specified amount of funds;

crediting the distributor's mobile wallet by the specified amount of funds; and

sending a notification to the distributor indicating that the invoice has been paid.

2. The computer system of claim 1, wherein the merchant's payment instruction is received from the merchant's mobile device using wireless communication.

3. The computer system of claim 2, further comprising sending a payment received notification to the merchant's mobile device.

4. The computer system of claim 1, wherein the indication sent to the distributor is sent to the distributor's mobile device using wireless communication.

5. The computer system of claim 1, wherein the distributor's invoice is submitted to the merchant's mobile device by a delivery person on behalf of the distributor.

6. The computer system of claim 5, further comprising, prior to receiving the payment instruction from the merchant mobile device, receiving invoice submission data from the delivery person's mobile device using wireless communication, the invoice submission data indicating that the merchant is to be invoiced in the specified amount for the physically delivered goods.

7. The computer system of claim 6, further comprising sending an electronic invoice to the merchant's mobile device in response to receiving a request from the merchant and in response to receiving the invoice submission data from the delivery person on behalf of the distributor, the electronic invoice indicating that the merchant owes the distributor the specified amount for the physically delivered goods.

8. The computer system of claim 7, wherein receiving a payment instruction from a merchant mobile device using wireless communication comprises receiving a payment instruction indicating that the electronic invoice is to be paid from the merchant's mobile wallet.

9. The computer system of claim 7, wherein receiving a payment instruction from the merchant mobile device using wireless communication comprises receiving a payment instruction indicating that a paper invoice is to be paid from the merchant's mobile wallet.

10. The computer system of claim 1, further comprising sending the merchant an additional notification notifying the merchant of a pending delivery.

11. The computer system of claim 10, wherein the additional notification indicates a delivery date and time window in which the deliver is to occur.

12. The computer system of claim 11, wherein subsequent notifications are sent to the merchant automatically upon the occurrence of a delay.

13. The computer system of claim 1, further comprising sending the merchant a real-time inventory adjustments notification that indicates the merchant's newly received goods.

14. The computer system of claim 1, further comprising automatically closing out a merchant accounts receivable (A/R) account upon completion of the transaction.

15. The computer system of claim 1, wherein the electronic payment system utilizes an internal processor to maintain individual merchant mobile wallet balances in addition to distributor mobile wallet balances.

16. A mobile payment platform, the mobile payment platform including:

an electronic payment system, the electronic payment system including one or more computer storage devices having stored thereon computer executable instructions representing a payment processor, an invoice processor, a merchant mobile wallet, and a distributor mobile vault, the distributor mobile vault including a distributor mobile wallet and distributor invoicing data, the merchant mobile wallet for a merchant, the distributor mobile vault for a distributor;

a distributor mobile device, the distributor mobile device including one or more computer storage devices having stored thereon computer executable instructions representing an invoicing application; and

an merchant mobile device, the merchant mobile device including one or more computer storage devices having stored thereon computer executable instructions representing a mobile wallet application; and

wherein the invoice processor is configured to:

receive invoice submission data from the distributor's mobile device, the invoice submission data indicating that goods valued at a specified amount were physically delivered to the merchant;

generate an electronic invoice based on the invoice submission data;

submit the generated electronic invoice to the merchant's mobile device;

record generation of the electronic invoice in the distributor's mobile vault;

receive an indication that an electronic invoice has been paid; and

record the indication that the electronic invoice has been paid in the distributor's mobile vault.

17. The mobile payment platform of claim 16, wherein the payment processor is configured to:

receive a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets;

validate that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice;

debit the merchant's mobile wallet by the specified amount of funds;

credit the distributor's mobile wallet by the specified amount of funds; and

send a notification to the distributor indicating that the invoice has been paid.

18. The mobile payment platform of claim 16, wherein the generated electronic invoice is submitted to the merchant's mobile device by a delivery person on behalf of the distributor.

19. The mobile payment platform of claim 16, the merchant uses the mobile payment platform for performing at least one of the following in addition to making payments for received goods: bill payments, remittances, mobile phone airtime top-up and retail purchases.

20. A mobile payment platform, the mobile payment platform including:

an electronic payment system, the electronic payment system including one or more computer storage devices having stored thereon computer executable instructions representing a payment processor, an invoice processor, a merchant mobile wallet, and a distributor mobile vault, the distributor mobile vault including a distributor mobile wallet and distributor invoicing data, the merchant mobile wallet for a merchant, the distributor mobile vault for a distributor;

a distributor mobile device, the distributor mobile device including one or more computer storage devices having stored thereon computer executable instructions representing an invoicing application; and

an merchant mobile device, the merchant mobile device including one or more computer storage devices having stored thereon computer executable instructions representing a mobile wallet application; and

wherein the invoice processor is configured to:

receive invoice submission data from the distributor's mobile device, the invoice submission data indicating that goods valued at a specified amount were physically delivered to the merchant;

generate an electronic invoice based on the invoice submission data;

submit the generated electronic invoice to the merchant's mobile device;

record generation of the electronic invoice in the distributor's mobile vault;

receive an indication that an electronic invoice has been paid; and

record the indication that the electronic invoice has been paid in the distributor's mobile vault; and

wherein the payment processor is configured to:

receive a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets;

validate that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice;

debit the merchant's mobile wallet by the specified amount of funds;

credit the distributor's mobile wallet by the specified amount of funds; and

send a notification to the distributor indicating that the invoice has been paid.

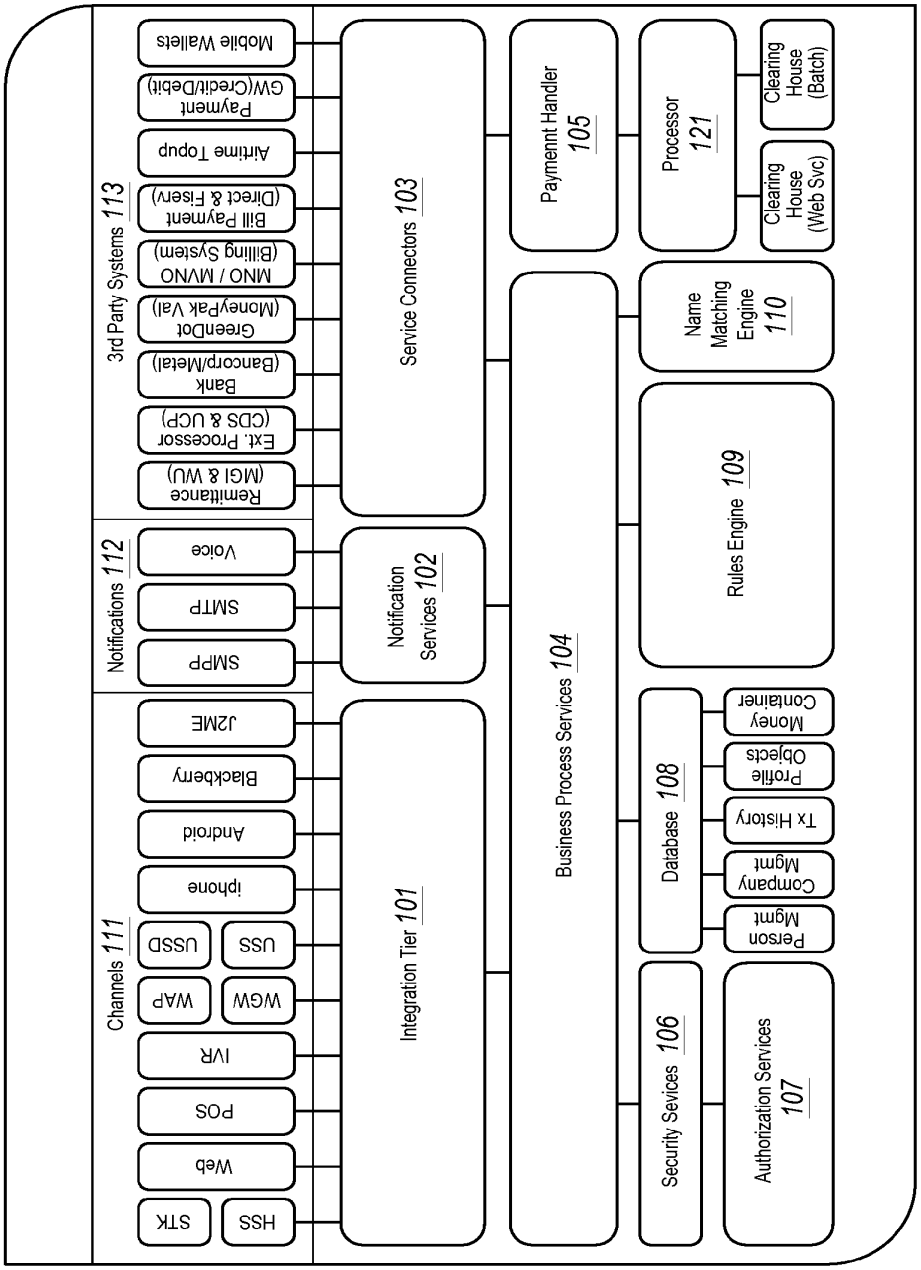

Platform Functional Architecture
Channels 111
HSS
STK
Web
POS
IVR
WGW
WAP
USS
USSD
iphone
Android
Blackberry
J2ME
Notifications 112
SMPP
SMTP
Voice
3rd Party Systems 113
Remittance (MGI & WU)
Ext. Processor (CDS & UCP)
Bank (Bancorp/Metal)
GreenDot (MoneyPak Val)
MNO / MVNO (Billing System)
Bill Payment (Direct & Fiserv)
Airtime Topup
Payment GW(Credit/Debit)
Mobile Wallets
Integration Tier 101
Notification Services 102
Service Connectors 103
Business Process Services 104
Paymennt Handler 105
Security Sevices 106
Authorization Services 107
Database 108
Person Mgmt
Company Mgmt
Tx History
Profile Objects
Money Container
Rules Engine 109
Name Matching Engine 110
Processor 121
Clearing House (Web Svc)
Clearing House (Batch)

FIG. 1

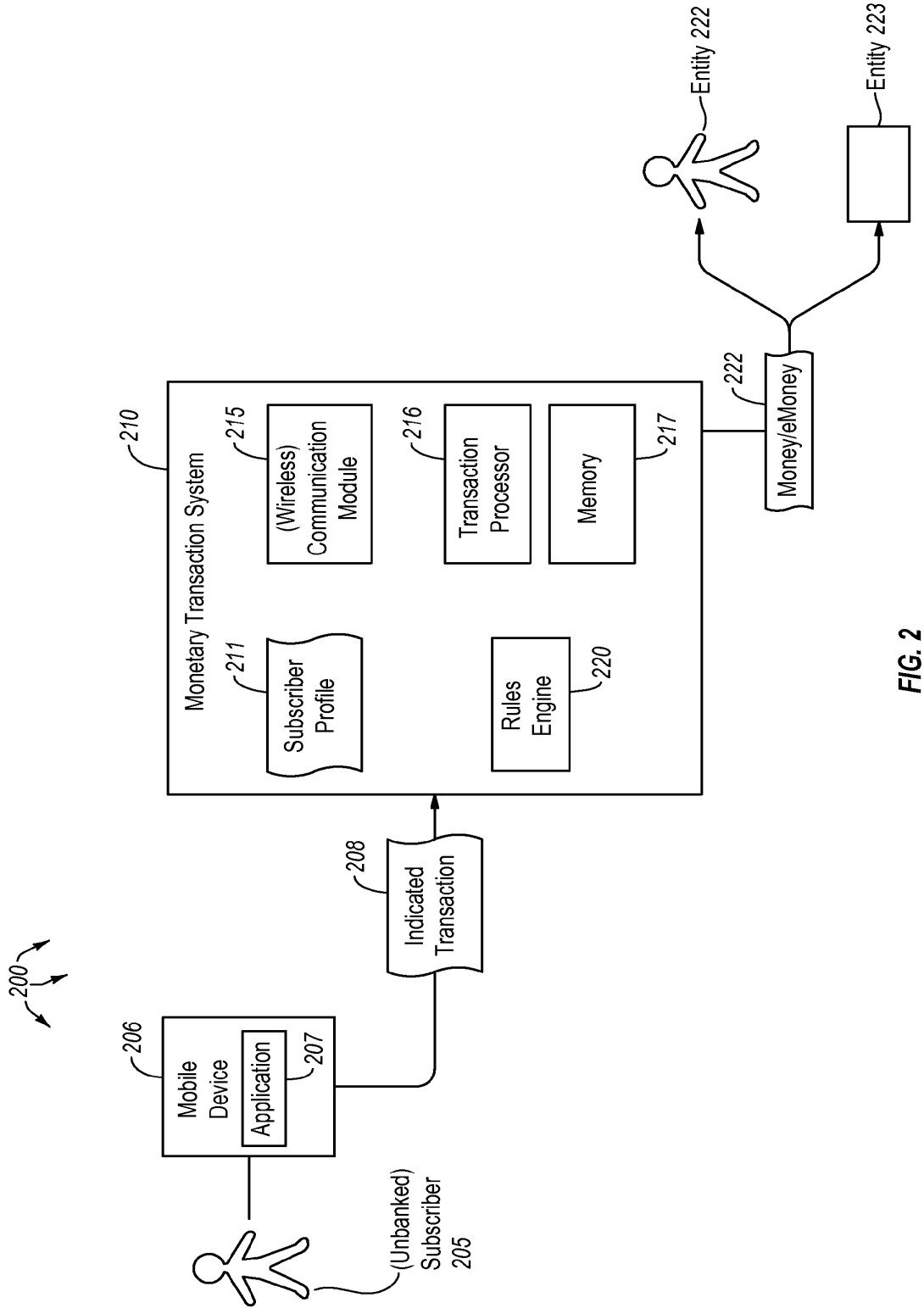
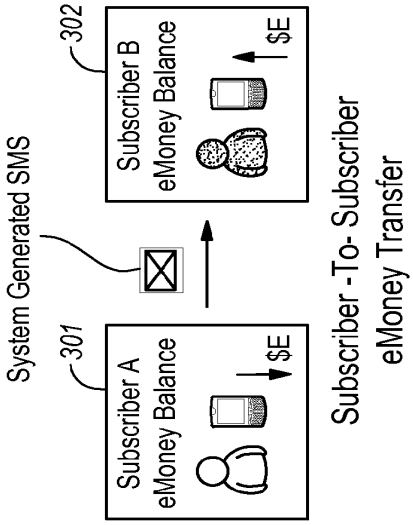
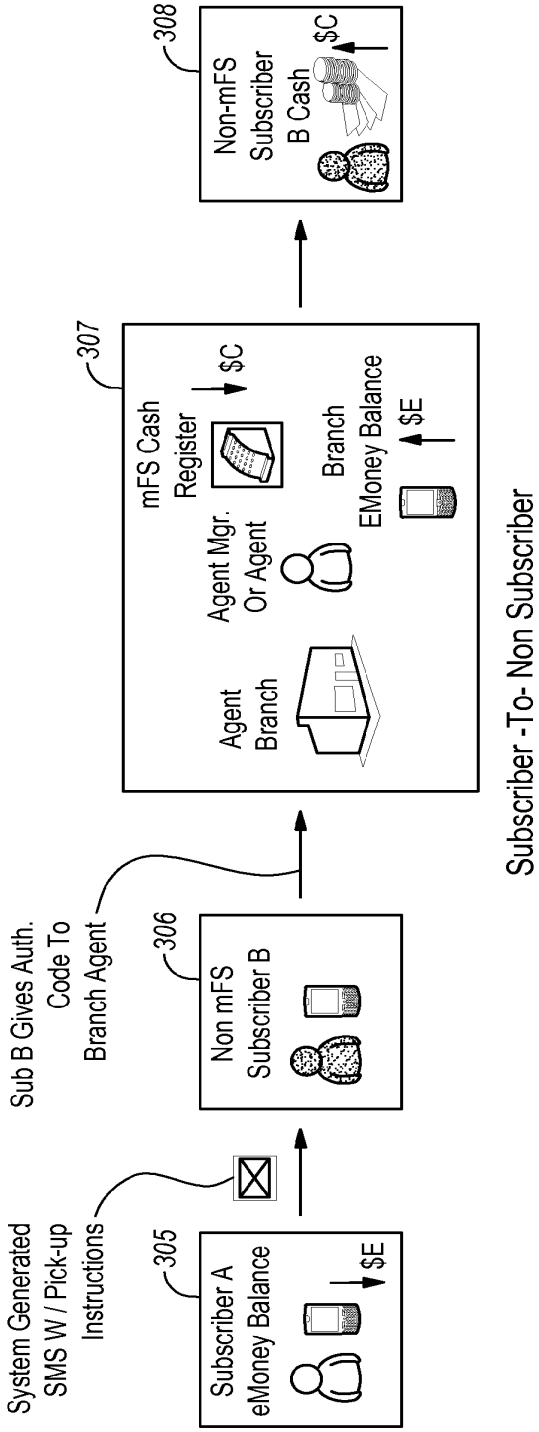

200
206
Mobile Device
Application
207
(Unbanked) Subscriber 205
208
Indicated Transaction
210
Monetary Transaction System
211
Subscriber Profile
215
(Wireless) Communication Module
216
Transaction Processor
217
Memory
220
Rules Engine
222
Money/eMoney
Entity 222
Entity 223

FIG. 2



Subscriber -To- Subscriber
eMoney Transfer

FIG. 3A



Subscriber -To- Non Subscriber
eMoney Transfer

FIG. 3B

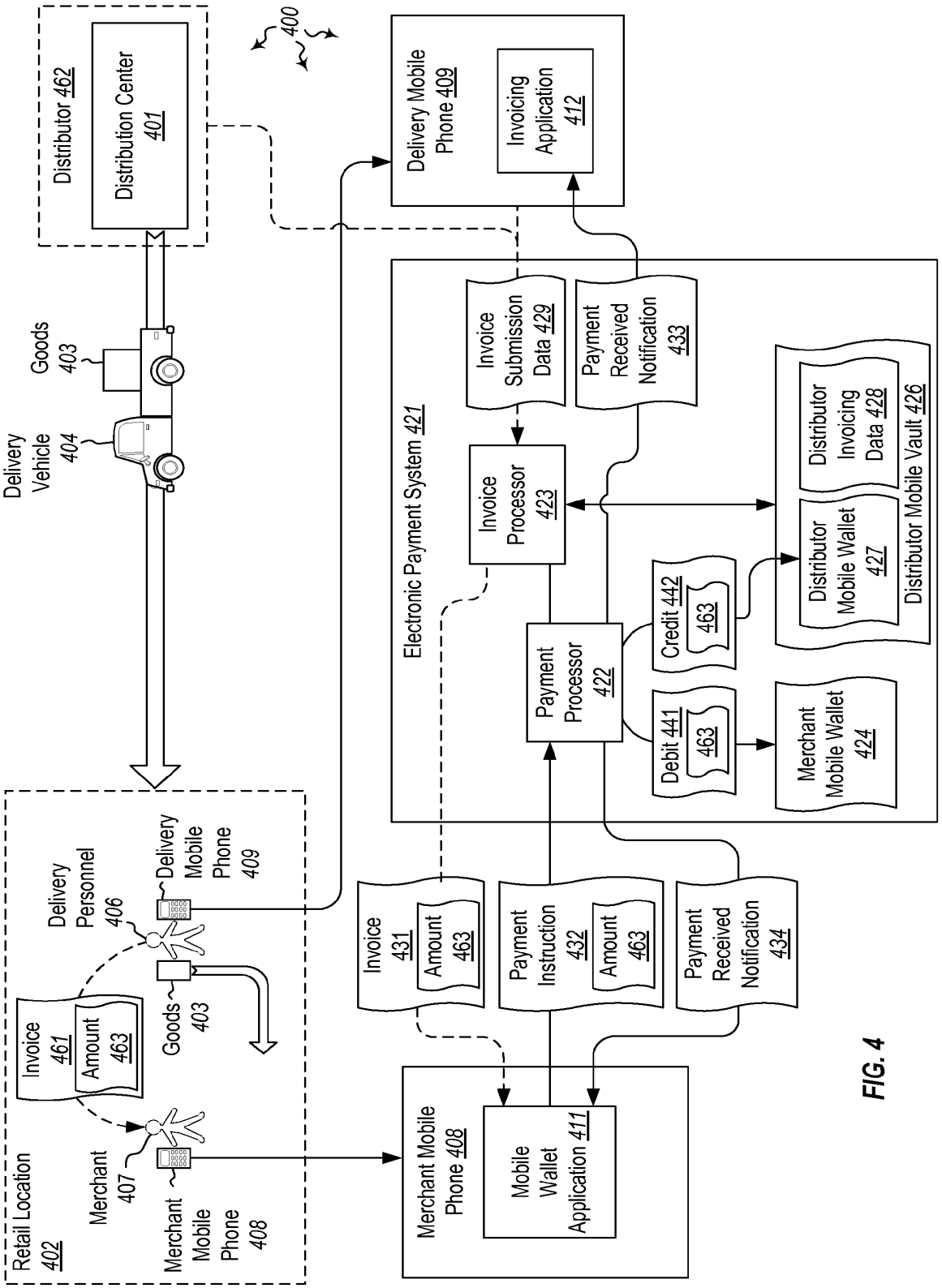

400
Distributor 462
Distribution Center 401
Goods 403
Delivery Vehicle 404
Delivery Mobile Phone 409
Invoicing Application 412
Electronic Payment System 421
Invoice Submission Data 429
Payment Received Notification 433
Invoice Processor 423
Distributor Invoicing Data 428
Distributor Mobile Wallet 427
Distributor Mobile Vault 426
Credit 442
463
Payment Processor 422
Debit 441
463
Merchant Mobile Wallet 424
Retail Location 402
Delivery Personnel 406
Delivery Mobile Phone 409
Invoice 461
Amount 463
Goods 403
Merchant 407
Merchant Mobile Phone 408
Invoice 431
Amount 463
Payment Instruction 432
Amount 463
Payment Received Notification 434
Merchant Mobile Phone 408
Mobile Wallet Application 411

FIG. 4

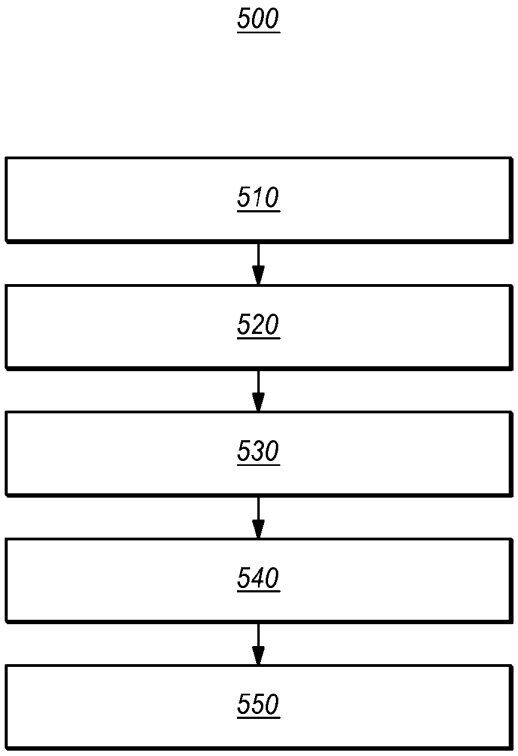


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/43321

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/78
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06Q 20/00 (2012.01)
USPC: 705/78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/64; 235/379 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB, USPT, EPAB, JPAB); Google Scholar; Google Patents; FreePatentsOnline. Search terms used: mobile-wallet mobile-payment electronic-wallet electronic-payment mobile-purse electronic-purse wallet-funds purse-funds wallet-available purse-available wallet-balance purse-balance mobile-vault wallet-sufficient...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0275779 A1 (LAKSHMINARAYANAN) 06 November 2008 (06.11.2008) entire document, especially Abstract; Figs. 6, 8; para [0006], [0023], [0031], [0033], [0041], [0047], [0054], [0056]-[0059], [0062], [0073], [0075], [0077], [0081], [0083], [0092], [0096], [0105], [0131], [0133]	1 - 20
Y	US 2007/0255620 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document, especially Abstract; para [0021], [0187], [0202], [0203], [0208], [0255], [0256], [0258], [0367]-[0372], [0590], [0702], [0739], [0882], [1135]	1 - 20
A	US 2010/0030651 A1 (MATOTEK et al.) 04 February 2010 (04.02.2010) entire document	1 - 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
09 August 2012 (09.08.2012)	06 SEP 2012
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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13/528,720	20 June 2012 (20.06.2012)	US

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(74) Agents: **STRINGHAM, John, C.** et al.; 60 East South Temple, Suite 1000, Salt Lake City, UT 84111 (US).

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Published:

— *with international search report (Art. 21(3))*

(54) **Title**: DISRUPTIVELY PRICED OR FREE FINANCIAL SERVICES OR ITEMS IN EXCHANGE FOR PARTICIPATION IN OPT IN ADVERTISING

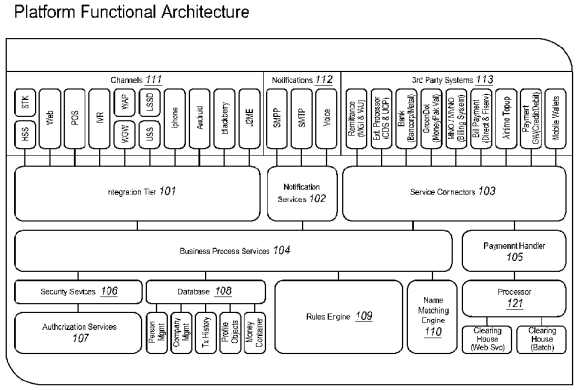


FIG. 1

(57) **Abstract**: Embodiments are directed to providing disruptively priced or free financial services or goods in exchange for participation in opt-in advertising. A user may opt-in to receive some form of advertising on his or her phone. The advertising may appear in a mobile wallet application used to pay for goods or services. The advertising may be related to products the user has previously purchased using the mobile wallet application. An electronic payment system that provides the mobile wallet application tracks and stores items that the user purchases using the mobile wallet. The electronic payment system then analyzes the user's purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The promotions (such as coupons) may then be sent to the user's mobile wallet application and applied automatically when the user purchases that item using the mobile wallet.

WO 2013/009446 A1

DISRUPTIVELY PRICED OR FREE FINANCIAL SERVICES OR ITEMS IN EXCHANGE FOR PARTICIPATION IN OPT IN ADVERTISING

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and the benefit of U.S. Utility Application Ser. No. 13/528,720, filed on June 20, 2012, entitled "Disruptively Priced or Free Financial Services or Items in Exchange for Participation in Opt In Advertising", and claims priority to and the benefits of U.S. Provisional Application Ser. No. 61/499,927, filed on June 22, 2011, entitled "Disruptively Priced or Free Financial Services or Items in Exchange for Participation in Opt In Advertising", which are incorporated herein by reference in their entirety. This application further claims priority to and the benefit of U.S. Patent Application Ser. No. 13/484,199, entitled "Monetary Transaction System", filed on May 30, 2012, which itself claims priority to U.S. Provisional Application Ser. No. 61/522,099, filed on August 10, 2011, entitled "Mobile Wallet Platform", and U.S. Provisional Application Ser. No. 61/493,064, filed on June 3, 2011, entitled "Mobile Wallet Platform". Each of the aforementioned applications is incorporated by reference herein in its entirety.

BACKGROUND

[0002] Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks. For instance, mobile devices allow users to check email, send and receive instant messages, check calendar items, take notes, set up reminders, browse the internet, play games or perform any number of different actions using specialized applications or "apps". These applications allow mobile devices to communicate with other computer systems and perform a wide variety of network-connected tasks previously not possible with a mobile device.

BRIEF SUMMARY

[0003] Embodiments described herein are directed to providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. A user may opt-in to receive some form of advertising on his or her phone. The advertising may appear in a mobile wallet application used to pay for goods or services. The advertising

may be related to products the user has previously purchased using the mobile wallet application. The user has an account with a mobile payment system that provides the mobile wallet application. The mobile payment system can provide the user with a variety of functionality including purchasing items along with one or more of depositing funds, withdrawing funds, transferring funds, etc. Accordingly, the user can use a digital device (e.g., a computer or mobile phone) to interact with the electronic payment system to pay for goods and/or services.

[0004] In exchange for a financial benefit, the user opts in to receive advertisements, coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or other benefits from the electronic payment system. Upon the user's agreement to participate in opt-in advertising, the electronic payment system may be permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains a list of a user's purchased items in a data warehouse. The electronic payment system then analyzes the user's purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The promotions (such as coupons) may then be sent to the user's mobile wallet application and applied automatically when the user purchases that item using the mobile wallet.

[0005] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0006] Additional features and advantages will be set forth in the description which follows, and in part will be apparent to one of ordinary skill in the art from the description, or may be learned by the practice of the teachings herein. Features and advantages of embodiments described herein may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the embodiments described herein will become more fully apparent from the following description and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] To further clarify the above and other features of the embodiments described herein, a more particular description will be rendered by reference to the appended

drawings. It is appreciated that these drawings depict only examples of the embodiments described herein and are therefore not to be considered limiting of its scope. The embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0008] Figure 1 illustrates a monetary transaction system architecture in which embodiments described herein may operate.

[0009] Figure 2 illustrates an alternate example embodiment of a monetary transaction system.

[0010] Figures 3A and 3B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber eMoney transfers via a mobile wallet, respectively.

[0011] Figure 4 illustrates an example data flow for making a retail purchase using a mobile wallet.

[0012] Figure 5 illustrates a monetary transaction system architecture in which free or reduced price items may be provided in exchange for opt-in advertising.

[0013] Figure 6 illustrates an example data flow for providing free or reduced price items in exchange for participation in opt-in advertising.

[0014] Figure 7 illustrates an example screen shot of a mobile wallet application with opt-in advertisements.

DETAILED DESCRIPTION

[0015] Embodiments described herein are directed to providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. A user may opt-in to receive some form of advertising on his or her phone. The advertising may appear in a mobile wallet application used to pay for goods or services. The advertising may be related to products the user has previously purchased using the mobile wallet application. The user has an account with a mobile payment system that provides the mobile wallet application. The mobile payment system can provide the user with a variety of functionality including purchasing items along with one or more of depositing funds, withdrawing funds, transferring funds, etc. Accordingly, the user can use a digital device (e.g., a computer or mobile phone) to interact with the electronic payment system to pay for goods and/or services.

[0016] In exchange for a financial benefit, the user opts in to receive advertisements, coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or other benefits from the electronic payment system. Upon the user's agreement to participate in opt-in advertising, the electronic payment system may be permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains a list of a user's purchased items in a data warehouse. The electronic payment system then analyzes the user's purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The promotions (such as coupons) may then be sent to the user's mobile wallet application and applied automatically when the user purchases that item using the mobile wallet.

[0017] Embodiments described herein may comprise or utilize a special purpose or general-purpose computer including computer hardware, such as, for example, one or more processors and system memory, as discussed in greater detail below. Embodiments described herein also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose or special purpose computer system. Computer-readable media that store computer-executable instructions in the form of data are computer storage media. Computer-readable media that carry computer-executable instructions are transmission media. Thus, by way of example, and not limitation, embodiments described herein can comprise at least two distinctly different kinds of computer-readable media: computer storage media and transmission media.

[0018] Computer storage media includes RAM, ROM, EEPROM, CD-ROM, solid state drives (SSDs) that are based on RAM, Flash memory, phase-change memory (PCM), or other types of memory, or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions, data or data structures and which can be accessed by a general purpose or special purpose computer.

[0019] A "network" is defined as one or more data links and/or data switches that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the

computer properly views the connection as a transmission medium. Transmission media can include a network which can be used to carry data or desired program code means in the form of computer-executable instructions or in the form of data structures and which can be accessed by a general purpose or special purpose computer. Combinations of the above should also be included within the scope of computer-readable media.

[0020] Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission media to computer storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a network interface card or "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer storage media at a computer system. Thus, it should be understood that computer storage media can be included in computer system components that also (or even primarily) utilize transmission media.

[0021] Computer-executable (or computer-interpretable) instructions comprise, for example, instructions which cause a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

[0022] Those skilled in the art will appreciate that various embodiments may be practiced in network computing environments with many types of computer system configurations, including personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, tablets, pagers, routers, switches, and the like. Embodiments described herein may also be practiced in distributed system environments where local and remote computer systems that are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, each perform tasks (e.g. cloud computing, cloud services and the like). In a

distributed system environment, program modules may be located in both local and remote memory storage devices.

[0023] In this description and the following claims, "cloud computing" is defined as a model for enabling on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). The definition of "cloud computing" is not limited to any of the other numerous advantages that can be obtained from such a model when properly deployed.

[0024] For instance, cloud computing is currently employed in the marketplace so as to offer ubiquitous and convenient on-demand access to the shared pool of configurable computing resources. Furthermore, the shared pool of configurable computing resources can be rapidly provisioned via virtualization and released with low management effort or service provider interaction, and then scaled accordingly.

[0025] A cloud computing model can be composed of various characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, measured service, and so forth. A cloud computing model may also come in the form of various service models such as, for example, Software as a Service ("SaaS"), Platform as a Service ("PaaS"), and Infrastructure as a Service ("IaaS"). The cloud computing model may also be deployed using different deployment models such as private cloud, community cloud, public cloud, hybrid cloud, and so forth. In this description and in the claims, a "cloud computing environment" is an environment in which cloud computing is employed.

[0026] Additionally or alternatively, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), and other types of programmable hardware.

[0027] Still further, system architectures described herein can include a plurality of independent components that each contribute to the functionality of the system as a whole. This modularity allows for increased flexibility when approaching issues of platform scalability and, to this end, provides a variety of advantages. System complexity and growth can be managed more easily through the use of smaller-scale parts with

limited functional scope. Platform fault tolerance is enhanced through the use of these loosely coupled modules. Individual components can be grown incrementally as business needs dictate. Modular development also translates to decreased time to market for new functionality. New functionality can be added or subtracted without impacting the core system.

[0028] Various terminology will be used herein to describe the monetary transaction system (also referred to as a "mobile wallet platform", "mobile wallet program", "mobile wallet transaction system", "mobile financial services (mFS) platform" or "electronic payment system"). The term "agent" is used to refer to an individual with mFS transaction system tools and training to support specific mFS functions. These mFS functions include subscriber registration and activation, and the deposit and withdrawal of funds from the mFS transaction system. Agents are representatives of the mFS transaction system or "program". Agents can be employees or contractors of the program provider, or other companies and organizations that partner with the program provider to provide these services themselves. Agents may be found in every facet of a typical economy, and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.

[0029] The mobile wallet platform includes a mobile wallet application, web interface or some other type of functionality that allows the user to interact with the mFS platform using their mobile device. The mobile wallet application may include a subscriber identity module (SIM) application, an Unstructured Supplementary Service Data (USSD) application, a smartphone application, a web application, a mobile web application, a Wireless Application Protocol (WAP) application, a Java 2 Platform, Micro Edition (J2ME) application, a tablet application or any other type of application or interface that provides tools for the agent to register, activate, and offer other services to the mFS subscriber.

[0030] As used herein, a mobile wallet application is a mobile wallet application installed on a SIM card. A USSD application is an application that implements USSD for various functionality including prepaid callback service, location-based content services, menu-based information services and other mobile wallet platform services. A web application is one that implements or uses the internet to provide mobile wallet platform functionality. A mobile web application is similar to a web application, but is tailored for mobile devices. A WAP application is one that uses the wireless application protocol to

communicate with the mobile wallet platform to provide the platform's functionality. A J2ME application is an application developed in Java and is designed to provide mobile wallet functionality on a variety of different hardware. A tablet application is an application specifically designed for a touchscreen-based tablet that provides mobile wallet platform functionality for tablet devices. , and as part of configuring the phone on the network. Any of these applications (or any combination thereof) may be provided on the user's mobile device. This functionality can also be made available on a retail point of sale (POS) system or web site.

[0031] The term "agent administrator" refers to an individual with mFS program tools and training to administrate the allocation of funds to agent branches (e.g. retail locations). As agents perform mFS transactions with subscribers, such as depositing and withdrawing money, the agents are adding and removing money from their own accounts. Any of the applications referred to above may be configured to provide tools used by the agent administrator to view the agent company balance, view the agent branch balances, and transfer funds into and out of agent branch mobile wallets. This functionality can also be made available on a website for easier access.

[0032] In some embodiments, the mFS platform application may utilize triple data encryption standard (3DES) encryption (or some other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS transaction system in order to ensure that the transactions are properly secured and authenticated.

[0033] The term "agent branch" refers to any location where an agent provides support for subscriber services of the mFS platform. Funds are allocated by the agent administrator from the agent company's main account to each agent branch to fund the subscriber mFS functions such as depositing or withdrawing cash, in-store purchases, bill payments, prepaid airtime top-ups and money transfers. In some cases, multiple agents may work in a single branch. However, at least in some cases, monetary funds are allocated to from the agent company's main account on a per branch basis.

[0034] The term "agent branch account balance" refers to the amount of money residing in a particular agent branch account at a given time. Funds can be deposited into the branch account by the agent administrator, or the funds can come from participating in subscriber mFS transactions such as depositing or withdrawing cash from the subscriber's mobile wallet accounts, or making retail purchases with the mobile wallet.

[0035] In some embodiments, in countries with more developed economies, it may be beneficial to use program-issued pre-paid debit cards, pre-paid access accounts, stored value accounts or gift cards to conduct business along with the added convenience of card processing networks such as Cirrus, STAR, or Visa for POS and automated teller machine (ATM) functionality. Agents, particularly those in retail outlets and kiosks, can still support subscribers with deposits, withdrawals, and other transfers, but in this case bank external card processors manage the mobile wallet and branch account balances and provide the real-time transfer of funds.

[0036] The term "agent branch ledger" refers to a written (or electronic) ledger maintained by the mFS platform. Agent branch transactions are performed on the agent's and subscriber's mobile phones where an electronic record of the transaction is generated and stored on the mFS platform. These electronic transactions are then reconciled with agent branch ledgers to ensure the security and integrity of the transaction. Agent branch ledgers are printed or electronic transaction logs that are distributed to the agent branch locations in hard copy form to serve as a backup record to the electronic transactions.

[0037] The term "agent company" refers to a business that registers to participate in the mFS program as a partner of the mFS program provider or owner. The agent company has one or more agent branches which conduct mFS business with mFS program subscribers. In some cases, the agent company may be referred to as a distributor or retailer.

[0038] The term "agent company account balance" refers to the sum of the funds deposited at a "partner bank" (defined below) by the agent company to fund the agent company's daily transactions. The funds in the agent company account are then distributed to agent branches by the agent company's agent administrator to conduct everyday business such as accepting cash deposits and cash withdrawals from mFS subscribers. This balance is sometimes referred to as the "agent company float".

[0039] An "agent manager" is a supervisor of company agents for a given company. The agent manager has the training and tools to create, delete or modify agent accounts for a company, as well as monitor the transactions performed by agents. The agent manager may have a special application or an increased level of rights to access applications features not available to other users. The special application is a program installed on the agent manager's terminal. This application provides the agent manager the ability to securely perform agent manager functions such as registering and activating

new agent accounts. The mFS agent manager application may be installed on any terminal or device. It communicates with the mFS platform using binary and/or text SMS messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates.

[0040] As subscribers, agents, and other mFS program participants conduct business in the mFS program, value is transferred from one account to the next as payment for services rendered or goods purchased. This value can be in the form of real currency or the electronic representation referred to herein as eMoney. Among other situations, eMoney is used in mFS implementations where the real-time processing of financial transactions including card processing is not practical. The mFS platform utilizes an internal transaction processor for managing the real-time balance of mobile wallet and agent accounts as value (eMoney) is transferred from one mobile wallet to another in payment for services.

[0041] The term "mFS program master account" refers to a bank account maintained by the mFS program partner bank to provide funds and float for the operation of the mFS platform. Depending on the type of mFS implementation, the master account can include sub-accounts for each of the agent branches and subscriber mobile wallets, giving the bank visibility into all transactions on a per-user basis. The mFS platform can also manage the balance of sub-accounts and interact with the bank's master account when funds need to be deposited or withdrawn from the account.

[0042] The term mobile network operator (MNO) refers to a provider of mobile phone service including basic voice, SMS, unstructured supplementary service data (USSD) and data service, and may also be referred to as a "wireless service provider".

[0043] The term "mobile wallet" or "mobile wallet account" refers to a stored value account or prepaid access account (PPA) that allows the owner (or "subscriber") to pay for goods and services on the mFS platform from his or her mobile wallet account. When the mFS eMoney transaction processor is used, the mobile wallet balance is maintained by the mFS platform and value is exchanged within the mFS program as eMoney. When the mFS platform is integrated to an external card processor, the mobile wallet utilizes funds from the subscriber's prepaid debit card and bank account to exchange value on the mFS platform.

[0044] The term "partner bank" refers to the primary bank participating in the mFS program. The partner bank is responsible for holding the mFS program master accounts

that hold the funds for all mFS services and transactions. A "PIN" refers to a numeric password that may be required to perform a transaction via the mobile wallet application.

[0045] The term "subscriber" refers to a participant of the mFS mobile wallet platform. The subscriber maintains a mobile wallet balance and performs transactions using the mFS application. An "unbanked subscriber" is a subscriber that does not have (or does not have access to) a bank account or credit union account. The application or "mobile wallet application" provides mobile wallet functionality to the (unbanked) subscriber. The mobile wallet application is installed on a mobile device in the device's memory, on a SIM card (such as a GSM SIM card) or is otherwise accessible to the mobile device. The mobile wallet application provides the subscriber the ability to securely perform subscriber functions such as making retail purchases, paying bills, or transferring money to other mFS subscribers and non-subscribers. The mobile wallet application communicates with the mFS platform using binary and text SMS messages, among other forms of wireless communication. A wireless service provider or MNO provides the GSM network infrastructure on which the mFS platform operates.

[0046] Figure 1 illustrates an example system architecture for a mobile wallet platform. Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions. Integration tier 101 can also include a communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111. Other mechanisms include, but are not limited to: International Standards Organization ("ISO") 8583 for Point of Sale ("POS") and Automated Teller Machines ("ATM") devices and Advanced Message Queuing Protocol ("AMQP") for queue based interfaces. Each of channels 111 can be integrated to one or more mechanisms for sending messages to integration tier 101. Notification services 102 is configured to send various notifications through different notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails. Notification services 102 can be configured through a web services API.

[0047] Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113. Each connector can be a separate module intended to integrate an external service to the system architecture. Business process services 104 are configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform

objects. Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors.

[0048] Security services 106 are configured to perform subscriber authentication. Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table.

[0049] Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers. Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses. Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints.

[0050] Name matching engine 110 is configured to match different objects according to specified configuration rules. Matching engine 110 can be use to find similarities between names, addresses, etc. Transaction processor 121 is configured to manage financial accounts and transactions. The transaction processor 121 can be used to hold, load, withdraw and deposit funds to mobile wallet accounts. Transaction processor 121 can also be used as a common interface to a third party processor system. When used as a common interface, financial operations may be delegated to the external processor. A Clearing House subsystem of transaction processor 121 can be used to exchange the financial information with a bank.

[0051] Components of a mobile wallet platform can be connected to one another over (or be part of) a system bus and/or a network. Networks can include a Local Area Network ("LAN"), a Wide Area Network ("WAN"), and even the Internet. Accorindlgy, components of the mobile wallet platform can be "in the cloud". As such, mobile wallet platform components as well as any other connected computer systems and their components, can create message related data and exchange message related data (e.g., Internet Protocol ("IP") datagrams and other higher layer protocols that utilize IP datagrams, such as, Transmission Control Protocol ("TCP"), Hypertext Transfer Protocol

("HTTP"), Simple Mail Transfer Protocol ("SMTP"), etc.) over the system bus and/or network.

[0052] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below. These services will be described in greater detail below with regard to system Figures 1 and 2, as well as Figures 3-19B.

[0053] Figure 2 depicts a monetary transaction system 200 similar to that described in Figure 1. The monetary transaction system 200 may provide a more simplified system structure in which each of the above services may be provided. The system includes a subscriber 205. The subscriber may have access to a bank account, or may be an unbanked subscriber. The subscriber has a profile 211 with the monetary transaction system 210. The profile includes the subscriber's know your customer (KYC) information, as well as any associated bank accounts, credit union accounts, bill pay accounts or other accounts. The subscriber has (or has access to) a mobile device 206 such as a phone or tablet. The mobile device runs the mobile wallet application (or mobile wallet application) 207.

[0054] The subscriber can indicate, using the mobile application 207 which transaction or other action he or she would like to perform. The indicated transaction 208 is sent to the mobile wallet platform 210 to be carried out by the platform. The transaction processor 216 (which may be similar to or the same as transaction processor 121 of Figure 1) performs the transaction(s) specified by the (unbanked) subscriber 205. The transaction processor may implement various other components to perform the transaction including memory 217, (wireless) communication module 215, rules engine 210 and/or transaction database 225.

[0055] Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the

subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction system can transfer money or eMoney 221 to or from an entity such as a user or agent (e.g. entity 222) to or from an establishment such as a retail store or agent company (e.g. entity 223).

[0056] In some cases, the monetary transaction system 210 application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application. For instance, mobile wallet application 207 may provide a web interface that allows a user to enroll for a mobile wallet. The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of channels (111 from Figure 1) connected to the monetary transaction system 210. The web interface or mobile wallet application may prompt for and receive enrollment information (e.g. KYC information) for the (unbanked) subscriber 205 over at least one of the plurality of channels (e.g. web, point-of-sale (POS), interactive voice response (IVR, etc.). The web interface or mobile wallet application may then send activation instructions over the same or a different channel to activate the (unbanked) subscriber 205 and create a subscriber account for the (unbanked) subscriber.

[0057] Once the subscriber has an account, the monetary transaction system generates a corresponding mobile wallet for the unbanked subscriber (available via the web interface and/or the mobile wallet application. The system then presents the (unbanked) subscriber's account data associated with the mobile wallet and/or a notification indicating that enrollment was successful to the subscriber. Accordingly, the mobile wallet application or the web interface may be used to provide user enrollment functionality. It should also be understood that either the mobile wallet application or the web interface may be used to provide substantially all of the mobile wallet functionality described herein.

[0058] It should also be noted that the mobile device 206 may be any type of plan-based phone or tablet, or prepaid phone or tablet. Many subscribers, such as unbanked subscribers, may primarily use prepaid phones. The mobile wallet application 207 may be installed on both plan-based phones and prepaid phones. The mobile wallet application may be installed on the device's SIM card, or on the device's main memory. Accordingly,

the monetary transaction system 200 may be accessed and used via substantially any type of plan-based or prepaid mobile device.

[0059] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by an electronic payment system or a third party), adding a bank/credit union account to a mobile wallet, adding a debit/credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet, making in store purchases from a mobile wallet, or transferring money or eMoney from one business account to another business account (i.e. from one business's mobile vault to another business's mobile vault, as will be shown in Figure 4).

[0060] Figure 3A depicts a subscriber-to-subscriber eMoney transfer. In a merchant and distributor scenario, either or both of the merchant and the distributor (including any delivery personnel) may be subscribers. To perform such a transfer, subscriber A (301) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer. The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account. Subscriber A may also receive a notification that the transfer was successful. Accordingly, eMoney may be transferred between two mFS platform subscribers, one or both of which may be unbanked. The monetary transaction system 210 processes the subscribers' requests, updates the subscribers' eMoney balances, logs the transactions, and sends transaction information to a specified bank when needed.

[0061] Figure 3B illustrates a subscriber-to-non-subscriber eMoney transfer. Accordingly, as mentioned above, either or both of the merchant and the distributor may be non-subscribers. In graphic 305, subscriber A wishes to send eMoney to another individual that is not a subscriber to the mFS platform. The transaction is initiated in the same fashion as the subscriber-to-subscriber transfer scenario. However, since non-subscriber B does not have a mobile wallet account, the monetary transaction system 210

cannot credit them with eMoney. Instead, the monetary transaction system 210 sends a notification (e.g. via SMS) to non-subscriber B with instructions for how to pick-up the transferred money, along with an authorization code (306). The monetary transaction system 210 puts a hold on subscriber A's account for the amount transferred. Subscriber B then has a specified number of days to pick up the cash before the hold expires and the amount is credited back to subscriber A's eMoney account by the monetary transaction system 210.

[0062] When non-subscriber B goes to pick up the money at an agent branch, the agent branch's manager or agent verifies the authorization code via an agent manager or agent mobile wallet application (that, in turn, accesses the mFS platform). Once the transfer has been validated, the agent gives the cash to non-subscriber B. The agent branch's mFS account is credited with the transfer amount (307) and the user leaves with the cash in hand (308). The mFS platform processes the transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction details to a platform-specified bank.

[0063] Figure 4 illustrates a mobile wallet subscriber making a retail purchase. Mobile wallet subscribers can make retail purchases at agent branches directly from their mobile device. Agent branches, as explained above, are retail stores or other entities that have registered with the mFS system and are able to accept mobile wallet payments. Accordingly, a subscriber can select the items they wish to purchase, and indicate (via the mobile wallet application) to the agent branch that they wish to pay for the items. The mobile wallet application then communicates with the agent branch and the monetary transaction system to indicate the price of the transaction. The monetary transaction system 210 then debits the subscriber's eMoney account (401) and credits the agent branch's eMoney account (402). The agent branch (and/or the agent manager or agent) receives confirmation that subscriber paid for the purchase. The subscriber may also receive a summary of the retail purchase and may be asked to confirm the purchase by entering a PIN. The monetary transaction system processes the purchase request, updates the agent branch and subscriber's eMoney balances, logs the transaction, and sends transaction details to a mFS platform-specified bank.

[0064] In one embodiment, the monetary transaction system 210 is implemented to make a purchase from a mobile wallet. The communications module 215 of the monetary transaction system 210 receives a communication from a subscriber over a

communication channel 111. The subscriber communication indicates that an unbanked subscriber 205 desires to purchase an item for a specified amount of funds using a specified payment method from the unbanked subscriber's mobile wallet.

[0065] The monetary transaction system 210 then returns a secure, perishable purchase code to the unbanked subscriber over at least one of the channels connected to the monetary transaction system and receives a subsequent agent branch communication over a channel indicating that the purchase code has been presented to an agent (branch). The monetary transaction system 210 validates the status of the specified payment method, determines if the specified payment method can accommodate a purchase for the specified amount, performs a limit check and/or a velocity check on the selected payment method, debits the specified payment method by the specified amount of funds, returns a notification to the agent branch authorizing the purchase and sends a receipt to the unbanked subscriber over a communication channel. The monetary transaction system 210 may thus be used in this manner to make a retail purchase using a mobile wallet.

[0066] Figure 5 depicts a physical environment and corresponding computer system architecture 500 for providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The environment 500, like the scenarios described in Figures 3A, 3B and 4, involves the use of a mobile wallet application 511. The mobile wallet application 511 can be used to provide disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The mobile wallet application may be run on any type of digital device including a mobile phone, tablet, laptop or other digital device. Embodiments include providing digital data (e.g., coupons or vouchers) for obtaining disruptively priced or free items (e.g., consumer goods or groceries) to such digital devices.

[0067] In some embodiments, a user has an account with a mobile payment system. The mobile payment system (e.g. 210 of Figure 2 or 521 of Figure 5) can provide the user 507 with a variety of functionality including purchasing items (see Figure 4), depositing funds, withdrawing funds, transferring funds (see Figures 3A and 3B), etc. Accordingly, the user can use a digital device to interact with the electronic payment system 521 to pay for goods and/or services.

[0068] In exchange for some type of financial benefit, the user opts in to receive advertisements. The financial benefits may include coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or any other type of benefit (such as a reduced cost or free

financial service or good) from the electronic payment system. The benefit may be targeted to the user based on the user's age, location or other demographic information, or based on the user's past purchases. At least in some embodiments, when the user agrees to participate in opt-in advertising, the electronic payment system 521 is permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains lists of the users' purchased items in a data warehouse. The electronic payment system may also store information about the user (anonymous or otherwise) including age, income level, an indication of whether kids are in the family, or other information that may be useful in targeting ads or benefits to the user.

[0069] The electronic payment system analyzes 534 the users purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The advertisements and/or promotions can be for items the user has purchased 503. The advertisements and/or promotions can also be for items related to items the user has purchase. For example, if user has purchased a particular brand of razor, advertisements for the brand's shaving cream can be identified. Advertisements for related items can also be used for cross-promotion.

[0070] From time to time, at specified intervals, or based on location (e.g., having a coupon for a merchant this is with a specified proximity) the electronic payment system sends identified advertisements and/or promotions to the user's digital device. When specified advertising thresholds are satisfied (e.g., a specified number and/or type of advertisements and/or promotions are presented), the electronic payment system confers a financial benefit on the user's account. For example, the electronic payment system can provide the user's account with a low cost (e.g., reduced fee) or free financial service, such as, for example, one reduced cost bill pay or one free bill pay. Alternately, the electronic payment system can provide the user's account with a coupon or voucher for an item (e.g., an item a user has pre-selected or an item the user has purchased in the past).

[0071] In some embodiments, a client application for the electronic payment system runs on the user's digital device (e.g. mobile wallet application 511). The user interacts with the electronic payment system through the client application. From a screen of the client application, the user can agree to accept opt in advertising. Accordingly,

embodiments of the invention essentially permit a user to self-monetize themselves through their digital device.

[0072] As further depicted in Figure 5, computer architecture 500 includes digital device 508, retail location 502, and electronic payment system 521. Digital device 508 further includes mobile wallet application 511. Retail location 502 further includes its own mobile wallet application 512. Electronic payment system 521 includes marketing module 533, data warehouse 532, advertisements 538, payment processor 522, user mobile wallet 524 (user 507's mobile wallet), and merchant mobile wallet 526 (retail location 502's mobile wallet).

[0073] Generally, each company in packaged goods companies 571 (or retailers that sell the packaged goods or other goods or services) can send advertisement data to electronic payment system 521. Advertisements 538 represent the collection of advertisement data sent from packaged goods companies 571. Each company in packaged goods companies 571 can also submit benefit rules to electronic payment system 521. Benefit rules 578 represent the collection of benefit rules sent from packaged goods companies 571. Benefit rules 578 define when a benefit, such as, for example, a free financial service, a coupon, a promotion, etc, is to be granted to a user of electronic payment system 521. For example, in response to completing a questionnaire linked to a product advertisement, a user can be given a coupon for the product or for a related product.

[0074] In general, user 507 can use mobile wallet application 511 to pay for goods purchased at retail location 502 (as shown in Figure 4). For example, user 507 can use mobile wallet application 511 to purchase goods 503. To pay for goods 503, mobile wallet application 511 can send payment instruction 543 in amount 563 to electronic payment system 521. Payment processor 522 can receive payment instruction 543. In response, payment processor 522 can debit 541 user mobile wallet 524 by amount 563. Payment processor 522 can also credit 542 merchant mobile wallet 526 by amount 563.

[0075] User 507 can use mobile wallet application 511 to participate in opt-in advertising. For example, user 507 can use mobile wallet application 511 to send opt-in 544 to electronic payment system 521. Advertising module 533 can receive opt-in 544 and record that mobile wallet application 511 has opted in for advertising. As such, when user 507 makes a purchase using mobile wallet application 511, a list of purchased items

is sent to electronic payment system 521. For example, upon purchasing goods 503, item list 531 is sent to electronic payment system 521 and stored in data warehouse 532.

[0076] Propensity analysis module 534 can analyze user 507's purchases, including item list 531. From the analysis, propensity analysis module 534 can identify items or categories of items user 507 may be interested in. The items can be items user 507 has purchased in the past (e.g., an item in goods 503) or items related to items user 507 has purchases in the past. Propensity analysis module 534 can indicate identified items or categories of items to advertisement identification module 536. These identified items or categories are items that the user is likely interested in and, as such, may have a propensity toward buying these items. The propensity analysis module may use past purchases, personal preferences, lifestyle or demographic information or other data in the propensity analysis.

[0077] Advertisement identification module 536 can then select advertisements from advertisements 538 that correspond to the identified items or categories of items. For example, advertisement identification module 536 can select advertisement 546 for presentation at mobile wallet application 511. Advertisement 546 can be an advertisement for a product made by a company in packaged goods companies 571. Additionally or alternatively, the advertisement 546 may be created by the merchant and may advertise products or services sold by that merchant.

[0078] Advertising module 533 can send selected advertisements to mobile wallet application 511. For example, advertising module 533 can send advertisement 546 (e.g., related to an item in goods 503) to mobile wallet application 511. In general, advertisements can include interactive content. For example, advertisement 546 includes content 573. Content 573 can be a video, a link to a company website (e.g., for a company in packaged goods companies 571), a call to action (such as a questionnaire), or some other content user 507 can interact with through digital device 508. User 507 can interact with content 573, for example, responding to questions in content 573. Advertisement response 574 can indicate how user 507 has interacted with content 573. In one embodiment, a call to action may be to post an update on Facebook® or some other website such as a retail establishment ranking website. If the user makes such a post or performs some other call to action, the user may be rewarded with a benefit. That benefit may be related to the product about which the user posted on the various websites.

[0079] Based on advertisement response 574, benefit determination module 576 can determine if a benefit is to be conferred upon user 507. Benefit determination module 576 can refer to benefit rules 578 when making a determination whether or not to confer a benefit. Thus, when user 507 interacts with advertisement 546 in a specified way (e.g., completes a survey, watches a video, etc.), benefit rules 578 can indicate that a company benefit (e.g., benefit 577) is to be conferred upon user 507. For example, benefit determination module 576 can confer benefit 577 on user 507. When user 507 receives an advertisement for a razor, for instance, and answers a questionnaire on how often they shave, a razor manufacture can give user 507 a coupon for reduced cost or free razor blades.

[0080] When a benefit is to be conferred on a user, the benefit can be stored in the user's brand locker. For example, benefit determination module 576 can store benefit 577 in brand locker 572 (part of user mobile wallet 524). Benefit 577 can be a coupon, a reduced cost or free financial service, a voucher, a promotion, a free bill pay, etc.

[0081] Benefit determination module 576 can also track aggregate statistics, such as, for example, specified number and/or type of advertisements received, for advertisements presented at mobile wallet application 511. Benefits can also be conferred upon users based on the aggregate statistics. For example, benefit determination module 576 can confer a benefit upon user 507 in response to twenty advertisements being presented at mobile wallet application 511. Thus, conferred benefits can be company-specified benefits or can be electronic payment system-specified benefits. Electronic payment system 521 can notify a user when a benefit is conferred. For example, electronic payment system 521 can send benefit notification 547 to mobile wallet application 511 to indicate benefit 577 being stored in brand locker 572.

[0082] When user 507 makes subsequent purchases through user mobile wallet 524, electronic payment system 521 can automatically check brand locker 572 for benefits related to any purchases items. If benefits for an item are identified, user 507 can be notified through mobile wallet application 511. In some cases, if benefits are identified, those benefits can be applied automatically when the user purchases that item or service. Thus, if the benefit is a coupon or a buy one get one free offer, that benefit may be applied automatically when the user uses his or her mobile wallet application 511 to purchase that item. Accordingly, embodiments of the invention permit user 507 to self monetize digital device 508 through agreeing to participate in opt-in advertising.

[0083] Although not depicted, various other modules from the architecture of Figures 1 or 2 can also be included electronic payment system 521. The modules expressly depicted in Figure 5 can interoperate with these other modules as appropriate to facilitate desired functionality.

[0084] In one embodiment, as shown in Figure 6, a method 600 for providing reduced cost or free services or goods in exchange for participation in opt-in advertising is described. This method is further described in conjunction with the electronic payment system 521 of Figure 5, as well as the example screenshot of a mobile wallet application 711 illustrated in Figure 7.

[0085] Method 600 includes receiving an indication that user 507 is opting in to receive opt-in advertising from electronic payment system 521 in exchange for a reduced cost or free financial service (step 610). The user has a mobile wallet account 524 with the electronic payment system 521. Next, method 600 includes receiving a list of one or more items 531 that the user has purchased using the mobile wallet account 524 (step 620) and analyzing 534 the list of items to identify items or item categories in which the user may be interested (and which the user may have a propensity toward buying) (step 630). Method 600 further includes selecting one or more advertisements 546 based on the identified items or item categories (step 640) and sending the selected advertisements to mobile wallet application 511 (which is tied to the user's mobile wallet account 524) for use by the user (step 650). Method 600 then includes determining that the user's interactions 574 with the selected advertisements 543 warrant conferring a benefit 577 to the user 507 (step 660), where the benefit is selected from among a reduced cost or free financial service, a coupon, a voucher, and a buy one get one free offer, and then conferring the selected benefit 577 upon the user by sending the benefit to the user's mobile wallet application 511 (step 670).

[0086] After the benefit has been conferred upon the user, the user may use the benefit when purchasing a corresponding product or service. Accordingly, as shown in Figure 7, for example, if Ad 1 or Ad 2 (701) shows a name brand diaper and the user interacts with the ad in some way, the company that produces the diaper may send a coupon or other benefit to the user's mobile wallet 511. Then, when the user is at a retail location (e.g. 502), the user may purchase that name brand diaper using their mobile wallet (e.g. using the "Purchases" button 706). The coupon or other benefit sent by the diaper producer will be automatically applied at checkout, such that the user obtains the

diapers for a discounted price. Many different coupons or other benefits may be stored in the user's brand locker 572, and each of these may be applied automatically when the electronic payment system 521 determines that the user is purchasing that product or service.

[0087] Still further, as mentioned above, the user may use their mobile wallet application 711 to perform other tasks such as adding airtime to their phone (702), paying a bill (703), sending money to another party (704), transferring money (705) or withdrawing money (707) at an agent branch, for example. Many other functions may be provided by the mobile wallet application. As such, buttons 702-707 are merely examples of possible buttons. Moreover, the look and feel of mobile wallet application 711 may be as illustrated in Figure 7, or may be substantially different, or may be modified by the user. Accordingly, the layout shown in Figure 7 is just one example of a possible button and advertisement layout. Many such layouts are possible, and may be different for each phone or digital device.

[0088] Thus, using the electronic payment system 521, a user may opt in to receive opt-in advertising. Then, after receiving that advertising (and possibly after interacting with it), the user may be conferred a benefit. This benefit may be used to receive reduced cost or free financial services or goods. The benefit may be applied automatically as the user is purchasing that good or service.

[0089] Embodiments of the invention can adhere to Know Your Customer (KYC) rules in the US by performing Customer Identification Program (CIP) checks as required by the Bank Secrecy Act and US PATRIOT Act. A minimum amount of information can be gathered about a customer, such as, for example, First Name, Last Name, Date of Birth, Government ID Type, Government ID Number, Address. The CIP processes are designed to validate customer identity against government blacklists and assists in the prevention of money laundering and terrorist financing. A combination of non-documentary and documentary verification can be used to ensure beyond a reasonable doubt the identity of the customer.

[0090] Non-Documentary Verification can occur through the presentment of the information that was collected from the user to an external third party, such as, for example, Lexis Nexis. Documentary Verification can occur if non-documentary verification fails, then the user is asked to present an unexpired government ID. Various differ forms of identification including Driver's license, Passport, Alien identification

(e.g., green card or work visa), and Mexican Consular identification card, can be accepted.

[0091] Embodiments of the invention can perform Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) checks. AML and CFT checks can be performed using transaction monitoring methods to flag names and suspicious transactions for further investigation. The electronic payment system can perform AML and CFT checks on all electronic financial transactions to ensure that electronic funds are not being used for money laundering or terrorism. Transaction limits can be placed on user accounts. The transaction limits are fully configurable for each particular use case, channel and payment method that allows maximum flexibility to restrict higher risk use cases. Velocity checks can also be performed. Velocity Checks ensure that subscribers are not abusing the electronic payment system within the allowable limits.

[0092] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed:

1. A computer system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for providing a reduced cost or free financial service in exchange for participation in opt-in advertising, the method comprising the following:

receiving an indication that a user is opting in to receive opt-in advertising from an electronic payment system in exchange for a reduced cost or free financial service or good, the user having a mobile wallet account with the electronic payment system;

receiving a list of one or more items that the user has purchased using the mobile wallet account;

analyzing the list of items to identify items or item categories in which the user may be interested;

selecting one or more advertisements based on the identified items or item categories;

sending the selected advertisements to a mobile wallet application for the user that is tied to the user's mobile wallet account;

determining that the user's interactions with the selected advertisements warrant conferring a benefit to the user, the benefit being selected from among a reduced cost or free financial service or good, a coupon, a voucher, and a buy one get one free offer; and

conferring the selected benefit upon the user by sending the benefit to the user's mobile wallet application.

2. The computer system of claim 1, further comprising:

recording an indication that the benefit was conferred to the user such that the benefit can be used for subsequently purchased items; and

indicating that the benefit is available to the user by sending a message to the mobile wallet application for the user.

3. The computer system of claim 2, wherein recording an indication that the benefit was conferred to the user comprises storing the benefit in a brand locker associated with the user's mobile wallet account.

4. The computer system of claim 2, wherein recording an indication that the benefit was conferred to the user comprises recording a benefit defined by a producer of a product in an advertisement sent to the mobile wallet application.

5. The computer system of claim 1, wherein recording an indication that the benefit was conferred to the user comprises recording a benefit defined the electronic payment system.

6. The computer system of claim 1 wherein determining when the user's interactions with the selected advertisements warrants conferring a benefit to the user comprises determining that a benefit is to be conferred on the user based on the user participating in a call to action contained in the content of the advertisement.

7. The computer system of claim 1, wherein the electronic payment system is wirelessly connected to a plurality of mobile telephones their corresponding mobile wallet users.

8. The computer system of claim 1, wherein the mobile wallet application is running on a digital device.

9. The computer system of claim 3, wherein the digital device is a mobile telephone.

10. The computer system of claim 1, wherein the received list of one or more items is analyzed along with one or more other items previously purchased by the user to determine items or item categories in which the user may be interested.

11. The computer system of claim 1, further comprising receiving an indication that the user has redeemed the conferred benefit.

12. The computer system of claim 11, wherein the conferred benefit comprises a coupon for a specified item and wherein the coupon is applied automatically as the user pays for the specified item using the mobile wallet application.

13. A computer system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the

computing system to perform a method for redeeming a benefit received for participation in opt-in advertising, the method comprising the following:

receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application;

validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds to pay for the specified good or service;

receiving a second indication from the user's mobile wallet application that a specified benefit is to be applied for the purchase of the good or service;

determining that the specified benefit applies to the indicated good or service; and

applying the specified benefit to the indicated good or service, such that the user purchases the indicated good or service at a price reduced by the amount of the benefit.

14. The computer system of claim 13, wherein the specified benefit is applied automatically as the user purchases the indicated good using the mobile wallet application.

15. The computer system of claim 13, further comprising sending a notification to the user indicating that the specified benefit was applied to the purchase of the indicated good.

16. The computer system of claim 13, further comprising sending a notification to the producer of the good indicating the benefit was applied to the purchase of producer's good.

17. The computer system of claim 16, wherein the producer of the good provides an additional benefit to the user for purchasing the producer's goods.

18. The computer system of claim 17, wherein the additional benefit is stored in a brand locker in the user's mobile wallet application.

19. A computer system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for redeeming a coupon received for participation in opt-in advertising, the method comprising the following:

receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application;

validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds to pay for the specified good or service;

receiving a second indication from the user's mobile wallet application that the coupon is to be applied for the purchase of the good or service;

determining that the coupon applies to the indicated good or service; and

applying the coupon to the indicated good or service, such that the user purchases the indicated good or service at a price reduced by the amount of the coupon.

20. The computer system of claim 19, wherein coupons stored in the user's brand locker are automatically applied when purchasing the coupon's corresponding product or service.

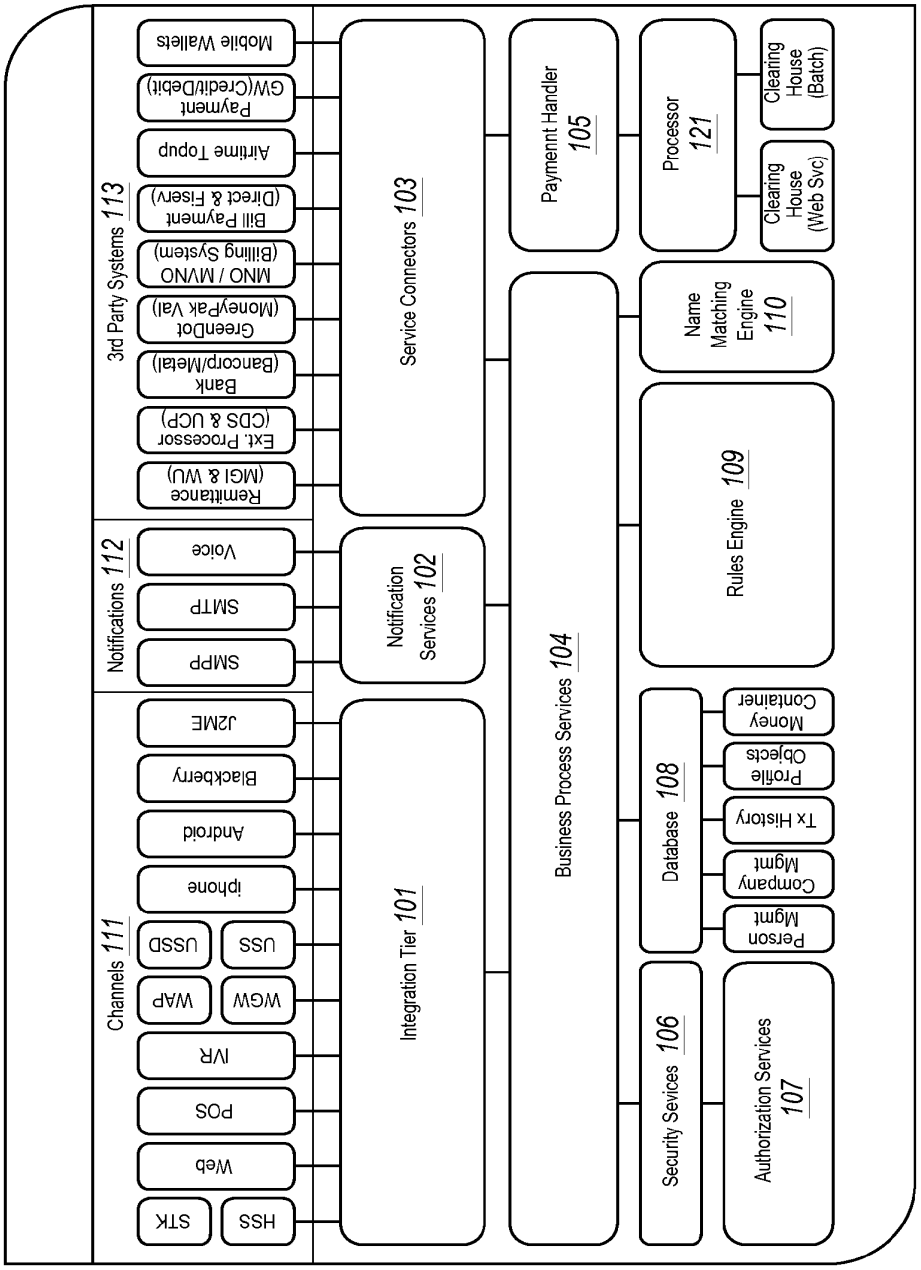

Platform Functional Architecture
Channels 111
HSS
STK
Web
POS
IVR
WGW
WAP
USS
USSD
iphone
Android
Blackberry
J2ME
Notifications 112
SMPP
SMTP
Voice
3rd Party Systems 113
Remittance (MGI & WU)
Ext. Processor (CDS & UCP)
Bank (Bancorp/Metal)
GreenDot (MoneyPak Val)
MNO / MVNO (Billing System)
Bill Payment (Direct & Fiserv)
Airtime Topup
Payment GW(Credit/Debit)
Mobile Wallets
Integration Tier 101
Notification Services 102
Service Connectors 103
Business Process Services 104
Paymennt Handler 105
Security Sevices 106
Authorization Services 107
Database 108
Person Mgmt
Company Mgmt
Tx History
Profile Objects
Money Container
Rules Engine 109
Name Matching Engine 110
Processor 121
Clearing House (Web Svc)
Clearing House (Batch)

FIG. 1

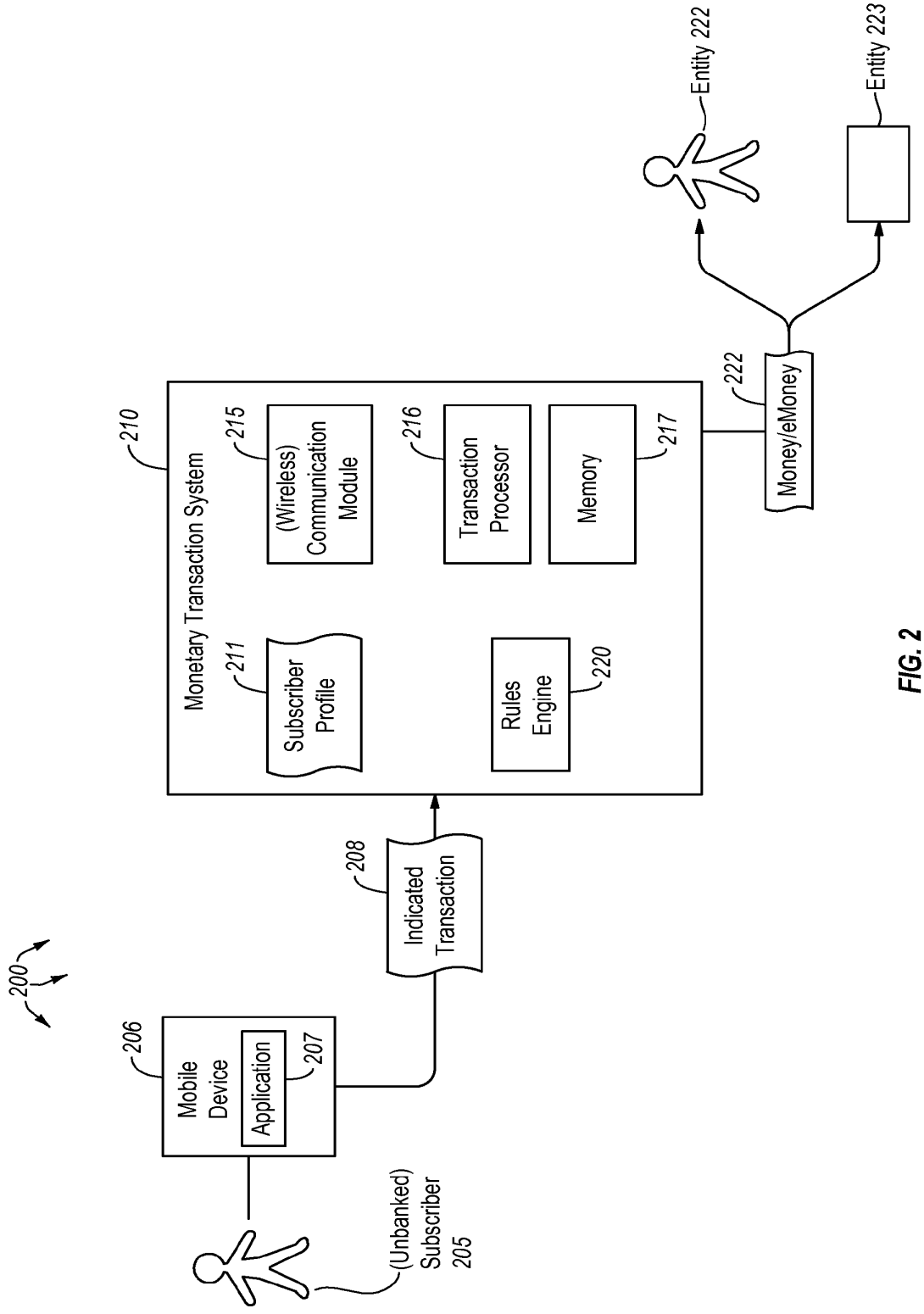
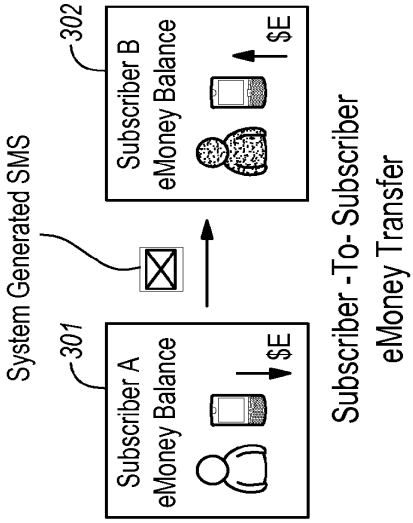
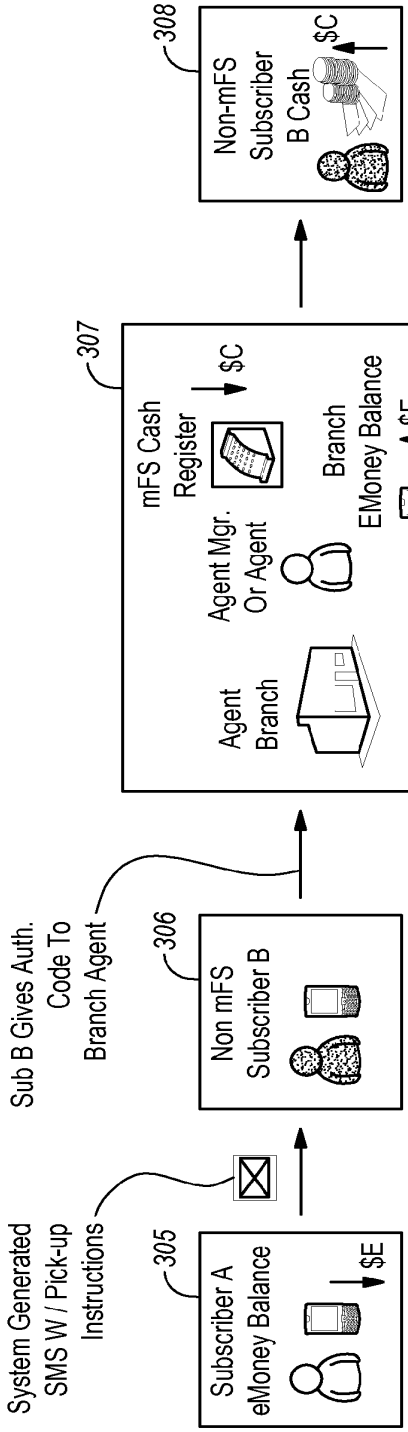

200
206
Mobile Device
Application
207
(Unbanked) Subscriber 205
208
Indicated Transaction
210
Monetary Transaction System
211
Subscriber Profile
215
(Wireless) Communication Module
216
Transaction Processor
217
Memory
220
Rules Engine
222
Money/eMoney
Entity 222
Entity 223

FIG. 2



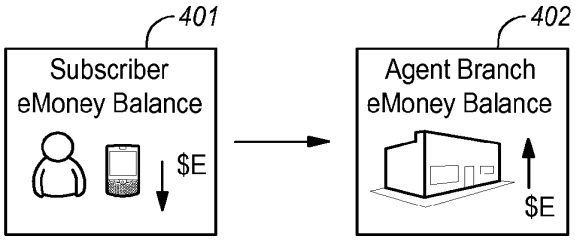
Subscriber -To- Subscriber
eMoney Transfer

FIG. 3A



Subscriber -To- Non Subscriber
eMoney Transfer

FIG. 3B



Subscriber Makes Retail Purchase

FIG. 4

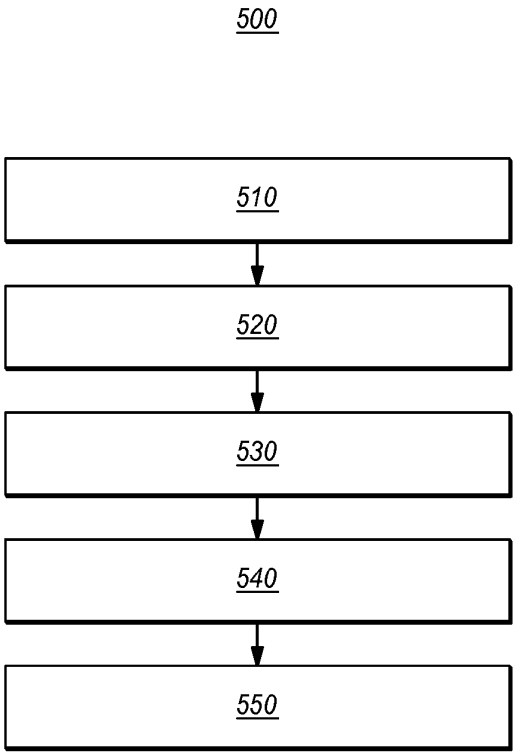


FIG. 5

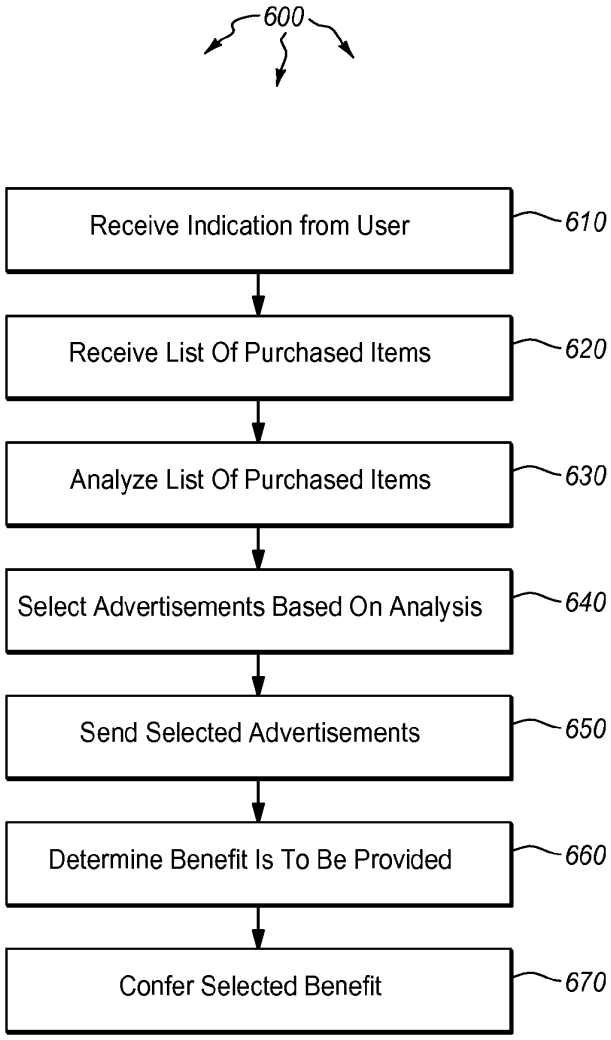

600
Receive Indication from User
610
Receive List Of Purchased Items
620
Analyze List Of Purchased Items
630
Select Advertisements Based On Analysis
640
Send Selected Advertisements
650
Determine Benefit Is To Be Provided
660
Confer Selected Benefit
670

FIG. 6

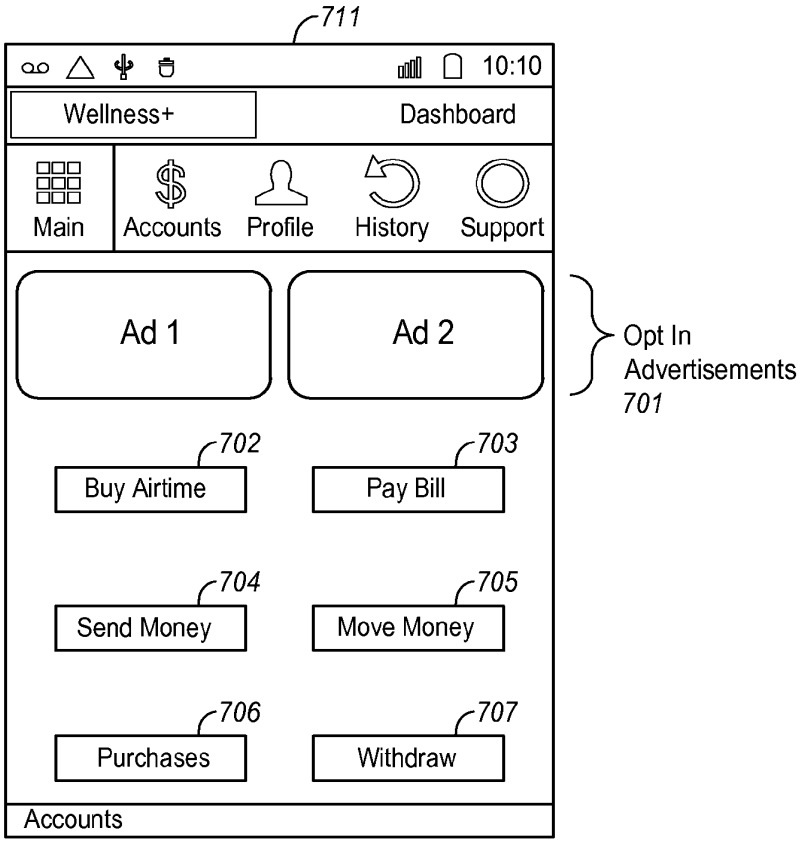

711
10:10
Wellness+
Dashboard
Main
Accounts
Profile
History
Support
Ad 1
Ad 2
Opt In
Advertisements
701
702
Buy Airtime
703
Pay Bill
704
Send Money
705
Move Money
706
Purchases
707
Withdraw
Accounts

FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/43458

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/00 (2012.01)
USPC - 705/14.13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 705/14.13; IPC(8): G06Q 30/00 (2012.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/1.1, 14.1, 14.13, 30, 35, 40; 700/1, 90; IPC(8): G06Q 30/00 (2012.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DialogWeb: Google Scholar; Google Web; Google Patents; PubWest; Thomson Innovation
Search Terms: ADVERTISE, COMPUTER, PROCESSOR, MEMORY, STORE, SAVE, MEDIA, MEDIA, PROGRAM, SOFTWARE, CODE, REDUCED, COST, PRICE, FREE, DISCOUNT, SERVICE, PRODUCT, GOODS, EXCHANGE, TRADE, INTERCHANGE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0250356 A1 (Gillenson et al.) 30 September 2010 (30.09.2010), entire document, especially para [0040], [0066], [0068], [0084], [0115]-[0117], [0120], [0123], [0130]-[0131], [0136]-[0137], [0139]-[0140], [0144], [0157], [0160], [0162], [0167]	1-20
Y	US 7,548,915 B2 (Ramer et al.) 16 June 2009 (16.06.2009), entire document, especially col. 3, ln 10-28; col. 9, ln 64 to col. 10, ln 28; col. 27, ln 12-46	1-20
A	US 7,689,506 B2 (Fei et al.) 30 March 2010 (30.03.2010), entire document	1-20
A	US 7,694,876 B2 (Barnes et al.) 13 April 2010 (13.04.2010), entire document	1-20
A	US 2011/0047016 A1 (Cook) 24 February 2011 (24.02.2011), entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 July 2012 (27.07.2012)	17 AUG 2012
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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21 February 2013 (21.02.2013)

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61/522,099	10 August 2011 (10.08.2011)	US
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(72) Inventor; and

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(74) Agents: **STRINGHAM, John, C.** et al.; Workman Nydegger, 60 East South Temple, Suite 1000, Salt Lake City, UT 84111 (US).

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Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(54) **Title**: MONETARY TRANSACTION SYSTEM

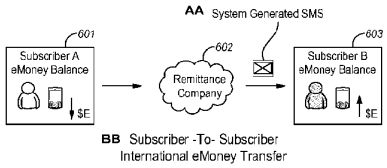


FIG. 6A

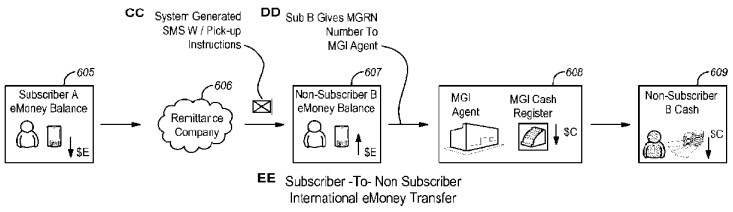


FIG. 6B

(57) **Abstract**: Embodiments are directed to monetary transaction system for conducting monetary transactions between transaction system subscribers and other entities. In one scenario, the monetary transaction system includes a mobile device that runs a monetary transaction system application. The monetary transaction system also includes a subscriber that has a profile with the system. The subscriber indicates a transaction that is to be performed with the monetary transaction system. The system further includes a monetary transaction system processor that performs the transactions specified by the subscriber including communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile. The monetary transaction system also includes at least one entity that is to be involved in the specified transaction, where the entity has a profile with the monetary transaction system. This entity may be a person, a retail store, an agent or other entity.

WO 2013/025273 A1

MONETARY TRANSACTION SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to and the benefit of U.S. Utility Application Ser. No. 13/484,199, filed on May 30, 2012, entitled "Monetary Transaction System", and also claims priority to and the benefit of U.S. Provisional Application Ser. No. 61/522,099, filed on August 10, 2011, entitled "Mobile Wallet Platform", and also claims priority to and the benefit of U.S. Provisional Application Ser. No. 61/493,064, filed on June 3, 2011, entitled "Mobile Wallet Platform". All of the aforementioned provisional applications are incorporated by reference in their entirety herein.

BACKGROUND

Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks. For instance, mobile devices allow users to check email, send and receive instant messages, check calendar items, take notes, set up reminders, browse the internet, play games or perform any number of different things using specialized applications or "apps". These applications allow mobile devices to communicate with other computer systems and perform a wide variety of network-connected tasks previously not possible with a mobile device.

BRIEF SUMMARY

Embodiments described herein are directed to monetary transaction system for conducting monetary transactions between transaction system subscribers and other entities. In one embodiment, the monetary transaction system includes a mobile device configured to run a monetary transaction system application. The monetary transaction system also includes a monetary transaction system subscriber that has a profile with the system. The subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system. The system further includes a monetary transaction system processor that performs the transactions specified by the subscriber. Performing these transactions includes communicating with a monetary transaction

database to determine whether the transaction is permissible based on data indicated in the subscriber's profile.

The monetary transaction system also includes at least one entity that is to be involved in the specified transaction, where the entity has a profile with the monetary transaction system. This entity may be a person, a retail store, an agent or other entity. The subscriber may have access to a bank account, or may be an "unbanked user" that does not have access to a bank account. Each of the terms included above will be described in greater detail below in conjunction with the drawings.

The monetary transaction system may be used for many different tasks including enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below.

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

Additional features and advantages will be set forth in the description which follows, and in part will be apparent to one of ordinary skill in the art from the description, or may be learned by the practice of the teachings herein. Features and advantages of embodiments described herein may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the embodiments described herein will become more fully apparent from the following description and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

To further clarify the above and other features of the embodiments described herein, a more particular description will be rendered by reference to the appended

drawings. It is appreciated that these drawings depict only examples of the embodiments described herein and are therefore not to be considered limiting of its scope. The embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 illustrates a monetary transaction system architecture in which embodiments described herein may operate.

Figure 2 illustrates an alternate example embodiment of a monetary transaction system.

Figure 3 illustrates an example data flow for performing a subscriber deposit via a mobile wallet.

Figure 4 illustrates an example data flow for performing a subscriber withdrawal via a mobile wallet.

Figures 5A and 5B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber eMoney transfers via a mobile wallet, respectively.

Figures 6A and 6B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber international eMoney transfers via a mobile wallet, respectively.

Figure 7 illustrates an example data flow for performing a subscriber airtime purchase via a mobile wallet.

Figure 8 illustrates an example data flow for performing a subscriber-initiated bill pay via a mobile wallet.

Figure 9 illustrates an example data flow for performing a subscriber-initiated retail purchase via a mobile wallet.

Figures 10A and 10B illustrate example data flows for requesting and repaying micro-loans via a mobile wallet, respectively.

Figure 11A illustrates an example data flow of a subscriber receiving a direct deposit via a mobile wallet.

Figure 11B illustrates an example data flow of a subscriber receiving a governmental welfare payment via a mobile wallet.

Figure 12A illustrates an example data flow of an agent administrator distributing eMoney via a mobile wallet.

Figure 12B illustrates an example data flow of an agent company making a deposit using a mobile wallet.

Figure 13 illustrates an example data flow of an agent company making a withdrawal using a mobile wallet.

Figure 14 illustrates an example data flow of a subscriber making a deposit at an agent branch using a mobile wallet.

Figure 15 illustrates an example data flow of a subscriber making a deposit with a non-agent using a mobile wallet.

Figure 16 illustrates an example data flow of a subscriber making a withdrawal with an agent using a mobile wallet.

Figure 17A illustrates an example data flow of a subscriber making a withdrawal from an ATM using a mobile wallet.

Figure 17B illustrates an example data flow of a subscriber-to-subscriber money transfer using a mobile wallet.

Figure 17C illustrates an example data flow of a subscriber-to-non-subscriber money transfer using a mobile wallet.

Figure 18A illustrates an example data flow of a subscriber-to-subscriber international money transfer using a mobile wallet.

Figure 18B illustrates an example data flow of a subscriber-to-non-subscriber international money transfer using a mobile wallet.

Figure 19A illustrates an example data flow of a subscriber-to-subscriber international money transfer using a mobile wallet.

Figure 19B illustrates an example data flow of a non-subscriber-to-subscriber international money transfer using a mobile wallet.

DETAILED DESCRIPTION

Embodiments described herein are directed to monetary transaction system for conducting monetary transactions between transaction system subscribers and other entities. In one embodiment, the monetary transaction system includes a mobile device configured to run a monetary transaction system application. The monetary transaction system also includes a monetary transaction system subscriber that has a profile with the system. The subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the

monetary transaction system. The system further includes a monetary transaction system processor that performs the transactions specified by the subscriber. Performing these transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile.

The monetary transaction system also includes at least one entity that is to be involved in the specified transaction, where the entity has a profile with the monetary transaction system. This entity may be a person, a retail store, an agent or other entity. The subscriber may have access to a bank account, or may be an "unbanked user" that does not have access to a bank account. Each of the terms included above will be described in greater detail below in conjunction with the drawings.

The monetary transaction system may be used for many different tasks including enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below.

The following discussion now refers to a number of methods and method steps or acts that may be performed. It should be noted, that although the method steps may be discussed in a certain order or illustrated in a flow chart as occurring in a particular order, no particular ordering is necessarily required unless specifically stated, or required because a step is dependent on another step being completed prior to the step being performed.

Embodiments of the mobile transaction system or "mobile wallet platform" described herein may comprise or utilize a special purpose or general-purpose computer including computer hardware, such as, for example, one or more processors and system memory, as discussed in greater detail below. Embodiments described herein also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose

or special purpose computer system. Computer-readable media that store computer-executable instructions in the form of data are computer storage media. Computer-readable media that carry computer-executable instructions are transmission media. Thus, by way of example, and not limitation, embodiments described herein can comprise at least two distinctly different kinds of computer-readable media: computer storage media and transmission media.

Computer storage media includes RAM, ROM, EEPROM, CD-ROM, solid state drives (SSDs) that are based on RAM, Flash memory, phase-change memory (PCM), or other types of memory, or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions, data or data structures and which can be accessed by a general purpose or special purpose computer.

A "network" is defined as one or more data links and/or data switches that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the computer properly views the connection as a transmission medium. Transmission media can include a network which can be used to carry data or desired program code means in the form of computer-executable instructions or in the form of data structures and which can be accessed by a general purpose or special purpose computer. Combinations of the above should also be included within the scope of computer-readable media.

Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission media to computer storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a network interface card or "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer storage media at a computer system. Thus, it should be understood that computer storage media can be included in computer system components that also (or even primarily) utilize transmission media.

Computer-executable (or computer-interpretable) instructions comprise, for example, instructions which cause a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

Those skilled in the art will appreciate that various embodiments may be practiced in network computing environments with many types of computer system configurations, including personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, tablets, pagers, routers, switches, and the like. Embodiments described herein may also be practiced in distributed system environments where local and remote computer systems that are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, each perform tasks (e.g. cloud computing, cloud services and the like). In a distributed system environment, program modules may be located in both local and remote memory storage devices.

In this description and the following claims, "cloud computing" is defined as a model for enabling on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). The definition of "cloud computing" is not limited to any of the other numerous advantages that can be obtained from such a model when properly deployed.

For instance, cloud computing is currently employed in the marketplace so as to offer ubiquitous and convenient on-demand access to the shared pool of configurable computing resources. Furthermore, the shared pool of configurable computing resources can be rapidly provisioned via virtualization and released with low management effort or service provider interaction, and then scaled accordingly.

A cloud computing model can be composed of various characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, measured service, and so forth. A cloud computing model may also come in the form of various service models such as, for example, Software as a Service ("SaaS"), Platform as a Service ("PaaS"), and Infrastructure as a Service ("IaaS"). The cloud computing model may also be deployed using different deployment models such as private cloud, community cloud, public cloud, hybrid cloud, and so forth. In this description and in the claims, a "cloud computing environment" is an environment in which cloud computing is employed.

Additionally or alternatively, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), and other types of programmable hardware.

Still further, system architectures described herein can include a plurality of independent components that each contribute to the functionality of the system as a whole. This modularity allows for increased flexibility when approaching issues of platform scalability and, to this end, provides a variety of advantages. System complexity and growth can be managed more easily through the use of smaller-scale parts with limited functional scope. Platform fault tolerance is enhanced through the use of these loosely coupled modules. Individual components can be grown incrementally as business needs dictate. Modular development also translates to decreased time to market for new functionality. New functionality can be added or subtracted without impacting the core system.

Various terminology will be used herein to describe the monetary transaction system (also referred to as a "mobile wallet platform", "mobile wallet program" or "mobile wallet transaction system"). The term "agent" is used to refer to an individual with mobile financial services (mFS) transaction system tools and training to support specific mFS functions. These mFS functions include subscriber registration and activation, and the deposit and withdrawal of funds from the mFS transaction system. Agents are representatives of the mFS transaction system or "program". Agents can be

employees or contractors of the program provider, or other companies and organizations that partner with the program provider to provide these services themselves. Agents may be found in every facet of a typical economy, and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.

The mobile wallet platform includes a mobile wallet application, web interface or some other type of functionality that allows the user to interact with the mFS platform using their mobile device. The mobile wallet application may include a subscriber identity module (SIM) application, an Unstructured Supplementary Service Data (USSD) application, a smartphone application, a web application, a mobile web application, a Wireless Application Protocol (WAP) application, a Java 2 Platform, Micro Edition (J2ME) application, a tablet application or any other type of application or interface that provides tools for the agent to register, activate, and offer other services to the mFS subscriber.

As used herein, a mobile wallet application is a mobile wallet application installed on a SIM card. A USSD application is an application that implements USSD for various functionality including prepaid callback service, location-based content services, menu-based information services and other mobile wallet platform services. A web application is one that implements or uses the internet to provide mobile wallet platform functionality. A mobile web application is similar to a web application, but is tailored for mobile devices. A WAP application is one that uses the wireless application protocol to communicate with the mobile wallet platform to provide the platform's functionality. A J2ME application is an application developed in Java and is designed to provide mobile wallet functionality on a variety of different hardware. A tablet application is an application specifically designed for a touchscreen-based tablet that provides mobile wallet platform functionality for tablet devices, and as part of configuring the phone on the network. Any of these applications (or any combination thereof) may be provided on the user's mobile device. This functionality can also be made available on a retail point of sale (POS) system or web site.

The term "agent administrator" refers to an individual with mFS program tools and training to administrate the allocation of funds to agent branches (e.g. retail locations). As agents perform mFS transactions with subscribers, such as depositing and withdrawing money, the agents are adding and removing money from their own

accounts. If there are insufficient funds in the agent's account to complete a transaction, additional money will need to be transferred from the agent company's master account to that agent branch account to cover that transaction. An agent administrator is responsible for these funds transfers. Any of the applications referred to above may be configured to provide tools used by the agent administrator to view the agent company balance, view the agent branch balances, and transfer funds into and out of agent branch mobile wallets. This functionality can also be made available on a website for easier access.

The term "agent administrator mobile wallet application" refers to a software program or application installed on the agent administrator's terminal in the agent administrator's mobile device (such as a mobile phone or tablet). This software application provides the agent administrator the ability to securely perform agent administrator functions such as querying the agent company account balance or transferring funds into and out of agent branch accounts. The agent administrator's mobile wallet application may be installed on a global system for mobile communications (GSM) SIM card (or on any other type of SIM card), and may be accessed using a GSM mobile phone. The agent administrator's application may also be installed on a code division multiple access (CDMA) mobile phone, a 3G, 4G, 4G LTE (Long Term Evolution) or other wireless carrier standard. The application may, additionally or alternatively, be installed directly on the agent administrator's mobile device. The application communicates with the mFS transaction system using binary and/or text short message service (SMS) messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates.

In some embodiments, the mFS platform application may utilize triple data encryption standard (3DES) encryption (or some other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS transaction system in order to ensure that the transactions are properly secured and authenticated.

The term "agent branch" refers to any location where an agent provides support for subscriber services of the mFS platform. Funds are allocated by the agent administrator from the agent company's main account to each agent branch to fund the subscriber mFS functions such as depositing or withdrawing cash, in-store purchases,

bill payments, prepaid airtime top-ups and money transfers. In some cases, multiple agents may work in a single branch. However, at least in some cases, monetary funds are allocated to from the agent company's main account on a per branch basis.

The term "agent branch account balance" refers to the amount of money residing in a particular agent branch account at a given time. Funds can be deposited into the branch account by the agent administrator, or the funds can come from participating in subscriber mFS transactions such as depositing or withdrawing cash from the subscriber's mobile wallet accounts, or making retail purchases with the mobile wallet.

Each agent branch is to maintain a balance in their branch account. This applies more strongly in countries where mFS program and financial services infrastructure is still developing. In cases where real-time processing of financial transactions including card processing is not practical, subscribers leverage the applications on their mobile phones to submit transactions and conduct business with retailers, businesses, and other subscribers. The mFS platform manages the balance of mobile wallet accounts for each subscriber as value is transferred from one mobile wallet to another (e.g. from a subscriber's mobile wallet to an agent's mobile wallet in payment for goods or services). This value is referred to herein as "eMoney".

As subscribers conduct business with mFS agents, they deposit or withdraw cash from their mobile wallet accounts. Virtual or eMoney credits are transferred between the subscriber's mobile wallet account and the agent branch's account as a form of currency to support the transaction. As agents accept cash into their cash register by mFS subscribers, they transfer the equivalent amount of eMoney credits into the mFS subscriber's mobile wallet account. For instance, if an mFS subscriber gives an mFS agent $10 to deposit into the subscriber's mobile wallet account, the agent would place the cash into his register and transfer $10 from the agent branch's eMoney account into the subscriber's mobile wallet account. While the agent acquired $10 in his register, he transferred out $10 of eMoney credits from his branch eMoney account.

In some embodiments, in countries with more developed economies, it may be beneficial to use program-issued pre-paid debit cards, pre-paid access accounts, stored value accounts or gift cards to conduct business along with the added convenience of card processing networks such as Cirrus, STAR, or Visa for POS and automated teller

machine (ATM) functionality. Agents, particularly those in retail outlets and kiosks, can still support subscribers with deposits, withdrawals, and other transfers, but in this case bank external card processors manage the mobile wallet and branch account balances and provide the real-time transfer of funds.

The term "agent branch ledger" refers to a written (or electronic) ledger maintained by the mFS platform. Agent branch transactions are performed on the agent's and subscriber's mobile phones where an electronic record of the transaction is generated and stored on the mFS platform. These electronic transactions are then reconciled with agent branch ledgers to ensure the security and integrity of the transaction. Agent branch ledgers are printed or electronic transaction logs that are distributed to the agent branch locations in hard copy form to serve as a backup record to the electronic transactions.

The term "agent company" refers to a business that registers to participate in the mFS program as a partner of the mFS program provider or owner. The agent company has one or more agent branches which conduct mFS business with mFS program subscribers. In some cases, the agent company may be referred to as a distributor or retailer.

The term "agent company account balance" refers to the sum of the funds deposited at a "partner bank" (defined below) by the agent company to fund the agent company's daily transactions. The funds in the agent company account are then distributed to agent branches by the agent company's agent administrator to conduct everyday business such as accepting cash deposits and cash withdrawals from mFS subscribers. This balance is sometimes referred to as the "agent company float".

An "agent manager" is a supervisor of company agents for a given company. The agent manager has the training and tools to create, delete or modify agent accounts for a company, as well as monitor the transactions performed by agents. The agent manager may have a special application or an increased level of rights to access applications features not available to other users. The special application is a program installed on the agent manager's terminal. This application provides the agent manager the ability to securely perform agent manager functions such as registering and activating new agent accounts.

The mFS agent manager application may be installed on any terminal or device. It communicates with the mFS platform using binary and/or text SMS

messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates. The mFS platform mobile wallet applications may utilize 3DES encryption (or any other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS platform in order to ensure that the transactions are properly secured and authenticated.

The term "agent application" refers to an application that provides all the tools necessary for an agent to register, activate, and offer other services to the mFS subscriber. The agent application is a program installed on the agent's SIM card or otherwise installed in the agent's mobile device's memory. This application provides the agent the ability to securely perform agent functions such as registering and activating new subscribers and depositing and withdrawing funds from mobile wallet accounts. The mFS agent application may be installed on a GSM SIM card or mobile phone and may be accessed using a GSM or CDMA mobile phone. A wireless service provider or MNO provides the data and SMS network infrastructure on which the mFS platform operates.

The terms "mFS platform", "mobile wallet platform" and "monetary transaction system" refer to an overall platform or ecosystem of different components that work together to provide the various functions described herein on a global scale. At least some of the various logic components include the following: the application. The "mobile wallet application" or "mFS application" manages the processing of incoming transactions regardless of their source. The application handles end-user authentication, transaction processing, subscriber profile management, and further manages interactions between the various platform components.

The mFS platform further includes a transaction processor. This component is used when the mFS application is implemented in a country where real-time processing of financial transactions is not practical (or not possible). The transaction processor manages the balance of mobile wallet accounts, agent accounts, and the accounts of any other program participant. The transaction processor handles balance inquiries, credits, debits, and transaction roll-backs.

The mFS platform further includes a rules engine that manages and applies the rules and policy that are defined for transactions as they are processed on the mFS platform. Rules impact transaction fees, limits, velocity limits, and commissions as

well as program actor roles and permissions. Rules can be customized for each implementation. The mFS platform also includes an integration interface that manages the integration and interaction between external systems (i.e. external to the mFS platform) and the mFS platform. Connectivity to the wireless service provider's pre-paid airtime billing platform and the program partner bank, for example, are managed by the integration interface.

The mFS platform further includes a transaction database that stores the data that supports the mFS platform. This includes subscriber profiles and subscription data, transaction data and logs, and application configuration and run-time data, among other types of data. Another component of the mFS platform is a handset support service that interfaces with the wireless service provider's SMS network to allow communication between the mobile wallet applications and the back-office systems via SMS messaging or some other form of data transfer. Still further, another component of the mFS platform is a web component that provides a web interface to the mFS program participants that allows the subscriber to perform the same functions in the web interface that they would have available through their applications.

The term "bill pay company" refers to a business that signs-up to participate in the mFS transaction system. As a participant in the mFS transaction system, the company accepts payment from mFS mobile wallet accounts, either in the form of eMoney or through periodic settlements.

At least in some embodiments, financial transactions that take place in the mFS mobile wallet platform are funded through pre-paid mobile wallet accounts. Mobile wallet platform subscribers can deposit cash into their mobile wallet account through a process referred to herein as 'cash-in'. The cash-in process is supported by mFS agents at agent branch locations. The agent accepts the cash from the subscriber and transfers the equivalent amount of eMoney to the subscriber's mobile wallet account. This process is similar to withdrawing cash from a bank account.

As mentioned above, in some embodiments, financial transactions that take place in the mobile wallet platform are funded through pre-paid mobile wallet accounts. Mobile wallet platform subscribers can withdraw cash from their mobile wallet account through a process known as "cash-out". The cash-out process is supported by mFS agents at agent branch locations. The subscriber transfers eMoney

from their mobile wallet account to the agent's eMoney account. Upon receiving the eMoney, the agent gives the subscriber cash from their branch cash register.

Accounts managed on the mFS platform by the mFS eMoney transaction processor maintain the mobile wallet balance of mFS program participants including subscribers, agent branches, agent companies, and non-agent companies. eMoney is moved between Mobile Wallet accounts by the transaction processor based on mFS transaction processing. Only when transactions involving cash (i.e. depositing or withdrawing funds from the mFS program) or the movement of money from mFS participants to non-mFS program participants are funds moved from the master bank accounts.

As subscribers, agents, and other mFS program participants conduct business in the mFS program, value is transferred from one account to the next as payment for services rendered or goods purchased. This value can be in the form of real currency or the electronic representation referred to herein as eMoney.

Among other situations, eMoney is used in mFS implementations where the real-time processing of financial transactions including card processing is not practical. The mFS platform utilizes an internal transaction processor for managing the real-time balance of mobile wallet and agent accounts as value (eMoney) is transferred from one mobile wallet to another in payment for services.

As subscribers conduct business with mFS agents, they deposit or withdraw cash from their mobile wallet accounts. Virtual or eMoney credits are transferred between the subscriber mobile wallet accounts and the agent branch accounts as a form of currency to support the transaction. As agents accept cash into their cash register by mFS subscribers, they transfer the equivalent amount of eMoney credits into the mFS subscriber's mobile wallet account. For example, if an mFS subscriber gives an mFS agent $10 to deposit into the subscriber's mobile wallet account, the agent would place the cash into his or her register, and transfer $10 from the agent branch eMoney account into the subscriber's mobile wallet account. While the agent acquired $10 in his or her register, the agent transferred-out $10 of eMoney credits from his or her branch eMoney account. This will be explained in greater detail below.

In some embodiments, employers may wish to participate in the mFS program by allowing the direct deposit of paychecks into subscribers' mobile wallet accounts.

Accordingly, each payday, the user's pay is directly transferred to the subscribers' mobile wallet.

The term "know your customer" or "KYC" refers to information collected about an individual that identifies that individual. Such information is used to establish a mobile wallet account with the mobile wallet platform. Regulatory requirements in some countries require that new bank account creation must be preceded by a display of a valid government ID. These KYC regulations may vary from country to country. Accordingly, different KYC information may be requested from subscribers in different countries in order to establish a mobile wallet account.

The term micro-finance institution (MFI) refers to a lender that issues small loans. MFIs participating in the mFS program lend to mFS program subscribers and accept loan repayment either in the form of eMoney or settlements with the mFS platform provider.

The term "mFS program", like the term "mFS platform" refers to the ecosystem of companies, service providers, and subscribers that participate in providing mobile financial services to their customers. In some embodiments, there may be one mFS program implementation per country. Each program includes a program owner and operator, a program platform, a partner wireless services provider or MNO, and a partner bank.

The term "mFS program master account" refers to a bank account maintained by the mFS program partner bank to provide funds and float for the operation of the mFS platform. Depending on the type of mFS implementation, the master account can include sub-accounts for each of the agent branches and subscriber mobile wallets, giving the bank visibility into all transactions on a per-user basis. The mFS platform can also manage the balance of sub-accounts and interact with the bank's master account when funds need to be deposited or withdrawn from the account.

The term mobile network operator (MNO) refers to a provider of mobile phone service including basic voice, SMS, unstructured supplementary service data (USSD) and data service, and may also be referred to as a "wireless service provider".

The term "mobile wallet" or "mobile wallet account" refers to a stored value account or prepaid access account (PPA) that allows the owner (or "subscriber") to pay for goods and services on the mFS platform from his or her mobile wallet account. When the mFS eMoney transaction processor is used, the mobile wallet

balance is maintained by the mFS platform and value is exchanged within the mFS program as cMoney. When the mFS platform is integrated to an external card processor, the mobile wallet utilizes funds from the subscriber's prepaid debit card and bank account to exchange value on the mFS platform.

The term "non-agent company" refers to a mFS program participant who accepts payments from mFS subscribers but does not provide the same services as mFS agent companies. Payment is accepted either in the form of eMoney or through periodic settlements with the mFS platform provider. Examples of non-agent companies include bill pay providers and micro-finance lenders.

The term "non-mFS subscribers" refers to unregistered users that participates in various use cases in the mFS program. Non-mFS subscribers can send money to or receive money from mFS subscribers through interaction with the mFS program agents or with international remittance providers.

The term "partner bank" refers to the primary bank participating in the mFS program. The partner bank is responsible for holding the mFS program master accounts that hold the funds for all mFS services and transactions. A "PIN" refers to a numeric password that may be required to perform a transaction via the mobile wallet application. A "transaction processor" refers to an application or service that manages the mFS program account balances. The transaction processor determines the amount of funds or eMoney is in a particular account at any given time, and manages account balances. Mobile transaction system requests to credit, debit, or view the balance of a particular mobile wallet or program account are handled by the transaction processor (in conjunction with other components of the mobile wallet platform).

The term "sub-accounts" refers to accounts that are maintained within the mFS platform or by an external card processor. A partner bank may elect to maintain a separate bank account for each subscriber and/or agent branch, or a single master account may be established that contains the funds for all of the subscriber mobile wallet and agent branch accounts (at least within a country or other geographical region). The balance of each individual user may be managed by the mFS transaction processor.

When using a master account, the bank is involved only in transactions that require the movement of funds external to the mFS program. For example, subscriber cash-in and cash-out transactions involve the addition and removal of cash from the

mFS program and would consequently include a deposit or withdrawal from the master account. Retail purchases from participating mFS program retailers or the exchange of funds between mFS subscribers results in no net change in the mFS program balance and thus do not require involvement by the partner bank.

The term "subscriber" refers to a participant of the mFS mobile wallet platform. The subscriber maintains a mobile wallet balance and performs transactions using the mFS application. An "unbanked subscriber" is a subscriber that does not have (or does not have access to) a bank account or credit union account. The application or "mobile wallet application" provides mobile wallet functionality to the (unbanked) subscriber. The mobile wallet application is installed on a mobile device in the device's memory, on a SIM card (such as a GSM SIM card) or is otherwise accessible to the mobile device. The mobile wallet application provides the subscriber the ability to securely perform subscriber functions such as making retail purchases, paying bills, or transferring money to other mFS subscribers and non-subscribers. The mobile wallet application communicates with the mFS platform using binary and text SMS messages, among other forms of wireless communication. A wireless service provider or MNO provides the GSM network infrastructure on which the mFS platform operates.

Figure 1 illustrates an example system architecture for a mobile wallet platform. Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions. Integration tier 101 can also include a communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111. Other mechanisms include, but are not limited to: International Standards Organization ("ISO") 8583 for Point of Sale ("POS") and Automated Teller Machines ("ATM") devices and Advanced Message Queuing Protocol ("AMQP") for queue based interfaces. Each of channels 111 can be integrated to one or more mechanisms for sending messages to integration tier 101. Notification services 102 is configured to send various notifications through different notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails. Notification services 102 can be configured through a web services API.

Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113. Each connector can be a separate module intended to integrate an external service to the system architecture. Business process services 104 are configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects. Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors.

Security services 106 are configured to perform subscriber authentication. Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table.

Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers. Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses. Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints.

Name matching engine 110 is configured to match different objects according to specified configuration rules. Matching engine 110 can be use to find similarities between names, addresses, etc. Transaction processor 121 is configured to manage financial accounts and transactions. The transaction processor 121 can be used to hold, load, withdraw and deposit funds to mobile wallet accounts. Transaction processor 121 can also be used as a common interface to a third party processor system. When used as a common interface, financial operations may be delegated to the external processor. A Clearing House subsystem of transaction processor 121 can be used to exchange the financial information with a bank.

Components of a mobile wallet platform can be connected to one another over (or be part of) a system bus and/or a network. Networks can include a Local Area Network ("LAN"), a Wide Area Network ("WAN"), and even the Internet.

Accorindlgy, components of the mobile wallet platform can be "in the cloud". As such, mobile wallet platform components as well as any other connected computer systems and their components, can create message related data and exchange message related data (e.g., Internet Protocol ("IP") datagrams and other higher layer protocols that utilize IP datagrams, such as, Transmission Control Protocol ("TCP"), Hypertext Transfer Protocol ("HTTP"), Simple Mail Transfer Protocol ("SMTP"), etc.) over the system bus and/or network.

The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below. These services will be described in greater detail below with regard to system Figures 1 and 2, as well as Figures 3-19B.

Figure 2 depicts a monetary transaction system 200 similar to that described in Figure 1. The monetary transaction system 200 may provide a more simplified system structure in which each of the above services may be provided. The system includes a subscriber 205. The subscriber may have access to a bank account, or may be an unbanked subscriber. The subscriber has a profile 211 with the monetary transaction system 210. The profile includes the subscriber's KYC information, as well as any associated bank accounts, credit union accounts, bill pay accounts or other accounts. The subscriber has (or has access to) a mobile device 206 such as a phone or tablet. The mobile device runs the mobile wallet application (or mobile wallet application) 207.

The subscriber can indicate, using the mobile application 207 which transaction or other action he or she would like to perform. The indicated transaction 208 is sent to the mobile wallet platform 210 to be carried out by the platform. The transaction processor 216 (which may be similar to or the same as transaction processor 121 of Figure 1) performs the transaction(s) specified by the (unbanked)

subscriber 205. The transaction processor may implement various other components to perform the transaction including memory 217, (wireless) communication module 215, rules engine 210 and/or transaction database 225.

Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction system can transfer money or eMoney 221 to or from an entity such as a user or agent (e.g. entity 222) to or from an establishment such as a retail store or agent company (e.g. entity 223).

In some cases, the monetary transaction system 210 application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application. For instance, mobile wallet application 207 may provide a web interface that allows a user to enroll for a mobile wallet. The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of channels (111 from Figure 1) connected to the monetary transaction system 210. The web interface or mobile wallet application may prompt for and receive enrollment information (e.g. KYC information) for the (unbanked) subscriber 205 over at least one of the plurality of channels (e.g. web, point-of-sale (POS), interactive voice response (IVR, etc.). The web interface or mobile wallet application may then send activation instructions over the same or a different channel to activate the (unbanked) subscriber 205 and create a subscriber account for the (unbanked) subscriber.

Once the subscriber has an account, the monetary transaction system generates a corresponding mobile wallet for the unbanked subscriber (available via the web interface and/or the mobile wallet application. The system then presents the (unbanked) subscriber's account data associated with the mobile wallet and/or a notification indicating that enrollment was successful to the subscriber. Accordingly, the mobile wallet application or the web interface may be used to provide user enrollment functionality. It should also be understood that either the mobile wallet

application or the web interface may be used to provide substantially all of the mobile wallet functionality described herein.

It should also be noted that the mobile device 206 may be any type of plan-based phone or tablet, or prepaid phone or tablet. Many subscribers, such as unbanked subscribers, may primarily use prepaid phones. The mobile wallet application 207 may be installed on both plan-based phones and prepaid phones. The mobile wallet application may be installed on the device's SIM card, or on the device's main memory. Accordingly, the monetary transaction system 200 may be accessed and used via substantially any type of plan-based or prepaid mobile device.

Figure 3 shows three different graphics (301-303) and corresponding method steps (310-370) that illustrate an unbanked subscriber making a deposit using a mobile wallet (and, by extension, using the mobile wallet transaction system 210). In at least some of the embodiments described below, the actions of each participant are shown and described. This will also, at least in some embodiments, include an illustration of money flow throughout the mobile wallet transaction system. In the graphics, various terms are used as follows: $C = Cash Balance and $E = Electronic Money (eMoney) Balance.

At graphic 301, it is assumed that the unbanked subscriber (e.g. 205) has already registered and activated an eMoney account at an agent branch location (e.g. a retail store, gas station, or other location that has registered to be an agent branch). To deposit cash in order to get eMoney credit, the subscriber informs the agent manager or agent that they want to deposit a certain amount of cash (in 301). The agent manager/agent takes the cash and notifies the mobile wallet transaction system of the deposit using their agent manager or agent application (302). The transaction system 210 then credits the subscriber's eMoney account (303). Accordingly, any location that has registered to accept eMoney payments from subscribers' mobile wallets can also accept cash deposits. The agent branch's eMoney balance is reduced because their actual money balance was increased by the amount of the deposit. The subscriber's mobile wallet account is credited with eMoney in the amount of the deposit. In this manner, a subscriber can deposit cash into their mobile wallet account (in the form of eMoney) at any retail location or other agent branch location.

Thus, the agent manager receives the physical cash deposit into the subscriber's eMoney account via the agent manager or agent's application. The

subscriber gives cash to agent manager or agent, and the mFS platform processes the request, updates the agent branch and subscriber's eMoney balances, logs the transaction, and sends details (such as eMoney account balances, transaction logs, etc.) to bank specified by the mobile wallet platform. These details may be sent instantaneously as transactions occur, or in batches at pre-determined intervals.

In one embodiment, the monetary transaction system 210 of Figure 2 is implemented to deposit funds at an agent branch using a mobile wallet. The monetary transaction system 210 receives communication from an agent branch over one of a plurality of channels (e.g. 111) connected to the monetary transaction system (step 310). The agent communication indicates that the unbanked subscriber 205 desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account. The transaction processor 216 then validates the status of the unbanked subscriber's mobile wallet account (step 320) and determines if the agent branch is authorized to receive deposited money (i.e. determine if it has pre-registered as an official agent branch) (step 330).

The monetary transaction system may then use rules engine 220 to perform a limit check (to determine whether sufficient funds are available) and/or a velocity check (to determine whether the user has exceeded a specified number of (hourly, daily, or weekly) transactions) on the unbanked subscriber's mobile wallet account (step 340). The transaction system then credits the unbanked subscriber's mobile wallet account with the specified amount of funds (step 350) and returns a notification to the agent branch confirming the deposit (step 360) and returns another notification to the subscriber notifying the subscriber that the specified amount of funds was deposited in the their mobile wallet account (step 370). Any of channels 111 may be used to perform these communications.

Figure 4 shows three different graphics (401-403) and corresponding method steps (410-490) that illustrate an unbanked subscriber making a withdrawal using a mobile wallet (and, by extension, using the mobile wallet transaction system 210). As above, the terms in the graphics include "$C" representing cash balance and "$E" representing eMoney balance.

To withdraw cash at an agent branch, a subscriber submits a withdrawal request using their application (401). The subscriber may also enter information about the agent branch (e.g. name of establishment, name of agent, location or other

information) that allows the monetary transaction system 210 to identify the agent branch. The transaction processor 216 may then determine whether the unbanked subscriber has enough eMoney to withdraw the requested amount. If he or she does have enough eMoney, then the subscriber's eMoney is deducted and that amount is transferred to the agent branch's eMoney account (402). Then, the agent branch gives the subscriber the requested amount of cash (403). In this manner, any entity that has established itself as an agent branch (including retail stores, gas stations, service providers, etc.) can provide cash withdrawal to a mobile wallet subscriber (whether banked or unbanked). The agent's or agent manager's role is to verify the withdrawal request (e.g. via SMS on the agent's or agent manager's phone) and gives the cash to subscriber. The subscriber requests cash withdrawal from agent branch's eMoney account via the application, and receives physical cash from agent manager/agent. The mobile wallet platform processes the request, updates the agent branch's and subscriber's eMoney balances, logs the transaction, and sends transaction details to a specified bank at pre-determined intervals.

In one embodiment, the monetary transaction system 210 is implemented to withdraw funds at an agent branch using a mobile wallet. The communication module 215 receives a communication from an unbanked subscriber over one of a plurality of channels 111 connected to the monetary transaction system 210 (step 410). The communication indicates that the unbanked subscriber 205 desires to withdraw a specified amount of funds from the unbanked subscriber's mobile wallet account at the agent branch. The monetary transaction system 210 validates the status of the unbanked subscriber's mobile wallet account (step 420) and determines if the balance of the unbanked subscriber's mobile wallet account is sufficient to accommodate the requested withdrawal for the specified amount of funds (step 430).

The transaction processor 216 performs one or more of a limit check (to verify sufficient funds) and a velocity check (to verify the subscriber hasn't exceeded specified transfer limits) on the unbanked subscriber's mobile wallet account (step 440). The monetary transaction system 210 then returns a secure, perishable withdrawal code to the subscriber 205 over at least one of the plurality of channels 111 connected to the monetary transaction system (step 450). The monetary transaction system 210 receives subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system

indicating that the withdrawal code has been presented to the agent branch (step 460). The monetary transaction system 210 then debits the unbanked subscriber's mobile wallet account by the specified amount of funds (step 470), returns a notification to the agent branch confirming the withdrawal (step 480) and notifies the subscriber that the specified amount of funds was withdrawn from the unbanked subscriber's mobile wallet account over at least one of the channels 111 connected to the monetary transaction system (step 490). Accordingly, the monetary transaction system 210 may be used to allow subscribers to withdraw cash using their mobile wallet applications at any store or other entity registered as an agent branch.

Figure 5A depicts a subscriber-to-subscriber eMoney transfer. To perform such a transfer, subscriber A (501) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer. The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (502). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account. Subscriber A may also receive a notification that the transfer was successful. Accordingly, eMoney may be transferred between two mFS platform subscribers, one or both of which may be unbanked. The monetary transaction system 210 processes the subscribers' requests, updates the subscribers' eMoney balances, logs the transactions, and sends transaction information to a specified bank when needed.

Figure 5B illustrates a subscriber-to-non-subscriber eMoney transfer. In graphic 505, subscriber A wishes to send eMoney to another individual that is not a subscriber to the mFS platform. The transaction is initiated in the same fashion as the subscriber-to-subscriber transfer scenario. However, since non-subscriber B does not have a mobile wallet account, the monetary transaction system 210 cannot credit them with eMoney. Instead, the monetary transaction system 210 sends a notification (e.g. via SMS) to non-subscriber B with instructions for how to pick-up the transferred money, along with an authorization code (506). The monetary transaction system 210 puts a hold on subscriber A's account for the amount transferred. Subscriber B then has a specified number of days to pick up the cash before the hold expires and the

amount is credited back to subscriber A's eMoney account by the monetary transaction system 210.

When non-subscriber B goes to pick up the money at an agent branch, the agent branch's manager or agent verifies the authorization code via an agent manager or agent mobile wallet application (that, in turn, accesses the mFS platform). Once the transfer has been validated, the agent gives the cash to non-subscriber B. The agent branch's mFS account is credited with the transfer amount (507) and the user leaves with the cash in hand (508). The mFS platform processes the transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction details to a platform-specified bank.

Figure 6A illustrates a subscriber-to-subscriber international eMoney transfer. This embodiment is, at least in some respects, similar to sending eMoney to an mFS subscriber domestically. In this case the monetary transaction system 210 leverages one or more existing international money transfer organizations or "remittance companies" such as MoneyGram®. In some embodiments, MoneyGram® is pre-integrated to the monetary transaction system 210, but other international money transfer organizations may also be used. Still further, at least in some embodiments, subscriber B may need to have an eMoney account with a foreign mFS program that is also affiliated with MoneyGram® or another international money transfer organization.

In Figure 6A, subscriber A initiates the international eMoney transfer at 601, the international money transfer organization (e.g. MoneyGram®) transfers the eMoney to subscriber B at 602 and subscriber B's eMoney balance is increased by the transferred amount. Thus, subscriber A requests to send eMoney from his or her eMoney account via the mobile wallet application. The eMoney is transferred using an international money transfer organization, and subscriber B receives a notification (that may, for example, include a reference number, among other information) that their eMoney balance has increased by the transfer amount. The monetary transfer system 210 processes subscriber A's request, updates subscriber A's and subscriber B's eMoney balances, logs the transaction, and send transaction details to a mFS platform-specified bank.

Figure 6B illustrates a subscriber-to-non-subscriber international eMoney transfer. In this illustration, subscriber A wishes to send cash to subscriber B who is

not an mFS program subscriber. Similar to the scenario described in Figure 6A, the monetary transaction system 210 leverages various international money transfer organizations or remittance companies such as MoneyGram® to transfer the eMoney. Subscriber A initiates a typical eMoney transfer at 605 by providing non-subscriber B's identification information, as well as the amount to be transferred. The Monetary transaction system 210 recognizes the eMoney transfer is not destined for a domestic phone number and routes the request to the international money transfer organization (e.g. MoneyGram®) (606).

The international money transfer organization sends non-subscriber B a notification (e.g. via SMS) with instructions for how and where to pick up the money (in embodiments where MoneyGram® transfers the eMoney, the notification may include a MoneyGram® reference number (MGRN)) (607). Non-subscriber B can then show the MGRN to an agent at an agent branch (608) and then receive the cash (609). The monetary transaction system 210 then decrements subscriber A's eMoney account for the transferred amount. The monetary transfer system 210 thus processes subscriber A's transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction detail to a platform-specified bank. It should also be noted that an mFS subscriber may also receive money in a foreign country from either a subscriber or a non-subscriber in a similar manner.

Figure 7 illustrates a subscriber purchasing airtime using a mobile wallet. Mobile wallet platform subscribers may buy airtime by using their mobile wallet application 207. The monetary transaction system 210 will reload their airtime account within the mobile network operator's (MNO's) systems. The subscriber requests to purchase airtime by entering the request via the mobile wallet application or via a mobile wallet web interface. The monetary transaction system 210 then decrements the subscriber's eMoney account (701), while crediting the mFS platform's eMoney account (702). The purchased airtime is then added to the subscriber's airtime balance (703). The monetary transaction system 210 processes the subscriber's request, updates the subscriber's eMoney balances as well as its own eMoney balance, logs the transaction, and sends transaction detail to a mFS platform-specified bank.

In one embodiment, the monetary transaction system 210 is implemented to top up a prepaid mobile account from a mobile wallet. The communication module

215 of the monetary transaction system 210 receives a subscriber communication over one of a plurality of channels 111 connected to the monetary transaction system (step 710). The subscriber communication indicates that an unbanked subscriber 205 desires to top up a prepaid mobile account by a specified amount using a specified payment method from the unbanked subscriber's mobile wallet. The transaction processor 216 validates the status of the selected payment method (step 720) and performs a limit check and/or a velocity check on the selected payment method (step 730). The monetary transaction system 210 then debits the specified payment method by the specified amount of funds (step 740) and processes the mobile top-up via a billing system integrator and/or an aggregator (step 750), and notifies the subscriber that the prepaid mobile account was topped up over at least one of the channels connected to the monetary transaction system (step 760).

Figure 8 illustrates an embodiment where a mFS subscriber pays a bill using a mobile wallet. At least in some embodiments, the company that the subscriber wishes to pay needs to have signed-up to be part of the mFS platform. The mFS platform may publish a list of company names that have registered to be part of the mFS platform. This list of companies may include company IDs so that subscribers can know which company ID to enter in their mobile wallet application. Once the company ID is known, the subscriber can pay a bill by entering the company ID and the amount to be paid. The monetary transaction system 210 then decrements the subscriber's eMoney account (801) and credits the identified company's eMoney account (802). Accordingly, in response to the subscriber's request to pay bill via their mobile wallet application, the monetary transaction system 210 processes the request, updates the bill pay company's and the subscriber's eMoney balances, logs the transaction, and sends transaction details to the mFS platform-specified bank.

In one embodiment, the monetary transaction system 210 is implemented to pay a bill from a mobile wallet. The communications module 215 of the monetary transaction system 215 receives a subscriber communication over a communication channel 111 connected to the monetary transaction system (step 810). The subscriber communication indicates that unbanked subscriber 205 desires to pay a bill for a specified amount using a specified payment method from the unbanked subscriber's mobile wallet (e.g. eMoney). The monetary transaction system 210 validates the status of the selected payment method (step 820) and performs a limit check and/or a

velocity check on the selected payment method to ensure the eMoney transfer is permissible (step 830). The monetary transaction system then debits the specified payment method by the specified amount of funds (step 840), processes the bill payment via a direct biller connection or a bill pay aggregator (step 850), and notifies the unbanked subscriber that the bill was paid using a communication channel (e.g. SMS) connected to the monetary transaction system (step 860). Thus, in this manner, a subscriber may use a mobile wallet to pay various bills including rent, utility, mortgage, phone, cable, medical and other bills.

Figure 9 illustrates a mobile wallet subscriber making a retail purchase. Mobile wallet subscribers can make retail purchases at agent branches directly from their mobile device. Agent branches, as explained above, are retail stores or other entities that have registered with the mFS system and are able to accept mobile wallet payments. Accordingly, a subscriber can select the items they wish to purchase, and indicate (via the mobile wallet application) to the agent branch that they wish to pay for the items. The mobile wallet application then communicates with the agent branch and the monetary transaction system to indicate the price of the transaction. The monetary transaction system 210 then debits the subscriber's eMoney account (901) and credits the agent branch's eMoney account (902). The agent branch (and/or the agent manager or agent) receives confirmation that subscriber paid for the purchase. The subscriber may also receive a summary of the retail purchase and may be asked to confirm the purchase by entering a PIN. The monetary transaction system processes the purchase request, updates the agent branch and subscriber's eMoney balances, logs the transaction, and sends transaction details to a mFS platform-specified bank.

In one embodiment, the monetary transaction system 210 is implemented to make a purchase from a mobile wallet. The communications module 215 of the monetary transaction system 210 receives a communication from a subscriber over a communication channels 111 (step 910). The subscriber communication indicates that an unbanked subscriber 205 desires to purchase an item for a specified amount of funds using a specified payment method from the unbanked subscriber's mobile wallet.

The monetary transaction system 210 then returns a secure, perishable purchase code to the unbanked subscriber over at least one of the channels connected

to the monetary transaction system (step 920) and receives a subsequent agent branch communication over a channel indicating that the purchase code has been presented to an agent (branch) (step 930). The monetary transaction system 210 validates the status of the specified payment method (step 940), determines if the specified payment method can accommodate a purchase for the specified amount (step 950), performs a limit check and/or a velocity check on the selected payment method (960), debits the specified payment method by the specified amount of funds (970), returns a notification to the agent branch authorizing the purchase (980) and sends a receipt to the unbanked subscriber over a communication channel. The monetary transaction system 210 may thus be used to make a retail purchase using a mobile wallet.

Figure 10A illustrates a subscriber requesting a micro-loan. Financial institutions and potentially other mFS program participants may sign up to become money or eMoney lenders. Mobile wallet subscribers may be able to use their mobile wallets to request micro-loans from these approved lenders. The micro-loans are tracked by the monetary transaction system 210, and repayment reminders, interest and commissions are managed by the monetary transaction system. The subscriber requests a micro-loan from a lender, indicating the amount in the request, as well as other information such as the repayment date and the commission (i.e. interest rate). Potential lenders then have a chance to counter the loan request with their own terms. Once the lender approves the subscriber's request, the lender's eMoney account balance is debited for the specified amount (1001) and the subscriber's eMoney account is credited with the requested amount (1002). The monetary transaction system 210 processes the micro-loan requests, update the lender and subscriber's eMoney balances, sets up repayment schedules and reminders, logs the transaction, and sends transaction detail to a mFS bank. It should also be noted that while the term "micro-loan" is used herein, the loan may be for substantially any amount of money.

Following on the embodiment described in Figure 10A, Figure 10B illustrates a subscriber repaying a micro-loan. The subscriber may repay the loan using functionality provided in the mobile wallet application or in a similar web interface. Repayments can be made in installments or in full depending on the rules of the micro-loan. The subscriber enters the amount they wish to repay and the loan ID. The subscriber's eMoney account is then debited for the specified amount (1005), while the lender's eMoney account is credited the specified amount (1006). Both the lender

and the subscriber may receive confirmation that the loan has been repaid via SMS or some other communication channel. The mFS platform thus processes the subscriber's micro-loan repayment request, updates lender and subscriber's eMoney balances, updates repayment schedule and reminders, logs the transaction, and sends transaction details to a specified mFS platform bank.

Figure 11A illustrates a subscriber receiving a direct deposit from an employer or other entity. Subscribers to the mFS platform have the ability to receive any direct deposit into their eMoney account. Subscribers may be asked by their employers to provide account information in order to set up direct deposit. The employer then submits a direct deposit request using their existing processes (i.e the processes they use for a normal checking or savings bank account). Once the direct deposit is set up and a payday arrives, the employer's bank account is debited for the proper amount (1101) and the employer's mFS account is credited with that amount (1102). Then, once the funds have been received at the mFS platform bank, the mFS platform bank sweeps the employers direct deposit balance (1103) into a mFS platform master account (1104) and notifies the mFS platform of each account to be incremented (including the subscriber's mobile wallet (eMoney) account). The subscriber's eMoney account is then credited with the paycheck amount (1105) upon which the eMoney may be used to pay for goods, pay bills, top up airtime, transfer to other entities or for cash withdrawal.

The subscriber does not need to have a bank account to participate in direct deposit. The employer's bank can communicate with the mFS platform's bank to perform the necessary steps in directly depositing the subscriber's paycheck in his or her eMoney mobile wallet account. The bank facilitates monetary deposit into the employer's bank account for direct deposit and performs an automated sweep of recent deposits from the employer's bank account into the mFS platform's master bank account. The bank also sends transaction details to the monetary transaction system 210 including transaction logs. The monetary transaction system receives a list of eMoney accounts that are to be credited directly from the employer (or bank), processes the list and requests to establish a direct deposit, updates subscriber's eMoney balance, log the transaction, and sends transaction details to the mFS platform bank.

In a similar manner, a subscriber may receive a government welfare payment directly on their mobile device. Figure 11B illustrates a subscriber receiving a government social welfare payment directly into their eMoney account. In some embodiments, subscribers may need to opt-in and register with the government program for which they choose to receive the payment via their mobile wallet. Once the funds have been received, the subscriber can use that eMoney for any goods or services, as described above. Once the direct deposit has been established and a payout has been initiated, the government's welfare account deposits the money (1110) into the government's bank account for welfare payments (1111) and performs an automated sweep of recent deposits from the government's bank account (1112) into the mFS program's master bank account (1113). The bank then sends transaction details to the monetary transaction system 210 regarding the deposit. The subscriber receives a notification that the welfare payment has been credited to their eMoney account (1114). The mFS platform receives an indication of eMoney accounts that are to be credited from the government, processes the welfare payments, updates the subscriber's eMoney balance, logs the transactions, and sends transaction details to the mFS platform bank.

Figure 12A illustrates an agent administrator distributing eMoney to various recipients. An agent administrator, as explained above, is a person who acts as an agent company's representative. The agent administrator deposits, withdraws, and distributes funds into and out of the agent company's bank account. When an agent administrator deposits cash into an agent company's bank account, it is credited as eMoney to the agent company's account. In order to provide the agent branches with eMoney, the agent administrator first moves the eMoney from the agent company's account (1201) to the branch accounts (1202). This is performed using the agent administrator's mobile wallet application or portal. In an agent administrator money transfer, the monetary transaction system 210 processes the administrator's eMoney transfer request, updates the agent company and agent branch eMoney balances, logs the transaction, and sends transaction details to the mFS platform bank.

Figure 12B illustrates an agent company deposit. The agent company has an eMoney account in the monetary transaction system 210 that may also include a corresponding bank account (that may be created automatically upon creation of the agent company's eMoney account). After the agent company's bank account has been

set up, the agent administrator can make deposits into that account. As Figure 12B shows, once cash (1205) has been deposited into the bank account (1206), it is transferred to a mFS platform master account (1208) that includes all or a part of the mFS platform's funds. The agent company's bank account is decreased by the deposit amount (1207), while the agent company's eMoney account balance is correspondingly increased (1210). At this time, the agent company account is credited with eMoney. The agent company's bank facilitates a physical cash deposit into the agent company's bank account and performs an automated sweep (1209) of recent deposits from the agent company's bank account into the mFS platform's master bank account. The agent company's bank then sends transaction details to the monetary transaction system 210. The agent administrator physically delivers the cash (or form of money such as a check or money order) to a bank branch for deposit. The monetary transfer system receives transaction details from the agent company's bank about recent transactions (including deposits, as shown in Figure 12B.

Figure 13 illustrates an agent company withdrawal. To make a cash withdrawal for an agent company, the agent administrator requests a withdrawal using the agent administrator mobile wallet application. The monetary transaction system 210 then notifies the bank that a certain amount of eMoney is to be transferred from the master mFS account (1302) to the agent company bank account (1303). When the money is in the agent company bank account, the agent administrator can withdraw the cash by traditional withdrawal means. The mFS master bank receives transaction details from the monetary transaction system 210 about recent transactions (recent withdrawals in this case). The mFS master bank performs an automated sweep (1304) of the mFS platform's master bank account to reflect the recent withdrawal request from agent the agent company (1301). The agent company's eMoney account is reduced by the amount of the withdrawal. The agent company also sends transaction details to the monetary transaction system 210. The agent administrator can request withdrawal via the agent administrator mobile wallet application and physically withdrawal cash (1305) from the agent company's bank branch (1306). The mFS platform processes the agent company's withdrawal request, updates agent company and agent branch eMoney balances, logs the transaction, and sends transaction details to an mFS platform-specified bank.

Attention will now be turned to embodiments in which subscribers have bank accounts associated with their mobile wallets. The monetary transaction system 210 provides similar functionality to consumers that have bank or credit union accounts. Although many different transactions are presented herein, many more and varied types of transactions may be processed by the monetary transaction system. In the following figures, "$C" refers to cash balance, "$DC" refers to a debit card (prepaid) balance and "$PIN" refers to a recharge PIN value.

Figure 14 describes a subscriber deposit at an agent branch. The subscriber has a registered and activated (prepaid) debit card at an agent branch location. The prepaid debit card is associated with the mobile wallet application in the subscriber's mobile device. As such, the debit card is linked to the subscriber's account in the monetary transaction system 210. To deposit cash onto the mobile wallet, the subscriber informs the agent that they want to deposit a specified amount of cash (1401). The agent takes the cash and notifies the monetary transaction system 210 of the deposit using their point of sale (POS) system or the agent mobile wallet application (1402), and the monetary transaction system 210 credits the subscriber's mobile wallet account (1403). The funds collected at the cash register typically do not reach a bank account until the reconciliation and settlement of funds occurs between the agent and the mFS owner's bank.

The subscriber's bank then receives a settlement report from the card processor and receives funds from the agent's bank. The agent or agent manager physically deposits the cash into the subscriber's mobile wallet account via their POS system or agent manager/agent mobile wallet application. The monetary transaction system processes the deposit request, increments the subscriber's mobile wallet balance within the card processor and logs the transaction. An external card processor increments the subscriber's mobile wallet balance and sends reports to the bank for settlement on a regular (e.g. nightly) basis.

In one embodiment, the monetary transaction system 210 is implemented to deposit funds into a bank or credit union account using a mobile wallet. The communications module 215 of the monetary transaction system 210 receives communication from an agent branch over a communication channel (step 1410). The agent communication indicates that a subscriber 205 desires to deposit a specified amount of funds into a bank or credit union account. The transaction processor 216

validates the status of the bank or credit union account (step 1420), determines if the agent branch is authorized to deposit money (step 1430), and performs a limit check and/or a velocity check on the bank or credit union account (step 1440). The monetary transaction system then credits the bank or credit union account with the specified amount of funds (step 1450), returns a notification to the agent branch confirming the deposit (step 1460) and notifies the subscriber that the specified amount of funds was deposited in the bank or credit union account using at least one of the communication channels connected to the monetary transaction system (step 1470). Accordingly, cash may be deposited into a bank or credit union account associated with a subscriber's mobile wallet.

Figure 15 illustrates a subscriber deposit that is performed with a non-agent. In some economies, subscribers may have the ability to leverage other channels outside of agents to deposit funds onto their card. One deposit method is a PIN-based recharge that allows a subscriber to purchase a PIN worth the deposit value. The PIN can then be redeemed via an interactive voice response (IVR) system or via the subscriber's mobile wallet application. The mobile wallet application will allow the monetary transaction system 210 to deposit the funds onto the subscriber's card. The retailer's bank settles with the PIN card provider's bank and the PIN card provider's bank settles with the mFS platform's bank for the deposit. The subscriber gives cash to the agent (1501) which increases the agent company's physical cash (1502). The subscriber uses IVR or their SIM Application to recharge mobile wallet account using a PIN card (1503). In some cases, an agent may provide the PIN card (i.e. the prepaid debit card) to the subscriber. The monetary transaction system 210 processes the subscriber deposit request, increments the subscriber's mobile wallet balance within the card processor and logs the transaction. An external card processor decreases the subscriber's PIN card balance (1504), increments the subscriber's mobile wallet balance (1505) and send reports to the mFS platform bank for settlement.

Figure 16 illustrates a subscriber withdrawal at an agent branch. To withdraw cash at an agent branch from a (prepaid) debit card, a subscriber submits a withdrawal request using the mobile wallet application on their mobile device. The subscriber may also need to enter details about the agent branch that allows the monetary transaction system 210 to determine if the subscriber has sufficient funds on their debit card. The mFS platform then notifies the agent branch that it can give cash to

the subscriber. If the subscriber has sufficient funds, the monetary transaction system 210 will decrement the subscriber's funds from their card (1601) and transfer it to the mobile wallet owner's account within the same card processor or bank. The agent branch (1602) then provides the withdrawn cash to the subscriber (1603).

Accordingly, the subscriber requests a cash withdrawal from their own mobile wallet account via the mobile wallet application. The agent or agent manager verifies the withdrawal request via POS authorization or SMS received on agent's phone and, once verified, gives cash to the subscriber. The monetary transaction system 210 processes the subscriber's withdrawal request, decrements the subscriber's mobile wallet balance within the card processor and logs the transaction. An external card processor decrements the subscriber's mobile wallet balance and sends reports to the bank for settlement on a periodic basis.

In one embodiment, the monetary transaction system 210 is implemented to withdraw funds from a bank or credit union account using a mobile wallet. The communication module 215 of the monetary transaction system 210 receives a communication from a subscriber 205 over a communication channel 111 (step 1610). The subscriber communication indicates that subscriber 205 desires to withdraw a specified amount of funds from a bank or credit union account. The transaction processor validates the status of the bank or credit union account (step 1620), determines if the balance of the bank or credit union account is sufficient to accommodate the requested withdrawal for the specified amount of funds (step 1630) and performs a limit check and/or a velocity check on the bank or credit union account (step 1640).

The monetary transaction system 210 then returns a secure, perishable withdrawal code to the subscriber 205 over at least one of the communication channels (step 1650) and receives a subsequent agent branch communication indicating that the withdrawal code has been presented to an agent (step 1660). The monetary transaction system 210 then debits the bank or credit union account by the specified amount of funds (step 1670), returns a notification to the agent branch confirming the withdrawal (1680) and notifies the subscriber that the specified amount of funds were withdrawn from the bank or credit union account using at least one of the communication channels connected to the monetary transaction system

(step 1690). Accordingly, a subscriber can withdraw cash stored on their mobile wallet from an agent branch or a non-agent branch.

Figure 17A illustrates a subscriber withdrawal using an automated teller machine (ATM). Subscribers in many countries have access to ATM machines and can use their mobile wallets to perform withdrawals using their (prepaid) debit card at most ATMs. Banks provide ATMs to their customers (typically at no charge) and to non-customers (typically for a small charge). The subscriber requests a cash withdrawal from the subscriber's mobile wallet via the subscriber's debit card that is associated with the mobile wallet. The bank providing the debit card may receive settlement reports from the card processor and may transfer and/or settle funds from subscriber's account to the ATM network bank. An extern card processor decrements the subscriber's mobile wallet balance (1701) and sends transaction reports to the bank for settlement. Accordingly, once the withdrawal request has been received and the external card processor (e.g. Visa® or MasterCard®) (1702) has debited the debit card account, the ATM (1703) dispenses the withdrawn cash to the subscriber (1704).

Figure 17B illustrates a subscriber-to-subscriber money transfer. An mFS subscriber (1705) may send money to another mFS subscriber (1706). To do so, subscriber A enters information identifying subscriber B (e.g. a phone number, email address or other identifier). The monetary transaction system 210 determines if there are enough funds to complete the transaction, and if so, the monetary transaction system 210 decrements subscriber A's debit card and credits subscriber B's debit card. The subscriber, accordingly, may request to send money from their own mobile wallet (i.e. money stored on a (prepaid) debit card) account via the subscriber mobile wallet application. The other subscriber receives a notification that the balance of the debit card associated with their mobile wallet has increased. The bank receives a settlement report from the debit card processor and transfers or settles funds from subscriber A's account to subscriber B's account (if necessary). The monetary transaction system 210 processes the transfer request, updates subscriber A's and subscriber B's debit cards that are associated with their mobile wallets and logs the transaction. The external card processor decrements subscriber A's debit card balance, increments subscriber B's debit card balance and sends transaction reports to the mFS platform bank for settlement.

Figure 17C illustrates subscriber-to-non-subscriber money transfers. In this embodiment, subscriber A (an mFS subscriber) wishes to send money to another subscriber (a non-mFS subscriber). The transaction is initiated in the same fashion as described above in Figure 17B. However, since subscriber B does not have an mFS account, the monetary transaction system 210 cannot credit them with money. Instead, the monetary transaction system 210 sends a communication (e.g. a SMS) to subscriber B (1708) with an authorization code and instructions for how to pick up the cash. The monetary transaction system 210 puts a hold on subscriber A's debit card for the amount transferred (1707). Subscriber B has a specified time period in which to pick up the cash before the hold expires and the amount is credited back to the debit card associated with subscriber A's mobile wallet account. The agent branch verifies the authorization code via POS or their agent mobile wallet application (1709) and gives the cash to the non-subscriber (1710). (In some countries, an agent network needs to be capable of giving cash to a subscriber based on the money transfer reference number).

The mFS bank receives a settlement report from the card processor and transfer and settle funds from subscriber A's debit card to the agent's bank (if necessary). The monetary transaction system 210 processes the money transfer request, decrements subscriber A's mobile wallet balance within the card processor, generates a money transfer reference number, authorizes the reference number to be paid out by the agent and logs the transaction. An external card processor decrements subscriber A's mobile wallet balance and sends periodic transaction reports to the bank for settlement. Thus, as seen in Figures 17B and 17C, money may be transferred from subscriber to subscriber and from subscriber to non-subscriber.

Subscribers may similarly send money internationally to both subscribers and non-subscribers. Figure 18A illustrates a subscriber-to-subscriber international money transfer. In this embodiment, subscriber A wishes to send cash to subscriber B who resides in another country. As in the embodiments described above where money was transferred internationally, the monetary transaction system 210 may use one or more international money transfer organizations or remittance companies such as MoneyGram® to transfer the money. Subscriber A initiates the international money transfer using his or her phone. Subscriber A's debit card account is decremented by the transfer amount (1801). The money is transferred between countries using an

international money transfer organization (1802). In this case, subscriber B has an mFS eMoney account with a foreign mFS platform that is also affiliated with the selected international money transfer organization. That organization can then credit subscriber B's eMoney account directly (1803).

Thus, subscriber A requests to send money from their debit card account via the subscriber mobile wallet application. Subscriber B receives a notification (including a MoneyGram® Reference Number (MGRN) (or other reference number when other international money transfer organizations are used) and instructions on how to access the eMoney) that their eMoney balance has increased. The mFS bank receives settlement reports from the debit card processor and transfers and/or settles funds from subscriber's account to the international organization's bank. The monetary transfer system 210 processes the transfer request, update subscriber A's and subscriber B's eMoney balances and logs the transaction. An external card processor decrements subscriber A's mobile wallet balance and sends periodic transaction reports to the bank for settlement.

Figure 18B illustrates a subscriber-to-non-subscriber international money transfer. In this embodiment, subscriber A wishes to send cash to subscriber B who resides in another country. As above, the monetary transaction system 210 uses an international money transfer organization (1806) to transfer the money between countries. Once the transfer has been initiated by subscriber A, the international money transfer organization debits subscriber A's debit card account (1805) and transfers that money to subscriber B. Subscriber B (1807) receives a notification (e.g. via SMS) with pick up instructions and a transfer ID number. Subscriber B can then go to an agent company (1808), show them the notification (including, perhaps an authorization code), and receive the transferred money (1809).

Similar to the transaction described in Figure 18A, the embodiment of 19A illustrates a transaction where a subscriber receives an international money transfer. Subscriber B (1901) initiates a money transfer using their mobile wallet application. The international money transfer organization (1902) debits subscriber B's eMoney account balance. This money is then transferred by the international money transfer organization to subscriber A. Subscriber A receives a notification along with a transfer ID number indicating that their debit card account has been credited with the transferred money (1903).

Figure 19B illustrates a non-subscriber-to-subscriber international money transfer. This scenario is very similar to that described in Figure 19A from the mFS subscriber's perspective, except that their eMoney account is credited here, and their debit card account was credited in 19A. The initiator, subscriber B (1905), does not have an mFS account and, as a result, takes their cash to an international money transfer organization (e.g. MoneyGram®) or other remittance company's agent (1906) to send it to subscriber A's mobile wallet eMoney account. The international money transfer organization (1907) then transfers the specified amount to subscriber A (1908) and subscriber A's mobile wallet eMoney account is credited with the amount of the transfer. Subscriber A may receive a transaction ID number, along with an indication that the transfer has occurred. The mFS bank may receive settlement reports from the card processor and settle funds from the international money transfer organization's bank to subscriber A's mobile wallet account. The monetary transaction system processes the money transfer request, updates subscriber A's mobile wallet balance within the card processor and logs the transaction. An external card processor increments subscriber A's mobile wallet balance and sends periodic transaction reports to the mFS bank for settlement.

Other functionality described above in relation to using an eMoney mobile wallet account may also apply to banked subscribers using a debit card associated with their mobile wallet. Such subscribers may buy airtime for their mobile device, pay bills, make retail purchases, receive direct deposits, and perform other functionality.

In one embodiment, the monetary transaction system 210 is implemented to add a mobile wallet platform stored value account to a mobile wallet. The stored value account may include eMoney or other monetary credits. In the embodiment, communication module 215 of monetary transaction system 210 may receive subscriber data for an unbanked subscriber 205 over a communication channel. The transaction processor may perform validation checks on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber. The monetary transaction system 210 may then send subscriber data to another entity (such as a third party verification system) for identification of the unbanked subscriber. The monetary transaction system 210 receives results from the third party verification system indicating that the subscriber

data appropriately identifies the unbanked subscriber, creates a stored value account for the unbanked subscriber that maintains a recorded balance for the created stored value account, adds the stored value account to the unbanked subscriber's mobile wallet and notifies the unbanked subscriber of the addition of the stored value account over at least one communication channel connected to the mobile wallet platform.

In another embodiment, the monetary transaction system 210 is implemented to add a third party stored value account to a mobile wallet. The monetary transaction system 210 receives unbanked subscriber data, including account details, over a communication channel. The transaction processor 216 performs a validation check on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber. If the validation check is ok, the monetary transaction system 210 sends subscriber data to a third party verification system for identification of the unbanked subscriber. In some cases, validating the status of the sender or the recipient includes performing a check on the specified sender or recipient to comply with the office of foreign assets control. The monetary transaction system 210 then receives results from the third party verification system indicating that the subscriber data appropriately identifies the unbanked subscriber, and submits the unbanked subscriber's account details to a third party account processor. The monetary transaction system 210 receives an indication from the third party account processor that third party account processor created a third party stored value account for the subscriber. The transaction processor maintains a link between the subscriber data and the third party stored value account and adds the third party stored value account to the unbanked subscriber's mobile wallet. The monetary transaction system 210 then notifies the unbanked subscriber of the addition of the third party stored value account over a communication channels connected to the monetary transaction system.

In another embodiment, the monetary transaction system 210 is implemented to add a bank or credit union account to a mobile wallet. The communication module 215 receives subscriber data, including bank or credit union account details, over a communication channel 111. The transaction processor 216 performs validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber and sends subscriber data to a third party verification system for identification of the subscriber. The communication module

then receives results from the third party verification system indicating that the subscriber data appropriately identifies the subscriber. Upon receiving these results, the monetary transaction system 210 submits bank or credit union account details for validation by the transaction processor, receives an indication that the bank or credit union account details correspond to a valid bank or credit union account, maintains a link between the subscriber data and the bank or credit union account and notifies the subscriber of the bank or credit union account validation over a communication channel.

In still another embodiment, the monetary transaction system is implemented to add a debit or credit card account to a mobile wallet. The communication module 215 receives subscriber data, including a debit or credit card account number, over a communication channel 111 connected to the monetary transaction system. The transaction processor performs validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber. The communication module sends subscriber data to a third party verification system for identification of the subscriber and receives results from the third party system indicating that the subscriber data appropriately identifies the subscriber. The monetary transaction system 210 securely stores the debit or credit card account number for access by the mobile wallet (e.g. in memory 217 or transaction database 225), adds the debit or credit card account number to the subscriber's mobile wallet, and notifies the subscriber of the addition of the debit or credit card account number. It should be noted that many other transactions can take place over the monetary transaction system, and that the embodiments described herein should not be read as limiting.

Embodiments of the invention can adhere to Know Your Customer (KYC) rules in the US by performing Customer Identification Program (CIP) checks as required by the Bank Secrecy Act and US PATRIOT Act. A minimum amount of information can be gathered about a customer, such as, for example, first name, last name, date of birth, government ID Type, government ID number and address. The CIP processes are designed to validate customer identity against government blacklists and assists in the prevention of money laundering and terrorist financing. A combination of non-documentary and documentary verification can be used to ensure beyond a reasonable doubt the identity of the customer.

Non-documentary verification can occur through the presentment of the information that was collected from the user to an external third party, such as, for example, Lexis Nexis®. Documentary verification can occur if non-documentary verification fails, then the user is asked to present an unexpired government ID. Various differ forms of identification including driver's license, passport, alien identification (e.g., green card or work visa), and Mexican Consular identification card, can be accepted.

Embodiments of the invention can perform Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) checks. AML and CFT checks can be performed using transaction monitoring methods to flag names and suspicious transactions for further investigation. The mobile wallet platform can perform AML and CFT checks on all electronic financial transactions to ensure that electronic funds are not being used for money laundering or terrorism. Transaction limits can be placed on user accounts. The transaction limits are fully configurable for each particular use case, channel and payment method that allows maximum flexibility to restrict higher risk use cases. Velocity checks can also be performed. Velocity Checks ensure that subscribers are not abusing the mobile wallet platform within the allowable limits.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

We claim:

1. A monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising:

a mobile device configured to run a monetary transaction system application;

an unbanked monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the unbanked subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;

a monetary transaction system processor that performs the one or more transactions specified by the unbanked subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile; and

at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system.

2. The monetary transaction system of claim 1, wherein the monetary transaction system application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application.

3. The monetary transaction system of claim 1, wherein the monetary transaction system application is provided on a prepaid or postpaid phone.

4. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to enroll a user for a mobile wallet, including the following steps:

receiving a subscriber-initiated transaction over one of a plurality of channels connected to the monetary transaction system;

prompting for and receiving enrollment information for the unbanked subscriber over at least one of the plurality of channels;

sending activation instructions over a second channel to activate the unbanked subscriber and create a subscriber account for the unbanked subscriber;

generating a mobile wallet for the unbanked subscriber; and

presenting the unbanked subscriber's account data associated with the mobile wallet to the unbanked subscriber.

5. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to add a mobile wallet platform stored value account to a mobile wallet, including the following steps:

receiving subscriber data over one of a plurality of channels connected to the mobile wallet transaction system;

performing one or more validation checks on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber;

sending subscriber data to the at least one entity for identification of the unbanked subscriber, wherein the entity comprises a third party verification system;

receiving results from the third party verification system indicating that the subscriber data appropriately identifies the unbanked subscriber;

creating a stored value account for the unbanked subscriber, wherein the monetary transaction system processor maintains a recorded balance for the created stored value account;

adding the stored value account to the unbanked subscriber's mobile wallet; and

notifying the unbanked subscriber of the addition of the stored value account over at least one other of the plurality of channels connected to the mobile wallet platform.

6. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to add a third party stored value account to a mobile wallet, including the following steps:

receiving unbanked subscriber data, including account details, over one of a plurality of channels connected to the monetary transaction system;

performing one or more validation checks on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber;

sending subscriber data to the at least one entity for identification of the unbanked subscriber, wherein the entity comprises a third party verification system;

receiving results from the third party verification system indicating that the subscriber data appropriately identifies the unbanked subscriber;

submitting one or more of the unbanked subscriber's account details to a third party account processor;

receiving an indication from the third party account processor that third party account processor created a third party stored value account for the subscriber;

maintaining a link between the subscriber data and the third party stored value account;

adding the third party stored value account to the unbanked subscriber's mobile wallet; and

notifying the unbanked subscriber of the addition of the third party stored value account over at least one other of the plurality of channels connected to the monetary transaction system.

7. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to deposit funds at an agent branch through a mobile wallet, including the following steps:

receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system , the agent communication indicating that the unbanked subscriber desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account;

validating the status of the unbanked subscriber's mobile wallet account;

determining if the agent branch is authorized to receive deposited money;

performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account;

crediting the unbanked subscriber's mobile wallet account with the specified amount of funds;

returning a notification to the agent branch confirming the deposit; and

notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system.

8. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to withdraw funds at an agent branch using a mobile wallet, including the following steps:

receiving a communication from the unbanked subscriber over one of a plurality of channels connected to the monetary transaction system, the communication indicating that the unbanked subscriber desires to withdraw a specified amount of funds from the unbanked subscriber's mobile wallet account at the agent branch;

validating the status of the unbanked subscriber's mobile wallet account;

determining if the balance of the unbanked subscriber's mobile wallet account is sufficient to accommodate the requested withdrawal for the specified amount of funds;

performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account;

returning a secure, perishable withdrawal code to the subscriber over at least one of the plurality of channels connected to the monetary transaction system;

receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system , the agent branch communication indicating that the withdrawal code has been presented to the agent branch;

debiting the unbanked subscriber's mobile wallet account by the specified amount of funds;

returning a notification to the agent branch confirming the withdrawal; and

notifying the subscriber that the specified amount of funds was withdrawn from the unbanked subscriber's mobile wallet account over at least one of the channels connected to the monetary transaction system.

9. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to pay a bill from a mobile wallet, including the following steps:

receiving a subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to pay a bill for a specified amount using a specified payment method from the unbanked subscriber's mobile wallet;

validating the status of the selected payment method;

performing one or more of a limit check and a velocity check on the selected payment method;

debiting the specified payment method by the specified amount of funds;

processing the bill payment via at least one of a direct biller connection and a bill pay aggregator; and

notifying the unbanked subscriber that the bill was paid over at least one of the plurality of channels connected to the monetary transaction system.

10. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to buy airtime on a prepaid mobile account from a mobile wallet, including the following steps:

receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to top up a prepaid mobile account by a specified amount using a specified payment method from the unbanked subscriber's mobile wallet;

validating the status of the selected payment method;

performing at least one of a limit check and a velocity check on the selected payment method;

debiting the specified payment method by the specified amount of funds;

processing the mobile top-up via at least one of a billing system integrator and an aggregator; and

notifying the subscriber that the prepaid mobile account was topped up over at least one of the plurality of channels connected to the monetary transaction system.

11. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to transfer money between mobile wallets, including the following steps:

receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of funds to specified recipient using a specified payment method from the subscriber's mobile wallet;

validating the status of the selected payment method;

performing at least one of a limit check and a velocity check on the selected payment method;

validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account;

debiting the specified payment method by the specified amount of funds;

transferring the specified amount of funds to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system;

notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system.

12. The monetary transaction system of claim 11, wherein validating the status of the specified recipient comprises performing a check on the specified recipient to comply with the office of foreign assets control.

13. The monetary transaction system of claim 11, wherein the money is transferred internationally between the mobile wallets.

14. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to make a purchase from a mobile wallet, including the following steps:

receiving a communication from a subscriber over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to purchase an item for a specified amount of funds using a specified payment method from the unbanked subscriber's mobile wallet;

returning a secure, perishable purchase code to the unbanked subscriber over at least one of the plurality of channels connected to the monetary transaction system;

receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system, the agent branch communication indicating that the purchase code has been presented to an agent;

validating the status of the specified payment method;

determining if the specified payment method can accommodate a purchase for the specified amount;

performing at least one of a limit check and a velocity check on the selected payment method;

debiting the specified payment method by the specified amount of funds;

returning a notification to the agent branch authorizing the purchase; and

sending a receipt to the unbanked subscriber over at least one of the plurality of channels connected to the monetary transaction system.

15. A monetary transaction system for conducting monetary transactions between subscribers and other entities, the system comprising:

a mobile device configured to run a monetary transaction system application;

a monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;

a monetary transaction system processor that performs the one or more transactions specified by the subscriber, wherein performing the specified transactions

includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile; and

at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system.

16. The monetary transaction system of claim 15, wherein the monetary transaction system is implemented to add a bank or credit union account to a mobile wallet, including the following steps:

receiving subscriber data, including bank or credit union account details, over at least one of a plurality of channels connected to the monetary transaction system;

performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber;

sending subscriber data to a third party verification system for identification of the subscriber;

receiving results from the third party system indicating that the subscriber data appropriately identifies the subscriber;

submitting bank or credit union account details for validation by the transaction processor;

receiving an indication that the bank or credit union account details correspond to a valid bank or credit union account;

maintaining a link between the subscriber data and the bank or credit union account; and

notifying the subscriber of the bank or credit union account validation over at least one of the plurality of channels connected to the monetary transaction system.

17. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to add a debit or credit card account to a mobile wallet, including the following steps:

receiving subscriber data, including a debit or credit card account number, over one of a plurality of channels connected to the monetary transaction system;

performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber;

sending subscriber data to a third party verification system for identification of the subscriber;

receiving results from the third party system indicating that the subscriber data appropriately identifies the subscriber;

securely storing the debit or credit card account number for access by the mobile wallet;

adding the debit or credit card account number to the subscriber's mobile wallet; and

notifying the subscriber of the addition of the debit or credit card account number over at least one of the plurality of channels connected to the monetary transaction system.

18. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to deposit funds into a bank or credit union account using a mobile wallet, including the following steps:

receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system, the agent communication indicating that a subscriber desires to deposit a specified amount of funds into a bank or credit union account;

validating the status of the bank or credit union account;

determining if the agent branch is authorized to deposit money;

performing one or more of a limit check and a velocity check on the bank or credit union account;

crediting the bank or credit union account with the specified amount of funds;

returning a notification to the agent branch confirming the deposit; and

notifying the subscriber that the specified amount of funds was deposited in the bank or credit union account over at least one of the plurality of channels connected to the monetary transaction system.

19. The monetary transaction system of claim 1, wherein the monetary transaction system is implemented to withdraw funds from a bank or credit union account through a mobile wallet, including the following steps:

receiving communication from a subscriber over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that a subscriber desires to withdraw a specified amount of funds from a bank or credit union account;

validating the status of the bank or credit union account;

determining if the balance of the bank or credit union account is sufficient to accommodate the requested withdrawal for the specified amount of funds;

performing at least one of a limit check and a velocity check on the bank or credit union account;

returning a secure, perishable withdrawal code to the subscriber over at least one of the plurality of channels connected to the monetary transaction system;

receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system, the agent branch communication indicating that the withdrawal code has been presented to an agent;

debiting the bank or credit union account by the specified amount of funds;

returning a notification to the agent branch confirming the withdrawal; and

notifying the subscriber that the specified amount of funds were withdrawn from the bank or credit union account over at least one of the plurality of channels connected to the monetary transaction system.

20. A monetary transaction system, comprising:

a mobile wallet application configured to perform one or more of the following: process incoming and outgoing transactions, authenticate transaction system subscribers, manage subscriber profiles, and manage interactions between monetary transaction system components;

a monetary transaction processor configured to perform one or more of the following: manage account balances for mobile wallet subscribers, manage mobile wallet agent accounts, process balance inquiries, account credits, account debits, and transaction roll-backs;

a mobile wallet rules engine that manages and applies rules and policies that are defined for transactions as the transactions are processed on the mobile wallet transaction system including rules that control at least one of the following: transaction fees, transaction limits, transaction velocity limits, commissions, mobile transaction system roles and permissions;

a mobile wallet integration module that manages interaction between the mobile wallet transaction system and one or more external transaction systems including at least one of a wireless service provider's billing platform and a program partner bank;

a mobile wallet database that stores mobile wallet transaction data used in mobile wallet transactions including one or more of the following: subscriber profiles, subscription data, transaction data, transaction logs, mobile wallet application configuration data and mobile wallet application runtime data; and

a mobile wallet wireless service that interfaces with the wireless service provider's network to allow communication between the mobile wallet application and other mobile wallet transaction system components via the wireless service provider's network.

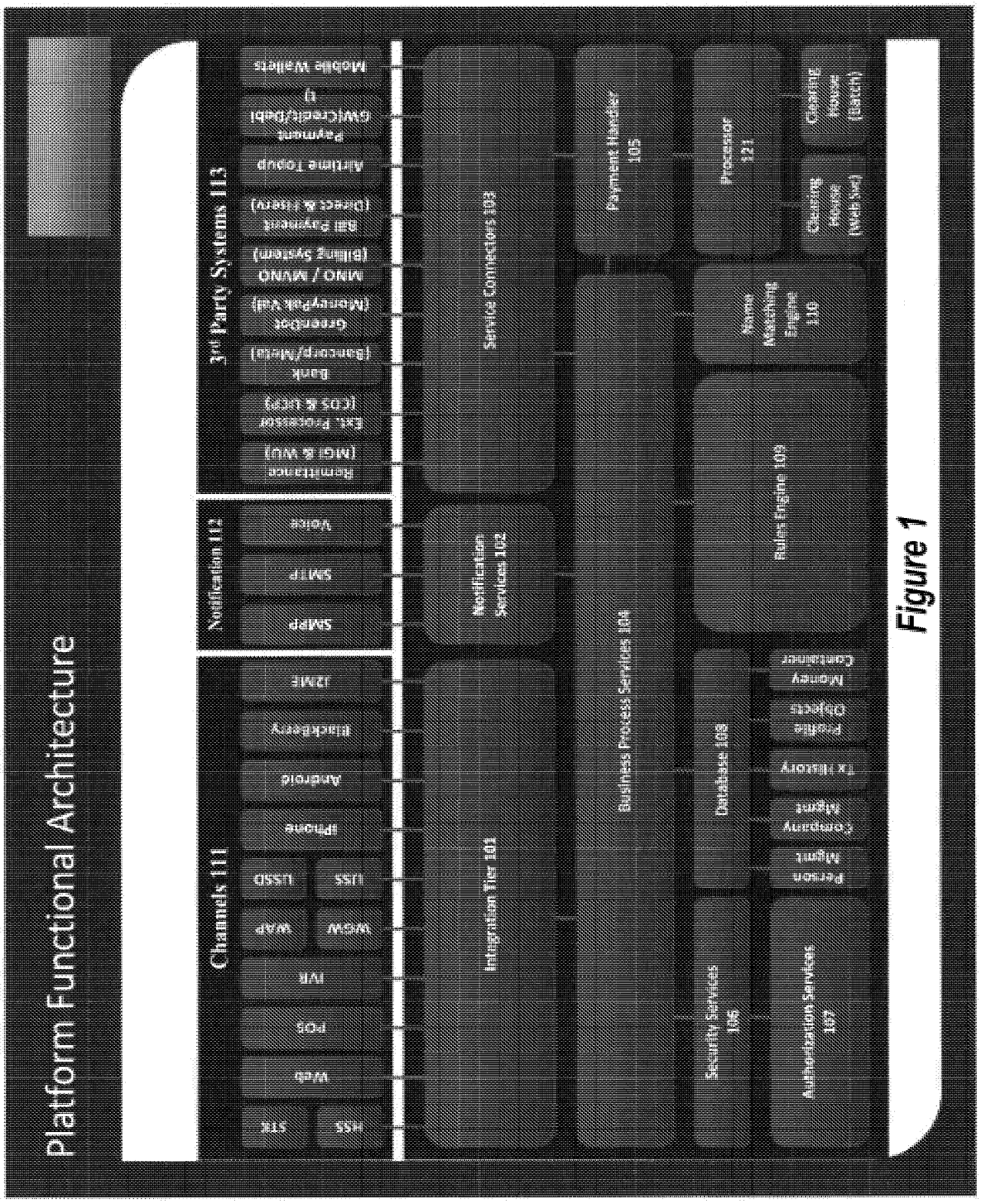

Platform Functional Architecture
Channels 111
HSS
STK
Web
POS
IVR
WSW
WAP
USSD
USS
iPhone
Android
Blackberry
J2ME
Notification 112
SMPP
SMTP
Voice
3rd Party Systems 113
Remittance (MGI & WU)
Ext. Processor (CDS & UCP)
Bank (Bancorp/Meta)
GreenDot (MoneyPak Vid)
MNO / MVNO (Billing System)
ISO Payment (Direct & Query)
Alltime Topup
Payment GW(Credit/Debit)
Mobile Wallets
Integration Tier 101
Notification Services 102
Service Connectors 103
Business Process Services 104
Payment Handler 105
Rules Engine 109
Name Matching Engine 110
Processor 121
Clearing House (Batch)
Clearing House (Web Svc)
Database 108
Security Services 106
Authentication Services 107
Person Mgmt
Company Mgmt
Tx History
Profile Objects
Money Container
Figure 1

FIG. 1

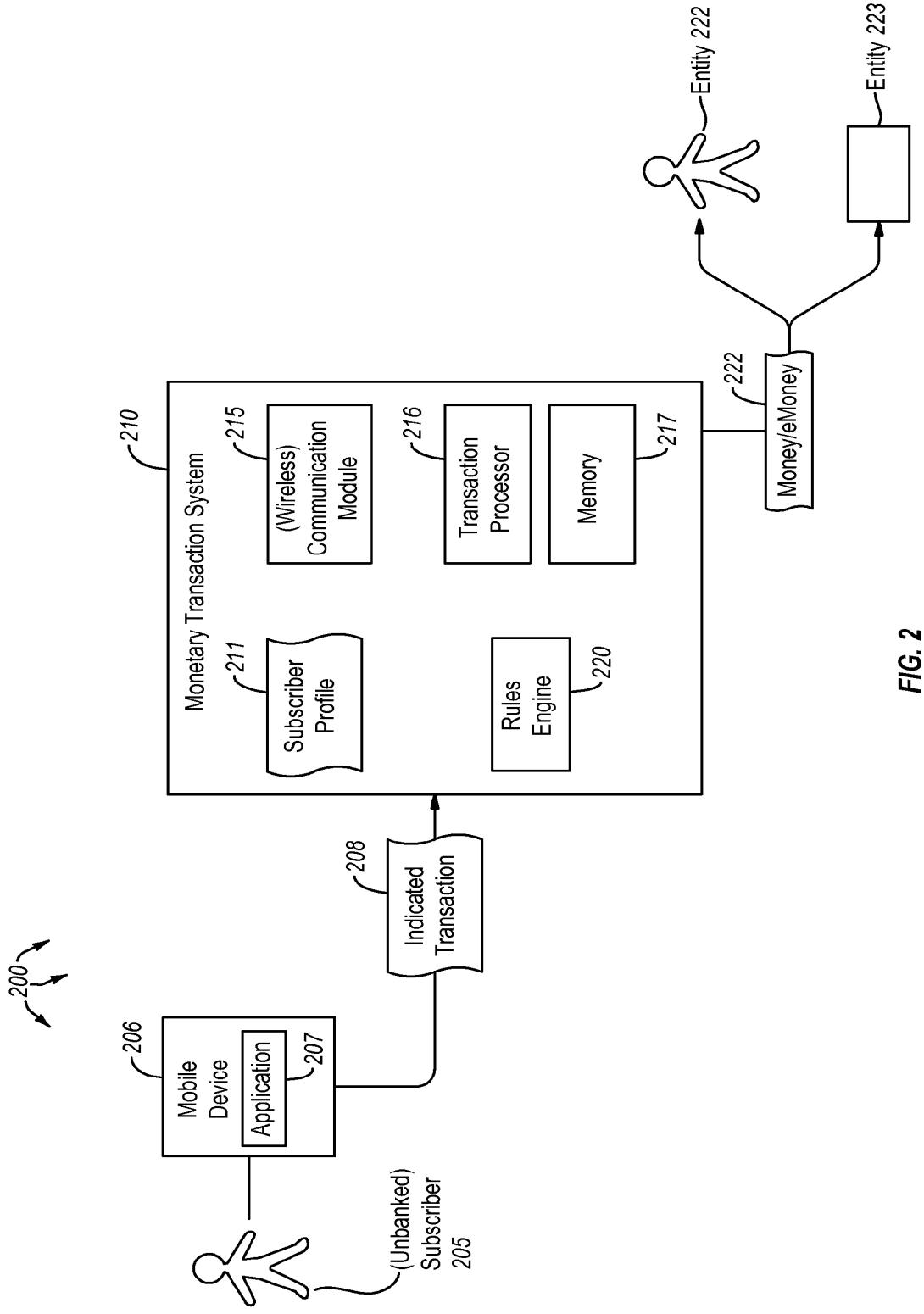
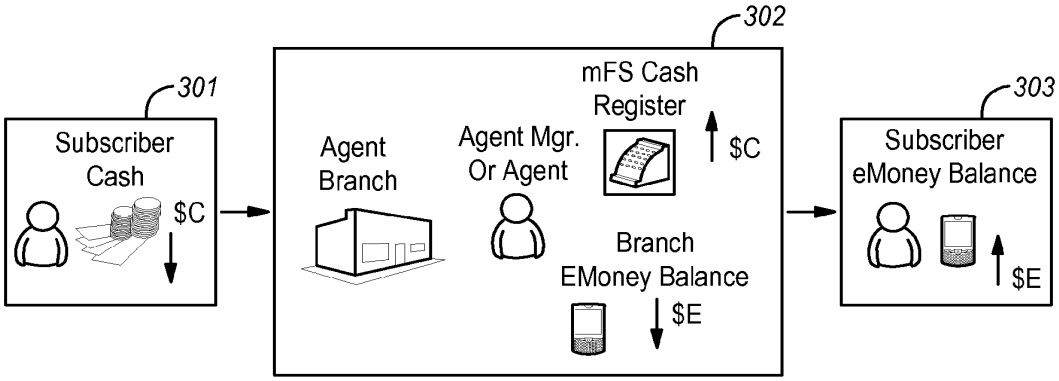

200
206
Mobile Device
Application
207
(Unbanked) Subscriber 205
208
Indicated Transaction
210
Monetary Transaction System
211
Subscriber Profile
215
(Wireless) Communication Module
216
Transaction Processor
217
Memory
220
Rules Engine
222
Money/eMoney
Entity 222
Entity 223

FIG. 2



Subscriber Deposit

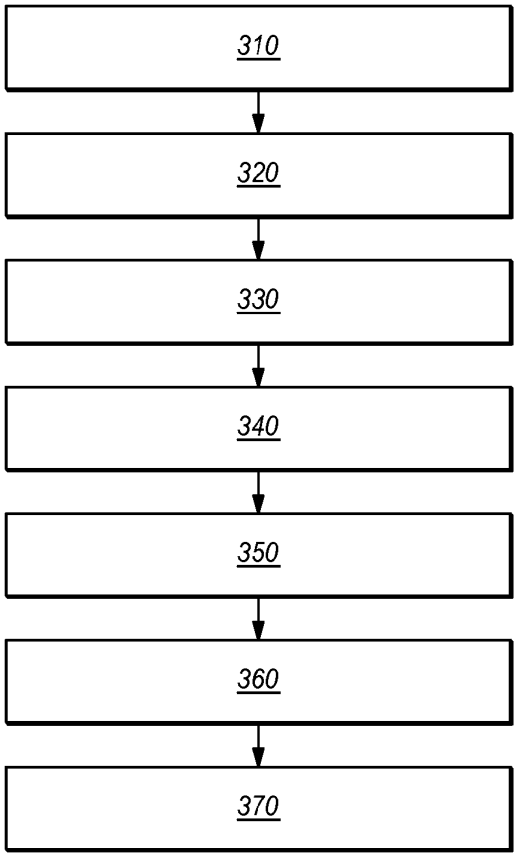
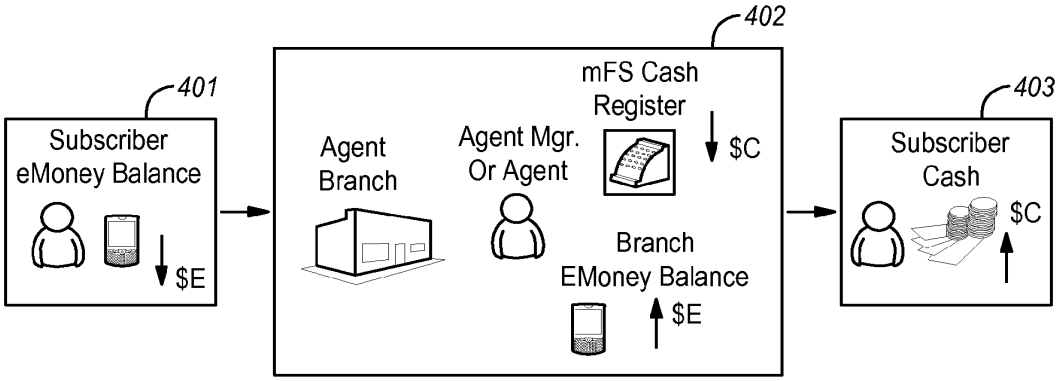


FIG. 3



Subscriber Withdrawal

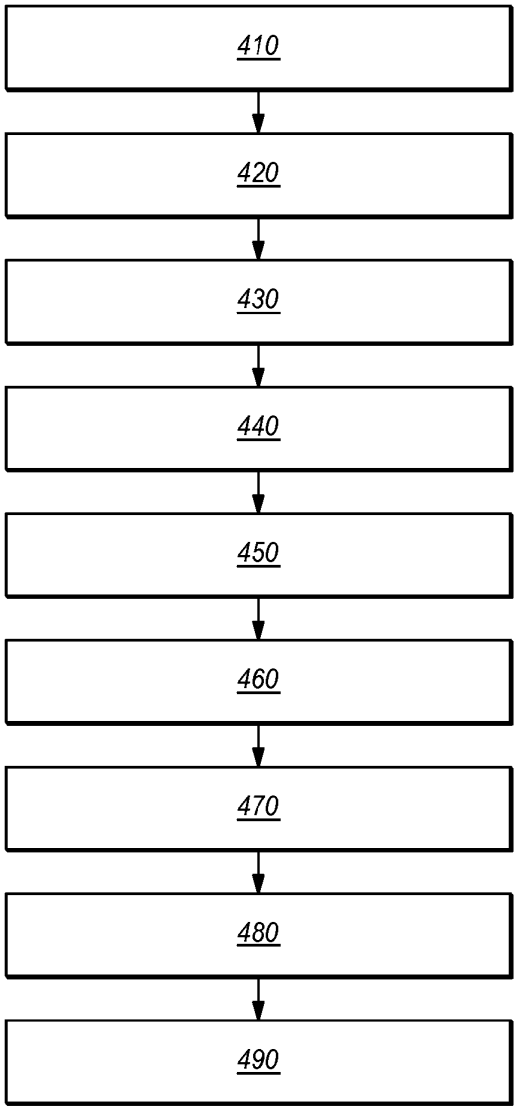
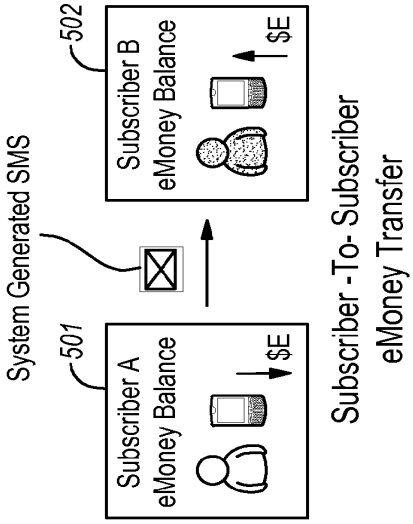
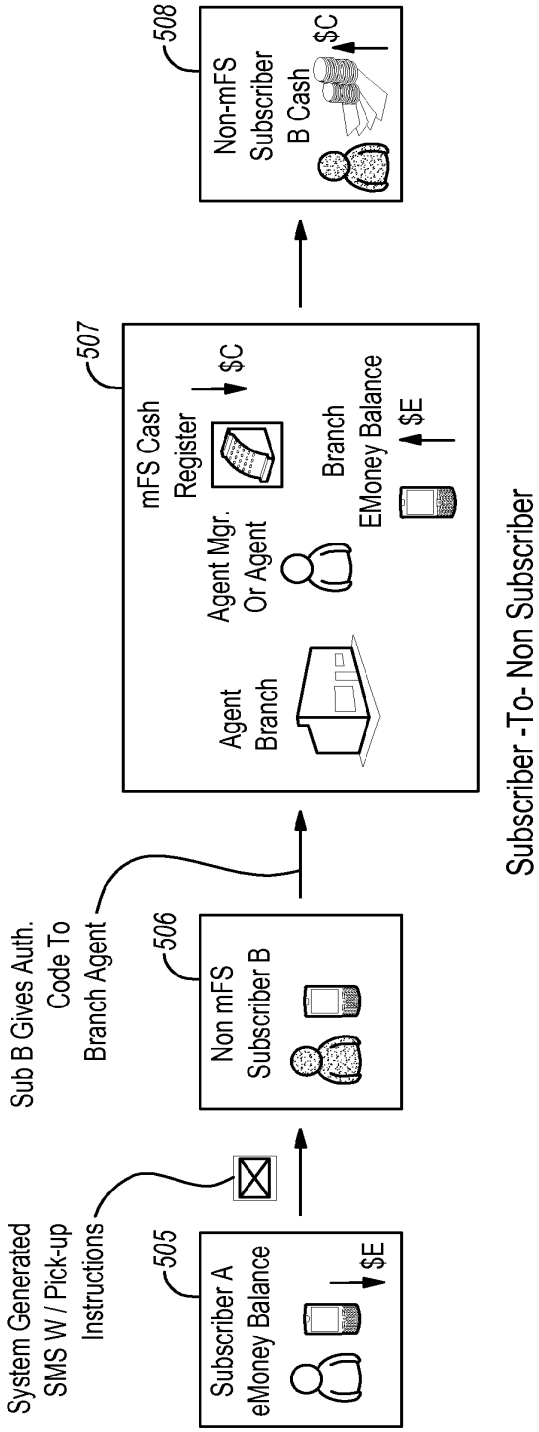


FIG. 4



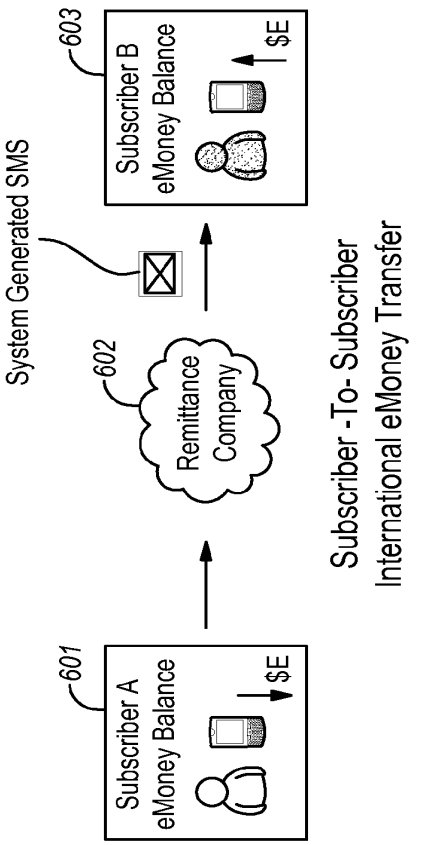
Subscriber -To- Subscriber
eMoney Transfer

FIG. 5A



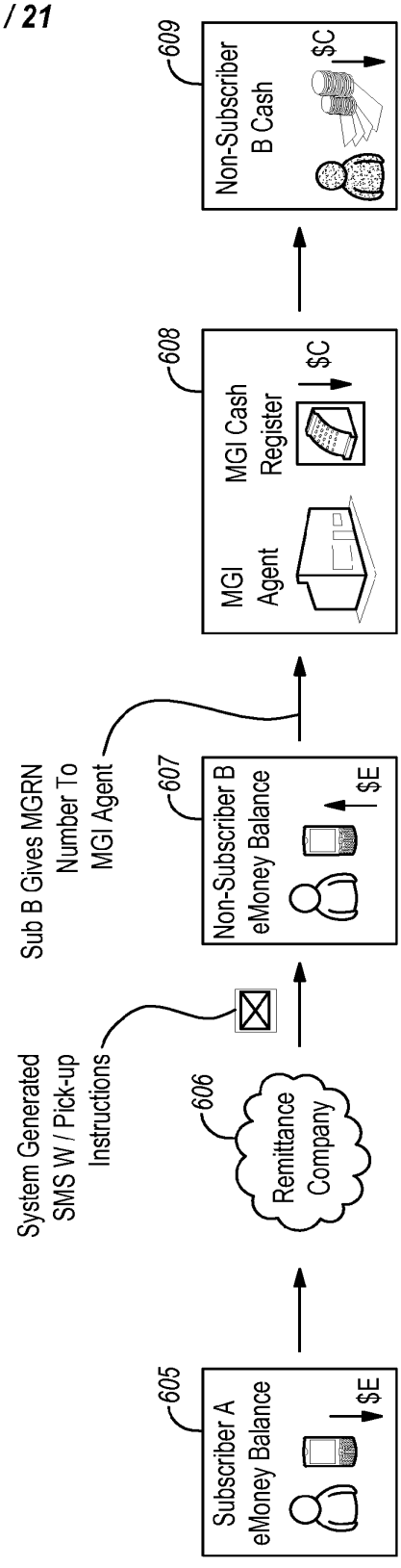
Subscriber -To- Non Subscriber
eMoney Transfer

FIG. 5B



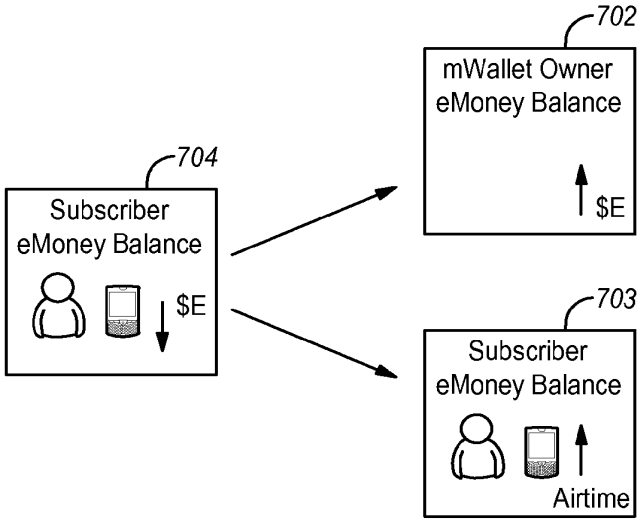
Subscriber -To- Subscriber
International eMoney Transfer

FIG. 6A



Subscriber -To- Non Subscriber
International eMoney Transfer

FIG. 6B



Subscriber Buys Airtime

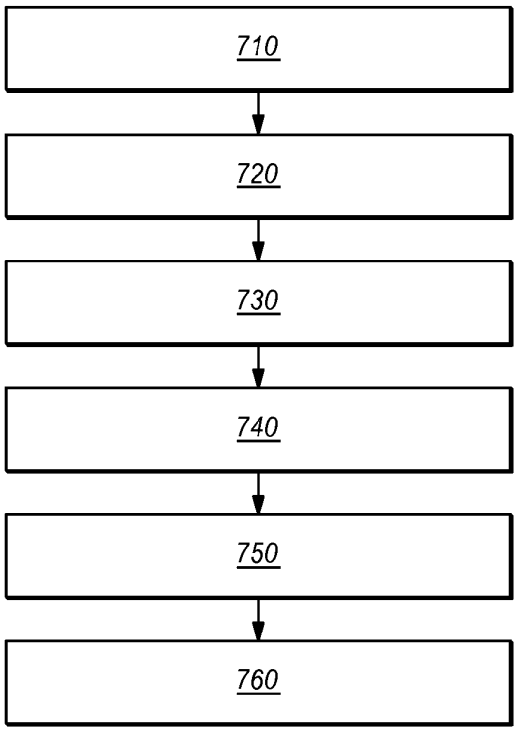
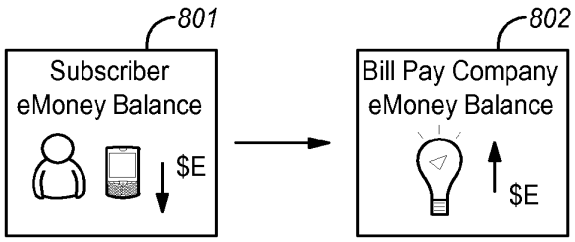


FIG. 7



Subscriber Pays Bill

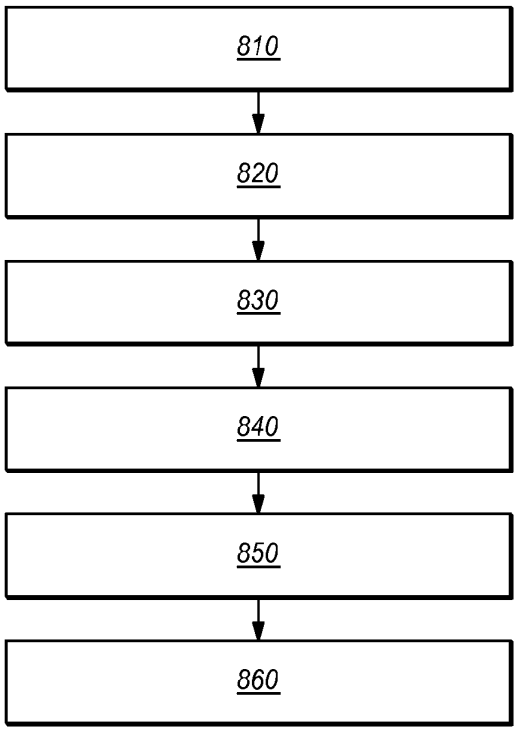
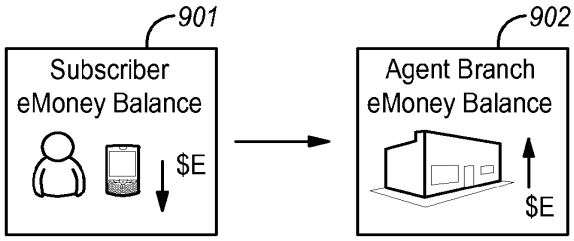


FIG. 8



Subscriber Makes Retail Purchase

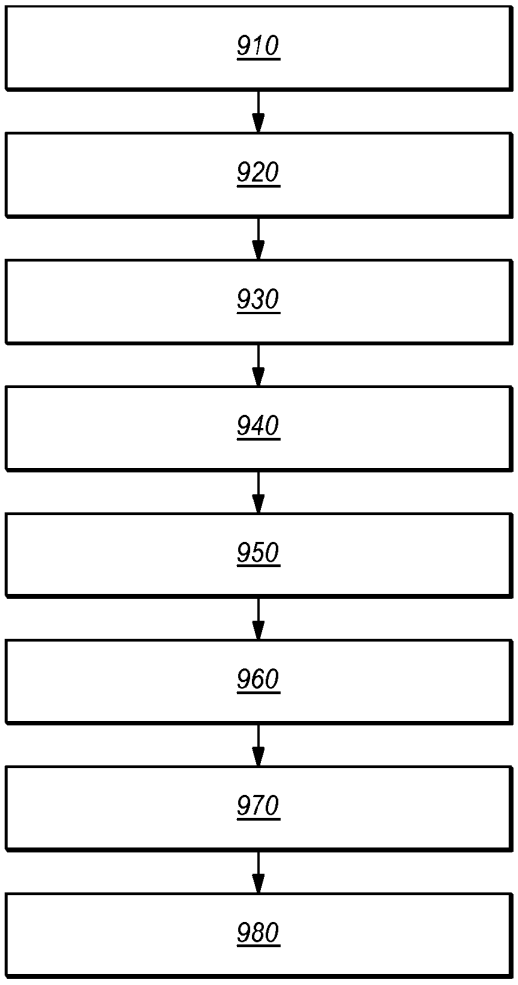
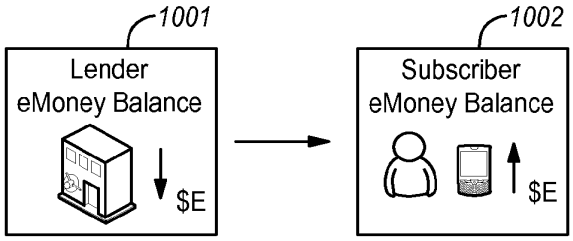
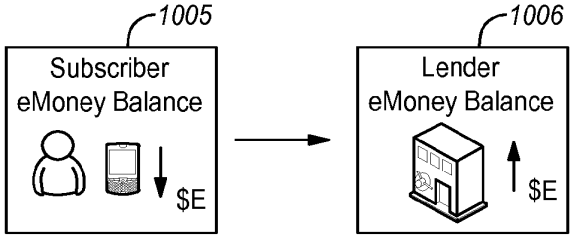


FIG. 9



Subscriber Requests Micro-Loan

FIG. 10A



Subscriber Repays Micro-Loan

FIG. 10B

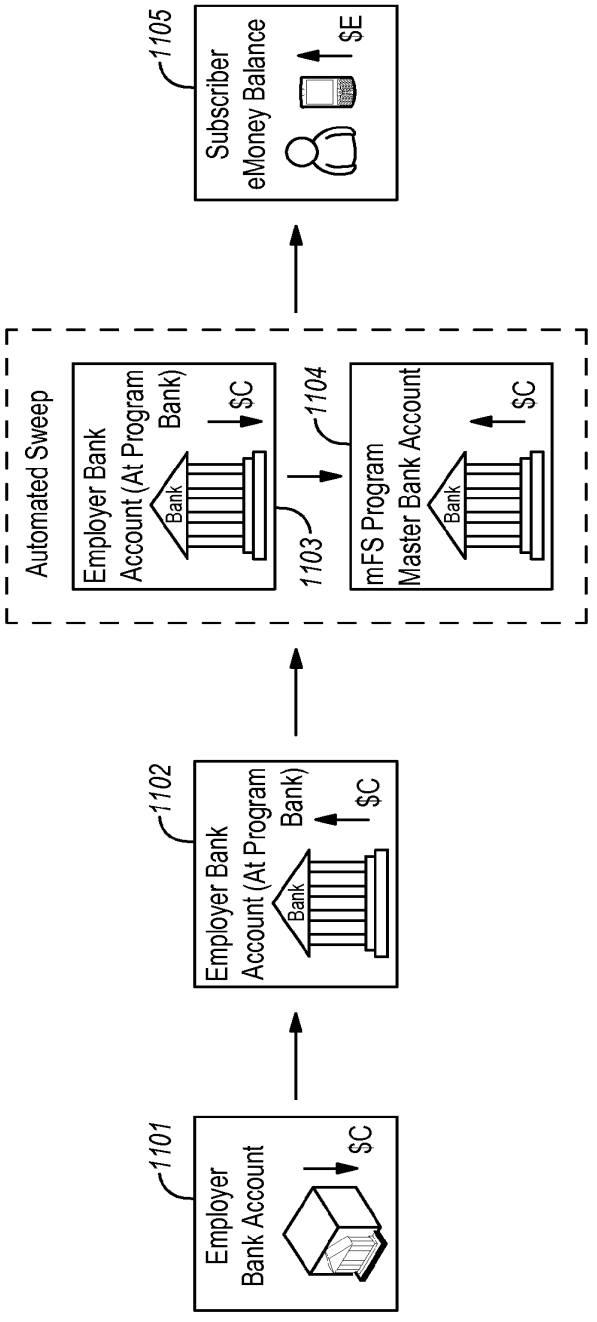
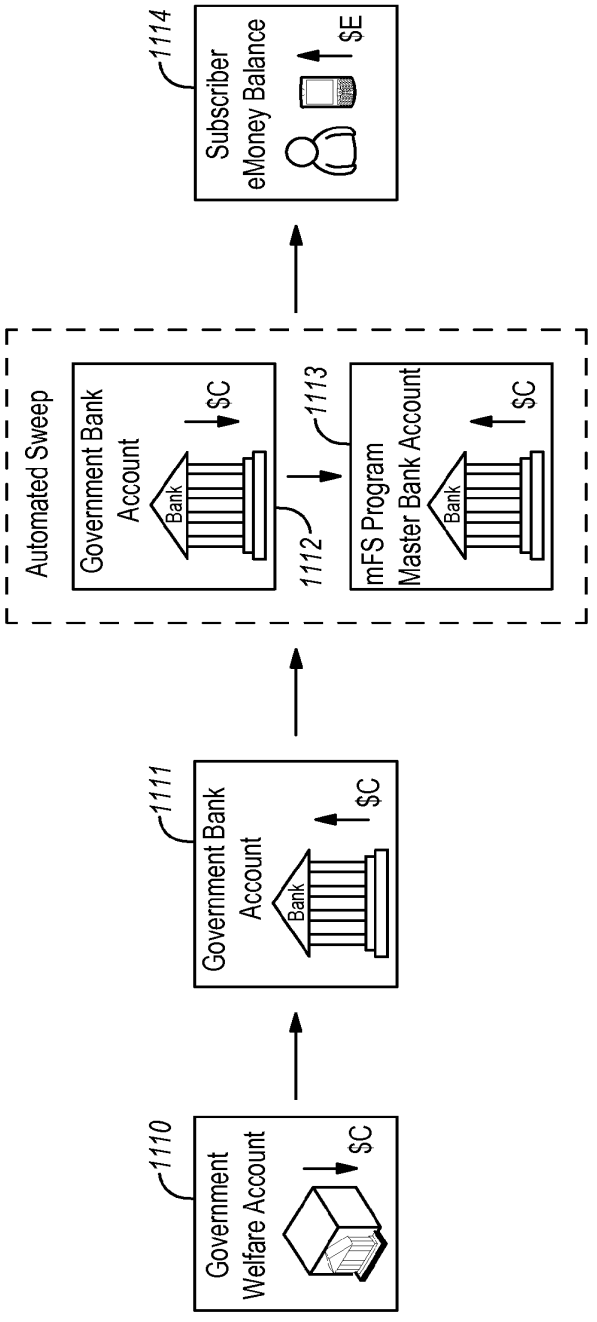

1101
Employer Bank Account
$C
1102
Employer Bank Account (At Program Bank)
Bank
$C
Automated Sweep
Employer Bank Account (At Program Bank)
Bank
$C
1103
1104
mFS Program Master Bank Account
Bank
$C
1105
Subscriber eMoney Balance
$E
Subscriber Receives Direct Deposit

FIG. 11A



Subscriber Receives Government Welfare Payment

FIG. 11B

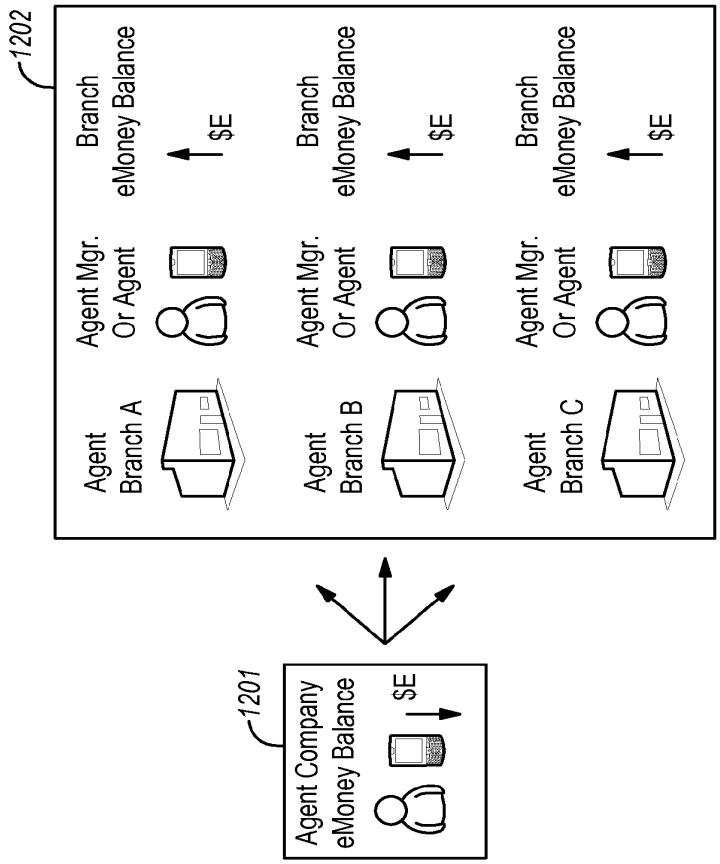

1202
Agent Branch A
Agent Mgr. Or Agent
Branch eMoney Balance
$E
Agent Branch B
Agent Mgr. Or Agent
Branch eMoney Balance
$E
Agent Branch C
Agent Mgr. Or Agent
Branch eMoney Balance
$E
1201
Agent Company eMoney Balance
$E
Agent Administrator Distributes eMoney

FIG. 12A

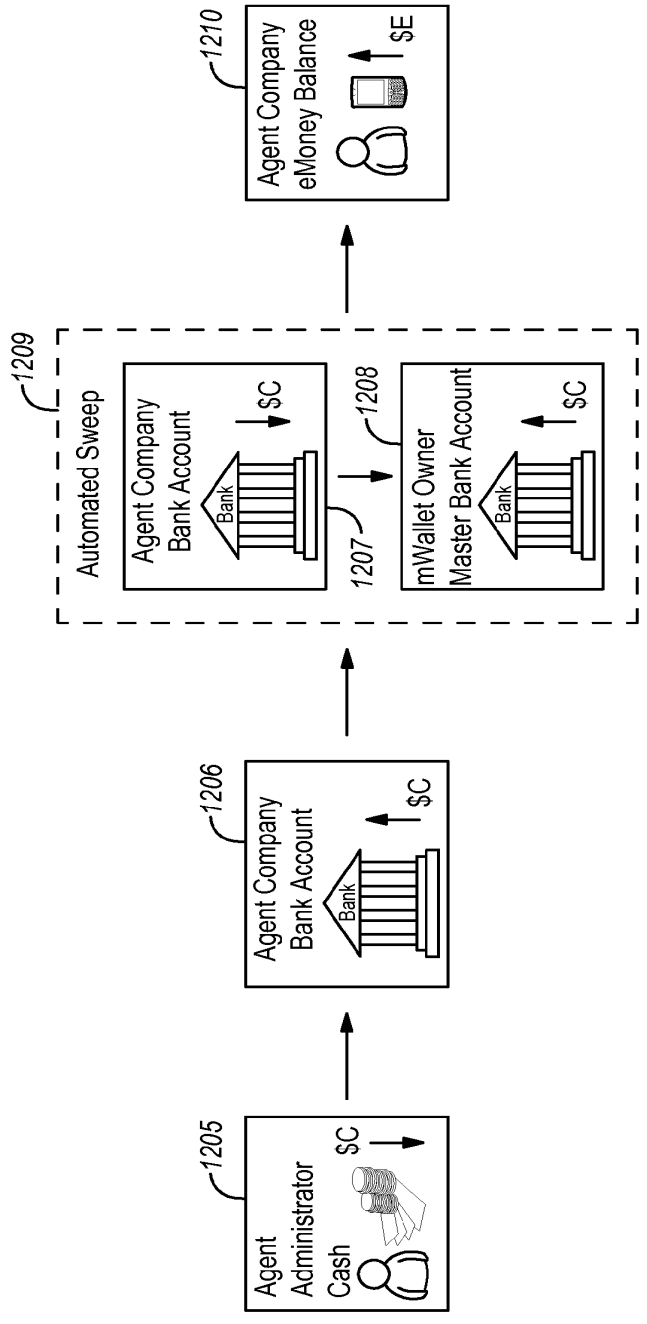

1205
Agent Administrator Cash
$C
1206
Agent Company Bank Account
Bank
$C
1209
Automated Sweep
Agent Company Bank Account
Bank
$C
1207
1208
mWallet Owner Master Bank Account
Bank
$C
1210
Agent Company eMoney Balance
$E
Agent Company Deposit

FIG. 12B

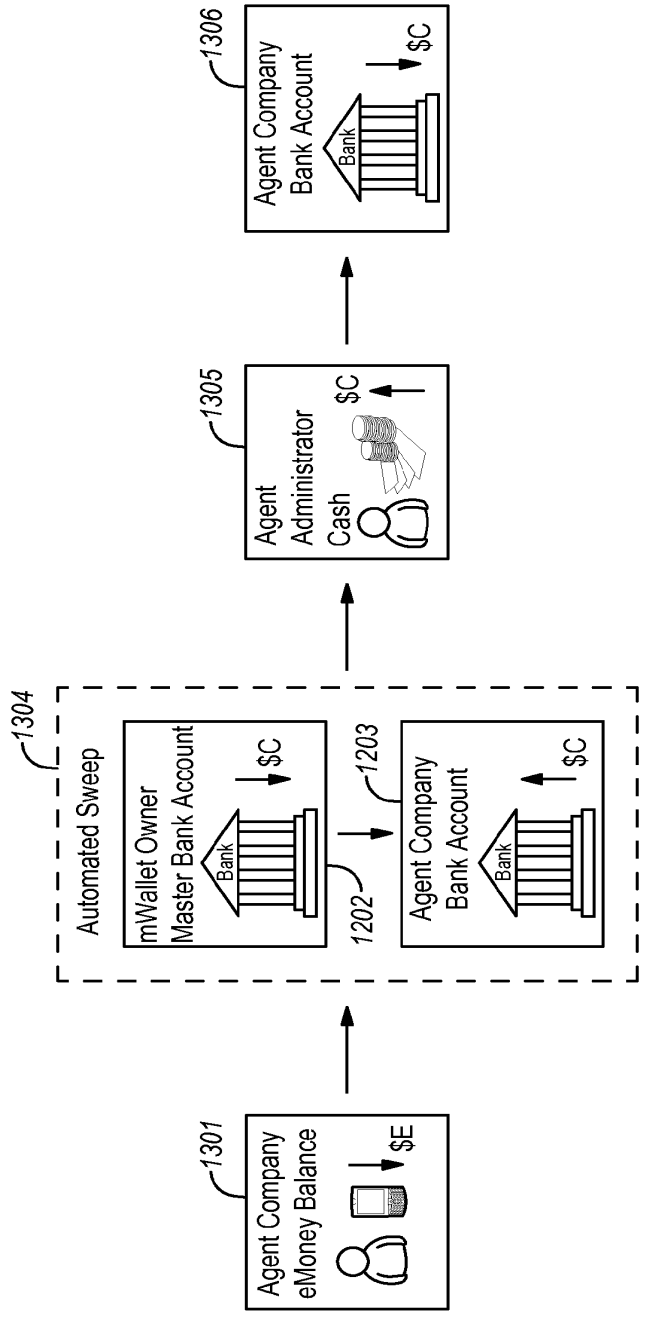
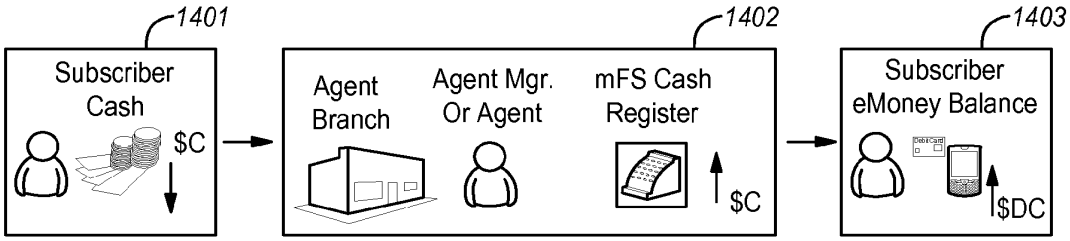

1306
Agent Company
Bank Account
Bank
$C
1305
Agent
Administrator
Cash
$C
1304
Automated Sweep
mWallet Owner
Master Bank Account
Bank
$C
1202
1203
Agent Company
Bank Account
Bank
$C
1301
Agent Company
eMoney Balance
$E
Agent Company Withdrawal

FIG. 13



Subscriber Deposit At Agent Branch

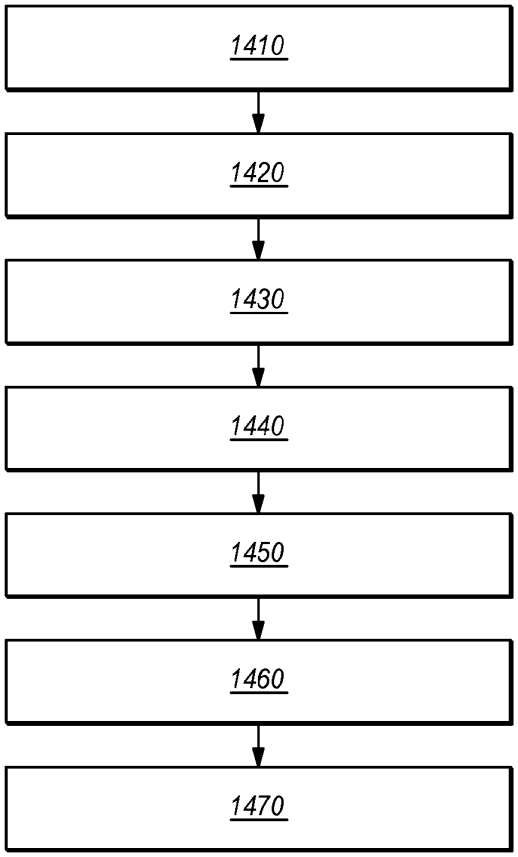


FIG. 14

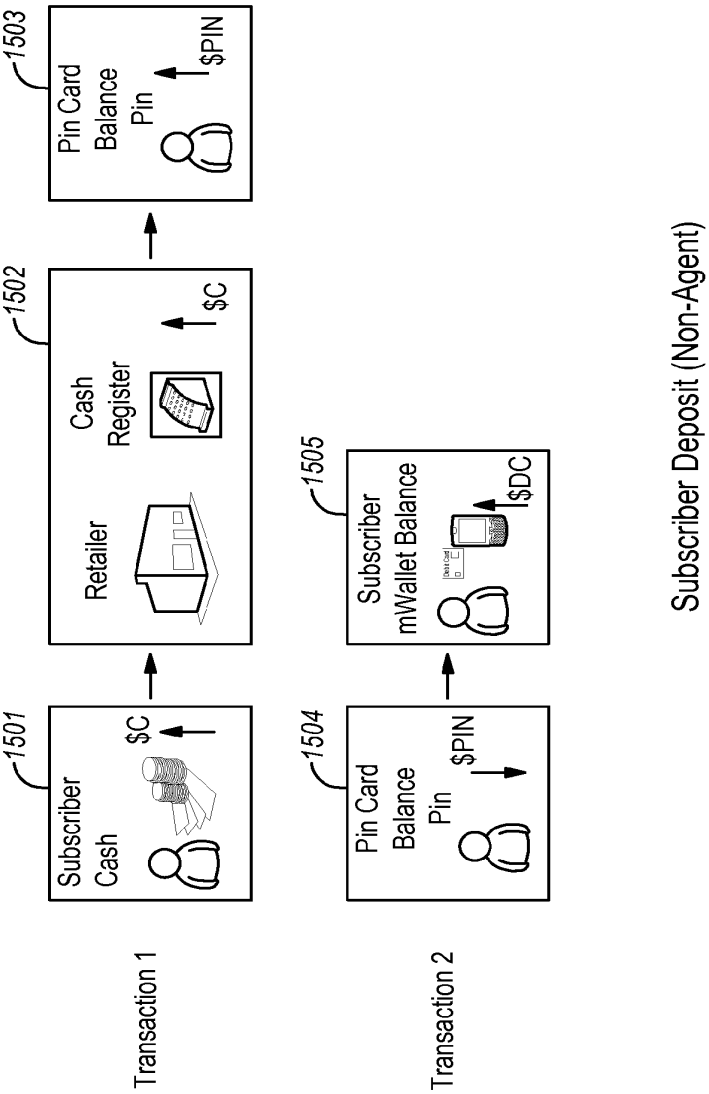
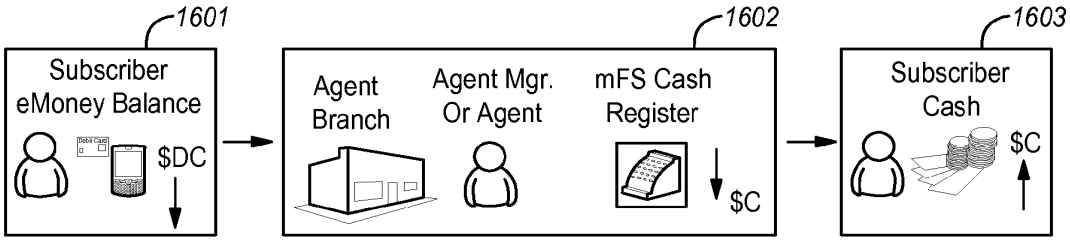

1501
Subscriber
Cash
$C
1502
Retailer
Cash
Register
$C
1503
Pin Card
Balance
Pin
$PIN
1504
Pin Card
Balance
Pin
$PIN
1505
Subscriber
mWallet Balance
$DC
Transaction 1
Transaction 2
Subscriber Deposit (Non-Agent)

FIG. 15



Subscriber Withdrawal (Agent)

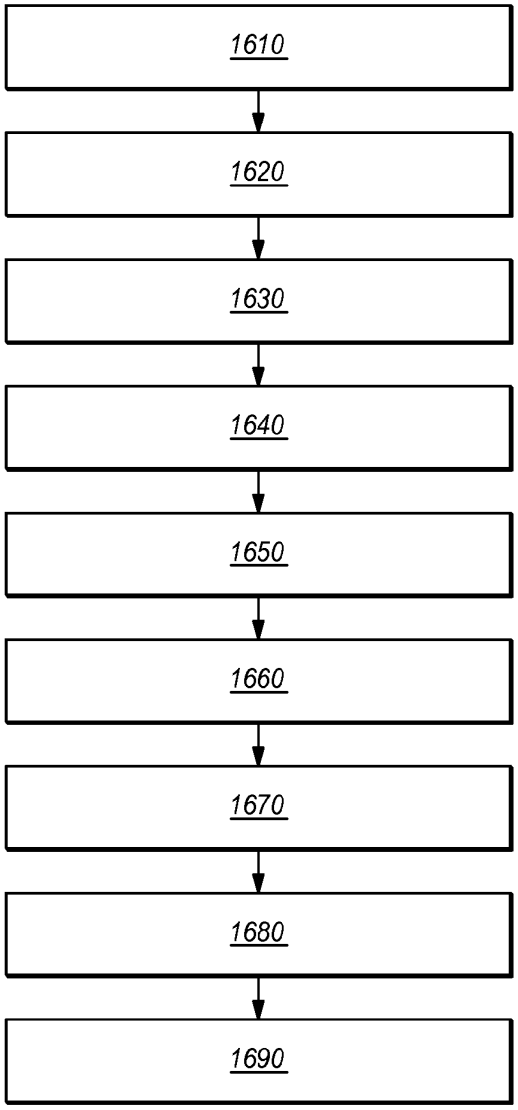
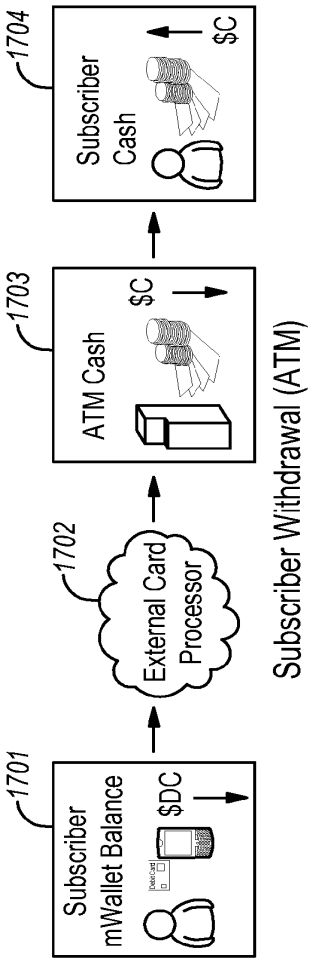
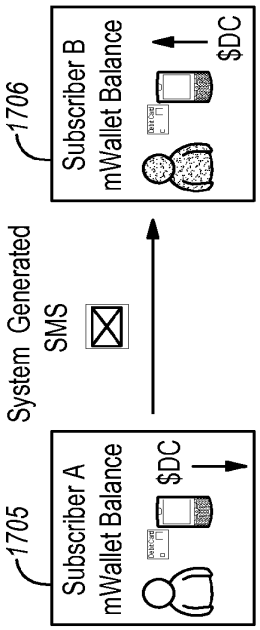


FIG. 16



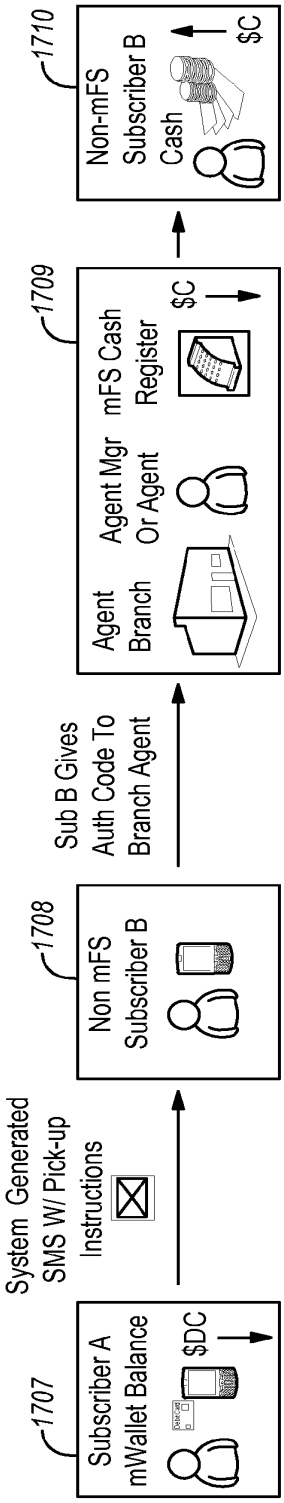
Subscriber Withdrawal (ATM)

FIG. 17A



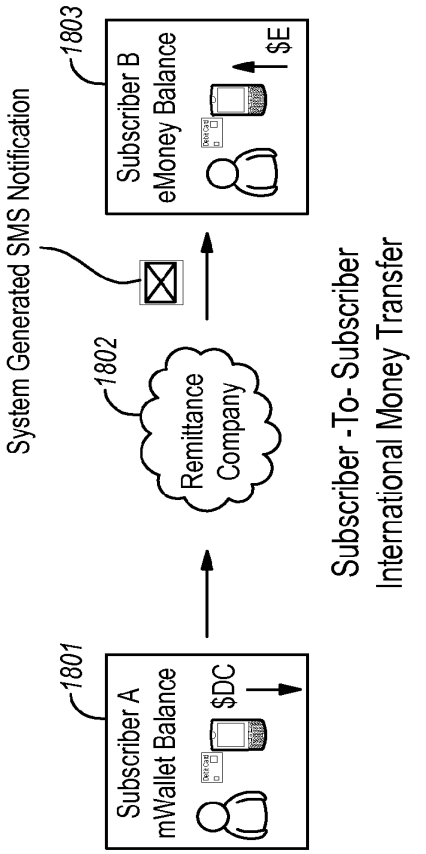
Subscriber To Subscriber Money Transfer

FIG. 17B



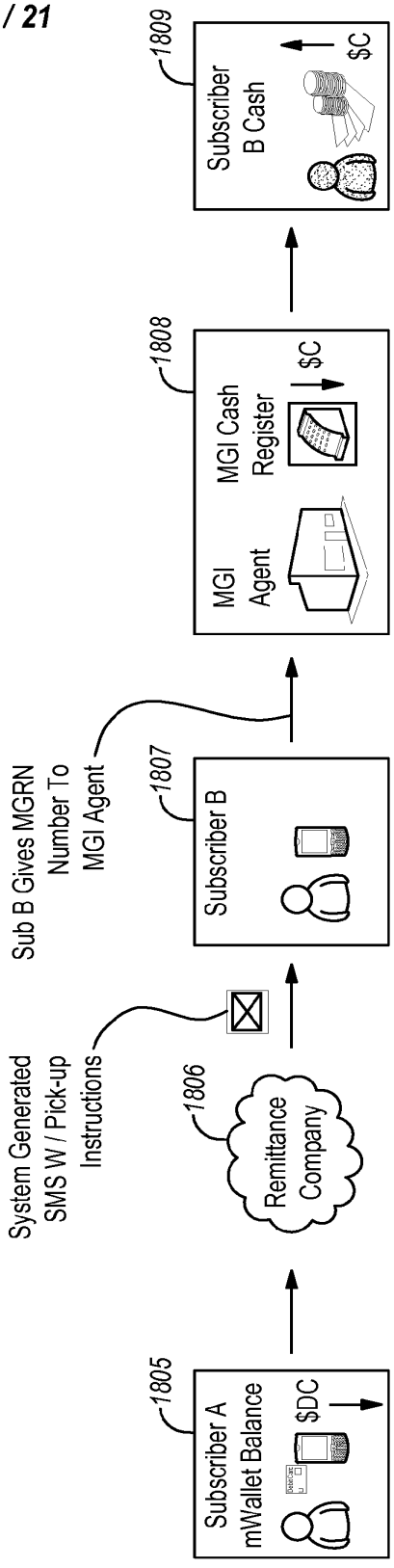
Subscriber To Non-Subscriber Money Transfer

FIG. 17C



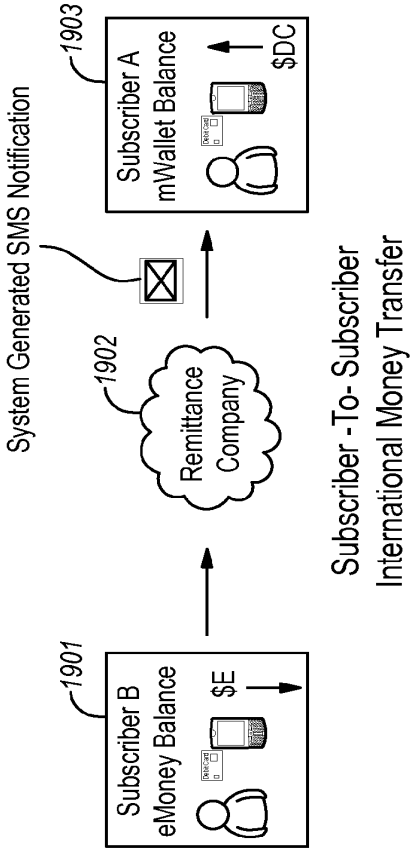
Subscriber -To- Subscriber
International Money Transfer

FIG. 18A



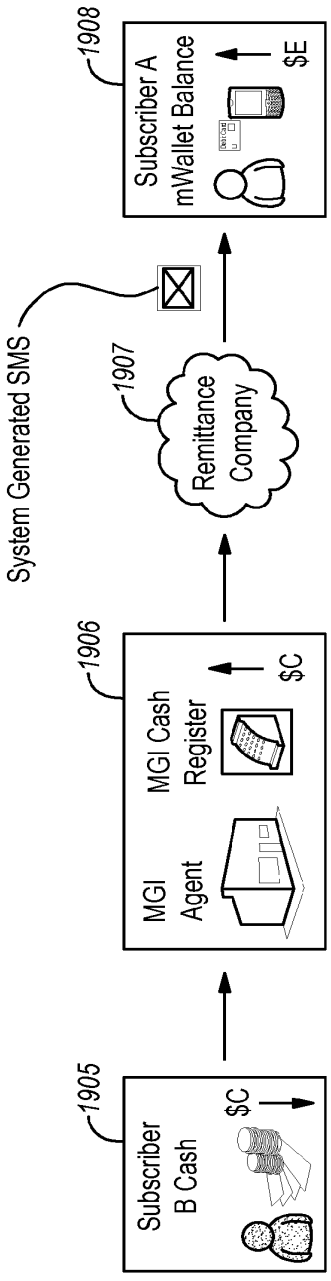
Subscriber -To- Non Subscriber
International Money Transfer

FIG. 18B



Subscriber -To- Subscriber
International Money Transfer

FIG. 19A



Non-Subscriber -To- Subscriber
International Money Transfer

FIG. 19B

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/40131

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/65
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06Q 20/00 (2012.01)
USPC: 705/65

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/73; 705/39; 902/2 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase; Google Scholar; Google Patents; FreePatentsOnline. Search terms used: financial-transaction monetary-transaction, unbanked, subscriber member profile account, mobile-wallet mobile-purse mobile-payment Google-wallet smart-wallet mobile-banking mobile-commerce, fund account-balance account-amount available-fund stored-value top-up...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2009/0119190 A1 (REALINI) 07 May 2009 (07.05.2009) entire document, especially Abstract; para [0028], [0029], [0033], [0135], [0136], [0171], [0176]-[0178], [0180], [0186], [0189], [0193], [0194], [0196], [0206], [0253], [0254], [0260], [0264], [0267], [0270], [0273], [0328], [0336], [0344], [0351], [0370], [0392], [0393], [0423], [0427], [0440], [0521], [0524], [0529]-[0531], [0577], [0580], [0581], [0586], [0594], [0602], [0612], [0631], [0649], [0661], [0669], [0671], [0679], [0739], [0875], [0897], [0916], [0918], [1065], [1086], [1098], [1168]	20 ------ 1-19
Y	US 2006/0253335 A1 (KEENA et al.) 09 November 2006 (09.11.2006) entire document, especially Abstract; para [0012], [0038], [0042]	1-19
Y	US 2009/0265272 A1 (DILL et al.) 22 October 2009 (22.10.2009) entire document, especially Abstract; para [0005], [0067]	13
Y	US 2009/0081989 A1 (WUHRER) 26 March 2009 (26.03.2009) entire document, especially Abstract; para [0007], [0076], [0088], [0106]	16, 17
A	US 2007/0255652 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document	1 - 20
A	US 2007/0255620 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document	1 - 20
A	US 2006/0287004 A1 (FUQUA) 21 December 2006 (21.12.2006) entire document	1 - 20
A	US 2007/0265984 A1 (SANTHANA) 15 November 2007 (15.11.2007) entire document	1 - 20

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
09 January 2013 (09.01.2013)	29 JAN 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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(30) Priority Data:
61/562,301 21 November 2011 (21.11.2011) US
13/680,824 19 November 2012 (19.11.2012) US

(71) Applicant: **MOZIDO, LLC** [US/US]; 1950 Stemmons Freeway, Suite 6040, Dallas, TX 75207 (US).

(72) Inventor: **LIBERTY, Michael, A.**; 5373 Isleworth Country Club Drive, Windermere, FL 34786 (US).

(74) Agents: **STRINGHAM, John, C.** et al.; 60 East South Temple, Suite 1000, Salt Lake City, UT 84111 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

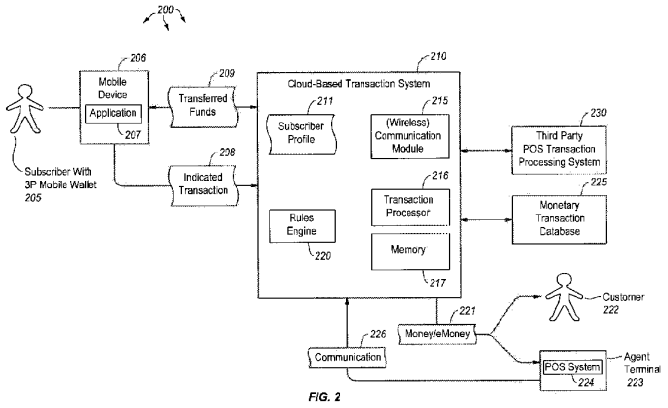


FIG. 2

(57) **Abstract**: Embodiments are directed to performing a transaction using a third party mobile wallet, performing a transaction using a third party point of sale (POS) system and to making a purchase from a third party mobile wallet provided by a third party mobile wallet provider. In one scenario, a cloud-based transaction platform is provided, which receives communication from an agent terminal over a communication channel connected to the cloud-based transaction platform. The agent communication indicates that a customer desires to perform a mobile wallet transaction using their third party mobile wallet. The cloud-based transaction platform sends the agent communication to a third party mobile wallet platform, receives communication from the third party mobile wallet platform confirming processing of the transaction, and sends communication to the agent terminal over a communication channel connected to the cloud-based transaction platform, where the communication indicates confirmation of the processing of the transaction.

WO 2013/078176 A1

USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and the benefit of U.S. Application Ser. No. 13/680,895, entitled "Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers", filed on November 19, 2012, and U.S. Provisional Application Ser. No. 61/562,301, entitled "Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers", filed on November 21, 2011, which are herein incorporated by reference in their entirety.

BACKGROUND

[0002] Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks. For instance, mobile devices allow users to check email, send and receive instant messages, check calendar items, take notes, set up reminders, browse the internet, play games or perform any number of different things using specialized applications or "apps". These applications allow mobile devices to communicate with other computer systems and perform a wide variety of network-connected tasks previously not possible with a mobile device.

BRIEF SUMMARY

[0003] Embodiments described herein extend to methods, systems, and computer program products for a cloud-based transaction platform. Embodiments include an infrastructure that can be used with third party mobile wallets provided by third party mobile wallet providers. Users with native or third party mobile wallets can use the cloud-based transaction platform to enroll a customer for a third party mobile wallet, add a stored value account (either hosted by the cloud-based transaction platform or a third party), add a bank/credit union account to a third party mobile wallet, add a debit/credit card account to a third party mobile wallet, deposit funds in a third party mobile wallet, withdraw funds from a third party mobile wallet, pay bills from a third party mobile wallet, top up a prepaid mobile account through a third party mobile wallet, transfer funds through a third party mobile wallet, and make in store purchases from a third party mobile wallet.

[0004] Embodiments described herein are directed to performing a transaction using a third party mobile wallet, performing a transaction using a third party point of sale (POS) system and to making a purchase from a third party mobile wallet provided by a third party mobile wallet provider. In one embodiment, a cloud-based transaction platform is provided, which receives communication from an agent terminal over a communication channel connected to the cloud-based transaction platform. The agent communication indicates that a customer desires to perform a mobile wallet transaction using their third party mobile wallet. The cloud-based transaction platform sends the agent communication to a third party mobile wallet platform, receives communication from the third party mobile wallet platform confirming processing of the transaction, and sends communication to the agent terminal over a communication channel connected to the cloud-based transaction platform, where the communication indicates confirmation of the processing of the transaction.

[0005] In another embodiment, a cloud-based transaction platform performs a transaction using a third party point of sale (POS) system. The cloud-based transaction platform receives communication from a specified POS system implemented at an agent terminal over a communication channel connected to the cloud-based transaction platform. The POS communication indicates that a customer has initiated a mobile wallet transaction using their third party mobile wallet. The cloud-based transaction platform sends the POS communication to a corresponding third party POS transaction processing system that has been established to process POS transactions from the specified POS system, receives communication from the third party POS transaction processing system confirming processing of the transaction, and sends communication to the specified POS system implemented at the agent terminal over a communication channel connected to the cloud-based transaction platform, where the communication indicates confirmation of the processing of the transaction.

[0006] In yet another embodiment, a cloud-based transaction platform is provided which allows users to make purchases from a third party mobile wallet provided by a third party mobile wallet provider. The cloud-based transaction platform receives communication from a customer over a communication channel connected to the cloud-based transaction platform. The customer communication indicates that a customer desires to purchase an item for a specified amount of funds using a specified payment method indicated by the customer's third party mobile wallet. The cloud-based transaction platform returns a secure, perishable purchase code to the customer over at

least one the communication channels connected to the cloud-based transaction platform and receives communication from an agent terminal over a communication channel connected to the cloud-based transaction platform. The agent terminal communication indicates that the purchase code has been presented to an agent. The cloud-based transaction platform then debits the customer's third party mobile wallet by the specified amount of funds to complete the purchase.

[0007] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0008] Additional features and advantages will be set forth in the description which follows, and in part will be apparent to one of ordinary skill in the art from the description, or may be learned by the practice of the teachings herein. Features and advantages of embodiments described herein may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the embodiments described herein will become more fully apparent from the following description and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] To further clarify the above and other features of the embodiments described herein, a more particular description will be rendered by reference to the appended drawings. It is appreciated that these drawings depict only examples of the embodiments described herein and are therefore not to be considered limiting of its scope. The embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0010] Figure 1 illustrates a monetary transaction system architecture in which embodiments described herein may operate.

[0011] Figure 2 illustrates an example embodiment of a cloud-based transaction platform.

[0012] Figures 3A and 3B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber eMoney transfers via a mobile wallet, respectively.

[0013] Figure 4 illustrates an example data flow for making a retail purchase using a mobile wallet.

[0014] Figure 5 illustrates an example embodiment of a monetary transaction system architecture.

[0015] Figure 6 illustrates an alternate example embodiment of a cloud-based transaction platform.

[0016] Figure 7 illustrates an example embodiment data flow for performing a transaction using a third party mobile wallet.

[0017] Figure 8 illustrates an example embodiment data flow for performing a transaction using a third party point of sale (POS) system.

[0018] Figure 9 illustrates an example embodiment data flow for making a purchase from a third party mobile wallet provided by a third party mobile wallet provider.

DETAILED DESCRIPTION

[0019] Embodiments described herein extend to methods, systems, and computer program products for a cloud-based transaction platform. Embodiments include an infrastructure that can be used with third party mobile wallets provided by third party mobile wallet providers. Users with native or third party mobile wallets can use the cloud-based transaction platform to enroll a customer for a third party mobile wallet, add a stored value account (either hosted by the cloud-based transaction platform or a third party), add a bank/credit union account to a third party mobile wallet, add a debit/credit card account to a third party mobile wallet, deposit funds in a third party mobile wallet, withdraw funds from a third party mobile wallet, pay bills from a third party mobile wallet, top up a prepaid mobile account through a third party mobile wallet, transfer funds through a third party mobile wallet, and make in store purchases from a third party mobile wallet.

[0020] Embodiments described herein are directed to performing a transaction using a third party mobile wallet, performing a transaction using a third party point of sale (POS) system and to making a purchase from a third party mobile wallet provided by a third party mobile wallet provider. In one embodiment, a cloud-based transaction platform is provided, which receives communication from an agent terminal over a communication channel connected to the cloud-based transaction platform. The agent communication indicates that a customer desires to perform a mobile wallet transaction using their third party mobile wallet. The cloud-based transaction platform sends the agent communication to a third party mobile wallet platform, receives communication from the third party mobile wallet platform confirming processing of the transaction, and sends

communication to the agent terminal over a communication channel connected to the cloud-based transaction platform, where the communication indicates confirmation of the processing of the transaction.

[0021] In another embodiment, a cloud-based transaction platform performs a transaction using a third party point of sale (POS) system. The cloud-based transaction platform receives communication from a specified POS system implemented at an agent terminal over a communication channel connected to the cloud-based transaction platform. The POS communication indicates that a customer has initiated a mobile wallet transaction using their third party mobile wallet. The cloud-based transaction platform sends the POS communication to a corresponding third party POS transaction processing system that has been established to process POS transactions from the specified POS system, receives communication from the third party POS transaction processing system confirming processing of the transaction, and sends communication to the specified POS system implemented at the agent terminal over a communication channel connected to the cloud-based transaction platform, where the communication indicates confirmation of the processing of the transaction.

[0022] In yet another embodiment, a cloud-based transaction platform is provided which allows users to make purchases from a third party mobile wallet provided by a third party mobile wallet provider. The cloud-based transaction platform receives communication from a customer over a communication channel connected to the cloud-based transaction platform. The customer communication indicates that a customer desires to purchase an item for a specified amount of funds using a specified payment method indicated by the customer's third party mobile wallet. The cloud-based transaction platform returns a secure, perishable purchase code to the customer over at least one the communication channels connected to the cloud-based transaction platform and receives communication from an agent terminal over a communication channel connected to the cloud-based transaction platform. The agent terminal communication indicates that the purchase code has been presented to an agent. The cloud-based transaction platform then debits the customer's third party mobile wallet by the specified amount of funds to complete the purchase. Such purchases may be for items that are provided by the cloud-based transaction platform, either directly or via a third-party provider. These items may include music, movies, games and other downloadable content, physical items that can be shipped to the user and other items such as health care services.

[0023] Embodiments described herein may comprise or utilize a special purpose or general-purpose computer including computer hardware, such as, for example, one or more processors and system memory, as discussed in greater detail below. Embodiments described herein also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose or special purpose computer system. Computer-readable media that store computer-executable instructions in the form of data are computer storage media. Computer-readable media that carry computer-executable instructions are transmission media. Thus, by way of example, and not limitation, embodiments described herein can comprise at least two distinctly different kinds of computer-readable media: computer storage media and transmission media.

[0024] Computer storage media includes RAM, ROM, EEPROM, CD-ROM, solid state drives (SSDs) that are based on RAM, Flash memory, phase-change memory (PCM), or other types of memory, or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions, data or data structures and which can be accessed by a general purpose or special purpose computer.

[0025] A "network" is defined as one or more data links and/or data switches that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the computer properly views the connection as a transmission medium. Transmission media can include a network which can be used to carry data or desired program code means in the form of computer-executable instructions or in the form of data structures and which can be accessed by a general purpose or special purpose computer. Combinations of the above should also be included within the scope of computer-readable media.

[0026] Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission media to computer storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a network interface card or "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer storage media at a computer system. Thus, it

should be understood that computer storage media can be included in computer system components that also (or even primarily) utilize transmission media.

[0027] Computer-executable (or computer-interpretable) instructions comprise, for example, instructions which cause a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

[0028] Those skilled in the art will appreciate that various embodiments may be practiced in network computing environments with many types of computer system configurations, including personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, tablets, pagers, routers, switches, and the like. Embodiments described herein may also be practiced in distributed system environments where local and remote computer systems that are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, each perform tasks (e.g. cloud computing, cloud services and the like). In a distributed system environment, program modules may be located in both local and remote memory storage devices.

[0029] In this description and the following claims, "cloud computing" is defined as a model for enabling on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). The definition of "cloud computing" is not limited to any of the other numerous advantages that can be obtained from such a model when properly deployed.

[0030] For instance, cloud computing is currently employed in the marketplace so as to offer ubiquitous and convenient on-demand access to the shared pool of configurable computing resources. Furthermore, the shared pool of configurable computing resources can be rapidly provisioned via virtualization and released with low management effort or service provider interaction, and then scaled accordingly.

[0031] A cloud computing model can be composed of various characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, measured service, and so forth. A cloud computing model may also come in the form of various service models such as, for example, Software as a Service ("SaaS"), Platform as a Service ("PaaS"), and Infrastructure as a Service ("IaaS"). The cloud computing model may also be deployed using different deployment models such as private cloud, community cloud, public cloud, hybrid cloud, and so forth. In this description and in the claims, a "cloud computing environment" is an environment in which cloud computing is employed.

[0032] Additionally or alternatively, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), and other types of programmable hardware.

[0033] Still further, system architectures described herein can include a plurality of independent components that each contribute to the functionality of the system as a whole. This modularity allows for increased flexibility when approaching issues of platform scalability and, to this end, provides a variety of advantages. System complexity and growth can be managed more easily through the use of smaller-scale parts with limited functional scope. Platform fault tolerance is enhanced through the use of these loosely coupled modules. Individual components can be grown incrementally as business needs dictate. Modular development also translates to decreased time to market for new functionality. New functionality can be added or subtracted without impacting the core system.

[0034] Various terminology will be used herein to describe the cloud-based transaction platform (also referred to as a "monetary transaction system", "mobile wallet platform", "mobile wallet program", "mobile wallet transaction system", "mobile financial services (mFS) platform" or "electronic payment system"). The term "agent" is used to refer to an individual with mFS transaction system tools and training to support specific mFS functions. These mFS functions include subscriber registration and activation, and the deposit and withdrawal of funds from the mFS transaction system. Agents are representatives of the mFS transaction system or "program". Agents can be

employees or contractors of the program provider, or other companies and organizations that partner with the program provider to provide these services themselves. Agents may be found in every facet of a typical economy, and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.

[0035] The cloud-based transaction platform includes an infrastructure that allows native mobile wallet application and third party mobile wallet applications to interact both with the transaction system and with each other. This allows the user of a native or a third party mobile wallet to make purchases, transfer money or perform any of the other transactions described herein. The cloud-based transaction platform may include a mobile wallet application and a web interface or some other type of functionality that allows the user to interact with the cloud-based transaction platform using their mobile device. The native and third party mobile wallet applications may include a subscriber identity module (SIM) application, an Unstructured Supplementary Service Data (USSD) application, a smartphone application, a web application, a mobile web application, a Wireless Application Protocol (WAP) application, a Java 2 Platform, Micro Edition (J2ME) application, a tablet application or any other type of application or interface that provides tools for the agent to register, activate, and offer other services to the mFS subscriber.

[0036] As used herein, a mobile wallet application is a mobile wallet application installed on a SIM card or elsewhere on a mobile device. The mobile wallet application may either be native (i.e. provided by the provider of the cloud-based transaction platform) or third party (i.e. provided by a provider other than the provider of the cloud-based transaction platform).

[0037] A USSD application is an application that implements USSD for various functionality including prepaid callback service, location-based content services, menu-based information services and other mobile wallet platform services. A web application is one that implements or uses the internet to provide mobile wallet platform functionality. A mobile web application is similar to a web application, but is tailored for mobile devices. A WAP application is one that uses the wireless application protocol to communicate with the mobile wallet platform to provide the platform's functionality. A J2ME application is an application developed in Java and is designed to provide mobile wallet functionality on a variety of different hardware. A tablet application is an application specifically designed for a touchscreen-based tablet that provides mobile

wallet platform functionality for tablet devices. Any of these applications (or any combination thereof) may be provided on the user's mobile device. This functionality can also be made available on a retail point of sale (POS) system or web site. Indeed, the cloud-based transaction platform allows different POS systems to interact with each other and conduct transactions between themselves.

[0038] The term "agent administrator" refers to an individual with mFS program tools and training to administrate the allocation of funds to agent branches (e.g. retail locations). As agents perform mFS transactions with subscribers, such as depositing and withdrawing money, the agents are adding and removing money from their own accounts. Any of the applications referred to above may be configured to provide tools used by the agent administrator to view the agent company balance, view the agent branch balances, and transfer funds into and out of agent branch mobile wallets. This functionality can also be made available on a website for easier access.

[0039] In some embodiments, the mFS platform application may utilize triple data encryption standard (3DES) encryption (or some other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS transaction system in order to ensure that the transactions are properly secured and authenticated.

[0040] The term "agent branch" refers to any location where an agent provides support for subscriber services of the mFS platform. Funds are allocated by the agent administrator from the agent company's main account to each agent branch to fund the subscriber mFS functions such as depositing or withdrawing cash, in-store purchases, bill payments, prepaid airtime top-ups and money transfers. In some cases, multiple agents may work in a single branch. However, at least in some cases, monetary funds are allocated to from the agent company's main account on a per branch basis.

[0041] The term "agent branch account balance" refers to the amount of money residing in a particular agent branch account at a given time. Funds can be deposited into the branch account by the agent administrator, or the funds can come from participating in subscriber mFS transactions such as depositing or withdrawing cash from the subscriber's mobile wallet accounts, or making retail purchases with the mobile wallet.

[0042] In some embodiments, in countries with more developed economies, it may be beneficial to use program-issued pre-paid debit cards, pre-paid access accounts, stored value accounts or gift cards to conduct business along with the added convenience of card processing networks such as Cirrus, STAR, or Visa for POS and automated teller

machine (ATM) functionality. Agents, particularly those in retail outlets and kiosks, can still support subscribers with deposits, withdrawals, and other transfers, but in this case bank external card processors manage the mobile wallet and branch account balances and provide the real-time transfer of funds.

[0043] The term "agent branch ledger" refers to a written (or electronic) ledger maintained by the mFS platform. Agent branch transactions are performed on the agent's and subscriber's mobile phones where an electronic record of the transaction is generated and stored on the mFS platform. These electronic transactions are then reconciled with agent branch ledgers to ensure the security and integrity of the transaction. Agent branch ledgers are printed or electronic transaction logs that are distributed to the agent branch locations in hard copy form to serve as a backup record to the electronic transactions.

[0044] The term "agent company" refers to a business that registers to participate in the mFS program as a partner of the mFS program provider or owner. The agent company has one or more agent branches which conduct mFS business with mFS program subscribers. In some cases, the agent company may be referred to as a distributor or retailer.

[0045] The term "agent company account balance" refers to the sum of the funds deposited at a "partner bank" (defined below) by the agent company to fund the agent company's daily transactions. The funds in the agent company account are then distributed to agent branches by the agent company's agent administrator to conduct everyday business such as accepting cash deposits and cash withdrawals from mFS subscribers. This balance is sometimes referred to as the "agent company float".

[0046] An "agent manager" is a supervisor of company agents for a given company. The agent manager has the training and tools to create, delete or modify agent accounts for a company, as well as monitor the transactions performed by agents. The agent manager may have a special application or an increased level of rights to access applications features not available to other users. The special application is a program installed on the agent manager's terminal. This application provides the agent manager the ability to securely perform agent manager functions such as registering and activating new agent accounts. The mFS agent manager application may be installed on any terminal or device. It communicates with the mFS platform using binary and/or text SMS messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates.

[0047] As subscribers, agents, and other mFS program participants conduct business in the mFS program, value is transferred from one account to the next as payment for services rendered or goods purchased. This value can be in the form of real currency or the electronic representation referred to herein as eMoney. Among other situations, eMoney is used in mFS implementations where the real-time processing of financial transactions including card processing is not practical. The mFS platform utilizes an internal transaction processor for managing the real-time balance of mobile wallet and agent accounts as value (eMoney) is transferred from one mobile wallet to another in payment for services.

[0048] The term "mFS program master account" refers to a bank account maintained by the mFS program partner bank to provide funds and float for the operation of the mFS platform. Depending on the type of mFS implementation, the master account can include sub-accounts for each of the agent branches and subscriber mobile wallets, giving the bank visibility into all transactions on a per-user basis. The mFS platform can also manage the balance of sub-accounts and interact with the bank's master account when funds need to be deposited or withdrawn from the account.

[0049] The term mobile network operator (MNO) refers to a provider of mobile phone service including basic voice, SMS, unstructured supplementary service data (USSD) and data service, and may also be referred to as a "wireless service provider".

[0050] The term "mobile wallet" or "mobile wallet account" refers to a stored value account or prepaid access account (PPA) that allows the owner (or "subscriber") to pay for goods and services on the mFS platform from his or her mobile wallet account. When the mFS eMoney transaction processor is used, the mobile wallet balance is maintained by the mFS platform and value is exchanged within the mFS program as eMoney. When the mFS platform is integrated to an external card processor, the mobile wallet utilizes funds from the subscriber's prepaid debit card and bank account to exchange value on the mFS platform.

[0051] The term "partner bank" refers to the primary bank participating in the mFS program. The partner bank is responsible for holding the mFS program master accounts that hold the funds for all mFS services and transactions. A "PIN" refers to a numeric password that may be required to perform a transaction via the mobile wallet application.

[0052] The term "subscriber" refers to a participant of the mFS mobile wallet platform. The subscriber maintains a mobile wallet balance and performs transactions using the mFS application. An "unbanked subscriber" is a subscriber that does not have

(or does not have access to) a bank account or credit union account. The application or "mobile wallet application" provides mobile wallet functionality to the (unbanked) subscriber. The mobile wallet application is installed on a mobile device in the device's memory, on a SIM card (such as a GSM SIM card) or is otherwise accessible to the mobile device. The mobile wallet application provides the subscriber the ability to securely perform subscriber functions such as making retail purchases, paying bills, or transferring money to other mFS subscribers and non-subscribers. The mobile wallet application communicates with the mFS platform using binary and text SMS messages, among other forms of wireless communication. A wireless service provider or MNO provides the GSM network infrastructure on which the mFS platform operates.

[0053] Figure 1 illustrates an example system architecture for a cloud-based transaction platform. Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions. Integration tier 101 can also include a communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111. Other mechanisms include, but are not limited to: International Standards Organization ("ISO") 8583 for Point of Sale ("POS") and Automated Teller Machines ("ATM") devices and Advanced Message Queuing Protocol ("AMQP") for queue based interfaces. Each of channels 111 can be integrated to one or more mechanisms for sending messages to integration tier 101. Notification services 102 is configured to send various notifications through different notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails. Notification services 102 can be configured through a web services API.

[0054] Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113. Each connector can be a separate module intended to integrate an external service to the system architecture. Business process services 104 are configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects. Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors.

[0055] Security services 106 are configured to perform subscriber authentication. Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table.

[0056] Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers. Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses. Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints.

[0057] Name matching engine 110 is configured to match different objects according to specified configuration rules. Matching engine 110 can be used to find similarities between names, addresses, etc. Transaction processor 121 is configured to manage financial accounts and transactions. The transaction processor 121 can be used to hold, load, withdraw and deposit funds to mobile wallet accounts. Transaction processor 121 can also be used as a common interface to a third party processor system. When used as a common interface, financial operations may be delegated to the external processor. A Clearing House subsystem of transaction processor 121 can be used to exchange the financial information with a bank.

[0058] Components of a mobile wallet platform can be connected to one another over (or be part of) a system bus and/or a network. Networks can include a Local Area Network ("LAN"), a Wide Area Network ("WAN"), and even the Internet. Accorindlgy, components of the mobile wallet platform can be "in the cloud". As such, mobile wallet platform components as well as any other connected computer systems and their components, can create message related data and exchange message related data (e.g., Internet Protocol ("IP") datagrams and other higher layer protocols that utilize IP datagrams, such as, Transmission Control Protocol ("TCP"), Hypertext Transfer Protocol ("HTTP"), Simple Mail Transfer Protocol ("SMTP"), etc.) over the system bus and/or network.

[0059] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third

party), adding a bank or credit union account to a third party mobile wallet, adding a debit or credit card account to a third party mobile wallet, depositing funds in a third party mobile wallet, withdrawing funds from a third party mobile wallet, paying bills from a third party mobile wallet, topping up a prepaid mobile account through a third party mobile wallet, transferring funds through a third party mobile wallet (nationally or internationally), making in-store purchases using a third party mobile wallet, selecting health care providers and paying for health care services, paying for music, games, movies or other downloadable provided by a third party provider and made available over the cloud-based transaction system, and various other tasks as described herein below.

[0060] Figure 2 depicts a monetary transaction architecture 200 similar to that described in Figure 1. The monetary transaction architecture 200 may provide a more simplified system structure in which each of the above services may be provided. The system includes a subscriber 205. The subscriber may have access to a bank account, or may be an unbanked subscriber. The subscriber has a profile 211 with the cloud-based transaction system 210. The profile includes the subscriber's know your customer (KYC) information, as well as any associated bank accounts, credit union accounts, bill pay accounts or other accounts. The subscriber has (or has access to) a mobile device 206 such as a phone or tablet. The mobile device runs the native or third party mobile wallet application 207.

[0061] The subscriber can indicate, using the mobile wallet application 207, which transaction or other action he or she would like to perform. The indicated transaction 208 is sent to the mobile wallet platform 210 to be carried out by the platform. The transaction processor 216 (which may be similar to or the same as transaction processor 121 of Figure 1) performs the transaction(s) specified by the (unbanked) subscriber 205. The transaction processor may implement various other components to perform the transaction including memory 217, (wireless) communication module 215, rules engine 220 and/or a transaction database 225.

[0062] Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the subscriber has enough eMoney 221 in his or her stored value account, or has enough money in his or her bank account). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction

system can transfer money or eMoney 221 to or from an entity such as a user or agent (e.g. customer 222) to or from an establishment such as an agent terminal (i.e. a retail store or agent company) 223.

[0063] In some cases, the cloud-based transaction system 210 provides a web interface that allows subscribers of third party mobile wallet applications to perform the same functions provided for native subscribers. For instance, mobile wallet application 207 may provide a web interface that allows a user to enroll for a native or third party mobile wallet. The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of communication channels (111 from Figure 1) connected to the cloud-based transaction system 210. The web interface or mobile wallet application may prompt for and receive enrollment information (e.g. KYC information) for the (unbanked) subscriber 205 over at least one of the plurality of communication channels (e.g. web, point-of-sale (POS), interactive voice response (IVR, etc.). The web interface or mobile wallet application may then send activation instructions over the same or a different channel to activate the (unbanked) subscriber 205 and create a subscriber account for the (unbanked) subscriber.

[0064] Once the subscriber has an account, the cloud-based transaction system generates (or allows the third party provider to generate) a corresponding mobile wallet for the unbanked subscriber (available via the web interface and/or the mobile wallet application). The system then presents the (unbanked) subscriber's account data associated with the mobile wallet and/or a notification indicating that enrollment was successful to the subscriber. Accordingly, the mobile wallet application or the web interface may be used to provide user enrollment functionality. It should also be understood that either the mobile wallet application or the web interface may be used to provide substantially all of the third party or native mobile wallet functionality described herein.

[0065] It should also be noted that the mobile device 206 may be any type of plan-based phone or tablet, or prepaid phone or tablet. Many subscribers, such as unbanked subscribers, may primarily use prepaid phones. The mobile wallet application 207 may be installed on both plan-based phones and prepaid phones. The mobile wallet application may be installed on the device's SIM card, or on the device's main memory. Accordingly, the monetary transaction system 200 may be accessed and used via substantially any type of plan-based or prepaid mobile device.

[0066] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a third party mobile wallet, adding a stored value account (either hosted by an electronic payment system or a third party), adding a bank/credit union account to a third party mobile wallet, adding a debit/credit card account to a third party mobile wallet, depositing funds in a third party mobile wallet, withdrawing funds from a third party mobile wallet, paying bills from a third party mobile wallet, topping up a prepaid mobile account through a third party mobile wallet, transferring funds through a third party mobile wallet, making in store purchases from a third party mobile wallet, or transferring money or eMoney from one business account to another business account (i.e. from one business's mobile vault to another business's mobile vault, as will be shown in Figure 4).

[0067] Figure 3A depicts a subscriber-to-subscriber eMoney transfer. In a merchant and distributor scenario, either or both of the merchant and the distributor (including any delivery personnel) may be subscribers. To perform such a transfer, subscriber A (301) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer. The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account. Subscriber A may also receive a notification that the transfer was successful. Accordingly, eMoney may be transferred between two cloud-based platform subscribers, one or both of which may be unbanked. The cloud-based transaction system 210 processes the subscribers' requests, updates the subscribers' eMoney balances, logs the transactions, and sends transaction information to a specified bank when needed.

[0068] Figure 3B illustrates a subscriber-to-non-subscriber eMoney transfer. Accordingly, as mentioned above, either or both of the merchant and the distributor may be non-subscribers. In graphic 305, subscriber A wishes to send eMoney to another individual that is not a subscriber to the cloud-based transaction platform. The transaction is initiated in the same fashion as the subscriber-to-subscriber transfer scenario. However, since non-subscriber B does not have a mobile wallet account, the cloud-based transaction system 210 cannot credit them with eMoney. Instead, the cloud-based transaction system 210 sends a notification (e.g. via SMS) to non-subscriber B with

instructions for how to pick-up the transferred money, along with an authorization code (306). The cloud-based transaction system 210 puts a hold on subscriber A's account for the amount transferred. Subscriber B then has a specified number of days to pick up the cash before the hold expires and the amount is credited back to subscriber A's eMoney account by the monetary transaction system 210.

[0069] When non-subscriber B goes to pick up the money at an agent branch, the agent branch's manager or agent verifies the authorization code via an agent manager or agent mobile wallet application (that, in turn, accesses the cloud-based transaction platform). Once the transfer has been validated, the agent gives the cash to non-subscriber B. The agent branch's mFS account is credited with the transfer amount (307) and the user leaves with the cash in hand (308). The cloud-based transaction platform processes the transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction details to a platform-specified bank.

[0070] Figure 4 illustrates a mobile wallet subscriber making a retail purchase. Mobile wallet subscribers can make retail purchases at agent branches directly from their mobile device. Agent branches, as explained above, are retail stores or other entities that have registered with the cloud-based transaction platform and are able to accept native and third party mobile wallet payments. Accordingly, a subscriber can select the items they wish to purchase, and indicate (via the mobile wallet application) to the agent branch that they wish to pay for the items. The mobile wallet application then communicates with the agent branch and the monetary transaction system to indicate the price of the transaction. The monetary transaction system 210 then debits the subscriber's eMoney account (401) and credits the agent branch's eMoney account (402). The agent branch (and/or the agent manager or agent) receives confirmation that subscriber paid for the purchase. The subscriber may also receive a summary of the retail purchase and may be asked to confirm the purchase by entering a PIN. The monetary transaction system processes the purchase request, updates the agent branch and subscriber's eMoney balances, logs the transaction, and sends transaction details to a cloud-based transaction platform-specified bank.

[0071] In one embodiment, the cloud-based transaction system 210 is implemented to make a purchase from a mobile wallet. The communications module 215 of the monetary transaction system 210 receives a communication from a subscriber over a communication channel 111. The subscriber communication indicates that an unbanked subscriber 205 desires to purchase an item for a specified amount of funds using a

specified payment method from the unbanked subscriber's native or third party mobile wallet.

[0072] The monetary transaction system 210 then returns a secure, perishable purchase code to the unbanked subscriber over at least one of the channels connected to the monetary transaction system and receives a subsequent agent branch communication over a channel indicating that the purchase code has been presented to an agent (branch). The monetary transaction system 210 validates the status of the specified payment method, determines if the specified payment method can accommodate a purchase for the specified amount, performs a limit check and/or a velocity check on the selected payment method, debits the specified payment method by the specified amount of funds, returns a notification to the agent branch authorizing the purchase and sends a receipt to the unbanked subscriber over a communication channel. The cloud-based transaction system 210 may thus be used in this manner to make a retail purchase using a native or third party mobile wallet.

[0073] Figure 5 depicts a physical environment and corresponding computer system architecture 500 for allowing a user to participate in various services using a native or third party mobile wallet (e.g. 511). Some of these services include allowing the user 507 to access disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The environment 500, like the scenarios described in Figures 3A, 3B and 4, involves the use of a native or third party mobile wallet application 511. The mobile wallet application 511 can be used to provide disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The mobile wallet application may be run on any type of digital device including a mobile phone, tablet, laptop or other digital device. Embodiments include providing digital data (e.g., coupons or vouchers) for obtaining disruptively priced or free items (e.g., consumer goods or groceries) to such digital devices.

[0074] In some embodiments, a user has an account with a mobile payment system. The cloud-based transaction system (e.g. 210 of Figure 2 or electronic payment system 521 of Figure 5) can provide the user 507 with a variety of functionality including purchasing items (see Figure 4), depositing funds, withdrawing funds, transferring funds (see Figures 3A and 3B), and others all from a third party wallet. Accordingly, the user can use a digital device to interact with the electronic payment system 521 to pay for goods and/or services.

[0075] In exchange for some type of financial benefit, the user opts in to receive advertisements. The financial benefits may include coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or any other type of benefit (such as a reduced cost or free financial service or good) from the electronic payment system. The benefit may be targeted to the user based on the user's age, location or other demographic information, or based on the user's past purchases. At least in some embodiments, when the user agrees to participate in opt-in advertising, the electronic payment system 521 is permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains lists of the users' purchased items in a data warehouse. The electronic payment system may also store information about the user (anonymous or otherwise) including age, income level, an indication of whether kids are in the family, or other information that may be useful in targeting ads or benefits to the user.

[0076] The electronic payment system analyzes 534 the users purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The advertisements and/or promotions can be for items the user has purchased 503. The advertisements and/or promotions can also be for items related to items the user has purchase. For example, if user has purchased a particular brand of razor, advertisements for the brand's shaving cream can be identified. Advertisements for related items can also be used for cross-promotion.

[0077] From time to time, at specified intervals, or based on location (e.g., having a coupon for a merchant this is with a specified proximity) the electronic payment system sends identified advertisements and/or promotions to the user's digital device. When specified advertising thresholds are satisfied (e.g., a specified number and/or type of advertisements and/or promotions are presented), the electronic payment system confers a financial benefit on the user's account. For example, the electronic payment system can provide the user's account with a low cost (e.g., reduced fee) or free financial service, such as, for example, one reduced cost bill pay or one free bill pay. Alternately, the electronic payment system can provide the user's account with a coupon or voucher for an item (e.g., an item a user has pre-selected or an item the user has purchased in the past).

[0078] In some embodiments, a client application for the electronic payment system runs on the user's digital device (e.g. mobile wallet application 511). The user interacts with the electronic payment system through the client application. From a screen of the

client application, the user can agree to accept opt in advertising. Accordingly, embodiments of the invention essentially permit a user to self-monetize themselves through their digital device.

[0079] As further depicted in Figure 5, computer architecture 500 includes digital device 508, retail location 502, and electronic payment system 521. Digital device 508 further includes mobile wallet application 511. Retail location 502 further includes its own mobile wallet application 512. Electronic payment system 521 includes marketing module 533, data warehouse 532, advertisements 538, payment processor 522, user mobile wallet 524 (user 507's mobile wallet), and merchant mobile wallet 526 (retail location 502's mobile wallet).

[0080] Generally, each company in packaged goods companies 571 (or retailers that sell the packaged goods or other goods or services) can send advertisement data to electronic payment system 521. Advertisements 538 represent the collection of advertisement data sent from packaged goods companies 571. Each company in packaged goods companies 571 can also submit benefit rules to electronic payment system 521. Benefit rules 578 represent the collection of benefit rules sent from packaged goods companies 571. Benefit rules 578 define when a benefit, such as, for example, a free financial service, a coupon, a promotion, etc, is to be granted to a user of electronic payment system 521. For example, in response to completing a questionnaire linked to a product advertisement, a user can be given a coupon for the product or for a related product.

[0081] In general, user 507 can use native or third party mobile wallet application 511 to pay for goods purchased at retail location 502 (as shown in Figure 4). For example, user 507 can use mobile wallet application 511 to purchase goods 503. To pay for goods 503, mobile wallet application 511 can send payment instruction 543 in amount 563 to electronic payment system 521. Payment processor 522 can receive payment instruction 543. In response, payment processor 522 can debit 541 user mobile wallet 524 by amount 563. Payment processor 522 can also credit 542 merchant mobile wallet 526 by amount 563.

[0082] User 507 can use mobile wallet application 511 to participate in opt-in advertising. For example, user 507 can use mobile wallet application 511 to send opt-in 544 to electronic payment system 521. Advertising module 533 can receive opt-in 544 and record that mobile wallet application 511 has opted in for advertising. As such, when user 507 makes a purchase using mobile wallet application 511, a list of purchased items

is sent to electronic payment system 521. For example, upon purchasing goods 503, item list 531 is sent to electronic payment system 521 and stored in data warehouse 532.

[0083] Propensity analysis module 534 can analyze user 507's purchases, including item list 531. From the analysis, propensity analysis module 534 can identify items or categories of items user 507 may be interested in. The items can be items user 507 has purchased in the past (e.g., an item in goods 503) or items related to items user 507 has purchases in the past. Propensity analysis module 534 can indicate identified items or categories of items to advertisement identification module 536. These identified items or categories are items that the user is likely interested in and, as such, may have a propensity toward buying these items. The propensity analysis module may use past purchases, personal preferences, lifestyle or demographic information or other data in the propensity analysis.

[0084] Advertisement identification module 536 can then select advertisements from advertisements 538 that correspond to the identified items or categories of items. For example, advertisement identification module 536 can select advertisement 546 for presentation at mobile wallet application 511. Advertisement 546 can be an advertisement for a product made by a company in packaged goods companies 571. Additionally or alternatively, the advertisement 546 may be created by the merchant and may advertise products or services sold by that merchant.

[0085] Advertising module 533 can send selected advertisements to mobile wallet application 511. For example, advertising module 533 can send advertisement 546 (e.g., related to an item in goods 503) to mobile wallet application 511. In general, advertisements can include interactive content. For example, advertisement 546 includes content 573. Content 573 can be a video, a link to a company website (e.g., for a company in packaged goods companies 571), a call to action (such as a questionnaire), or some other content user 507 can interact with through digital device 508. User 507 can interact with content 573, for example, responding to questions in content 573. Advertisement response 574 can indicate how user 507 has interacted with content 573. In one embodiment, a call to action may be to post an update on Facebook® or some other website such as a retail establishment ranking website. If the user makes such a post or performs some other call to action, the user may be rewarded with a benefit. That benefit may be related to the product about which the user posted on the various websites.

[0086] Based on advertisement response 574, benefit determination module 576 can determine if a benefit is to be conferred upon user 507. Benefit determination module 576

can refer to benefit rules 578 when making a determination whether or not to confer a benefit. Thus, when user 507 interacts with advertisement 546 in a specified way (e.g., completes a survey, watches a video, etc.), benefit rules 578 can indicate that a company benefit (e.g., benefit 577) is to be conferred upon user 507. For example, benefit determination module 576 can confer benefit 577 on user 507. When user 507 receives an advertisement for a razor, for instance, and answers a questionnaire on how often they shave, a razor manufacture can give user 507 a coupon for reduced cost or free razor blades.

[0087] When a benefit is to be conferred on a user, the benefit can be stored in the user's brand locker. For example, benefit determination module 576 can store benefit 577 in brand locker 572 (part of user mobile wallet 524). Benefit 577 can be a coupon, a reduced cost or free financial service, a voucher, a promotion, a free bill pay, etc.

[0088] Benefit determination module 576 can also track aggregate statistics, such as, for example, specified number and/or type of advertisements received, for advertisements presented at native or third party mobile wallet application 511. Benefits can also be conferred upon users based on the aggregate statistics. For example, benefit determination module 576 can confer a benefit upon user 507 in response to twenty advertisements being presented at mobile wallet application 511. Thus, conferred benefits can be company-specified benefits or can be electronic payment system-specified benefits. Electronic payment system 521 can notify a user when a benefit is conferred. For example, electronic payment system 521 can send benefit notification 547 to mobile wallet application 511 to indicate benefit 577 being stored in brand locker 572.

[0089] When user 507 makes subsequent purchases through user mobile wallet 524, electronic payment system 521 can automatically check brand locker 572 for benefits related to any purchases items. If benefits for an item are identified, user 507 can be notified through mobile wallet application 511. In some cases, if benefits are identified, those benefits can be applied automatically when the user purchases that item or service. Thus, if the benefit is a coupon or a buy one get one free offer, that benefit may be applied automatically when the user uses his or her mobile wallet application 511 to purchase that item. Accordingly, embodiments of the invention permit user 507 to self monetize digital device 508 through agreeing to participate in opt-in advertising.

[0090] Although not depicted, various other modules from the architecture of Figures 1 or 2 can also be included electronic payment system 521. The modules expressly

depicted in Figure 5 can interoperate with these other modules as appropriate to facilitate desired functionality.

[0091] Figures 7-9 will now be described in conjunction with the computer architecture 600 illustrated in Figure 6. Figure 6 depicts a mobile wallet platform 601 that may have an architecture as shown in Figure 1. As further depicted in Figure 6, mobile wallet platform 601 communicates with an agent terminal 602 or a customer 607 to process transactions using a native or third party mobile wallet 605. Mobile wallet platform 601 may also communicate with a third party processor 604 to process transactions using a mobile wallet or third party mobile wallet. Mobile wallet platform 601 may also communicate with a third party mobile wallet platform 603 to process transactions using a mobile wallet owned or managed by a third party mobile wallet provider.

[0092] Mobile wallet platform 601 may also process the mobile wallet transaction or third party mobile wallet transaction internally, without the use of third party processors or third party mobile wallet platforms. In particular, mobile wallet platform 601 may process transactions using third party mobile wallets in the same or similar manner that transactions are processed as shown in Figures 2-5. Accordingly, the physical environment and corresponding computer system architecture 600 shown in Figure 6 allows a cloud-based transaction platform 601 to support multiple third party mobile wallet providers.

[0093] Mobile wallet platform 601 communicates with agent terminal 602, third party mobile wallet platform 603, third party processor 604, and customer's mobile phone 619 through a variety of communication channels. For example, the communication between mobile wallet platform 601 and any one of these entities may be through communication channels 111, notification channels 112, or third party systems 113, as shown in Figure 1. Communication between mobile wallet platform 601 and any one of these entities may also be through processor 121 shown in Figure 1.

[0094] With respect to the entire description of Figure 6, and as explained above, the term "mobile wallet" encompasses not only mobile wallets owned or managed by the mobile wallet platform, but also third party mobile wallets owned by third party mobile wallet providers or managed by third party mobile wallet platforms. In contrast, the term "third party mobile wallet" refers only to third party mobile wallets owned by third party mobile wallet providers or managed by third party mobile wallet platforms. Accordingly, cloud-based transaction platform 601 may manage and process transactions using mobile

wallets 605, which may be mobile wallets owned by cloud-based transaction platform 601 or mobile wallets owned by a third party mobile wallet provider.

[0095] As shown in Figure 6, customer 607 initiates a mobile wallet transaction 608 at agent terminal 602. Agent terminal 602 may be part of an agent network consisting of one or more agent terminals that communicate with cloud-based transaction platform 601. Examples of agent terminals are stores and other commercial establishments. Alternatively, customer 607 may initiate a mobile wallet transaction 609 by communicating with cloud-based transaction platform 601 through a channel selected by the customer.

[0096] Mobile wallet transactions 608 and 609 may be one or more of any type of transaction that can be performed using a mobile wallet, including but not limited to, a deposit, withdrawal, transfer, purchase, bill payment, topping up of a prepaid mobile account, or any other transaction described herein. Customer 607 may initiate transactions 608 and 609 in a variety of ways. For example, customer 607 can initiate a deposit into a mobile wallet, a withdrawal from a mobile wallet, a bill payment from a mobile wallet, topping up of a prepaid mobile account using a mobile wallet, a transfer from a mobile wallet, a remittance transaction, a selection of health care provider or payment of health services, a purchase of music, movies, games or other downloadable content, or other purchases using a mobile wallet.

[0097] After customer 607 initiates transaction 609 through agent terminal 602, agent terminal 602 then communicates with cloud-based transaction platform 601 by sending transaction data 610 to cloud-based transaction platform 601. Once cloud-based transaction platform 601 has received the transaction either through transaction data 610 from agent terminal 602 or from transaction 609 initiated by customer 607, cloud-based transaction platform 601 may then process the transaction in a variety of ways.

[0098] For example, cloud-based transaction platform 601 may process the transaction by communicating with third party processor 604 by sending third party transaction data 611, which may include some or all of the information in transaction data 610. Third party processor can then perform the requested transactional processing and respond by sending confirmation data 612 to cloud-based transaction platform 601. Confirmation data 612 can indicate whether the requested mobile wallet transaction was processed successfully or unsuccessfully.

[0099] In another example, cloud-based transaction platform 601 may process the transaction by communicating with third party mobile wallet platform 603 by sending

third party transaction data 613, which may include some or all of the information in transaction data 610. Third party mobile wallet platform 603 may have any architecture which is suitable for processing mobile wallet transactions. Third party mobile wallet platform 603 may have an architecture that is the same or similar to the architecture shown in Figure 1.

[00100] Alternatively, third party mobile wallet platform 603 may have a different architecture. In addition, any aspects of cloud-based transaction platform 601 or functionality provided by that platform may also be present in third party mobile wallet platform 603. After receiving third party transaction data 613, third party mobile wallet platform 603 may process the transaction itself or forward the transaction to third party processor 604 by sending third party transaction data 614.

[00101] Once processing of the transaction is complete, third party mobile wallet platform 603 may respond to cloud-based transaction platform 601 by sending confirmation data 615. Confirmation data 615 can indicate whether the requested mobile wallet transaction was processed successfully or unsuccessfully. In addition, following the processing performed by third party mobile wallet platform 603 after receiving third party transaction data 613, the third party mobile wallet platform 603 may provide a commission or transaction fee 616 to cloud-based transaction platform 601.

[00102] In a further example, mobile wallet platform 601 may process the transaction internally within cloud-based transaction platform 601. Specifically, cloud-based transaction platform 601 may process a transaction using a third party mobile wallet entirely within cloud-based transaction platform 601.

[00103] Once processing of the transaction is complete, cloud-based transaction platform 601 may communicate with agent terminal 602 by sending confirmation data 617 indicating information such as whether the transaction was successful or not. Also following processing of the transaction, mobile wallet platform may send customer notification 618 through an appropriate channel such as to the customer's mobile phone 619. For example, customer notification 618 may be sent using the notification services 102 and notification channels 112 (e.g. SMPP, SMTP, voice) of Figure 1.

[00104] With reference now to Figures 2, 6 and 7, the cloud-based transaction system 210 receives communication 226 from an agent terminal 223 over a communication channel connected to the cloud-based transaction platform 210/601 (act 710). The agent communication indicates that a customer 222/205 desires to perform a mobile wallet transaction using their third party mobile wallet 207. The cloud-based transaction system

210 sends the agent communication to a third party mobile wallet platform 603 (act 720). The cloud-based transaction system 210 then receives communication 611 from the third party mobile wallet platform confirming processing of the transaction 612 (act 730) and sends communication 617 to the agent terminal 602 over communication channels 111 connected to the cloud-based transaction platform indicating confirmation of the processing of the transaction (act 740).

[00105] As mentioned above, multiple different types of transactions may be performed using the infrastructure provided by the cloud-based transaction system. The transactions may be a performed not only by a first customer that uses a first mobile wallet provider, but also by a second, different customer using a second, different third party mobile wallet provider. The third party mobile wallet platform may use a third party processor to perform (at least parts of) the transaction. The customer may be notified of confirmation of the processing of the transaction using the third party mobile wallet over various communication channels connected to the cloud-based transaction platform. In some cases, each third party mobile wallet provider has their own point of sale (POS) processing system 230. The third party mobile wallet providers' POS processing systems may communicate with each other using the cloud-based transaction platform to process the transaction.

[00106] One of the transactions made possible by the cloud-based transaction platform 601 is depositing funds into a third party mobile wallet owned by an entity different than the customer. The cloud-based transaction system may receive a communication 226 from the agent terminal 223 over a communication channel connected to the cloud-based transaction platform. The agent communication indicates that the customer desires to deposit a specified amount of funds into their third party mobile wallet 605. The cloud-based transaction system may then credit the third party mobile wallet with the specified amount of funds.

[00107] Another transaction provided by the cloud-based transaction platform 601 is withdrawing funds from a third party mobile wallet owned by an entity different than the customer. The cloud-based transaction platform receives communication 208 from the customer 205 indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet. The cloud-based transaction platform 601 returns a secure, perishable withdrawal code to the customer over at least one of the communication channels connected to the cloud-based transaction platform. It also receives communication from the agent terminal 223 indicating that the withdrawal code

has been presented to an agent and debits the third party mobile wallet by the specified amount of funds.

[00108] Another transaction provided by the cloud-based transaction platform 601 is transferring money from a third party mobile wallet within the cloud-based transaction platform to a recipient at a second third party mobile wallet provided by a second mobile wallet provider. In this transaction, the platform 601 receives a customer communication 208 indicating that a customer 205 desires to transfer a specified amount of funds to a specified recipient using a specified payment method from the third party mobile wallet 606. The cloud-based transaction platform debits the third party mobile wallet by the specified amount of funds and transfers the specified amount of funds from the cloud-based transaction platform to the second different third party mobile wallet platform for delivery to the specified recipient. The specified amount of funds is then transferred to the second third party mobile wallet platform.

[00109] Yet another transaction provided by the cloud-based transaction platform 601 is making a purchase from a third party mobile wallet managed by a third party mobile wallet platform. In this transaction, the cloud-based transaction platform receives communication 208 from the customer 205 indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's third party mobile wallet 606. The cloud-based transaction platform returns a secure, perishable purchase code to the customer, receives communication 226 from the agent terminal 223 indicating that the purchase code has been presented to an agent, and debits the customer's third party mobile wallet by the specified amount of funds.

[00110] In another embodiment, as shown in Fig. 8, a cloud-based transaction system performs or facilitates a transaction using a third party point of sale (POS) system. The cloud-based transaction system receives communication 226 from a specified POS system 224 implemented at an agent terminal 223 over a communication channels 111 connected to the cloud-based transaction platform 210 (act 810). The POS communication indicates that a customer 205 has initiated a mobile wallet transaction using their third party mobile wallet 207. The cloud-based transaction system sends the POS communication to a corresponding third party POS transaction processing system 230 that has been established to process POS transactions from the specified POS system (act 820). The cloud-based transaction system then receives communication from the third party POS transaction processing system 230 confirming processing of the transaction (act 830) and

sends communication to the specified POS system 224 implemented at the agent terminal 223 indicating confirmation of the processing of the transaction (act 840).

[00111] In some cases, transaction fees or commissions 616 may be paid by the third party mobile wallet platform to the cloud-based transaction platform for facilitating the transaction. One of the transactions allowed by the cloud-based transaction system is depositing funds into a third party mobile wallet provided by a third party mobile wallet provider. In this transaction, the cloud-based transaction platform 210 receives communication 226 from a specified POS system 224 implemented at the agent terminal 223 over a communication channels 111 connected to the cloud-based transaction platform. The POS communication indicates that the customer 205/222 desires to deposit a specified amount of funds into the third party mobile wallet 606 provided by the third party mobile wallet provider. The cloud-based transaction system validates the status of the third party mobile wallet provided by the third party mobile wallet provider, determines if the specified POS system implemented at the agent terminal is authorized to deposit money, performs a limit check or a velocity check on the third party mobile wallet provided by the third party mobile wallet provider, credits the third party mobile wallet provided by the third party mobile wallet provider with the specified amount of funds, returns a notification to the specified POS system implemented at the agent terminal confirming the deposit and notifies the customer that the specified amount of funds were deposited in the third party mobile wallet provided by the third party mobile wallet provider over a communication channel connected to the cloud-based transaction platform 210.

[00112] Another transaction provided by the cloud-based transaction platform 210 is withdrawing funds from a third party mobile wallet provided by a third party mobile wallet provider. The cloud-based transaction platform 210 receives communication 208 from a customer 205 indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet 606 provided by the third party mobile wallet provider. The cloud-based transaction platform 210 validates the status of the third party mobile wallet provided by the third party mobile wallet provider, determines if the balance of the third party mobile wallet provided by the third party mobile wallet provider is sufficient to accommodate the requested withdrawal for the specified amount of funds, performs a limit check and/or a velocity check on the third party mobile wallet, returns a secure, perishable withdrawal code to the customer over a communication channel 111 connected to the cloud-based transaction platform, receives subsequent POS

communication 226 indicating that the withdrawal code has been presented to an agent (e.g. at agent terminal 223), debits the third party mobile wallet provided by the third party mobile wallet provider by the specified amount of funds, returns a notification to the POS system at the agent terminal confirming the withdrawal and notifies the customer 205 (e.g. in confirmation 617) that the specified amount of funds were withdrawn from the third party mobile wallet.

[00113] In yet another transaction provided by the cloud-based transaction platform, money is transferred using a third party mobile wallet provided by a third party mobile wallet provider. The cloud-based transaction platform 210 receives customer communication 208 indicating that the customer 205 desires to transfer a specified amount of funds to a specified recipient having a third party mobile wallet 606, where the transfer uses a specified payment method from the customer's third party mobile wallet at the cloud-based transaction platform 210. The cloud-based transaction platform validates the status of the specified payment method, performs a limit check and/or a velocity check on the specified payment method, performs a check on the specified recipient having a third party mobile wallet to comply with the office of foreign assets control, debits the customer's mobile wallet at the cloud-based transaction platform by the specified amount of funds, transfers the specified amount of funds to third party mobile wallet provider for delivery to the third party mobile wallet of the specified recipient over a communication channel connected between the cloud-based transaction platform and the third party mobile wallet provider, and notifies the customer that the specified amount of funds was transferred to the specified recipient.

[00114] In another transaction provided by the cloud-based transaction platform 210, a purchase is made from a third party mobile wallet provided by a third party mobile wallet provider. In this transaction, the cloud-based transaction system receives communication 208 from the customer 205 indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's third party mobile wallet 606. The cloud-based transaction system returns a secure, perishable purchase code to the customer, receives subsequent agent terminal communication indicating that the purchase code has been presented to an agent, validates the status of the specified payment method, determines if the specified payment method can accommodate a purchase for the specified amount, performs a limit check and/or a velocity check on the specified payment method, debits the customer's third party mobile wallet by the specified amount of funds by sending communication to the third party

mobile wallet provider, returns a notification to the POS system at the agent terminal authorizing the purchase and sends a receipt to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

[00115] Figure 9 describes a further embodiment in which a cloud-based transaction platform facilitates making a purchase from a third party mobile wallet provided by a third party mobile wallet provider. The cloud-based transaction system 210 receives communication 208 from a customer 205 over a communication channel connected to the cloud-based transaction platform (act 910). The customer communication indicating that a customer desires to purchase an item for a specified amount of funds using a specified payment method indicated by the customer's third party mobile wallet 606. The cloud-based transaction system returns a secure, perishable purchase code to the customer (act 920) and receives communication from an agent terminal 223 over at least one of the communication channels connected to the cloud-based transaction platform indicating that the purchase code has been presented to an agent (act 930). The cloud-based transaction system 210 then debits the customer's third party mobile wallet 606 by the specified amount of funds (act 940).

[00116] Substantially any item may be purchased using this transaction technique including items provided directly by the cloud-based transaction system, or items provided by third party retailers through the cloud-based transaction system. These items may include health care services, physical, shippable items, music, games, movies or any other digital or downloadable content.

[00117] Embodiments of the invention can adhere to Know Your Customer (KYC) rules in the United States by performing Customer Identification Program (CIP) checks as required by the Bank Secrecy Act and U.S. PATRIOT Act. A minimum amount of information can be gathered about a customer, such as, for example, First Name, Last Name, Date of Birth, Government ID Type, Government ID Number, Address. The CIP processes are designed to validate customer identity against government blacklists and assist in the prevention of money laundering and terrorist financing. A combination of non-documentary and documentary verification can be used to ensure beyond a reasonable doubt the identity of the customer.

[00118] Non-Documentary Verification can occur through the presentment of the information that was collected from the user to an external third party, such as, for example, Lexis Nexis. Documentary Verification can occur if non-documentary verification fails, then the user is asked to present an unexpired government ID. Various

differ forms of identification including Driver's license, Passport, Alien identification (e.g., green card or work visa), and Mexican Consular identification card, can be accepted.

[00119] Embodiments of the invention can perform Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) checks. AML and CFT checks can be performed using transaction monitoring methods to flag names and suspicious transactions for further investigation. The mobile wallet platform can perform AML and CFT checks on all electronic financial transactions to ensure that electronic funds are not being used for money laundering or terrorism. Transaction limits can be placed on user accounts. The transaction limits are fully configurable for each particular use case, channel and payment method that allows maximum flexibility to restrict higher risk use cases. Velocity checks can also be performed. Velocity Checks ensure that subscribers are not abusing the mobile wallet platform within the allowable limits.

[00120] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed:

1. A cloud-based transaction platform including:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for performing a transaction using a third party mobile wallet, the method comprising the following:

an act of receiving communication from an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that a customer desires to perform a mobile wallet transaction using their third party mobile wallet;

an act of sending the agent communication to a third party mobile wallet platform;

an act of receiving communication from the third party mobile wallet platform confirming processing of the transaction; and

an act of sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction.

2. The cloud-based transaction platform of claim 1, wherein a transaction is performed by a second, different customer using a second, different third party mobile wallet.

3. The cloud-based transaction platform of claim 1, wherein the third party mobile wallet platform comprises a third party processor.

4. The cloud-based transaction platform of claim 1, wherein the transaction using a third party mobile wallet comprises one or more of a deposit, a withdrawal, a transfer, a purchase, a bill payment, or topping up of a prepaid mobile account.

5. The cloud-based transaction platform of claim 1, further comprising an act of notifying the customer of confirmation of the processing of the transaction using the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

6. The cloud-based transaction platform of claim 1, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

7. The cloud-based transaction platform of claim 1, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

8. The cloud-based transaction platform of claim 7, wherein the third party mobile wallet providers' POS processing systems communicate with each other using the cloud-based transaction platform to process the transaction.

9. The cloud-based transaction platform of claim 1, wherein the transaction comprises depositing funds into a third party mobile wallet owned by an entity different than the customer, including:

an act of receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into their third party mobile wallet; and

an act of crediting the third party mobile wallet with the specified amount of funds.

10. The cloud-based transaction platform of claim 1, wherein the transaction comprises withdrawing funds from a third party mobile wallet owned by an entity different than the customer, including:

an act of receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet;

an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform;

an act of receiving communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the withdrawal code has been presented to an agent; and

an act of debiting the third party mobile wallet by the specified amount of funds.

11. The cloud-based transaction platform of claim 6, wherein the transaction comprises transferring money from a third party mobile wallet within the cloud-based transaction platform to a recipient at a second third party mobile wallet provided by a second mobile wallet provider, the method comprising:

an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that a customer desires to transfer a specified amount of funds to a specified recipient using a specified payment method from the third party mobile wallet;

an act of debiting the third party mobile wallet by the specified amount of funds; and

an act of transferring the specified amount of funds from the cloud-based transaction platform to the second different third party mobile wallet platform for delivery to the specified recipient, the specified amount of funds being transferred over at least one of the plurality of channels connected to the second third party mobile wallet platform.

12. The cloud-based transaction platform of claim 1, wherein the transaction comprises making a purchase from a third party mobile wallet managed by a third party mobile wallet platform, including:

an act of receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's third party mobile wallet;

an act of returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform;

an act of receiving communication from the agent terminal over at least one of the plurality of channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent; and

an act of debiting the customer's third party mobile wallet by the specified amount of funds.

13. A cloud-based transaction platform including:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for performing a transaction using a third party point of sale (POS) system, the method comprising:

an act of receiving communication from a specified POS system implemented at an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the POS communication indicating that a customer has initiated a mobile wallet transaction using their third party mobile wallet;

an act of sending the POS communication to a corresponding third party POS transaction processing system that has been established to process POS transactions from the specified POS system;

an act of receiving communication from the third party POS transaction processing system confirming processing of the transaction; and

an act of sending communication to the specified POS system implemented at the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction.

14. The cloud-based transaction platform of claim 13, further comprising the act of receiving a transaction fee paid by the specified POS system to the cloud-based transaction platform.

15. The cloud-based transaction platform of claim 13, wherein the transaction comprises depositing funds into a third party mobile wallet provided by a third party mobile wallet provider, including:

an act of receiving communication from the specified POS system implemented at the agent terminal over one of the plurality of channels connected to the cloud-based transaction platform, the POS communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet provided by the third party mobile wallet provider;

an act of validating the status of the third party mobile wallet provided by the third party mobile wallet provider;

an act of determining if the specified POS system implemented at the agent terminal is authorized to deposit money;

an act of performing one or more of a limit check and a velocity check on the third party mobile wallet provided by the third party mobile wallet provider;

an act of crediting the third party mobile wallet provided by the third party mobile wallet provider with the specified amount of funds;

an act of returning a notification to the specified POS system implemented at the agent terminal confirming the deposit; and

an act of notifying the customer that the specified amount of funds were deposited in the third party mobile wallet provided by the third party mobile wallet provider over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

16. The cloud-based transaction platform of claim 13, wherein the transaction comprises withdrawing funds from a third party mobile wallet provided by a third party mobile wallet provider, including:

an act of receiving communication from a customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet provided by the third party mobile wallet provider;

an act of validating the status of the third party mobile wallet provided by the third party mobile wallet provider;

an act of determining if the balance of the third party mobile wallet provided by the third party mobile wallet provider is sufficient to accommodate the requested withdrawal for the specified amount of funds;

an act of performing one or more of a limit check and a velocity check on the third party mobile wallet;

an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform;

an act of receiving subsequent POS communication over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the POS communication indicating that the withdrawal code has been presented to an agent;

an act of debiting the third party mobile wallet provided by the third party mobile wallet provider by the specified amount of funds;

an act of returning a notification to the POS system at the agent terminal confirming the withdrawal; and

an act of notifying the customer that the specified amount of funds were withdrawn from the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

17. The cloud-based transaction platform of claim 13, wherein the transaction comprises transferring money using a third party mobile wallet provided by a third party mobile wallet provider, including:

an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a specified amount of funds to a specified recipient having a third party mobile wallet, the transfer using a specified payment method from the customer's third party mobile wallet at the cloud-based transaction platform;

an act of validating the status of the specified payment method;

an act of performing one or more of a limit check and a velocity check on the specified payment method;

an act of performing a check on the specified recipient having a third party mobile wallet to comply with the office of foreign assets control;

an act of debiting the customer's mobile wallet at the cloud-based transaction platform by the specified amount of funds;

an act of transferring the specified amount of funds to third party mobile wallet provider for delivery to the third party mobile wallet of the specified recipient over at least one of the plurality of channels connected between the cloud-based transaction platform and the third party mobile wallet provider;

an act of notifying the customer that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the cloud-based transaction platform.

18. The cloud-based transaction platform of claim 13, wherein the transaction comprises making a purchase from a third party mobile wallet provided by a third party mobile wallet provider, including:

an act of receiving communication from the customer over one of the plurality of communication channels connected to the mobile wallet platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's third party mobile wallet;

an act of returning a secure, perishable purchase code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform;

an act of receiving subsequent agent terminal communication over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent;

an act of validating the status of the specified payment method;

an act of determining if the specified payment method can accommodate a purchase for the specified amount;

an act of performing one or more of a limit check and a velocity check on the specified payment method;

an act of debiting the customer's third party mobile wallet by the specified amount of funds by sending communication to the third party mobile wallet provider;

an act of returning a notification to the POS system at the agent terminal authorizing the purchase; and

an act of sending a receipt to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

19. A cloud-based transaction platform including:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for making a purchase from a third party mobile wallet provided by a third party mobile wallet provider, the method comprising the following:

an act of receiving communication from a customer over one of a plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that a customer desires to purchase an item for a specified amount of funds using a specified payment method indicated by the customer's third party mobile wallet;

an act of returning a secure, perishable purchase code to the customer over at least one the plurality of communication channels connected to the cloud-based transaction platform;

an act of receiving communication from an agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent; and

an act of debiting the customer's third party mobile wallet by the specified amount of funds.

20. The cloud-based transaction platform of claim 19, wherein the item purchased by the customer comprises at least one of the following: health care services, music, games, and movies.

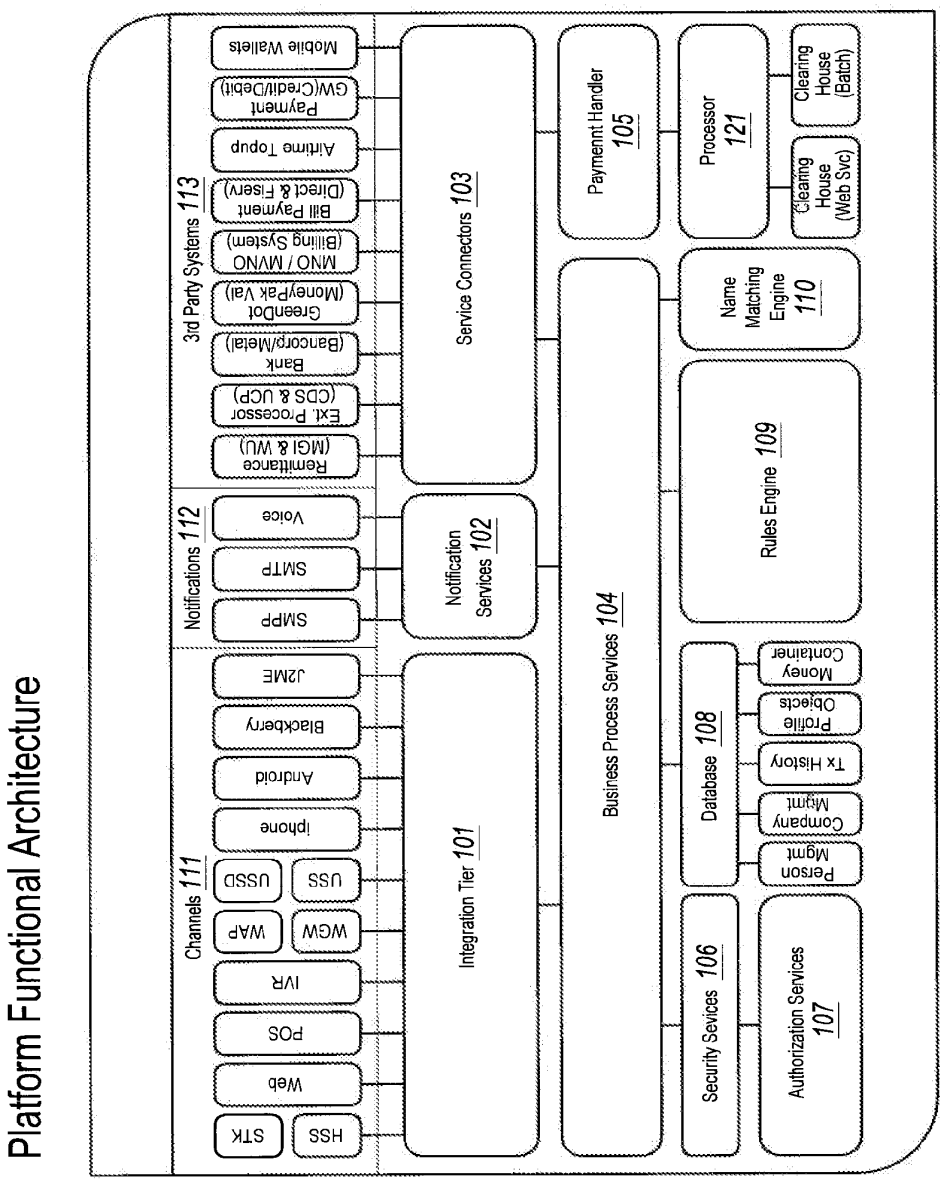

Platform Functional Architecture
Channels 111
HSS
STK
Web
POS
IVR
WGW
WAP
USS
USSD
iphone
Android
Blackberry
J2ME
Notifications 112
SMPP
SMTP
Voice
3rd Party Systems 113
Remittance (MGI & WU)
Ext. Processor (CDS & UCP)
Bank (Bancorp/Metal)
GreenDot (MoneyPak Val)
MNO / MVNO (Billing System)
Bill Payment (Direct & Fiserv)
Airtime Topup
Payment GW(Credit/Debit)
Mobile Wallets
Integration Tier 101
Notification Services 102
Service Connectors 103
Business Process Services 104
Paymennt Handler 105
Security Sevices 106
Authorization Services 107
Database 108
Person Mgmt
Company Mgmt
Tx History
Profile Objects
Money Container
Rules Engine 109
Name Matching Engine 110
Processor 121
Clearing House (Web Svc)
Clearing House (Batch)

FIG. 1

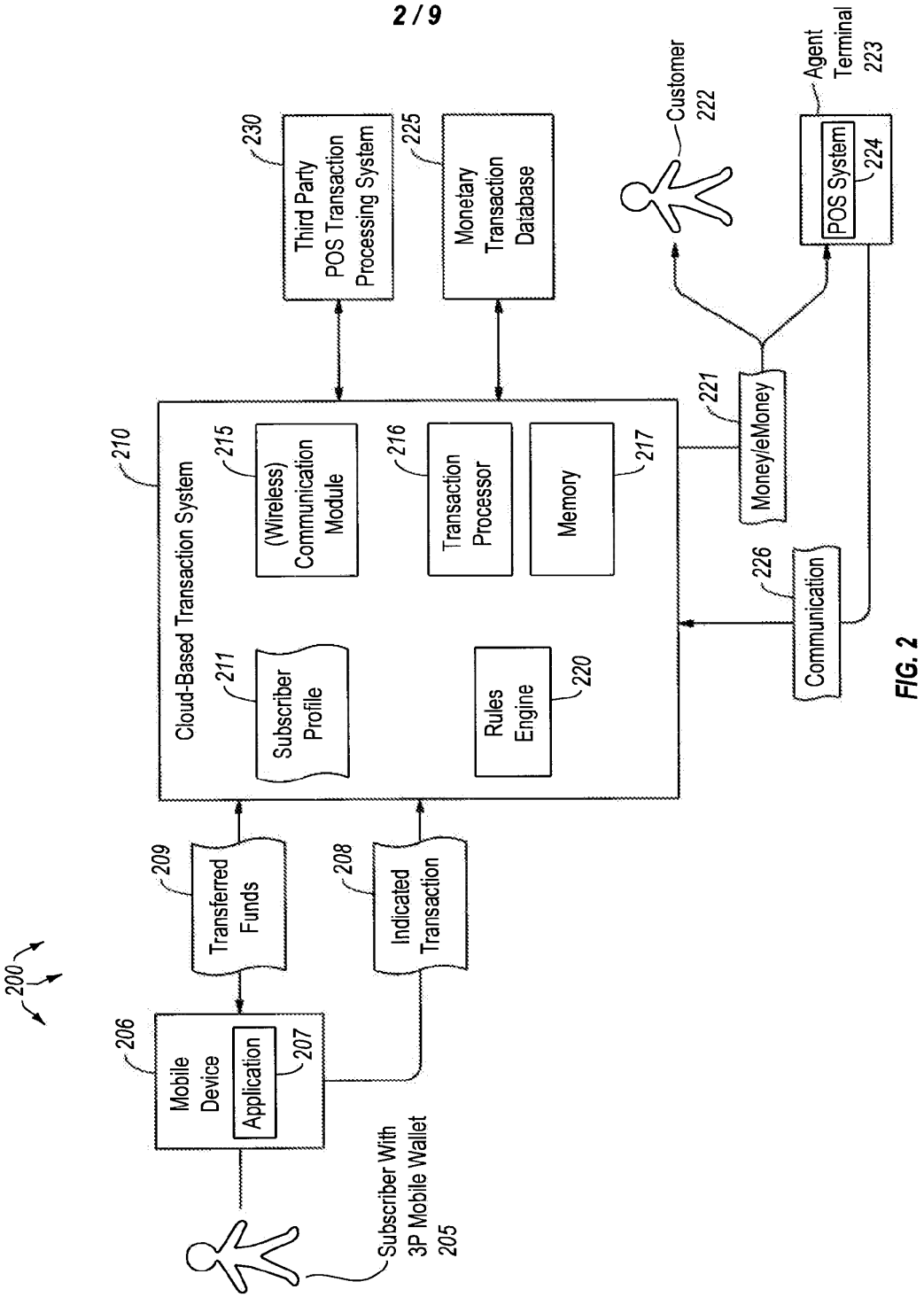
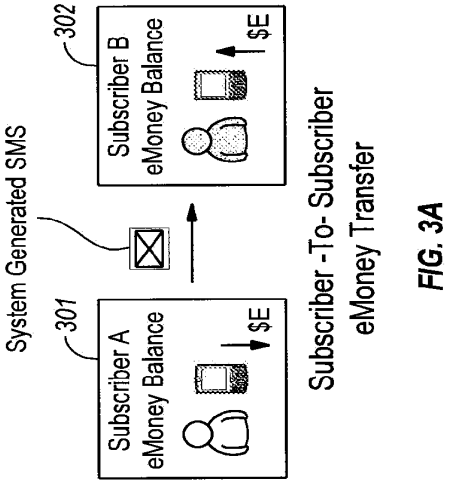
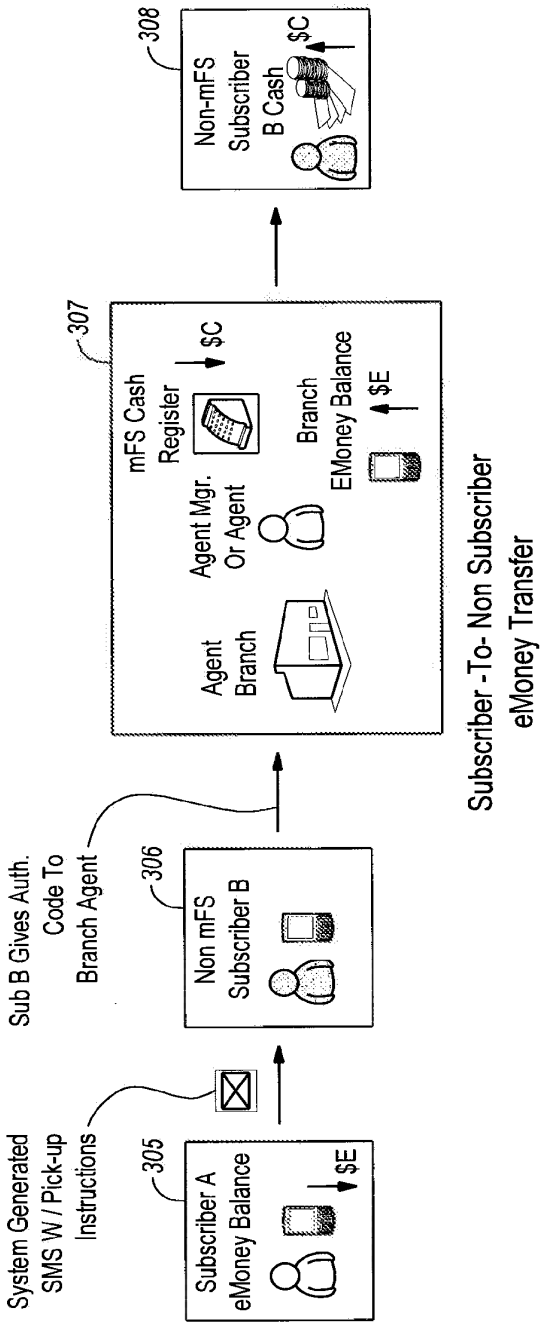

200
206
Mobile Device
Application
207
Subscriber With 3P Mobile Wallet
205
209
Transferred Funds
208
Indicated Transaction
210
Cloud-Based Transaction System
211
Subscriber Profile
215
(Wireless) Communication Module
216
Transaction Processor
217
Memory
220
Rules Engine
230
Third Party POS Transaction Processing System
225
Monetary Transaction Database
221
Money/eMoney
226
Communication
Customer
222
Agent Terminal
223
POS System
224

FIG. 2



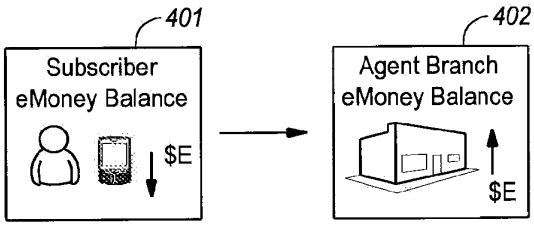
Subscriber -To- Subscriber
eMoney Transfer

FIG. 3A



Subscriber -To- Non Subscriber
eMoney Transfer

FIG. 3B



Subscriber Makes Retail Purchase

FIG. 4

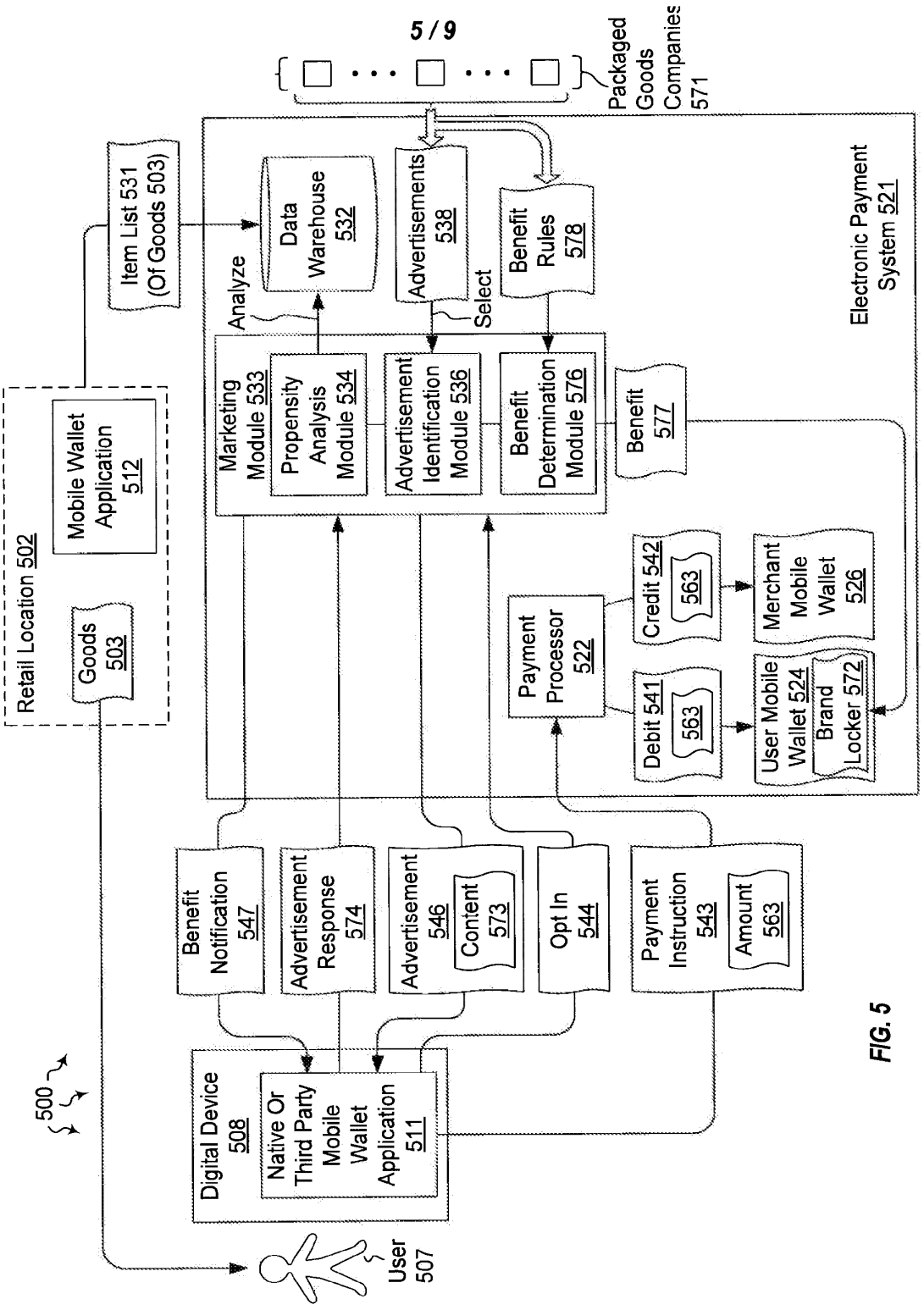

Packaged Goods Companies 571
Item List 531 (Of Goods 503)
Data Warehouse 532
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Benefit Rules 578
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Analyze
Select
Retail Location 502
Mobile Wallet Application 512
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Marketing Module 533
Propensity Analysis Module 534
Advertisement Identification Module 536
Benefit Determination Module 576
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Credit 542
563
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Benefit Notification 547
Advertisement Response 574
Advertisement 546
Content 573
Opt In 544
Payment Instruction 543
Amount 563
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Digital Device 508
Native Or Third Party Mobile Wallet Application 511
User 507

FIG. 5

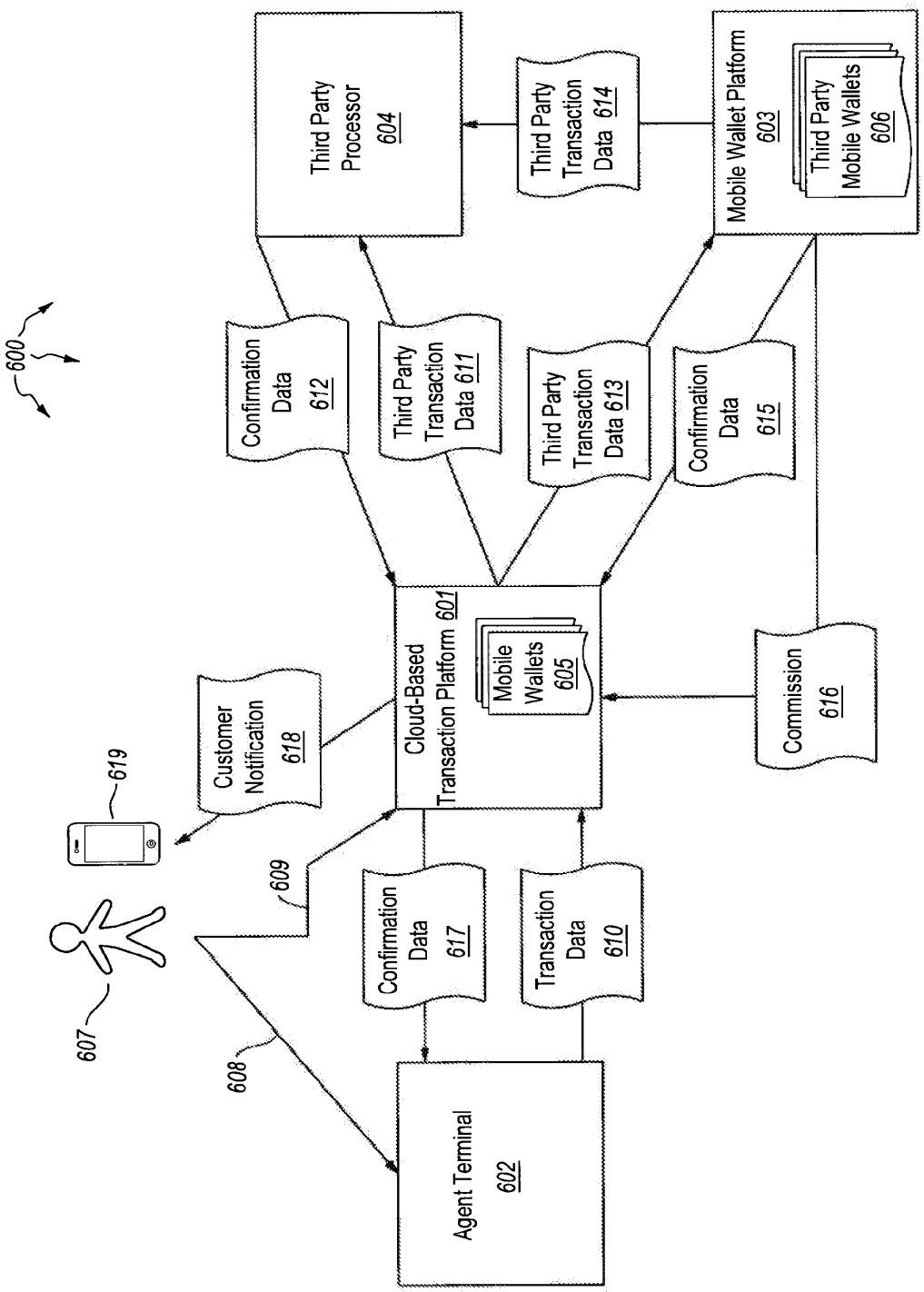

600
Third Party Processor 604
Third Party Transaction Data 614
Mobile Wallet Platform 603
Third Party Mobile Wallets 606
Confirmation Data 612
Third Party Transaction Data 611
Third Party Transaction Data 613
Confirmation Data 615
Cloud-Based Transaction Platform 601
Mobile Wallets 605
Customer Notification 618
Commission 616
619
609
607
608
Confirmation Data 617
Transaction Data 610
Agent Terminal 602

FIG. 6

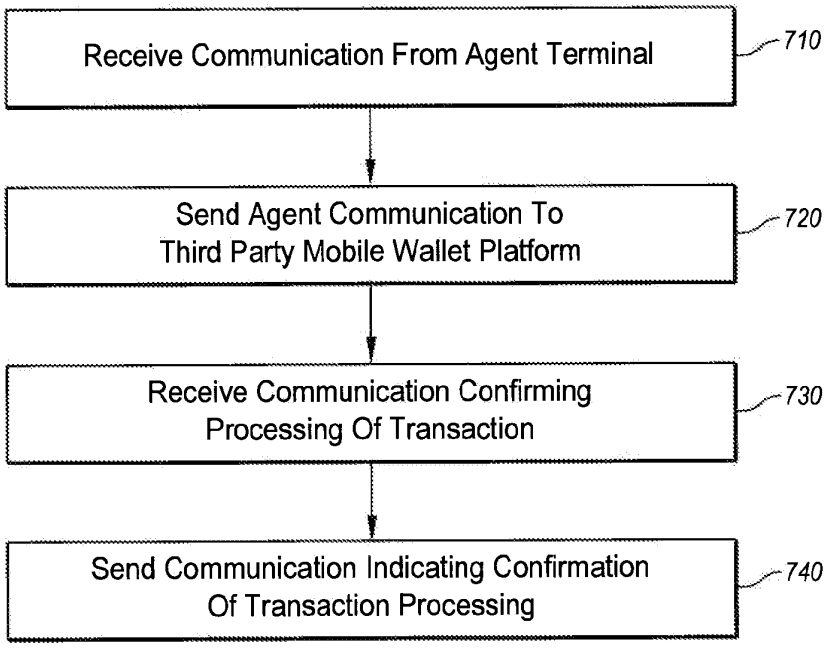

Receive Communication From Agent Terminal
710
Send Agent Communication To Third Party Mobile Wallet Platform
720
Receive Communication Confirming Processing Of Transaction
730
Send Communication Indicating Confirmation Of Transaction Processing
740

FIG. 7

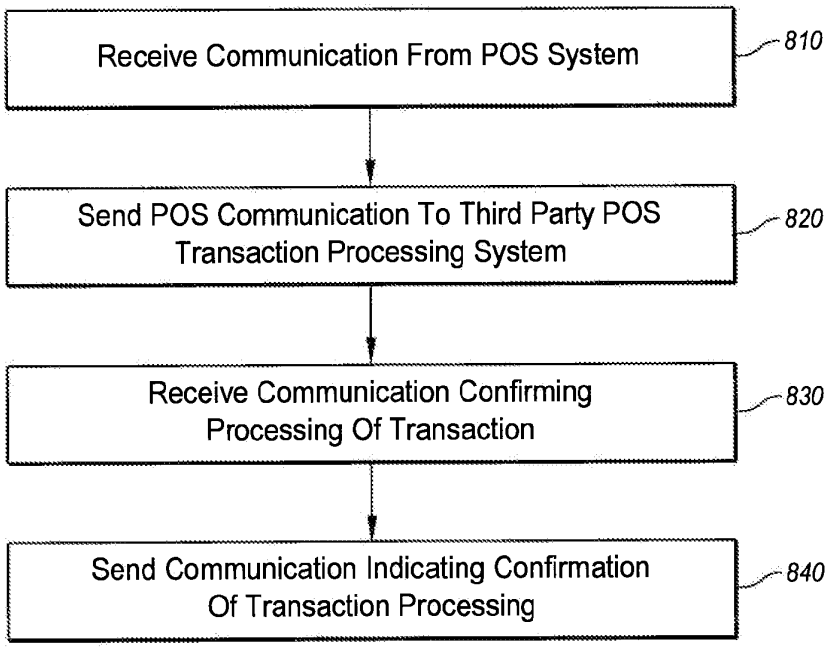

Receive Communication From POS System
810
Send POS Communication To Third Party POS Transaction Processing System
820
Receive Communication Confirming Processing Of Transaction
830
Send Communication Indicating Confirmation Of Transaction Processing
840

FIG. 8

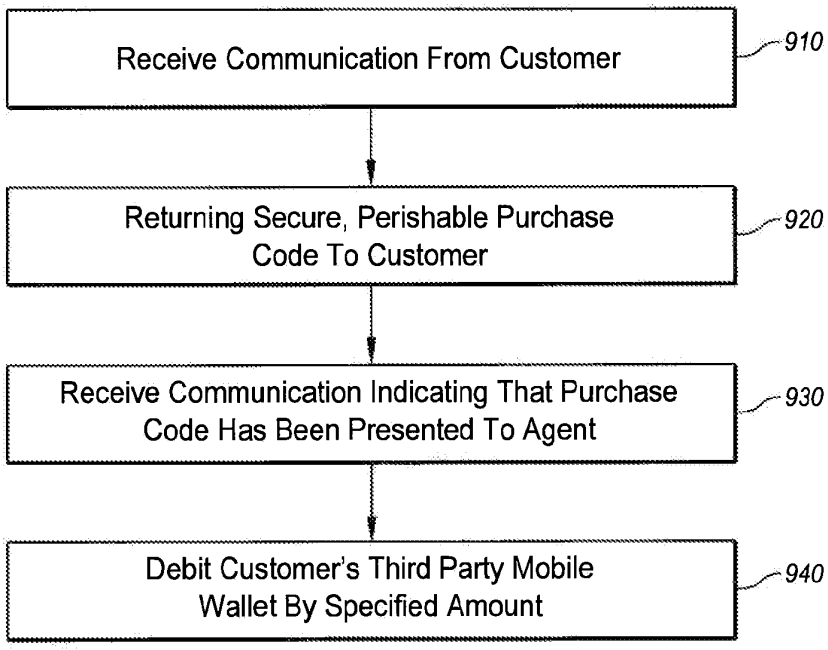

Receive Communication From Customer
910
Returning Secure, Perishable Purchase Code To Customer
920
Receive Communication Indicating That Purchase Code Has Been Presented To Agent
930
Debit Customer's Third Party Mobile Wallet By Specified Amount
940

FIG. 9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/66013

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2013.01)
USPC - 705/78
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC (8) - G06Q 20/00 (2013.01)
USPC -705/78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 705/64; 705/39 (See Keywords Below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Patbase; Google Scholar
Search Terms: Mobile wallet, payment, third party, other provider, different provider, payment, transaction, purchase, deposit, withdraw, transfer, authorization code, point of sale, agent, operator, cloud, network, confirmation, notify, wallet provider, bill payment, ...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0208762 A1 (ARTHUR et al.), 28 August 2008 (28.08.2008), entire document, especially Abstract; para [0016], [0057], [0065], [0068]-[0069], [0071]-[0074], [0080], [0082], [0119], [0140]	1-20
Y	US 6,873,974 B1 (SCHUTZER), 29 March 2005 (29.03.2005), entire document, especially Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40	1-20
Y	US 2007/0125840 A1 (LAW et al.), 07 June 2007 (07.06.2007), entire document, especially Abstract; para [0033]-[0035], [0042], [0117]-[0120], [0150]-[0152]	9-11 and 15-17
A	US 2009/0234751 A1 (CHAN et al), 17 September 2009 (17.09.2009), entire document	1-20
A	US 2011/0196788 A1 (LU et al.), 11 August 2011 (11.08.2011), entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 January 2013 (15.01.2013)	29 JAN 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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(74) Agents: **STRINGHAM, John, C.** et al.; 60 East South Temple, Suite 1000, Salt Lake City, UT 84111 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

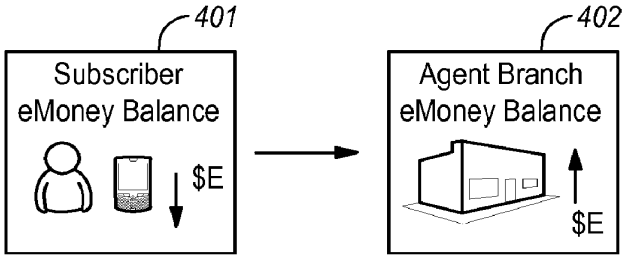
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(54) Title: DISRUPTIVELY PRICED OR FREE FINANCIAL SERVICES OR ITEMS IN EXCHANGE FOR PARTICIPATION IN OPT IN ADVERTISING



Subscriber Makes Retail Purchase

(57) Abstract: An electronic payment system is provided which provides monetary rewards in exchange for participation in opt-in advertising. The electronic payment system is configured to receive an indication that a user is initiating participation in opt-in advertising. The advertising is sent to the user from the electronic payment system in exchange for a monetary reward. In most cases, the user will have a mobile wallet account at the electronic payment system. The electronic payment system then sends advertisements to a mobile wallet application running on a digital device of the user, determines an appropriate monetary reward based on the number and/or type of advertisements sent to the user's mobile wallet application, and provides the determined monetary reward to the user via the mobile wallet application on the user's digital device.

WO 2013/166174 A1

DISRUPTIVELY PRICED OR FREE FINANCIAL SERVICES OR ITEMS IN EXCHANGE FOR PARTICIPATION IN OPT IN ADVERTISING

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and the benefit of U.S. Patent Application Ser. No. 13/874,192, entitled "Disruptively Priced or Free Financial Services or Items in Exchange for Participation in Opt-In Advertising", filed April 30, 2013. This application also claims priority to and the benefit of U.S. Provisional Patent Application Ser. No. 61/641,677, entitled "Providing Monetary Incentives in Exchange for Participation in Opt-In Advertising", filed on May 2, 2012. This application also claims priority to and is a continuation-in-part of U.S. Patent Application Ser. No. 13/528,720, entitled "Disruptively Priced or Free Financial Services or Items in Exchange for Participation in Opt-In Advertising", filed on June 20, 2012, which itself claims priority to and the benefit of U.S. Provisional Application Ser. No. 61/499,927, filed on June 22, 2011, entitled "Disruptively Priced or Free Financial Services or Items in Exchange for Participation in Opt In Advertising", which is incorporated herein by reference in its entirety. This application further claims priority to and the benefit of U.S. Patent Application Ser. No. 13/484,199, entitled "Monetary Transaction System", filed on May 30, 2012, which itself claims priority to U.S. Provisional Application Ser. No. 61/522,099, filed on August 10, 2011, entitled "Mobile Wallet Platform", and U.S. Provisional Application Ser. No. 61/493,064, filed on June 3, 2011, entitled "Mobile Wallet Platform". Each of the aforementioned applications is incorporated by reference herein in its entirety.

BACKGROUND

[0002] Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks. For instance, mobile devices allow users to check email, send and receive instant messages, check calendar items, take notes, set up reminders, browse the internet, play games or perform any number of different actions using specialized applications or "apps". These applications allow mobile devices to

communicate with other computer systems and perform a wide variety of network-connected tasks previously not possible with a mobile device.

BRIEF SUMMARY

[0003] Embodiments described herein are directed to providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. A user may opt-in to receive some form of advertising on his or her phone. The advertising may appear in a mobile wallet application used to pay for goods or services. The advertising may be related to products the user has previously purchased using the mobile wallet application. The user has an account with a mobile payment system that provides the mobile wallet application. The mobile payment system can provide the user with a variety of functionality including purchasing items along with one or more of depositing funds, withdrawing funds, transferring funds, etc. Accordingly, the user can use a digital device (e.g., a computer or mobile phone) to interact with the electronic payment system to pay for goods and/or services.

[0004] In exchange for a financial benefit, the user opts in to receive advertisements, coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or other benefits from the electronic payment system. Upon the user's agreement to participate in opt-in advertising, the electronic payment system may be permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains a list of a user's purchased items in a data warehouse. The electronic payment system then analyzes the user's purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The promotions (such as coupons) may then be sent to the user's mobile wallet application and applied automatically when the user purchases that item using the mobile wallet.

[0005] In other embodiments, an electronic payment system may be provided which provides monetary rewards in exchange for participation in opt-in advertising. For instance, the electronic payment system may be configured to receive an indication that a user is initiating participation in opt-in advertising. The advertising is sent to the user from the electronic payment system in exchange for a monetary reward. In most cases, the user will have a mobile wallet account at the electronic payment system. The electronic payment system then sends advertisements to a

mobile wallet application running on a digital device of the user, determines an appropriate monetary reward based on the number and/or type of advertisements sent to the user's mobile wallet application, and provides the determined monetary reward to the user via the mobile wallet application on the user's digital device.

[0006] In yet another embodiment, an electronic payment system may be provided which allows users to redeem monetary rewards received for participation in opt-in advertising. The electronic payment system receives an indication from a user's mobile wallet application that a user is attempting to pay for a good or service using monetary rewards received in exchange for participation in opt-in advertising. In most cases, as above, the user will have a mobile wallet account at the electronic payment system. The electronic payment system then validates the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service, and applies of the monetary rewards to the indicated good or service, allowing the user to purchase the indicated good or service using the received monetary rewards. In some cases, the electronic payment system may receive a subsequent indication from the user's mobile wallet application indicating that a coupon is to be applied for the purchase of the good or service. The electronic payment system may then determine whether the coupon applies to the indicated good or service and, if so, may apply the coupon to the indicated good or service, so that the user purchases the indicated good or service using the received monetary rewards at a price reduced by the amount of the coupon.

[0007] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0008] Additional features and advantages will be set forth in the description which follows, and in part will be apparent to one of ordinary skill in the art from the description, or may be learned by the practice of the teachings herein. Features and advantages of embodiments described herein may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the embodiments described herein will become more fully apparent from the following description and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] To further clarify the above and other features of the embodiments described herein, a more particular description will be rendered by reference to the appended drawings. It is appreciated that these drawings depict only examples of the embodiments described herein and are therefore not to be considered limiting of its scope. The embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0010] Figure 1 illustrates a monetary transaction system architecture in which embodiments described herein may operate.

[0011] Figure 2 illustrates an alternate example embodiment of a monetary transaction system.

[0012] Figures 3A and 3B illustrate example data flows for performing subscriber-to-subscriber and subscriber-to-non-subscriber eMoney transfers via a mobile wallet, respectively.

[0013] Figure 4 illustrates an example data flow for making a retail purchase using a mobile wallet.

[0014] Figure 5 illustrates a monetary transaction system architecture in which free or reduced price items may be provided in exchange for opt-in advertising.

[0015] Figure 6 illustrates an example data flow for providing free or reduced price items in exchange for participation in opt-in advertising.

[0016] Figure 7 illustrates an example screen shot of a mobile wallet application with opt-in advertisements.

[0017] Figure 8 illustrates an example data flow for providing monetary rewards in exchange for participation in opt-in advertising.

[0018] Figure 9 illustrates an example data flow for redeeming a monetary reward received for participation in opt-in advertising.

DETAILED DESCRIPTION

[0019] Embodiments described herein are directed to providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. A user may opt-in to receive some form of advertising on his or her phone. The advertising may appear in a mobile wallet application used to pay for goods or services. The advertising may be related to products the user has previously

purchased using the mobile wallet application. The user has an account with a mobile payment system that provides the mobile wallet application. The mobile payment system can provide the user with a variety of functionality including purchasing items along with one or more of depositing funds, withdrawing funds, transferring funds, etc. Accordingly, the user can use a digital device (e.g., a computer or mobile phone) to interact with the electronic payment system to pay for goods and/or services.

[0020] In exchange for a financial benefit, the user opts in to receive advertisements, coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or other benefits from the electronic payment system. Upon the user's agreement to participate in opt-in advertising, the electronic payment system may be permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains a list of a user's purchased items in a data warehouse. The electronic payment system then analyzes the user's purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The promotionsz (such as coupons) may then be sent to the user's mobile wallet application and applied automatically when the user purchases that item using the mobile wallet.

[0021] In other embodiments, an electronic payment system may be provided which provides monetary rewards in exchange for participation in opt-in advertising. For instance, the electronic payment system may be configured to receive an indication that a user is initiating participation in opt-in advertising. The advertising is sent to the user from the electronic payment system in exchange for a monetary reward. In most cases, the user will have a mobile wallet account at the electronic payment system. The electronic payment system then sends advertisements to a mobile wallet application running on a digital device of the user, determines an appropriate monetary reward based on the number and/or type of advertisements sent to the user's mobile wallet application, and provides the determined monetary reward to the user via the mobile wallet application on the user's digital device.

[0022] In yet another embodiment, an electronic payment system may be provided which allows users to redeem monetary rewards received for participation in opt-in advertising. The electronic payment system receives an indication from a user's mobile wallet application that a user is attempting to pay for a good or service using

monetary rewards received in exchange for participation in opt-in advertising. In most cases, as above, the user will have a mobile wallet account at the electronic payment system. The electronic payment system then validates the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service, and applies of the monetary rewards to the indicated good or service, allowing the user to purchase the indicated good or service using the received monetary rewards. In some cases, the electronic payment system may receive a subsequent indication from the user's mobile wallet application indicating that a coupon is to be applied for the purchase of the good or service. The electronic payment system may then determine whether the coupon applies to the indicated good or service and, if so, may apply the coupon to the indicated good or service, so that the user purchases the indicated good or service using the received monetary rewards at a price reduced by the amount of the coupon.

[0023] Embodiments described herein may comprise or utilize a special purpose or general-purpose computer including computer hardware, such as, for example, one or more processors and system memory, as discussed in greater detail below. Embodiments described herein also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose or special purpose computer system. Computer-readable media that store computer-executable instructions in the form of data are computer storage media. Computer-readable media that carry computer-executable instructions are transmission media. Thus, by way of example, and not limitation, embodiments described herein can comprise at least two distinctly different kinds of computer-readable media: computer storage media and transmission media.

[0024] Computer storage media includes RAM, ROM, EEPROM, CD-ROM, solid state drives (SSDs) that are based on RAM, Flash memory, phase-change memory (PCM), or other types of memory, or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions, data or data structures and which can be accessed by a general purpose or special purpose computer.

[0025] A "network" is defined as one or more data links and/or data switches that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the computer properly views the connection as a transmission medium. Transmission media can include a network which can be used to carry data or desired program code means in the form of computer-executable instructions or in the form of data structures and which can be accessed by a general purpose or special purpose computer. Combinations of the above should also be included within the scope of computer-readable media.

[0026] Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission media to computer storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a network interface card or "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer storage media at a computer system. Thus, it should be understood that computer storage media can be included in computer system components that also (or even primarily) utilize transmission media.

[0027] Computer-executable (or computer-interpretable) instructions comprise, for example, instructions which cause a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

[0028] Those skilled in the art will appreciate that various embodiments may be practiced in network computing environments with many types of computer system configurations, including personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-

based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, tablets, pagers, routers, switches, and the like. Embodiments described herein may also be practiced in distributed system environments where local and remote computer systems that are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, each perform tasks (e.g. cloud computing, cloud services and the like). In a distributed system environment, program modules may be located in both local and remote memory storage devices.

[0029] In this description and the following claims, "cloud computing" is defined as a model for enabling on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). The definition of "cloud computing" is not limited to any of the other numerous advantages that can be obtained from such a model when properly deployed.

[0030] For instance, cloud computing is currently employed in the marketplace so as to offer ubiquitous and convenient on-demand access to the shared pool of configurable computing resources. Furthermore, the shared pool of configurable computing resources can be rapidly provisioned via virtualization and released with low management effort or service provider interaction, and then scaled accordingly.

[0031] A cloud computing model can be composed of various characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, measured service, and so forth. A cloud computing model may also come in the form of various service models such as, for example, Software as a Service ("SaaS"), Platform as a Service ("PaaS"), and Infrastructure as a Service ("IaaS"). The cloud computing model may also be deployed using different deployment models such as private cloud, community cloud, public cloud, hybrid cloud, and so forth. In this description and in the claims, a "cloud computing environment" is an environment in which cloud computing is employed.

[0032] Additionally or alternatively, the functionally described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip

systems (SOCs), Complex Programmable Logic Devices (CPLDs), and other types of programmable hardware.

[0033] Still further, system architectures described herein can include a plurality of independent components that each contribute to the functionality of the system as a whole. This modularity allows for increased flexibility when approaching issues of platform scalability and, to this end, provides a variety of advantages. System complexity and growth can be managed more easily through the use of smaller-scale parts with limited functional scope. Platform fault tolerance is enhanced through the use of these loosely coupled modules. Individual components can be grown incrementally as business needs dictate. Modular development also translates to decreased time to market for new functionality. New functionality can be added or subtracted without impacting the core system.

[0034] Various terminology will be used herein to describe the monetary transaction system (also referred to as a "mobile wallet platform", "mobile wallet program", "mobile wallet transaction system", "mobile financial services (mFS) platform" or "electronic payment system"). The term "agent" is used to refer to an individual with mFS transaction system tools and training to support specific mFS functions. These mFS functions include subscriber registration and activation, and the deposit and withdrawal of funds from the mFS transaction system. Agents are representatives of the mFS transaction system or "program". Agents can be employees or contractors of the program provider, or other companies and organizations that partner with the program provider to provide these services themselves. Agents may be found in every facet of a typical economy, and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.

[0035] The mobile wallet platform includes a mobile wallet application, web interface or some other type of functionality that allows the user to interact with the mFS platform using their mobile device. The mobile wallet application may include a subscriber identity module (SIM) application, an Unstructured Supplementary Service Data (USSD) application, a smartphone application, a web application, a mobile web application, a Wireless Application Protocol (WAP) application, a Java 2 Platform, Micro Edition (J2ME) application, a tablet application or any other type of application

or interface that provides tools for the agent to register, activate, and offer other services to the mFS subscriber.

[0036] As used herein, a mobile wallet application is a mobile wallet application installed on a SIM card. A USSD application is an application that implements USSD for various functionality including prepaid callback service, location-based content services, menu-based information services and other mobile wallet platform services. A web application is one that implements or uses the internet to provide mobile wallet platform functionality. A mobile web application is similar to a web application, but is tailored for mobile devices. A WAP application is one that uses the wireless application protocol to communicate with the mobile wallet platform to provide the platform's functionality. A J2ME application is an application developed in Java and is designed to provide mobile wallet functionality on a variety of different hardware. A tablet application is an application specifically designed for a touchscreen-based tablet that provides mobile wallet platform functionality for tablet devices. , and as part of configuring the phone on the network. Any of these applications (or any combination thereof) may be provided on the user's mobile device. This functionality can also be made available on a retail point of sale (POS) system or web site.

[0037] The term "agent administrator" refers to an individual with mFS program tools and training to administrate the allocation of funds to agent branches (e.g. retail locations). As agents perform mFS transactions with subscribers, such as depositing and withdrawing money, the agents are adding and removing money from their own accounts. Any of the applications referred to above may be configured to provide tools used by the agent administrator to view the agent company balance, view the agent branch balances, and transfer funds into and out of agent branch mobile wallets. This functionality can also be made available on a website for easier access.

[0038] In some embodiments, the mFS platform application may utilize triple data encryption standard (3DES) encryption (or some other type of encryption), encrypted message signing, and password security on some or all of its communications with the mFS transaction system in order to ensure that the transactions are properly secured and authenticated.

[0039] The term "agent branch" refers to any location where an agent provides support for subscriber services of the mFS platform. Funds are allocated by the agent administrator from the agent company's main account to each agent branch to fund the

subscriber mFS functions such as depositing or withdrawing cash, in-store purchases, bill payments, prepaid airtime top-ups and money transfers. In some cases, multiple agents may work in a single branch. However, at least in some cases, monetary funds are allocated to from the agent company's main account on a per branch basis.

[0040] The term "agent branch account balance" refers to the amount of money residing in a particular agent branch account at a given time. Funds can be deposited into the branch account by the agent administrator, or the funds can come from participating in subscriber mFS transactions such as depositing or withdrawing cash from the subscriber's mobile wallet accounts, or making retail purchases with the mobile wallet.

[0041] In some embodiments, in countries with more developed economies, it may be beneficial to use program-issued pre-paid debit cards, pre-paid access accounts, stored value accounts or gift cards to conduct business along with the added convenience of card processing networks such as Cirrus, STAR, or Visa for POS and automated teller machine (ATM) functionality. Agents, particularly those in retail outlets and kiosks, can still support subscribers with deposits, withdrawals, and other transfers, but in this case bank external card processors manage the mobile wallet and branch account balances and provide the real-time transfer of funds.

[0042] The term "agent branch ledger" refers to a written (or electronic) ledger maintained by the mFS platform. Agent branch transactions are performed on the agent's and subscriber's mobile phones where an electronic record of the transaction is generated and stored on the mFS platform. These electronic transactions are then reconciled with agent branch ledgers to ensure the security and integrity of the transaction. Agent branch ledgers are printed or electronic transaction logs that are distributed to the agent branch locations in hard copy form to serve as a backup record to the electronic transactions.

[0043] The term "agent company" refers to a business that registers to participate in the mFS program as a partner of the mFS program provider or owner. The agent company has one or more agent branches which conduct mFS business with mFS program subscribers. In some cases, the agent company may be referred to as a distributor or retailer.

[0044] The term "agent company account balance" refers to the sum of the funds deposited at a "partner bank" (defined below) by the agent company to fund the agent

company's daily transactions. The funds in the agent company account are then distributed to agent branches by the agent company's agent administrator to conduct everyday business such as accepting cash deposits and cash withdrawals from mFS subscribers. This balance is sometimes referred to as the "agent company float".

[0045] An "agent manager" is a supervisor of company agents for a given company. The agent manager has the training and tools to create, delete or modify agent accounts for a company, as well as monitor the transactions performed by agents. The agent manager may have a special application or an increased level of rights to access applications features not available to other users. The special application is a program installed on the agent manager's terminal. This application provides the agent manager the ability to securely perform agent manager functions such as registering and activating new agent accounts. The mFS agent manager application may be installed on any terminal or device. It communicates with the mFS platform using binary and/or text SMS messages. A wireless service provider or MNO provides the GSM SMS network infrastructure on which the mFS platform operates.

[0046] As subscribers, agents, and other mFS program participants conduct business in the mFS program, value is transferred from one account to the next as payment for services rendered or goods purchased. This value can be in the form of real currency or the electronic representation referred to herein as eMoney. Among other situations, eMoney is used in mFS implementations where the real-time processing of financial transactions including card processing is not practical. The mFS platform utilizes an internal transaction processor for managing the real-time balance of mobile wallet and agent accounts as value (eMoney) is transferred from one mobile wallet to another in payment for services.

[0047] The term "mFS program master account" refers to a bank account maintained by the mFS program partner bank to provide funds and float for the operation of the mFS platform. Depending on the type of mFS implementation, the master account can include sub-accounts for each of the agent branches and subscriber mobile wallets, giving the bank visibility into all transactions on a per-user basis. The mFS platform can also manage the balance of sub-accounts and interact with the bank's master account when funds need to be deposited or withdrawn from the account.

[0048] The term mobile network operator (MNO) refers to a provider of mobile phone service including basic voice, SMS, unstructured supplementary service data (USSD) and data service, and may also be referred to as a "wireless service provider".

[0049] The term "mobile wallet" or "mobile wallet account" refers to a stored value account or prepaid access account (PPA) that allows the owner (or "subscriber") to pay for goods and services on the mFS platform from his or her mobile wallet account. When the mFS eMoney transaction processor is used, the mobile wallet balance is maintained by the mFS platform and value is exchanged within the mFS program as eMoney. When the mFS platform is integrated to an external card processor, the mobile wallet utilizes funds from the subscriber's prepaid debit card and bank account to exchange value on the mFS platform.

[0050] The term "partner bank" refers to the primary bank participating in the mFS program. The partner bank is responsible for holding the mFS program master accounts that hold the funds for all mFS services and transactions. A "PIN" refers to a numeric password that may be required to perform a transaction via the mobile wallet application.

[0051] The term "subscriber" refers to a participant of the mFS mobile wallet platform. The subscriber maintains a mobile wallet balance and performs transactions using the mFS application. An "unbanked subscriber" is a subscriber that does not have (or does not have access to) a bank account or credit union account. The application or "mobile wallet application" provides mobile wallet functionality to the (unbanked) subscriber. The mobile wallet application is installed on a mobile device in the device's memory, on a SIM card (such as a GSM SIM card) or is otherwise accessible to the mobile device. The mobile wallet application provides the subscriber the ability to securely perform subscriber functions such as making retail purchases, paying bills, or transferring money to other mFS subscribers and non-subscribers. The mobile wallet application communicates with the mFS platform using binary and text SMS messages, among other forms of wireless communication. A wireless service provider or MNO provides the GSM network infrastructure on which the mFS platform operates.

[0052] Figure 1 illustrates an example system architecture for a mobile wallet platform. Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions. Integration tier 101 can also include a

communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111. Other mechanisms include, but are not limited to: International Standards Organization ("ISO") 8583 for Point of Sale ("POS") and Automated Teller Machines ("ATM") devices and Advanced Message Queuing Protocol ("AMQP") for queue based interfaces. Each of channels 111 can be integrated to one or more mechanisms for sending messages to integration tier 101. Notification services 102 is configured to send various notifications through different notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails. Notification services 102 can be configured through a web services API.

[0053] Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113. Each connector can be a separate module intended to integrate an external service to the system architecture. Business process services 104 are configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects. Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors.

[0054] Security services 106 are configured to perform subscriber authentication. Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table.

[0055] Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers. Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses. Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints.

[0056] Name matching engine 110 is configured to match different objects according to specified configuration rules. Matching engine 110 can be use to find similarities between names, addresses, etc. Transaction processor 121 is configured to manage financial accounts and transactions. The transaction processor 121 can be used to hold, load, withdraw and deposit funds to mobile wallet accounts. Transaction processor 121 can also be used as a common interface to a third party processor system. When used as a common interface, financial operations may be delegated to the external processor. A Clearing House subsystem of transaction processor 121 can be used to exchange the financial information with a bank.

[0057] Components of a mobile wallet platform can be connected to one another over (or be part of) a system bus and/or a network. Networks can include a Local Area Network ("LAN"), a Wide Area Network ("WAN"), and even the Internet. Accorindlgy, components of the mobile wallet platform can be "in the cloud". As such, mobile wallet platform components as well as any other connected computer systems and their components, can create message related data and exchange message related data (e.g., Internet Protocol ("IP") datagrams and other higher layer protocols that utilize IP datagrams, such as, Transmission Control Protocol ("TCP"), Hypertext Transfer Protocol ("HTTP"), Simple Mail Transfer Protocol ("SMTP"), etc.) over the system bus and/or network.

[0058] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by a mobile wallet platform or a third party), adding a bank or credit union account to a mobile wallet, adding a debit or credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet (nationally or internationally), making in-store purchases using a mobile wallet, and various other tasks as described herein below. These services will be described in greater detail below with regard to system Figures 1 and 2, as well as Figures 3-19B.

[0059] Figure 2 depicts a monetary transaction system 200 similar to that described in Figure 1. The monetary transaction system 200 may provide a more simplified system structure in which each of the above services may be provided. The

system includes a subscriber 205. The subscriber may have access to a bank account, or may be an unbanked subscriber. The subscriber has a profile 211 with the monetary transaction system 210. The profile includes the subscriber's know your customer (KYC) information, as well as any associated bank accounts, credit union accounts, bill pay accounts or other accounts. The subscriber has (or has access to) a mobile device 206 such as a phone or tablet. The mobile device runs the mobile wallet application (or mobile wallet application) 207.

[0060] The subscriber can indicate, using the mobile application 207 which transaction or other action he or she would like to perform. The indicated transaction 208 is sent to the mobile wallet platform 210 to be carried out by the platform. The transaction processor 216 (which may be similar to or the same as transaction processor 121 of Figure 1) performs the transaction(s) specified by the (unbanked) subscriber 205. The transaction processor may implement various other components to perform the transaction including memory 217, (wireless) communication module 215, rules engine 210 and/or transaction database 225.

[0061] Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction system can transfer money or eMoney 221 to or from an entity such as a user or agent (e.g. entity 222) to or from an establishment such as a retail store or agent company (e.g. entity 223).

[0062] In some cases, the monetary transaction system 210 application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application. For instance, mobile wallet application 207 may provide a web interface that allows a user to enroll for a mobile wallet. The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of channels (111 from Figure 1) connected to the monetary transaction system 210. The web interface or mobile wallet application may prompt for and receive enrollment information (e.g. KYC information) for the

(unbanked) subscriber 205 over at least one of the plurality of channels (e.g. web, point-of-sale (POS), interactive voice response (IVR, etc.). The web interface or mobile wallet application may then send activation instructions over the same or a different channel to activate the (unbanked) subscriber 205 and create a subscriber account for the (unbanked) subscriber.

[0063] Once the subscriber has an account, the monetary transaction system generates a corresponding mobile wallet for the unbanked subscriber (available via the web interface and/or the mobile wallet application. The system then presents the (unbanked) subscriber's account data associated with the mobile wallet and/or a notification indicating that enrollment was successful to the subscriber. Accordingly, the mobile wallet application or the web interface may be used to provide user enrollment functionality. It should also be understood that either the mobile wallet application or the web interface may be used to provide substantially all of the mobile wallet functionality described herein.

[0064] It should also be noted that the mobile device 206 may be any type of plan-based phone or tablet, or prepaid phone or tablet. Many subscribers, such as unbanked subscribers, may primarily use prepaid phones. The mobile wallet application 207 may be installed on both plan-based phones and prepaid phones. The mobile wallet application may be installed on the device's SIM card, or on the device's main memory. Accordingly, the monetary transaction system 200 may be accessed and used via substantially any type of plan-based or prepaid mobile device.

[0065] The components depicted in Figure 1 can interoperate to provide a number of financial and other services including but not limited to enrolling a customer for a mobile wallet, adding a stored value account (either hosted by an electronic payment system or a third party), adding a bank/credit union account to a mobile wallet, adding a debit/credit card account to a mobile wallet, depositing funds in a mobile wallet, withdrawing funds from a mobile wallet, paying bills from a mobile wallet, topping up a prepaid mobile account through a mobile wallet, transferring funds through a mobile wallet, making in store purchases from a mobile wallet, or transferring money or eMoney from one business account to another business account (i.e. from one business's mobile vault to another business's mobile vault, as will be shown in Figure 4).

[0066] Figure 3A depicts a subscriber-to-subscriber eMoney transfer. In a merchant and distributor scenario, either or both of the merchant and the distributor (including any delivery personnel) may be subscribers. To perform such a transfer, subscriber A (301) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer. The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account. Subscriber A may also receive a notification that the transfer was successful. Accordingly, eMoney may be transferred between two mFS platform subscribers, one or both of which may be unbanked. The monetary transaction system 210 processes the subscribers' requests, updates the subscribers' eMoney balances, logs the transactions, and sends transaction information to a specified bank when needed.

[0067] Figure 3B illustrates a subscriber-to-non-subscriber eMoney transfer. Accordingly, as mentioned above, either or both of the merchant and the distributor may be non-subscribers. In graphic 305, subscriber A wishes to send eMoney to another individual that is not a subscriber to the mFS platform. The transaction is initiated in the same fashion as the subscriber-to-subscriber transfer scenario. However, since non-subscriber B does not have a mobile wallet account, the monetary transaction system 210 cannot credit them with eMoney. Instead, the monetary transaction system 210 sends a notification (e.g. via SMS) to non-subscriber B with instructions for how to pick-up the transferred money, along with an authorization code (306). The monetary transaction system 210 puts a hold on subscriber A's account for the amount transferred. Subscriber B then has a specified number of days to pick up the cash before the hold expires and the amount is credited back to subscriber A's eMoney account by the monetary transaction system 210.

[0068] When non-subscriber B goes to pick up the money at an agent branch, the agent branch's manager or agent verifies the authorization code via an agent manager or agent mobile wallet application (that, in turn, accesses the mFS platform). Once the transfer has been validated, the agent gives the cash to non-subscriber B. The agent

branch's mFS account is credited with the transfer amount (307) and the user leaves with the cash in hand (308). The mFS platform processes the transfer request, updates subscriber A's eMoney balance, logs the transaction, and sends transaction details to a platform-specified bank.

[0069] Figure 4 illustrates a mobile wallet subscriber making a retail purchase. Mobile wallet subscribers can make retail purchases at agent branches directly from their mobile device. Agent branches, as explained above, are retail stores or other entities that have registered with the mFS system and are able to accept mobile wallet payments. Accordingly, a subscriber can select the items they wish to purchase, and indicate (via the mobile wallet application) to the agent branch that they wish to pay for the items. The mobile wallet application then communicates with the agent branch and the monetary transaction system to indicate the price of the transaction. The monetary transaction system 210 then debits the subscriber's eMoney account (401) and credits the agent branch's eMoney account (402). The agent branch (and/or the agent manager or agent) receives confirmation that subscriber paid for the purchase. The subscriber may also receive a summary of the retail purchase and may be asked to confirm the purchase by entering a PIN. The monetary transaction system processes the purchase request, updates the agent branch and subscriber's eMoney balances, logs the transaction, and sends transaction details to a mFS platform-specified bank.

[0070] In one embodiment, the monetary transaction system 210 is implemented to make a purchase from a mobile wallet. The communications module 215 of the monetary transaction system 210 receives a communication from a subscriber over a communication channel 111. The subscriber communication indicates that an unbanked subscriber 205 desires to purchase an item for a specified amount of funds using a specified payment method from the unbanked subscriber's mobile wallet.

[0071] The monetary transaction system 210 then returns a secure, perishable purchase code to the unbanked subscriber over at least one of the channels connected to the monetary transaction system and receives a subsequent agent branch communication over a channel indicating that the purchase code has been presented to an agent (branch). The monetary transaction system 210 validates the status of the specified payment method, determines if the specified payment method can accommodate a purchase for the specified amount, performs a limit check and/or a

velocity check on the selected payment method, debits the specified payment method by the specified amount of funds, returns a notification to the agent branch authorizing the purchase and sends a receipt to the unbanked subscriber over a communication channel. The monetary transaction system 210 may thus be used in this manner to make a retail purchase using a mobile wallet.

[0072] Figure 5 depicts a physical environment and corresponding computer system architecture 500 for providing disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The environment 500, like the scenarios described in Figures 3A, 3B and 4, involves the use of a mobile wallet application 511. The mobile wallet application 511 can be used to provide disruptively priced or free financial services or items in exchange for participation in opt-in advertising. The mobile wallet application may be run on any type of digital device including a mobile phone, tablet, laptop or other digital device. Embodiments include providing digital data (e.g., coupons or vouchers) for obtaining disruptively priced or free items (e.g., consumer goods or groceries) to such digital devices.

[0073] In some embodiments, a user has an account with a mobile payment system. The mobile payment system (e.g. 210 of Figure 2 or 521 of Figure 5) can provide the user 507 with a variety of functionality including purchasing items (see Figure 4), depositing funds, withdrawing funds, transferring funds (see Figures 3A and 3B), etc. Accordingly, the user can use a digital device to interact with the electronic payment system 521 to pay for goods and/or services.

[0074] In exchange for some type of financial benefit, the user opts in to receive advertisements. The financial benefits may include coupons, vouchers, promotions, Buy One Get One ("BOGO") offers or any other type of benefit (such as a reduced cost or free financial service or good) from the electronic payment system. The benefit may be targeted to the user based on the user's age, location or other demographic information, or based on the user's past purchases. At least in some embodiments, when the user agrees to participate in opt-in advertising, the electronic payment system 521 is permitted to store (e.g., by capturing purchase orders), track, and analyze items that the user purchases through their account with the electronic payment system. The electronic payment system stores and maintains lists of the users' purchased items in a data warehouse. The electronic payment system may also store information about the user (anonymous or otherwise) including age, income

level, an indication of whether kids are in the family, or other information that may be useful in targeting ads or benefits to the user.

[0075] The electronic payment system analyzes 534 the users purchasing habits to identify advertisements and/or promotions that may be of interest to the user. The advertisements and/or promotions can be for items the user has purchased 503. The advertisements and/or promotions can also be for items related to items the user has purchase. For example, if user has purchased a particular brand of razor, advertisements for the brand's shaving cream can be identified. Advertisements for related items can also be used for cross-promotion.

[0076] From time to time, at specified intervals, or based on location (e.g., having a coupon for a merchant this is with a specified proximity) the electronic payment system sends identified advertisements and/or promotions to the user's digital device. When specified advertising thresholds are satisfied (e.g., a specified number and/or type of advertisements and/or promotions are presented), the electronic payment system confers a financial benefit on the user's account. For example, the electronic payment system can provide the user's account with a low cost (e.g., reduced fee) or free financial service, such as, for example, one reduced cost bill pay or one free bill pay. Alternately, the electronic payment system can provide the user's account with a coupon or voucher for an item (e.g., an item a user has pre-selected or an item the user has purchased in the past).

[0077] In some embodiments, a client application for the electronic payment system runs on the user's digital device (e.g. mobile wallet application 511). The user interacts with the electronic payment system through the client application. From a screen of the client application, the user can agree to accept opt in advertising. Accordingly, embodiments of the invention essentially permit a user to self-monetize themselves through their digital device.

[0078] As further depicted in Figure 5, computer architecture 500 includes digital device 508, retail location 502, and electronic payment system 521. Digital device 508 further includes mobile wallet application 511. Retail location 502 further includes its own mobile wallet application 512. Electronic payment system 521 includes marketing module 533, data warehouse 532, advertisements 538, payment processor 522, user mobile wallet 524 (user 507's mobile wallet), and merchant mobile wallet 526 (retail location 502's mobile wallet).

[0079] Generally, each company in packaged goods companies 571 (or retailers that sell the packaged goods or other goods or services) can send advertisement data to electronic payment system 521. Advertisements 538 represent the collection of advertisement data sent from packaged goods companies 571. Each company in packaged goods companies 571 can also submit benefit rules to electronic payment system 521. Benefit rules 578 represent the collection of benefit rules sent from packaged goods companies 571. Benefit rules 578 define when a benefit, such as, for example, a free financial service, a coupon, a promotion, etc, is to be granted to a user of electronic payment system 521. For example, in response to completing a questionnaire linked to a product advertisement, a user can be given a coupon for the product or for a related product.

[0080] In general, user 507 can use mobile wallet application 511 to pay for goods purchased at retail location 502 (as shown in Figure 4). For example, user 507 can use mobile wallet application 511 to purchase goods 503. To pay for goods 503, mobile wallet application 511 can send payment instruction 543 in amount 563 to electronic payment system 521. Payment processor 522 can receive payment instruction 543. In response, payment processor 522 can debit 541 user mobile wallet 524 by amount 563. Payment processor 522 can also credit 542 merchant mobile wallet 526 by amount 563.

[0081] User 507 can use mobile wallet application 511 to participate in opt-in advertising. For example, user 507 can use mobile wallet application 511 to send opt-in 544 to electronic payment system 521. Advertising module 533 can receive opt-in 544 and record that mobile wallet application 511 has opted in for advertising. As such, when user 507 makes a purchase using mobile wallet application 511, a list of purchased items is sent to electronic payment system 521. For example, upon purchasing goods 503, item list 531 is sent to electronic payment system 521 and stored in data warehouse 532.

[0082] Propensity analysis module 534 can analyze user 507's purchases, including item list 531. From the analysis, propensity analysis module 534 can identify items or categories of items user 507 may be interested in. The items can be items user 507 has purchased in the past (e.g., an item in goods 503) or items related to items user 507 has purchases in the past. Propensity analysis module 534 can indicate identified items or categories of items to advertisement identification module

536. These identified items or categories are items that the user is likely interested in and, as such, may have a propensity toward buying these items. The propensity analysis module may use past purchases, personal preferences, lifestyle or demographic information or other data in the propensity analysis.

[0083] Advertisement identification module 536 can then select advertisements from advertisements 538 that correspond to the identified items or categories of items. For example, advertisement identification module 536 can select advertisement 546 for presentation at mobile wallet application 511. Advertisement 546 can be an advertisement for a product made by a company in packaged goods companies 571. Additionally or alternatively, the advertisement 546 may be created by the merchant and may advertise products or services sold by that merchant.

[0084] Advertising module 533 can send selected advertisements to mobile wallet application 511. For example, advertising module 533 can send advertisement 546 (e.g., related to an item in goods 503) to mobile wallet application 511. In general, advertisements can include interactive content. For example, advertisement 546 includes content 573. Content 573 can be a video, a link to a company website (e.g., for a company in packaged goods companies 571), a call to action (such as a questionnaire), or some other content user 507 can interact with through digital device 508. User 507 can interact with content 573, for example, responding to questions in content 573. Advertisement response 574 can indicate how user 507 has interacted with content 573. In one embodiment, a call to action may be to post an update on Facebook® or some other website such as a retail establishment ranking website. If the user makes such a post or performs some other call to action, the user may be rewarded with a benefit. That benefit may be related to the product about which the user posted on the various websites.

[0085] Based on advertisement response 574, benefit determination module 576 can determine if a benefit is to be conferred upon user 507. Benefit determination module 576 can refer to benefit rules 578 when making a determination whether or not to confer a benefit. Thus, when user 507 interacts with advertisement 546 in a specified way (e.g., completes a survey, watches a video, etc.), benefit rules 578 can indicate that a company benefit (e.g., benefit 577) is to be conferred upon user 507. For example, benefit determination module 576 can confer benefit 577 on user 507. When user 507 receives an advertisement for a razor, for instance, and answers a

questionnaire on how often they shave, a razor manufacture can give user 507 a coupon for reduced cost or free razor blades.

[0086] When a benefit is to be conferred on a user, the benefit can be stored in the user's brand locker. For example, benefit determination module 576 can store benefit 577 in brand locker 572 (part of user mobile wallet 524). Benefit 577 can be a coupon, a reduced cost or free financial service, a voucher, a promotion, a free bill pay, etc.

[0087] Benefit determination module 576 can also track aggregate statistics, such as, for example, specified number and/or type of advertisements received, for advertisements presented at mobile wallet application 511. Benefits can also be conferred upon users based on the aggregate statistics. For example, benefit determination module 576 can confer a benefit upon user 507 in response to twenty advertisements being presented at mobile wallet application 511. Thus, conferred benefits can be company-specified benefits or can be electronic payment system-specified benefits. Electronic payment system 521 can notify a user when a benefit is conferred. For example, electronic payment system 521 can send benefit notification 547 to mobile wallet application 511 to indicate benefit 577 being stored in brand locker 572.

[0088] When user 507 makes subsequent purchases through user mobile wallet 524, electronic payment system 521 can automatically check brand locker 572 for benefits related to any purchases items. If benefits for an item are identified, user 507 can be notified through mobile wallet application 511. In some cases, if benefits are identified, those benefits can be applied automatically when the user purchases that item or service. Thus, if the benefit is a coupon or a buy one get one free offer, that benefit may be applied automatically when the user uses his or her mobile wallet application 511 to purchase that item. Accordingly, embodiments of the invention permit user 507 to self monetize digital device 508 through agreeing to participate in opt-in advertising.

[0089] Although not depicted, various other modules from the architecture of Figures 1 or 2 can also be included electronic payment system 521. The modules expressly depicted in Figure 5 can interoperate with these other modules as appropriate to facilitate desired functionality.

[0090] In one embodiment, as shown in Figure 6, a method 600 for providing reduced cost or free services or goods in exchange for participation in opt-in advertising is described. This method is further described in conjunction with the electronic payment system 521 of Figure 5, as well as the example screenshot of a mobile wallet application 711 illustrated in Figure 7.

[0091] Method 600 includes receiving an indication that user 507 is opting in to receive opt-in advertising from electronic payment system 521 in exchange for a reduced cost or free financial service (step 610). The user has a mobile wallet account 524 with the electronic payment system 521. Next, method 600 includes receiving a list of one or more items 531 that the user has purchased using the mobile wallet account 524 (step 620) and analyzing 534 the list of items to identify items or item categories in which the user may be interested (and which the user may have a propensity toward buying) (step 630). Method 600 further includes selecting one or more advertisements 546 based on the identified items or item categories (step 640) and sending the selected advertisements to mobile wallet application 511 (which is tied to the user's mobile wallet account 524) for use by the user (step 650). Method 600 then includes determining that the user's interactions 574 with the selected advertisements 543 warrant conferring a benefit 577 to the user 507 (step 660), where the benefit is selected from among a reduced cost or free financial service, a coupon, a voucher, and a buy one get one free offer, and then conferring the selected benefit 577 upon the user by sending the benefit to the user's mobile wallet application 511 (step 670).

[0092] After the benefit has been conferred upon the user, the user may use the benefit when purchasing a corresponding product or service. Accordingly, as shown in Figure 7, for example, if Ad 1 or Ad 2 (701) shows a name brand diaper and the user interacts with the ad in some way, the company that produces the diaper may send a coupon or other benefit to the user's mobile wallet 511. Then, when the user is at a retail location (e.g. 502), the user may purchase that name brand diaper using their mobile wallet (e.g. using the "Purchases" button 706). The coupon or other benefit sent by the diaper producer will be automatically applied at checkout, such that the user obtains the diapers for a discounted price. Many different coupons or other benefits may be stored in the user's brand locker 572, and each of these may be

applied automatically when the electronic payment system 521 determines that the user is purchasing that product or service.

[0093] Still further, as mentioned above, the user may use their mobile wallet application 711 to perform other tasks such as adding airtime to their phone (702), paying a bill (703), sending money to another party (704), transferring money (705) or withdrawing money (707) at an agent branch, for example. Many other functions may be provided by the mobile wallet application. As such, buttons 702-707 are merely examples of possible buttons. Moreover, the look and feel of mobile wallet application 711 may be as illustrated in Figure 7, or may be substantially different, or may be modified by the user. Accordingly, the layout shown in Figure 7 is just one example of a possible button and advertisement layout. Many such layouts are possible, and may be different for each phone or digital device.

[0094] Thus, using the electronic payment system 521, a user may opt in to receive opt-in advertising. Then, after receiving that advertising (and possibly after interacting with it), the user may be conferred a benefit. This benefit may be used to receive reduced cost or free financial services or goods. The benefit may be applied automatically as the user is purchasing that good or service. At least in some cases, as will be described below in conjunction with Figures 8 and 9, the benefit may be a monetary reward.

[0095] The electronic payment system 521 of Figure 5 may be used to provide the monetary rewards. The monetary rewards may be sent as part of, or may be referred to with the other rewards, coupons and other benefits 577 described above. In some cases, the monetary rewards may be sent in lieu of other benefits such as coupons or buy-one-get-one-free offers. The monetary rewards may be calculated by the benefit determining module 576, as will be explained further below. In one embodiment, as described in Figure 8, a method 800 is provided for providing monetary rewards in exchange for participation in opt-in advertising.

[0096] Method 800 includes an act of receiving at the electronic payment system an indication that a user 507 of is initiating participation in opt-in advertising 546 sent from the electronic payment system 521 in exchange for a monetary reward 577, the user having a mobile wallet account 524 at the electronic payment system (act 810). In response, the electronic payment system 521 may send one or more advertisements 546 to a mobile wallet application 511 running on a digital device 508 of the user 505

(act 820). The electronic payment system 521 then determines an appropriate monetary reward 577 based on the number and/or type of advertisements 546 sent to the user's mobile wallet application 511 (act 830) and provides the determined monetary reward 577 to the user via the mobile wallet application 511 on the user's digital device 508 (act 840).

[0097] Once the monetary reward has been provided, the electronic payment system 521 may send a benefit notification 547 notifying the user 507 that the monetary reward is available. The monetary reward may be sent to one of the user's debit 541 or credit 542 accounts, or may be sent to another value store on (or accessible by) the mobile wallet application 511. The monetary rewards may be cash, credit or other forms of monetary value. The monetary rewards are sent to the user 507 after the user has opted in 544 to receive advertisements on their digital device 508 (either within the mobile wallet application 511 or one the user's device in some manner). In some cases, the benefit determination module 576 may analyze the user's interaction with the advertisement (e.g. determine whether the user has clicked on a corresponding web link, or watched a video, or otherwise interacted with the ad 546) and increase or decrease the user's monetary rewards accordingly. Thus, if a user views and interacts with more ads, the user may receive more monetary rewards.

[0098] In some cases, the electronic payment system 521 may receive a list of items that a user has purchased using the mobile wallet account 524. The electronic payment system 521 may then analyze the list of items 531 (along with other items purchased by the user in the past) to identify items or categories of items the user is likely interested in. The advertisement identification module 536 may then select one or more advertisements that correspond to the determined items or categories of items. Thus, if a user appears to be interested in energy drinks, basketball shorts, ebooks, or any number of other goods or services, the advertisements sent to the user may be tailored to their interests. As such, goods and services producers (e.g. 571) may be able to directly target their ads to users that are interested in their products, and may further provide those users monetary rewards for viewing their ads, or at least for allowing the advertiser's ads to be shown on their digital devices.

[0099] Demographic information may be requested of and provided by the user 507. The demographic information may include age, marital status, education level, ethnicity, or other types of demographic information. The user may determine

whether to provide demographic information and which types of demographic information they want to provide. This information may be used by the advertisers and/or by the advertisement identification module 536 in determining which ads are to be shown to the user. In some cases, the user may provide an increased amount of personal data to receive an increased amount of monetary rewards. Some advertisers may pay more money for ads that are shown to people of certain demographics (e.g. males 18-24). If a user identifies himself as such a person, he may be able to receive a larger monetary reward as part of his agreement to participate in opt-in ads. In some cases, users may be given monetary rewards based on a percentage of the amount paid by the advertiser. For instance, if an advertiser paid to advertise on the mobile wallets of certain users (e.g. user 507) or users of certain demographics, and the user received those ads, the user may be given a small percentage of the amount paid by the advertiser. In some cases, the advertisements may be sold at auction and the user may receive a specified percentage of the advertisement's selling price. A user may thus be able to receive a larger monetary reward by allowing more ads (or more targeted ads based on demographic information) to be shown on their digital device.

[00100] In some cases, a monetary reward may be customized based on the user's current location. For instance, if a user is in the United States, the reward may be given in dollars. If a user is in Mexico, the reward may be given in pesos, in an amount that is equivalent or at least related to the amount given in dollars. In some cases, producers may pay more for advertisements in certain countries, or in certain locations (e.g. states) within those countries. In such cases, the user may receive larger or smaller rewards depending on where they are currently located (according to GPS, device settings or other information). In some embodiments, the user 507 may not have a debit or credit account with a bank or credit card company. In such cases, the user may receive the monetary rewards in a value store associated with their mobile wallet account 524. If the user uses their mobile wallet to purchase goods or services from a certain store or location, the user may receive retailer- or producer-specific monetary rewards that are stored in a brand locker 572 associated with the user's mobile wallet account 524. Redeeming received monetary rewards is discussed further with regard to Figure 9 below.

[00101] In another embodiment, as shown in Figure 9, a method 900 is provided for redeeming a monetary reward received for participation in opt-in advertising an

electronic payment system 521 receives a first indication from a user's mobile wallet application 511 that a user 507 is attempting to pay for a good 503 or service using one or more monetary rewards 577 received in exchange for participation in opt-in advertising 546, the user having a mobile wallet account 524 at the electronic payment system 521 (act 910). The electronic payment system then validates the user's mobile wallet account 524 to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good 503 or service (act 920). Then, the electronic payment system 521 applies one or more of the monetary rewards 577 to the indicated good 503 or service, allowing the user 507 to purchase the indicated good or service using the received monetary rewards 577 (act 930).

[00102] In this manner, a user can redeem monetary rewards received for participation in opt-in advertising to purchase a product or service. In some embodiments, as mentioned above, the monetary rewards may be stored in a value store in the mobile wallet application. In such cases, the monetary rewards may be applied automatically as the user pays for the specified good or service using the mobile wallet application. The electronic payment system 521 may send a notification to the user and/or the provider of the good or service indicating that the monetary rewards were applied to the purchase of the indicated good or service. Thus, the user knows that the product or service was purchased (in whole or in part) using the monetary rewards, and the advertiser or goods producer 571 knows that monetary rewards were used to pay for their product or service.

[00103] As mentioned above, some advertisements may have web links or other interactive content. In such cases, the digital device 508 or the mobile wallet application 511 on the digital device may receive inputs from the user 507 interacting with the advertisements 546. The digital device may track the user's interaction, and may send an indication of such to the electronic payment system 521. The electronic payment system 521 may then determine that the user's interactions with the advertisements warrants conferring a specified monetary reward to the user. This monetary reward 577 may then be conferred to the user via the mobile wallet application 511. This monetary reward may be stored for a period of time, and later used to purchase a product or service.

[00104] In some cases, coupons or other rewards or offers (i.e. benefits 577) may be applied in addition to using any monetary rewards. Thus, coupons or rewards stored in the user's brand locker 572 may be applied to the purchase of a specified good or service. The electronic payment system 521 may determine that the coupon applies to the indicated good or service and then apply the coupon to the indicated good or service. As such, the user purchases the indicated good or service using the received monetary rewards at a price reduced by the amount of the coupon or other stored offer. The coupons and/or monetary rewards may be applied automatically when purchasing the coupon's corresponding product or service. In this manner, coupons, monetary rewards and/or other benefits 577 may be applied (automatically or selectively) when purchasing a product or service using a mobile wallet 511.

[00105] Embodiments of the invention can adhere to Know Your Customer (KYC) rules in the US by performing Customer Identification Program (CIP) checks as required by the Bank Secrecy Act and US PATRIOT Act. A minimum amount of information can be gathered about a customer, such as, for example, First Name, Last Name, Date of Birth, Government ID Type, Government ID Number, Address. The CIP processes are designed to validate customer identity against government blacklists and assists in the prevention of money laundering and terrorist financing. A combination of non-documentary and documentary verification can be used to ensure beyond a reasonable doubt the identity of the customer.

[00106] Non-Documentary Verification can occur through the presentment of the information that was collected from the user to an external third party, such as, for example, Lexis Nexis. Documentary Verification can occur if non-documentary verification fails, then the user is asked to present an unexpired government ID. Various differ forms of identification including Driver's license, Passport, Alien identification (e.g., green card or work visa), and Mexican Consular identification card, can be accepted.

[00107] Embodiments of the invention can perform Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) checks. AML and CFT checks can be performed using transaction monitoring methods to flag names and suspicious transactions for further investigation. The electronic payment system can perform AML and CFT checks on all electronic financial transactions to ensure that electronic funds are not being used for money laundering or terrorism. Transaction

limits can be placed on user accounts. The transaction limits are fully configurable for each particular use case, channel and payment method that allows maximum flexibility to restrict higher risk use cases. Velocity checks can also be performed. Velocity Checks ensure that subscribers are not abusing the electronic payment system within the allowable limits.

[00108] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed:

1. An electronic payment system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the electronic payment system to perform a method for providing monetary rewards in exchange for participation in opt-in advertising, the method comprising the following:

an act of receiving at the electronic payment system an indication that a user of is initiating participation in opt-in advertising sent from the electronic payment system in exchange for a monetary reward, the user having a mobile wallet account at the electronic payment system;

an act of sending one or more advertisements to a mobile wallet application running on a digital device of the user;

an act of determining an appropriate monetary reward based on at least one of the number and type of advertisements sent to the user's mobile wallet application; and

an act of providing the determined monetary reward to the user via the mobile wallet application on the user's digital device.

2. The electronic payment system of claim 1, further comprising an act of sending a message to the user's mobile wallet application to notify the user that the monetary reward is available.

3. The electronic payment system of claim 1, further comprising:

an act of receiving a list of items that a user has purchased using the mobile wallet account;

an act of analyzing the list of items to identify items or categories of items the user is likely interested in; and (along with other items purchased by the user)

an act of selecting the one or more advertisements corresponding to the determined items or categories of items.

4. The electronic payment system of claim 1, wherein the user opts in to receive a specified number of advertisements per time period.

5. The electronic payment system of claim 1, wherein the user provides an increased amount of personal data to receive an increased amount of monetary rewards.

6. The electronic payment system of claim 1, wherein monetary rewards are customized based on the user's current location.

7. The electronic payment system of claim 1, wherein one or more of the advertisements are sold at auction and wherein the user receives a specified percentage of the advertisement's selling price.

8. The electronic payment system of claim 1, wherein the digital device is a mobile telephone.

9. The electronic payment system of claim 1, wherein the digital device is a prepaid mobile telephone.

10. The electronic payment system of claim 1, wherein the user is an unbanked user.

11. The electronic payment system of claim 1, wherein the user receives retailer- or producer-specific monetary rewards that are stored in a brand locker associated with the user's mobile wallet account.

12. The electronic payment system of claim 1, wherein the indication further indicates the user's interest in certain products or types of products.

13. The electronic payment system of claim 1, wherein the indication further includes one or more portions of demographic information for the user.

14. An electronic payment system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the electronic payment system to perform a method for redeeming a monetary reward received for participation in opt-in advertising, the method comprising the following:

an act of receiving a first indication from a user's mobile wallet application that a user is attempting to pay for a good or service using one or

more monetary rewards received in exchange for participation in opt-in advertising, the user having a mobile wallet account at the electronic payment system;

an act of validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service; and

an act of applying one or more of the monetary rewards to the indicated good or service, allowing the user to purchase the indicated good or service using the received monetary rewards.

15. The electronic payment system of claim 14, wherein the one or more monetary rewards are stored in the mobile wallet application, and wherein the one or more monetary rewards are applied automatically as the user pays for the specified good or service using the mobile wallet application.

16. The electronic payment system of claim 14, further comprising:

an act of receiving one or more inputs from the user at the mobile wallet application interacting with one or more advertisements;

an act of determining that the user's interactions with the advertisements warrants conferring a specified monetary reward to the user; and

an act of conferring the specified monetary reward to the user.

17. The electronic payment system of claim 14, further comprising receiving an indication that the user has redeemed the conferred monetary reward.

18. The electronic payment system of claim 14, further comprising an act of sending a notification to at least one of the user and the provider of the good or service indicating that the one or more monetary rewards were applied to the purchase of the indicated good or service.

19. An electronic payment system comprising the following:

one or more processors;

system memory;

one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for redeeming a monetary reward received for participation in opt-in advertising, the method comprising the following:

an act of receiving a first indication from a user's mobile wallet application that a user is attempting to pay for a good or service using one or more monetary rewards received in exchange for participation in opt-in advertising, the user having a mobile wallet account at the electronic payment system;

an act of validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service;

an act of receiving a second indication from the user's mobile wallet application indicating that a coupon is to be applied for the purchase of the good or service;

an act of determining that the coupon applies to the indicated good or service; and

an act of applying the coupon to the indicated good or service, such that the user purchases the indicated good or service using the received monetary rewards at a price reduced by the amount of the coupon.

20. The electronic payment system of claim 19, wherein one or more coupons stored in a brand locker of the mobile wallet application are automatically applied when purchasing the coupon's corresponding product or service.

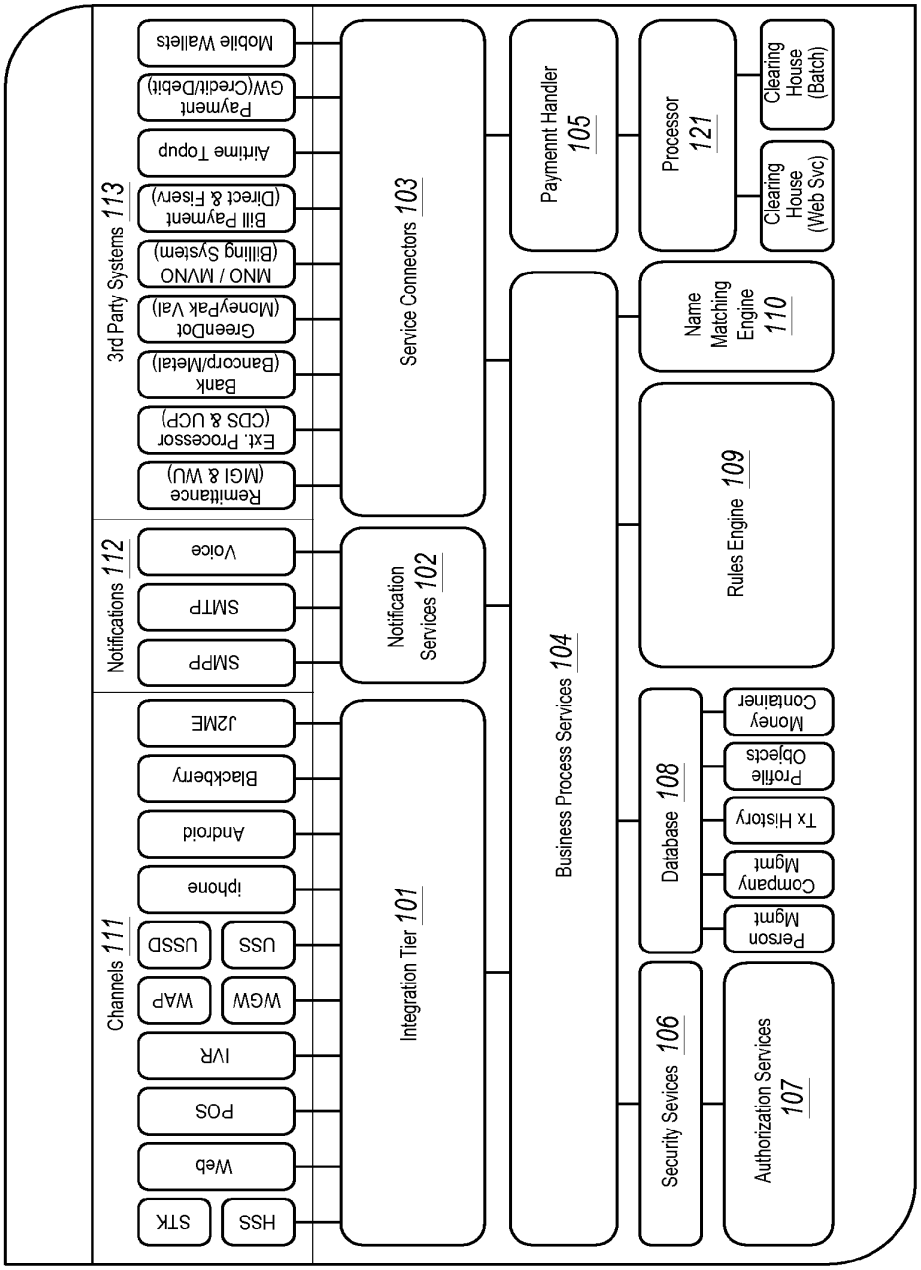

Platform Functional Architecture
Channels 111
HSS
STK
Web
POS
IVR
WGW
WAP
USS
USSD
iphone
Android
Blackberry
J2ME
Notifications 112
SMPP
SMTP
Voice
3rd Party Systems 113
Remittance (MGI & WU)
Ext. Processor (CDS & UCP)
Bank (Bancorp/Metal)
GreenDot (MoneyPak Val)
MNO / MVNO (Billing System)
Bill Payment (Direct & Fiserv)
Airtime Topup
Payment GW(Credit/Debit)
Mobile Wallets
Integration Tier 101
Notification Services 102
Service Connectors 103
Business Process Services 104
Paymennt Handler 105
Security Sevices 106
Authorization Services 107
Database 108
Person Mgmt
Company Mgmt
Tx History
Profile Objects
Money Container
Rules Engine 109
Name Matching Engine 110
Processor 121
Clearing House (Web Svc)
Clearing House (Batch)

FIG. 1

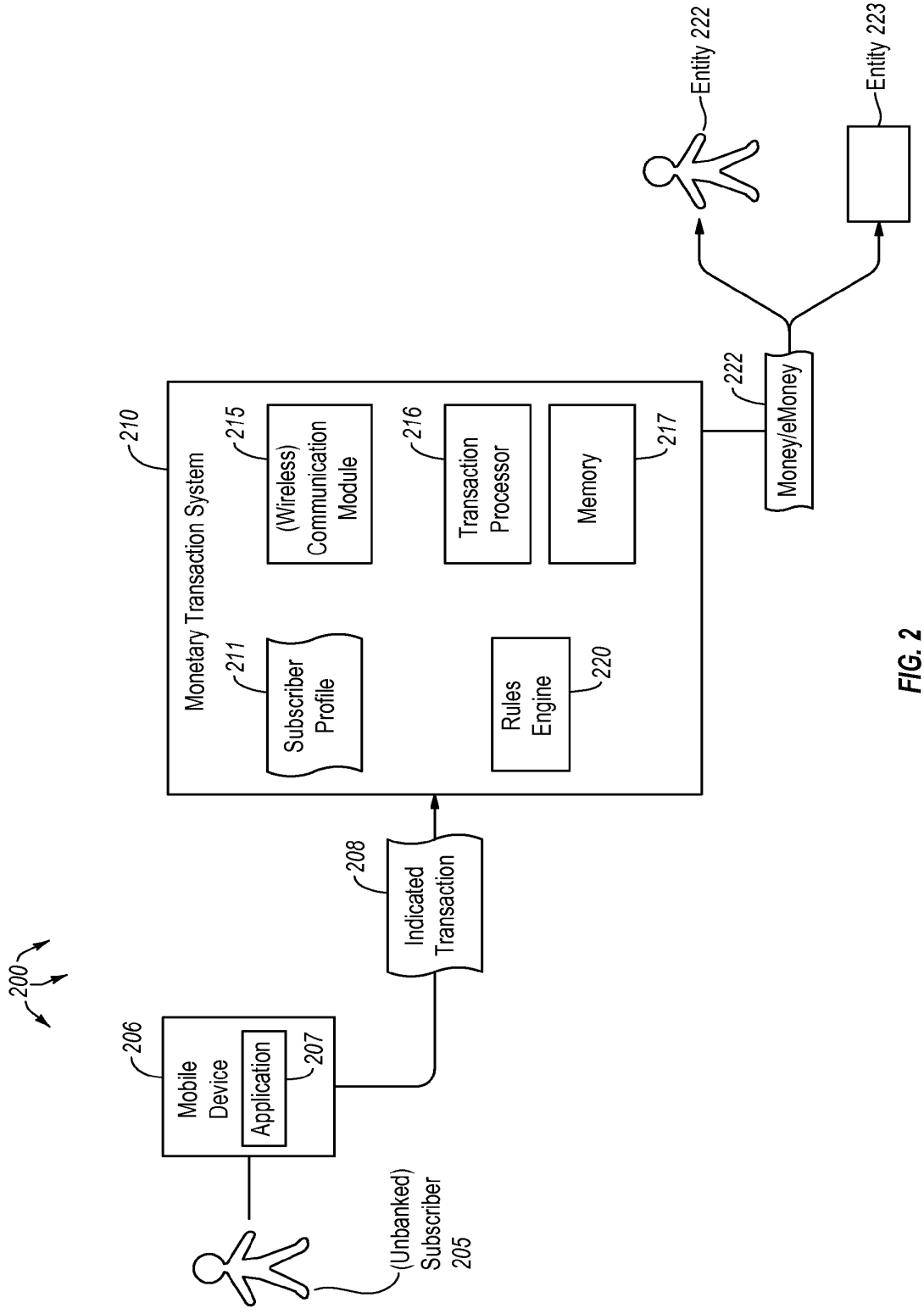
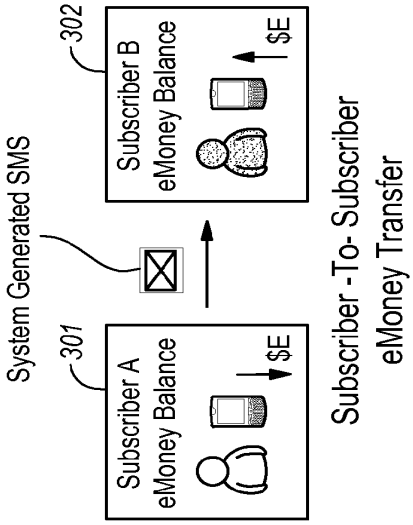
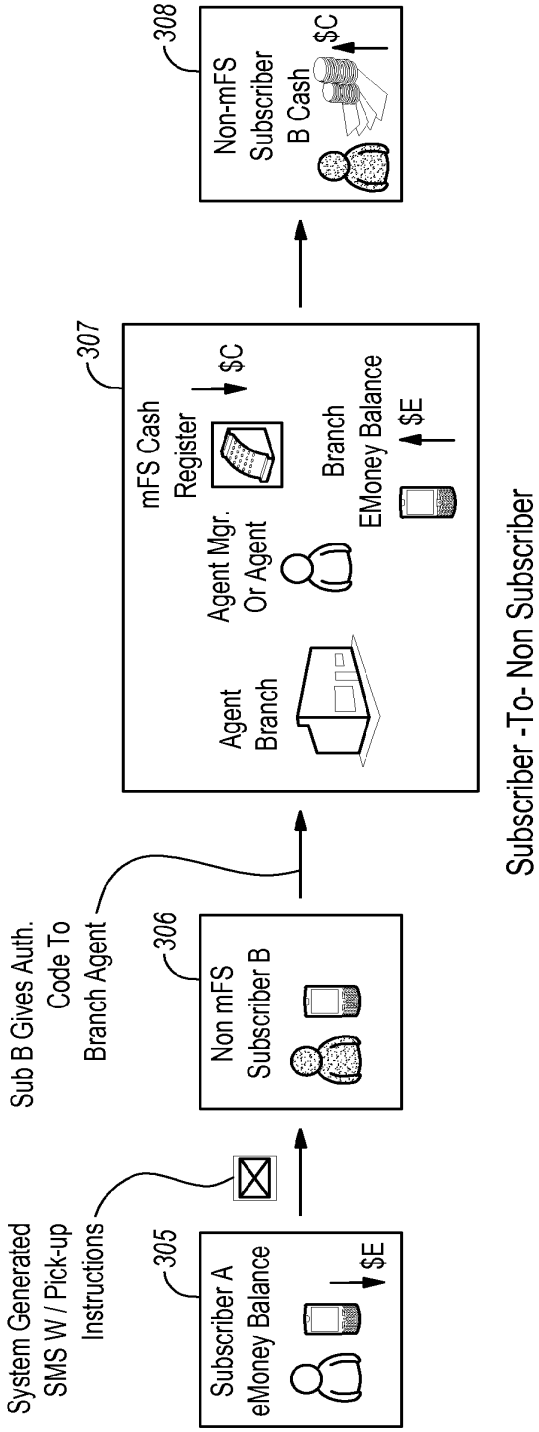

200
206
Mobile Device
Application
207
(Unbanked) Subscriber 205
208
Indicated Transaction
210
Monetary Transaction System
211
Subscriber Profile
215
(Wireless) Communication Module
216
Transaction Processor
217
Memory
220
Rules Engine
222
Money/eMoney
Entity 222
Entity 223

FIG. 2



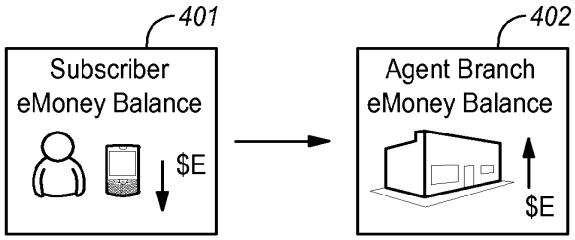
Subscriber -To- Subscriber
eMoney Transfer

FIG. 3A



Subscriber -To- Non Subscriber
eMoney Transfer

FIG. 3B



Subscriber Makes Retail Purchase

FIG. 4

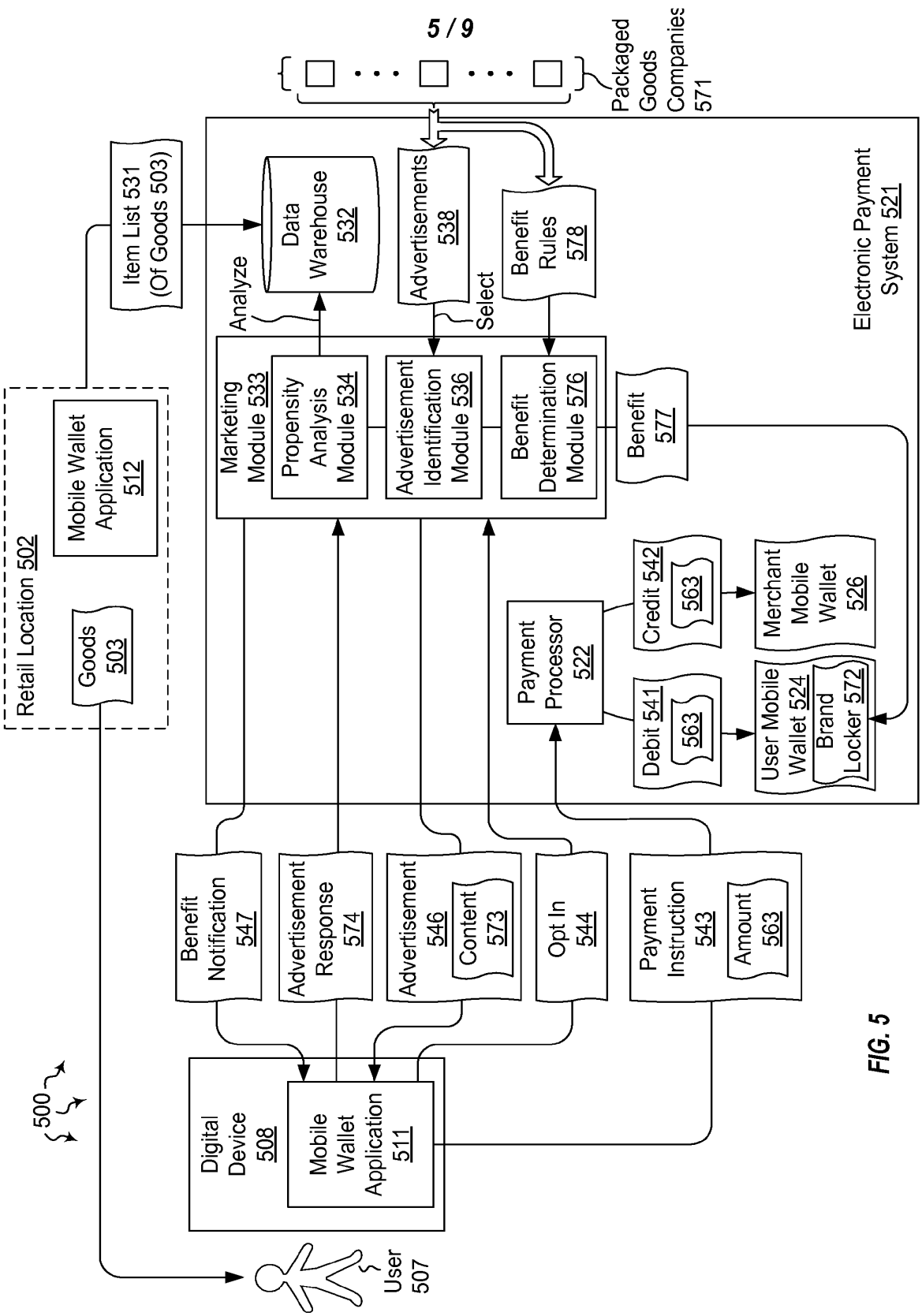

Packaged Goods Companies 571
Item List 531 (Of Goods 503)
Data Warehouse 532
Advertisements 538
Benefit Rules 578
Analyze
Select
Electronic Payment System 521
Marketing Module 533
Propensity Analysis Module 534
Advertisement Identification Module 536
Benefit Determination Module 576
Benefit 577
Retail Location 502
Mobile Wallet Application 512
Goods 503
Payment Processor 522
Credit 542
563
Merchant Mobile Wallet 526
Debit 541
563
User Mobile Wallet 524
Brand Locker 572
Benefit Notification 547
Advertisement Response 574
Advertisement 546
Content 573
Opt In 544
Payment Instruction 543
Amount 563
500
Digital Device 508
Mobile Wallet Application 511
User 507

FIG. 5

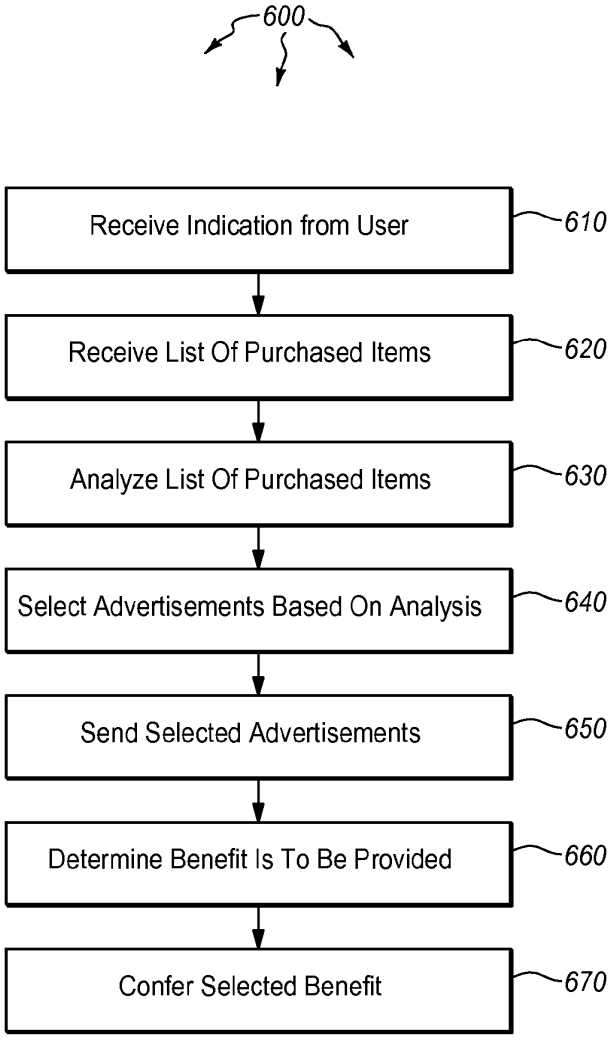

600
Receive Indication from User
610
Receive List Of Purchased Items
620
Analyze List Of Purchased Items
630
Select Advertisements Based On Analysis
640
Send Selected Advertisements
650
Determine Benefit Is To Be Provided
660
Confer Selected Benefit
670

FIG. 6

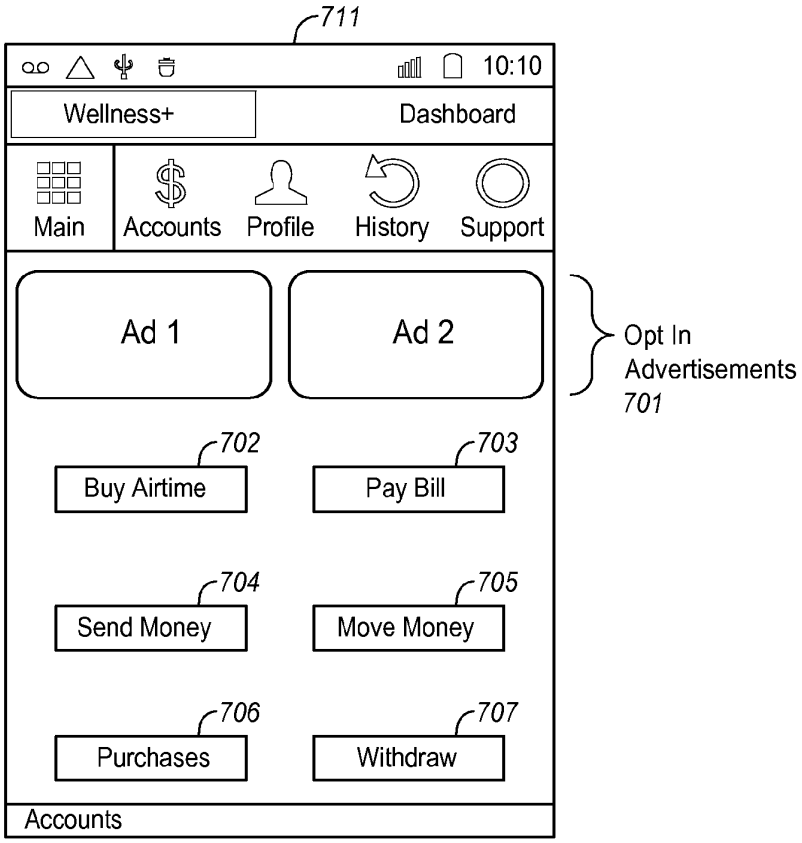

711
10:10
Wellness+
Dashboard
Main
Accounts
Profile
History
Support
Ad 1
Ad 2
Opt In
Advertisements
701
702
Buy Airtime
703
Pay Bill
704
Send Money
705
Move Money
706
Purchases
707
Withdraw
Accounts

FIG. 7

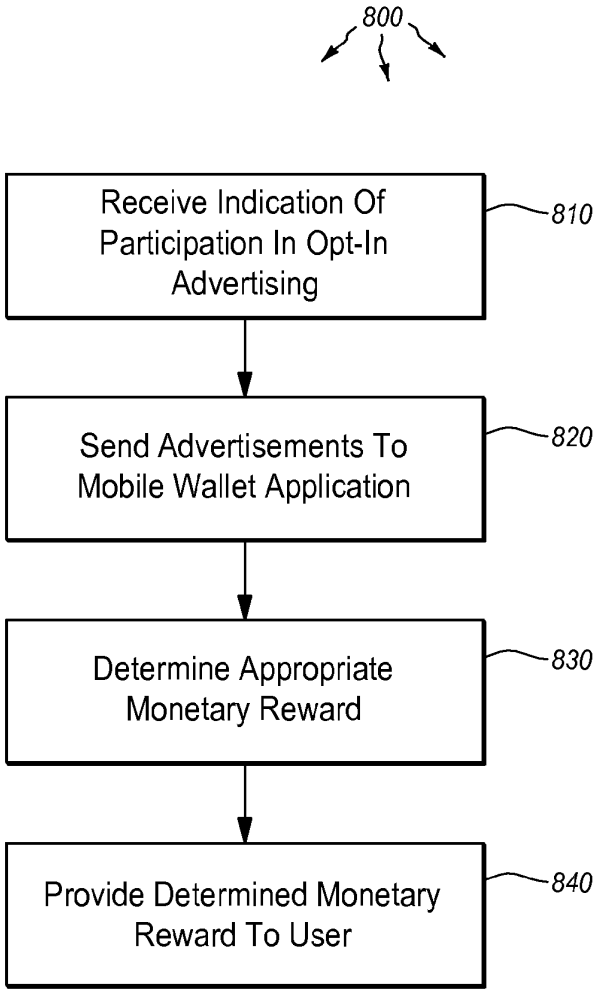

800
Receive Indication Of Participation In Opt-In Advertising
810
Send Advertisements To Mobile Wallet Application
820
Determine Appropriate Monetary Reward
830
Provide Determined Monetary Reward To User
840

FIG. 8

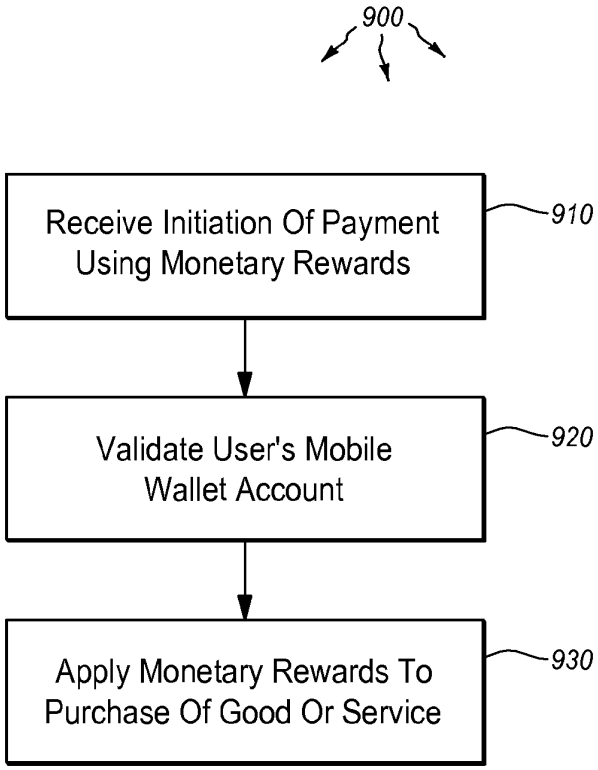

900
Receive Initiation Of Payment Using Monetary Rewards
910
Validate User's Mobile Wallet Account
920
Apply Monetary Rewards To Purchase Of Good Or Service
930

FIG. 9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/039100

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/02 (2013.01)
USPC - 705/14.13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06Q 30/00, 30/02 (2013.01)
USPC -705/1.1, 14.13, 14.14, 14.16, 14.23

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06Q 30/00, 30/02 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2011/0258024 A1 (PRINCE) 20 October 2011 (20.10.2011) entire document	1-20
Y	WO 2012/025824 A2 (YANG et al) 01 March 2012 (01.03.2012) entire document	1-20
Y	US 2009/0299844 A1 (REILLY et al) 03 December 2009 (03.12.2009) entire document	10
Y	US 6,175,823 B1 (VAN DUSEN) 16 January 2001 (16.01.2001) entire document	15, 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 August 2013	23 AUG 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.37.1A	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 12/66013	International filing date *(day/month/year)* 20 November 2012 (20.11.2012)	(Earliest) Priority Date *(day/month/year)* 21 November 2011 (21.11.2011)
Applicant MOZIDO, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 2

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/66013

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2013.01)
USPC - 705/78
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC (8) - G06Q 20/00 (2013.01)
USPC -705/78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 705/64; 705/39 (See Keywords Below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Patbase; Google Scholar
Search Terms: Mobile wallet, payment, third party, other provider, different provider, payment, transaction, purchase, deposit, withdraw, transfer, authorization code, point of sale, agent, operator, cloud, network, confirmation, notify, wallet provider, bill payment, ...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0208762 A1 (ARTHUR et al.), 28 August 2008 (28.08.2008), entire document, especially Abstract; para [0016], [0057], [0065], [0068]-[0069], [0071]-[0074], [0080], [0082], [0119], [0140]	1-20
Y	US 6,873,974 B1 (SCHUTZER), 29 March 2005 (29.03.2005), entire document, especially Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40	1-20
Y	US 2007/0125840 A1 (LAW et al.), 07 June 2007 (07.06.2007), entire document, especially Abstract; para [0033]-[0035], [0042], [0117]-[0120], [0150]-[0152]	9-11 and 15-17
A	US 2009/0234751 A1 (CHAN et al), 17 September 2009 (17.09.2009), entire document	1-20
A	US 2011/0196788 A1 (LU et al.), 11 August 2011 (11.08.2011), entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 January 2013 (15.01.2013)	29 JAN 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE, SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 JAN 2013
Applicant's or agent's file reference 18756.37.1A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 12/66013	20 November 2012 (20.11.2012)	21 November 2011 (21.11.2011)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 20/00 (2013.01)
USPC - 705/78

Applicant MOZIDO, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	16 January 2013 (16.01.2013)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-8, 12-14 and 18-20 lack an inventive step under PCT Article 33(3) as being obvious over US 2008/0208762 A1 to Arthur et al. (hereinafter 'Arthur') in view of US 6,873,974 B1 (Schutzer).

Regarding claim 1, Arthur teaches a cloud-based transaction platform including (Abstract): one or more processors (para [0016], [0065]); system memory (para [0065]); one or more computer-readable storage media having stored thereon computer executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for performing a transaction using a mobile wallet, the method comprising the following (Abstract; para [0016], [0057], [0140]): an act of receiving communication from an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that a customer desires to perform a mobile wallet transaction using their mobile wallet (para [0068]-[0069], [0071]-[0074], [0080], [0082], [0119]); an act of sending the agent communication to a mobile wallet platform (para [0080]-[0082], [0120]-[0123]); an act of receiving communication from the mobile wallet platform confirming processing of the transaction (para [0087]-[0090], [0121]-[0125]); and an act of sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction (para [0087]-[0090], [0121]-[0125]). Arthur does not specifically teach the mobile wallet is a third party mobile wallet. However, Schutzer teaches a payment processing system, wherein the payment system accepts and process account transaction requests from third party mobile wallets (Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur with those of Schutzer since doing so would enhance the flexibility of mobile users by allowing payments using third party mobile wallets.

Regarding claim 2, Schutzer teaches a transaction is performed by a second, different customer using a second, different third party mobile wallet (col 7, ln 7-53; col 8, ln 60 to col 9, ln 40).

Regarding claim 3, Schutzer teaches the third party mobile wallet platform comprises a third party processor (col 9, ln 5-63).

Regarding claim 4, Schutzer teaches the transaction using a third party mobile wallet comprises one or more of a deposit, a withdrawal, a transfer, a purchase, a bill payment, or topping up of a prepaid mobile account (col 5, ln 57 to col 6, ln 10 - purchase).

Regarding claim 5, Arthur teaches comprising an act of notifying the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform (para [0121]-[0125]).

Regarding claim 6, Schutzer teaches the third party mobile wallet is provided by a third party mobile wallet provider (Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40).

Regarding claim 7, Arthur teaches each mobile wallet provider has their own point of sale (POS) processing system (para [00068]-[0072], [0087]-[0090]).

Regarding claim 8, Arthur teaches the mobile wallet providers' POS processing systems communicate with each other using the cloud-based transaction platform to process the transaction (para [0068]-[0072], [0083]-[0087]).

Regarding claim 12, Arthur teaches the transaction comprises making a purchase from a mobile wallet managed by a mobile wallet platform, including: an act of receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's mobile wallet (para [0080]-[0082], [0120]-[0123]); an act of returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform (para [0067]-[0070], [0073]-[0074]); an act of receiving communication from the agent terminal over at least one of the plurality of channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent (para [0067]-[0070], [0073]-[0074]); an act of debiting the customer's mobile wallet by the specified amount of funds (para [0087]-[0090], [0121]-[0125]).

--- (See Continuation in Supplemental Box) ---

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2 Citations and Explanations.

Regarding claim 13, Arthur teaches a cloud-based transaction platform including: one or more processors (para [0016], [0065]); system memory (para [0065]); one or more computer-readable storage media having stored thereon computer- executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for performing a transaction using a point of sale (POS) system, the method comprising (Abstract; para [0016], [0057], [0140]): an act of receiving communication from a specified POS system implemented at an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the POS communication indicating that a customer has initiated a mobile wallet transaction using their mobile wallet (para [0068]-[0069], [0071]-[0074], [0080], [0082], [0119]); an act of sending the POS communication to a corresponding transaction processing system that has been established to process POS transactions from the specified POS system (para [0080]-[0082], [0120]-[0123]); an act of receiving communication from the POS transaction processing system confirming processing of the transaction (para [0087]-[0090], [0121] -[0125]); and an act of sending communication to the specified POS system implemented at the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction (para [0087]-[0090], [0121]-[0125]). Arthur does not specifically teach the mobile wallet is a third party mobile wallet. However, Schutzer teaches a payment processing system, wherein the payment system accepts and process account transaction requests from third party mobile wallets (Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur with those of Schutzer since doing so would enhance the flexibility of mobile users by allowing payments using third party mobile wallets.

Regarding claim 14, Arthur teaches the act of receiving a transaction fee paid by the specified POS system to the cloud-based transaction platform (para [0063]-[0068], [0084]-[0087]).

Regarding claim 18, Arthur teaches the transaction comprises making a purchase from a mobile wallet provided by a mobile wallet provider, including: an act of receiving communication from the customer over one of the plurality of communication channels connected to the mobile wallet platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from the customer's mobile wallet (para [0080]-[0082], [0120]-[0123]); an act of returning a secure, perishable purchase code to the customer over at least one of the plurality of communication channels connected to the cloud based transaction platform and an act of receiving subsequent agent terminal communication over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent (para [0067]-[0070], [0073]-[0074]); an act of validating the status of the specified payment method and an act of determining if the specified payment method can accommodate a purchase for the specified amount (para [0067]-[0070], [0073]-[0074]); an act of performing one or more of a limit check and a velocity check on the specified payment method and an act of debiting the customer's mobile wallet by the specified amount of funds by sending communication to the mobile wallet provider and an act of returning a notification to the POS system at the agent terminal authorizing the purchase (para [0087]-[0090], [0121]-[0125]); an act of sending a receipt to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform (para [0121]-[0125]).

Regarding claim 19, Arthur teaches a cloud-based transaction platform including: one or more processors (para [0016], [0065]); system memory (para [0065]); one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors, cause the computing system to perform a method for making a purchase from a mobile wallet provided by a mobile wallet provider, the method comprising the following (Abstract; para [0016], [0057], [0140]): an act of receiving communication from a customer over one of a plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that a customer desires to purchase an item for a specified amount of funds using a specified payment method indicated by the customer's mobile wallet (para [0068]-[0069], [0071]-[0074], [0080], [0082], [0119]); an act of returning a secure, perishable purchase code to the customer over at least one the plurality of communication channels connected to the cloud-based transaction platform (para [0080]-[0082], [0120]-[0123]); an act of receiving communication from an agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent (para [0087]-[0090], [0121]-[0125]); and an act of debiting the customer's mobile wallet by the specified amount of funds (para [0087]-[0090], [0121]-[0125]). Arthur does not specifically teach the mobile wallet is a third party mobile wallet. However, Schutzer teaches a payment processing system, wherein the payment system accepts and process account transaction requests from third party mobile wallets (Abstract; col 3, ln 40 to col 4, ln 20; col 8, ln 60 to col 9, ln 40). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur with those of Schutzer since doing so would enhance the flexibility of mobile users by allowing payments using third party mobile wallets.

Regarding claim 20, Schutzer teaches the item purchased by the customer comprises at least one of the following: health care services, music, games, and movies (col 6, ln 10-38 - purchase goods or services available on the web site).

--- (See Continuation in Supplemental Box) ---

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2 Citations and Explanations.

Claims 9-11 and 15-17 lack an inventive step under PCT Article 33(3) as being obvious over Arthur in view of Schutzer and further in view of US 2007/0125840 A1 to Law et al. (hereinafter 'Law').

Regarding claim 9, neither Arthur nor Schutzer teaches the transaction comprises depositing funds into a mobile wallet owned by an entity different than the customer, including: an act of receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into their mobile wallet; and an act of crediting the mobile wallet with the specified amount of funds. However, Law teaches the transaction comprises depositing funds into a mobile wallet owned by an entity different than the customer, including: an act of receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into their mobile wallet (para [0033]-[0035], [0150]-[0152]); and an act of crediting the mobile wallet with the specified amount of funds (para [0042], [0150]-[0152]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe deposit of money to mobile wallet account.

Regarding claim 10, neither Arthur nor Schutzer teaches the transaction comprises withdrawing funds from a third party mobile wallet owned by an entity different than the customer, including: an act of receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet; an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform; an act of receiving communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the withdrawal code has been presented to an agent; and an act of debiting the third party mobile wallet by the specified amount of funds. However, Law teaches the transaction comprises withdrawing funds from a mobile wallet owned by an entity different than the customer, including: an act of receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the mobile wallet (para [0149]-[0152]); an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform and an act of receiving communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the withdrawal code has been presented to an agent (para [0040]-[0043], [0117]-[0120]) an act of debiting the mobile wallet by the specified amount of funds (para [0102]-[0103], [0150]-[0151]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe withdrawal of money to mobile wallet account.

Regarding claim 11, neither Arthur nor Schutzer teaches the transaction comprises transferring money from a third party mobile wallet within the cloud-based transaction platform to a recipient at a second third party mobile wallet provided by a second mobile wallet provider, the method comprising: an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that a customer desires to transfer a specified amount of funds to a specified recipient using a specified payment method from the third party mobile wallet; an act of debiting the third party mobile wallet by the specified amount of funds; and an act of transferring the specified amount of funds from the cloud-based transaction platform to the second different third party mobile wallet platform for delivery to the specified recipient, the specified amount of funds being transferred over at least one of the plurality of channels connected to the second third party mobile wallet platform. However, Law teaches the transaction comprises transferring money from a mobile wallet within the cloud-based transaction platform to a recipient at a second mobile wallet provided by a second mobile wallet provider, the method comprising: an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that a customer desires to transfer a specified amount of funds to a specified recipient using a specified payment method from the mobile wallet (para [0114]-[0118], [0140]-[0143]); an act of debiting the mobile wallet by the specified amount of funds and an act of transferring the specified amount of funds from the cloud-based transaction platform to the second different mobile wallet platform for delivery to the specified recipient, the specified amount of funds being transferred over at least one of the plurality of channels connected to the second mobile wallet platform (para [0114]-[0118], [0140]-[0143]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe transfer of money to mobile wallet account.

--- (See Continuation in Supplemental Box) ---

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2 Citations and Explanations.

Regarding claim 15, neither Arthur nor Schutzer the transaction comprises depositing funds into a third party mobile wallet provided by a third party mobile wallet provider, including: an act of receiving communication from the specified POS system implemented at the agent terminal over one of the plurality of channels connected to the cloud-based transaction platform, the POS communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet provided by the third party mobile wallet provider; an act of validating the status of the third party mobile wallet provided by the third party mobile wallet provider; an act of determining if the specified POS system implemented at the agent terminal is authorized to deposit money; an act of performing one or more of a limit check and a velocity check on the third party mobile wallet provided by the third party mobile wallet provider; an act of crediting the third party mobile wallet provided by the third party mobile wallet provider with the specified amount of funds; an act of returning a notification to the specified POS system implemented at the agent terminal confirming the deposit; and an act of notifying the customer that the specified amount of funds were deposited in the third party mobile wallet provided by the third party mobile wallet provider over at least one of the plurality of communication channels connected to the cloud-based transaction platform. However, Law teaches the transaction comprises depositing funds into a mobile wallet provided by a mobile wallet provider, including: an act of receiving communication from the specified POS system implemented at the agent terminal over one of the plurality of channels connected to the cloud-based transaction platform, the POS communication indicating that the customer desires to deposit a specified amount of funds into the mobile wallet provided by the mobile wallet provider (para [0033]-[0035], [0150]-[0152]); an act of validating the status of the mobile wallet provided by the mobile wallet provider and an act of determining if the specified POS system implemented at the agent terminal is authorized to deposit money and an act of performing one or more of a limit check and a velocity check on the mobile wallet provided by the mobile wallet provider (para [0040]-[0043], [0118]-[0123]); an act of crediting the mobile wallet provided by the mobile wallet provider with the specified amount of funds (para [0042], [0150]-[0152]); an act of returning a notification to the specified POS system implemented at the agent terminal confirming the deposit and an act of notifying the customer that the specified amount of funds were deposited in the mobile wallet provided by the mobile wallet provider over at least one of the plurality of communication channels connected to the cloud-based transaction platform (para [0147]-[0151]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe deposit of money to mobile wallet account..

Regarding claim 16, neither Arthur nor Schutzer teaches the transaction comprises withdrawing funds from a third party mobile wallet provided by a third party mobile wallet provider, including: an act of receiving communication from a customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet provided by the third party mobile wallet provider; an act of validating the status of the third party mobile wallet provided by the third party mobile wallet provider; an act of determining if the balance of the third party mobile wallet provided by the third party mobile wallet provider is sufficient to accommodate the requested withdrawal for the specified amount of funds; an act of performing one or more of a limit check and a velocity check on the third party mobile wallet; an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform; an act of receiving subsequent POS communication over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the POS communication indicating that the withdrawal code has been presented to an agent; an act of debiting the third party mobile wallet provided by the third party mobile wallet provider by the specified amount of funds; an act of returning a notification to the POS system at the agent terminal confirming the withdrawal; and an act of notifying the customer that the specified amount of funds were withdrawn from the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform. However, Law teaches the transaction comprises withdrawing funds from a mobile wallet provided by a mobile wallet provider, including: an act of receiving communication from a customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the mobile wallet provided by the mobile wallet provider (para [0149]-[0152]); an act of validating the status of the mobile wallet provided by the mobile wallet provider and an act of determining if the balance of the mobile wallet provided by the mobile wallet provider is sufficient to accommodate the requested withdrawal for the specified amount of funds and an act of performing one or more of a limit check and a velocity check on the mobile wallet and an act of returning a secure, perishable withdrawal code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform (para [0040]-[0043], [0118]-[0123]); an act of receiving subsequent POS communication over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the POS communication indicating that the withdrawal code has been presented to an agent (para [0040]-[0043], [0117]-[0120]); an act of debiting the mobile wallet provided by the mobile wallet provider by the specified amount of funds (para [0102]-[0103], [0150]-[0151]); an act of returning a notification to the POS system at the agent terminal confirming the withdrawal and an act of notifying the customer that the specified amount of funds were withdrawn from the mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform (para [0147]-[0151]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe withdrawal of money to mobile wallet account.

--- (See Continuation in Supplemental Box) ---

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/66013

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2 Citations and Explanations.

Regarding claim 17, neither Arthur nor Schutzer teaches the transaction comprises transferring money using a third party mobile wallet provided by a third party mobile wallet provider, including: an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a specified amount of funds to a specified recipient having a third party mobile wallet, the transfer using a specified payment method from the customer's third party mobile wallet at the cloud-based transaction platform; an act of validating the status of the specified payment method; an act of performing one or more of a limit check and a velocity check on the specified payment method; an act of performing a check on the specified recipient having a third party mobile wallet to comply with the office of foreign assets control; an act of debiting the customer's mobile wallet at the cloud-based transaction platform by the specified amount of funds; an act of transferring the specified amount of funds to third party mobile wallet provider for delivery to the third party mobile wallet of the specified recipient over at least one of the plurality of channels connected between the cloud-based transaction platform and the third party mobile wallet provider; an act of notifying the customer that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the cloud-based transaction platform. However, Law teaches the transaction comprises transferring money using a mobile wallet provided by a mobile wallet provider, including: an act of receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a specified amount of funds to a specified recipient having a mobile wallet, the transfer using a specified payment method from the customer's mobile wallet at the cloud-based transaction platform (para [0114]-[0118], [0140]-[0143]); an act of validating the status of the specified payment method and an act of performing one or more of a limit check and a velocity check on the specified payment method and an act of performing a check on the specified recipient having a mobile wallet to comply with the office of foreign assets control; an act of debiting the customer's mobile wallet at the cloud-based transaction platform by the specified amount of funds (para [0040]-[0043], [0118]-[0123]); an act of transferring the specified amount of funds to mobile wallet provider for delivery to the mobile wallet of the specified recipient over at least one of the plurality of channels connected between the cloud-based transaction platform and the mobile wallet provider (para [0114]-[0118], [0140]-[0143]); an act of notifying the customer that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the cloud-based transaction platform (para [0147]-[0151]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Arthur and Schutzer with those of Law since doing so would allow easy and safe transfer of money to mobile wallet account.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4), because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.8.1A	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 12/40131	International filing date *(day/month/year)* 31 May 2012 (31.05.2012)	(Earliest) Priority Date *(day/month/year)* 03 June 2011 (03.06.2011)
Applicant MOZIDO, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 8 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 6B

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/40131

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/65
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06Q 20/00 (2012.01)
USPC: 705/65

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/73; 705/39; 902/2 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase; Google Scholar; Google Patents; FreePatentsOnline. Search terms used: financial-transaction monetary-transaction, unbanked, subscriber member profile account, mobile-wallet mobile-purse mobile-payment Google-wallet smart-wallet mobile-banking mobile-commerce, fund account-balance account-amount available-fund stored-value top-up...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2009/0119190 A1 (REALINI) 07 May 2009 (07.05.2009) entire document, especially Abstract; para [0028], [0029], [0033], [0135], [0136], [0171], [0176]-[0178], [0180], [0186], [0189], [0193], [0194], [0196], [0206], [0253], [0254], [0260], [0264], [0267], [0270], [0273], [0328], [0336], [0344], [0351], [0370], [0392], [0393], [0423], [0427], [0440], [0521], [0524], [0529]-[0531], [0577], [0580], [0581], [0586], [0594], [0602], [0612], [0631], [0649], [0661], [0669], [0671], [0679], [0739], [0875], [0897], [0916], [0918], [1065], [1086], [1098], [1168]	20 --- 1-19
Y	US 2006/0253335 A1 (KEENA et al.) 09 November 2006 (09.11.2006) entire document, especially Abstract; para [0012], [0038], [0042]	1-19
Y	US 2009/0265272 A1 (DILL et al.) 22 October 2009 (22.10.2009) entire document, especially Abstract; para [0005], [0067]	13
Y	US 2009/0081989 A1 (WUHRER) 26 March 2009 (26.03.2009) entire document, especially Abstract; para [0007], [0076], [0088], [0106]	16, 17
A	US 2007/0255652 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document	1 - 20
A	US 2007/0255620 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document	1 - 20
A	US 2006/0287004 A1 (FUQUA) 21 December 2006 (21.12.2006) entire document	1 - 20
A	US 2007/0265984 A1 (SANTHANA) 15 November 2007 (15.11.2007) entire document	1 - 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
09 January 2013 (09.01.2013)	29 JAN 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE
SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 JAN 2013

Applicant's or agent's file reference	FOR FURTHER ACTION
18756.8.1A	See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 12/40131	31 May 2012 (31.05.2012)	03 June 2011 (03.06.2011)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/65

Applicant MOZIDO, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	09 January 2013 (09.01.2013)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/40131

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

   ☐ on paper

   ☐ in electronic form

   b. (time)

   ☐ in the international application as filed

   ☐ together with the international application in electronic form

   ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/40131

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-19	YES
	Claims	20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1 - 20	NO
Industrial applicability (IA)	Claims	1 - 20	YES
	Claims	None	NO

2. Citations and explanations:

Claim 20 lacks novelty under PCT Article 33(2) as being anticipated by US 2009/0119190 A1 (Realini).

As to claim 20, Realini teaches a monetary transaction system, comprising: a mobile wallet application configured to perform one or more of the following: process incoming and outgoing transactions, authenticate transaction system subscribers, manage subscriber profiles, and manage interactions between monetary transaction system components (para [0875], [1168]); a monetary transaction processor configured to perform one or more of the following: manage account balances for mobile wallet subscribers, manage mobile wallet agent accounts, process balance inquiries, account credits, account debits, and transaction roll-backs (para [0336]); a mobile wallet rules engine that manages and applies rules and policies that are defined for transactions as the transactions are processed on the mobile wallet transaction system including rules that control at least one of the following: transaction fees, transaction limits, transaction velocity limits, commissions, mobile transaction system roles and permissions (para [0581]); a mobile wallet integration module that manages interaction between the mobile wallet transaction system and one or more external transaction systems including at least one of a wireless service provider's billing platform and a program partner bank (para [0669], [0875]); a mobile wallet database that stores mobile wallet transaction data used in mobile wallet transactions including one or more of the following: subscriber profiles, subscription data, transaction data, transaction logs, mobile wallet application configuration data and mobile wallet application run-time data (para [0423] - subscription fees; para [1065] - profile; para [1108] - runtime); and a mobile wallet wireless service that interfaces with the wireless service provider's network to allow communication between the mobile wallet application and other mobile wallet transaction system components via the wireless service provider's network (para [1098]).

Claims 1-12, 14, 15, 18 and 19 lack an inventive step under PCT Article 33(3) as being obvious over Realini in view of US 2006/0253335 A1 to Keena et al. (hereinafter, 'Keena').

As to claim 1, Realini teaches a monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising (para [0029]): a mobile device configured to run a monetary transaction system application (para [0029]); an unbanked monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the unbanked subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system (para [0264]); a monetary transaction system processor that performs the one or more transactions specified by the unbanked subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (para [0033]);

but fails to explicitly disclose at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system.

However, Keena does teach at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system (para [0012] - profiles; para [0038] - subscribers are not banked).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual pooled account for mobile banking of Realini with the cash based purchasing using mobile communication of Keena, because Realini and Keena are directed to systems and methods for monetary transaction system. Furthermore, users and designers benefit from systems and/or methods adapted for enabling service providers or suppliers to pay a commission to point of sale vendors for use of the vendor's account and point of sale device to perform transactions for customers, because such systems/methods provides a system and method for cash based purchasing using electronic commerce channels such as mobile telephone networks (Keena, para [0012]).

As to claim 2, in combination with Realini, Keena further discloses wherein the monetary transaction system application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application (para [0042]).

As to claim 3, in combination with Keena, Realini further discloses wherein the monetary transaction system application is provided on a prepaid or postpaid phone (para [0253]).

- Please See Supplemental Box -

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/40131

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
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Box V.2. Citations and explanations:

As to claim 4, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to enroll a user for a mobile wallet, including the following steps: receiving a subscriber-initiated transaction over one of a plurality of channels connected to the monetary transaction system (para [0631]); prompting for and receiving enrollment information for the unbanked subscriber over at least one of the plurality of channels (para [0171]); sending activation instructions over a second channel to activate the unbanked subscriber and create a subscriber account for the unbanked subscriber (para [0344]); generating a mobile wallet for the unbanked subscriber (para [0440]); and presenting the unbanked subscriber's account data associated with the mobile wallet to the unbanked subscriber (para [0186], [0875]).

As to claim 5, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to add a mobile wallet platform stored value account to a mobile wallet, including the following steps: receiving subscriber data over one of a plurality of channels connected to the mobile wallet transaction system (para [0136], [0631]); performing one or more validation checks on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber (para [0351]); sending subscriber data to the at least one entity for identification of the unbanked subscriber, wherein the entity comprises a third party verification system (para [0270]-[0273]); receiving results from the third party verification system indicating that the subscriber data appropriately identifies the unbanked subscriber (para [0440]); creating a stored value account for the unbanked subscriber, wherein the monetary transaction system processor maintains a recorded balance for the created stored value account (para [0679]); adding the stored value account to the unbanked subscriber's mobile wallet (para [0679]); and notifying the unbanked subscriber of the addition of the stored value account over at least one other of the plurality of channels connected to the mobile wallet platform (para [0631], [0649]).

As to claim 6, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to add a third party stored value account to a mobile wallet, including the following steps: receiving unbanked subscriber data, including account details, over one of a plurality of channels connected to the monetary transaction system (para [0206], [0440], [0531]); performing one or more validation checks on the unbanked subscriber to validate that the unbanked subscriber is not exceeding a specified allowable number of accounts per subscriber (para [0440]); sending subscriber data to the at least one entity for identification of the unbanked subscriber, wherein the entity comprises a third party verification system (para [0186]); receiving results from the third party verification system indicating that the subscriber data appropriately identifies the unbanked subscriber (para [0270]-[0273]); submitting one or more of the unbanked subscriber's account details to a third party account processor (para [0440]); receiving an indication from the third party account processor that third party account processor created a third party stored value account for the subscriber (para [0679]); maintaining a link between the subscriber data and the third party stored value account (para [0679]); adding the third party stored value account to the unbanked subscriber's mobile wallet (para [0875]); and notifying the unbanked subscriber of the addition of the third party stored value account over at least one other of the plurality of channels connected to the monetary transaction system (para [0631], [0649]).

As to claim 7, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to deposit funds at an agent branch through a mobile wallet, including the following steps: receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system , the agent communication indicating that the unbanked subscriber desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account (para [0440]); validating the status of the unbanked subscriber's mobile wallet account (para [0351]); determining if the agent branch is authorized to receive deposited money (para [0586]); performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account (para [0427], [0594]); crediting the unbanked subscriber's mobile wallet account with the specified amount of funds (para [0440], [0875]); returning a notification to the agent branch confirming the deposit (para [0739], [0918]); and notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system (para [0897]).

As to claim 8, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to withdraw funds at an agent branch using a mobile wallet, including the following steps: receiving a communication from the unbanked subscriber over one of a plurality of channels connected to the monetary transaction system, the communication indicating that the unbanked subscriber desires to withdraw a specified amount of funds from the unbanked subscriber's mobile wallet account at the agent branch (para [0586]); validating the status of the unbanked subscriber's mobile wallet account (para [0351]); determining if the balance of the unbanked subscriber's mobile wallet account is sufficient to accommodate the requested withdrawal for the specified amount of funds (para [0028]); performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account (para [0427], [0594]); returning a secure, perishable withdrawal code to the subscriber over at least one of the plurality of channels connected to the monetary transaction system (para [0577]); receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system , the agent branch communication indicating that the withdrawal code has been presented to the agent branch (para [1086]); debiting the unbanked subscriber's mobile wallet account by the specified amount of funds (para [0392]); returning a notification to the agent branch confirming the withdrawal (para [0739], [0918]); and notifying the subscriber that the specified amount of funds was withdrawn from the unbanked subscriber's mobile wallet account over at least one of the channels connected to the monetary transaction system (para [0897]).

As to claim 9, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to pay a bill from a mobile wallet, including the following steps: receiving a subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to pay a bill for a specified amount using a specified payment method from the unbanked subscriber's mobile wallet (para [0028]); validating the status of the selected payment method (para [0661], [0671]); performing one or more of a limit check and a velocity check on the selected payment method (para [0427], [0594]); debiting the specified payment method by the specified amount of funds (para [0392]); processing the bill payment via at least one of a direct biller connection and a bill pay aggregator (para [0028], [0254]); and notifying the unbanked subscriber that the bill was paid over at least one of the plurality of channels connected to the monetary transaction system (para [0897]).

- Please See Supplemental Box -

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
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In case the space in any of the preceding boxes is not sufficient.
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Box V.2. Citations and explanations:

As to claim 10, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to buy airtime on a prepaid mobile account from a mobile wallet, including the following steps: receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to top up a prepaid mobile account by a specified amount using a specified payment method from the unbanked subscriber's mobile wallet (para [0440]); validating the status of the selected payment method (para [0612]); performing at least one of a limit check and a velocity check on the selected payment method (para [0427], [0594]); debiting the specified payment method by the specified amount of funds (para [0392]); processing the mobile top-up via at least one of a billing system integrator and an aggregator (para [0180]); and notifying the subscriber that the prepaid mobile account was topped up over at least one of the plurality of channels connected to the monetary transaction system (para [0180], [0897]).

As to claim 11, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to transfer money between mobile wallets, including the following steps: receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of funds to specified recipient using a specified payment method from the subscriber's mobile wallet (para [0176], [0440]); validating the status of the selected payment method (para [0612]); performing at least one of a limit check and a velocity check on the selected payment method (para [0427], [0594]); validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account (para [0612]); debiting the specified payment method by the specified amount of funds (para [0392]); transferring the specified amount of funds to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system (para [0176]); notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]).

As to claim 12, in combination with Keena, Realini further discloses wherein validating the status of the specified recipient comprises performing a check on the specified recipient to comply with the office of foreign assets control (para [0580]).

As to claim 14, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to make a purchase from a mobile wallet, including the following steps: receiving a communication from a subscriber over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to purchase an item for a specified amount of funds using a specified payment method from the unbanked subscriber's mobile wallet (para [0529]); returning a secure, perishable purchase code to the unbanked subscriber over at least one of the plurality of channels connected to the monetary transaction system (para [0529], [0577]); receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system, the agent branch communication indicating that the purchase code has been presented to an agent (para [0529]); validating the status of the specified payment method (para [0427]); determining if the specified payment method can accommodate a purchase for the specified amount (para [0524]); performing at least one of a limit check and a velocity check on the selected payment method (para [0529], [0427], [0594]); debiting the specified payment method by the specified amount of funds (para [0521]); returning a notification to the agent branch authorizing the purchase (para [0529]); and sending a receipt to the unbanked subscriber over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]).

As to claim 15, Realini teaches a monetary transaction system for conducting monetary transactions between subscribers and other entities, the system comprising: a mobile device configured to run a monetary transaction system application (para [0260], [0427]); a monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system (para [0530]); a monetary transaction system processor that performs the one or more transactions specified by the subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile (para [0033], [0916]);
but fails to explicitly disclose at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system.
However, Keena does teach at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system (para [0012] - profiles; para [0038] - subscribers are not banked).
It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual pooled account for mobile banking of Realini with the cash based purchasing using mobile communication of Keena, because Realini and Keena are directed to systems and methods for monetary transaction system. Furthermore, users and designers benefit from systems and/or methods adapted for enabling service providers or suppliers to pay a commission to point of sale vendors for use of the vendor's account and point of sale device to perform transactions for customers, because such systems/methods provides a system and method for cash based purchasing using electronic commerce channels such as mobile telephone networks (Keena, para [0012]).

As to claim 18, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to deposit funds into a bank or credit union account using a mobile wallet, including the following steps: receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system, the agent communication indicating that a subscriber desires to deposit a specified amount of funds into a bank or credit union account (para [0177], [0529]); validating the status of the bank or credit union account (para [0328]); determining if the agent branch is authorized to deposit money (para [0586]); performing one or more of a limit check and a velocity check on the bank or credit union account (para [0427], [0594]); crediting the bank or credit union account with the specified amount of funds (para [0393]); returning a notification to the agent branch confirming the deposit (para [0739], [0918]); and notifying the subscriber that the specified amount of funds was deposited in the bank or credit union account over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]).

- Please See Supplemental Box -

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International application No.
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In case **the space in any of the preceding boxes is not sufficient.**
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Box V.2. Citations and explanations:

As to claim 19, in combination with Keena, Realini further discloses wherein the monetary transaction system is implemented to withdraw funds from a bank or credit union account through a mobile wallet, including the following steps: receiving communication from a subscriber over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that a subscriber desires to withdraw a specified amount of funds from a bank or credit union account (para [0178], [0602]); validating the status of the bank or credit union account (para [0370]); determining if the balance of the bank or credit union account is sufficient to accommodate the requested withdrawal for the specified amount of funds (para [0328]); performing at least one of a limit check and a velocity check on the bank or credit union account (para [0427], [0594]); returning a secure, perishable withdrawal code to the subscriber over at least one of the plurality of channels connected to the monetary transaction system (para [0577]); receiving subsequent agent branch communication over at least one of the plurality of channels connected to the monetary transaction system, the agent branch communication indicating that the withdrawal code has been presented to an agent (para [1086]); debiting the bank or credit union account by the specified amount of funds (para [0521]); returning a notification to the agent branch confirming the withdrawal (para [0529]); and notifying the subscriber that the specified amount of funds were withdrawn from the bank or credit union account over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]).

Claim 13 lacks an inventive step under PCT Article 33(3) as being obvious over Realini in view of Keena, and further in view of US 2009/0265272 A1 to Dill et al. (hereinafter, 'Dill').

As to claim 13, the combination of Realini and Keena teaches the monetary transaction system of claim 11, but fails to explicitly disclose wherein the money is transferred internationally between the mobile wallets. However, Dill does teach wherein the money is transferred internationally between the mobile wallets (para [0067]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual pooled account for mobile banking of Realini (as enhanced by Keena) with the money transfers utilizing a unique receiver identifier of Dill, because Realini, Keena and Dill are directed to systems and methods for monetary transaction system. Furthermore, users and designers benefit from systems and/or methods adapted for enabling the data of the request to be verified by the mobile application of the money transfer facilitator, the response may include information related to and/or describing fees, legal notices, etcj., because such systems/methods allow for allowing financial transfers that utilize a unique identifier to facilitate flexible payment options for the transaction (Dill, para [0005]).

Claims 16 and 17 lack an inventive step under PCT Article 33(3) as being obvious over Realini in view of Keena, and further in view of US 2009/0081989 A1 (Wuhrer).

As to claim 16, the combination of Realini and Keena teaches the monetary transaction system of claim 15, and Realini further teaches wherein the monetary transaction system is implemented to add a bank or credit union account to a mobile wallet, including the following steps: receiving subscriber data, including bank or credit union account details, over at least one of a plurality of channels connected to the monetary transaction system (para [0177], [0875]); sending subscriber data to a third party verification system for identification of the subscriber (para [0194]); receiving results from the third party system indicating that the subscriber data appropriately identifies the subscriber (para [0189], [0193]); submitting bank or credit union account details for validation by the transaction processor (para [0196]); receiving an indication that the bank or credit union account details correspond to a valid bank or credit union account (para [0135]); maintaining a link between the subscriber data and the bank or credit union account (para [0176]); and notifying the subscriber of the bank or credit union account validation over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]);
but fails to explicitly disclose performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber.
However, Wuhrer does teach performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber (para [0076], [0088], [0106]).
It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual pooled account for mobile banking of Realini (as enhanced by Keena) with the system and method for financial transaction interoperability across multiple mobile networks of Wuhrer, because Realini, Keena and Wuhrer are directed to systems and methods for monetary transaction system. Furthermore, users and designers benefit from systems and/or methods adapted for enabling a mobile device to execute transactions via the system, and in some embodiments, transactions originate from a third party application through system platform APIs for the reload application and the gifting application; the system is coupled to multiple accounts of the user, including for example, a system account, a debit card account, a credit card account, a PayPal account, multiple prepaid accounts 364 and a bank account, because such systems/methods provide a platform and application layer that can function across an array of payment platforms or network types (Wuhrer, para [0007]).

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/40131

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Box V.2. Citations and explanations:

As to claim 17, the combination of Realini and Keena teaches the monetary transaction system of claim 1, and Realini further teaches wherein the monetary transaction system is implemented to add a debit or credit card account to a mobile wallet, including the following steps: receiving subscriber data, including a debit or credit card account number, over one of a plurality of channels connected to the monetary transaction system (para [0136]); sending subscriber data to a third party verification system for identification of the subscriber (para [0194]); receiving results from the third party system indicating that the subscriber data appropriately identifies the subscriber (para [0189], [0193]); securely storing the debit or credit card account number for access by the mobile wallet (para [0267], [0875]); adding the debit or credit card account number to the subscriber's mobile wallet (para [0267], [0875]); and notifying the subscriber of the addition of the debit or credit card account number over at least one of the plurality of channels connected to the monetary transaction system (para [0176], [0631]);
but fails to explicitly disclose performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber.
However, Wuhrer does teach performing one or more validation checks on the subscriber to validate that the subscriber is not exceeding a specified allowable number of accounts per subscriber (para [0076], [0088], [0106]).
It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the virtual pooled account for mobile banking of Realini (as enhanced by Keena) with the system and method for financial transaction interoperability across multiple mobile networks of Wuhrer, because Realini, Keena and Wuhrer are directed to systems and methods for monetary transaction system. Furthermore, users and designers benefit from systems and/or methods adapted for enabling a mobile device to execute transactions via the system, and in some embodiments, transactions originate from a third party application through system platform APIs for the reload application and the gifting application; the system is coupled to multiple accounts of the user, including for example, a system account, a debit card account, a credit card account, a PayPal account, multiple prepaid accounts 364 and a bank account, because such systems/methods provide a platform and application layer that can function across an array of payment platforms or network types (Wuhrer, para [0007]).

Claims 1 - 20 have industrial applicability as defined by PCT Article 33(4), because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.20A	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 12/43321	International filing date *(day/month/year)* 20 June 2012 (20.06.2012)	(Earliest) Priority Date *(day/month/year)* 20 June 2011 (20.06.2011)
Applicant MOZIDO, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 2

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/43321

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/78
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06Q 20/00 (2012.01)
USPC: 705/78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/64; 235/379 (keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB, USPT, EPAB, JPAB); Google Scholar; Google Patents; FreePatentsOnline. Search terms used: mobile-wallet mobile-payment electronic-wallet electronic-payment mobile-purse electronic-purse wallet-funds purse-funds wallet-available purse-available wallet-balance purse-balance mobile-vault wallet-sufficient...

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/0275779 A1 (LAKSHMINARAYANAN) 06 November 2008 (06.11.2008) entire document, especially Abstract; Figs. 6, 8; para [0006], [0023], [0031], [0033], [0041], [0047], [0054], [0056]-[0059], [0062], [0073], [0075], [0077], [0081], [0083], [0092], [0096], [0105], [0131], [0133]	1 - 20
Y	US 2007/0255620 A1 (TUMMINARO et al.) 01 November 2007 (01.11.2007) entire document, especially Abstract; para [0021], [0187], [0202], [0203], [0208], [0255], [0256], [0258], [0367]-[0372], [0590], [0702], [0739], [0882], [1135]	1 - 20
A	US 2010/0030651 A1 (MATOTEK et al.) 04 February 2010 (04.02.2010) entire document	1 - 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
09 August 2012 (09.08.2012)	06 SEP 2012
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN M. GUYNN
60 EAST SOUTH TEMPLE
SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)* 06 SEP 2012	
Applicant's or agent's file reference 18756.20A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 12/43321	20 June 2012 (20.06.2012)	20 June 2011 (20.06.2011)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 20/00 (2012.01)
USPC - 705/78

Applicant MOZIDO, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to th IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	09 August 2012 (09.08.2012)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43321

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43321

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1 - 20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1 - 20	NO
Industrial applicability (IA)	Claims	1 - 20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1 - 20 lack an inventive step under PCT Article 33(3) as being obvious over US 2008/0275779 A1 (Lakshminarayanan) in view of US 2007/0255620 A1 to Tumminaro et al. (hereinafter, 'Tumminaro').

As to claim 1, Lakshminarayanan teaches a computer system comprising the following: one or more processors (para [0041]); system memory (para [0131]); one or more computer-readable storage media having stored thereon computer executable instructions (para [0047]) that, when executed by the one or more processors, causes the computing system to perform a method for allowing a merchant to pay a distributor for delivered goods using an electronic payment system, the method comprising the following: receiving a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets (para [0031], [0054], [0075]-[0077], [0083]; Fig.6);

but fails to explicitly disclose validating that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice; debiting the merchant's mobile wallet by the specified amount of funds; crediting the distributor's mobile wallet by the specified amount of funds; and sending a notification to the distributor indicating that the invoice has been paid.

However, Tumminaro does teach validating that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice (para [0203], [0208]); debiting the merchant's mobile wallet by the specified amount of funds (para [0202]); crediting the distributor's mobile wallet by the specified amount of funds (para [0202]); and sending a notification to the distributor indicating that the invoice has been paid (para [0258]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the mobile payment services of Lakshminarayanan with transacting mobile person-to-person payments of Tumminaro, because Lakshminarayanan and Tumminaro are directed to systems and methods for business to business mobile vault. Furthermore, users and designers benefit from systems and/or methods adapted for allowing the payment server to validate each transaction and transfers funds or responds to the account holder's request for account information, because such systems/methods allow registered users or members in a mobile payment system to send payment to other member or unregistered users or nonmembers, in which a person-to-person payment system allows existing members of a payment system to send funds to nonmembers with the intent that the nonmember becomes a member (Tumminaro, para [0021]).

As to claim 2, in combination with Tumminaro, Lakshminarayanan further discloses wherein the merchant's payment instruction is received from the merchant's mobile device using wireless communication (para [0057]).

As to claim 3, in combination with Tumminaro, Lakshminarayanan further discloses sending a payment received notification to the merchant's mobile device (para [0057]).

As to claim 4, in combination with Tumminaro, Lakshminarayanan further discloses wherein the indication sent to the distributor is sent to the distributor's mobile device using wireless communication (para [0031]-[0033]).

As to claim 5, in combination with Tumminaro, Lakshminarayanan further discloses wherein the distributor's invoice is submitted to the merchant's mobile device by a delivery person on behalf of the distributor (para [0056]).

As to claim 6, in combination with Lakshminarayanan, Tumminaro further discloses prior to receiving the payment instruction from the merchant mobile device, receiving invoice submission data from the delivery person's mobile device using wireless communication, the invoice submission data indicating that the merchant is to be invoiced in the specified amount for the physically delivered goods (para [0256], [0739]).

As to claim 7, in combination with Tumminaro, Lakshminarayanan further discloses sending an electronic invoice to the merchant's mobile device in response to receiving a request from the merchant and in response to receiving the invoice submission data from the delivery person on behalf of the distributor, the electronic invoice indicating that the merchant owes the distributor the specified amount for the physically delivered goods (para [0031], [0059], [0092]).

As to claim 8, in combination with Tumminaro, Lakshminarayanan further discloses wherein receiving a payment instruction from a merchant mobile device using wireless communication comprises receiving a payment instruction indicating that the electronic invoice is to be paid from the merchant's mobile wallet (para [0096]).

- Please See Supplemental Box -

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2. Citations and explanations:

As to claim 9, in combination with Lakshminarayanan, Tumminaro further discloses wherein receiving a payment instruction from the merchant mobile device using wireless communication comprises receiving a payment instruction indicating that a paper invoice is to be paid from the merchant's mobile wallet (para [0256]).

As to claim 10, in combination with Lakshminarayanan, Tumminaro further discloses sending the merchant an additional notification notifying the merchant of a pending delivery (para [0702]).

As to claim 11, in combination with Lakshminarayanan, Tumminaro further discloses wherein the additional notification indicates a delivery date and time window in which the deliver is to occur (para [0590]).

As to claim 12, in combination with Lakshminarayanan, Tumminaro further discloses wherein subsequent notifications are sent to the merchant automatically upon the occurrence of a delay (para [0367]-[0372]).

As to claim 13, in combination with Tumminaro, Lakshminarayanan further discloses sending the merchant a real-time inventory adjustments notification that indicates the merchant's newly received goods (para [0023], [0081]).

As to claim 14, in combination with Lakshminarayanan, Tumminaro further discloses automatically closing out a merchant accounts receivable (A/R) account upon completion of the transaction (para [1132]).

As to claim 15, in combination with Lakshminarayanan, Tumminaro further discloses wherein the electronic payment system utilizes an internal processor to maintain individual merchant mobile wallet balances in addition to distributor mobile wallet balances (para [1135]).

As to claim 16, Lakshminarayanan teaches a mobile payment platform, the mobile payment platform including: an electronic payment system, the electronic payment system including one or more computer storage devices having stored thereon computer executable instructions representing a payment processor, an invoice processor, a merchant mobile wallet, and a distributor mobile vault, the distributor mobile vault including a distributor mobile wallet and distributor invoicing data, the merchant mobile wallet for a merchant, the distributor mobile vault for a distributor (para [0006], [0056], [0096]); record generation of the electronic invoice in the distributor's mobile vault (para [0031]-[0033]); receive an indication that an electronic invoice has been paid (para [0073]); and record the indication that the electronic invoice has been paid in the distributor's mobile vault (para [0133]);
but fails to explicitly disclose a distributor mobile device, the distributor mobile device including one or more computer storage devices having stored thereon computer executable instructions representing an invoicing application; and an merchant mobile device, the merchant mobile device including one or more computer storage devices having stored thereon computer executable instructions representing a mobile wallet application; and wherein the invoice processor is configured to: receive invoice submission data from the distributor's mobile device, the invoice submission data indicating that goods valued at a specified amount were physically delivered to the merchant; generate an electronic invoice based on the invoice submission data; submit the generated electronic invoice to the merchant's mobile device.
However, Tumminaro does teach a distributor mobile device, the distributor mobile device including one or more computer storage devices having stored thereon computer executable instructions representing an invoicing application (para [0256], [0882]); and an merchant mobile device, the merchant mobile device including one or more computer storage devices having stored thereon computer executable instructions representing a mobile wallet application (para [0253]-[0255], [0882]); and wherein the invoice processor is configured to: receive invoice submission data from the distributor's mobile device, the invoice submission data indicating that goods valued at a specified amount were physically delivered to the merchant (para [0256]); generate an electronic invoice based on the invoice submission data (para [0256]); submit the generated electronic invoice to the merchant's mobile device (para [0882]).
It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the mobile payment services of Lakshminarayanan with transacting mobile person-to-person payments of Tumminaro, because Lakshminarayanan and Tumminaro are directed to systems and methods for business to business mobile vault. Furthermore, users and designers benefit from systems and/or methods adapted for allowing the small business to select an invoicing option that puts the invoice from the accounting program into OFX format, because such systems/methods allow registered users or members in a mobile payment system to send payment to other member or unregistered users or nonmembers, in which a person-to-person payment system allows existing members of a payment system to send funds to nonmembers with the intent that the nonmember becomes a member (Tumminaro, para [0021]).

As to claim 17, in combination with Tumminaro, Lakshminarayanan further discloses wherein the payment processor is configured to: receive a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets (para [0031], [0096]); validate that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice (para [0096]); debit the merchant's mobile wallet by the specified amount of funds (para [0105]); credit the distributor's mobile wallet by the specified amount of funds (para [0058]-[0062], [0105]; Fig.8); and send a notification to the distributor indicating that the invoice has been paid (para [0092]).

As to claim 18, in combination with Tumminaro, Lakshminarayanan further discloses wherein the generated electronic invoice is submitted to the merchant's mobile device by a delivery person on behalf of the distributor (para [0083]).

As to claim 19, in combination with Lakshminarayanan, Tumminaro further discloses the merchant uses the mobile payment platform for performing at least one of the following in addition to making payments for received goods: bill payments, remittances, mobile phone airtime top-up and retail purchases (para [0187] - pay their bills or top-off minutes via their service account).

- Please See Supplemental Box -

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43321

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V.2. Citations and explanations:

As to claim 20, Lakshminarayanan teaches a mobile payment platform, the mobile payment platform including: an electronic payment system, the electronic payment system including one or more computer storage devices having stored thereon computer executable instructions representing a payment processor, an invoice processor, a merchant mobile wallet, and a distributor mobile vault, the distributor mobile vault including a distributor mobile wallet and distributor invoicing data, the merchant mobile wallet for a merchant, the distributor mobile vault for a distributor (para [0031], [0054], [0075]-[0077], [0083]; Fig.6); a distributor mobile device, the distributor mobile device including one or more computer storage devices having stored thereon computer executable instructions representing an invoicing application (para [0031], [0054], [0056], [0075]-[0077], [0083]); and an merchant mobile device, the merchant mobile device including one or more computer storage devices having stored thereon computer executable instructions representing a mobile wallet application (para [0096]); and wherein the invoice processor is configured to: receive invoice submission data from the distributor's mobile device, the invoice submission data indicating that goods valued at a specified amount were physically delivered to the merchant (para [0083]); generate an electronic invoice based on the invoice submission data (para [0056]); submit the generated electronic invoice to the merchant's mobile device (para [0083]); record generation of the electronic invoice in the distributor's mobile vault (para [0083]); receive an indication that an electronic invoice has been paid (para [0092]); and record the indication that the electronic invoice has been paid in the distributor's mobile vault (para [0092]); and wherein the payment processor is configured to: receive a payment instruction from a merchant, the payment instruction indicating that a distributor's invoice for a specified amount is to be paid from the merchant's mobile wallet, the invoice being generated for one or more goods physically delivered from the distributor to the merchant, the merchant and the distributor both having mobile wallets (para [0096], [0133]);

but fails to explicitly disclose validate that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice; debit the merchant's mobile wallet by the specified amount of funds; credit the distributor's mobile wallet by the specified amount of funds; and send a notification to the distributor indicating that the invoice has been paid.

However, Tumminaro does teach validate that the merchant's mobile wallet has a balance of funds sufficient to pay the amount specified in the invoice (para [0203], [0208]); debit the merchant's mobile wallet by the specified amount of funds (para [0202]); credit the distributor's mobile wallet by the specified amount of funds (para [0202]); and send a notification to the distributor indicating that the invoice has been paid (para [0258]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the mobile payment services of Lakshminarayanan with transacting mobile person-to-person payments of Tumminaro, because Lakshminarayanan and Tumminaro are directed to systems and methods for business to business mobile vault. Furthermore, users and designers benefit from systems and/or methods adapted for allowing the payment server to validate each transaction and transfers funds or responds to the account holder's request for account information, because such systems/methods allow registered users or members in a mobile payment system to send payment to other member or unregistered users or nonmembers, in which a person-to-person payment system allows existing members of a payment system to send funds to nonmembers with the intent that the nonmember becomes a member (Tumminaro, para [0021]).

Claims 1 - 20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.36.1A	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 12/58849	International filing date *(day/month/year)* 05 October 2012 (05.10.2012)	(Earliest) Priority Date *(day/month/year)* 05 October 2011 (05.10.2011)
Applicant LIBERTY, MICHAEL A.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/58849

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/00 (2012.01)
USPC - 705/2
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G06Q 30/00 (2012.01)
USPC: 705/2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/3; 705/2; 705/4;

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Patbase(ALL); PubWEST(PGPB,USPT,EPAB,JPAB): Google Scholar; wallet, mobile, digital, electronic, HIPAA, receive, send, transmit, ad, advertisement, coupon, discount, promotion,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2008/0097851 A1 (Bemmel et al.) 24 April 2008 (24.04.2008) entire document (especially para [0003[, [0010], [0023], [0033]-[0034], [0067], [0073], [0089]-[0091])	1-2, 4-9, 11-14, 16-20 --- 3, 10, 15
Y	US 2007/0198432 A1 (Pitroda et al.) 23 August 2007 (23.08.2007) (para [0305], [0420]-[0421])	3, 10, 15
A	US 2008/0208741 A1 (Arthur et al.) 28 August 2008 (28.08.2008) entire document	1-20
A	US 2008/0255947 A1 (Friedman) 16 October 2008 (16.10.2008) entire document	1-20
A	US 2004/0215491 A1 (Clark et al.) 28 October 2004 (28.10.2004) entire document	1-20
A	US 6,256,614 B1 (Wecker et al.) 03 July 2001 (03.07.2001) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
01 December 2012 (01.12.2012)	04 JAN 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE, SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	04 JAN 2013
Applicant's or agent's file reference 18756.36.1A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 12/58849	05 October 2012 (05.10.2012)	05 October 2011 (05.10.2011)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 30/00 (2012.01)
USPC - 705/2

Applicant LIBERTY, MICHAEL A.

I. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	02 December 2012 (02.12.2012)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/58849

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/58849

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	3, 10, 12-19	YES
	Claims	1-2, 4-9, 11, and 20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-2, 4-9, 11, and 20 lack novelty under PCT Article 33(2) as being anticipated by US 2008/0097851 A1 to Bemmel et al. (hereinafter Bemmel).

As per claims 1, and 20, Bemmel teaches at an electronic payment system (para [0033], [0037]), the electronic payment system including one or more processors and system memory (para [0033], [0064]-[0065]), the electronic payment system being wirelessly connected to a plurality of mobile devices (para [0034], [0075], [0083]),
a method for providing a health related service in exchange for participating in opt-in advertising (para [0036]-[0038], [0055], [0091]),
the method comprising: an act of receiving health related information from a user of the electronic payment system (para [0038], [0090]),
the health related information including an indication that the user is initiating participation in opt-in advertising sent from the electronic payment system in exchange for health related services (para [0038]),
the user having a digital device and a mobile wallet account at the electronic payment system, the mobile wallet account being accessible to the through a mobile wallet application running on the user's digital device (para [0033], [0091]);
an act sending one or more interactive advertisements to the user's mobile wallet application for presentation to the user (para [0023],[0067], [0073], [0089]-[0091]);
an act of receiving one or more inputs from the user at the digital device, wherein at least one of the inputs provides interaction with the presented interactive advertisements (para [0023],[0067], [0073], [0089]-[0091]);
an act determining that the user's interactions with the presented advertisements warrant conferring a health related benefit to the user (para [0089]-[0090]); and
an act of indicating to the user that the benefit is available for subsequently purchased health related items (para [0033], [0087], [0089]-[0091]).

As per claim 2, Bemmel teaches the digital device is a mobile telephone (para [0003], [0036], [0042]).

As per claim 4, Bemmel the benefit is derived from and is related to the health related information provided by the user (para [0089]-[0090]).

As per claim 5, Bemmel teaches the benefit is selected from among a reduced cost or free health related service, a coupon, a voucher, and a buy one get one free offer (para [0089]-[0090]).

As per claim 6, Bemmel teaches further comprising an act of recording an indication that the health related benefit was conferred to the user such that the benefit can be used (para [0085], [0087]-[0089]).

As per claim 7, Bemmel teaches the act of recording an indication that the health related benefit was conferred to the user comprises an act of storing the benefit in a brand locker associated with the user's mobile wallet account (para [0038], [0060],[0085], [0087]-[0089]).

As per claim 8, Bemmel teaches the act of an act of recording an indication that the health related benefit was conferred to the user comprises an act of recording a benefit defined by a company that produces at least one of the items advertised in the presented advertisements (para [0038], [0060],[0085], [0087]-[0089]).

As per claim 9, Bemmel teaches the act of recording an indication that the health related benefit was conferred to the user comprises an act of recording a benefit defined by the electronic payment system (para [0038], [0060],[0085], [0087]-[0089]).

As per claim 11, Bemmel teaches the act of determining that the user's interactions with presented advertisements warrants conferring a health related benefit to the user comprises an act of determining that a health related benefit is to be conferred on the user based on the user participating in a call to action contained in the content of the advertisement (para [0023],[0067], [0073], [0089]-[0090]).

-Continuation in the Supplemental Box-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/58849

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V, 2: Citations and Explanations

Claims 12-14, and 16-19 lack an inventive under PCT Article 33(3) as being obvious over Bemmel.

As per claim 12, Bemmel teaches offers related to an individual's healthcare or for age-restricted products (para [0010]), enabling a healthcare service to distribute information or alerts to participants with certain health needs or conditions (para [0090]), but fails to teach the health related benefit conferred to the user comprises a prescription refill discount. Since Bemmel teaches enabling a healthcare service to distribute information or alerts to participants with certain health needs or conditions, it would have been obvious to one of ordinary skill in the art to have modified the syste of Bemmel by including a prescription refill discount because the modification would provide the user with discounts on regularly purchased healthcare items.

As per claim 13, Bemmel teaches a loyalty program (para [0038],[0079], [0091]), but fails to teach the amount of the benefit conferred to the user IS proportional to the user's amount of interaction with the presented advertisements. However, it is well known in the art that loyalty programs provide the user with a discount based on the amount spent or purchases made for one or more products. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the system of Bemmel by including the amount of the benefit conferred to the user is proportional to the user's amount of interaction with the presented advertisements because the modification would identify the purchases made for a particular product using the advertisements and provide the user with additional discounts.

As per claim 14, Bemmel teaches an electronic payment system that is wirelessly connected to a plurality of mobile devices (para [0033]-[0034], [0075], [0083]), comprising the following: one or more processors (para [0033], [0064]-[0065]);
system memory (para [0033], [0064]-[0065]);
one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors (para [0033], [0064]-[0065]),
causes the computing system to perform a method for providing a health related service in exchange for participating in opt-in advertising (para [0036]-[0038], [0055], [0091]), the method comprising the following:
an act of receiving health related information from a user of the electronic payment system (para [0038], [0090]), the health related information including an indication that the user is initiating participation in opt-in advertising sent from the electronic payment system in exchange for health related services (para [0038]),
the user having a digital device and a mobile wallet account at the electronic payment system, the mobile wallet account being accessible to the user through a mobile wallet application running on the user's digital device (para [0033], [0091]);
an act sending one or more interactive advertisements to the user's mobile wallet application for presentation to the user (para [0023],[0067], [0073], [0089]-[0091]);
an act of receiving one or more inputs from the user at the digital device, wherein at least one of the inputs provides interaction with the presented interactive advertisements (para [0023],[0067], [0073], [0089]-[0091]);
an act determining that the user's interactions with the presented advertisements warrant conferring a health related benefit to the user (para [0089]-[0090]), and
an act of indicating to the user that the benefit is available for subsequently purchased health related items (para [0038], [0060],[0085], [0087]-[0089]). Bemmel further teaches a loyalty program (para [0038],[0079], [0091]), but fails to teach the amount of the benefit conferred to the user is proportional to the user's amount of interaction with the presented advertisements.
However, it is well known in the art that loyalty programs provide the user with a discount based on the amount spent or purchases made for one or more products. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the system of Bemmel by including the amount of the benefit conferred to the user is proportional to the user's amount of interaction with the presented advertisements because the modification would identify the purchases made for a particular product using the advertisements and provide the user with additional discounts.

As per claim 16, Bemmel teaches the health related benefits are automatically applied to the user's mobile wallet account (para [0083]-[0084], [0091]).

As per claim 17, Bemmel teaches the health related benefits are automatically applied at checkout to the purchase of at least one of the items that was advertised in the presented advertisements (para [0033], [0083]-[0084], [0091]).

As per claim 18, Bemmel teaches the health related benefits are provided by at least one of a retail goods store and an item's manufacturer (para [0083]-[0084], [0091]).

As per claim 19, Bemmel teaches the user's interaction with the advertisements comprises at least one of playing a video, viewing an advertisement, answering one or more questions about a product and providing a rating or review of a product (para [0067], [0073], [0091]).

-Continuation in Next Supplemental Box-

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/58849

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
-Continuation in Preceding Supplemental Box-

Claims 3, 10, and 15 lack an inventive step under PCT Article 33(3) as being obvious over Bemmel in view of US 2007/0198432 A1 to Pitroda et al. (hereinafter Pitroda).

As per claim 3, Bemmel fails to teach the health related information received in a Health Insurance Portability and Accountability Act (HIP AA) compliant manner.
However, Pitroda, in an analogous art, teaches the health related information received in a Health Insurance Portability and Accountability Act (HIP AA) compliant manner (para [0421]). It would have been obvious to one of ordinary skill in the art to have modified the system of Bemmel by including the health related information received in a Health Insurance Portability and Accountability Act (HIP AA) compliant manner as taught by Pitroda because the modification would increase security by protecting the user's sensitive/private information.

As per claims 10 and 15, Bemmel fails to teach the act of indicating to the user that the benefit is available for subsequently purchased health related items comprises indicating to the user by sending a message to the mobile wallet application for the user in a HIP AA compliant matter.
However, Pitroda, in an analogous art, teaches the act of indicating to the user that the benefit is available for subsequently purchased health related items comprises indicating to the user by sending a message to the mobile wallet application for the user in a HIP AA compliant matter (para [0305], [0420]-[0421]). It would have been obvious to one of ordinary skill in the art to have modified the system of Bemmel by including the act of indicating to the user that the benefit is available for subsequently purchased health related items comprises indicating to the user by sending a message to the mobile wallet application for the user in a HIP AA compliant matter as taught by Pitroda because the modification would increase security by protecting the user's sensitive/private information.

Claims 1-20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.21A	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 12/43458	International filing date *(day/month/year)* 21 June 2012 (21.06.2012)	(Earliest) Priority Date *(day/month/year)* 03 June 2011 (03.06.2011)
Applicant MOZIDO, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 12/43458

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/00 (2012.01)
USPC - 705/14.13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 705/14.13; IPC(8): G06Q 30/00 (2012.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 705/1.1, 14.1, 14.13, 30, 35, 40; 700/1, 90; IPC(8): G06Q 30/00 (2012.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DialogWeb: Google Scholar; Google Web; Google Patents; PubWest; Thomson Innovation
Search Terms: ADVERTISE, COMPUTER, PROCESSOR, MEMORY, STORE, SAVE, MEDIA, MEDIA, PROGRAM, SOFTWARE, CODE, REDUCED, COST, PRICE, FREE, DISCOUNT, SERVICE, PRODUCT, GOODS, EXCHANGE, TRADE, INTERCHANGE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010/0250356 A1 (Gillenson et al.) 30 September 2010 (30.09.2010), entire document, especially para [0040], [0066], [0068], [0084], [0115]-[0117], [0120], [0123], [0130]-[0131], [0136]-[0137], [0139]-[0140], [0144], [0157], [0160], [0162], [0167]	1-20
Y	US 7,548,915 B2 (Ramer et al.) 16 June 2009 (16.06.2009), entire document, especially col. 3, ln 10-28; col. 9, ln 64 to col. 10, ln 28; col. 27, ln 12-46	1-20
A	US 7,689,506 B2 (Fei et al.) 30 March 2010 (30.03.2010), entire document	1-20
A	US 7,694,876 B2 (Barnes et al.) 13 April 2010 (13.04.2010), entire document	1-20
A	US 2011/0047016 A1 (Cook) 24 February 2011 (24.02.2011), entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 July 2012 (27.07.2012)	17 AUG 2012
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE
SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	17 AUG 2012
Applicant's or agent's file reference 18756.21A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 12/43458	21 June 2012 (21.06.2012)	03 June 2011 (03.06.2011)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 30/00 (2012.01)
USPC - 705/14.13

Applicant MOZIDO, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to th IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fom PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	27 July 2012 (27.07.2012)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43458

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43458

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 lack an inventive step under PCT Article 33(3) as being obvious over US 2010/0250356 A1 to Gillenson et al. (hereinafter Gillenson) in view of US 7,548,915 B2 to Ramer et al. (hereinafter Ramer).

Regarding claim 1, Gillenson discloses a computer system (para [0068]) comprising the following:
one or more processors (para [0068]);
system memory (para [0116]);
one or more computer-readable storage media (para [0084]) having stored thereon computer-executable instructions (para [0115]) that, when executed by the one or more processors (para [0068]), cause the computing system to (para [0068]) perform a method for providing a reduced cost or free financial service in exchange for participation in opt-in advertising (para [0160]), the method comprising the following:
receiving an indication that a user is opting in to receive opt-in advertising from an electronic payment system in exchange for a reduced cost or free financial service or good (para [0120]);
analyzing the list of items to identify items or item categories in which the user may be interested (para [0040]);
selecting one or more advertisements based on the identified items or item categories (para [0130]);
sending the selected advertisements to a mobile wallet application for the user that is tied to the user's mobile wallet account (para [0120]);
determining that the user's interactions with the selected advertisements warrant conferring a benefit to the user (para [0167]), the benefit being selected from among a reduced cost (para [0136]) or free financial service or good (para [0137]), a coupon (para [0120]), a voucher, and a buy one get one free offer; and
conferring the selected benefit upon the user by sending the benefit to the user's mobile wallet application (para [0120]).
Gillenson does not expressly disclose that the user having a mobile wallet account with the electronic payment system and the method comprises receiving a list of one or more items that the user has purchased using the mobile wallet account.
However, Ramer discloses that the user having a mobile wallet account with the electronic payment system (col. 27, ln 29); and
the method comprises receiving a list of one or more items that the user has purchased using the mobile wallet account (col. 9, ln 64 to col. 10, ln 28).
It would have been obvious to one having ordinary skill in the art to modify the system and method of Gillenson so as that the user having a mobile wallet account with the electronic payment system and the method comprises receiving a list of one or more items that the user has purchased using the mobile wallet account, as disclosed by Ramer, because Gillenson and Ramer are directed to systems and methods of electronic incentive mobile content placement. Furthermore, users of such systems and methods benefit from the user having a mobile wallet account with the electronic payment system and the method comprises receiving a list of one or more items that the user has purchased using the mobile wallet account, because such systems and methods overcome the difficulties including the inability to display appropriate content, difficulty entering queries and taking other suitable actions such as navigation in an environment adapted to full screen displays, full-sized keyboards, and high-speed network connections (Gillenson para [0066]; Ramer col. 3, ln 10-28).

Regarding claim 2, in the combination of Gillenson and Ramer, Gillenson further discloses further comprising:
recording an indication that the benefit was conferred to the user such that the benefit can be used for subsequently purchased items (para [0130]); and indicating that the benefit is available to the user by sending a message to the mobile wallet application for the user (para [0123]).

Regarding claim 3, in the combination of Gillenson and Ramer, Gillenson further discloses that recording an indication that the benefit was conferred to the user comprises storing the benefit in a brand locker associated with the user's mobile wallet account (para [0131]).

Regarding claim 4, in the combination of Gillenson and Ramer, Gillenson further discloses that recording an indication that the benefit was conferred to the user comprises recording a benefit defined by a producer of a product in an advertisement sent to the mobile wallet application (para [0160]).

--Please See Continuation Sheet--

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43458

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
Claim 9 contain typographic errors.

Claim 9 recites: "The computer system of claim 3, wherein the digital device is a mobile telephone." Claim 3 fails to provide antecedent basis for "digital device." However, claim 8 provides antecedent basis for "digital device." For the purposes of this International Search Report, claim 9 is interpreted as depending from claim 8.

Form PCT/ISA/237 (Box No. VII) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43458

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V. 2. Citations and explanations:

Regarding claim 5, in the combination of Gillenson and Ramer, Gillenson further discloses that recording an indication that the benefit was conferred to the user comprises recording a benefit defined the electronic payment system (para [0130]).

Regarding claim 6, in the combination of Gillenson and Ramer, Gillenson further discloses that determining when the user's interactions with the selected advertisements warrants conferring a benefit to the user comprises determining that a benefit is to be conferred on the user based on the user participating in a call to action contained in the content of the advertisement (para [0120]).

Regarding claim 7, in the combination of Gillenson and Ramer, Gillenson further discloses that electronic payment system is wirelessly connected to a plurality of mobile telephones their corresponding mobile wallet users (para [0157]).

Regarding claim 8, in the combination of Gillenson and Ramer, Gillenson further discloses that the mobile wallet application is running on a digital device (para [0117]).

Regarding claim 9, in the combination of Gillenson and Ramer, Gillenson further discloses that the digital device is a mobile telephone (para [0123]).

Regarding claim 10, in the combination of Gillenson and Ramer, Gillenson further discloses that the received list of one or more items is analyzed along with one or more other items previously purchased by the user to determine items or item categories in which the user may be interested (para [0136]).

Regarding claim 11, in the combination of Gillenson and Ramer, Gillenson further discloses further comprising receiving an indication that the user has redeemed the conferred benefit (para [0140]).

Regarding claim 12, in the combination of Gillenson and Ramer, Gillenson further discloses that the conferred benefit comprises a coupon for a specified item and wherein the coupon is applied automatically as the user pays for the specified item using the mobile wallet application (para [0144]).

Regarding claim 13, Gillenson discloses a computer system (para [0068]) comprising the following:
one or more processors (para [0068]);
system memory (para [0116]);
one or more computer-readable storage media (para [0084]) having stored thereon computer-executable instructions (para [0115]) that, when executed by the one or more processors (para [0068]), cause the computing system (para [0068]) to perform a method for redeeming a benefit received for participation in opt-in advertising (para [0068]), the method comprising the following:
validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds to pay for the specified good or service (para [0120]);
receiving a second indication from the user's mobile wallet application that a specified benefit is to be applied for the purchase of the good or service (para [0139]);
determining that the specified benefit applies to the indicated good or service (para [0140]); and
applying the specified benefit to the indicated good or service, such that the user purchases the indicated good or service at a price reduced by the amount of the benefit (para [0144]).
receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application (col. 27, ln 12-46);
Gillenson does not expressly disclose receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application.
However, Ramer discloses receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application (col. 27, ln 12-46).
It would have been obvious to one having ordinary skill in the art to modify the system and method of Gillenson so as to receive a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application, as disclosed by Ramer, because Gillenson and Ramer are directed to systems and methods of electronic incentive mobile content placement. Furthermore, users of such systems and methods benefit from receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application, because such systems and methods overcome the difficulties including the inability to display appropriate content, difficulty entering queries and taking other suitable actions such as navigation in an environment adapted to full screen displays, full-sized keyboards, and high-speed network connections (Gillenson para [0066]; Ramer col. 3, ln 10-28).

Regarding claim 14, in the combination of Gillenson and Ramer, Gillenson further discloses that the specified benefit is applied automatically as the user purchases the indicated good using the mobile wallet application (para [0144]).

Regarding claim 15, in the combination of Gillenson and Ramer, Gillenson further discloses further comprising sending a notification to the user indicating that the specified benefit was applied to the purchase of the indicated good (para [0131]).

--Please See Continuation Sheet--

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 12/43458

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V. 2. Citations and explanations:

Regarding claim 16, in the combination of Gillenson and Ramer, Gillenson further discloses further comprising sending a notification to the producer of the good indicating the benefit was applied to the purchase of producer's good (para [0131]).

Regarding claim 17, in the combination of Gillenson and Ramer, Gillenson further discloses that the producer of the good provides an additional benefit to the user for purchasing the producer's goods (para [0162]).

Regarding claim 18, in the combination of Gillenson and Ramer, Gillenson further discloses that the additional benefit is stored in a brand locker in the user's mobile wallet application (para [0131]).

Regarding claim 19, Gillenson discloses a computer system (para [0068]) comprising the following:
one or more processors (para [0068]);
system memory (para [0116]);
one or more computer-readable storage media (para [0084]) having stored thereon computer-executable instructions (para [0115]) that, when executed by the one or more processors (para [0068]), cause the computing system (para [0068]) to perform a method for redeeming a coupon received for participation in opt-in advertising (para [0068]), the method comprising the following:
validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds to pay for the specified good or service (para [0120]);
receiving a second indication from the user's mobile wallet application that the coupon is to be applied for the purchase of the good or service (para [0139]);
determining that the coupon applies to the indicated good or service (para [0140]); and
applying the coupon to the indicated good or service, such that the user purchases the indicated good or service at a price reduced by the amount of the coupon (para [0144]).
Gillenson does not expressly disclose receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application.
However, Ramer discloses receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application (col. 27, ln 12-46).
It would have been obvious to one having ordinary skill in the art to modify the system and method of Gillenson so as to receive a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application n, as disclosed by Ramer, because Gillenson and Ramer are directed to systems and methods of electronic incentive mobile content placement. Furthermore, users of such systems and methods benefit from receiving a first indication from a user's mobile wallet that a user is attempting to pay for a good or service using a mobile wallet application, because such systems and methods overcome the difficulties including the inability to display appropriate content, difficulty entering queries and taking other suitable actions such as navigation in an environment adapted to full screen displays, full-sized keyboards, and high-speed network connections (Gillenson para [0066]; Ramer col. 3, ln 10-28).

Regarding claim 20, in the combination of Gillenson and Ramer, Gillenson further discloses that coupons stored in the user's brand locker (para [0131]) are automatically applied when purchasing the coupon's corresponding product or service (para [0144]).

Claims 1-20 have industrial applicability as defined by PCT Article 33(4), because the subject matter can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756.21.1.1A	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2013/039100	International filing date *(day/month/year)* 01 May 2013	(Earliest) Priority Date *(day/month/year)* 02 May 2012
Applicant MOZIDO, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 4

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/039100

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 30/02 (2013.01)
USPC - 705/14.13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06Q 30/00, 30/02 (2013.01)
USPC -705/1.1, 14.13, 14.14, 14.16, 14.23

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G06Q 30/00, 30/02 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2011/0258024 A1 (PRINCE) 20 October 2011 (20.10.2011) entire document	1-20
Y	WO 2012/025824 A2 (YANG et al) 01 March 2012 (01.03.2012) entire document	1-20
Y	US 2009/0299844 A1 (REILLY et al) 03 December 2009 (03.12.2009) entire document	10
Y	US 6,175,823 B1 (VAN DUSEN) 16 January 2001 (16.01.2001) entire document	15, 20

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 August 2013	23 AUG 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE, SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	23 AUG 2013
Applicant's or agent's file reference 18756.21.1.1A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2013/039100	01 May 2013	02 May 2012

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 30/02 (2013.01)
USPC - 705/14.13

Applicant MOZIDO, LLC

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	12 August 2013	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

   ☐ on paper

   ☐ in electronic form

   b. (time)

   ☐ in the international application as filed

   ☐ together with the international application in electronic form

   ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-9, 11-14, 16- 19 lack an inventive step under PCT Article 33(3) as being obvious over Prince and in view of Yang et al., hereinafter referred to as Yang.

Regarding claim 1, Prince discloses an electronic payment system (advertising referral incentive system with monetary payments, abstract) comprising the following: one or more processors (digital processing apparatus and the software is execution by processors, para 0041, 0042); system memory (flash memory, digital memory device, para 0041); one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors (the computer readable medium has modules with software execution by processors, para 0041, 0042), cause the electronic payment system to perform a method for providing monetary rewards in exchange for participation in opt-in advertising (incentive advertising apparatus 10 and payment 30 is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560, para 0085, 0086 [participation initiation]), the method comprising the following: an act of receiving at the electronic payment system an indication that a user of is initiating participation in opt-in advertising sent from the electronic payment system in exchange for a monetary reward (incentive advertising apparatus 10 and payment 30 [monetary reward] is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560 and once the user views an ad, gets a payment 660, para 0085, 0086 [participation initiation), the user having an account at the electronic payment system (user selects an account 520 and logs in, para 0085, 0086, see fig. 5); an act of sending one or more advertisements to a digital device of the user (the advertisement maybe delivered through a device mobile device 140, para 0051, 0059, see fig. 2, fig. 8, 9); an act of determining an appropriate monetary reward based on at least one of the number and type of advertisements sent to the user's mobile (user payment 90 based on a self-selected or current interests, para 0049; if user near a restaurant then the incentive is a coupon for a discount on dinner, with an offer to view an advertisement for a free appetizer, para 0090; see para 0011); and an act of providing the determined monetary reward to the user on the user's digital device (when user accepts the advertisement offer, the value is associated with the user's account and made available on the mobile device, para 0090). Prince lacks the teaching of a mobile wallet application running on a digital device of the user and providing a reward to the user via the mobile wallet application. Yang is in the field of a customer loyalty system using a virtual wallet (abstract) and further teaches a mobile wallet application running on a digital device of a user used for providing rewards to the user (pay for goods and services from his account in system (such as through a "virtual wallet") and to accumulate bonus points, reward points, on this account and the user access his account to his one or more virtual wallets, page 9, paragraph 4- page 10, paragraph 1, see fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 14, Prince discloses an electronic payment system (advertising referral incentive system with monetary payments, abstract) comprising the following: one or more processors (digital processing apparatus and the software is execution by processors, para 0041, 0042); system memory (flash memory, digital memory device, para 0041); one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors (the computer readable medium has modules with software execution by processors, para 0041, 0042), cause the electronic payment system to perform a method for redeeming a monetary reward received for participation in opt-in advertising (incentive advertising apparatus 10 and payment 30 is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560, para 0085, 0086 [participation initiation], user present the device at POS and access the saved value system to redeem the value, para 0092), the method comprising the following: an act of receiving a first indication from a user's mobile that a user is attempting to pay for a good or service using one or more monetary rewards received in exchange for participation in opt-in advertising (incentive advertising apparatus 10 and payment 30 [monetary reward] is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560 and once the user views an ad, gets a payment 660, para 0085, 0086; user present the device at POS and access the saved value system to redeem the value, para 0090, 0092), the user having a mobile account at the electronic payment system (user selects a new account and demographic information 560 and once the user views an ad, gets a payment 660, para 0085, 0086; the value is associated with an account of the user, para 0090); and an act of applying one or more of the monetary rewards to the indicated good or service, allowing the user to purchase the indicated good or service using the received monetary rewards (when user accepts the advertisement offer, the value is associated with the user's account and made available on the mobile device, para 0090; user present the device at POS and access the saved value system to redeem the value, para 0092). Prince lacks the teaching of a mobile wallet application running on a digital device of the user and an act of validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service. Yang is in the field of a customer loyalty system using a virtual wallet (abstract) and further teaches a mobile wallet application running on a digital device of a user used for providing rewards to the user (pay for goods and services from his account in system (such as through a "virtual wallet") and to accumulate bonus points, reward points, on this account and the user access his account to his one or more virtual wallets, page 9, paragraph 4- page 10, paragraph 1, see fig. 1); validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service (a customer 105 may use the loyalty system 200 to discover how much money he has in his virtual wallet [sufficient funds in the mobile wallet], page 16, paragraphs 1, 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

Regarding claim 19, Prince discloses an electronic payment system (advertising referral incentive system with monetary payments, abstract) comprising the following: one or more processors (digital processing apparatus and the software is execution by processors, para 0041, 0042); system memory (flash memory, digital memory device, para 0041); one or more computer-readable storage media having stored thereon computer-executable instructions that, when executed by the one or more processors (the computer readable medium has modules with software execution by processors, para 0041, 0042), cause the computing system to perform a method for redeeming a monetary reward received for participation in opt-in advertising (incentive advertising apparatus 10 and payment 30 is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560, para 0085, 0086 [participation initiation], user present the device at POS and access the saved value system to redeem the value, para 0092), the method comprising the following: an act of receiving an indication from a user's mobile that a user is attempting to pay for a good or service using one or more monetary rewards received in exchange for participation in opt-in advertising (incentive advertising apparatus 10 and payment 30 [monetary reward] is paid to users who watch an advertisement 110 which is focused on users demographic, para 0044, see fig. 1; each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; user selects a new account and demographic information 560 and once the user views an ad, gets a payment 660, para 0085, 0086; user present the device at POS and access the saved value system to redeem the value, para 0090, 0092), the user having an account at the electronic payment system (user selects a new account and demographic information 560 and once the user views an ad, gets a payment 660, para 0085, 0086; the value is associated with an account of the user, para 0090); an act of receiving an indication from the user's mobile indicating that a coupon is to be applied for the purchase of the good or service (a user receives a coupon to a restaurant and get a coupon for discount on dinner, para 0090 and when accepts, the value is redeemed at the point of sale, para 0092); an act of determining that the coupon applies to the indicated good or service (the coupon is offered for that restaurant for a discount or a free appetizer, para 0090); and an act of applying the coupon to the indicated good or service (the user presents the device and the saved value system is accessed to redeem the value, para 0092). Prince lacks the teaching of a mobile wallet application running on a digital device of the user and an act of validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service and an indication for a reward, a second indication for an additional coupon and applying a coupon, such that such that the user purchases the indicated good or service using the received monetary rewards at a price reduced by the amount of the coupon.
Yang is in the field of a customer loyalty system using a virtual wallet (abstract) and further teaches a mobile wallet application running on a digital device of a user used for providing rewards to the user (pay for goods and services from his account in system (such as through a "virtual wallet") and to accumulate bonus points, reward points, on this account and the user access his account to his one or more virtual wallets, page 9, paragraph 4- page 10, paragraph 1, see fig. 1); validating the user's mobile wallet account to ensure that the user's mobile wallet account has sufficient funds, including the monetary rewards, to pay for the specified good or service (a customer 105 may use the loyalty system 200 to discover how much money he has in his virtual wallet [sufficient funds in the mobile wallet], page 16, paragraphs 1, 2) and user purchases indicated service using the received rewards at a price reduced by the amount of a coupon (customer 105 orders an item via the loyalty system 200 and receives bonus points and discounts on the entire order, in addition to any promotion or discount offered for connecting with the loyalty system [here the bonus discount to the promotion or discount is reducing the total amount], page 16, paragraphs 1, 2) . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 2, Prince teaches an act of sending a message to the user's mobile to notify the user that the monetary reward is available (an alert, a text, a beep notifying the user of a coupon, promotion or discount or other "value add", para 0017; notice to user's mobile device of a coupon or a discount, para 0090).Prince lacks the teaching of a mobile wallet application running on a digital device of the user. Yang teaches a mobile wallet application running on a digital device of a user used for providing rewards to the user (pay for goods and services from his account in system (such as through a "virtual wallet") and to accumulate bonus points, reward points, on this account and the user access his account to his one or more virtual wallets, page 9, paragraph 4- page 10, paragraph 1, see fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

Regarding claim 3, Prince teaches analyzing a list of items to identify items or categories of items the user is likely interested in (each user may provide demographic information, interests and self-select products or services that are interesting to the user, para 0047); and (along with other items purchased by the user) an act of selecting the one or more advertisements corresponding to the determined items or categories of items (this selection helps in selecting advertisements customized based on personal preferences, para 0047, 0048). Prince lacks the teaching a list of items that a user has purchased using the mobile wallet account. However, Prince teaches a history of rewards earned in the past (saved value system has the rewards earned by the user in the past, para 0092). Further, Yang teaches a list of items user has purchased using the mobile wallet account (web server in communication with a database (card server) of customers, which contains information about their virtual wallets, orders, history of visits, etc, page 10, paragraph 3, see fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

Regarding claim 4, Prince lacks the teaching wherein the user opts in to receive a specified number of advertisements per time period. However, Prince teaches wherein the advertiser opts in to specify the number of advertisements per time period the user receives (advertiser desires to specify the number of advertisements played to an individual user in a single day [time period], para 0100). Furthermore, defining a condition by an advertiser or user would have been a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Prince to incorporate a specified number of advertisements per time period in the invention for the purpose of providing an advertiser to restrict their advertisements to a target demographic (Prince, para 0099).

Regarding claim 5, Prince lacks the teaching wherein the user provides an increased amount of personal data to receive an increased amount of monetary rewards. However, Prince teaches wherein the user provides referrals of his friends to receive an increased amount of monetary rewards (The user may choose to send invitations to their friends 540 into join or log on the service. If friends sign up 690, the user may receive one or more of many different kinds of bonuses 700. There may be one time bonuses, reciprocal bonuses, extra entries, prizes, drawings or other incentives for those who succeed in referrals, para 0087). Further, Yang teaches wherein the user provides an increased amount of personal data to receive extra features (if customer provides his name, his photo, or a code word, the customer will be rewarded with extra features). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the extra features in the invention of Prince for the purpose of giving the customer an extra feature of accessing the virtual wallets without entering a promotional code (Yang, page 18, paragraph 2).

Regarding claim 6, Prince teaches wherein monetary rewards are customized based on the user's current location (system detects the user is within a mile from a restaurant and the reward is a discount for dinner or a free appetizer, para 0089, 0090).

Regarding claim 7, Prince lacks the teaching wherein one or more of the advertisements are sold at auction and wherein the user receives a specified percentage of the advertisement's selling price. However, Prince teaches advertisement bids and wherein the user receives a higher payment value for viewing the advertisement (advertisement bids and for priority viewing of this advertisement, the value is higher, para 0118). Furthermore, defining the specifics of bidding for an advertisement would have been a matter of design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Prince to incorporate the advertisement bids in the invention for the purpose of aiding aid the advertiser in attracting further interest in an embarrassing or unpopular, but needed product (Prince, para 0118).

Regarding claim 8, Prince teaches wherein the digital device is a mobile telephone (digital device through which the advertisement is delivered is a mobile device 140 which is a smartphone, para 0051, 0052).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 9, Prince teaches wherein the digital device is a prepaid mobile telephone (digital device through which the advertisement is delivered is a mobile device 140 which is a smartphone, cell phones [mobile phones are prepaid or postpaid], para 0051, 0052).

Regarding claim 11, Prince teaches wherein the user receives retailer- or producer-specific monetary rewards (system detects the user is within a mile from a restaurant and the reward is a discount for dinner or a free appetizer [retailer specific reward], para 0089, 0090) but lacks that the rewards are stored in a brand locker associated with the user's mobile wallet account. Yang teaches storing rewards in a brand locker associated with the user's mobile wallet account (each virtual wallet is associated with a separate establishment or a chain connected to or participating in the loyalty system, page 10, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallets in the invention of Prince for the purpose of providing a virtual wallet for each establishment (Yang, page 10, paragraph 1).

Regarding claim 12, Prince teaches wherein the indication further indicates the user's interest in certain products or types of products (each user may provide demographic information, interests and self-select products or services that are interesting to the user, para 0047).

Regarding claim 13, Prince teaches wherein the indication further includes one or more portions of demographic information for the user (each user may provide demographic information, interests and self-select products or services that are interesting to the user, para 0047).

Regarding claim 16, Prince teaches an act of receiving one or more inputs from the user at the mobile interacting with one or more advertisements (each user 100A, 100B, 100C provide information about the user to the advertising server 20 for targeted ads, para 0047; viewing the ad, user required to pass an integrity check 640, add a rating [user input], para 0086); an act of determining that the user's interactions with the advertisements warrants conferring a specified monetary reward to the user (user required to pass an integrity check 640, such as a CAPTCHA, add a rating complete a survery or questionaire which proves that the person has viewed the content and may qualify the user for payment [conferring a monetary reward nased on user's interactions], para 0086); and an act of conferring the specified monetary reward to the user (once the user is passed, the user may receive payment 660 and other benefits, para 0086). Prince lacks the teaching of a mobile wallet application. Yang teaches a mobile wallet application running on a digital device of a user used for providing rewards to the user (pay for goods and services from his account in system (such as through a "virtual wallet") and to accumulate bonus points, reward points, on this account and the user access his account to his one or more virtual wallets, page 9, paragraph 4- page 10, paragraph 1, see fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallet loyalty system in the invention of Prince for the purpose of ridding a customer of multiple loyalty cards by replacing them with one account (Yang, abstract).

Regarding claim 17, Prince teaches receiving an indication that the user has redeemed the conferred monetary reward (if 20 people use the coupon at a checkout [indication of coupon being used] the coupon increases to 50%, para 0114, 0115).

Regarding claim 18, Prince teaches an act of sending a notification to at least one of the user and the provider of the good or service indicating that the one or more monetary rewards were applied to the purchase of the indicated good or service (the user can redeem the stored value, the system can communicate with the user in different ways, para 0091, 0092; and as shown in fig. 11 [970], 12, rewards display shows the amount of rewards claimed).

Claim 10 lacks an inventive step under PCT Article 33(3) as being obvious over Prince and in view of Yang and further in view of Reilly et al., hereinafter referred to as Reilly.

Regarding claim 10, Prince lacks the teaching wherein the user is an unbanked user. Reilly is in the field of prepaid reloadable transaction cards with loyalty programs (abstract) and teaches a unbanked user with a prepaid transaction card for loyalty programs (the present invention provides a reloadable prepaid electronic transaction card 10 that is tied either electronically or physically with a loyalty reward program, para 0018-0020, see fig. 1, 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Reilly to incorporate the unbanked user feature in the invention of Prince for the purpose of providing unbanked users to access services that were previously unavailable or inconvenient to access (Reilly, para 0008).

Claims 15, 20 lack an inventive step under PCT Article 33(3) as being obvious over Prince and in view of Yang and further in view of Van Dusen.

Regarding claim 15, Prince lacks the teaching wherein the one or more monetary rewards are stored in the mobile wallet application, and wherein the one or more monetary rewards are applied automatically as the user pays for the specified good or service using the mobile wallet application. Yang teaches storing rewards in a brand locker associated with the user's mobile wallet account (each virtual wallet is associated with a separate establishment or a chain connected to or participating in the loyalty system, page 10, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallets in the invention of Prince for the purpose of providing a virtual wallet for each establishment (Yang, page 10, paragraph 1). Van Dusen is in the field of electronic gift card systems (title. abstract) and further teaches rewards applied automatically as the user pays for the goods or services (once the gift certificate is applied, it is automatically redeemed when a good is purchase, abstract, col 2 , lines 64-67; claims 13, 24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Van Dusen to incorporate the automatic reward feature in the invention of Prince for the purpose of providing an easy method for the user to redeem a reward without entering the promotional code again and again.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2013/039100

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

Regarding claim 20, Prince lacks the teaching wherein one or more coupons stored in a brand locker of the mobile wallet application are automatically applied when purchasing the coupon's corresponding product or service. Yang teaches storing rewards in a brand locker associated with the user's mobile wallet account (each virtual wallet is associated with a separate establishment or a chain connected to or participating in the loyalty system, page 10, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Yang to incorporate the virtual wallets in the invention of Prince for the purpose of providing a virtual wallet for each establishment (Yang, page 10, paragraph 1). Van Dusen is in the field of electronic gift card systems (title. abstract) and further teaches rewards applied automatically as the user pays for the goods or services (once the gift certificate is applied, it is automatically redeemed when a good is purchase, abstract, col 2 , lines 64-67; claims 13, 24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings of Van Dusen to incorporate the automatic reward feature in the invention of Prince for the purpose of providing an easy method for the user to redeem a reward without entering the promotional code again and again.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Electronic Acknowledgement Receipt

EFS ID:	24840898
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Curtis
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	05-FEB-2016
Filing Date:	30-OCT-2015
Time Stamp:	16:46:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2016-02-05_IDS.pdf	5968781 fa242b2481baf83738b6379b2e938384ac80deaf	no	20
Warnings:					
Information:					

This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	CA2666616.pdf	3215314 f1b37bd72143e78dca7ef304985e937bf1c3c884	no	84
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3	Foreign Reference	CN101606400.pdf	127263 f7aa73e31f2a56cc460addd3c8d3cafa42983d1c	no	1
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4	Foreign Reference	CN102073958.pdf	1198319 863efc88e10fe53181ee02e082751cb662365609	no	14
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5	Foreign Reference	DE10119808.pdf	287749 31b89ff3db6bd10d71274b408fbcf53c7126a0fb	no	1
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6	Foreign Reference	EP1280115.pdf	2353330 bd35d6d7a5d6d3e4d9554a726cacef367b4542f6	no	45
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7	Foreign Reference	JP2001297198.pdf	721660 7447c72a8bb72152ba089d5ca32d185dc904a158	no	8
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8	Foreign Reference	JP2001357164.pdf	174622 674cca8d27b8a38df45e4e6a8a101bf5cf5333c6	no	2
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9	Foreign Reference	JP200299716.pdf	301358 49084a69c7b9d550a69ea37dedb7abaf3b7e4b1d	no	1
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15	Foreign Reference	wO199834203.pdf	1890143 16d21aef62d2ecceb954fd7bc6fc554971f62c6d	no	40
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16	Foreign Reference	WO2001097118.pdf	8283059 9f5e77ab850bced879af4082156a2d8f9efa0491	no	165
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17	Foreign Reference	WO2002071354.pdf	1449398 bee6ebcb12a175b43341da95062bd360d6ee8f18	no	31
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21	Foreign Reference	WO2004053640.pdf	2864229 b0eea751ed267949b7aaf324c2789dc57ee 0dba6	no	41
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34	Non Patent Literature	Clark.pdf	337184 daab927ec72a1f32d76a6b4f2c98b55a72128a51	no	18
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36	Other Reference-Patent/App/Search documents	EP12824344_searchreport.pdf	762146 a3ed319d6bd31cb3209254294ea3da6113e16f2b	no	5
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37	Non Patent Literature	Gao.pdf	1102302 dfd0ac0c9440eed27b043a9ac9879f1dcc3149d3	no	10

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38	Other Reference-Patent/App/Search documents	ISRWO_066013_Jan2013.pdf	614802 1ea793534ecf82fb858b488884c23eedcb309fb0	no	9
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39	Other Reference-Patent/App/Search documents	ISRWO_040131_Jan2013.pdf	636109 9999e5ece06ccde3f4a4929d7ca9a8bd48e8b18d	no	9
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40	Other Reference-Patent/App/Search documents	ISRWO_043321_Sep2012.pdf	413328 1066b248e9b30ac06716b9fb6e03a34827a3263c	no	7
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41	Other Reference-Patent/App/Search documents	ISRWO_058849_Jan2013.pdf	379977 155e4f57a5cd465b965e49000c79e3635c85aceb	no	7
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42	Other Reference-Patent/App/Search documents	ISRWO_43458_Aug2012.pdf	391024 f2354b0ce5a880e2c44de4efb153e5d024f4996d	no	8
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43	Other Reference-Patent/App/Search documents	ISRWO_039100_Aug2013.pdf	582595 745622ea6b527c97e4a18c46244db99aff9da017	no	9
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44	Non Patent Literature	Labrou.pdf	1286173 be37236051685e21606d5b326feb81133fd8de6d	no	10
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45	Non Patent Literature	Motorola.pdf	5085234 c4614620605d43098beac640696dc436b6b0c734	no	4
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47	Non Patent Literature	Valcourt.pdf	535905 cccb4408016730ca838eae98c67542aa7f25eb3d	no	8
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49	Non Patent Literature	199_OA_Dec2012.pdf	1222370 597d5f08a4c7798ce8f8d41dbd974eaccad0a6f4	no	32
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54	Non Patent Literature	543_OA_May2014.pdf	500581 ca735b79652f6d068db0c81da5d07f6de37b406f	no	16
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60	Non Patent Literature	720_FOA_Dec2014.pdf	404616 9cfd5ae591a9b640f57613d2b3bd495a3291975	no	12
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		Total Files Size (in bytes):	94866571		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	24840998
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Curtis
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	05-FEB-2016
Filing Date:	30-OCT-2015
Time Stamp:	16:50:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	822_FOA_Jan2015.pdf	214885 fe478bb380e6c06f6a326d77d772fc0586e39cc9	no	7
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Information:					

2	Non Patent Literature	824_FOA_Feb2015.pdf	603371 16e12b54b993f6467e6d55c84e8cf05998972e6f	no	14
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3	Non Patent Literature	707_FOA_march2015.pdf	230158 62a18e30e2e1506ab809c7c755b98c5fb8e05438	no	7
Warnings:					
Information:					
4	Non Patent Literature	543_OA_Apr2015.pdf	268030 9299b75cf46592651a4392f89c75e3422986d8f1	no	7
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5	Non Patent Literature	192_OA_July2015.pdf	463057 7636f3fa8f0d43820205af21b13e9a82e0ab4748	no	13
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6	Non Patent Literature	466_OA_July2015.pdf	942688 e0fffad78b5cb24c770e910f71565ea10a341906	no	20
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7	Non Patent Literature	720_OA_July2015.pdf	494063 3d414bdba2dc78758bb78cd23c8cf9b124ce2a69	no	10
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8	Non Patent Literature	822_OA_Sept2015.pdf	264206 c8e5799345e09f95ab580d105b6156bc486c915a	no	7
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Total Files Size (in bytes):	4775780

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1

CONFIRMATION NO. 1049

22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

PUBLICATION NOTICE

OC000000080913979

Title:USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

Publication No.US-2016-0055483-A1
Publication Date:02/25/2016

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20050071512	31-Mar-2005	Kim et al.	
	2	20070006327	4-Jan-2007	Lal et al.	
	3	20090024526	22-Jan-2009	Erickson	
	4	20100146607	10-Jun-2010	Piepenbrink et al.	
	5	20130073377	21-Mar-2013	Heath	
	6	20130132219	23-May-2013	Liberty	
	7	20130346309	26-Dec-2013	Giori	
	8	20160055483	25-Feb-2016	Liberty	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	9	International Search Report and Written Opinion for PCT/US2015/58886 dated February 4, 2016	☐
	10	European Search Report for EP12851211 dated February 18, 2016	☐

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	11	13/528720	2-Mar-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

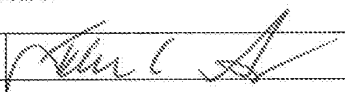
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	5/16/16
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5625424_1

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18756-8-3-1A	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2015/058886	International filing date *(day/month/year)* 03 November 2015	(Earliest) Priority Date *(day/month/year)* 05 November 2014
Applicant MOZIDO, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of:
      ☒ the international application in the language in which it was filed.
      ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,
   a. the figure of the **drawings** to be published with the abstract is Figure No. 1
      ☐ as suggested by the applicant.
      ☒ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/058886

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06Q 20/36 (2015.01)
CPC - G06Q 20/36 (2015.12)
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - G06Q 20/00; 06; 20; 36 (2015.01)
CPC - G06Q 20/065; 202; 36 (2015.12)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 705/21; 705/41 (Keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Orbit, Google Patents, Google Scholar, Google
Search terms used: country, transaction, cloud, regulation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/0024526 A1 (ERICKSON) 22 JANUARY 2009 (22.01.2009) entire document	1-4, 9-11, 14
—		—
Y		5-8, 12, 13
X	US 2013/0132219 A1 (MOZIDO LLC) 23 MAY 2013 (23.05.2013) entire document	15-20
—		—
Y		12
Y	US 2013/0346309 A1 (GIORI) 26 DECEMBER 2013 (26.12.2013) entire document	5-8, 13
A	US 2013/0073377 A1 (HEATH) 21 MARCH 2013 (21.03.2013) entire document	1-20

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 December 2015	04 FEB 2016
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: JOHN C. STRINGHAM
60 EAST SOUTH TEMPLE, SUITE 1000
SALT LAKE CITY, UT 84111

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	04 FEB 2016
Applicant's or agent's file reference 18756-8-3-1A	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2015/058886	03 November 2015	05 November 2014

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G06Q 20/36 (2015.01)
CPC - G06Q 20/36 (2015.12)

Applicant MOZIDO, INC.

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	23 December 2015	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (January 2015)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2015/058886

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).

3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:

a. ☐ forming part of the international application as filed:

☐ in the form of an Annex C/ST.25 text file.

☐ on paper or in the form of an image file.

b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

c. ☐ furnished subsequent to the international filing date for the purposes of international search only:

☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).

☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Form PCT/ISA/237 (Box No. I) (January 2015)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2015/058886

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2, 3, 5-10, 12, 13	YES
	Claims	1, 4, 11, 14-20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1, 4, 11, and 14 lack novelty under PCT Article 33(2) as being anticipated by ERICKSON.

Regarding claim 1, Erickson discloses an cloud-based, mobile global exchange platform ([0021]A wireless network generally includes any communication network or wireless technology platform which is, or can be used by a mobile device to access data from another location, such as a computer server;[0058]In a preferred embodiment seen in FIG. 8, the functions of the aggregator 104 are performed with software located on servers 178 connected to the internet 172. Preferably, a dedicated server 174 belonging to the MNO 104 is located at the same location 176 and on the same intranet as the aggregator servers 178, allowing the main MNO servers 170 to selectively transfer data to the dedicated server 174; [0040] allowing the content provider 108 to access mobile device markets in many different countries), comprising the following:
one or more processors ([0009] in the form of a server connected to the internet);
a hardware receiver configured to receive an indication that a specified sum is to be transferred between a first transaction system and a second transaction system ([0024] a data aggregator 106 collects and distributes user registration and financial data, allowing a user to selectively release this data to third party content providers 108 via a mobile device 102; [0025] the user can selectively transfer money by mobile device between the aggregator 106 [first transaction system] and various third party content providers 108 [second transaction system]; [0039] Some factors to be considered, for example, are the country location of the user, the country location of the third party content provider 108, and the size of the transaction);
a determining component configured to determine a country of origin for the first transaction system ([0039] Some factors to be considered, for example, are the country location of the user),
and further determine a country of origin for the second transaction system ([0039] Some factors to be considered, for example, are... the country location of the third party content provider 108);
a data accessing component configured to access a database with a first data structure indicating a first regulatory scheme under which the first transaction system currently operates ([0038] These regulations can be difficult for a third party content provider to comply with, especially when targeting customers in many different countries... a financial transaction method dictated by one country [first regulatory scheme] will be insufficient for complying with a second country's regulations; [0030] the aggregator 106 may query the MNO 104 (as seen with the two way communication arrows in FIG. 1) for user data; [0039] when the user selects the aggregator 106 for use with a third party content provider 108, the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country...element 152 illustrates a transaction in which the aggregator collects financial data (e.g., financial institution number, account number, etc.)... the aggregator 106 collects and stores the user's financial data...transmits this data to the third party provider 108 to perform the financial transaction [database]);
and further configured to access a second data structure indicating a second regulatory scheme under which the second transaction system currently operates ([0038] These regulations can be difficult for a third party content provider to comply with, especially when targeting customers in many different countries...a financial transaction method dictated by one country will be insufficient for complying with a second country's regulations [second regulatory scheme]; [0039] when the user selects the aggregator 106 for use with a third party content provider 108, the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country);
the first and second regulatory schemes indicating a plurality of rules that are to be enforced when transferring value in or out of the country of origin ([0038] different countries have different regulations regarding financial transactions [plurality]), the first regulatory scheme having at least one rule that is different than the second regulatory scheme ([0038] different countries have different regulations regarding financial transactions...a financial transaction method dictated by one country will be insufficient for complying with a second country's regulations [different rule]);
an analysis engine configured to conduct a real-time analysis of the current regulatory schemes for the first and second transaction systems to determine which specific rules apply when transferring the specified sum between the first and second transaction systems in accordance with each system's respective regulatory scheme ([0039] when the user selects the aggregator 106 for use with a third party content provider 108, the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country. Some factors to be considered, for example, are the country location of the user, the country location of the third party content provider 108, and the size of the transaction. Based on these factors, a type of transaction is selected and performed); and
a value transferring component configured to electronically transfer the specified sum in compliance with the regulatory schemes of the first and second transaction systems, such that the specified sum is transferred from the first transaction system to the second transaction system according to each system's respective current regulatory schemes ([0039] Based on these factors, a type of transaction is selected and performed. For example, element 152 illustrates a transaction in which the aggregator collects financial data (e.g., financial institution number, account number, etc.) then conducts the desired transaction for the third party content provider 108).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

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Supplemental Box

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Continuation of:

Regarding claim 4, Erickson further discloses, wherein at least one bank is involved in the transfer between the first and second transaction systems ([0035] transfer money from an account with the aggregator 106 to a bank or transfer money from a bank into an account with the aggregator 106).

Regarding claim 11, Erickson discloses a computer program product comprising one or more computer storage media having thereon computer-executable instructions that, when executed by one or more processors of a computing system ([0009] in the form of a server connected to the internet, cause the computing system to instantiate a user interface ([0020]The term mobile device used in this application generally includes hand-held electronic devices including a display, an input and a wireless transceiver (e.g., CDMA, Wifi or Bluetooth) capable of sending and receiving communications such as voice or data... generally includes a touch screen display and miniature keyboard, a pager which generally includes a small display and a plurality of navigational buttons) that includes the following:
a first button that, when selected, transmits one or more portions of data indicating that a specified sum is to be transferred between a first transaction system and a second transaction system ([0020] plurality of navigational buttons; Fig 7 #102, first button; [0026] When the user selects content such as gambling or adult media that requires additional information or financial details, the mobile device 102 is directed to a computer server of aggregator 106; [0025] Further, the user can selectively transfer money by mobile device between the aggregator 106 and various third party content providers 108 or any other organization affiliated with the aggregator 106. For example, users may receive payout from winnings on gambling sites, and then transfer that money to payoff credit card balances. Thus, the aggregator 106 acts like an electronic bank account, enabling the user to perform relatively complex and time consuming financial transactions quickly over a mobile device 102; [0009] The aggregator may obtain the user data...from one-time user input with the aggregator. The user can selectively transmit their user data quickly (e.g., with the selection of a single link) via their mobile device between the aggregator and a third party content provider; [0025] For example, users may receive payout from winnings on gambling sites, and then transfer that money to payoff credit card balances; [0052] a request may be sent to the user's mobile device 102 that asks a user to buy or sell that stock. The user may accept or decline the offer, and may also be provided with an "amount" text box to determine an amount of stock to buy or sell.);
a second button that, when selected, transmits authentication credentials from a mobile wallet application, the authentication credentials corresponding to a mobile wallet user ([0020] plurality of navigational buttons; Fig 7 #102, second button; [0009] The aggregator may obtain the user data...from one-time user input with the aggregator; [0024] data aggregator 106 collects and distributes user registration and financial data; [0025] aggregator 106 acts like an electronic bank account, enabling the user to perform relatively complex and time consuming financial transactions quickly over a mobile device 102...the user can selectively transfer money by mobile device between the aggregator 106 and various third party content providers 108 or any other organization affiliated with the aggregator 106 [mobile wallet]; [0027]Next, as seen in element 111 of FIG. 3, the aggregator 106 (i.e., the software on the aggregator server) determines the identity of the user or user's mobile device 102. In one example, the user may log in to the aggregator 106 with a user name and password; [0028] Once the identity of the user or mobile device 102 has been determined, the aggregator 106 determines if user data is stored with the aggregator 106 (e.g., on a server) as seen in element 113.);
a graphical indicator indicating that the transfer is currently being processed ([0028] if user data is present, the user data is either automatically transmitted to the specified content provider or the user is provided a simple transmitting option (e.g., a "Submit Data" button or similar "one click" mechanism) [graphical indicator]; and
an electronic receipt indicator configured to show that the sum was transferred between the first transaction system and the second transaction system (([0034]If the user does not wish to transfer funds to their account with the aggregator 106, the registration process ends with a confirmation message sent to the user (e.g., by text message or email) as seen in element 132. If the user wishes to transfer funds, the aggregator 106 attempts the fund transfer with the financial institution as seen in element 134. As seen in element 136, if the transfer is not successful, the remediation process of element 138 attempts the transfer again. If the transfer is successful, the registration process ends with a confirmation message [electronic indicator]).

Regarding claim 14, Erickson further disclose, wherein the user interface includes a third button that allows a user to add a third transaction system, such that transfers between the first transaction system and the third transaction system, or between the second transaction system and the third transaction system ([0020] plurality of navigational buttons; Fig 7 #102, third button; [0025]Further, the user can selectively transfer money by mobile device between the aggregator 106 first transaction system] and various third party content providers 108 or any other organization affiliated with the aggregator 106 [third transaction system]).

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Supplemental Box

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Claims 15-20 lack novelty under PCT Article 33(2) as being anticipated by MOZIDO LLC (hereinafter MOZIDO).

Regarding claim 15, Mozido discloses a cloud-based mobile global exchange platform ([0003] methods, systems, and computer program products for a cloud-based transaction platform... include an infrastructure that can be used with third party mobile wallets provided by third party mobile wallet providers.), comprising the following:
one or more processors ([0023] one or more processors);
an integration tier configured to manage mobile wallet sessions and maintain the integrity of financial transactions ([0053] Integration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions);
integration tier also comprised of a communication API and other communication mechanisms to accept messages from channels ([0053] Integration tier 101 can also include a communication (e.g., Web services) API and/or other communication mechanisms to accept messages from channels 111);
notification services configured to send notifications through different notification channels including short message peer-to-peer, short-message services and simple mail transfer protocol emails ([0053] notification channels 112, such as, for example, Short Message Peer-to-Peer ("SSMP") for Short Messaging Service ("SMS") and Simple Mail Transfer Protocol ("SMTP") for emails0;
service connectors configured to connect to third party systems ([0054]Service connectors 103 are a set of connectors configure to connect to 3rd party systems 113);
each connector deployed as a separate module intended to integrate an external service to the system architecture ([0054] connector can be a separate module intended to integrate an external service to the system architecture);
business process services configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects ([0054] Business process services 104 are configured to implement business workflows, including executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects. a payment handler configured to wrap APIs of different payment processors including banking accounts, credit and debit cards or processors);
payment handler exposing a common API to facilitate interactions with many different kinds of payment processors ([0054] Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors);
security services configured to perform subscriber authentication ([0055]Security services 106 are configured to perform subscriber authentication);
authorization services configured to perform client authorization using a database-based access control list table ([0055] Authorization services 107 are configured to perform client authorization, such as, for example, using a database-based Access Control List ("ACL") table);
database configured to manage customer accounts, manage company accounts manage transaction histories, store financial transaction details, store customer profiles, store dictionaries used by the mobile wallet platform including countries and currencies, and managing money containers ([0056]Database 108 is configured to manage customer accounts (e.g., storing customer accounts and properties), manage company accounts (e.g., storing company accounts and properties), manage transaction histories (e.g., storing financial transaction details), store customer profiles, storing dictionaries used by the mobile wallet platform, such as, for example, countries, currencies, etc., and managing money containers);
a rules engine configured to gather financial transaction statistics and use the gathered statistics to provide transaction properties including fees and bonuses ([0056] Rules engine 109 is configured to gather financial transaction statistics and uses the statistics to provide transaction properties, such as, for example, fees and bonuses);
rules engine also configured to enforce business constraints including transaction and platform license constraints ([0056] Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints);
one or more computer-readable storage media having stored thereon computer-executable instructions ([0023] Computer-readable media that store computer-executable instructions in the form of data are computer storage media) that, when executed by the one or more processors, ([0023] one or more processors) cause the computing system to perform a remittance ([0096] a remittance transaction), the method comprising the following:
receiving subscriber communication over one of a plurality of channels connected to the mobile global exchange platform ([0063] The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of communication channels (111 from FIG. 1) connected to the cloud-based transaction system 210.);
message received using an API of the integration tier, the subscriber communication indicating that a subscriber desires to transfer a specified sum to a recipient using a selected transfer method from the subscriber ([0061]The subscriber can indicate, using the mobile wallet application 207, which transaction or other action he or she would like to perform; [0067] perform such a transfer, subscriber A (301) enters some type of identification information identifying subscriber B (e.g. subscriber B's phone number) and an amount of money he or she wishes to transfer.);
verifying that the selected transfer method is capable of providing the specified sum ([0062]Performing the specified transactions may include communicating with the monetary transaction database 225 to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile (for instance, whether the subscriber has enough eMoney 221 in his or her stored value account, or has enough money in his or her bank account)).
validation performed by the rules engine in accordance with business constraints ([0056] Rules engine 109 is also configured to enforce business constraints, such as, for example, transactions and platform license constraints);
validating the status of the recipient to ensure the recipient has a valid subscriber account ([0062] Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions);
subscriber account comprised within the database ([0060] The subscriber may have access to a bank account, or may be an unbanked subscriber);
debiting the selected transfer method by the specified sum ([0067] If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302));
debit performed by an API of the payment handler ([0054] Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors);
transferring the specified sum to the recipient over at least one of the plurality of channels connected to the mobile global exchange platform ([0063] The web interface (or the mobile wallet application itself) receives a subscriber-initiated transaction over one of a plurality of communication channels (111 from FIG. 1) connected to the cloud-based transaction system 210);

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transfer completed using a service connector ([0054]Service connectors 103 are a set of connectors configure to connect to 3rd party systems); and
notifying the subscriber that the specified sum was transferred to the recipient over at least one of the plurality of channels connected to the mobile global exchange platform ([0067] The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account);
notification completed by the notification services ([0053] Notification services 102 is configured to send various notifications through different notification channels 112).

Regarding claim 16, Mozido further discloses, wherein validating the status of the recipient comprises performing a check on the specified recipient to comply with a financial regulatory scheme ([0062] Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions);

Regarding claim 17, Mozido further discloses, wherein the sum is transferred internationally between mobile wallet applications ([0059] transferring funds through a third party mobile wallet (nationally or internationally)).

Regarding claim 18, Mozido further discloses, wherein the transferred sum is available in the subscriber's mobile wallet application ([0067] The transaction processor 216 of the monetary transaction system 210 determines if there are sufficient funds to complete the transfer. If sufficient funds are available, the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (302). The system then sends some kind of notification (e.g. SMS) to subscriber B indicating that a certain amount of money was transferred to their account).

Regarding claim 19, Mozido further discloses, wherein the subscriber is an unbanked subscriber ([0052] An "unbanked subscriber" is a subscriber that does not have (or does not have access to) a bank account or credit union account).

Regarding claim 20, Mozido further discloses, comprising performing at least one of a limit check and a velocity check on the selected payment method ([0072] The monetary transaction system 210 validates the status of the specified payment method, determines if the specified payment method can accommodate a purchase for the specified amount, performs a limit check and/or a velocity check).

Claims 2, 3, 9, and 10 lack an inventive step under PCT Article 33(3) as being obvious over ERICKSON.

Regarding claim 2, Erickson does not explicitly disclose, wherein the first transaction system and the second transaction system are located in countries that use different currencies
However Erickson teaches wherein the first transaction system and the second transaction system are located in countries that use currencies ([0039] Some factors to be considered, for example, are the country location of the user, the country location of the third party content provider 108, and the size of the transaction; [0038] different countries have different regulations regarding financial transactions. Furthermore the "different currencies" would have been a matter of design choice and well known in the art at the time of the invention. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate different currencies, as disclosed, within the invention of Erickson because they add robustness to the factors being considered (Erickson [0039]).

Regarding claim 3, Erickson does not explicitly disclose, wherein the cloud-based mobile global exchange platform ties each of the first and second transaction systems to a centralized exchange rate.
However Erickson teaches wherein the cloud-based mobile global exchange platform ties each of the first and second transaction systems to financial data (([0021]A wireless network generally includes any communication network or wireless technology platform which is, or can be used by a mobile device to access data from another location, such as a computer server; [0039] the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country. Some factors to be considered, for example, are the country location of the user, the country location of the third party content provider 108, and the size of the transaction. Based on these factors, a type of transaction is selected and performed. For example, element 152 illustrates a transaction in which the aggregator collects financial data (e.g., financial institution number, account number, etc.) then conducts the desired transaction for the third party content provider 108). Furthermore the "a centralized exchange rate", as financial data, would have been a matter of design choice and well known in the art at the time of the invention.
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a centralized exchange rate, as disclosed, within the invention of Erickson because they add robustness to the use of the financial data (Erickson [0039]).

Regarding claim 9, Erickson further discloses, wherein a mobile wallet application communicates with the mobile global exchange platform using local financial regulations, regardless of which country the mobile wallet application is communicating from ([0025] aggregator 106 acts like an electronic bank account, enabling the user to perform relatively complex and time consuming financial transactions quickly over a mobile device 102...the user can selectively transfer money by mobile device between the aggregator 106 and various third party content providers 108 or any other organization affiliated with the aggregator 106. [mobile wallet]).

Regarding claim 10, Erickson further discloses, wherein the first country of origin for the first monetary transaction system is determined based on a location indicator received from a mobile device, the location indicator being generated based on wireless data received on a wireless radio of the mobile device ([0053] Many mobile devices 102 now include location tracking mechanisms, such as GPS receivers, which allow the mobile device 102 to determine a user's location).

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Claims 5-8 and 13 lack an inventive step under PCT Article 33(3) as being obvious over ERICKSON in view of GIORI.

Regarding claim 5, Erickson does not explicitly disclose, wherein the sum is transferred from the first transaction system to the second transaction system using a SWIFT exchange.
However Erickson teaches wherein the sum is transferred from the first transaction system to the second transaction system using a transaction type ([0025] the user can selectively transfer money by mobile device between the aggregator 106 [first transaction system] and various third party content providers 108 [second transaction system]; [0039]As seen in element 150, when the user selects the aggregator 106 for use with a third party content provider 108, the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country. Based on these factors, a type of transaction is selected and performed).
Giori is also in the field of international transactions ([0001] the present invention relates to a system and method for providing fungible electronic money that can be exchanged between parties, nationally and internationally) and discloses wherein the sum is transferred from the first transaction system to the second transaction system using a SWIFT exchange ([0051] the GSMT provides an open loop system by integrating existing money transfer systems (e.g., MTO systems, mobile money systems, etc.) with the institutional systems used within the financial framework of commercial banks and Central Banks (e.g., the... Society for Worldwide Interbank Financial Telecommunication (SWIFT)).
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate using a SWIFT exchange, as disclosed in Giori, within the invention of Erickson because it is an appropriate transaction type used to abide by the financial regulations of a specific country (Erickson [0039]).

Regarding claim 6, Erickson does not explicitly disclose, wherein the SWIFT exchange transfer from the first transaction system to the second transaction system is performed according to a fee schedule.
However Erickson teaches wherein the transfer from the first transaction system to the second transaction system is performed according to factors ([0025] the user can selectively transfer money by mobile device between the aggregator 106 [first transaction system] and various third party content providers 108 [second transaction system]; [0039]As seen in element 150, when the user selects the aggregator 106 for use with a third party content provider 108, the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country. Based on these factors, a type of transaction is selected and performed). Furthermore the "a fee schedule", as a factor, would have been a matter of design choice and well known in the art at the time of the invention.
Giori discloses wherein the SWIFT exchange transfer from the first transaction system to the second transaction system is performed ([0051] the GSMT provides an open loop system by integrating existing money transfer systems (e.g., MTO systems, mobile money systems, etc.) with the institutional systems used within the financial framework of commercial banks and Central Banks (e.g., the... Society for Worldwide Interbank Financial Telecommunication (SWIFT)).
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate using a fee schedule, as disclosed, within the invention of Erickson because it is adds robustness to the factors used (Erickson [0039]).
In addition, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the SWIFT exchange, as disclosed in Giori, within the invention of Erickson because it is an appropriate transaction type used to abide by the financial regulations of a specific country (Erickson [0039]).

Regarding claim 7, Erickson does not explicitly disclose, wherein the fee schedule specifies higher fees for transactions that are processed sooner, and lower fees for transactions that are processed later.
However Erickson teaches wherein the factors specify transactions that are processed ([0039] Based on these factors, a type of transaction is selected and performed). Furthermore the "the fee schedule specifies higher fees for transactions that are processed sooner and lower fees for transactions that are processed later", as a factor, would have been a matter of design choice and well known in the art at the time of the invention.
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the fee schedule specifications, as disclosed, within the invention of Erickson because it is adds robustness to the factors used to perform the transaction (Erickson [0039]).

Regarding claim 8, Erickson does not explicitly disclose, wherein the transactions are processed together in a bulk transaction.
However Erickson teaches transactions are processed in a transaction ([0039] Based on these factors, a type of transaction is selected and performed. For example, element 152 illustrates a transaction in which the aggregator collects financial data (e.g., financial institution number, account number, etc.) then conducts the desired transaction...The content provider 108 then stores this data for future transactions. Furthermore the "together in a bulk transaction", would have been a matter of design choice and well known in the art at the time of the invention.
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate together in a bulk transaction, as disclosed, within the invention of Erickson because they add robustness to the processing of the transaction (Erickson [0039]).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2015/058886

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding claim 13, Erickson does not explicitly disclose, wherein the money sum is transferred from the first monetary transaction system to the second monetary transaction system using a SWIFT exchange, based on a determination that the transaction is being initiated from a certain country.
However Erickson teaches wherein the money sum is transferred from the first monetary transaction system to the second monetary transaction system using a transaction type based on a determination that the transaction is being initiated from a certain country ([0025] the user can selectively transfer money by mobile device between the aggregator 106 [first transaction system] and various third party content providers 108 [second transaction system]; [0039] the aggregator 106 determines the transaction type appropriate to abide by the financial regulations of a specific country. Some factors to be considered, for example, are the country location of the user, the country location of the third party content provider 108, and the size of the transaction. Based on these factors, a type of transaction is selected and performed).
Giori discloses wherein the money sum is transferred from the first monetary transaction system to the second monetary transaction system using a SWIFT exchange ([0051] the GSMT provides an open loop system by integrating existing money transfer systems (e.g., MTO systems, mobile money systems, etc.) with the institutional systems used within the financial framework of commercial banks and Central Banks (e.g., the... Society for Worldwide Interbank Financial Telecommunication (SWIFT)).
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the SWIFT exchange, as disclosed in Giori, within the invention of Erickson because it is an appropriate transaction type used to abide by the financial regulations of a specific country (Erickson [0039]).

Claim 12 lacks an inventive step under PCT Article 33(3) as being obvious over ERICKSON in view of MOZIDO LLC (hereinafter MOZIDO).

Regarding claim 12, Erickson does not explicitly disclose, wherein the user interface further includes an indication of the mobile wallet user's current stored value account balance
However Erickson teaches wherein the user interface further includes an indication of the mobile wallet user's current stored value account ([0024] data aggregator 106 collects and distributes user registration and financial data; [0025] For example, users may receive payout from winnings on gambling sites, and then transfer that money to payoff credit card balances. Thus, the aggregator 106 acts like an electronic bank account, enabling the user to perform relatively complex and time consuming financial transactions quickly over a mobile device 102).
Mozido discloses wherein the user interface further includes an indication of the mobile wallet user's current stored value account balance ([0050] When the mFS eMoney transaction processor is used, the mobile wallet balance is maintained by the mFS platform and value is exchanged within the mFS program as eMoney).
Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate current stored value account balance, as disclosed in Mozido, within the invention of Erickson because they add robustness to the use of the aggregator as an electronic bank account (Erickson [0025]).

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Electronic Acknowledgement Receipt

EFS ID:	25224110
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Curtis
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	17-MAR-2016
Filing Date:	30-OCT-2015
Time Stamp:	12:25:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2016-03-17_IDS.pdf	750797 a87394eca1abe60063d7df7e79343ce729c96e9c	no	2

Warnings:	
Information:	

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The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
2	Other Reference-Patent/App/Search documents	ISRWO_PCT-US15-58886.pdf	717628 6e881956f3a32d0d5f11b0f191b06c499838eaad	no	10
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	SearchReport_EP12851211.pdf	187336 96305fb8a9e3cc2ef7525e411e5e8ea7ad23a457	no	9
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
4	Non Patent Literature	13528720_FinalOA_March2016.pdf	779430 bc2984657079b1dcd8a393354d28ef698f73851b	no	21
Warnings:					
Information:					
		Total Files Size (in bytes):	2435191		

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New Applications Under 35 U.S.C. 111

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New International Application Filed with the USPTO as a Receiving Office

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20030026404	6-Feb-2003	Joyce	
	2	20050283434	22-Dec-2005	Hahn-Carlson	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	3	13/527466	1-Apr-2016	Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

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[1]Applicant is to place a check mark here if English language translation is attached.

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	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

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SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5686783_1

Electronic Acknowledgement Receipt

EFS ID:	25507553
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Curtis
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	15-APR-2016
Filing Date:	30-OCT-2015
Time Stamp:	15:41:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2016-04-15_IDS.pdf	685221 cca251d5b84b75d7ee101d66179b5a271b431aba	no	2

Warnings:	
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2	Non Patent Literature	13527466-OA-Apr2016.pdf	842696 27bcf3ad5002063b712a5d64532e91a0303ca1fc	no	23
Warnings:					
Information:					
		Total Files Size (in bytes):	1527917		

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New International Application Filed with the USPTO as a Receiving Office

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

U.S. PATENTS					
Examiner Initials*	Cite No.	Patent Number	Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	7421410	2-Sep-2008	Schechtman et al.	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	2	13/874192	18-Apr-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

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[1]Applicant is to place a check mark here if English language translation is attached.

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	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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OR

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☐ See attached certification statement.

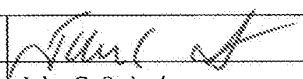
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

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SIGNATURE

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Signature		Date	4/Nov/16
Name/Print	John C. Stringham	Registration Number	40831

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5702948_1

Electronic Acknowledgement Receipt

EFS ID:	25608954
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Gifford
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	27-APR-2016
Filing Date:	30-OCT-2015
Time Stamp:	12:00:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2016-04-27_IDS.pdf	674042 81bb1eb54a35af00db51e2822c0a27133acb1dae	no	2

Warnings:	
Information:	

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This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	13874192_FinalOA_Apr2016.pdf	1115578 6c55c6a3265a16bb7976d11b53ef0755f95a8613	no	31
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			Total Files Size (in bytes):	1789620	

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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/012822	6-May-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
[1]Applicant is to place a check mark here if English language translation is attached.			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John C. Stringham/	Date	5/6/16
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5731231_1

Electronic Acknowledgement Receipt

EFS ID:	25765279
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Gifford
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	12-MAY-2016
Filing Date:	30-OCT-2015
Time Stamp:	17:27:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2016-05-12_IDS.pdf	655400 81f7be9e36b13dd99a7d85e36c3564bf860a5e94	no	2

Warnings:	
Information:	

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The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
2	Non Patent Literature	14012822_FinalOA_May2016.pdf	345078 c6be6d04e4bc2768652f4c6ba121292783d16967	no	9
Warnings:					
Information:					
			Total Files Size (in bytes):	1000478	

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New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT **Docket No. 18756.37.1.1**

COMBINED DECLARATION AND ASSIGNMENT

DECLARATION

TITLE OF APPLICATION: **USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS**

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

☐ The attached application;

☐ United States Application No. _____ filed on _____; or

☒ The application which was filed on October 30, 2015 as U.S. Application No. 14/928,521.

I hereby authorize the patent attorneys and/or patent agents of Workman Nydegger to insert the above Application No(s). and filing date(s) when known.

The above-identified application was made or authorized to be made by me.

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claim(s). I believe that I am the original inventor or an original joint inventor of one or more claimed inventions in the above-identified application.

I hereby state that I am aware of the duty to disclose all information which is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

I, as Assignor, am the original inventor or an original joint inventor of the subject matter disclosed and/or claims in the above-identified application and am desirous to sell, assign and transfer the entire right, title and interest in and to one or more inventions disclosed in the above-identified application, the above-identified application and any and all letters patent which may be granted for the one or more inventions in the United States of America and its territorial possessions and in any and all foreign countries.

Assignee, MOZIDO, INC., a corporation of the State of Delaware, having a principal place of business at Two Barton Skyway, 1601 South Mopac Expressway, Suite 200, Austin, Texas 78746, is desirous of acquiring the entire right, title and interest in and to the one or more inventions, the above-identified application, and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries.

In exchange for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell, assign and transfer and agree to assign unto the Assignee, the entire right, title and interest in and to the one or more inventions, the above-identified applications, any earlier filed provisional applications to which the above-identified applications claim priority including any inventions disclosed therein and the right to claim priority thereto, and any and all letters patent which may be granted for the one or more inventions in the United States of America and its territorial possessions and in any and all foreign countries, and any and all divisions, reissues, continuations, continuation-in-parts, and substitutes thereof, including the right to file foreign applications directly in the name of Assignee and to claim priority rights deriving from the above-identified application to which the foreign applications are entitled by virtue of international convention, treaty or otherwise, the one or more inventions, the above-identified application and all letters patent on the one or more inventions to be held and enjoyed by Assignee and its successors and assigns for their use and benefit as fully and entirely as the same would have been held and enjoyed by myself had this assignment, transfer and sale not been made.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue all letters patent on the inventions to Assignee.

I hereby covenant that no assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with this Assignment.

I further hereby sell, assign and transfer and agree to assign unto Assignee all claims for damages and all of the remedies arising out of any infringement of the invention or the above-identified United States patent application which may have accrued prior to the date of this assignment or may accrue, including, but not limited to, the right to sue for and collect and retain damages for past infringements of the invention or the above-identified United States patent applications.

I agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on the one or more inventions, for litigation regarding the letters patent, or for the purpose of protecting title to the one or more inventions or letters patent therefor.

Dated this 6 day of June, 2016.

Michael A. Liberty

VICTORIA L. OREM
Notary Public - State of Florida
Commission # FF 227244
My Comm. Expires May 5, 2019
Bonded through National Notary Assn.

STATE OF Florida)
: ss.
COUNTY OF Orange)

On June 6, 2016, before me personally appeared Michael A. Liberty known to me to be the person described and who signed the foregoing Assignment in my presence and acknowledged under oath before me that he has read the same and knows the contents thereof and that he executed the same as his free act and deed and for the purposes set forth therein.

NOTARY PUBLIC
Residing at 6100 Payne Stewart Dr.
Windermere, FL. 34786

My Commission Expires:
May 5, 2019

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	John C. Stringham/Sue Held
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	2051	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**70**

Electronic Acknowledgement Receipt	
EFS ID:	26690801
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Sue Held
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	19-AUG-2016
Filing Date:	30-OCT-2015
Time Stamp:	12:02:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$70
RAM confirmation Number	081916INTEFSW12031700
Deposit Account	1004
Authorized User	Sue Held
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	18756_37_1_1_Combined_Declaration_and_Assignment_Liberty.pdf	534603 d35bd74449df311e4d485ae840bc9d32482287fc	no	3
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30771 e24325c4eee3f0252dfe0edc09e918125d765393	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	565374		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/928,521	10/30/2015

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 22913

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

MOZIDO, INC.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	[signature]	Date (Optional)	
Name	JULIE LEE		
Title	CEO		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Mozido, Inc.

Application No./Patent No.: 14/928,521 Filed/Issue Date: 10/30/2015

Titled: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

Mozido, Inc., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 039482, Frame 0087, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/John C. Stringham/	11/11/2016
Signature	Date
John C. Stringham	40831
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	27487780
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Lindsey Gifford
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	11-NOV-2016
Filing Date:	30-OCT-2015
Time Stamp:	15:20:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	18756-37-1-1_POA.pdf	943502 dedd543ff522e3a5ed81bf9f3d09d8eada1cc661	no	1

Warnings:

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	18756-37-1-1_3-73c.pdf	118316 c74e4dd163242ed46eb0cf35dfb6ffff09e4ccae	no	3
Warnings:					
Information:					
			Total Files Size (in bytes):	1061818	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1

CONFIRMATION NO. 1049

22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

POA ACCEPTANCE LETTER

OC000000087256261

Date Mailed: 11/18/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/11/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/kxaysana/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20160314443	27-Oct-2016	Liberty, Michael A.	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	2	15/201152	25-Oct-2016	Office Action
	3	15/201152	15-Jun-2017	Final Office Action
	4	13/527466	14-Dec-2016	Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

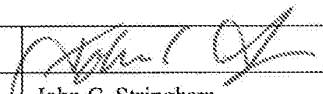
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	May 2, 2016
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

2113423_1.DOC

Electronic Acknowledgement Receipt

EFS ID:	29927673
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Sarah Warcup
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	29-JUL-2017
Filing Date:	30-OCT-2015
Time Stamp:	17:36:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2017-07-28_IDS.pdf	697746 d8b4cddeeebde2091032ff6b9615bd421909f4c3	no	2

Warnings:

Information:					
This is not an USPTO supplied IDS fillable form					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
2	Non Patent Literature	1_NPL_OA_2017-06-15.pdf	312438 fb6881471443c3431a2264ea32dfe39534cf36ac	no	9
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3	Non Patent Literature	2_NPL_OA_2016-10-25.pdf	279563 93c64b26d4e1cc55ac559809495144a040fed1d1	no	7
Warnings:					
Information:					
4	Non Patent Literature	3_NPL_OA_2016-12-14.pdf	237521 e506626c40cf6df2f76fec28d5b71bf2beff6b4c	no	7
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Information:					
			Total Files Size (in bytes):	1527268	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	15/201152	8-Aug-2017	Notice of Allowance
	2	13/527466	9-Aug-2017	Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
[1]Applicant is to place a check mark here if English language translation is attached.			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☒ See attached certification statement.

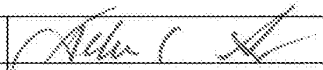
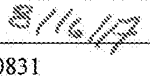
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

2113423_1.DOC

Electronic Acknowledgement Receipt

EFS ID:	30110309
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Sarah Warcup
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	17-AUG-2017
Filing Date:	30-OCT-2015
Time Stamp:	15:28:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2017-08-17_IDS.pdf	674278 8c815240a2b3d0061d2354dc58293e0ddafdd434	no	2

Warnings:

Information:					
This is not an USPTO supplied IDS fillable form					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
2	Non Patent Literature	1_NPL_NOA_2017-08-09.pdf	430265 785e82920ae60438b78cdd1152e47d0223122a9b	no	8
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	1_OA_2017-08-09.pdf	294777 faecb90b59e9817bc06d5435f3d699088c82005c	no	8
Warnings:					
Information:					
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

U.S. PATENTS					
Examiner Initials*	Cite No.	Patent Number	Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	7370017	6-May-2008	Lindeman	

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	2	20120131653	24-May-2012	Pasquero	
	3	20100114739	6-May-2010	Johnston	
	4	20120166311	28-Jun-2012	Dwight	
	5	20140014721	16-Jan-2014	Lindeman	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	1	Ron White, How Computers Work, October 15, 2003, Paul Boger, Illustrated by Timothy Edward Dwons, 7th Edition (Year: 2003)	☐

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/341605	27-Nov-2017	Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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OR

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	12/22/16
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	31177958
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Sarah Warcup
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	08-DEC-2017
Filing Date:	30-OCT-2015
Time Stamp:	18:15:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2017-12-08_IDS.pdf	741030 4d6c5bcd204b71f959fc09ce282d14e29b0d0b1b	no	2

Warnings:

Information:					
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The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
2	Non Patent Literature	1_NPL_Ron_White.pdf	1007058 37348c04fe2f66bc439ec18f92e53637ce65995b	no	23
Warnings:					
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			Total Files Size (in bytes):	2444722	

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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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Notice of References Cited	Application/Control No. 14/928,521	Applicant(s)/Patent Under Reexamination Liberty, Michael A.	
	Examiner PAUL DANNEMAN	Art Unit 3627	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-9208488-B2	12-2015	Liberty; Michael A.	G06Q20/202	1/1
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATIONS

Examiner Initials*	Cite No.	Document Number	Filing Date	Name of Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	14/928105	30-Oct-2015	Liberty, Michael A.	

U.S. PATENTS

Examiner Initials*	Cite No.	Patent Number	Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	2	5717374	10-Feb-1998	Smith	
	3	5828739	27-Oct-1998	Nakanishi	
	4	5991749	23-Nov-1999	Morrill	
	5	6021397	1-Feb-2000	Jones et al.	
	6	6175823	16-Jan-2001	Van Dusen	
	7	6185545	6-Feb-2001	Resnick	
	8	6250557	26-Jun-2001	Forslund	
	9	6415156	2-Jul-2002	Stadelmann	
	10	6622015	16-Sep-2003	Himmel	
	11	6697839	24-Feb-2004	Sini	
	12	6714797	30-Mar-2004	Rautila	
	13	6736322	18-May-2004	Gobburu	
	14	6819219	16-Nov-2004	Bolle	
	15	6840448	11-Jan-2005	Fukushima	
	16	6862575	1-Mar-2005	Antilla et al.	
	17	6873974	29-Mar-2005	Schutzer	
	18	6957342	18-Oct-2005	Vantanen	
	19	7016532	21-Mar-2006	Boncyk	
	20	7024174	4-Apr-2006	Nagy	
	21	7054430	30-May-2006	Lynam	
	22	7069001	27-Jun-2006	Rupp	
	23	7089208	8-Aug-2006	Levchin	
	24	7099850	29-Aug-2006	Mann	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

	25	7100821	5-Sep-2006	Rasti	
	26	7107247	12-Sep-2006	Kinoshita	
	27	7110972	19-Sep-2006	Handa	
	28	7221939	22-May-2007	Ylitalo	
	29	7240836	10-Jul-2007	Vrotsos	
	30	7248855	24-Jul-2007	Joyce	
	31	7255264	14-Aug-2007	De Leon	
	32	7275685	2-Oct-2007	Gray	
	33	7322043	22-Jan-2008	Letsinger	
	34	7325132	29-Jan-2008	Takayama	
	35	7334720	26-Feb-2008	Hulst et al.	
	36	7347361	25-Mar-2008	Lovett	
	37	7349871	25-Mar-2008	Labrou	
	38	7353382	1-Apr-2008	Labrou	
	39	7363261	22-Apr-2008	Whitehead	
	40	7403652	22-Jul-2008	Boncyk	
	41	7461010	2-Dec-2008	Kwan	
	42	7461028	2-Dec-2008	Wronski	
	43	7477780	13-Jan-2009	Boncyk	
	44	7494055	24-Feb-2009	Fernandes	
	45	7512098	31-Mar-2009	Jiang	
	46	7527194	5-May-2009	Truitt	
	47	7548915	16-Jun-2009	Ramer	
	48	7562818	21-Jul-2009	Bierbaum	
	49	7564469	21-Jul-2009	Boncyk	
	50	7565008	21-Jul-2009	Boncyk	
	51	7606560	20-Oct-2009	Labrou	
	52	7657489	2-Feb-2010	Stambaugh	
	53	7677973	16-Mar-2010	Van Luchene	
	54	7680324	16-Mar-2010	Boncyk	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	14/928,521
Filing Date	10/30/2015
First Named Inventor	Michael A. Liberty
Art Unit	3627
Confirmation Number	1049
Examiner Name	Not Yet Assigned
Attorney Docket Number	18756.37.1.1

	55	7689506	30-Mar-2010	Fei et al.	
	56	7694876	13-Apr-2010	Barnes et al.	
	57	7699218	20-Apr-2010	Garcia	
	58	7708194	4-May-2010	Vawter	
	59	7729963	1-Jun-2010	Lego	
	60	7729987	1-Jun-2010	Wakim	
	61	7748618	6-Jul-2010	Vawter	
	62	7774076	10-Aug-2010	Skowronek	
	63	7774231	10-Aug-2010	Pond	
	64	7775437	17-Aug-2010	Boncyk	
	65	7784684	31-Aug-2010	Labrou	
	66	7801826	21-Sep-2010	Labrou	
	67	7819307	26-Oct-2010	Lyons	
	68	7822688	26-Oct-2010	Labrou	
	69	7822688	26-Oct-2010	Labrou	
	70	7823772	2-Nov-2010	Vawter	
	71	7848500	7-Dec-2010	Lynam	
	72	7848504	7-Dec-2010	Lynam	
	73	7865414	4-Jan-2011	Fung	
	74	7865431	4-Jan-2011	Takayama	
	75	7877605	25-Jan-2011	Labrou	
	76	7881529	1-Feb-2011	Boncyk	
	77	7886962	15-Feb-2011	Vawter	
	78	7890424	15-Feb-2011	Wakim	
	79	7899243	1-Mar-2011	Boncyk	
	80	7899252	1-Mar-2011	Boncyk	
	81	7937302	3-May-2011	Lego	
	82	7937305	3-May-2011	Lego	
	83	7942317	17-May-2011	Racz et al.	
	84	7958052	7-Jun-2011	Powell	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

	85	7967196	28-Jun-2011	Bierbaum	
	86	7979026	12-Jul-2011	Hulvey	
	87	7988060	2-Aug-2011	Killian	
	88	8016185	13-Sep-2011	Modi	
	89	8019365	13-Sep-2011	Fisher	
	90	8033458	11-Oct-2011	Hulst et al.	
	91	8041338	18-Oct-2011	Chen	
	92	8052042	8-Nov-2011	Kolinski-Schultz	
	93	8060012	15-Nov-2011	Sklovsky	
	94	8061598	22-Nov-2011	Racz et al.	
	95	8073783	6-Dec-2011	Felsted	
	96	8077042	13-Dec-2011	Peeters	
	97	8090945	3-Jan-2012	Singhal	
	98	8095113	10-Jan-2012	Kean	
	99	8116734	14-Feb-2012	Vawter	
	100	8116773	14-Feb-2012	Chitrapu	
	101	8118221	21-Feb-2012	Racz et al.	
	102	8121945	21-Feb-2012	Rackley	
	103	8130242	6-Mar-2012	Boncyk	
	104	8145568	27-Mar-2012	Rackley	
	105	8160959	17-Apr-2012	Rackley	
	106	8170485	1-May-2012	Hulvey	
	107	8190087	29-May-2012	Fisher	
	108	8195576	5-Jun-2012	Grigg	
	109	8196131	5-Jun-2012	von Behren	
	110	8213470	3-Jul-2012	Gu	
	111	8218873	10-Jul-2012	Boncyk	
	112	8229354	24-Jul-2012	Sklovsky	
	113	8239325	7-Aug-2012	Schwarz	
	114	8275312	25-Sep-2012	Fisher	

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	116	8332272	11-Dec2012	Fisher	
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	118	8336772	25-Dec-2012	Racz et al.	
	119	8352323	08-Jan2013	Fisher	
	120	8355670	15-Jan-2013	White	
	121	8359265	22-Jan-2013	Van Rensburg	
	122	8360329	29-Jan-2013	Grigg	
	123	8374916	12-Feb-2013	White	
	124	8380177	19-Feb-2013	Laracey	
	125	8396793	12-Mar-2013	Hill	
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	127	8538845	6-Dec-2012	Liberty	
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	158	20060116892	1-Jun-2006	Grimes	
	159	20060136901	22-Jun-2006	Nichols	
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	185	20080011825	17-Jan-2008	Giordano	
	186	20080017704	24-Jan-2008	VanDeburg	
	187	20080040265	14-Feb-2008	Rackley	
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	263	20110087610	14-Apr-2011	Batada	
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	265	20110113473	12-May-2011	Corda	
	266	20110145049	16-Jun-2011	Hertel	
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	270	20110218911	8-Sep-2011	Spodak	
	271	20110246284	6-Oct-2011	Chaikin	
	272	20110250866	13-Oct-2011	Fisher	
	273	20110251941	13-Oct-2011	Dunwoody	
	274	20110258024	20-Oct-2011	Prince	
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	276	20110276417	10-Nov-2011	Campbell	
	277	20110295750	1-Dec-2011	Rammal	
	278	20110302016	8-Dec-2011	Haddad	
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	288	20120028612	2-Feb-2012	Hurst	
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	290	20120047070	23-Feb-2012	Pharris	
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	298	20120123841	17-May-2012	Taveau	
	299	20120123868	17-May-2012	Brudnicki	
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	301	20120123935	17-May-2012	Brudnicki	
	302	20120123937	17-May-2012	Spodak	
	303	20120143752	7-Jun-2012	Wong	
	304	20120150669	14-Jun-2012	Langley	
	305	20120158589	21-Jun-2012	Katzin	
	306	20120171992	5-Jul-2012	Cheong	
	307	20120172026	5-Jul-2012	Kwon	
	308	20120172089	5-Jul-2012	Bae	
	309	20120174189	5-Jul-2012	Lim	
	310	20120191557	26-Jul-2012	Fisher	
	311	20120191612	26-Jul-2012	Spodak	
	312	20120196586	2-Aug-2012	Grigg	
	313	20120197691	2-Aug-2012	Grigg	
	314	20120197740	2-Aug-2012	Grigg	
	315	20120197743	2-Aug-2012	Grigg	
	316	20120197745	2-Aug-2012	Fisher	
	317	20120197787	2-Aug-2012	Grigg	
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	323	20120221421	30-Aug-2012	Hammad	
	324	20120221475	8/310/12	Grigg	
	325	20120226610	6-Sep-2012	Gill	
	326	20120229647	13-Sep-2012	Calman	
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	329	20120231425	13-Sep-2012	Calman	
	330	20120232937	13-Sep-2012	Calman	
	331	20120232977	13-Sep-2012	Calman	
	332	20120232983	13-Sep-2012	Bertha	
	333	20120245986	27-Sep-2012	Regan	
	334	20120253852	4-Oct-2012	Pourfallah	
	335	20120259686	11-Oct-2012	Yurrow	
	336	20120259698	11-Oct-2012	Yurrow	
	337	20120259732	11-Oct-2012	Sasankan	
	338	20120265677	18-Oct-2012	Rackley	
	339	20120265685	18-Oct-2012	Brudnicki	
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	341	20120284131	8-Nov-2012	Soffer	
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	353	20120303425	29-Nov-2012	Katzin	
	354	20120310720	6-Dec-2012	Balsan	
	355	20120310760	6-Dec-2012	Phillips	
	356	20120310824	6-Dec-2012	Liberty	
	357	20120310826	6-Dec-2012	Chatterjee	
	358	20120316950	13-Dec-2012	LaPorte	
	359	20120316951	13-Dec-2012	Fisher	
	360	20120316992	13-Dec-2012	Oborne	
	361	20120317019	13-Dec-2012	Carnes	
	362	20120323653	20-Dec-2012	Fisher	
	363	20120323664	20-Dec-2012	Klems	
	364	20120323670	20-Dec-2012	Fisher	
	365	20120323777	20-Dec-2012	Liberty	
	366	20120329394	27-Dec-2012	Fisher	
	367	20120330737	27-Dec-2012	Liberty	
	368	20120330792	27-Dec-2012	Kashanian	
	369	20130012125	10-Jan-2013	Fisher	
	370	20130012126	10-Jan-2013	Fisher	
	371	20130012131	10-Jan-2013	Fisher	
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	373	20130013353	10-Jan-2013	Fisher	
	374	20130013355	10-Jan-2013	Fisher	
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	384	20130018742	17-Jan-2013	Fisher	
	385	20130018793	17-Jan-2013	Wong	
	386	20130023209	24-Jan-2013	Fisher	
	387	20130023294	24-Jan-2013	Singh	
	388	20130024220	24-Jan-2013	Fisher	
	389	20130024221	24-Jan-2013	Fisher	
	390	20130024223	24-Jan-2013	Thomas	
	391	20130024280	24-Jan-2013	Fisher	
	392	20130024364	24-Jan-2013	Fisher	
	393	20130024371	24-Jan-2013	Hariramani	
	394	20130024372	24-Jan-2013	Spodak	
	395	20130024377	24-Jan-2013	Stong	
	396	20130029646	31-Jan-2013	Chowdhury	
	397	20130030828	31-Jan-2013	Pourfallah	
	398	20130030960	31-Jan-2013	Kashanian	
	399	20130030997	31-Jan-2013	Spodak	
	400	20130035035	7-Feb-2013	Fisher	
	401	20130035036	7-Feb-2013	Fisher	
	402	20130035037	7-Feb-2013	Fisher	
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	407	20130035072	7-Feb-2013	Fisher	
	408	20130035087	7-Feb-2013	Fisher	
	409	20130035967	7-Feb-2013	Fisher	
	410	20130035968	7-Feb-2013	Fisher	
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	413	20130040568	14-Feb-2013	Fisher	
	414	20130040569	14-Feb-2013	Fisher	
	415	20130041699	14-Feb-2013	Fisher	
	416	20130041700	14-Feb-2013	Fisher	
	417	20130041701	14-Feb-2013	Roth	
	418	20130041736	14-Feb-2013	Coppinger	
	419	20130041743	14-Feb-2013	Coppinger	
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	421	20130041745	14-Feb-2013	Coppinger	
	422	20130041769	14-Feb-2013	Fisher	
	423	20130046608	21-Feb-2013	Coppinger	
	424	20130046634	21-Feb-2013	Grigg	
	425	20130046645	21-Feb-2013	Grigg	
	426	20130048723	28-Feb-2013	King	
	427	20130052952	28-Feb-2013	Fisher	
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	429	20130054337	28-Feb-2013	Brendell	
	430	20130054412	28-Feb-2013	Brendell	
	431	20130054441	28-Feb-2013	Kamdar	
	432	20130057392	7-Mar-2013	Bullock	
	433	20130060618	7-Mar-2013	Barton	
	434	20130073373	21-Mar-2013	Fisher	
	435	20130073458	21-Mar-2013	Sherwin	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	14/928,521
Filing Date	10/30/2015
First Named Inventor	Michael A. Liberty
Art Unit	3627
Confirmation Number	1049
Examiner Name	Not Yet Assigned
Attorney Docket Number	18756.37.1.1

	442	20130080240	28-Mar-2013	Fisher	
	443	20130080241	28-Mar-2013	Fisher	
	444	20130080329	28-Mar-2013	Royyuru	
	445	20130091012	11-Apr-2013	Liberty	
	446	20130238455	12-Sep-2013	Laracey	
	447	20130246141	30-Apr-2013	Liberty	
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	449	20130317928	28-Nov-2013	Laracey	
	450	20130332347	12-Dec-2013	Liberty	
	451	20140006048	2-Jan-2014	Liberty	
	452	20140201070	17-Jul-2014	Liberty	
	453	20150039517	5-Feb-2015	Liberty	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document	Country Code	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [1]
	454	2666616	CA	24-Apr-2008	Fruitful Technologies Pty. Ltd.		
	455	101606400	CN	16-Dec-2009	Deloitte Services Pty. Ltd.		
	456	102073958	CN	25-May-2011	Tianjin ZTE Software Corp.		
	457	10119808	DE	12-Sep-2002	Holland Chris		
	458	1280115	EP	29-Jan-2003	NTT Docomo, Inc.		
	459	2001-297198	JP	26-Oct-2001	Miwa Ginko KK (MIWAN)		
	460	2001357164	JP	26-Dec-2001	NTT Data Corp.		
	461	2002-99716	JP	5-Apr-2002	Kuninobu Masanao		
	462	10-2002-0065989	KR	14-Aug-2002	Starbridge Communications Co., Ltd.		
	463	10-2003-0068603	KR	25-Aug-2003	Naru System Co.		
	464	10-2007-0092400	KR	13-Sep-2007	Shin H. Bank		
	465	0171627	WO	27-Sep-2001	Qualcomm Incorporated		
	466	9913636	WO	18-Mar-1999	Tekton Communications Limited		

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

	467	199834203	WO	6-Aug-1998	Qualcomm Incorporated		
	468	2001097118	WO	20-Dec-2001	JOGU		
	469	2002071354	WO	12-Sep-2002	Soft Tracks Enterprises Ltd.		
	470	2003012717	WO	13-Feb-2003	C-SAM, Inc.		
	471	2004010393	WO	29-Jan-2004	Partner Communications Company Ltd.		
	472	2004023353	WO	18-Mar-2004	Tynevale Pty. Limited		
	473	2004053640	WO	24-Jun-2004	Way Systems, Inc.		
	474	2004088641	WO	14-Oct-2004	Way Systems, Inc.		
	475	2005079254	WO	1-Sep-2005	Fujitsu Limited		
	476	2005086593	WO	22-Sep-2005	A Little World Private Limited		
	477	2007145500	WO	21-Dec-2007	Mobile Money International SDN BHD		
	478	2008008735	WO	17-Jan-2008	Ibreva Corporation		
	479	2012025824	WO	1-Mar-2012	Yang		
	480	2013009444	WO	17-Jan-2013	Liberty		
	481	2013009446	WO	17-Jan-2013	Liberty		
	482	2013025273	WO	21-Feb-2013	Liberty		
	483	2013078176	WO	30-May-2013	Liberty		
	484	2013166174	WO	7-Nov-2013	Liberty		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	485	Chen, Jiajun Jim et al, Short-Range Wireless Technologies with Mobile Payments Systems. Proceedings of the 6th International Conference on Electronic Commerce [Online] 2004, pp. 649-656	☐
	486	CLARKE, Irvine III, "Emerging Value Propositions for M-commerce," *Journal of Business Strategies*, Vol. 25, Issue 2, Fall 2008, P. 41-57; ISSN: 0887-2058	
	487	Edwin, et al., "Technobiography," October 2004, 29 pages.	
	488	European Search Report for EP12824344 dated September 29, 2014	

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	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

	489	Gao, Jerry, et al., "P2P-Paid: A Peer-to-Peer Wireless Payment System," Proceedings of the 2005 Second IEEE International Workshop on Mobile Commerce and Services (WMCS'05) July 2005, 10 pages.	
	490	International Search Report and Written Opinion for PCT/US2012/066013 dated January 29, 2013	
	491	International Search Report and Written Opinion for PCT/US2012/040131 dated January 29, 2013	
	492	International Search Report and Written Opinion for PCT/US2012/043321 dated Sep. 6, 2012	
	493	International Search Report and Written Opinion for PCT/US2012/058849 dated Jan. 4, 2013	
	494	International Search Report and Written Opinion for PCT/US2012/43458 dated August 17, 2012.	
	495	International Search Report and Written Opinion for PCT/US2013/039100 dated Aug. 23, 2013	
	496	Labrou, Yannis et al, Wireless Wallet. Proceedings of the First Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services [Online] 2004, pp.1-10	☐
	497	Motorola, Motorola M-Wallet Solution. [Online] 2006 http://www.motorola.com/networkoperators/pdfs/M-Wallet-Brochure.pdf (Accessed October 4, 2012)	☐
	498	SYKES, et al. "Securing Mobile Banking," Credit Union Management, Novemer 2010, Vol. 33 No. 11; ISSN 0273-9267	
	499	Valcourt, E. et al., "Investigating Mobile Payment," Wireless And Mobile Computing, Networking and Communications, 2005. (WiMob'2005), IEEE International Conference on 22-24 Aug. 2005, August 2005, Volume 4, pages 29-36.	
	500	WEI, et al., "Development of a Web-Based Mobile Airline Ticketing Model with Usability Features," 2005, Industrial Management + Data Systems; Vol. 105 No. 9, ISSN: 0263-5577	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	501	13/484199	26-Dec-2012	Office Action
	502	13/484199	7-Jun-2013	Notice of Allowance
	503	13/527466	15-Apr-2013	Office Action
	504	13/527466	4-Dec-2013	Final Office Action
	505	13/964707	24-Feb-2014	Office Action

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

	506	14/213543	6-May-2014	Office Action
	507	13/680824	16-Jun-2014	Office Action
	508	13/528720	25-Jun-2014	Office Action
	509	13/964707	10-Jul-2014	Office Action
	510	13/527466	1-Aug-2014	Office Action
	511	14/012822	7-Aug-2014	Office Action
	512	13/528720	10-Dec-2014	Final Office Action
	513	14/012,822	7-Jan-2015	Final Office Action
	514	13/680,824	6-Feb-2015	Final Office Action
	515	13/964707	16-Mar-2015	Final Office Action
	516	14/213543	8-Apr-2015	Office Action
	517	13/874192	14-Jul-2015	Office Action
	518	13/527466	16-Jul-2015	Office Action
	519	13/528720	22-Jul-2015	Office Action
	520	14/012822	11-Sep-2015	Office Action
	521	13/680824	18-Sep-2015	Notice of Allowance
	522	14/213543	6-Jan-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

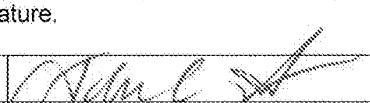
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	2/6/16
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5564778_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	Art Unit
	PAUL DANNEMAN	3627

CPC - Searched*		
Symbol	Date	Examiner
G06Q	03/28/2018	PD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	ALL	03/28/2018	PD

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
G06Q	03/28/2018	PD
705/ALL	03/28/2018	PD
EAST	03/28/2018	PD

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
705	ALL	03/28/2018	PD
G06Q	ALL	03/28/2018	PD

/PAUL DANNEMAN/ Primary Examiner, Art Unit 3627	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	15/201152	8-Aug-2017	Notice of Allowance
	2	13/527466	9-Aug-2017	Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
[1]Applicant is to place a check mark here if English language translation is attached.			

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928521
	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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☒ See attached certification statement.

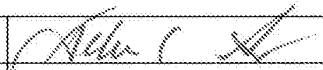
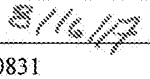
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	
Name/Print	John C. Stringham	Registration Number	40831

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

U.S. PATENTS					
Examiner Initials*	Cite No.	Patent Number	Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	7421410	2-Sep-2008	Schechtman et al.	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	2	13/874192	18-Apr-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

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SIGNATURE

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Signature		Date	4/26/16
Name/Print	John C. Stringham	Registration Number	40831

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	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20050071512	31-Mar-2005	Kim et al.	
	2	20070006327	4-Jan-2007	Lal et al.	
	3	20090024526	22-Jan-2009	Erickson	
	4	20100146607	10-Jun-2010	Piepenbrink et al.	
	5	20130073377	21-Mar-2013	Heath	
	6	20130132219	23-May-2013	Liberty	
	7	20130346309	26-Dec-2013	Giori	
	8	20160055483	25-Feb-2016	Liberty	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	9	International Search Report and Written Opinion for PCT/US2015/58886 dated February 4, 2016	☐
	10	European Search Report for EP12851211 dated February 18, 2016	☐

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	11	13/528720	2-Mar-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018

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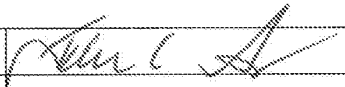
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SIGNATURE

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Signature		Date	5/16/16
Name/Print	John C. Stringham	Registration Number	40831

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5625424_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

Bibliographic Data

Application No: 14928521

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /Paul Danneman/ Examiner's Signature | Initials

Title: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/30/2015	705	3627	18756.37.1.1
RULE			

APPLICANTS

Mozido, Inc., Austin, TX, UNITED STATES

INVENTORS

Michael A. Liberty, Orlando, FL, UNITED STATES

CONTINUING DATA

This application is a CON of 13680824 11/19/2012 PAT 9208488

13680824 has PRO of 61562301 11/21/2011

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

11/12/2015

STATE OR COUNTRY

UNITED STATES

ADDRESS

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111
UNITED STATES

FILING FEE RECEIVED

$730

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

22913 7590 04/02/2018

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UTAH 84111
UNITED STATES OF AMERICA

EXAMINER	
DANNEMAN, PAUL	

ART UNIT	PAPER NUMBER
3627	

NOTIFICATION DATE	DELIVERY MODE
04/02/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing@wnlaw.com

Office Action Summary	**Application No.** 14/928,521	**Applicant(s)** Liberty, Michael A.	
	Examiner PAUL DANNEMAN	**Art Unit** 3627	**AIA Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 30 October 2015.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-22 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-22 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 30 October 2015 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. This Office Action is in response to the Application filed on 30 October 2015 and the Preliminary Amended dated 06 January 2016.

2. Claims 1-22 are pending and have been examined in this Office Action.

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-22 are rejected on the grounds of nonstatutory double patenting as being unpatentable over claims 1-2, 5-12, 21-23, 25-32 and 36 of U.S. Patent No. 9,208,488 B2. Although the claims at issue are not identical, they are not patentably distinct from each other because Claims 1-22 are directed to a computer system, method and programmable storage device which manages mobile wallet transactions, through a third party, for authenticated subscribers and using a secure perishable purchase code.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL DANNEMAN whose telephone number is (571)270-1863. The examiner can normally be reached on Mon-Thurs, 8-6 EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian (Ryan) M Zeender can be reached on 571-272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAUL DANNEMAN/
Primary Examiner, Art Unit 3627

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	**Art Unit**
	PAUL DANNEMAN	3627

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	03/28/2018								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								
	21	✓								
	22	✓								

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/928,521
	Filing Date	10/30/2015
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/012822	6-May-2016	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
[1]Applicant is to place a check mark here if English language translation is attached.			

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

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	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John C. Stringham/	Date	5/6/16
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5731231_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

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	Filing Date	2015-10-30
	First Named Inventor	Michael A. Liberty
	Art Unit	3627
	Confirmation Number	1049
	Examiner Name	Florian M. Zeender
	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20160314443	27-Oct-2016	Liberty, Michael A.	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	2	15/201152	25-Oct-2016	Office Action
	3	15/201152	15-Jun-2017	Final Office Action
	4	13/527466	14-Dec-2016	Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018

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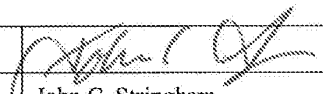
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

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SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	May 2, 2016
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

2113423_1.DOC

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	Filing Date	2015-10-30
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	Art Unit	3627
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

U.S. PATENTS

Examiner Initials*	Cite No.	Patent Number	Issue Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	7370017	6-May-2008	Lindeman	

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	2	20120131653	24-May-2012	Pasquero	
	3	20100114739	6-May-2010	Johnston	
	4	20120166311	28-Jun-2012	Dwight	
	5	20140014721	16-Jan-2014	Lindeman	

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	1	Ron White, How Computers Work, October 15, 2003, Paul Boger, Illustrated by Timothy Edward Dwons, 7th Edition (Year: 2003)	☐

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS

Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/341605	27-Nov-2017	Office Action

EXAMINER SIGNATURE

Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018

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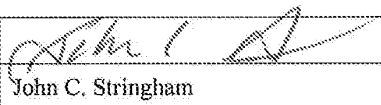
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

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Signature		Date	12/28/12
Name/Print	John C. Stringham	Registration Number	40831

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	Confirmation Number	1049
	Examiner Name	Paul Danneman
	Attorney Docket Number	18756.37.1.1

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Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20030026404	6-Feb-2003	Joyce	
	2	20050283434	22-Dec-2005	Hahn-Carlson	

OFFICE ACTION / NOTICE OF ALLOWANCE DOCUMENTS

Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	3	13/527466	1-Apr-2016	Office Action

EXAMINER SIGNATURE

Examiner Signature	/PAUL DANNEMAN/	Date Considered	03/28/2018

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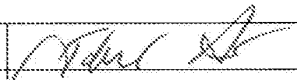
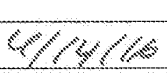
☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

☒ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	
Name/Print	John C. Stringham	Registration Number	40831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5686783_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	4	("7819307" | "6873974" | "8041338" | "8380177").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/02/27 09:09
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATIONS					
Examiner Initials*	Cite No.	Document Number	Filing Date	Name of Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	15/809,872	10-Nov-2017	Liberty, Michael A.	
	2	61/493,064	3-Jun-2011	Liberty, Michael A.	
	3	61/522,099	10-Aug-2011	Liberty, Michael A.	
	4	62/075,657	5-Nov-2014	Liberty, Michael A.	
	5	61/498,957	20-Jun-2011	Liberty, Michael A.	
	6	61/499,927	22-Jun-2011	Liberty, Michael A.	
	7	61/562,301	21-Nov-2011	Liberty, Michael A.	
	8	61/694,118	28-Aug-2012	Liberty, Michael A.	
	9	61/641,677	2-May-2012	Liberty, Michael A.	
	10	61/862,437	5-Aug-2013	Liberty, Michael A.	

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	2	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	4/24/18
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

17437255_1

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	John C. Stringham/Thomas Conner
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	32431207
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Thomas Conner
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	24-APR-2018
Filing Date:	30-OCT-2015
Time Stamp:	16:18:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	042518INTEFSW16224300
Deposit Account	233178
Authorized User	Thomas Conner
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2018-04-24_IDS.pdf	442025 5b95c5874a8537a9d18fc97b1d1eef0fc46aac76	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Fee Worksheet (SB06)	fee-info.pdf	30645 6054e964f268f730dba291b3b7a9b837c851cca3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	472670		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	14928521
Filing Date	30-Oct-2015
First Named Inventor	Michael Liberty
Attorney Docket Number	18756.37.1.1
Title of Invention	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
MOZIDO, INC.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

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as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ◉ Small Entity ○ Micro Entity ○ Regular Undiscounted I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 69566 ○ A sole inventor ○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ○ A joint inventor; all of whom are signing this request	
Signature	/W. Brad Barger/
Name	W. Brad Barger

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	William Brad Barger/Lindsey Gifford
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**160**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 14928521

Filing Date: 30-Oct-2015

Applicant/Patent under Reexamination: Liberty

Electronic Terminal Disclaimer filed on August 27, 2018

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	33543435
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	William Brad Barger/Lindsey Gifford
Filer Authorized By:	William Brad Barger
Attorney Docket Number:	18756.37.1.1
Receipt Date:	27-AUG-2018
Filing Date:	30-OCT-2015
Time Stamp:	13:07:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$160
RAM confirmation Number	082718INTEFSW13071600
Deposit Account	233178
Authorized User	Willilam Barger
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33580 965276e3ce79c3ace9002db4bc77840b52f828da	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30766 5de418d8476de295f22bcdfc71711dae3cd5a7bc	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64346		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

VIA eFILE

PATENT APPLICATION
Docket No: 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

PETITION FOR EXTENSION OF TIME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.136(a), it is respectfully requested that the shortened statutory period which was set for responding to the Office Action dated April 2, 2018 (paper no. 20180328), be extended for Two Month(s) until September 2, 2018.

Payment in the amount of $300.00 using the Credit Card payment option in E-Filer with RAM will be used to cover the payment of the fees with respect to this extension of time.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-

3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to Deposit Account No. 23-3178.

DATED this 27th day of August, 2018.

Respectfully submitted,

/W. BRAD BARGER/

JOHN C. STRINGHAM
Registration No. 40,831
W. BRAD BARGER
Registration No. 69,566
WORKMAN | NYDEGGER
Attorneys for Applicant
Customer No. 22913

VIA eFILE

PATENT APPLICATION
Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

TRANSMITTAL FOR AMENDMENT "A"
AND RESPONSE AFTER NON-FINAL WITH EXTENSION OF TIME

VIA eFILE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmitted herewith is an Amendment "A" and Response for entry in the above-identified application.

_X_ To render the transmitted Amendment "A" and Response timely filed enclosed are the following:

_X_ Terminal Disclaimer ($160.00).

_X_ Petition for Two Month Extension of Time ($300.00).

The fee has been calculated as follows:

			SMALL ENTITY		LARGE ENTITY	
CLAIMS REMAINING AFTER	**HIGHEST NO. PREVIOUSLY PAID FOR**	**PRESENT EXTRA**	**RATE**	**ADDT'L FEE**	**RATE**	**ADDT'L FEE**
TOTAL 22	MINUS 22	= 0	X		X $80.00	00.00
INDEPENDENT 5	MINUS 5	= 0	X		X $420.00	00.00
1st PRESENTATION OF MULTIPLE DEPENDENT CLAIM			+_____=		+_____=	
			TOTAL		**TOTAL**	00.00

_X_ Payment in the amount of $460.00 using the Credit Card payment option in E-Filer with RAM will be used to cover the payment of the fees with respect to this RCE and Extension of Time.

_X_ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account No. 23-3178**: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

Dated this 27th day of August, 2018.

Respectfully submitted,

/W. BRAD BARGER/

JOHN C. STRINGHAM
Registration No. 40,831
W. BRAD BARGER
Registration No. 69,566
WORKMAN | NYDEGGER
Attorneys for Applicant
Customer No. 22913

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	William Brad Barger/Lindsey Gifford
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	2252	1	300	300
Miscellaneous:				
		Total in USD ($)		**300**

Electronic Acknowledgement Receipt

EFS ID:	33543499
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	William Brad Barger/Lindsey Gifford
Filer Authorized By:	William Brad Barger
Attorney Docket Number:	18756.37.1.1
Receipt Date:	27-AUG-2018
Filing Date:	30-OCT-2015
Time Stamp:	13:08:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$300
RAM confirmation Number	082718INTEFSW13082700
Deposit Account	233178
Authorized User	Willilam Barger
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	18756-37-1-1_2018-08-27_Amendment-A-and-Response.pdf	157380 8f84ddcc76302c8415c6503a0c0c2cec3d3b8758	no	16
Warnings:					
Information:					
2	Extension of Time	18756-37-1-1_2018-08-27_Petition-for-EOT.pdf	95397 29ecb69777d0342a034e78ebcdbd75c3e72e13c6	no	2
Warnings:					
Information:					
3	Transmittal Letter	18756-37-1-1_2018-08-27_Transmittal.pdf	107454 b81d37c5e1c158ba98ac1b1ef3c298b62922ef8c	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31064 cff18b86e350453661e64885c41b3743089d159a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	391295		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION
Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

AMENDMENT A AND RESPONSE

AFTER NON-FINAL WITH TWO MONTH EXTENSION OF TIME

VIA eFILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action of April 2, 2018 ("*Office Action*"), (Paper No. 20180328), please amend and reconsider the above-identified application, in which:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 15 of this paper.

AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Original) A computing system for facilitating management of a mobile wallet, comprising:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application and a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive binary and text messages from a mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including a customer's mobile device, to interface with a mobile wallet application installed on the customer's mobile device;

service connectors that are each configured to connect the computing system to a different third party system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions which are executable by the one or more processors, to facilitate a transaction for a customer using the mobile wallet by causing the computing system to perform at least the following:

receive communication from the customer over one of the plurality of channels connected to the computing system, the customer communication

indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;

receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debit the mobile wallet by the specified amount of funds;

credit an agent account by the specified amount of funds; and

send communication from the computing system to the agent terminal over one of the plurality of communication channels connected to the computing system, the communication indicating confirmation of the processing of the transaction.

2. (Original) The computing system of claim 1, wherein the computing system notifies the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the computing system.

3. (Original) The computing system of claim 1, wherein the mobile wallet is a native mobile wallet.

4. (Original) The computing system of claim 1, wherein the mobile wallet is a third party mobile wallet.

5. (Original) The computing system of claim 4, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

6. (Original) The computing system of claim 5, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

7. (Original) The computing system of claim 1, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

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APPLE INC. / Page 1487 of 1640

8. (Original) A computer-implemented method of facilitating management of a mobile wallet, the computer-implemented method being performed by one or more hardware processors executing computer executable instructions for the computer-implemented method, and the computer-implemented method comprising:

a computer system receiving communication from a customer over one of a plurality of channels connected to the computer system, the customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computer system;

receiving communication from the agent terminal over at least one of the plurality of channels connected to the computer system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debiting the mobile wallet by the specified amount of funds;

crediting an agent account by the specified amount of funds; and

sending communication from the computer system to the agent terminal over one of the plurality of communication channels connected to the computer system, the communication indicating confirmation of the processing of the transaction, wherein the computer system includes at least the following:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device on which a mobile wallet application is installed and including web services communication mechanisms for interfacing with the mobile wallet application and a plurality of different device types over the plurality of different communication channels, the integration tier being configured to receive binary and text messages from the mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the mobile device;

service connectors that are each configured to connect the computer system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

9. (Original) The method of claim 8, further comprising notifying the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the computer system.

10. (Original) The method of claim 8, wherein the mobile wallet is a native mobile wallet.

11. (Original) The method of claim 8, wherein the mobile wallet is a third party mobile wallet.

12. (Original) The method of claim 11, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

13. (Original) The method of claim 12, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

14. (Original) The method of claim 13, wherein the third party mobile wallet providers' POS processing systems communicate with each other using the computer system to process the transaction.

15. (Original) The method of claim 8, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

16. (Original) A computer program product comprising one or more hardware storage devices having stored thereon computer-executable instructions that are executable by one or more processors of a computer system and that configure the computer system to facilitate management of a mobile wallet, including computer-executable instructions that configure the computer system to perform at least the following:

receive communication from a customer over one of a plurality of communication channels connected to the computing system, the customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;

receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debit the mobile wallet by the specified amount of funds;

credit an agent account by the specified amount of funds; and

send communication from the computer system to the agent terminal over one of the plurality of communication channels connected to the computer system, the communication indicating confirmation of the processing of the transaction, wherein the computer system includes at least the following:

one or more processors;

system memory;

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APPLE INC. / Page 1491 of 1640

an integration tier configured to manage mobile wallet sessions with a mobile device on which a mobile wallet application is installed and including web services communication mechanisms for interfacing with the mobile wallet application and a plurality of different device types over the plurality of different communication channels, the integration tier being configured to receive binary and text messages from the mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application;

service connectors that are each configured to connect the computer system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

17. (Original) The computer program product of claim 16, wherein the computer system notifies the customer of confirmation of the processing of the transaction using the

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APPLE INC. / Page 1492 of 1640

mobile wallet over at least one of the plurality of communication channels connected to the computing system.

18. (Original) The computer program product of claim 16, wherein the mobile wallet is a native mobile wallet.

19. (Original) The computer program product of claim 16, wherein the mobile wallet is a third party mobile wallet.

20. (Original) The computer program product of claim 16, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

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APPLE INC. / Page 1493 of 1640

21. (Previously Presented) A computing system for facilitating management of a mobile wallet, including:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application installed on computer readable media executable by the mobile device as well as with a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive digital communications from the mobile device;

a notification services engine configured to interface with the integration tier and to send digital messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the computer readable media executable by the mobile device;

service connectors that are each configured to connect the computing system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a customer using the mobile wallet which is owned by another entity than the customer, comprising the following:

the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform, the communication from the agent terminal indicating that a

customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet, wherein the mobile wallet transaction comprises at least one of a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet, a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer, or a mobile wallet deposit in which funds are deposited into the third party mobile wallet;

the computing system sending the communication from the agent terminal to the third party mobile wallet platform;

the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal and when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a perishable withdrawal code to the customer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal;

the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit; and

the computing system sending a communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication to the agent terminal indicating confirmation of the processing of the transaction.

22. (Previously Presented) A computing system for facilitating management of a mobile wallet, including:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application installed on computer readable media executable by the mobile device as well as with a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive digital communications from the mobile device;

a notification services engine configured to interface with the integration tier and to send digital messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the computer readable media executable by the mobile device;

service connectors that are each configured to connect the computing system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a customer using the mobile wallet which is owned by another entity than the customer, comprising the following:

the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform, the communication from the agent terminal indicating that a

customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet, wherein the mobile wallet transaction comprises digitally transferring of funds for a purchase;

the computing system sending the communication from the agent terminal to the third party mobile wallet platform;

the computing system, upon determining that the mobile wallet transaction comprises the the digital transfer of funds, generating and providing a perishable withdrawal code to the customer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal;

the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit; and

the computing system sending a communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication to the agent terminal indicating confirmation of the processing of the transaction.

REMARKS

The Non-Final Office Action ("*Office Action*"), mailed April 2, 2018, considered claims 1-22.

By this amendment no claims have been amended, cancelled, or added. Accordingly, claims 1-22 are pending.

Obviousness Type Double Patenting Rejection

In the Office Action, the Examiner rejects claims 1-22 under the judicially created doctrine of obviousness-type double patenting in view of U.S. Patent No. 9,208,488. Applicants submit herewith a terminal disclaimer relative to U.S. Patent No. 9,208,488 in order to overcome this rejection. Withdrawal of this rejection and allowance of the pending claims is respectfully requested in view of the terminal disclaimer.

Conclusion

In view of the foregoing, Applicants respectfully submit that the remaining rejections of record are also now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that Applicants have not acquiesced to any of the purported teachings or assertions made in the Office Action regarding the cited art or the pending application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any official notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event the Examiner finds any other issues that would need to be addressed before allowance, the Examiner is invited to contact Applicants' undersigned Attorneys directly.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

Dated this 27th day of August, 2018.

Respectfully submitted,

/W. Brad Barger/

JOHN C. STRINGHAM
Registration No.: 40,831
W. Brad Barger
Registration No. 69,566
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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/928,521	Filing Date 10/30/2015	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)		
	08/27/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 22	Minus	** 20	= 2	X $50 =	100
	Independent (37 CFR 1.16(h))	* 5	Minus	***4	= 1	X $230 =	230
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	330

		(Column 1)		(Column 2)	(Column 3)		
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
TONI HAKIM

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE / ISSUE NOTIFICATION DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/928105	27-Aug-2018	Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	2	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	9/6/16
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

35958128_1

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	John C. Stringham/Thomas Conner
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

Electronic Acknowledgement Receipt

EFS ID:	33677659
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Thomas Conner
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	10-SEP-2018
Filing Date:	30-OCT-2015
Time Stamp:	18:26:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	091118INTEFSW18270200
Deposit Account	233178
Authorized User	Thomas Conner
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2018-09-10_IDS.pdf	187645 38b21fc1e2be26e95d139afe104cefeba9457a30	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Other Reference-Patent/App/Search documents	14928105_20180827_OA.pdf	278854 2637aa0043a0c1e3b8a47d315391704f5907a6f5	no	7
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30635 5799ffb14880228864427d718e4cafb3e58f7dc7	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	497134		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

22913 7590 10/05/2018

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

EXAMINER	
DANNEMAN, PAUL	

ART UNIT	PAPER NUMBER
3627	

NOTIFICATION DATE	DELIVERY MODE
10/05/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing@wnlaw.com

Office Action Summary	**Application No.** 14/928,521	**Applicant(s)** Liberty, Michael A.	
	Examiner PAUL DANNEMAN	**Art Unit** 3627	**AIA Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 27 August 2018.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-22 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-22 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

2nd Non-Final

Based on a recent Federal Circuit decision, ***Asghari-Kamrani V. USAA***, Appeal No. 2017-24054-05 (Fed. Cir. Aug. 31 2018, the Examiner has entered a new ground(s) of rejection.

Status of the Claims

1. This Office Action is in response to the Application filed on 30 October 2015 and the Preliminary Amended dated 06 January 2016.

2. Claims 1-22 are pending and have been examined in this Office Action.

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-22 rejected under 35 U.S.C. 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Claim(s) 1-22 is/are directed to a system, method and computer readable storage medium. The claims combine generally known technologies such as means for communication between a plurality of entities, execution of financial

transactions, subscriber authentication, debiting and crediting of financial accounts (mobile wallets) and the use of a purchase code. Taken individually and as an ordered combination, each of these claim elements describes conventional computer functions executed by a generic computer. The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because they do not "improve the functioning of the computer itself' nor do they "effect an improvement in any other technology or technological field." (Alice, 134 S. Ct. at 2360).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double

patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-22 are rejected on the grounds of nonstatutory double patenting as being unpatentable over claims 1-2, 5-12, 21-23, 25-32 and 36 of U.S. Patent No. 9,208,488 B2. Although the claims at issue are not identical, they are not patentably distinct from each other because Claims 1-22 are directed to a computer system, method and programmable storage device which manages mobile wallet transactions, through a third party, for authenticated subscribers and using a secure perishable purchase code.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL DANNEMAN whose telephone number is (571)270-1863. The examiner can normally be reached on Mon-Thurs, 8-6 EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Florian (Ryan) M Zeender can be reached on 571-272-6790. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAUL DANNEMAN/
Primary Examiner, Art Unit 3627

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	**Art Unit**
	PAUL DANNEMAN	3627

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	03/28/2018	10/01/2018							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							
	20	✓	✓							
	21	✓	✓							
	22	✓	✓							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	Art Unit
	PAUL DANNEMAN	3627

CPC - Searched*		
Symbol	Date	Examiner
G06Q	03/28/2018	PD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	ALL	03/28/2018	PD

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
G06Q	03/28/2018	PD
705/ALL	03/28/2018	PD
EAST	03/28/2018	PD
EAST	10/01/2018	PD

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
705	ALL	03/28/2018	PD
G06Q	ALL	03/28/2018	PD

/PAUL DANNEMAN/ Primary Examiner, Art Unit 3627	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATIONS					
Examiner Initials*	Cite No.	Document Number	Filing Date	Name of Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	15/809,872	10-Nov-2017	Liberty, Michael A.	
	2	61/493,064	3-Jun-2011	Liberty, Michael A.	
	3	61/522,099	10-Aug-2011	Liberty, Michael A.	
	4	62/075,657	5-Nov-2014	Liberty, Michael A.	
	5	61/498,957	20-Jun-2011	Liberty, Michael A.	
	6	61/499,927	22-Jun-2011	Liberty, Michael A.	
	7	61/562,301	21-Nov-2011	Liberty, Michael A.	
	8	61/694,118	28-Aug-2012	Liberty, Michael A.	
	9	61/641,677	2-May-2012	Liberty, Michael A.	
	10	61/862,437	5-Aug-2013	Liberty, Michael A.	

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	10/01/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	2	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John C. Stringham/	Date	4/24/18
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

17437255_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3627
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE / ISSUE NOTIFICATION DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	1	14/928105	27-Aug-2018	Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	10/01/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

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Sheet	2	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	9/6/16
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

35958128_1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	4	("7819307" | "6873974" | "8041338" | "8380177").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/02/27 09:09
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S4	11	"8380177"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/10 10:23
S5	1	"8380177" and cloud	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/10 10:25
S6	2	(("20120310826") or ("8412631")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/06/10 10:37
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S8	1	("20130132219").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/06/10 16:34
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10/ 1/ 2018 4:03:27 PM
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	1	Of	4	Attorney Docket Number	18756.37.1.1

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T 1
	1	Medhi et al., "Mobile-banking adoption and usage by low-literate, low-income users in the developing world", 2009, N. Aykin (Ed.): Internationalization, Design, LNCS 5623, pp. 485-486.	☐
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	3	Jack et al., "Monetary Theory and electronic money: reflections on the Kenyan experience", economic quarterly, vol. 96, no. 1, first quarter 2010, pp. 83-122.	☐
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	2	Of	4	Attorney Docket Number	18756.37.1.1

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	3	Of	4	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE / ISSUE NOTIFICATION DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	29	14/928105	7-Mar-2019	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	4	Of	4	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178 regarding this Information Disclosure Statement

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	3/26/15
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt

EFS ID:	35543234
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Thomas Conner
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	27-MAR-2019
Filing Date:	30-OCT-2015
Time Stamp:	12:56:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2019-03-27_IDS.pdf	652668 a946f80eb95434b145422f5e2b982d7e2b34421c	no	4

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4	Non Patent Literature	Jack_Monetary_theory.pdf	11039997 fe975ff15fff5dcde7455ddb14b9b7bbb5eabad8	no	41
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7	Non Patent Literature	Plyler_Community_level_economic_effects.pdf	3919788 104432cc194a84e56a836aaf033f98bd53c100d8	no	8
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8	Non Patent Literature	Hughes_M-PESA_mobile_money.pdf	7163357 613bcecf3ad7bb616b3ef7808d22fa14740189cb	no	19
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9	Non Patent Literature	Omwansa_M-PESA_Progress_and_prospects.pdf	6287026 466caf84ee96c8dc42c92e547fe0c30d9d914a6d	no	17
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13	Non Patent Literature	Jack_The_Economics_of_M-PESA.pdf	2131911 67bcfce547958ca89c300b195001df9acff3f89e	no	20
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14	Non Patent Literature	RadioShack_and_Trumpet_Mobile_launch.pdf	1984773 dccd8acac3369387e965cd862c022643d4e2e9d1	no	3
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15	Non Patent Literature	Sultana_Mobile_banking_overview_of_regulatory.pdf	979135 6f649ea6b77ca7cc313a4b05255ee40b6469704b	no	17
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16	Non Patent Literature	Ivatury_The_early_experience.pdf	2961944 e184caf7f9ef973b8395ef00402f67bbca8c7e1d	no	16
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17	Non Patent Literature	Porteous_The_enabling_environment.pdf	13011233 5ee41249e507f7782ef059a27e0ee8c8da3545e0	no	28
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25	Non Patent Literature	Anonymous_Portuguese_firm_flourishing_in_Mozambique.pdf	150069 321f4885b8732738ac990f35b24bf9c8cafaedbd	no	2
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27	Non Patent Literature	McKinley_Trumpet_Mobile_Wallet.pdf	1509263 d357db77d52855d99579127639daee3ab42e4187	no	5
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28	Non Patent Literature	Anonymous_Radioshack_Trumpet_launch.pdf	161957 2f6e82c27d6a6a2c172fe00be05d358e8e34f877	no	3
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29	Non Patent Literature	Anonymous_RadioShack_to_offer_Trumpet_Mobile_service.pdf	121842 0c1342ab897de7d4c22a04e31fbf0be78c8f9436	no	2
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30	Non Patent Literature	Lugmayr_RadioShack_and_Trumpet_Mobile_launch.pdf	510251 c628f942f3a3d2a3a6b1fa933e2a64e8f0824bfa	no	5
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31	Other Reference-Patent/App/Search documents	14928105_20190307_OA.pdf	226000 7a65665e6c6d313fcdf3deea99c1c1b2e55aee73	no	8
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		Total Files Size (in bytes):	105497739		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION
Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

AMENDMENT "B" AND RESPONSE
AFTER NON-FINAL WITH THREE-MONTH EXTENSION OF TIME

VIA eFILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to a Non-Final Office Action, which was mailed on October 5, 2018, please amend and reconsider the above-identified application, in which:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 14 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims is to replace all prior versions, and listing, of claims for the pending application:

Listing of Claims:

1. (Currently Amended) A computing system for facilitating management of a mobile wallet, comprising:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application and a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive binary and text messages from a mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including a customer's mobile device, to interface with a mobile wallet application installed on the customer's mobile device;

service connectors that are each configured to connect the computing system to a different third party system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions which are executable by the one or more processors, to facilitate a transaction for a customer using the mobile wallet by causing the computing system to perform at least the following:

receive communication from the customer over one of the plurality of channels connected to the computing system, the customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;

receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debit the mobile wallet by the specified amount of funds;

credit an agent account by the specified amount of funds; and

after selecting a particular channel included in the plurality of channels, send a notification communication from the computing system to the agent terminal ~~over one of the plurality of communication channels~~ using the particular channel, which is connected to the computing system, the notification communication providing a notification indicating confirmation of the processing of the transaction.

2. (Original) The computing system of claim 1, wherein the computing system notifies the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the computing system.

3. (Original) The computing system of claim 1, wherein the mobile wallet is a native mobile wallet.

4. (Original) The computing system of claim 1, wherein the mobile wallet is a third party mobile wallet.

5. (Original) The computing system of claim 4, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

6. (Original) The computing system of claim 5, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

7. (Original) The computing system of claim 1, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

8. (Currently Amended) A computer-implemented method of facilitating management of a mobile wallet, the computer-implemented method being performed by one or more hardware processors executing computer executable instructions for the computer-implemented method, and the computer-implemented method comprising:

a computer system receiving communication from a customer over one of a plurality of channels connected to the computer system, the customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computer system;

receiving communication from the agent terminal over at least one of the plurality of channels connected to the computer system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debiting the mobile wallet by the specified amount of funds;

crediting an agent account by the specified amount of funds; and

after selecting a particular channel included in the plurality of channels, sending a notification communication from the computer system to the agent terminal ~~over one of the plurality of communication channels~~ using the particular channel, which is connected to the computer system, the notification communication providing a notification indicating confirmation of the processing of the transaction, wherein the computer system includes at least the following:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device on which a mobile wallet application is installed and including web services communication mechanisms for interfacing with the mobile wallet application and a plurality of different device types over the plurality of different communication channels, the integration tier being configured to receive binary and text messages from the mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the mobile device;

service connectors that are each configured to connect the computer system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

9. (Original) The method of claim 8, further comprising notifying the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the computer system.

10. (Original) The method of claim 8, wherein the mobile wallet is a native mobile wallet.

11. (Original) The method of claim 8, wherein the mobile wallet is a third party mobile wallet.

12. (Original) The method of claim 11, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

13. (Original) The method of claim 12, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

14. (Original) The method of claim 13, wherein the third party mobile wallet providers' POS processing systems communicate with each other using the computer system to process the transaction.

15. (Original) The method of claim 8, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

16. (Currently Amended) A computer program product comprising one or more hardware storage devices having stored thereon computer-executable instructions that are executable by one or more processors of a computer system and that configure the computer system to facilitate management of a mobile wallet, including computer-executable instructions that configure the computer system to perform at least the following:

receive communication from a customer over one of a plurality of communication channels connected to the computing system, the customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet;

return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;

receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system, the agent terminal communication indicating that the purchase code has been presented to an agent;

debit the mobile wallet by the specified amount of funds;

credit an agent account by the specified amount of funds; and

after selecting a particular channel included in the plurality of channels, send a notification communication from the computer system to the agent terminal ~~over one of the plurality of communication channels~~ using the particular channel, which is connected to the computer system, the notification communication providing a notification indicating confirmation of the processing of the transaction, wherein the computer system includes at least the following:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device on which a mobile wallet application is installed and including web services communication mechanisms for interfacing with the mobile wallet application and a plurality of different device types over the plurality of different communication channels, the integration tier being configured to receive binary and text messages from the mobile device;

a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application;

service connectors that are each configured to connect the computer system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

17. (Original) The computer program product of claim 16, wherein the computer system notifies the customer of confirmation of the processing of the transaction using the mobile wallet over at least one of the plurality of communication channels connected to the computing system.

18. (Original) The computer program product of claim 16, wherein the mobile wallet is a native mobile wallet.

19. (Original) The computer program product of claim 16, wherein the mobile wallet is a third party mobile wallet.

20. (Original) The computer program product of claim 16, wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer.

21. (Currently Amended) A computing system for facilitating management of a mobile wallet, including:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application installed on computer readable media executable by the mobile device as well as with a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive digital communications from the mobile device;

a notification services engine configured to interface with the integration tier and to send digital messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the computer readable media executable by the mobile device;

service connectors that are each configured to connect the computing system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a customer using the mobile wallet which is owned by another entity than the customer, comprising the following:

the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform, the communication from the agent terminal indicating that a customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet, wherein the mobile wallet

transaction comprises at least one of a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet, a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer, or a mobile wallet deposit in which funds are deposited into the third party mobile wallet;

the computing system sending the communication from the agent terminal to the third party mobile wallet platform;

the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal and when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a perishable withdrawal code to the customer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal;

the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit; and

after selecting a particular communication channel included in the plurality of communication channels, the computing system sending a notification communication to the agent terminal ~~over one of a plurality of communication channels~~ using the particular communication channel, which is connected to the cloud-based transaction platform, the notification communication to the agent terminal providing a notification indicating confirmation of the processing of the transaction.

22. (Currently Amended) A computing system for facilitating management of a mobile wallet, including:

one or more processors;

system memory;

an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application installed on computer readable media executable by the mobile device as well as with a plurality of different device types over a plurality of different communication channels, the integration tier being configured to receive digital communications from the mobile device;

a notification services engine configured to interface with the integration tier and to send digital messages over the different communication channels to different devices, including the mobile device, to interface with the mobile wallet application installed on the computer readable media executable by the mobile device;

service connectors that are each configured to connect the computing system to a different third party system, each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

a payment handler that exposes a common API for interacting with different payment processors;

a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a customer using the mobile wallet which is owned by another entity than the customer, comprising the following:

the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform, the communication from the agent terminal indicating that a customer desires to perform a transaction

comprising a mobile wallet transaction using a third party mobile wallet, wherein the mobile wallet transaction comprises digitally transferring of funds for a purchase;

the computing system sending the communication from the agent terminal to the third party mobile wallet platform;

the computing system, upon determining that the mobile wallet transaction comprises the the digital transfer of funds, generating and providing a perishable withdrawal code to the customer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal;

the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit; and

after selecting a particular communication channel included in the plurality of communication channels, the computing system sending a notification communication to the agent terminal ~~over one of a plurality of communication channels~~ using the particular communication channel, which is connected to the cloud-based transaction platform, the notification communication to the agent terminal providing a notification indicating confirmation of the processing of the transaction.

REMARKS

The Non-Final Office Action that was mailed on October 5, 2019 considered and rejected claims 1-22.

By this paper, claims 1, 8, 16, 21, and 22 are amended. No claims have been added or cancelled. Accordingly, claims 1-22 are now pending (22 total), of which claims 1, 8, 16, 21, and 22 are the independent claims at issue. Support for the claim amendments is found throughout the originally filed application and claims including the disclosure presented in at least paragraphs [0004], [0005], [0020], [0021], [0072], and [0104] of this application's pre-grant publication (US 2016/0055483).

Double-Patenting

Claims 1-22 were rejected on the grounds of non-obvious double patenting in view of the parent application, U.S. Patent No. 9,208,488. However, these double patenting rejections are moot in view of the terminal disclaimer that was filed and accepted on *August 27, 2018*.

35 U.S.C. § 101 Rejections

Claims 1-22 were rejected under 35 U.S.C. § 101 based on the assertion that the claims are directed to abstract subject matter and that the claims fail to include something significantly more. Based on the current amendments and the reasoning outlined below, Applicant submits that this rejection is now moot and should be withdrawn.

Introductory Discussion Of The Claims

Mobile phones and other digital devices have become increasingly popular in recent years. Many mobile device users use their devices to perform countless different daily tasks (e.g., check email, send and receive instant messages, etc.) or to perform any number of different things using specialized applications. These applications allow mobile devices to communicate with other computer systems and to perform a wide variety of network-connected tasks previously not possible with a mobile device. The functionality of a device can be further improved/enhanced by configuring it to include a mobile wallet application.

Claim 1, for example, relates to a computing system that is specially configured to provide such a mobile wallet application. In particular, the computing system is configured to include an integration tier, a notification services engine, some service connectors, a payment handler, a security services engine, and a rules engine.

The integration tier is specially configured to manage mobile wallet sessions with a mobile device. The tier includes certain web services communication mechanisms for interfacing with a mobile wallet application and multiple different device types over different communication channels. The tier is also configured to receive binary and text messages from a mobile device.

The notification services engine is configured to interface with the integration tier and to send different types of messages over the communication channels to different devices. This communication allows the system to interface with a mobile wallet application installed on the customer's mobile device.

The service connectors are each configured to connect the computing system to a different third-party system. The payment handler exposes a common API for interacting with different payment processors. The security services engine performs authentication while the rules engine enforces certain constraints.

To provide valuable benefits related to conducting mobile transactions, the computing system also receives communications from a customer over one of the communication channels. These communications indicate that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet. The computing system then returns a secure, perishable purchase code to the customer over one of the communications channels. The computing system also receives a communication from the agent terminal, where the communication indicates that the purchase code has been presented to an agent. The mobile wallet is debited by the specified amount of funds while the agent account is credited with those funds.

As clarified by the current amendments, after selecting a particular communication channel, the computing system practically and meaningfully applies the disclosed benefits by sending a notification communication to the agent terminal using the particular channel. This notification communication provides a notification indicating a confirmation regarding the processing of the transaction. In this regard, the disclosed embodiments improve the functionality of a device by configuring it in a specialized manner to support mobile transactions.

Discussion Of §101

The Patent Office recently released a revised set of guidance[1] for determining eligibility under 35 U.S.C. §101 (the "2019 PEG"). Page 5 of the 2019 PEG states that the Office's revised "procedure focuses on two aspects of Revised Step 2A: (1) whether the claim recites a judicial exception; and (2) whether a recited judicial exception is integrated into a practical application." "Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim 'directed to' a judicial exception, thereby triggering the need for further analysis pursuant to the second step of the *Alice/Mayo* test (USPTO Step 2B)."

The 2019 PEG later clarifies how to determine whether a claim is directed to a judicial exception, and in particular to an abstract idea. Specifically, the 2019 PEG clarifies, on pages 9-11, that abstract ideas can be grouped into (a) mathematical concepts; (b) certain methods of organizing human activity; and (c) mental processes, with specific examples provided for each of these categories. On page 11, the 2019 PEG further states "Claims that do not recite matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas…"

The current claims describe a technical solution to a technical problem in the computing arts. The claims recite specific operations that are performed on a computer system to perform mobile transactions. As an example, the claimed embodiments are able to securely transmit communications back and forth between certain entities to ensure the integrity of a mobile transaction. The claimed embodiments also select specific communication channels in order to facilitate these transactions. Furthermore, the disclosed features are practically and meaningfully applied and are also limited in context as a result of the computing system being required to select a particular communication channel and transmit (using the selected channel) a notification communication to an agent. As such, the claimed processes are not directed to mathematical concepts (e.g., the claims do not merely recite mathematical relationships, mathematical formulas or equations, or mathematical calculations); they do not recite methods for organizing human activity (e.g., the claimed processes are performed on a computer, not by a human); and they do not recite mental processes (e.g., a human cannot perform the processes of the claimed mobile transaction processes).

[1] See the following: https://www.uspto.gov/about-us/news-updates/us-patent-and-trademark-office-announces-revised-guidance-determining-subject

As expressly stated on page 15 of the 2019 PEG, "If the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas in Section I), then the claim is eligible at Prong One of revised Step 2A." "This concludes the eligibility analysis, except in the ***rare*** circumstances…" (see pg. 15) in which "a USPTO employee believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea…" (see pg. 11). Because the claims do not fall within one of the enumerated groupings (as described earlier), Applicant submits that the claims are not directed to a judicial exception.

Even if (in the ***rare*** circumstance) the Office does find that the claims are directed to a judicial exception, the claims should still be found to be patent eligible because the claims recite embodiments that are integrated into a "practical application." That is, step 2A(2) clarifies that if a claim is directed to a practical application, then the claim as a whole should not be found to be directed to a judicial exception. Page 18 of the 2019 PEG clarifies that "A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception."

Currently, the claims include at least the following limitation: "after selecting a particular channel included in the plurality of channels, send a notification communication from the computing system to the agent terminal using the particular channel, which is connected to the computing system, the notification communication providing a notification indicating confirmation of the processing of the transaction." This notification (i.e. a type of alert) is particularly beneficial because it enables other entities (e.g., humans, computers, etc.) to verify that the transaction has been successfully resolved. In performing this limitation/requirement, the claimed embodiments are meaningfully limited in scope while also performing a highly useful and beneficial reporting function. In view of the new amendments, the claims, as a whole, should be found to embody a practical application that provides a technical solution to a technical problem. Accordingly, in view of the current amendments and the Office's revised guidelines, Applicant respectfully submits that the claims should be found to be patent eligible under §101.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account No. 23-3178**: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

Dated this 5th day of April 2019.

Respectfully submitted,

/Levi S. Brown/

JOHN C. STRINGHAM
Registration No.: 40,831
LEVI S. BROWN
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Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	Levi S. Brown/Kelli Tyree
Attorney Docket Number:	18756.37.1.1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
		Total in USD ($)		**1400**

Electronic Acknowledgement Receipt

EFS ID:	35646544
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	Levi S. Brown/Kelli Tyree
Filer Authorized By:	Levi S. Brown
Attorney Docket Number:	18756.37.1.1
Receipt Date:	05-APR-2019
Filing Date:	30-OCT-2015
Time Stamp:	17:32:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	18756-37-1-1-Trans.pdf	107530 449c9eba6264f0f132ae2fca3061cfe4720c8581	no	2

Warnings:

Information:					
2	Extension of Time	18756-37-1-1-EOT.pdf	95735 0b1a3e48dee56b4c0acf092da25bbcb5b6cb0e5a	no	2
Warnings:					
Information:					
3		18756-37-1-1-Amend.pdf	222423 a33b85981a2080df57cced079fde5888db1b2a20	yes	18

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	13
	Applicant Arguments/Remarks Made in an Amendment	14	18

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31163 13200023e354a1720a50d1deca0f3446e3f9598e2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	456851		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

VIA eFILE

PATENT APPLICATION
Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

TRANSMITTAL FOR AMENDMENT "B"
AND RESPONSE AFTER NON-FINAL WITH EXTENSION OF TIME

VIA eFILE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmitted herewith is an Amendment "B" and Response for entry in the above-identified application.

__X__ To render the transmitted Amendment "B" and Response timely filed enclosed are the following:

__X__ Petition for Three Month Extension of Time ($700.00).

The fee has been calculated as follows:

			SMALL ENTITY		LARGE ENTITY	
CLAIMS REMAINING AFTER	**HIGHEST NO. PREVIOUSLY PAID FOR**	**PRESENT EXTRA**	**RATE**	**ADDT'L FEE**	**RATE**	**ADDT'L FEE**
TOTAL 22	MINUS 22	= 0	X		X $80.00	00.00
INDEPENDENT 5	MINUS 5	= 0	X		X $420.00	00.00
1st PRESENTATION OF MULTIPLE DEPENDENT CLAIM			+_____=		+_____=	
			TOTAL		**TOTAL**	00.00

__X__ Payment in the amount of $700.00 using the Credit Card payment option in E-Filer with RAM will be used to cover the payment of the fees with respect to the Extension of Time.

__X__ The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account No. 23-3178**: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

DATED this 5th day of April 2019.

Respectfully submitted,

/Levi S. Brown/

JOHN C. STRINGHAM
Registration No.: 40,831
LEVI S. BROWN
Registration No. 72,533
Attorneys for Applicant
Customer No. 22913

VIA eFILE

PATENT APPLICATION
Docket No: 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Michael A. Liberty	)
Serial No.:	14/928,521	) Art Unit) 3627
Confirmation No.:	1049	)
Filed:	October 30, 2015	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)

PETITION FOR EXTENSION OF TIME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.136(a), it is respectfully requested that the shortened statutory period which was set for responding to the Office Action dated October 5, 2019, be extended for Three Months until April 5, 2019.

Payment in the amount of $700.00 using the Credit Card payment option in E-Filer with RAM will be used to cover the payment of the fees with respect to this extension of time.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination

processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to Deposit Account No. 23-3178.

DATED this 5th day of April 2019.

Respectfully submitted,

/Levi S. Brown/

JOHN C. STRINGHAM
Registration No.: 40,831
LEVI S. BROWN
Registration No. 72,533
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Customer No. 22913

WORKMAN NYDEGGER
60 East South Temple
Suite 1000
Salt Lake City, UT 84111
Phone: 801-533-9800
Fax: 801-328-1707

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	Levi S. Brown/Kelli Tyree
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	2253	1	700	700
Miscellaneous:				
		Total in USD ($)		**700**

Electronic Acknowledgement Receipt

EFS ID:	35646597
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	Levi S. Brown/Kelli Tyree
Filer Authorized By:	Levi S. Brown
Attorney Docket Number:	18756.37.1.1
Receipt Date:	05-APR-2019
Filing Date:	30-OCT-2015
Time Stamp:	17:33:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$700
RAM confirmation Number	040819INTEFSW17351500
Deposit Account	233178
Authorized User	Kelli Tyree
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	30997 f96bd21d613148dc7ec795d1f1b0a6fdbc3de215	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	30997		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/928,521	Filing Date 10/30/2015	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $210 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	04/05/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 22	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 5	Minus	*** 5	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20110131421	2-Jun-2011	Jogand-Coulomb et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Country Code	Publication Date	Name of Patentee or Applicant of Cited Document	T [1]
	2	2284783	EP	16-Feb-2011	Phytrex Technology Corp	☐

EXAMINER SIGNATURE			
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
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Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178 regarding this Information Disclosure Statement

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	5/16/15
Name/Print	John C. Stringham	Registration Number	40,831

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(54) Electronic wallet device

(57) The present invention provides an electronic wallet device for a mobile phone comprising a SIM card interface, comprising: a processing unit configured to provide a top-up service interface to the mobile phone and to receive and convert a first transaction instruction from the mobile phone into a top-up instruction; an authentication unit provided with an electronic wallet and configured to receive and convert the top-up instruction into an authorized top-up instruction and to write an amount to the electronic wallet according to the authorized top-up instruction; and an NFC antenna electrically connected to the authentication unit.

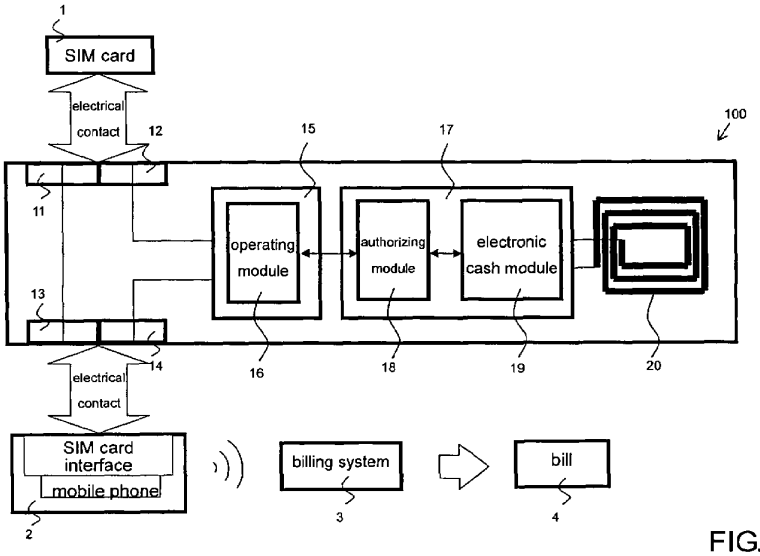


FIG. 2

EP 2 284 783 A1

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Description

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[0001] The present invention relates to an electronic wallet device applicable to a subscriber identify module (SIM), and more particularly, to the technical field regarding mobile phones to enhance ease of use.

DESCRIPTION OF THE PRIOR ART

[0002] Integrated Circuit Cards (IC Card) are used in all existing electronic payment systems to serve as carriers for electronic wallets. An electronic wallet is operable by storing the available balance in a chip embedded in an IC card, then the user can make any payment using the IC card through which an amount of purchase is subtracted.

[0003] Fig. 1 is a schematic view of a conventional electronic wallet topped up with cash. The user has to go to a shop where there is a cash register 301 (POS) capable of adding the top-up cash to the electronic wallet. Upon arrival at the shop, the user may hand an IC card 302 and the top-up cash to a salesclerk. The salesclerk inserts the IC card 302 into a card reader 303 equipped with a security access module (SAM) card 304, and the interface between the card reader 303 and the IC card 302 is of an insertion type or an inductive type. The salesclerk operates a software interface on the cash register 301 and enters a required transaction-related parameter according to the amount of cash received. The software installed in the cash register 301 converts the transaction-related parameter into a top-up instruction and sends the top-up instruction to the card reader 303. The card reader 303 then converts the received top-up instruction into an authorized top-up instruction by means of SAM software installed therein and sends the authorized top-up instruction to the IC card 302. With an electronic wallet program installed in the IC card 302, the amount indicated by the authorized top-up instruction is written to the electronic wallet in the IC card 302.

[0004] According to the prior art, the top-up service for electronic wallet users is available only in certain places, and the authorized top-up can be processed only through a specific device, such as the card reader 303, and in cash only. As the way the electronic wallet functions makes it inconvenient to check the balance (the inquiry must be made through the card reader 303), the user may be embarrassed to find the balance insufficient when s/he wants to conduct a transaction. Under such circumstance, the user will be unable to continue the transaction using the electronic wallet unless s/he finds a specific place for authorized top-up.

[0005] According to the statistics released by the National Communications Commission (NCC), there were approximately 24,680,000 registered mobile phone users in Taiwan by the end of June in 2008, indicating that everyone in the country had more than one mobile phone. The phenomenal popularity of mobile phones in Asia indicates that the mobile phone has become an essential device for both personal and professional use. While some may use the mobile phone to take photos and listen to music, the majority of mobile phone users simply use the gadget to make/receive phone calls and send/receive messages.

[0006] As the integration of an electronic wallet into a mobile phone is industrially applicable, the present invention provides an electronic wallet device for a mobile phone, thereby to enhance the ease of authorized top-up for electronic wallets.

SUMMARY OF THE INVENTION

[0007] The present invention provides an electronic wallet device for a mobile phone, thereby to enhance the ease of top-up for electronic wallets.

[0008] In order to achieve the aforementioned object, the present invention provides an electronic wallet device for a mobile phone comprising a SIM card interface, comprising: a processing unit configured to provide a top-up service interface to the mobile phone and to receive and convert a first transaction instruction from the mobile phone into a top-up instruction; an authentication unit provided with an electronic wallet and configured to receive and convert the top-up instruction into an authorized top-up instruction and to write an amount to the electronic wallet according to the authorized top-up instruction; and an antenna electrically connected to the authentication unit.

[0009] In order to achieve the aforementioned object, the electronic wallet device further comprises a film substrate. The film substrate is constructed having one side surface provided with a first contact interface and the other side surface provided with a second contact interface which is in electrical contact with the SIM card interface, and the processing unit, the authentication unit and the antenna are disposed thereon.

[0010] In the electronic wallet device that achieves the aforementioned object, the processing unit is implemented in the software or hardware of the mobile phone; the authentication unit is implemented in a SD card (secure digital memory card) and the mobile phone comprises a SD card interface; and the antenna is disposed in the mobile phone.

[0011] In the electronic wallet device that achieves the aforementioned object, the processing unit and the authentication unit are implemented in a SIM card; the antenna is disposed in the mobile phone and electrically connected to the SIM card via the SIM card interface.

[0012] The first contact interface is configured to electrically contact a SIM card.

[0013] The side surface of the film substrate on which the first contact interface is disposed is adhered to one side surface of a SIM card, and the first contact interface

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is in electrical contact with the SIM card.

[0014] The processing unit comprises an operating module. The operating module converts the first transaction instruction into the top-up instruction.

[0015] The processing unit comprises an operating module. The operating module provides the top-up service interface displayed on a display unit of the mobile phone.

[0016] The authentication unit is authenticated by a financial institution.

[0017] The authentication unit comprises an authorization module. The authorization module converts the top-up instruction into the authorized top-up instruction.

[0018] The authentication unit comprises an authorization module. The authorization module executes a SAM algorithm authenticated by a financial institution.

[0019] The authentication unit comprises an electronic wallet module. The electronic wallet module writes the amount to the electronic wallet.

[0020] The electronic wallet is a memory. The memory is configured to store the amount.

[0021] The processing unit receives and converts a second transaction instruction from the mobile phone into a debit instruction.

[0022] The authentication unit receives and converts the debit instruction into an authorized debit instruction, and subtracts an amount from the balance of the electronic wallet according to the authorized debit instruction.

[0023] The electronic wallet device implemented according to the present invention is integrated into a mobile phone comprising a keyboard interface. The keyboard interface enables prompt balance inquiry of the electronic wallet and real-time authorized top-up. Then, the mobile phone sends, by its communication capacity, the amount of authorized top-up to a billing system for creating a bill.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] Fig. 1 is a schematic view of a conventional electronic wallet topped up with cash;

[0025] Fig. 2 is a block diagram of an electronic wallet device in accordance with a first embodiment of the present invention;

[0026] Fig. 3A is a structural layout showing one side of the electronic wallet device in accordance with the first embodiment of the present invention;

[0027] Fig. 3B is a structural layout showing the other side of the electronic wallet device in accordance with the first embodiment of the present invention;

[0028] Fig. 4 is a block diagram of an electronic wallet device in accordance with a second embodiment of the present invention; and

[0029] Fig. 5 is a block diagram of an electronic wallet device in accordance with a third embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0030] Fig. 2 is a block diagram of an electronic wallet device 100 in accordance with a first embodiment of the present invention. The electronic wallet device 100 is used in a mobile phone 2 comprising a SIM card interface, so as to integrate value-added services to the mobile phone 2. Fig. 3A is a structural layout showing one side of the electronic wallet device 100 in accordance with the first embodiment of the present invention. The electronic wallet device 100 comprises a film substrate 10, a processing unit 15, an authentication unit 17 and an NFC antenna 20, wherein the processing unit 15, the authentication unit 17 and the antenna 20 are disposed on the film substrate 10.

[0031] In this embodiment, the film substrate 10 is constructed having one side surface provided with a first contact interface and the other side surface provided with a second contact interface. The first contact interface is configured to electrically contact a plurality of electrical contacts of a SIM card 1 while the second contact interface is configured to electrically contact the SIM card interface of the mobile phone 2. The first contact interface comprises at least a first contact 11 and a second contact 12, and the second contact interface comprises at least a third contact 13 and a fourth contact 14, wherein the first contact 11 and the third contact 13 are electrically connected while the second contact 12 and the fourth contact 14 are each electrically connected to the processing unit 15.

[0032] In this embodiment, each of the first contact interface and the second contact interface of the film substrate 10 comprises eight contacts (C 1.Vcc, C 2.RST, C 3.CLK, C 4.RFU, C 5.GND, C 6.Vpp, C 7.I/O, and C 8.RFU) that meet ISO 7816 international standards, and the contacts of the first contact interface and the second contact interface correspond in position to each other. C 1.Vcc and C 5.GND of the first contact interface may be regarded as the first contact 11 while C 7.I/O may be regarded as the second contact 12. C 1.Vcc and C 5.GND of the second contact interface may be regarded as the third contact 13 while C 7.I/O may be regarded as the fourth contact 14. In one preferred embodiment of the present invention, certain area of the side surface of the film substrate 10 on which the first contact interface is disposed is coated with an adhesive material so that the side surface can be adhered to the side surface of the SIM card 1 on which a plurality of electrical contacts are disposed.

[0033] The processing unit 15 comprises an operating module 16. The operating module 16 provides, via SIM Toolkit (STK) of the mobile phone 2, a top-up service interface displayed on a display unit of the mobile phone 2. The user operates the top-up service interface to enable the mobile phone 2 to send a first transaction instruction to the operating module 16. After receiving the first transaction instruction, the operating module 16 converts the first transaction instruction into a top-up instruc-

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tion.

[0034] The authentication unit 17 authenticated by a financial institution has an electronic wallet. Moreover, the authentication unit 17, which is configured to receive the top-up instruction, comprises an authorization module 18 and an electronic wallet module 19. The authorization module 18 executes a SAM algorithm authenticated by the financial institution, so as to convert the top-up instruction into an authorized top-up instruction. The electronic wallet module 19 then writes an amount to the electronic wallet according to the authorized top-up instruction. The electronic wallet is a memory configured to store the amount. After the authentication unit 17 has completed the top-up process, the authentication unit 17 sends a top-up complete instruction to the processing unit 15. The processing unit 15 then generates a billing instruction according to the top-up complete instruction. The billing instruction is sent to the mobile phone 2 via the second contact interface so as to be transmitted to a billing system 3. In the embodiments of the present invention, the billing system 3 is attributed to a financial institution or attributed to a mobile telecommunication system of the mobile phone 2. The billing system 3 creates a bill 4 in which the amount is stated according to the billing instruction, and the user may make the payment by cash or by automatic debit.

[0035] Figs. 3A and 3B are structural layouts showing two sides of the film substrate 10 of the electronic wallet device in accordance with the first embodiment of the present invention, respectively. The film substrate 10 comprises a first substrate, a second substrate and a connecting portion 22 for connecting the first substrate and the second substrate. The first contact interface and the second contact interface are disposed on two sides of the first substrate, respectively. The processing unit 15, the authentication unit 17 and the antenna 20 are preferably, but not limited to be, disposed on one side surface of the second substrate, and the antenna 20 is electrically connected to the authentication unit 17. Alternatively, the processing unit 15, the authentication unit 17 and the antenna 20 may be disposed on the other side surface of the second substrate of the film substrate 10, or arranged across the first and second substrates, or disposed on an intermediate layer sandwiched between the first and second substrates.

[0036] Fig. 4 is a block diagram of an electronic wallet device in accordance with a second embodiment of the present invention. A mobile phone 43 comprises a SIM card interface 432, a SD card (secure digital memory card) interface 431 and an NFC antenna 20, wherein the SIM card interface 432 is electrically connected to a contact interface 421 of a SIM card 42, the SD card interface 431 is electrically connected to a contact interface 411 of a SD card 41, and the antenna 20 is electrically connected to the SD card interface 431. In this embodiment, the processing unit is implemented by means of implementation software or hardware of the mobile phone 43. The processing unit comprises an operating module that provides a top-up service interface displayed on a display unit of the mobile phone 43. The user operates the top-up service interface to enable the mobile phone 43 to receive a first transaction instruction, and then the operating module receives and converts the first transaction instruction into a top-up instruction.

[0037] In this embodiment, the SD card 41 comprises the contact interface 411, a controller 412, the authentication unit 17 and a memory 413, wherein the controller 412 is electrically connected to the contact interface 411, the memory 413 and the authentication unit 17, and the authentication unit 17 is electrically connected to the contact interface 411 so that the authentication unit 17 may be electrically connected to the antenna 20 via the contact interface 411 and the SD card interface 431. A driver of the controller 412 assesses any instruction transmitted from the SD card interface 431. If the driver of the controller 412 determines that an instruction is intended for the authentication unit 17, the instruction will be sent to and processed by the authentication unit 17. Then, the authentication unit 17 sends the processed result to the mobile phone 43 via the controller 412. The authentication unit 17 authenticated by a financial institution has an electronic wallet. Moreover, the authentication unit 17, which is configured to receive the top-up instruction from the mobile phone 43, comprises an authorization module and an electronic wallet module. The authorization module executes a SAM algorithm authenticated by the financial institution, so as to convert the top-up instruction into an authorized top-up instruction. The electronic wallet module then writes an amount to the electronic wallet according to the authorized top-up instruction. The electronic wallet is a memory configured to store the amount.

[0038] After the authentication unit 17 has completed the top-up process, the authenticating unit 17 sends a top-up complete instruction to the processing unit of the mobile phone 43. The processing unit then generates a billing instruction according to the top-up complete instruction. The billing instruction is sent to the mobile phone 43 so as to be transmitted to a billing system. In the embodiments of the present invention, the billing system is attributed to a financial institution or attributed to a mobile telecommunication system of the mobile phone 43. The billing system creates a bill in which the amount is stated according to the billing instruction, and the user may make the payment by cash or by automatic debit.

[0039] Fig. 5 is a block diagram of an electronic wallet device in accordance with a third embodiment of the present invention. A mobile phone 51 comprises an NFC antenna 20 and a SIM card interface 511. A SIM card 52 comprises a contact interface 521 electrically connected to the SIM card interface 511, a processing unit 15 and an authentication unit 17, wherein the processing unit 15 is electrically connected to the authentication unit 17 and the contact interface 521. The processing unit 15 comprises an operating module. The operating module provides, via SIM Toolkit (STK) of the mobile phone 51, a top-up service interface displayed on a display unit of the

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mobile phone 51. The user operates the top-up service interface to enable the mobile phone 51 to send a first transaction instruction to the operating module. After receiving the first transaction instruction, the operating module converts the first transaction instruction into a top-up instruction. The authentication unit 17 authenticated by a financial institution has an electronic wallet. Moreover, the authentication unit 17, which is configured to receive the top-up instruction, comprises an authorization module and an electronic wallet module. The authorization module executes a SAM algorithm authenticated by the financial institution to convert the top-up instruction into an authorized top-up instruction. The electronic wallet module then writes an amount to the electronic wallet according to the authorized top-up instruction. The electronic wallet is a memory configured to store the amount.

[0040] After the authentication unit 17 has completed the top-up process, the authentication unit 17 sends a top-up complete instruction to the processing unit. The processing unit then generates a billing instruction according to the top-up complete instruction. The billing instruction is sent to the mobile phone 51 so as to be transmitted to a billing system. In the embodiments of the present invention, the billing system is attributed to a financial institution or attributed to a mobile telecommunication system of the mobile phone 51. The billing system creates a bill in which the amount is stated according to the billing instruction, and the user may make the payment by cash or by automatic debit.

[0041] When the user conducts a transaction using the electronic wallet device of the present invention, the authentication unit 17 inductively receives a transaction instruction from a card reader via the antenna 20 and converts the transaction instruction into an authorized transaction instruction. Then, the electronic wallet module subtracts an amount from the electronic wallet according to the authorized transaction instruction. Alternatively, when the user makes a transfer or transaction using the electronic wallet device of the present invention, the user enters a second transaction instruction into a mobile phone, and then the processing unit 15 receives and converts the second transaction instruction from the mobile phone into a debit instruction. Afterward, the authentication unit 17 receives and converts the debit instruction into an authorized debit instruction, and subtracts an amount from the balance of the electronic wallet according to the authorized debit instruction.

[0042] With the detailed description of the preferred embodiments of the present invention, it will be apparent to those skilled in the art that various modifications and variations can be made to the present invention without departing from the spirit and scope of the present invention. The embodiments depicted above are not intended as limitations but rather as examples of the present invention.

Claims

1. An electronic wallet device for a mobile phone comprising a SIM card interface, comprising:

   a processing unit configured to provide a top-up service interface to the mobile phone and to receive and convert a first transaction instruction from the mobile phone into a top-up instruction;
   an authentication unit provided with an electronic wallet and configured to receive and convert the top-up instruction into an authorized top-up instruction and to write an amount to the electronic wallet according to the authorized top-up instruction; and
   an antenna electrically connected to the authentication unit.

2. The electronic wallet device according to claim 1 further comprising a film substrate having one side surface provided with a first contact interface and the other side surface provided with a second contact interface in electrical contact with the SIM card interface, wherein the processing unit, the authentication unit and the antenna are disposed on the film substrate.

3. The electronic wallet device according to claim 1, wherein the processing unit is implemented in the mobile phone and the authentication unit in a SD card (secure digital memory card), and wherein the antenna is disposed in the mobile phone comprising a SD card interface.

4. The electronic wallet device according to claim 1, wherein the processing unit and the authentication unit are implemented in a SIM card, and wherein the antenna is disposed in the mobile phone and electrically connected to the SIM card via the SIM card interface.

5. The electronic wallet device according to claim 2, wherein the first contact interface is configured to electrically contact a SIM card.

6. The electronic wallet device according to claim 2, wherein the side surface of the film substrate on which the first contact interface is disposed is adhered to one side surface of a SIM card, and wherein the first contact interface electrically contacts the SIM card.

7. The electronic wallet device according to claim 1, wherein the processing unit comprises an operating module configured to convert the first transaction instruction into the top-up instruction.

8. The electronic wallet device according to claim 1,

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wherein the processing unit comprises an operating module configured to provide the top-up service interface displayed on a display unit of the mobile phone.

9. The electronic wallet device according to claim 1, wherein the authentication unit is authenticated by a financial institution.

10. The electronic wallet device according to claim 1, wherein the authentication unit comprises an authorization module configured to convert the top-up instruction into the authorized top-up instruction.

11. The electronic wallet device according to claim 1, wherein the authentication unit comprises an authorization module configured to execute a SAM algorithm authenticated by a financial institution.

12. The electronic wallet device according to claim 1, wherein the authentication unit comprises an electronic wallet module configured to write the amount to the electronic wallet.

13. The electronic wallet device according to claim 1, wherein the electronic wallet is a memory configured to store the amount.

14. The electronic wallet device according to claim 1, wherein the processing unit receives and converts a second transaction instruction from the mobile phone into a debit instruction.

15. The electronic wallet device according to claim 14, wherein the authentication unit receives and converts the debit instruction into an authorized debit instruction, and subtracts an amount from the balance of the electronic wallet according to the authorized debit instruction.

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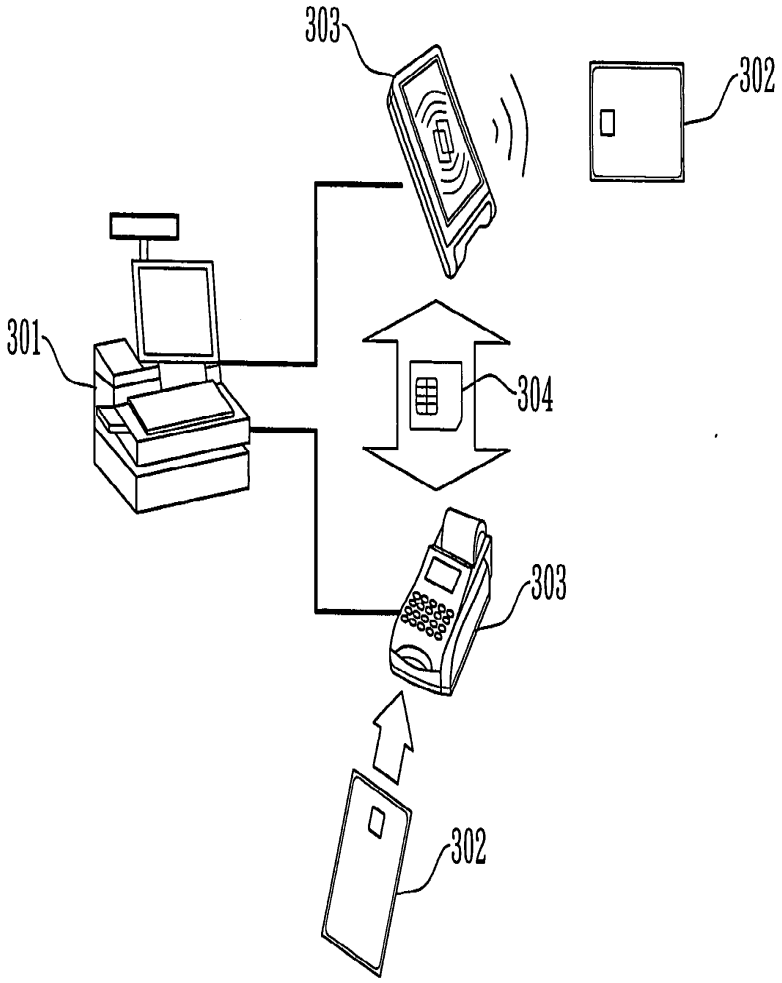


FIG. 1

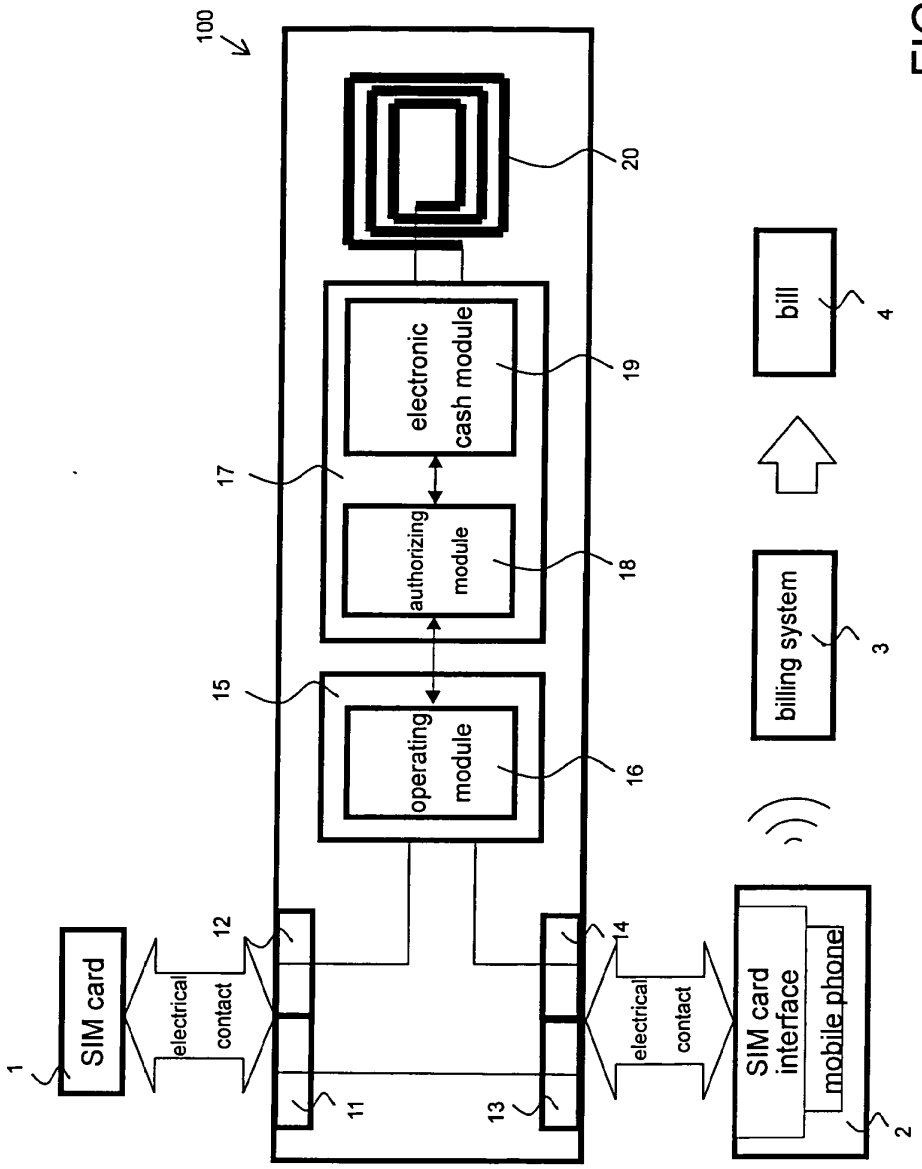

100
20
electronic cash module
19
17
authorizing module
18
15
operating module
16
bill
4
billing system
3
SIM card
1
electrical contact
12
11
13
14
electrical contact
SIM card interface
mobile phone
2

FIG. 2

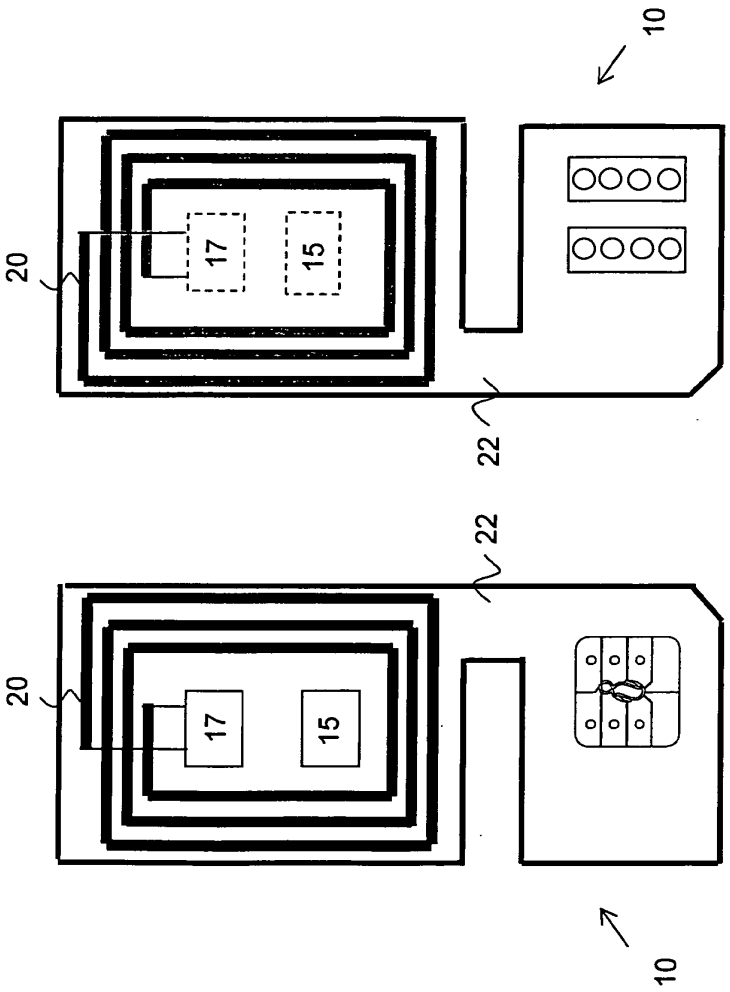


FIG. 3B

FIG. 3A

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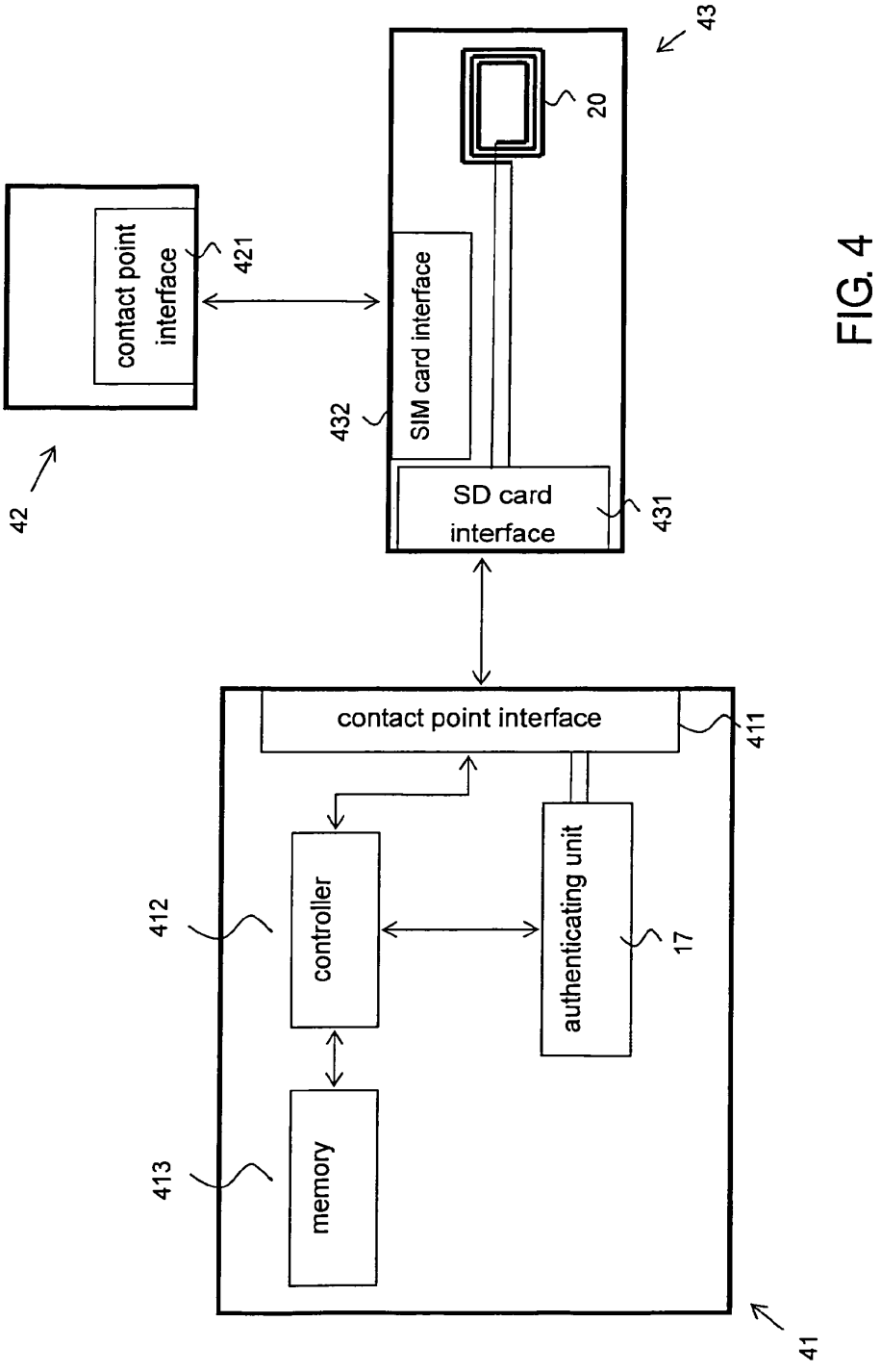

43
20
contact point interface
421
SIM card interface
432
SD card interface
431
42
contact point interface
411
controller
412
authenticating unit
17
memory
413
41

FIG. 4

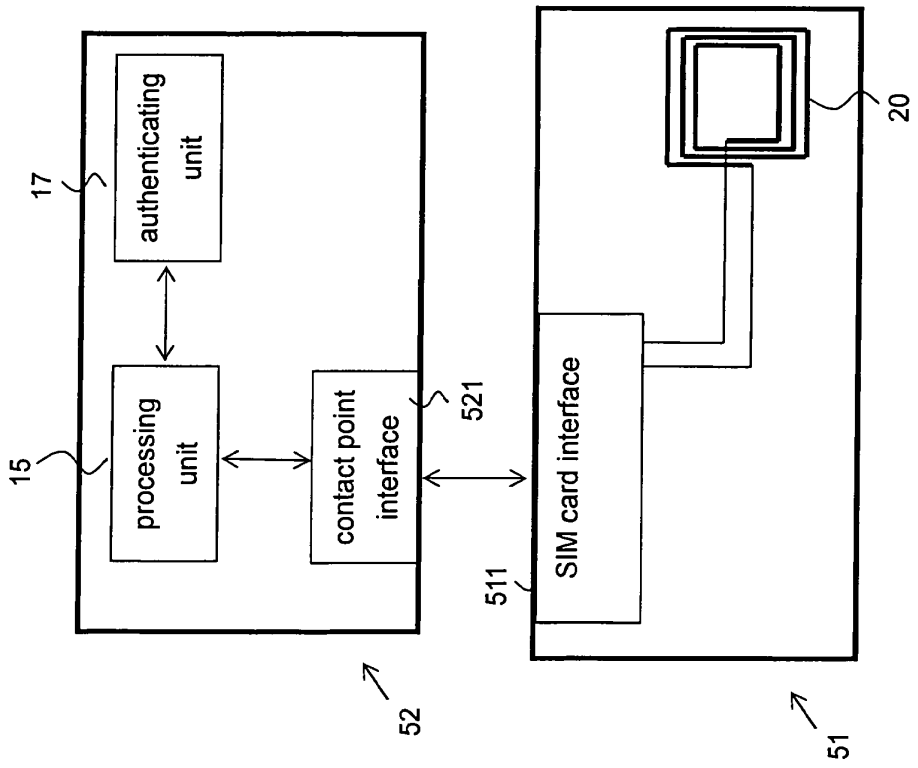


FIG. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 10 00 8235

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2008/272187 A1 (FUJIMOTO MASAO [JP]) 6 November 2008 (2008-11-06)	1,3, 7-10, 12-15	INV. G06Q20/00 G07F7/08
A	* paragraph [0033] - paragraph [0063] * * claims 1-16; figures 2-3 *	2,4-6,11	
Y	US 2008/230601 A1 (SUZUKI MIKIHISA [JP] ET AL) 25 September 2008 (2008-09-25)	1,3, 7-10, 12-15	
A	* paragraph [0043] - paragraph [0057] * * paragraph [0085] - paragraph [0089] * * paragraph [0093] - paragraph [0094] * * paragraph [0126] - paragraph [0137] * * paragraph [0299] - paragraph [0317] * * paragraph [0350] - paragraph [0354] *	2,4-6,11	
Y	WO 2009/084608 A1 (KYOCERA CORP [JP]; UENO YASUHIRO) 9 July 2009 (2009-07-09)	1,3, 7-10, 12-15	
A	* paragraph [0028] - paragraph [0050] * * paragraph [0062]; figures 2-3 * & EP 2 226 755 A1 (KYOCERA CORP [JP]) 8 September 2010 (2010-09-08)	4-6,11	TECHNICAL FIELDS SEARCHED (IPC) G06Q G07F
Y	KR 2009 0007649 A (BIZMODELINE CO LTD [KR]) 19 January 2009 (2009-01-19) * paragraph [0025] - paragraph [0034] * * paragraph [0044] - paragraph [0100] * * paragraph [0106] - paragraph [0107] * * paragraph [0112] - paragraph [0114] * * paragraph [0122] - paragraph [0126]; figures 1-2 *	1,7-10, 12-15	
A	US 2007/293155 A1 (LIAO DAVE TA-WU [US] ET AL) 20 December 2007 (2007-12-20) * paragraph [0028] * * paragraph [0032] - paragraph [0036] * * paragraph [0039] - paragraph [0040] *	1-15	

-/--

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 December 2010	Aupiais, Brigitte

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

1

EPO FORM 1503 03.82 (P04C01)

APPL-1002
APPLE INC. / Page 1580 of 1640

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 10 00 8235

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 03/044710 A1 (TRUSTCOPY PTE LTD [SG]; WU JIAN KANG [SG]; ZHENG LEI [SG]) 30 May 2003 (2003-05-30) * page 13, line 25 - page 14, line 31 * * page 15, line 21 - page 17, line 26 * * page 19, line 27 - page 20, line 17 * * page 21, line 11 - page 22, line 7 * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 December 2010	Aupiais, Brigitte

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

APPL-1002
APPLE INC. / Page 1581 of 1640

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 00 8235

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-12-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008272187 A1	06-11-2008	NONE	
US 2008230601 A1	25-09-2008	NONE	
WO 2009084608 A1	09-07-2009	EP 2226755 A1	08-09-2010
		KR 20100090795 A	17-08-2010
		US 2010287095 A1	11-11-2010
KR 20090007649 A	19-01-2009	NONE	
US 2007293155 A1	20-12-2007	NONE	
WO 03044710 A1	30-05-2003	AU 2001296201 A1	10-06-2003
		CN 1561498 A	05-01-2005

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Electronic Acknowledgement Receipt

EFS ID:	36042709
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Thomas Conner
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	17-MAY-2019
Filing Date:	30-OCT-2015
Time Stamp:	12:39:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	18756-37-1-1_2019-05-17_IDS.pdf	197811 450a87401a2036d4b9a20fa9a2eb54a8667c4ee6	no	2

Warnings:

Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	EP2284783.pdf	563884 877c2a73248b87503ad5105d3fe4ba230fdd3332	no	14
Warnings:					
Information:					
			Total Files Size (in bytes):	761695	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

22913 7590 05/23/2019

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

EXAMINER
DANNEMAN, PAUL

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 05/23/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

TITLE OF INVENTION: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	08/23/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22913 7590 05/23/2019
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

TITLE OF INVENTION: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	08/23/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
DANNEMAN, PAUL	3687	705-021000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

22913 7590 05/23/2019

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

EXAMINER	
DANNEMAN, PAUL	
ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 05/23/2019

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/928,521	Applicant(s) Liberty, Michael A.	
	Examiner PAUL DANNEMAN	Art Unit 3687	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to Amendment filed 05 April 2019.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-22 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/PAUL DANNEMAN/
Primary Examiner, Art Unit 3687

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the Amendment entered 05 April 2019.

2. A Terminal Disclaimer filed on 27 August 2018 has been approved.

3. Claims 1, 8, 16, 21 and 22 have been amended.

4. No claims have been canceled.

5. Claims 1-22 are pending and have been examined in this Office Action.

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Response to Arguments

6. Applicant argues regarding the rejection of the pending claims under 35 USC § 101 that ***"The current claims describe a technical solution to a technical problem in the computing arts. The claims recite specific operation that are performed on a computer system to perform mobile transactions. As an example, the claimed embodiments are able to securely transmit communications back and forth between certain entities to ensure the integrity of a mobile transaction. The claimed embodiments also select specific communication channels in order to facilitate these transactions. Furthermore, the disclosed features are practically and meaningfully applied and are also limited in context as a result of the computing system being required to select a particular communication channel and transmit (using the selected channel) a notification communication to an agent. As such,***

the claimed processes are not directed to mathematical concepts (e.g., the claims do not merely recite mathematical relationships, mathematical formulas or equations, or mathematical calculations); they do not recite methods for organizing human activity (e.g., the claimed processes are performed on a computer, not by a human); and they do not recite mental processes (e.g., a human cannot perform the processes of the claimed mobile transaction processes)." The Examiner is in agreement with Applicant's argument and respectfully withdraws the rejection of the pending claims under 35 USC § 101.

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

7. **Best U.S. Reference: Liberty, US Patent 9,208,488 B2** teaches a mobile wallet infrastructure to support multiple mobile wallet providers in performing a transaction using a third party point of sale (POS) system and making a purchase from a third party mobile wallet provided by a third party mobile wallet provider over a cloud-based transaction platform.

8. **The following is an Examiner's Statement of Reasons for Allowance:** No prior art cited here or in any previous Office Action fully anticipates nor renders the claims obvious either alone or in combination. Independent Claims 1, 8, 16, 21` and 22 teach systems and methods for managing a mobile wallet over one of a plurality of communication channels, providing a secure and perishable code to a customer over one of the plurality of communication systems and receiving communication over at least one of the plurality of communication channels from the agent terminal that the purchase code has been presented to an agent. Completing the transfer of funds between the mobile

wallet and an agent account for the specified purchase amount. Furthermore, the Examiner is in agreement with Applicant's argument that ***"The current claims describe a technical solution to a technical problem in the computing arts. The claims recite specific operation that are performed on a computer system to perform mobile transactions. As an example, the claimed embodiments are able to securely transmit communications back and forth between certain entities to ensure the integrity of a mobile transaction. The claimed embodiments also select specific communication channels in order to facilitate these transactions. Furthermore, the disclosed features are practically and meaningfully applied and are also limited in context as a result of the computing system being required to select a particular communication channel and transmit (using the selected channel) a notification communication to an agent."*** Therefore, the combinations of limitations, clearly presented in the claims of this application are novel, unobvious and allowable.

Conclusion

9. Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled **"Comments on Statement of Reasons for Allowance."**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL DANNEMAN whose telephone number is (571)270-1863. The examiner can normally be reached on Mon-Thurs, 8-6 EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Nathan Uber** can be reached at 571-270-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAUL DANNEMAN/
Primary Examiner, Art Unit 3687

Notice of References Cited	Application/Control No. 14/928,521	Applicant(s)/Patent Under Reexamination Liberty, Michael A.	
	Examiner PAUL DANNEMAN	Art Unit 3687	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-9208488-B2	12-2015	Liberty; Michael A.	G06Q20/202	1/1
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	**Art Unit**
	PAUL DANNEMAN	3687

CPC						
Symbol					**Type**	**Version**
G06Q	/	20	/	3674	F	2013-01-01
G06Q	/	20	/	065	I	2013-01-01
G06Q	/	20	/	36	I	2013-01-01
G06Q	/	20	/	202	I	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	22	
/PAUL DANNEMAN/ Primary Examiner, Art Unit 3687	20 May 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	8	6

U.S. Patent and Trademark Office — Part of Paper No.: 20190520

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	**Art Unit**
	PAUL DANNEMAN	3687

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06Q	/	20	/	00

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
705	21

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 22	
/PAUL DANNEMAN/ Primary Examiner, Art Unit 3687 (Primary Examiner)	20 May 2019 (Date)	O.G. Print Claim(s) 8	O.G. Print Figure 6

U.S. Patent and Trademark Office — Part of Paper No.: 20190520

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	**Art Unit**
	PAUL DANNEMAN	3687

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	19										
2	2	11	11	20	20										
3	3	12	12	21	21										
4	4	13	13	22	22										
5	5	14	14												
6	6	15	15												
7	7	16	16												
8	8	17	17												
9	9	18	18												

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	22	
/PAUL DANNEMAN/ Primary Examiner, Art Unit 3687	20 May 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	8	6

U.S. Patent and Trademark Office — Part of Paper No.: 20190520

APPL-1002
APPLE INC. / Page 1597 of 1640

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/928,521	Liberty, Michael A.
	Examiner	Art Unit
	PAUL DANNEMAN	3687

CPC - Searched*		
Symbol	Date	Examiner
G06Q	03/28/2018	PD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	ALL	03/28/2018	PD

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
G06Q	03/28/2018	PD
705/ALL	03/28/2018	PD
EAST	03/28/2018	PD
EAST	10/01/2018	PD
EAST	05/20/2019	PD

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
705	ALL	03/28/2018	PD
G06Q	ALL	03/28/2018	PD

/PAUL DANNEMAN/ Primary Examiner, Art Unit 3627	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

U.S. PATENT APPLICATION PUBLICATIONS					
Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20110131421	2-Jun-2011	Jogand-Coulomb et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Country Code	Publication Date	Name of Patentee or Applicant of Cited Document	T [1]
	2	2284783	EP	16-Feb-2011	Phytrex Technology Corp	☐

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	05/19/2019

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	1	Of	2	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178 regarding this Information Disclosure Statement

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/John C. Stringham/	Date	5/16/16
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
				Filing Date	October 30, 2015
				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	1	Of	4	Attorney Docket Number	18756.37.1.1

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T 1
	1	Medhi et al., "Mobile-banking adoption and usage by low-literate, low-income users in the developing world", 2009, N. Aykin (Ed.): Internationalization, Design, LNCS 5623, pp. 485-486.	☐
	2	Mbogo, "The impact of mobile payments on the success and growth of micro-business: the case of M-Pesa in Kenya", The Journal of Language, Technology & Entrepreneurship in Africa, Vol. 2, No. 1, 2010, ISSN 1998-1279, pp. 182-203.	☐
	3	Jack et al., "Monetary Theory and electronic money: reflections on the Kenyan experience", economic quarterly, vol. 96, no. 1, first quarter 2010, pp. 83-122.	☐
	4	Comninos et al., "M-banking the unbanked", towards evidence-based ICT policy and regulation, vol. 1, 2008, policy paper 4, pp. 1-15.	☐
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	8	Omwansa, "M-PESA: Progress and prospects", innovations case discussion: M-PESA, 2009, innovations, mobile world congress, pp. 107-123.	☐
	9	Mas et al., "Designing mobile money services - lessons from M-PESA", innovations, spring 2009, pp. 77-91.	☐
	10	Porteous, "Just how transformational is m-banking?", commissioned by FinMark Trust, bankable frontier associates LLC, February 2007, pp. 1-32.	☐
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	13	"RadioShack and Trumpet Mobile launch prepaid mobile phone service nationwide with unique mobile money transfer capabilities", 1 April 2008, Source: Trumpet Mobile, pp. 1-3.	☐
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
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				First Named Inventor	Michael A. Liberty
				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	2	Of	4	Attorney Docket Number	18756.37.1.1

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published	T [1]
	16	Porteous, "The enabling environment for mobile banking in Africa", version 3.1, report commissioned by Department for International Development (DFID), Bankable Frontier Associates, May 2006, pp. 1-57.	☐
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	18	Rice, "Kenya sets world first with money transfers by mobile", The Guardian, 20 March 2007, pp. 1-3, accessed via <https://www.theguardian.com/money/2007/mar/20/kenya.mobilephones> on March 25, 2019.	☐
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	27	Anonymous, "RadioShack to offer Trumpet Mobile service - plan includes mobile money transfer capabilities", 1 April 2008, The Prepaid Press - Where Prepaid Converges, pp. 1-2, accessed via <www.prepaidpress.com/features/radioshack-to-offer-trumpet-moblie-service.html> on 25 March 2019.	☐
	28	Lugmayr, "RadioShack and Trumpet Mobile launch prepaid mobile phone service", posted 1 April 2008, updated 11 August 2010, I4U News, pp. 1-5, accessed via <https://www.i4u.com/19814/radioshack-and-trumpet-mobile-launch-prepaid-mobile-phone-service> on 25 March 2019.	☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)				Application Number	14/928,521
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				Art Unit	3687
				Examiner Name	Paul Danneman
Sheet	3	Of	4	Attorney Docket Number	18756.37.1.1

OFFICE ACTION / NOTICE OF ALLOWANCE / ISSUE NOTIFICATION DOCUMENTS				
Examiner Initials*	Cite No.	Application Number	Mail Date	Document
	29	14/928105	7-Mar-2019	Final Office Action

EXAMINER SIGNATURE			
Examiner Signature	/PAUL DANNEMAN/	Date Considered	05/19/2019

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Applicant is to place a check mark here if the reference is accompanied by a translation into English or if a concise explanation of the relevance, as presently understood by the undersigned attorney of record, of each listed reference that is not in the English language and is unaccompanied by a translation into English is provided with the reference.

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				Examiner Name	Paul Danneman
Sheet	4	Of	4	Attorney Docket Number	18756.37.1.1

CERTIFICATION STATEMENT

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OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments to Deposit Account No. 23-3178 regarding this Information Disclosure Statement

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date	3/26/19
Name/Print	John C. Stringham	Registration Number	40,831

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	4	("7819307" | "6873974" | "8041338" | "8380177").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/02/27 09:09
S3	8	(("20080208762") or ("6873974") or ("20070125840") or ("20090119190") or ("20060253335") or ("20090265272") or ("20090081989") or ("20050187873")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/02/27 09:25
S4	11	"8380177"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/10 10:23
S5	1	"8380177" and cloud	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/10 10:25
S6	2	(("20120310826") or ("8412631")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/06/10 10:37
S7	3	(("20120310826") or ("8412631") or ("20120290478")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/06/10 10:39
S8	1	("20130132219").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/06/10 16:34
S9	2	"20120290478"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/11 14:21
S10	99	705/21.ccls. and cloud	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/11 14:25
S11	28	705/21.ccls. and cloud and wallet	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/11 14:25

S14	27	G06Q20/00.ipc. and cloud and wallet	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2014/06/11 14:29
S15	492	"20070198432" | "20080097851" | "20090299844" | "20100250356" | "20110258024" | "20120232983" | "20130246141" | "6175823" | "7548915"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2015/02/03 15:08
S16	10	("20120005076" | "20130091012" | "7334720" | "7942317" | "8033458" | "8061598" | "8118221" | "8336772" | "8487771" | "8577803").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/03 15:09
S17	2	("20080065490" | "6862575").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/03 15:10
S18	18	("20010042785" | "20040117302" | "20060253335" | "20070255620" | "20070255652" | "20070265984" | "20090081989" | "20090119190" | "20090234751" | "20090265272" | "20100030651" | "20110047016" | "20110196788" | "20120011058" | "20140201070" | "6021397" | "7689506" | "7694876").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/02/03 15:10
S19	0	S15 and S16 and S17 and S18 and cloud and wallet	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2015/02/03 15:11
S20	2	S15 and cloud and wallet	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	OFF	2015/02/03 15:12
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5/ 20/ 2019 12:56:32 PM
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Via E-File

PATENT APPLICATON
Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:		)
	Michael A. Liberty	)
Serial No:	14/928,521	) Art Unit) 3687
Filed:	October 30, 2015	)
Confirmation No.:	1049	)
For:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS	)
Examiner:	Paul Danneman	)
Customer No.:	22913	)

TRANSMITTAL OF ISSUE FEE PAYMENT

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice of Allowance and Fee(s) Due dated May 23, 2019, please find enclosed herewith the following items for filing in the United States Patent and Trademark Office in connection with the above identified patent application:

X Fee(s) Transmittal (PTOL-85) submitted pursuant to 37 C.F.R. § 1.311.

___ A Supplemental Declaration executed by the inventor(s) is submitted pursuant to 37 C.F.R. § 1.67.

___ Pursuant to the request for submission of formal drawings, enclosed are the following:

___ A Letter to the Official Draftsperson;

___ A set of _____ (___) sheets of formal drawings to replace the corresponding drawings originally filed with the subject application.

___ A duplicate set of the _____ (___) sheets of formal drawings with the changes therein highlighted in red.

___ Petition to Excuse Error in Small Entity Status is enclosed.

___ Form PTO-2038 submitting Credit Card Payment in the amount of $_____ is enclosed to cover the fee deficiency for the Petition to Excuse Error.

X Payment by credit card using the payment option in E-Filer with RAM will be used to cover the payment of the fees as follows:

X The $500.00 government issue fee pursuant to 37 C.F.R. § 1.18.

___ The $_____ government publication fee pursuant to 37 C.F.R. § 1.18.(d)

X The Commission is hereby authorized to charge payment of any additional fees or credit any overpayment to Deposit Account No. 23-3178.

Please address all future correspondence in connection with the above-identified patent application to the attention of the undersigned.

Dated this 23rd day of August, 2019.

Respectfully submitted,

JOHN C. STRINGHAM
Registration No. 40,831
WORKMAN NYDEGGER
Attorneys for Applicant
Customer No. 022913
Telephone No. 801.533.9800
jstringham@wnlaw.com

43123169_1.doc

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22913 7590 05/23/2019
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1	1049

TITLE OF INVENTION: USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	08/23/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
DANNEMAN, PAUL	3687	705-021000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Workman Nydegger
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: MOZIDO, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Austin, Texas

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies .....

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 23-3178

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature [signature] Date Aug. 23rd 2019

Typed or printed name John C. Stringham Registration No. 40,831

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	John C. Stringham/Sue Held
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**500**

Electronic Acknowledgement Receipt

EFS ID:	36966840
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Sue Held
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	23-AUG-2019
Filing Date:	30-OCT-2015
Time Stamp:	16:35:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	E20198MG36202913
Deposit Account	233178
Authorized User	Sue Held
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	18756_37_1_1_Transmittal_Of_Issue_Fee.pdf	56584 c67e2d8034b57100ac3e79991d3a10dcfd96d4ed	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
2	Issue Fee Payment (PTO-85B)	18756_37_1_1_Fees_Transmittal.pdf	99490 ec1611cbbe9f3496555758000699b69d4730377b	no	1
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
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3	Fee Worksheet (SB06)	fee-info.pdf	30729 14b2e0825638fec6cdd90d222c358b695964805d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	186803		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14/928,521
Filing Date	10/30/2015
First Named Inventor	Michael A. Liberty
Art Unit	3627
Confirmation Number	1049
Examiner Name	Not Yet Assigned
Attorney Docket Number	18756.37.1.1

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Change(s) applied to document, /L.H./ 7/1/2019	127	8538845	09/2013 ~~6-Dec-2012~~	Liberty	
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U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initials*	Cite No.	Publication Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	132	20010011248	2-Aug-2001	Himmel	
	133	20010037264	1-Nov-2001	Husemann	
	134	20010042785	22-Nov-2001	Walker et al.	
	135	20020042776	11-Apr-2002	Woo	
	136	20020052754	2-May-2002	Joyce	
	137	20020060246	23-May-2002	Gobburu	
	138	20020065774	30-May-2002	Young	
	139	20020069123	6-Jun-2002	Soderlind	
	140	20020131404	19-Sep-2002	Mehta	
	141	20020141586	3-Oct-2002	Margalit	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.D/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/928,521	10/08/2019	10438196	18756.37.1.1	1049

22913 7590 09/18/2019

Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 601 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Michael A. Liberty, Orlando, FL;
Mozido, Inc., Austin, TX

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

VIA *e*FILE

Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Michael A. Liberty	)
Serial No.:	14/928521	)
Filed:	October 30, 2015	)
Patent No.:	10438196	) Art Unit 3627
Issued:	October 8, 2019	)
No.:	1049	) Confirmation
FOR:	Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers	)
Examiner:	Paul Danneman	)
Customer No.:	22913	)

REQUEST TO CORRECT INVENTORSHIP UNDER 37 C.F.R. § 1.324

Via *e*File
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Assignee desires to correct inventorship of the above-identified United States patent under 37 C.F.R. §1.324.

As set forth in 37 C.F.R. § 1.324, Assignee requests to **add** the following named person as an inventor in the above-identified patent application:

Inventor: Mike Love
Residence: US
Citizenship: US

Enclosed:

X Statement from inventor Mike Love that he approves of the change in inventorship.

X Statement from inventor Michael A. Liberty that he approves of the change in inventorship.

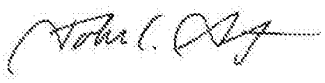
X Consent of Assignee to Correct Inventorship.

X The $150.00 fee for correction of inventorship of this patent under 37 C.F.R. § 1.20(b).

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: any post issuance fees under 37 CFR § 1.20. In addition, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

Dated this 20th day of February 2020.

Respectfully submitted,



John C. Stringham
Registration No. 40831
Attorney for Applicant
Customer No. 022913

JCS:re

VIA *e*FILE

Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Michael A. Liberty	)
Serial No.:	14/928521	)
Filed:	October 30, 2015	)
Patent No.:	10438196	) Art Unit 3627
Issued:	October 8, 2019	)
Confirmation No.:	1049	)
FOR:	Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers	)
Examiner:	Paul Danneman	)
Customer No.:	22913	)

STATEMENT AND WRITTEN CONSENT OF
ASSIGNEE PURSUANT TO 37 C.F.R. § 1.324(b)(2) and 3.73(c)

VIA *e*FILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The undersigned, Mike Love, declares that he is the President of FINTIV, INC. and that he is authorized to execute this statement on behalf of FINTIV, INC. organized and existing under laws of Delaware and that FINTIV, INC. is the Assignee of the right, title and interest of the above-identified application, as shown in the chain of title from Michael A. Liberty to MOZIDO, INC. as recorded in the United States Patent and Trademark Office at Reel 039482, Frame 0087; from MOZIDO, INC to FINTIV, INC. by virtue of a name change recorded at Reel 051290, Frame 0363.

FINTIV, INC. hereby consents to the change of inventorship set forth in the accompanying request that adds Mike Love as a joint inventor of the above-identified patent application.

Signed this 1 day of February, 2020.

FINTIV, INC.

Mike Love
Title: President

VIA E-File

Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Michael A. Liberty	)
Serial No.:	14/928521	)
Filed:	October 30, 2015	)
Patent No.:	10438196	) Art Unit 3627
Issued:	October 8, 2019	)
Confirmation No.:	1049	)
FOR:	Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers	)
Examiner:	Paul Danneman	)
Customer No.:	22913	)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT OF CURRENT INVENTOR– Michael A. Liberty
Under 37 CFR 1.324(b)(1)

Sir:

I, Michael A. Liberty, current inventor for the above-identified application, hereby agree to the addition of Mike Love as an inventor.

Dated this 28 day of Jan, 2020.

Michael A. Liberty

Via E-File

Docket No. 18756.37.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Michael A. Liberty	
Serial No.:	14/928521	
Filed:	October 30, 2015	
Patent No.:	10438196	Art Unit 3627
Issued:	October 8, 2019	
Confirmation No.:	1049	
FOR:	Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers	
Examiner:	Paul Danneman	
Customer No.:	22913	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT OF ADDED INVENTOR Mike Love
under 37 CFR 1.324(b)(1)

Sir:

I, Mike Love, joint inventor for the above-identified application, hereby request that I be added as a joint inventor on the above-referenced application and I have no disagreement in regard to the requested change.

Dated this 1 day of February, 2020.

Mike Love

COMBINED DECLARATION AND ASSIGNMENT

DECLARATION

TITLE OF APPLICATION: **Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers**

As a below named inventor, I hereby declare that:

This declaration and assignment are directed to:

☐ The attached application;

☐ United States Application No. _____ filed on _____; or

☒ The application which was filed on October 30, 2015 as U.S. Application No. 14/928,521 now US Patent 10438196 issued on October 8, 2019.

I hereby authorize the patent attorneys and/or patent agents of Workman Nydegger to insert the above Application No. and filing date when known.

The above-identified application was made or authorized to be made by me.

I hereby state that I have reviewed and understand the contents of the above-identified application, including the claim(s). I believe that I am the original inventor or an original joint inventor of one or more claimed inventions in the above-identified application.

I hereby state that I am aware of the duty to disclose all information which is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

I, as Assignor, am the original inventor or an original joint inventor of the subject matter disclosed and/or claims in the above-identified application and am desirous to sell, assign and transfer the entire right, title and interest in and to one or more inventions disclosed in the above-identified application, the above-identified application and any and all letters patent which may be granted for the one or more inventions in the United States of America and its territorial possessions and in any and all foreign countries.

The Assignee, FINTIV, INC., a corporation of the State of Delaware, having a principal place of business at 1717 West 6th Street, #380, Austin, Texas 78703, is desirous of acquiring the entire right, title and interest in and to the one or more inventions, the above-identified application, and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries.

In exchange for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell, assign and transfer and agree to assign unto the Assignee, the entire right, title and interest in and to the one or more inventions, the above-identified application, any earlier filed provisional applications to which the above-identified application claims priority including any inventions disclosed therein and the right to claim priority thereto, and any and all letters patent which may be granted for the one or more inventions in the United States of America and its territorial possessions and in any and all foreign countries, and any and all divisions, reissues, continuations, continuation-in-parts, and substitutes thereof, including the right to file foreign applications directly in the name of Assignee and to claim priority rights deriving from the above-identified application to which the foreign applications are entitled by virtue of international convention, treaty or otherwise, the one or more inventions, the above-identified application and all letters patent on the one or more inventions to be held and enjoyed by Assignee and its successors and assigns for their use and benefit as fully and entirely as the same would have been held and enjoyed by myself had this assignment, transfer and sale not been made.

I hereby authorize and request the Director of the United States Patent and Trademark Office to issue all letters patent on the inventions to Assignee.

I hereby covenant that no assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with this Assignment.

I further hereby sell, assign and transfer and agree to assign unto Assignee all claims for damages and all of the remedies arising out of any infringement of the invention or the above-identified United States patent application which may have accrued prior to the date of this assignment or may accrue, including, but not limited to, the right to sue for and collect and retain damages for past infringements of the invention or the above-identified United States patent applications.

I agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on the one or more inventions, for litigation regarding the letters patent, or for the purpose of protecting title to the one or more inventions or letters patent therefor.

Dated this 4 day of FEBRUARY, 2020.

Mike Love

STATE OF Texas)
: ss.
COUNTY OF Burnet)

On February 4, 2020, before me personally appeared Mike Love known to me to be the person described and who signed the foregoing Assignment in my presence and acknowledged under oath before me that he has read the same and knows the contents thereof and that he executed the same as his free act and deed and for the purposes set forth therein.

NOTARY PUBLIC
Residing at 1107 FM 1431, Marble Falls TX

My Commission Expires:
04/11/2022

ANDRA SCHULZ
My Notary ID # 131525633
Expires April 11, 2022

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/928521	10/30/2015

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 22913

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (If the Applicant is a juristic entity, list the Applicant name in the box):

FINTIV, INC.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	/M Love/	Date (Optional)	
Name	Mike Love		
Title	President		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: FINTIV, INC.

Application No./Patent No.: 14928521 Filed/Issue Date: October 30, 2015

Titled: Using a Mobile Wallet Infrastructure to Support Multiple Mobile Wallet Providers

FINTIV, INC., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Michael A. Liberty To: MOZIDO, INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 034982, Frame 0087, or for which a copy thereof is attached.

2. From: MOZIDO, INC. To: FINTIV, INC.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 051290, Frame 0363, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/John C. Stringham/	February 20, 2020
Signature	Date
John C. Stringham	40831
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14928521
Filing Date:	30-Oct-2015
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Filer:	John C. Stringham/Ralene Eller
Attorney Docket Number:	18756.37.1.1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
PROCESSING FEE CORRECTING INVENTORSHIP	2816	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**150**

Electronic Acknowledgement Receipt

EFS ID:	38649688
Application Number:	14928521
International Application Number:	
Confirmation Number:	1049
Title of Invention:	USING A MOBILE WALLET INFRASTRUCTURE TO SUPPORT MULTIPLE MOBILE WALLET PROVIDERS
First Named Inventor/Applicant Name:	Michael A. Liberty
Customer Number:	22913
Filer:	John C. Stringham/Ralene Eller
Filer Authorized By:	John C. Stringham
Attorney Docket Number:	18756.37.1.1
Receipt Date:	20-FEB-2020
Filing Date:	30-OCT-2015
Time Stamp:	20:58:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$150
RAM confirmation Number	E20202JK58513405
Deposit Account	233178
Authorized User	Ralene Eller
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.17 (Patent application and reexamination processing fees) 37 CFR 1.19 (Document supply fees)	

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request under Rule 48 correcting inventorship	18756-37-1-1_2020-02-20_Request-to-Correct-Inventorship.pdf	123097 acb19c852c85e3311705fed4b3b31c8b03fc5005	no	2
Warnings:					
Information:					
2	Consent of Assignee accompanying the declaration	18756-37-1-1_2020-02-20_Consent-of-Assignee.pdf	97416 0f87baaed2df9616d8323d4d6efd1a4d13bb31ae	no	2
Warnings:					
Information:					
3	Request under Rule 48 correcting inventorship	18756-37-1-1_2020-02-20_Liberty-Stmt.pdf	89141 34cdf6ba9f996eb01ac10009775b14f7d910e8b6	no	1
Warnings:					
Information:					
4	Request under Rule 48 correcting inventorship	18756-37-1-1_2020-02-20_Love-Stmt.pdf	73337 6fa53f620d8ffd7d3c5f683408106125fd1e926	no	1
Warnings:					
Information:					
5	Oath or Declaration filed	18756-37-1-1_2020-02-20_Love-Asgmt-Dec.pdf	234908 6969ce2a3a16d1742c1ae083ccb0470e747a277b	no	2
Warnings:					
Information:					
6	Power of Attorney	18756-37-1-1_2020-02-20_POA.pdf	309004 a04056cfe75a101f80bf97f7f7c15eec88748036	no	1
Warnings:					
Information:					

7	Assignee showing of ownership per 37 CFR 3.73	18756-37-1-1_2020-02-20_373 c-stmt.pdf	55321 93773f632ba41552b8c7626c9ff080c0fc689c7a	no	3
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	30614 f917bbeedb1096af1eb16963f4ae94a3dd7aa100	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1012838		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1

CONFIRMATION NO. 1049

22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

POA ACCEPTANCE LETTER

OC000000114992211

Date Mailed: 02/27/2020

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/20/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/yteferra/

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14/928,521	10/30/2015	Michael A. Liberty	18756.37.1.1

CONFIRMATION NO. 1049

22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

POWER OF ATTORNEY NOTICE

OC000000114992190

Date Mailed: 02/27/2020

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/20/2020.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/yteferra/