

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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APPLE INC.,  
Petitioner,

v.

FINTIV, INC.,  
Patent Owner.

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IPR2023-00398  
U.S. Patent No. 10,438,196

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**DECLARATION OF DR. HENRY HOUH,  
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION FOR  
*INTER PARTES* REVIEW**

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I, Henry Houh, do hereby declare as follows:

## **I. INTRODUCTION**

1. I am making this declaration at the request of Apple Inc. in support of an IPR challenge of U.S. Patent No. 10,438,196 (“the ’196 Patent”).

2. I am being compensated for my work in this matter at my customary rate of \$620/hour. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

3. I have been asked to provide my opinions regarding whether claims 1-22 (“the Challenged Claims”) of the ’196 patent are unpatentable because they would have been obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art. After a careful analysis, it is my opinion that the Challenged Claims would have been obvious.

4. In the preparation of this declaration, I have reviewed:

- The ’196 Patent, APPL-1001;
- The prosecution history of the ’196 Patent, APPL-1002;
- U.S. Patent Publication No. 2009/0265272 to Dill et al. (“Dill”), APPL-1005;
- U.S. Patent Publication No. 2010/0133334 to Vadhri (“Vadhri”), APPL-1006;

- U.S. Patent Publication No. 2009/0217047 to Akashika et al.  
 (“Akashika”), APPL-1007;
  - “Designing System for Internet Commerce” by G. Winfield Treese  
 et al. (2003), APPL-1008;
  - U.S. Patent Publication No. 2013/0332352 to Imrey et al.  
 (“Imrey”), APPL-1009;
  - U.S. Patent Publication No. 2014/0032758 to Barton et al.  
 (“Barton”), APPL-1010;
  - U.S. Patent Publication No. 2008/0167988 to Sun et al. (“Sun”),  
 APPL-1011; and
  - U.S. Patent No. 7,865,141 to Liao et al (“Liao”), APPL-1012.
5. In forming the opinions expressed below, I have considered:
- a) The documents listed above;
  - b) My own knowledge and experience based upon my work in the  
 field of financial transfer systems, as described below; and
  - c) The level of skill of a POSITA at the time of the alleged  
 invention of the ’196 patent.

## II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

6. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in APPL-1004. The

following is a brief summary of my relevant qualifications and professional experience.

7. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (“MIT”) in 1998. I also received a Master of Science degree in Electrical Engineering and Computer Science in 1991, a Bachelor of Science degree in Electrical Engineering and Computer Science in 1989, and a Bachelor of Science degree in Physics in 1990, all from MIT.

8. I am currently self-employed as an independent technical consultant. I am also president of a company, Einstein’s Workshop, that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages.

9. I first entered telecommunications in 1987 when I worked as a summer intern at AT&T Bell Laboratories as part of a five-year dual degree program at MIT. I continued to work at AT&T Bell Laboratories as part of this MIT program. While at MIT, I was a teaching assistant (“TA”) in the Electrical Engineering and Computer Science Department’s core Computer Architectures course. I first was a TA as a senior for a role typically reserved for graduate students. I later became head TA. The course covered various topics in computer architectures, as well as programming. As a TA, I helped write homework

assignments, lab assignments (including those that involved programming), and exams. I also taught in the recitation sections.

10. Later, as part of my doctoral research at MIT from 1991-1998, I was a research assistant in the Telemedia Network Systems (“TNS”) group at the Laboratory for Computer Science. The TNS group built a high-speed gigabit network and created applications that ran over the network. Example applications included ones for remote video capture, processing, and display of video on computer terminals. In addition to working on the design of core network components (which was based on FPGAs), designing and building the high-speed links (which included programmable logic devices), and designing and writing the device drivers for the interface cards (which included programmable logic devices), I also set up the group’s web server. Also, I helped to maintain, install, and upgrade the networking devices used within the group, along with other graduate students.

11. I also helped to build the web pages that initiated the above-mentioned video sessions via a web interface. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it that was built by our group. This toy car device received commands transmitted over a network from a remote computer, and video data from the toy car was transmitted wirelessly then

over a computer network back to the user controller. On occasion, we allowed users visiting our web site to drive the toy car from their remote computer while they watched the video on their computer. The video stream was encoded by TNS-designed hardware, streamed over the TNS-designed network, and displayed using TNS-designed software.

12. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local area and wide area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time. The traffic flow data included Ethernet, IP, TCP or UDP, and RTP header information, which I analyzed to come to the conclusions in my thesis.

13. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. NBX was later acquired by 3Com Corporation.

14. As part of my work at NBX, I designed the core audio reconstruction software algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system. The protocol was used for all signaling in the phone system, including for the setup of conference calls. The NBX system also featured a

computer interface for initiating phone calls, which could also initiate conference calls. The NBX system also supported the Telephony Application Programming Interface (“TAPI”) that allowed other computer programs to integrate with our system telephony features. We obtained U.S. Patent No. 6,697,963, entitled “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data,” as part of this work. I also programmed the first prototype of our phone which communicated using IP, and I demonstrated our IP phones working over the Internet when we attended a trade show in California. The phone connected over the Internet to our headquarters in Andover, MA. I also programmed a data capture and analysis system that provided data on the operation of the system.

15. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Empirix was a leader in test tools for telecommunications protocols and systems, providing functional testing tools as well as load testing tools. From 2000-2001, I conceived and built a test platform for testing Voice-over-IP (VoIP). The first application on this new test platform was a cloud emulator for simulating the effects of transmitting VoIP over a busy network. The test platform was based on a network processor chip, which could be programmed to cut-through packets while processing packet data such as various protocol layer headers including addresses included therein and even packet data contents. I also

designed a protocol analyzer built on the same platform. The application captured and performed protocol decoding at various layers in the protocol stacks of captured packets, including detailed Ethernet header decoding, IP header decoding, TCP header decoding, UDP header decoding, RTP header decoding, and many other specified protocols. The application was also designed to reconstruct entire conversations that spanned multiple packets.

16. At Empirix, I also rearchitected the design of the Web Test division's core product, e-Test Suite. E-Test Suite was a software program designed to perform functional and load testing of web applications. I was technical lead on the project, and also worked on programming a Javascript interpreter for the product. Javascript is the flexible programming layer that allows users to interact with web pages through actions such as clicking and dragging that allows web page programmers to extend the functionality of a web page beyond clicking on links.

17. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN's speech recognition algorithms to search through the spoken words in audio and video segments. While I was Vice President of Operations and Technology, PodZinger followed its initial prototype with a full streaming audio and video search solution. I also created a social networking web site, which BBN sold to a venture-funded

startup company. In the process of creating the web site, I designed and specified the authentication and authorization protocols.

18. I also worked with setting up accounting systems and integrating on-line payment systems on numerous occasions. In 1994, I started a company, Agora Technology Group, that set up web sites for targeted advertising, and later provided consulting services to companies and organizations to set up their web sites. I managed all the finances and bookkeeping for the company, including keeping all the books and ledgers. Starting in the early 2000's, I integrated web payment systems with various web sites.

19. At my educational company, Einstein's Workshop, I created the initial web site and integrated it with online payment solutions. I also evaluated, sourced, and configured the point-of-sale system for the company, which also involved integration with and setup of mobile shopping terminals. Furthermore, I set up the accounting system, built the web site, integrated various web payment mechanisms with the web site, set up mobile payment systems, and also set up a mobile point of sale system. At Einstein's Workshop, we teach programming to children of all ages, starting with Scratch programming for young elementary students and advancing through programming in Python and for game development for high school students. I conceived many of the programming classes and have taught programming to novice and more advanced students. We also created an

educational computer-aided design tool, called BlocksCAD. We received a grant, on which I was the principal investigator, to further develop BlocksCAD and successfully met our grant objectives. BlocksCAD was spun-off from Einstein's Workshop and has been part of various incubator/accelerator programs in education as well as at the MIT Media Lab. Today, BlocksCAD is used worldwide in makerspaces as well as in schools throughout the U.S.

20. I have been awarded several United States patents, including the following examples:

- U.S. Patent No. 7,975,296, "Automated security threat testing of web pages";
- U.S. Patent No. 7,877,736, "Computer language interpretation and optimization for server testing";
- U.S. Patent No. 7,801,910, "Method and apparatus for timed tagging of media content";
- U.S. Patent 7,590,542, "Method of Generating Test Scripts Using a Voice-Capable Markup Language"; and
- U.S. Patent No. 6,967,963, "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data."

**III. LEVEL OF ORDINARY SKILL IN THE ART**

21. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

22. I am familiar with financial payment systems (including those utilizing mobile wallets). I am also aware of the state of the art at the time the application resulting in the '196 patent was filed. I have been informed by Apple's counsel that the earliest priority date for the '196 patent is November 21, 2011. Based on the technologies disclosed in the '196 patent, I believe that a POSITA would have had a working knowledge of mobile payment systems and techniques pertinent to the '196 Patent. A POSITA would include someone who had a bachelor's degree in electrical engineering, computer science, or equivalent training, and approximately two years of work experience in software development with a basic knowledge of accounting. Lack of work experience can be remedied by additional education, and vice versa.

23. For purposes of this declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I

consulted herein), reflect the knowledge that existed in the field as of the priority date of the '196 Patent (i.e., November 21, 2011 (“priority date”)). Unless otherwise stated, when I provide my understanding and analysis below, it is consistent with the level of a POSITA prior to the priority date of the '196 Patent.

#### **IV. RELEVANT LEGAL STANDARDS**

24. I understand from Apple’s counsel that prior art to the '196 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the '196 patent. For purposes of this Declaration, I am applying November 21, 2011 as the priority date.

25. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '196 patent, I am relying on certain basic legal principles that Apple’s counsel has explained to me. These principles are reviewed below.

26. I have been informed by Apple’s counsel that a claimed invention is unpatentable as obvious under post-AIA 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a POSITA to which the subject matter pertains. I have also been informed by Apple’s counsel that the obviousness analysis takes into account factual inquiries including the

level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

27. I have been informed by Apple's counsel that several rationales are recognized for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

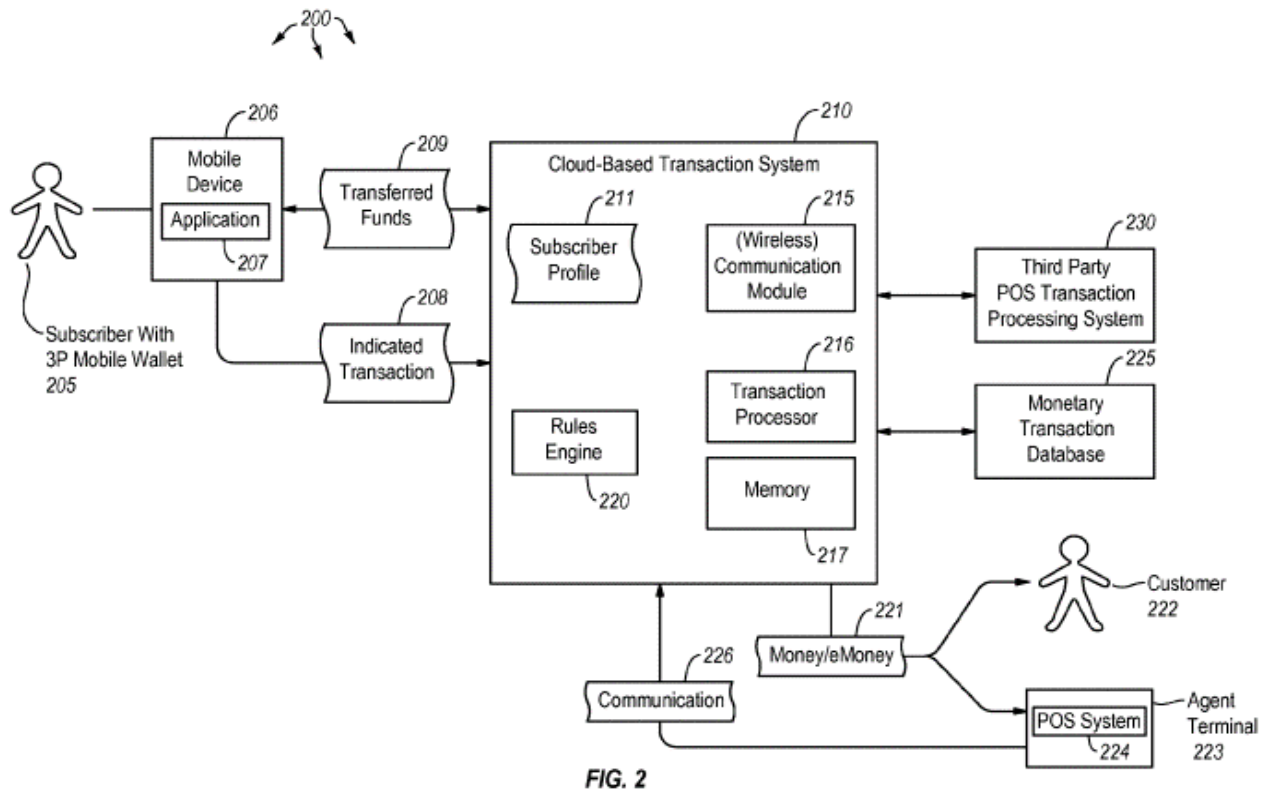
## **V. OVERVIEW OF THE '196 PATENT**

### **A. Summary of the Patent**

28. The '196 Patent is 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.” APPL-1001, Abstract. The ’196 Patent further provides for “a cloud-based transaction platform ... which receives communication from an agent terminal over a communication channel connected to the cloud.” APPL-1001, 1:58-60. After receiving an indication that a customer desires to perform a mobile wallet transaction, the cloud-based transaction platform “receives communication from a third party mobile wallet platform confirming processing of the transaction, and sends communication to the agent terminal over a communication channel ... indicat[ing] confirmation of the processing of the transaction.” APPL-1001, 1:64-2:3.

29. An example of the transaction platform of the ’196 patent is depicted below in Fig. 2:



APPL-1001, Fig. 2.

30. In the '196 patent, all of the embodiments include “one or more processors,” “system memory,” “an integration tier configured to manage mobile wallet sessions with a mobile device,” “a notification services engine,” “service connectors that are each configured to connect the computing system to 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),” and “a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.” APPL-1001, claims 1, 8, 16, 21, and 22.

**B. Prosecution History of the '196 Patent**

31. I understand that the '196 patent issued on October 8, 2019 from U.S. Patent Application No. 14/928,521 (“the '521 application”) filed on October 30, 2015. *See* APPL-1001. The '196 patent is a continuation of U.S. Patent Application No. 13/680,824 (“the '824 application”) filed on November 19, 2012, that issued as U.S. Patent No. 9,208,488 (“the '488 patent”) on December 8, 2015, which claims the benefit of Provisional Application No. 61/562,301 (“the '301 application”) filed on November 21, 2011. *See* APPL-1001, 1:8-17.

32. I understand the '196 application was originally filed with 20 claims with claims 1, 8, and 16 being in independent form. APPL-1002, pp.57-65. A preliminary amendment was filed in the '521 application on June 27, 2018, adding new independent claims 21 and 22. APPL-1002, pp.101-113.

33. On February 5, 2016, the Applicant filed an Information Disclosure Statement (IDS) listing U.S. Patent Publication No. 2009/0265272 to Dill et al. (APPL-1005). APPL-1002, pp.148. There is no indication, however, that the Examiner considered any of the references listed in the IDS, including the Dill reference, because the IDS was not signed by the Examiner. *Id.*, p.158. This is further evidenced by the Examiner not applying Dill (or any other prior art reference) against any of the claims during prosecution.

34. In a first Office Action issued on April 2, 2018, the Examiner provisionally rejected claims 1-22 under nonstatutory double patenting as being unpatentable over claims 1-2, 5-12, 21-23, 25-32, and 36 of the '488 patent. *Id.*, pp.1441-1446. A terminal disclaimer was also filed on August 27, 2018. *Id.*, pp.1484-1499.

35. A second non-final Office Action was issued on October 5, 2018, in which the Examiner rejected claims 1-22 under 35 U.S.C. § 101 as being directed to a judicial exception (conventional computer functions executed by a generic computer) and again rejecting claims 1-22 under nonstatutory double patenting as being unpatentable over claims 1-2, 5-12, 21-23, 25-32, and 36 of the '488 patent. *Id.*, pp.1484-1499. A response to the second Office Action was filed on April 5, 2019 with amendments to independent claims 1, 8, 16, 21, and 22 and accompanying arguments to over the rejections under 35 U.S.C. § 101. *Id.*, pp.1484-1499.

36. A Notice of Allowance was issued on May 23, 2019 stating that the Applicant's amendments and arguments, as well as the terminal disclaimer overcame the rejections. *Id.*, pp.1585-1593. According to the Examiner, none of the considered prior art disclosed all of the limitations in the claims. *Id.*, p.1593.

37. The prior art presented in this IPR was not cited or relied on by the Examiner during prosecution. APPL-1002, p.158, 1590-1640. In fact, the Examiner did not issue any rejections based on prior art.

38. As I explain below, the concept of performing a transaction using a cloud-based transaction platform for mobile devices was well known by the earliest possible priority date of the '196 patent. APPL-1005, Figs. 1, 9, [0005], [0049], [0100]. For example, Dill (APPL-1005) teaches similar financial transaction systems configured to conduct transactions with a mobile wallet. APPL-1005, Figs. 1, 9, [0049], [0100]. Moreover, the prior art shows that it was well known for such a transaction platform to receive indications of a customer's desire for a mobile wallet transaction, to receive communication from a third party mobile wallet platform confirming processing of the transaction, and to send communication to the agent terminal over a communication channel indicating confirmation of the processing of the transaction. APPL-1005, Figs. 1, 9, [0049], [0100]. Therefore, all claims of the '196 patent should be found unpatentable.

## VI. CLAIM CONSTRUCTION

39. In order to properly evaluate the '196 Patent, the terms of the claims must first be construed. It is my understanding from Apple's counsel that for the purposes of this *inter partes* review, the claims are to be construed under the so-called *Phillips* standard, under which claim terms are given their ordinary and

customary meaning as would be understood by one of ordinary skill in the art in light of the specification and prosecution history, unless the inventor has set forth a special meaning for a term.

40. As discussed below, the definitions offered below are how a POSITA would understand these terms in light of the specification of the '196 patent, as well as the prior art.

**A. “*debit the mobile wallet by the specified amount of funds*”**

41. It is my opinion that, in the context of the '196 patent, a POSITA would have understood the phrase “*debit the mobile wallet by the specified amount of funds*” to mean “transfer the specified amount of funds from the stored value on a mobile device.”

42. The specification of the '196 patent supports the proposed construction. First, a POSITA would have understood that there are various types of mobile wallet transactions: (1) where a mobile device holds value (such as on a secure chip) and (2) where the value is stored in an external account. *See e.g.*, APPL-1001, 9:26-36; APPL-1011, [0009], [0022]. The '196 patent refers to the first type of mobile wallet. APPL-1001, 9:26-30. For example, the specification states that 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.” APPL-1001, 9:26-30.

43. Although not defined with more detail, the term “stored value” in mobile wallets is well-known and refers to a value stored on a mobile device (such as in a secure memory). *See, e.g.*, APPL-1011, [0009], [0022] (“Mobile communication devices used in the architecture described herein are characterized by secure memory usable for storing value and a controller which manages the secure memory,” “stored value represented by data on the mobile communication device”). The ’196 patent does not provide technical details of how its mobile wallet is debited other than to say that “[t]he cloud-based transaction platform then debits the customer’s third party mobile wallet by the specified amount of funds to complete the purchase.” APPL-1001, 2:40-42.

44. Based on this limited disclosure, a POSITA would have understood “debit the mobile wallet by the specified amount of funds” to include “*transferring the specified amount of funds from the stored value on a mobile device.*”

## VII. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE

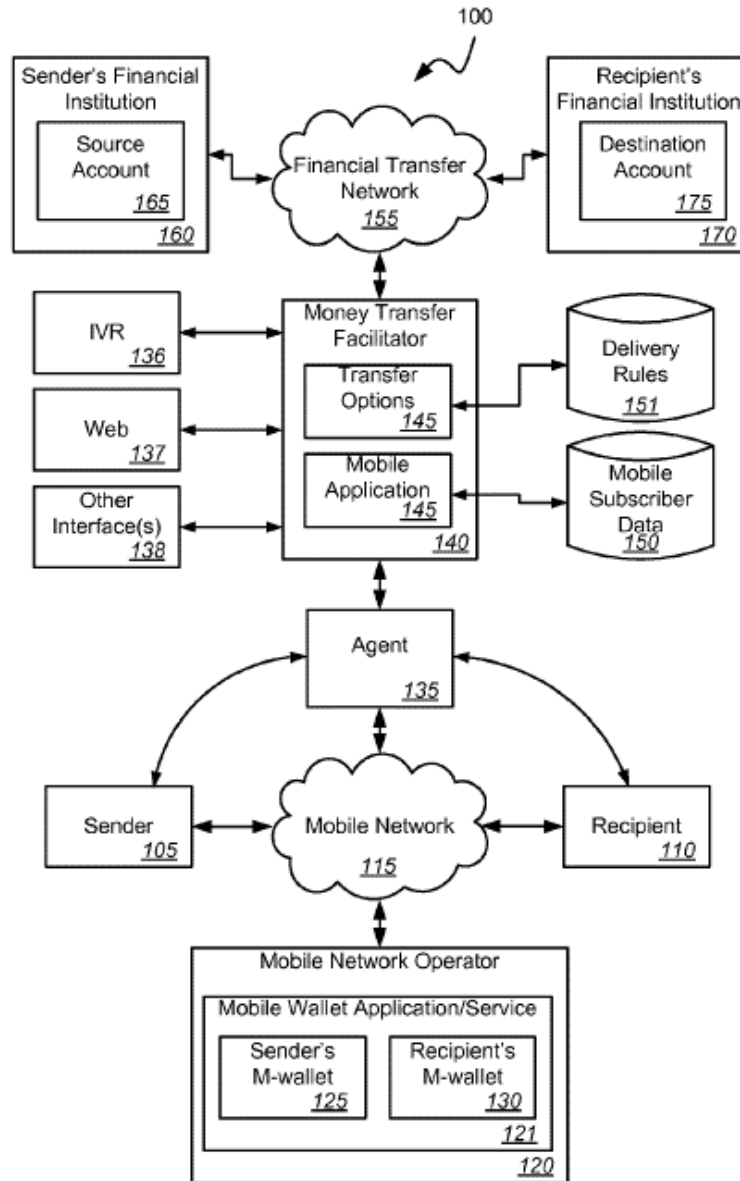
45. It is my opinion that claims 1-22 of the ’196 patent would have been obvious over U.S. Publication No. 2009/0265272 to Dill et al. (APPL-1005, “Dill”), in view of U.S. Publication No. 2010/0133333 to Vadhri (APPL-1006,

“Vadhri”), and further in view of U.S. Publication No. 2009/0217047 to Akashika (APPL-1007, “Akashika”).

**A. Summary of Dill (APPL-1005)**

46. Similar to the '196 patent, Dill teaches a financial transfer system for supporting “flexible payment options” for a financial transaction. APPL-1005, Abstract, [0002], [0010]. Dill’s system facilitates transactions between mobile devices and includes “a mobile communications network and a mobile device communicatively coupled with the mobile communications network” where the “mobile device can execute a mobile wallet application.” APPL-1005, [0010], [0005].

47. One embodiment of Dill’s system particularly relevant to the claims of the '196 patent is depicted in Fig. 9:

**FIG. 9**

APPL-1005, Fig. 9.

48. In Fig. 9, the financial transfer system 100 includes a money transfer facilitator system 140 that is configured to receive transaction information from a mobile wallet application 121 including mobile wallets 125, 130. APPL-1005, Fig. 9, [0100]. The money transfer facilitator system 140 includes a transfer options

module 145 and a mobile application 145 that are communicatively coupled with interfaces 136-138 as well as an agent 135 for conducting money transfers. APPL-1005, Fig. 9, [0101]. The transfer options module 145 and mobile application 145 are configured to conduct transactions between senders and recipients through various communication channels, as well as sending notifications of request and transactions. APPL-1005, Fig. 9, [0100]-[0104].

**B. Summary of Vadhri (APPL-1006)**

49. Vadhri generally discusses “systems and methods for accessing a value holding account.” APPL-1006, [0001]. Vadhri teaches a networked system 502 (also referred to as a “network-based marketplace or publication system”) that manages payments between various applications and accounts, similar to the financial transaction systems of the ’196 patent and Dill. APPL-1006, [0047]-[0050]; APPL-1001, 1:58-60; APPL-1005, [0100]. Vadhri also teaches methods for accessing a value-holding account within the networked system 502 that include “access[ing] the payment applications via the API server (*e.g.*, using API calls) or through the web servers 516 to engage in account access operations.” APPL-1006, [0054].

50. Fig. 5 depicts Vadhri’s networked system 520 with API servers 514:

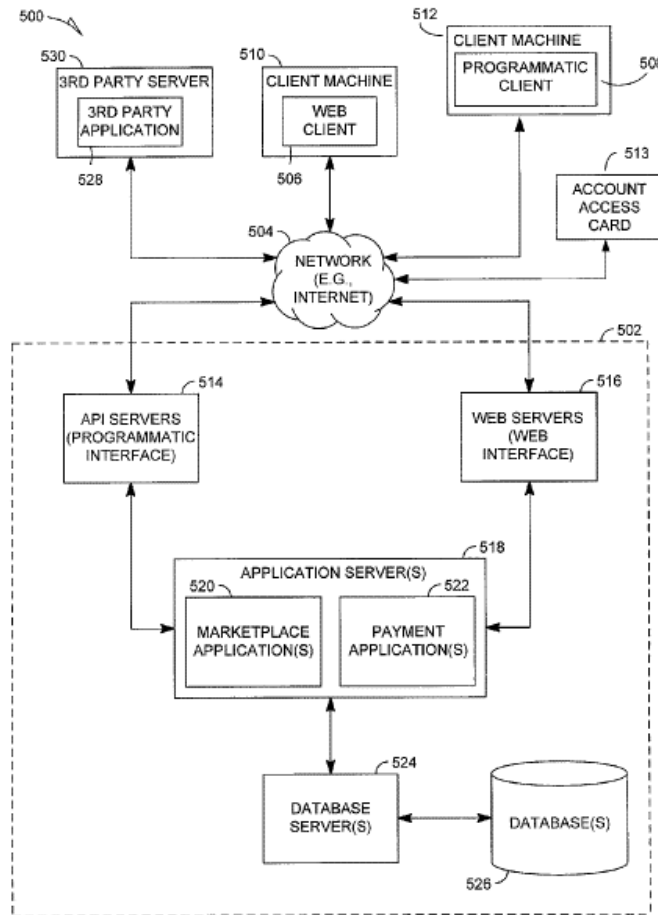


FIG. 5

APPL-1005, Fig. 5.

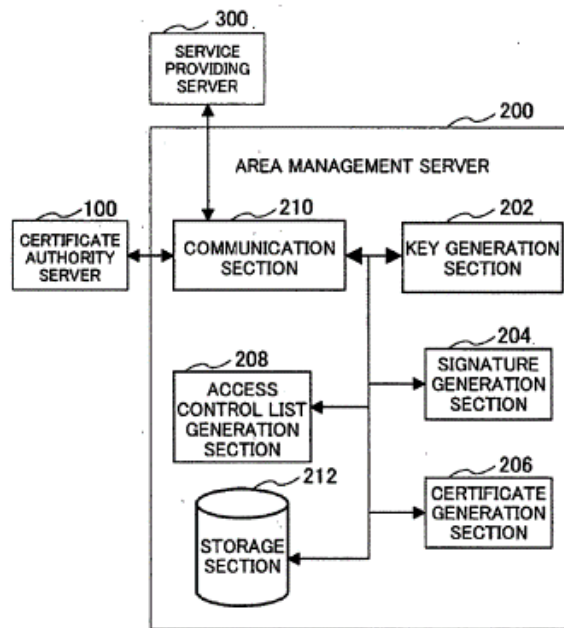
51. Vadhri explains that the use of the API server provides a programmatic interface for payment applications to access various services and functions of the marketplace. APPL-1006, [0052]. This interface allows for the use of seller applications such as eBay in the networked system 502 and “enables sellers to author and manage listings on the networked system 502 in an off-line manner, and to perform batch-mode communications between the programmatic client 508 and the network system.” APPL-1006, [0052].

52. Vadhri also teaches the use of a secure temporary code to provide additional security by limiting the amount of time that a code is available. APPL-1006, [0015]. It further describes a methodology to determine the validity of the secure temporary code and notify the user accordingly. APPL-1006, [0015], [0046], Fig. 4. Vadhri also teaches the integration of a “cloud computing” environment” in its transaction systems. APPL-1006, [0089].

### **C. Summary of Akashika (APPL-1007)**

53. Akashika discloses “a new and improved service providing system, a service providing server and an information terminal device capable of realizing a secure access to a secure chip based on a script.” APPL-1007, [0010]. Akashika discloses a security system configured to protect a wide variety of data on a secure chip including “the remaining amount or the settlement information of electronic money.” APPL-1007, [0007]. Akashika’s system includes an area management server which includes an access control list (ACL) generation section to create an ACL that sets access rights to the secure data for each user of the system. APPL-1007, [0060]. These features are shown in Fig. 3:

FIG.3



APPL-1007, Fig. 3.

54. The access rights set by the ACL include access to the secure chip as well as “read permission, write permission, restriction on frequency of access permitted for the same area” and executing script data (such as ECMAScript or JavaScript) on the secure chip. APPL-1007, [0017], [0062], [0070]. By implementing an ACL, “unauthorized access to the secure chip 500 can be prevented.” APPL-1007, [0117].

#### **D. Motivation to Combine Dill, Vadhri, and Akashika**

55. First, a POSITA would have been motivated to incorporate Vadhri’s API server into Dill’s financial network system as Dill recognizes the need for flexible financial systems that may be used by different parties. APPL-1005, [0004] (“there is a need in the art...to facilitate flexible payment options for the

transactions”). The use of APIs in payment systems is well known in the art.

APPL-1008 (“Treese”). Treese states that “[i]nternet payment technology is changing rapidly, with debit cards, electronic funds transfer, and electronic checks gaining acceptance.” APPL-1008, p.417. A “payment API” is a solution to add “new payment systems and additional implementations of old ones ... without the necessity of updating any content servers.” APPL-1008, p.417.

56. Vadhri teaches a financial system configured for enhanced flexibility in sharing data between different parties using its API server. APPL-1006, [0056] ([t]he applications themselves are communicatively coupled (e.g., via appropriate interfaces) to each other and to various data sources, so as to allow information to be passed between the applications or so as to allow the applications to share and access common data”). The API server in particular allows for increased flexibility by providing access to “various services and functions provided by the marketplace” through its interface, including access for third-party marketplaces such as eBay, as well as features such as managing listings offline and batch-mode communications. APPL-1006, [0052]. A POSITA would have understood that Vadhri’s API server uses a common API (which as discussed above allows for additional payment options without requiring additional servers (APPL-1008, p.417)) and allows for interaction with different payment processors (such as eBay).

57. Second, a POSITA would have been motivated to combine Vadhri's API server with Dill's system to yield the predictable result of increased access for clients and additional payment options. As discussed above, the use of payment APIs to add new payment systems was well known. APPL-1008, p.417. It would have been obvious for a POSITA to include this technology (via Vadhri's API server) into Dill's system based on the recognized need for flexibility. APPL-1005, [0004]; APPL-1006, [0052].

58. Third, a POSITA would have been motivated to incorporate Vadhri's cloud computing environment into Dill's system to achieve the well-known and predictable benefits of cloud computing: more support and options for users of the financial system. APPL-1010, [0067]-[0069], APPL-1005, [0004]. For example, a POSITA would have understood that integration of Vadhri's environment into Dill's system would "provid[e] customers with computational resources, data storage services, networking capabilities, and computer platform and application support" and "security systems, development environments, user interfaces and the like." APPL-1010, [0069], [0214].

59. A POSITA would have had a reasonable expectation of success in implementing Vadhri's cloud computing environment in Dill's system because many examples of such integrations were available to a POSITA. APPL-1010, [0069], [0214]); APPL-1006, [0089]). Additionally, both Dill and Vadhri include

processors and a network used to implement such a cloud computing environment (APPL-1005, [0060]-[0061]; APPL-1006, [0089]). Such a combination would also have been within the skillset of a POSITA because a POSITA would have had the necessarily knowledge of computer technologies and software development techniques to implement this design choice.

60. Fourth, a POSITA would have been motivated to incorporate Akashika's access control list (ACL) generator into Dill's servers to provide enhanced security for financial transactions. For example, Akashika's teaches that an ACL provides "high security" for data such as "settlement information of electronic money or important personal information." APPL-1007, [0007]. A POSITA would have understood that Dill's system requires security protocols to protect clients and assets alike. APPL-1007, [0007]. This need is clearly shown by the numerous security protocols implemented in Dill's system such as steps to validate Personal Identification Numbers (PINs), transaction identifiers, and recipient identifiers. APPL-1005, [0004]-[0007]. Dill also shows attention to security measures by defining and implementing rules for transactions. APPL-1005, [0102]-[0104]. A POSITA would have understood that security is a concern when sharing data (and in particular, financial data) between parties, as taught by Vadhri. APPL-1006, [0056]. Therefore, a POSITA would have been motivated to implement the additional security protocols provided by Akashika's ACL

generator into Dill's system, especially when providing the added flexibility afforded by Vadhri's API server.

61. The use of ACLs, like those of Akashika, to control access to sensitive systems was well known in the art. *See* APPL-1009, [0185]-[0186] ("Once added to the access control list, the individual may log into the system using standard, typically secure Internet protocols ... The method and system for adding third parties to an access control list is generally understood by those skilled in the art"). Thus, the benefits of implementing an ACL into Dill's financial system would have been obvious. In fact, a POSITA would have understood that the implementation of an ACL is merely an extension of the rules defined by Dill's money transfer facilitator. *See e.g.*, APPL-1005, [0102]-[0105]; APPL-1007, [0017]. As such, a POSITA would have had a reasonable expectation of success in implementing an ACL in Dill's system.

62. A POSITA would have found it obvious, desirable, and predictable to implement Vadhri's API server, secure code, and cloud computing environment as well as Akashika's ACL into Dill's financial transfer system. Based on the foregoing reasons, a POSITA would have found it obvious, desirable, and predictable to implement Vadhri's API server, secure code, and cloud computing environment as well as Akashika's access control list into Dill's financial transfer system.

63. The combinations discussed in this declaration would have been predictable and there would have been a reasonable expectation of success in making these combinations given that all of the references discussed pertain to software applications, and combining the references would have required nothing more than providing software instructions corresponding to implementation of the respective aspects of each reference, and accessing those instructions when required.

64. In analyzing this combination, I am relying on the teachings of the references, and I do not suggest that physical or bodily incorporation of elements is required. Physical or bodily incorporation, however, would have been possible and well within the skill-set of a POSITA.

**E. Claim 1**

**[1.0] A computing system for facilitating management of a mobile wallet, comprising:**

65. To the extent the preamble is limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a money transfer facilitator 140 (“computing system”) that is configured to manage mobile wallets 125, 130 (“mobile wallet”) in a mobile network.

66. Dill generally describes systems for financial transfers with a mobile wallet:

Methods, systems, and machine-readable media **are disclosed for financial transfers utilizing a unique identifier to facilitate flexible payment options for the transaction**. According to one embodiment, a method for supporting a money transfer transaction can comprise receiving a Personal Identification Number (PIN) and a transaction identifier for a previously initiated money transfer transaction at a mobile wallet application. The PIN can be verified with **the mobile wallet application** and, in response to verifying the PIN, the transaction identifier can be sent to an application of a money

APPL-1005, [0005].

67. One embodiment of Dill's financial transaction system 100 is shown in Fig. 9, which includes a money transfer facilitator system 140 that is configured to manage a mobile wallet.

FIG. 9 is a block diagram illustrating another exemplary system for making financial transfers according to one embodiment of the present invention. Generally speaking, the system 100 illustrated here can comprise a system as described above with reference to FIG. 1 and can include some or all of the same components and may perform some or all of the same functions. For example, **the system 100 can include a money transfer facilitator system 140 as described above that may be adapted to receive transaction information from a mobile wallet application 121 via a mobile network 115** as described in detail above.

APPL-1005, [0100].

68. Dill also teaches that a computer system 200 provides the functions of its transfer facilitator system 140:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. **This example illustrates a computer system 200** such as may be used, in whole, in part, or with various modifications, **to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator system 140**, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

69. Fig. 9 of Dill is shown below including the money transfer facilitator 140 and mobile wallet application/service 121 with mobile wallets 125, 130:

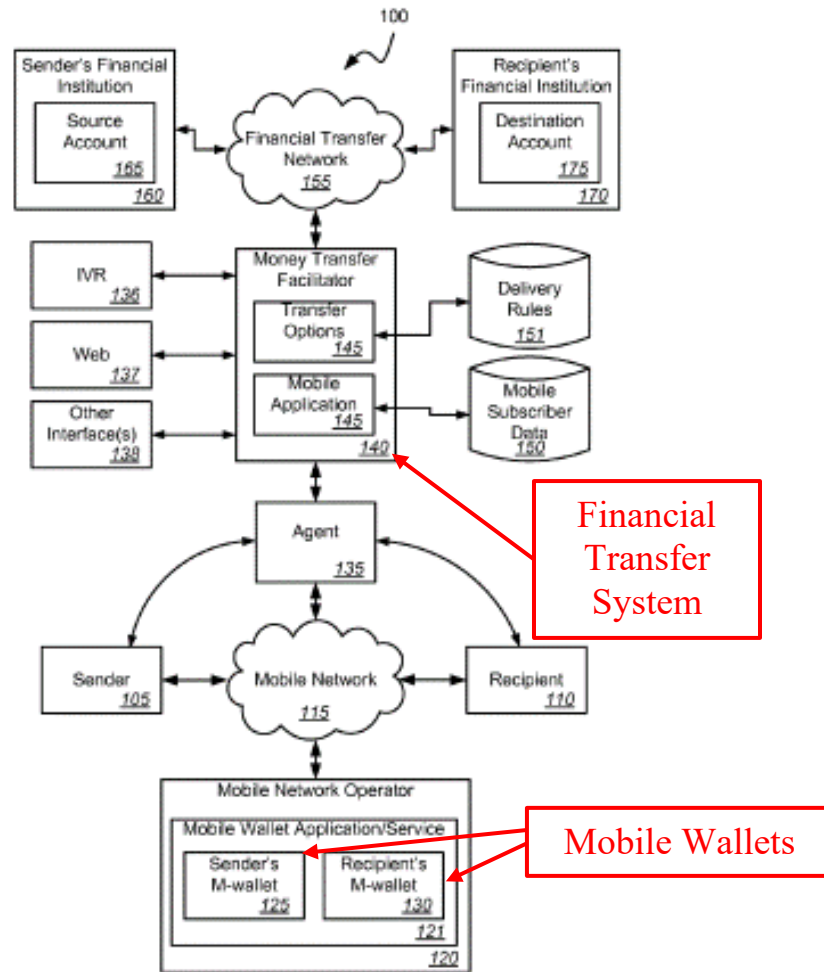


FIG. 9

APPL-1005, Fig. 9 (annotated).

70. Based on this disclosure, a POSITA would have understood Dill's financial transfer system 100 including money transfer facilitator 140 to be a "computing system" as recited. Dill gives further details of the money transfer facilitator providing transactions between mobile wallets 125, 130:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 150, to provide a structured settlement between unrelated

entities such as the sending mobile wallet 125 and receiving mobile wallet 130, or between the sending cash retail location and receiving mobile wallet 130.

APPL-1005, [0057].

71. Therefore, a POSITA would have understood Dill's financial transfer system 100 with a money transfer facilitator 140 for use with mobile wallets to be a "*computing system for facilitating management of a mobile wallet*" as recited by the claim.

**[1.1] one or more processors;**

72. Dill discloses this limitation. For example, Dill's financial payment systems, including its transfer facilitator system 140, are carried out on an exemplary computer system 200 which includes one more central processing units 210 ("one or more processors").

73. First, Dill teaches that a computer system 200 provides the functions of its transfer facilitator system 140:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates a computer system 200 such as may be used, in whole, in part, or with various modifications, to provide the functions of the sender's mobile device, the receiver's mobile device, the agent 135 system, the money transfer facilitator

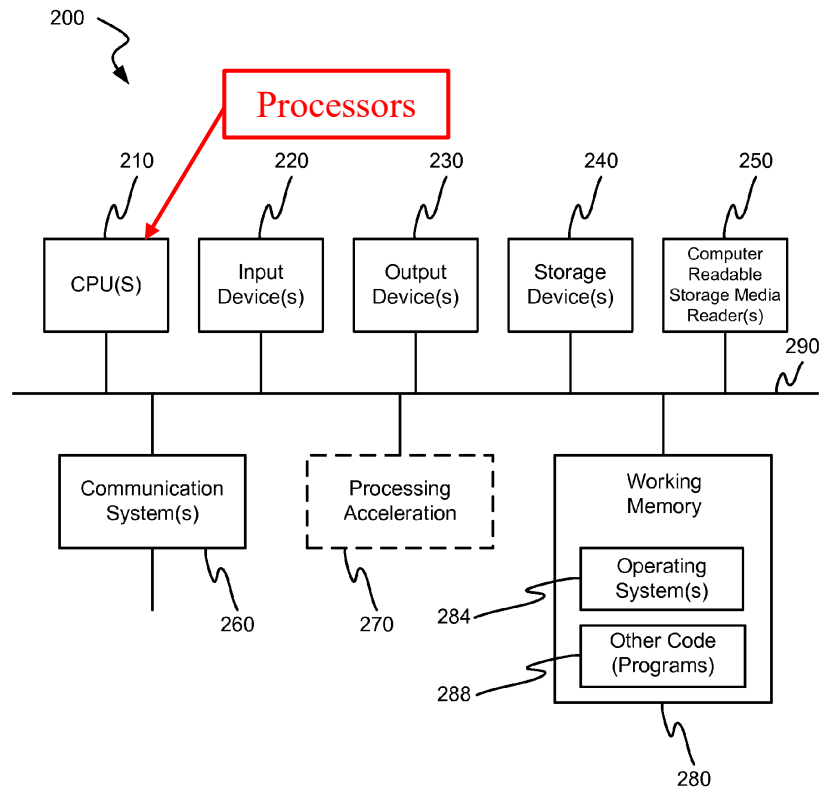
system 140, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

74. Second, the computer system includes central processing units 210:

The computer system 200 is shown comprising hardware elements that may be electrically coupled via a bus 290. **The hardware elements may include one or more central processing units 210**, one or more input devices 220 (e.g., a mouse, a keyboard, etc.), and one or more output devices 230 (e.g., a display device, a printer, etc.). The computer system 200 may also include one or more storage device 240. By way of example, storage device(s) 240 may be disk drives, optical storage devices, solid-state storage device such as a random access memory (“RAM”) and/or a read-only memory (“ROM”), which can be programmable, flash-updateable and/or the like.

APPL-1005, [0060]. The central processing units 210 are shown in Fig. 2 which has been reproduced below.



APPL-1005, Fig. 2 (annotated).

75. A POSITA would have understood Dill’s CPUs to be the claimed “one or more processors.” Dill also further explains that its embodiments are performed by processor(s):

Furthermore, embodiments may be implemented by hardware, Software, firmware, middleware, microcode, hardware description languages, or any combination thereof. When implemented in software, firmware, middleware or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine readable medium. **A processor(s) may perform the necessary tasks.**

APPL-1005, [0031].

76. Therefore, Dill's financial transfer system includes "*one or more processors*" as recited by the claim.

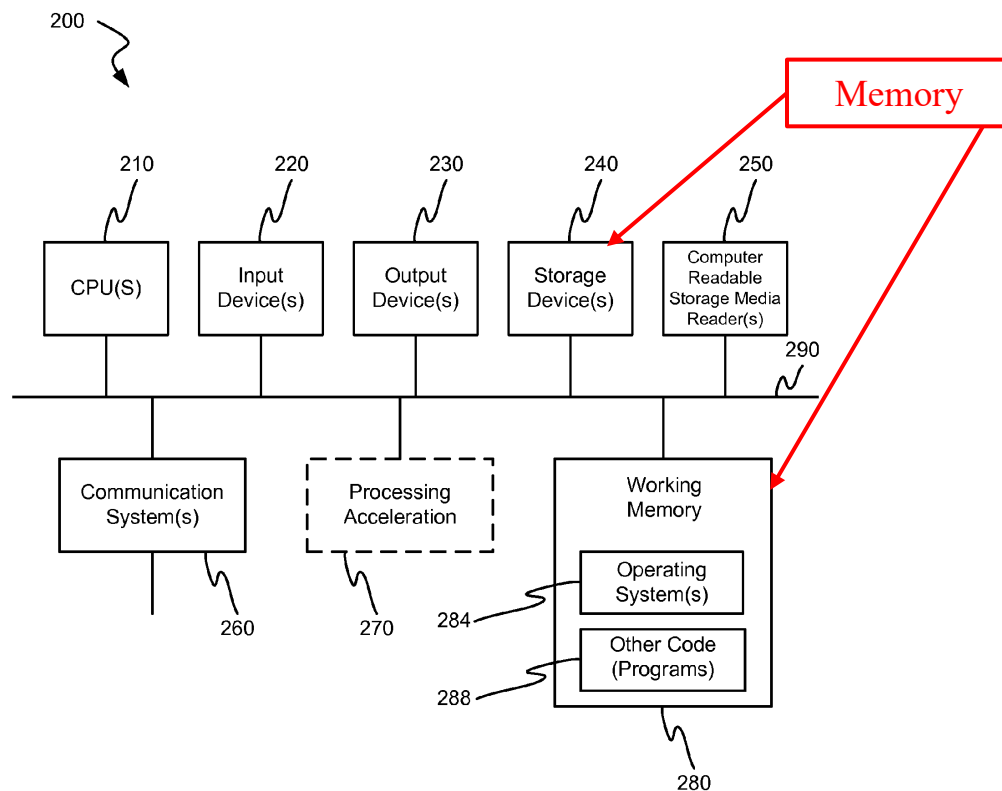
**[1.2] system memory;**

77. Dill discloses this limitation. For example, Dill's financial payment systems, including its transfer facilitator system 140, are carried out on an exemplary computer system 200 which includes one more storage devices 240 ("system memory").

78. As discussed in [1.1], Dill's payment systems, including its money transfer facilitator system 140 are carried out on an exemplary computer system 200. APPL-1005, [0059]. This computer system 200 also includes storage devices 240:

The computer system 200 is shown comprising hardware elements that may be electrically coupled via a bus 290. The hardware elements may include one or more central processing units 210, one or more input devices 220 (e.g., a mouse, a keyboard, etc.), and one or more output devices 230 (e.g., a display device, a printer, etc.). **The computer system 200 may also include one or more storage device 240. By way of example, storage device(s) 240 may be disk drives, optical storage devices, solid-state storage device such as a random access memory ("RAM") and/or a read-only memory ("ROM"), which can be programmable, flash-updateable and/or the like.**

79. APPL-1005, [0060]. Furthermore, the computer system 200 also includes “working memory 280, which may include RAM and ROM devices as described above” (APPL-1005, [0061]) in which programs such as the Operating System 284 and Programs 288 are stored. The storage device(s) 240 and working memory 280 are shown in Fig. 2 which has been reproduced below.



APPL-1005, Fig. 2 (annotated). APPL-1005, Fig. 2 (annotated). A POSITA would have understood the various storage devices 240 and/or working memory 280 of Dill’s computer system 200 to be a “system memory” as recited.

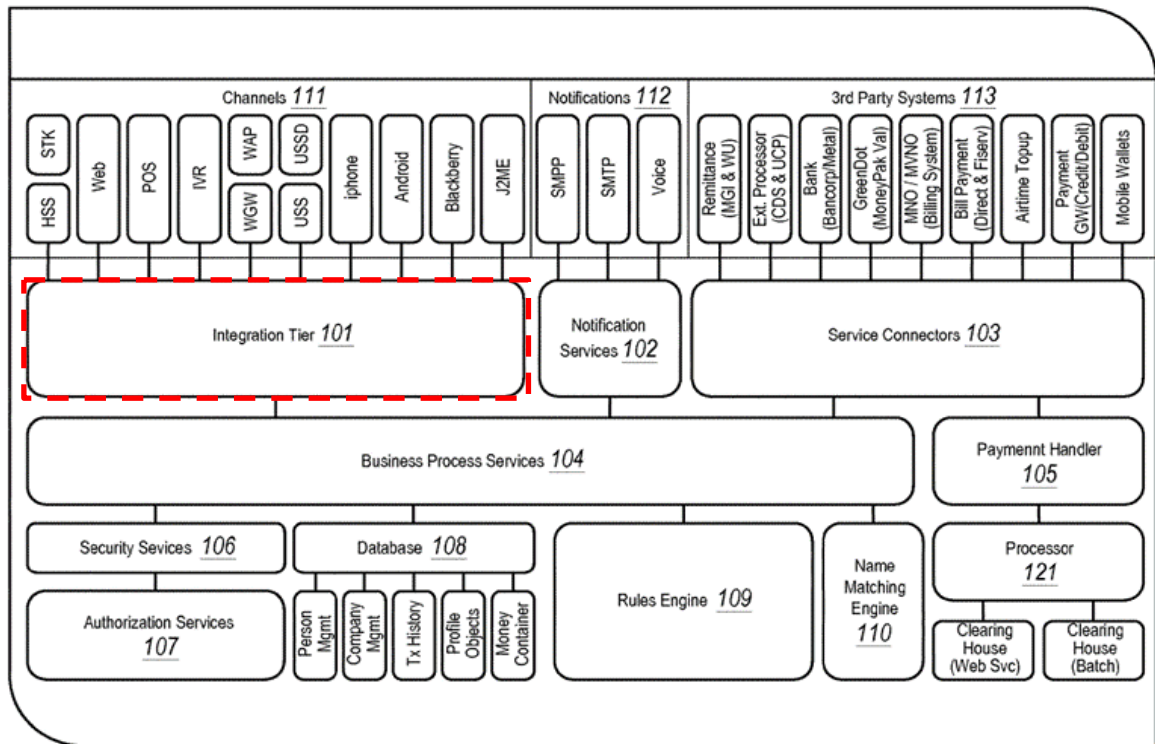
80. Thus, Dill’s financial systems include a “*system memory*” as recited in the claim.

**[1.3A] an integration tier configured to manage mobile wallet sessions with a mobile device and**

81. This limitation is taught by Dill. As discussed above in [1.0], Dill's financial transfer system 100 includes a transfer facilitator system 140, which in turn includes a transfer options module 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device"). APPL-1005, [0100].

82. Although the '196 patent does not define an "integration tier," it includes an explanation of "communication mechanisms" for sending messages to and from the integration tier and shows the integration tier as an element within the "platform functional architecture" of its transaction system (shown in Fig. 1 below). APPL-1001, 9:65-10:7.

## Platform Functional Architecture



APPL-1001, Fig. 1 (annotated). A POSITA would have understood the integration tier to be an element of its transaction system. Further, the '196 patent states that the “[i]ntegration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions.” APPL-1001, 9:63-65. Accordingly, a POSITA would have understood “integration tier” to include system elements configured to manage transactions with a mobile wallet, such as the transfer options module 145 of Dill.

83. As discussed in [1.0], Dill’s payment systems include a money transfer facilitator system 140 that is configured to manage transactions with a mobile wallet. APPL-1005, [0100]. This money transfer facilitator system 140

includes a transfer options module 145 that is configured to send and receive payment transfer information from various sources.

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, a web interface 137, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, or other interfaces 138. **The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.**

APPL-1005, [0101].

84. As discussed in [1.0], these transfers are conducted between a sending mobile wallet 125 and a receiving wallet 130:

Such a system 100 allows **a money transfer facilitator 140**, using a unique customer identifier and internal and/or external mapping databases 150, **to provide a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130**, or between the sending cash retail location and receiving mobile wallet 130.

APPL-1005, [0057].

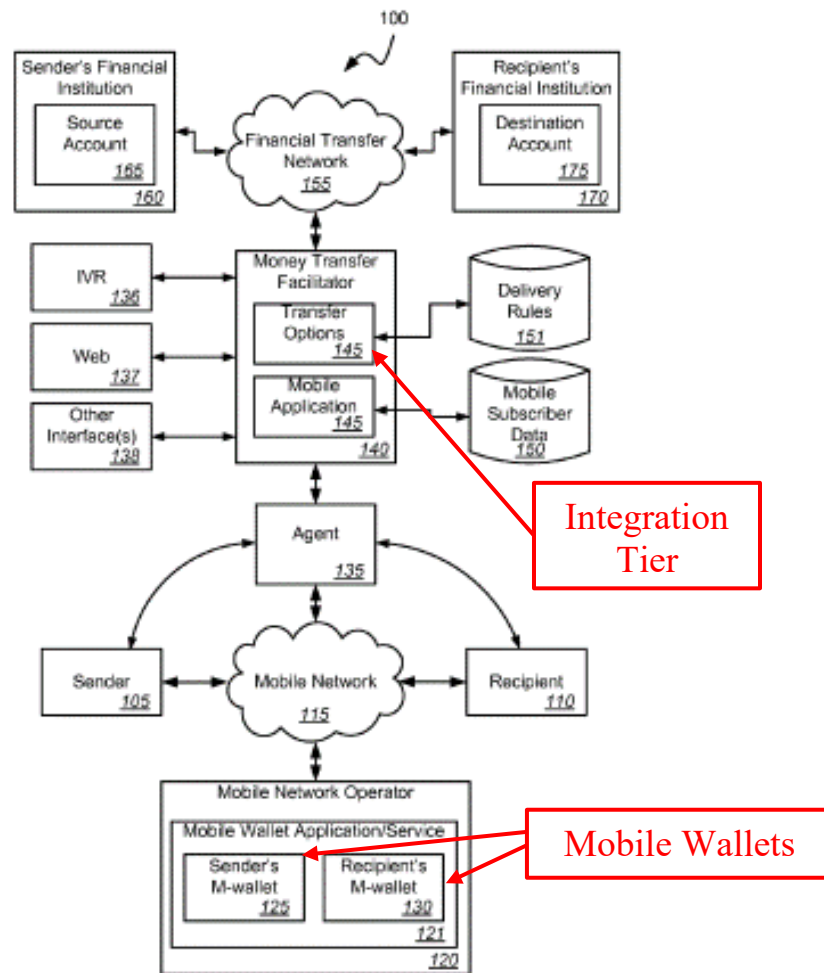


**FIG. 9**

APPL-1005, Fig. 9 (annotated).

85. Since Dill's transfer options module 145 sends and receives transaction details between mobile wallets 125, 130 within a mobile wallet application 121, a POSITA would have understood it to be a system element configured to manage transactions with a mobile wallet.

86. Thus, Dill's financial system 100 that includes a transfer options module 145 teaches "*an integration tier configured to manage mobile wallet sessions with a mobile device*" as recited by the claim.

**[1.3B] [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**

87. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device") including web service mechanisms for interfacing with a mobile wallet application 121 ("mobile wallet application"). APPL-1005, [0100],

88. As discussed in [1.3A], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9. These communications include a web interface 137:

As illustrated here, **the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions** and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, **the one or more interfaces 136-138 can comprise** at least one of an Interactive Voice Response (IVR) interface 136, **a web interface 137**, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service

representative, or other interfaces 138. The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101], *see also* [0015], [0047]. Dill also gives further details about how the money transfer transaction can be conducted via web sites:

According to one embodiment, a money transfer transaction can be initiated through a variety of channels. As will be seen, a notification functionality can be provided that uses a unique customer identifier. For example, the unique customer identifier can be provided by the sender to associate the transaction with a receiver's account and/or to notify the receiver of the transaction. The notification can also provide the recipient with the ability to decide on a payout method to receive the money transfer funds. **The money transfer transaction may be initiated** from a retail agent location of a money transfer facilitator (such as Western Union), **from a web site of the money transfer facilitator**, from a telephone money transfer service of the money transfer facilitator, from a mobile money transfer send, a kiosk, an ATM or from other channels.

APPL-1005, [0033], *see also* [0051], [0054]. Dill also explains that notifications, instructions, and options can be provided to a client by logging onto a website:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, a telephone call, telegram, email, SMS, U.S. postal letter, or other type of message can be sent to the recipient 110 providing the recipient 110 with notification of the transfer transaction and possibly instructions and/or options. Via one of the interfaces 136-138, e.g., **by logging onto a website**, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104].

89. Since Dill's transfer options module 145 facilitates communications over web sites interfacing with mobile wallets 125, 130 within a mobile wallet application 121, and Dill teaches that these communications include web services, a POSITA would have understood Dill to teach an integration tier configured to manage mobile wallet sessions "including web services communication mechanisms for interfacing with a mobile wallet application" as recited by the claim.

90. Thus, Dill's financial system 100 that includes a transfer options module 145 teaches "*an integration tier configured to manage mobile wallet sessions with a mobile device including web services communication mechanisms for interfacing with a mobile wallet application*" as recited by the claim.

**[1.3C] [an integration tier configured to manage mobile wallet sessions and] ... a plurality of different device types over a plurality of different communication channels,**

91. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device") as well as other device types over communication channels 136-138 ("a plurality of different communication channels"). APPL-1005, [0101].

92. As discussed in [1.3A], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9. The transfer options module 145 communicates with devices over a number of different types of interfaces 136-138:

As illustrated here, **the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, a web interface 137, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, or other interfaces 138.** The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the

transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

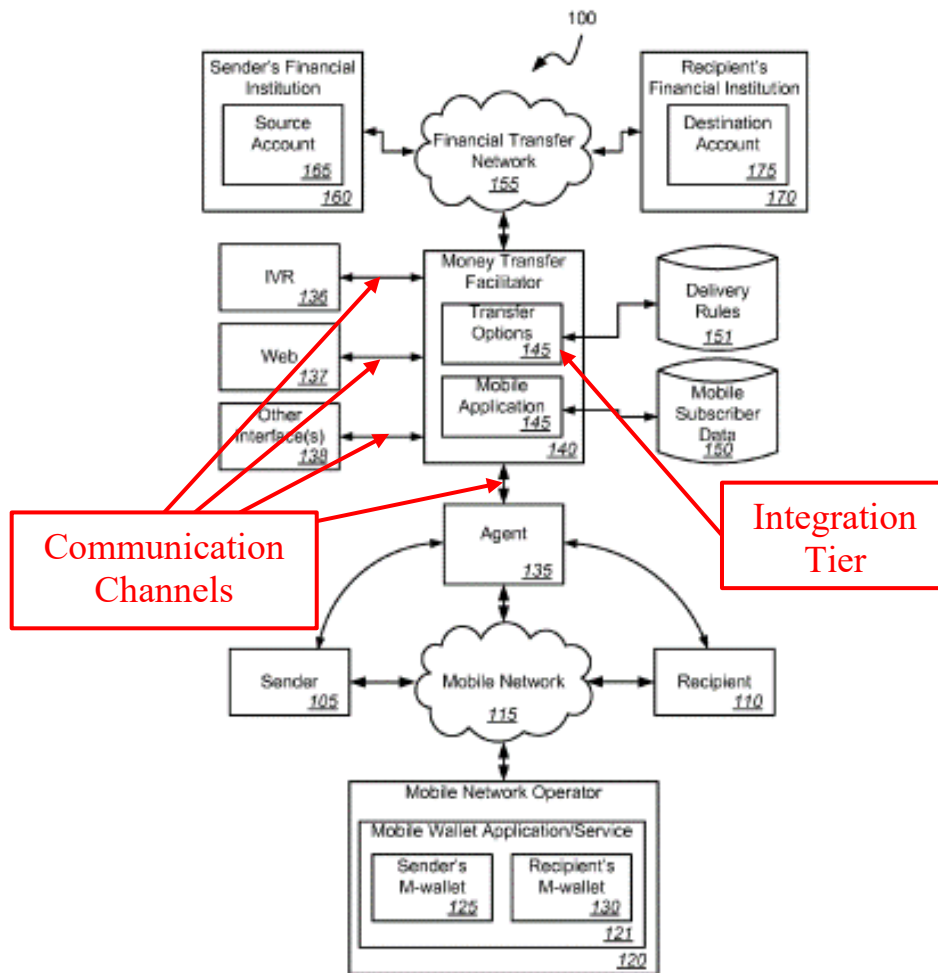


**FIG. 9**

APPL-1005, Fig. 9 (annotated).

93. Furthermore, Dill discloses that the mobile network 115 over which the mobile device communicates may be another type of wireless network (another “communications channel”). APPL-1005, [0052] (“The system 100 can also

include a mobile network 115, such as a cellular **or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140.**")

94. These interfaces 136-138 represent a plurality of different device types (i.e., IVR system, web site, etc.) as well as different communication channels for conducting transactions (*see* APPL-1005, Fig. 9 annotated above).

95. Thus, Dill's transfer options module 145 communicating with devices over interfaces 136-138 teaches "*an integration tier configured to manage mobile wallet sessions and a plurality of different device types over a plurality of different communication channels*" as recited by the claim.

**[1.3D] [an integration tier configured to manage mobile wallet sessions with a mobile device] ... the integration tier being configured to receive binary and text messages from a mobile device;**

96. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to receive binary and text messages from mobile devices 125, 130 ("a mobile device").

97. As discussed in [1.3C], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121 over interfaces 136-138. APPL-1005, [0101], Fig. 9. Dill further states that its financial systems (conducted by its transfer options module 145)

supports money transfers initiated by “a wireless communication channel including a wireless communication device”:

Generally speaking, embodiments of the present invention provide methods and systems for supporting money transfer transactions initiated by and/or conducted through **a variety of channels including but not limited to a wireless communication channel including a wireless communication device.**

APPL-1005, [0032].

98. Dill also includes examples of communication interfaces connecting the transfer options module 145 and various sending and receiving devices, including mobile devices:

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, **a web interface 137**, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, **or other interfaces 138**. **The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138**, provide a notification of the transaction to a

recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

99. A POSITA would have understood the transfer options module 145 receiving coupled to a web interface and “adapted to receive transaction information” through such an interface as “being configured to receive binary.” Dill also teaches that its system is configured for transactions through a “web site” and a “web page” as well as notifications through “web page notification” in order to transfer sensitive information such as bank account numbers or social security numbers. APPL-1005, [0033], [0035]. A POSITA would have understood that such information would have been conveyed in a secure manner, and that transactions and notifications conducted through these formats means that Dill’s transfer options module 145 is configured to receive binary messages from a mobile device.

100. Additionally, Dill teaches that communications may also be sent via SMS over the same interfaces 136-138:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, a telephone call, telegram, email, **SMS**, U.S. postal letter, or other type of message **can be sent to the recipient 110 providing the recipient 110 with notification of the transfer**

**transaction and possibly instructions and/or options. Via one of the interfaces 136-138**, e.g., by logging onto a website, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104].

101. A POSITA would have understood Dill's transfer options module 145 connected to the mobile network 114 via the above exemplary interfaces as configured to receive text messages (e.g., via SMS) from a mobile device in view of the above disclosure.

102. Thus, Dill's communication system including transfer options module 145 teaches an "*integration tier being configured to receive binary and text messages from a mobile device*" as recited.

**[1.4A] a notification services engine configured to interface with the integration tier and**

103. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a mobile application 145 ("notification services engine") that is configured to interface with a transfer facilitator system 145 ("integration tier").

104. As discussed in [1.0], Dill's payment systems a money transfer facilitator system 140 is configured to manage a mobile wallet. APPL-1005, [0100], Fig. 9. This money transfer facilitator system 140 is also configured to send notifications of money transfers:

Once the destination for transferring funds for the money transfer transaction to the recipient 110 has been determined, the funds can be transferred to the determined destination and the recipient 110 can be notified of availability of funds at the determined destination. **Notification can be sent by a money transfer facilitator 140** to the recipient 110 and/or to any party associated with the designated destination (e.g., to a mobile network operator 120, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0056]. Dill further explains more details of these notifications, including that either the transfer options module 145 or mobile application 145 of the money transfer facilitator 140 can send notifications:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally, **the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction** and the availability of funds to the recipient 110.

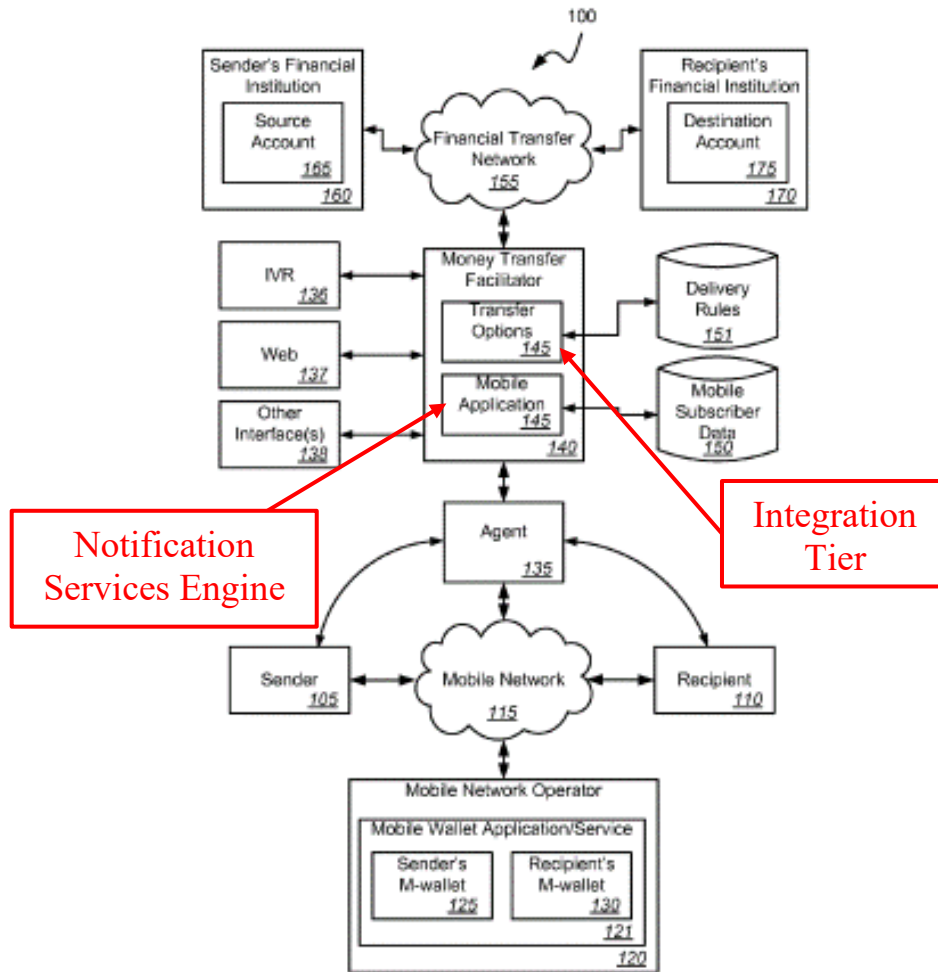
APPL-1005, [0069].

The **transfer options module 145** can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, **provide a notification** of the

transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

105. Since both the mobile application 145 and transfer options module 145 of the money transfer facilitator 140 send notifications, a POSITA would have understood either of them to be a “notification services engine” as recited by the claim. For ease of explanation, the mobile application 145 is labeled as the notification services engine in Fig. 9 of Dill, below.

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

106. A POSITA would have also understood Dill's broad notification language to mean that the various components of the money transfer facilitator interface with each other to send the notification:

In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that

channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

107. Thus, Dill's financial transaction system that includes mobile application 145 teaches "*a notification services engine configured to interface with the integration tier*" as recited by the claim.

**[1.4B] [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,**

108. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a mobile application 145 ("notification services engine") that is configured to send different types of messages over interfaces 136-138 ("different communication channels" and "different devices").

109. First, Dill teaches that is mobile application 145 sends "a plurality of corresponding different types of messages." As discussed in [1.4A], Dill teaches that the mobile application 145 sends various notifications for a transaction:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally, the mobile application 145 of the money transfer facilitator 140 can

**send 350 a notification of the transaction** and the availability of funds to the recipient 110.

APPL-1005, [0069].

110. Dill also details other types of requests, notifications, and other communications that the mobile application 145 is configured to send to various devices. *See* APPL-1005, [0050] (“the mobile application 145 of the money transfer facilitator can be adapted to support transaction involving one or more mobile devices”), [0067] (“The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121”), [0069] (“the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110”). A POSITA would understand these different notifications (i.e., initiating a money transfer send process, notifications of the transaction, etc.) are “different message types.” *Id.* Further, Dill teaches that “notification can be provided to the recipient via a mobile device and mobile network 115” by “telephone call, telegram, email, SMS, U.S. postal letter, or other type of message.” A POSITA would have understood these different message types to be “a plurality of corresponding different types of messages” as well.

111. Second, Dill’s mobile application 145 is configured to send the various types of communications “over the different communication channels”

and to “different devices.” In particular, Dill teaches that its notifications can be sent over various channels including interfaces 136-138:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, a telephone call, telegram, email, SMS, U.S. postal letter, or other type of message can be sent to the recipient 110 providing the recipient 110 with notification of the transfer transaction and possibly instructions and/or options. Via one of the interfaces 136-138, e.g., by logging onto a website, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104]. These communication channels connected to the money transfer facilitator and 140 and mobile application 145 are shown below:

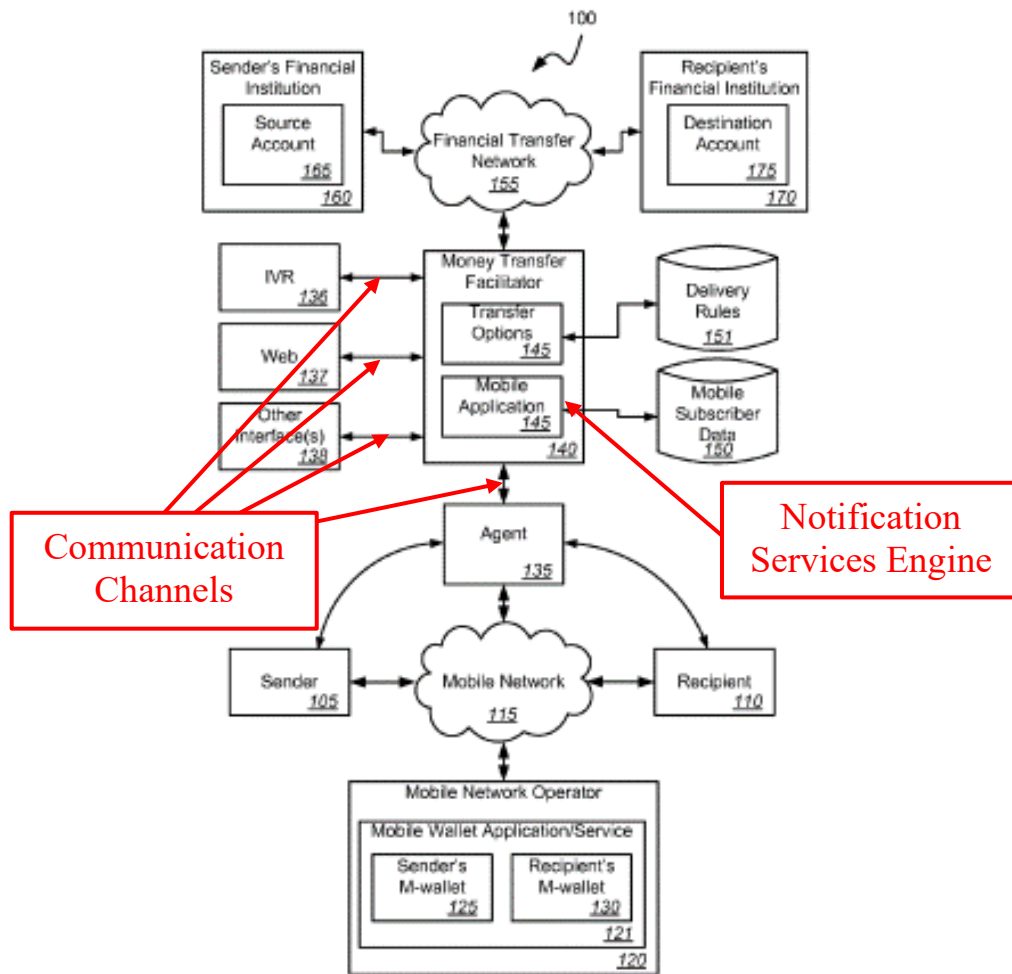


FIG. 9

APPL-1005, Fig. 9 (annotated).

112. As discussed in [1.3C], the interfaces 136-138 represent a plurality of different device types (i.e., IVR system, web site, etc.) as well as different communication channels (*see* APPL-1005, Fig. 9 annotated above).

113. Thus, a POSITA would have understood Dill's mobile application 145 to be configured to “send a plurality of corresponding different types of messages

*over the different communication channels to different devices” as recited by the claim.*

**[1.4C] [a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages ... to different devices] including a customer's mobile device, to interface with a mobile wallet application installed on the customer's mobile device;**

114. This limitation is taught by Dill. For example, Dill’s financial transfer system 100 includes a mobile application 145 (“notification services engine”) that is configured to send messages to mobile devices 125, 130 (“a customer’s mobile device”) which include a mobile wallet application 121 (“mobile wallet application”).

115. As discussed in [1.3A], Dill’s money transfer facilitator 140 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9.

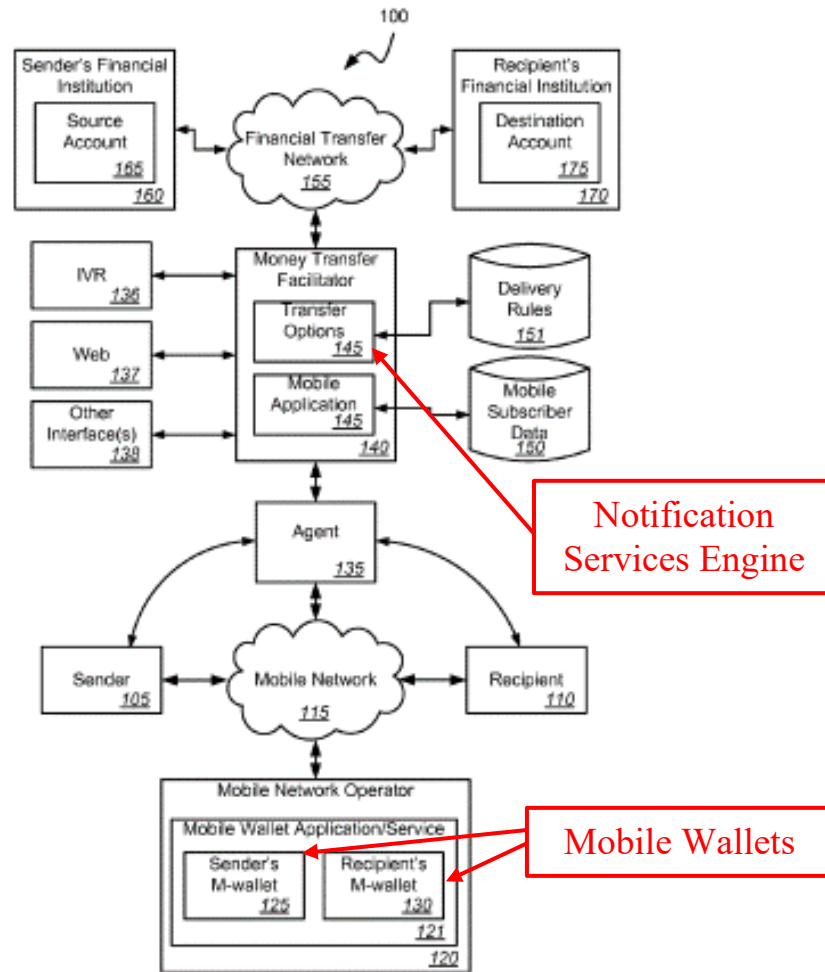


FIG. 9

APPL-1005, Fig. 9 (annotated).

116. This communication process includes sending messages to the mobile wallet application 121 via a user device:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can perform a money transfer release process 570. The process 570 can perform a transfer of the funds to the identified account 175 of the recipient 110 and send a message to the mobile wallet application 121 of the recipient 110 indicating success

**or failure of the transfer.** The mobile wallet application 121 of the recipient 110 can in turn update 575 a balance of the account, assuming a successful transfer, and notify 580 and 585 the recipient 110 of the transfer.

APPL-1005, [0082]. Dill teaches that these messages are sent to the mobile wallet application 121 via the mobile device:

Additionally, **the mobile wallet application 121 of the recipient's mobile network operator 120 and/or money transfer facilitator 140 can send 630 a message to the recipient 110, e.g., via the recipient's mobile device,** notifying the recipient 110 of the availability of funds and inviting the recipient 110 to enroll in the mobile wallet service to receive the transfer.

APPL-1005, [0084].

117. Since Dill's money transfer facilitator 140 (and in particular the mobile application 145 within it) interfaces with the mobile wallets 125, 130 within a mobile wallet application 121, a POSITA would have understood Dill to teach a notification services engine configured to send messages to a *“customer's mobile device, to interface with a mobile wallet application installed on the customer's mobile device”* as recited by the claim.

**[1.5] service connectors that are each configured to connect the computing system to a different third party system;**

118. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes connections (“service connectors”) that connect its money

transfer facilitator 140 (“computing system”) to financial institutions 160, 170 (“a different third party system”).

119. First, As discussed in [1.0], Dill teaches a “computing system.” In particular, the functions of Dill’s money transfer facilitator 140 are configured to be carried out on a computer system 200. APPL-1005, [0059].

120. Second, Dill’s money transfer facilitator 140 is connected to financial institutions 160, 170 which a POSITA would understand to be “different third party systems.” In particular, Dill states:

Also communicatively coupled with the financial transfer network 155 can be one or more financial institutions 160 and 170. Generally speaking and as understood by one skilled in the art, **the money transfer facilitator 140 may access a source account 165 of one financial institution 160 and/or a destination account 175 of the same or a different financial institution 170** to affect a transfer from and/or to the accounts 165 and 175 via the financial transfer network 155.

APPL-1005, [0049]. A POSITA would consider the financial institutions 160, 170 to be “different third party systems” because they are both separate entities which are outside parties to Dill’s money transfer facilitator 140. Dill also teaches other third party systems connected to Dill’s money transfer facilitator, such as eBay, PayPal, Western Union, and other third-party service providers. APPL-1005, [0090].

121. Third, Dill teaches this its money transfer facilitator 140 system is connected to the financial institutions and other third party systems via “service connectors” as shown in Fig. 9 which has been reproduced below:

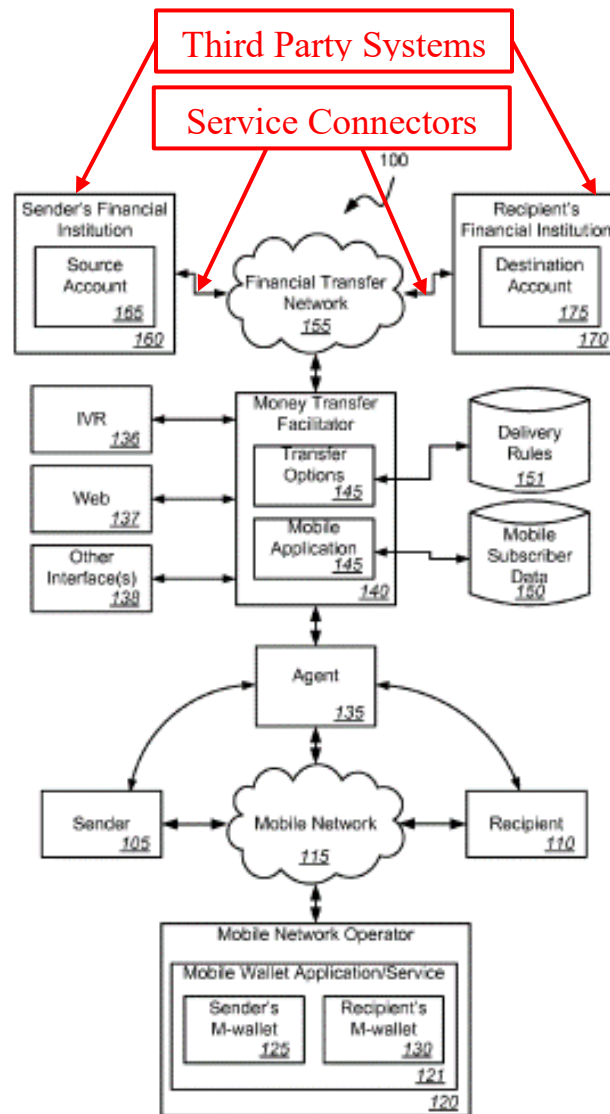


**FIG. 9**

APPL-1005, Fig. 9 (annotated).

122. A POSITA would have understood these communication channels to be “service connectors” because Dill’s money transfer facilitator 140 accesses the

financial institutions 160, 170 and other third party systems through the channels shown above to “affect a transfer.” APPL-1005, [0049].

123. Thus, a POSITA would have understood that Dill’s money transfer facilitator 140 connected to financial institutions 160, 170 teaches “*service connectors that are each configured to connect the computing system to a different third party system*” as recited.

**[1.6] a payment handler that exposes a common API for interacting with different payment processors;**

124. This limitation is taught by the combination of Dill and Vadhri. In particular, it would have been obvious to combine Vadhri’s API server 514 (“payment handler that exposes a common API for interacting with different payment processors”) with Dill’s financial transfer system 100.

125. First, Dill recognizes the need for flexible financial systems that may be used by different parties:

However, money transfer services and systems have not yet been adapted to take advantage of the flexibility and functionality that the use of such mobile devices can provide. Hence, there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.

APPL-1005, [0004]. To achieve this flexibility, Dill’s money transfer facilitator 140 system is configured to interact with various payment systems:

FIG. 1 is a block diagram illustrating an exemplary system for making financial transfers according to one embodiment of the present invention. **As illustrated here, the system 100 can include a money transfer facilitator 140 system** such as the systems operated by Western Union or another money transfer facilitator service. The money transfer facilitator 140 can be communicatively coupled with the financial transfer network 155.

APPL-1005, [0049].

126. Second, the use of Application Program Interfaces (APIs) in payment systems is well known in the art, as evidenced by “Designing Systems for Internet Commerce” by Treese (“Treese,” APPL-1008). In particular, Treese states:

Internet payment technology is changing rapidly, with debit cards, electronic funds transfer, and electronic checks gaining acceptance and with other, more innovative system on the horizon. The payment API permits new payment systems and additional implementations of old ones to be added. Catalog content is linked to the transaction engine, which operates as a payment switch,[] so new payment systems can be added without the necessity of updating any content servers.

APPL-1008, p.417. Thus, a POSITA would have understood that a common payment API is commonly used in the art to add new payment options without the necessity of updating payment servers to handle numerous additional proprietary interfaces.

127. Third, a POSITA would have understood Vadhri's API server to be "a payment handler that exposes a common API for interacting with different payment processors" as recited by the claims. For example, Vadhri teaches a financial system that is configured for enhanced flexibility in sharing data between different parties:

The applications 520 may be hosted on dedicated or shared server machines (not shown) that are communicatively coupled to enable communications between server machines. The applications themselves are communicatively coupled (e.g., via appropriate interfaces) to each other and to various data sources, **so as to allow information to be passed between the applications or so as to allow the applications to share and access common data.** The applications may further more access one or more databases 526 via the database servers 524 of FIG. 5.

APPL-1006, [0056].

128. Vadhri teaches that its API server in particular allows for increased flexibility by providing access to "various services and functions provided by the marketplace" through its interface, including access for third-party marketplaces such as eBay, as well as features such as managing listings offline and batch-mode communications. APPL-1006, [0052]. A POSITA would have understood that Vadhri's API server functions as "a payment handler that exposes a common API for interacting with different payment processors" because it uses a common API

(which as discussed above allows for additional payment options without requiring additional servers (APPL-1008, p.417)) and allows for interaction with different payment processors (such as eBay).

129. Fourth, it would have been obvious to combine Vadhri's API server 514 to Dill's financial payment system to yield the predictable result of increased access for clients and an increase in available payment options. As discussed above, the use of payment APIs to add new payment systems without the necessity of adding additional servers was well known in the art. APPL-1008, p.417. It would have been obvious for a POSITA to include this technology (via Vadhri's API server) into Dill's system based on the recognized need for flexibility. APPL-1005, [0004]; APPL-1006, [0052].

130. Thus, the combination of Vadhri's server 514 with Dill's financial transfer system teaches "*a payment handler that exposes a common API for interacting with different payment processors*" as recited by the claim.

**[1.7] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);**

131. This limitation is taught by the combination of Dill and Akashika. In particular, it would have been obvious to combine Dill's money transfer facilitator 140 ("security services engine") with Akashika's management server 200 with an access control list generation section 204 ("utilizing a database-based Access Control List (ACL)").

132. First, a POSITA would have understood that financial transfer systems, such as those disclosed by Dill, require security protocols to protect clients and assets alike. *See* APPL-1007, [0007] (“a secure chip stores data, such as the remaining amount or the settlement information of electronic money or important personal information, and so high security for such data is required”). This need is clearly shown by the numerous security protocols implemented in Dill’s financial transfer system (and in particular with Dill’s money transfer facilitator 140), such as steps to validate Personal Identification Numbers (PINs), transaction identifiers, and recipient identifiers:

The application of the money transfer facilitator can in turn receive and verify the transaction identifier. In response to verifying the transaction identifier, the application of the money transfer facilitator can send a recipient identifier to the mobile wallet application. The recipient identifier can indicate an intended recipient of the money transfer transaction.

APPL-1005, [0006].

133. In recognizing the need for secure transactions, Dill also authenticates subscribers by requiring a “unique customer identifier” with all payment requests:

The request can include a unique identifier for a recipient of the money transfer transaction. The unique identifier for the recipient of the money transfer transaction can comprise one or any combination of a phone number for a mobile device of the recipient, an email address for the

recipient, an instant messaging identifier for the recipient, a preferred customer number for the recipient or other unique customer identifier issued by a money transfer facilitator or its agent, a mobile network operator, a retailer, a bank, a service provider or any other party, account information (e.g., stored value account identifier, bank account number and/or ABA routing number), a tax number (e.g., Social Security Number or Taxpayer Identification Number), a drivers' license number, a state ID number, a student ID number or another unique identifier.

APPL-1005, [0035].

134. A POSITA would have also understood that security is a concern when sharing data (and in particular, financial data) between parties, as taught by Vadhri. APPL-1006, [0056]. Therefore, a POSITA would have been motivated to implement additional security protocols when providing the added flexibility afforded by Vadhri's API server with Dill's financial system.

135. Second, the use of access control lists to control access to sensitive systems was also well known in the art at the filing of the '196 patent, as evidenced by Imrey (APPL-1009):

The debtor may enable account access for the third party by accessing and authenticating with server 102 and adding the individual to his account access control list or some other supported access control mechanism. Once added to the access control list, the individual may log into the system using standard, typically secure Internet protocols,

such as by the user/debtor logging into the web site, essentially connecting the individual with the system 100 via the user/debtor interface 222.

...

The method and system for adding third parties to an access control list is generally understood by those skilled in the art.

APPL-1009, [0185]-[0186].

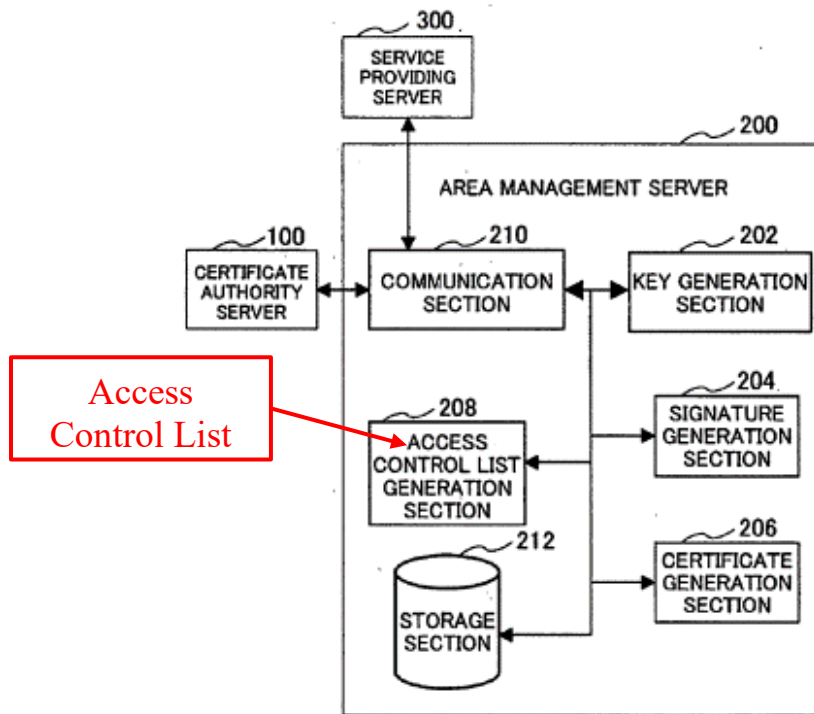
136. Third, Akashika teaches a teaches a secure service providing server and methods to securely access data, such as that used in financial transactions.

APPL-1007, [0005], [0010]. The secure server of Akashika includes an area management server 200 with an access control list generation section 208 shown in Fig. 3:

As shown in FIG. 3, the area management server 200 is mainly configured with a key generation section 202, a signature generation section 204, a certificate generation section 206, **an access control list generation section 208**, a communication section 210 and a storage section 212. The area management server 200 is connected to the certificate authority server 100 and the service providing server 300 via the communication section 210.

APPL-1007, [0058]. These features are shown in Fig. 3 of Akashika, which has been reproduced below for reference.

FIG.3



APPL-1007, Fig. 3 (annotated).

137. The access rights set by Akashika's access control list include access to the secure chip as well as "read permission, write permission, restriction on frequency of access permitted for the same area" and executing script data (such as ECMAScript or JavaScript) on the secure chip. APPL-1007, [0017], [0062], [0070]. The implementation of Akashika's ACL achieves the well-known benefits of preventing "unauthorized access to the secure chip 500 can be prevented." APPL-1007, [0117]; APPL-1009, [0185]-[0186].

138. Fourth, the benefits of implementing an access control list as taught by Akashika into Dill's money transfer facilitator 140 to assist in authenticating

users would have been obvious to a POSITA. In fact, a POSITA would have understood that the implementation of an access control list is merely an extension of the rules already defined by Dill's money transfer facilitator. *See e.g.*, APPL-1005, [0102]-[0105]; APPL-1007, [0017].

139. Based on the foregoing reasons, a POSITA would have found it obvious, desirable, and predictable to implement Akashika's access control list into Dill's money transfer facilitator 140.

140. Therefore, the combination of Dill and Akashika teaches "*a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL)*" as recited by the claim.

**[1.8] 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**

141. Dill teaches this limitation. For example, Dill teaches that its money transfer options module 145 implements rules ("a rules engine") and a mobile wallet application 121 ("mobile wallet application") that is associate with mobile wallets 125, 130 ("a mobile wallet account").

142. First, Dill teaches a rules engine. For example, Dill teaches that its money transfer facilitator 140 includes a transfer options module 145 which receives and implements rules:

In some cases, the transfer options module 145 can receive an indication of delivery options from a recipient 110 of the money

transfer transaction and select one or more delivery options based on the indication. For example, the money transfer options module 145 can receive the indication of delivery options from the recipient 110 via one of the interfaces 136-138. In other cases, the transfer options module 145 can additionally or alternatively select one or more delivery options based on one or more delivery rules 151. **For example, the one or more delivery rules 151 can include one or more rules defined by a recipient 110 of the money transfer transaction, one or more rules defined by a sender 105 of the money transfer transaction, and/or one or more rules defined by the money transfer facilitator.** In some cases, the notification of the transaction can include an indication of one or more delivery options. In such cases, the transfer options module 145 may define a delivery rule based on the indication of delivery options received from the recipient 110 and may select one or more delivery options for completing a subsequent money transfer transaction based on the defined delivery rule.

APPL-1005, [0102].

143. A POSITA would have understood that by receiving and implementing rules, Dill's transfer options module 145 comprises a "rules engine" as recited by the claim, as this is similar to the description of the '196 patent of the rules engine, which is "configured to enforce business constraints, such as, for example, transactions and platform license constraints." APPL-1001, 10:41-43.

144. Second, Dill's transfer options module 145 is "configured to enforce constraints on financial transactions performed with the mobile wallet application"

as recited by the claim. For example, the transfer options module 145 can receive and implement various types of delivery rules, including the examples below:

Further, in some cases, the recipient 110 may provide instructions for future transactions. That is, recipient defined rules can be defined by the recipient 110 via one of the interfaces 136-138 or through an agent and saved by the transfer options module 145 as a delivery rule 151 for future transfers of the same type, from the same sender, for all future transfers to the recipient, etc. As noted above and depending upon the exact implementation, the delivery rules 151 can additionally or alternatively include sender defined rules, i.e., rules defined by the sender and perhaps **defining restrictions or conditions of the delivery, and/or money transfer facilitator defined rules, e.g., rules defined by the money transfer facilitator based on various governmental and/or banking rules, service conditions, etc.** Any or all such delivery rules 151 related to a transfer can then be applied to future/subsequent transfer transactions and the recipient can be notified by the money transfer facilitator system, e.g., by email, U.S. mail, SMS, etc. Such notification options may be defined, for example as part of an applicable delivery rule.

APPL-1005, [0104].

145. Third, a POSITA would have understood that Dill's rules apply to financial transactions performed with the mobile wallet application 121 which is associated with a mobile wallet 125:

In this example, processing begins after the money transfer send process has been initiated by the mobile application 145 of the money transfer facilitator 140 as described in the examples above. At this point, the mobile application 145 of the **money transfer facilitator 140 can send 705 and 710 a response message to the sender 105**, either the agent 135 of the money transfer facilitator 140 or the **mobile wallet 125 of the sender 105**, indicating the MTCN and/or that the transaction is available for payout. Also, the mobile application 145 of the money transfer facilitator 140 can send 715 a message to the **mobile wallet application 121 of the recipient's 110 mobile network operator 120 indicating availability of the funds for transfer.**

APPL-1005, [0087].

146. Dill also teaches that the mobile application 145 of the money transfer facilitator 145 is configured to support transactions with mobile devices 125, 130:

The money transfer facilitator system 140 can also include or execute a mobile application 145. As will be seen, **the mobile application 145 of the money transfer facilitator can be adapted to support transaction involving one or more mobile devices.** Generally speaking, the mobile application 145 can be adapted to identify the entities and/or accounts associated with a transaction and/or determine a destination for a payment of the transaction. For example, the entities and/or accounts can be identified based on a set of mobile subscriber data 150 maintained in a database or other repository.

APPL-1005, [0050].

147. Since the mobile wallet application 121 is configured to support transactions with mobile devices including transferring money between mobile devices, a POSITA would have understood that Dill teaches “the mobile wallet application being associated with a mobile wallet account” as recited.

148. Thus, Dill teaches “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” as recited by the claim.

**[1.9] 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:**

149. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is implemented by a computer system 200 (“one or more computer-readable storage media”) that is configured to run code 288 (“computer-executable instructions”) to facilitate transactions with a mobile wallet 125, 130 (“customer using the mobile wallet”).

150. First, as discussed in [1.1] and [1.2], Dill’s financial system includes processors and memory devices. APPL-1005, Fig. 2, [0059]-[0064]. Dill’s financial system (including its money transfer facilitator system 140 discussed above) also includes computer-readable storage media and code stored within to run its programs:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates a **computer system 200 such as may be used, in whole, in part, or with various modifications, to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, the money transfer facilitator system 140, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

151. Dill's computer storage system 200 also includes a computer-reader storage media reader 250. APPL-1005, [0061]. Thus, a POSITA would have understood software stored and read from Dill's computer system 200 to carry out financial transactions to be "one or more computer-readable storage media having stored thereon computer-executable instructions which are executable by the one or more processors."

152. Second, Dill's computer system 200 implementing code as discussed above is configured to "facilitate a transaction for a customer using the mobile wallet." For example, Dill teaches that its computer system 200 is configured to carry out financial transactions:

**The computer system 200 may also comprise software elements, shown as being currently located within a working memory 280, including an operating system 284 and/or other code 288.** It should be appreciated that alternate embodiments of a computer system 200

may have numerous variations from that described above. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Furthermore, connection to other computing devices such as network input/output and data acquisition devices may also occur.

**Software of computer system 200 may include code 288 for implementing any or all of the function of the various elements of the architecture as described herein.** For example, software, stored on and/or executed by a computer system such as system 200, can provide the functions of the sending subscriber interface, the receiving subscriber interface, the agent server 125, the source transfer network 165, the primary transfer network 160, the destination transfer network 190, the communication network 115, and/or other components of the invention such as those discussed above.

As noted above, **embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction.**

APPL-1005, [0063]-[0065], *see also* Fig. 2.

153. Since these embodiments include transactions between mobile wallets, a POSITA would have understood that Dill's code "facilitate[s] a transaction for a customer using the mobile wallet." APPL-1005, [0053].

154. Thus, Dill's financial system (including its money transfer facilitator system 140) implementing financial transactions with mobile wallets 125, 130

teaches “*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*” as recited by the claim.

**[1.10A] receive communication from the customer over one of the plurality of channels connected to the computing system,**

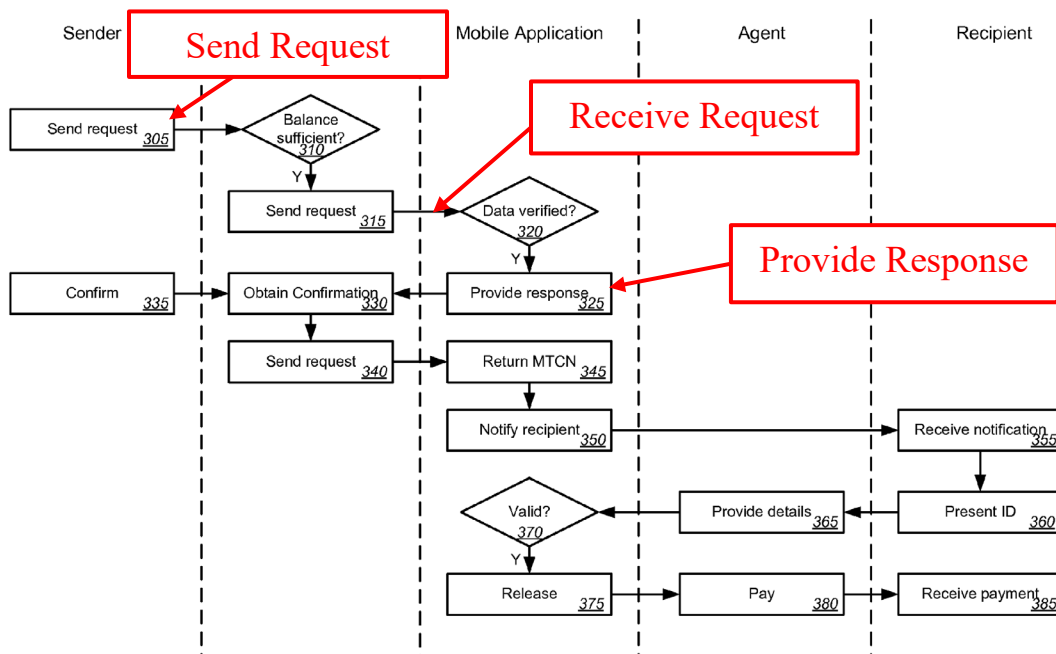
155. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests and other communications (“communication”) from a customer over various communication channels including interfaces 136-138 (“the plurality of channels connected to the computing system”).

156. Dill teaches that its financial system is configured to receive communications from customers over various communication channels requesting a purchase or payment:

The mobile application 145 of the money transfer facilitator 140, upon receiving the request, can perform a process to look up (e.g., a Mobile Station Integrated Service Digital Network (MSISDN), International Mobile Subscriber Identity (IMSI) and/or Temporary Mobile Subscriber Identity (TMSI)) for the sender 105 and/or recipient 110 and/or otherwise verify 320 the data provided by the mobile wallet application 121 in the request. **The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121.** If the data of the

request is verified by the mobile application 145 of the money transfer facilitator 140, the response may include information related to and/or describing fees, legal notices, etc. Alternatively or additionally, the look up can be performed by the mobile network operator 120.

APPL-1005, [0067].



APPL-1005, Fig. 3 (annotated).

157. As discussed in [1.3A], Dill teaches that transactions are conducted over interfaces 136-138 (which include all communications required for the transactions, such as those shown in Fig. 3). APPL-1005, [0101].

158. Thus, A POSITA would have understood that Dill's money transfer facilitator 140 receiving requests over the various interfaces 136-138 teaches

*“receiv[ing] communication from the customer over one of the plurality of channels connected to the computing system”* as recited by the claim.

**[1.10B] ... 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;**

159. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests (“customer communication indicating that the customer desires to purchase an item”) by an agent 135 (“agent terminal”) for a particular transaction (“for a specified amount of funds”) using payment from a mobile wallet 125, 130 (“mobile wallet”).

160. First, the ’196 patent discloses that an “[a]gent terminal 602 may be part of an agent network consisting of one or more agent terminals that communicate with cloud-based transaction platform 601” and gives examples of agent terminals such as “stores and other commercial establishments” and an “agent company.” APPL-1001, 11:55-60, 18:26-31. The ’196 patent also describes “agents” as “representatives of the mFS [mobile financial services] transaction system or ‘program’ ... and may include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.” APPL-1001, 6:53-60.

161. Dill similarly teaches that its financial transfer system facilitates transactions with and through an agent 135:

The system can also include an agent 135 in communication with the money transfer facilitator 140. The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which entities can access the services of the money transfer facilitator 140.

APPL-1005, [0051]. Since Dill's agent 135 can be a "retail outlet" and provides access to a financial network similarly to the 196 patent, a POSITA would understand Dill's agent 135 to be an "agent terminal" as claimed.

162. Second, Dill teaches that its money transfer facilitator 140 is configured to receive "customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds." As discussed in [1.4A], Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests. APPL-1005, [0069]. These requests from customers indicate desires for various types of transactions:

As noted above, embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction. **For example, one option can comprise a "mobile-to-cash" option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user to a recipient that can receive the payment in cash, for example from an agent of the money transfer facilitator.** Another option can comprise a "cash-to-mobile" option in which an entity pays for and initiates a transaction in

person, for example via an agent of the money transfer facilitator, and wherein the payment is delivered to an account associated with a mobile wallet of the recipient. Yet another option can comprise a “mobile-to-mobile” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user wherein the payment is delivered to an account associated with a mobile wallet of the recipient

APPL-1005, [0065].

163. Dill further explains that these transactions include requests for transactions for specific products at a retailer, as well the specific example of transactions over websites such as eBay:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer. For example, the sender and/or recipient can be a customer of a bank, a payment service (like PayPal), a local and/or long distance telephone service, a cable or satellite television service. In other examples, the sender and/or recipient may hold a loyalty card issued by a money transfer facilitator 140 (e.g., Western Union Gold Card holder who receives money is notified of transfer and can designate destination for receiving the transfer) or by a third party (e.g., receiver has loyalty number (represented by account number, telephone number, barcode, etc.)

issued by a retailer such as a grocery store and sender can use that loyalty number to send money to an account designated by the recipient for recipient's use in making purchases at retailer. In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

164. Since Dill's transaction services include receiving requests from retailers and/or from websites such as eBay that are directed toward specific products with specific prices, Dill teaches that its money transfer facilitator 140 is configured to receive "customer communication indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds."

165. Third, Dill teaches that the transaction requests received by its money transfer facilitator 140 include "using a specified payment method from a mobile wallet." As discussed in [1.0], the transfer facilitator 140 serves as a financial transfer system for mobile wallets 125, 130:

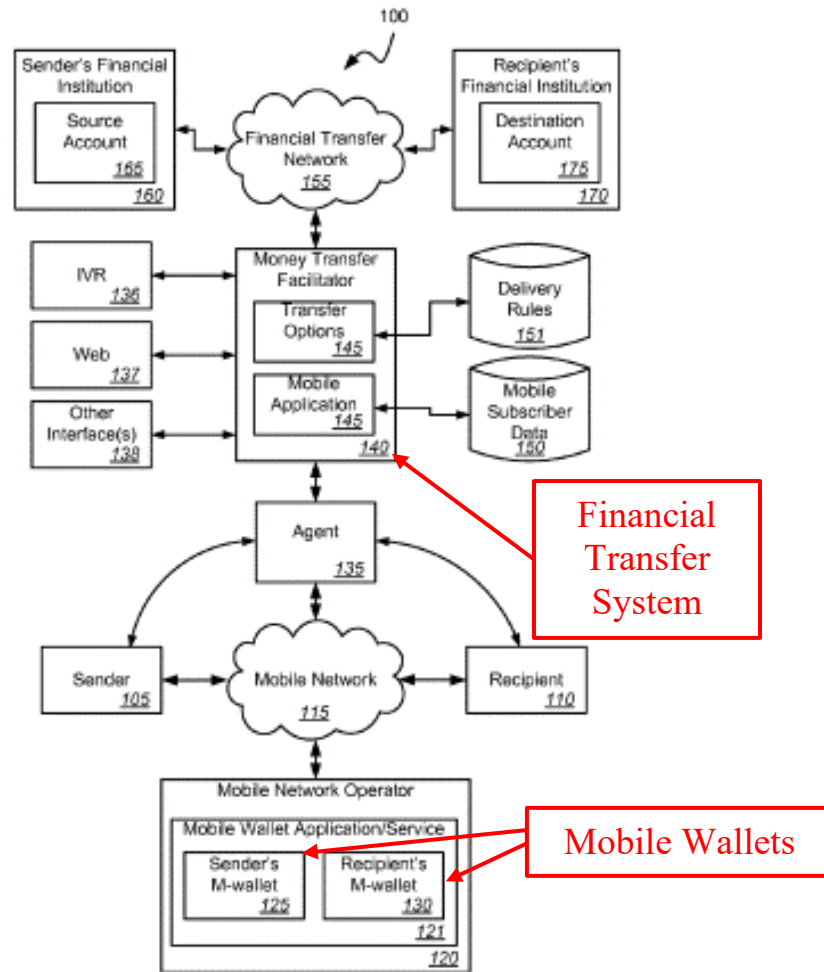


FIG. 9

APPL-1005, Fig. 9 (annotated).

166. Since Dill's transaction services include receiving requests and corresponding payment from mobile wallets 125, 130, Dill's transaction requests include "using a specified payment method from a mobile wallet."

167. Thus, Dill's money transfer facilitator 140 configured to receive transaction requests for particular items using payment from a mobile wallet 125, 130 teaches "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” as recited by the claim.*

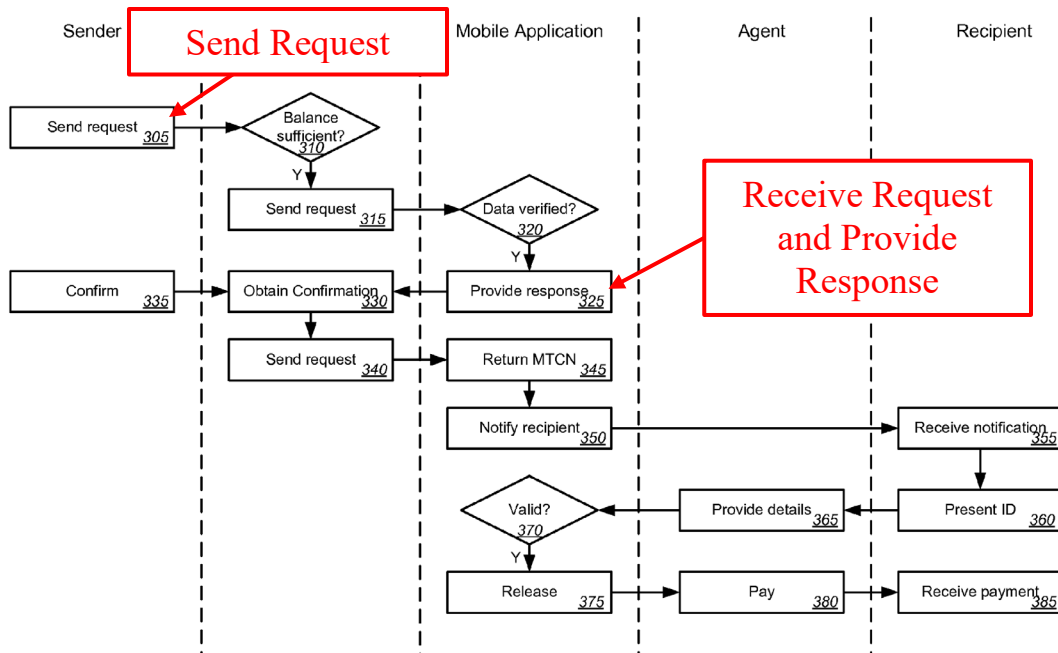
**[1.11] return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;**

168. The combination of Dill and Vadhri teach this limitation. In particular, it would have been obvious to include the temporary account code 103 of Vadhri in Dill’s transaction communications.

169. First, after receiving a transaction request, Dill’s money transfer facilitator 140 returns a response 325 to the sender:

The mobile application 145 of the money transfer facilitator 140, upon receiving the request, can perform a process to look up (e.g., a Mobile Station Integrated Service Digital Network (MSISDN), International Mobile Subscriber Identity (IMSI) and/or Temporary Mobile Subscriber Identity (TMSI)) for the sender 105 and/or recipient 110 and/or otherwise verify 320 the data provided by the mobile wallet application 121 in the request. **The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121.** If the data of the request is verified by the mobile application 145 of the money transfer facilitator 140, the response may include information related to and/or describing fees, legal notices, etc. Alternatively or additionally, the look up can be performed by the mobile network operator 120.

APPL-1005, [0067].



APPL-1005, Fig. 3 (annotated).

170. Along with additional “information related to and/or describing fees, legal notices, etc.” that may be included in the request, Dill states that a “transaction identifier” may be assigned to the mobile wallet application:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally, the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110.

APPL-1005, [0069].

171. Second, Vadhri teaches “return[ing] a secure, perishable purchase code to the customer” as recited by the claim. In particular, Vadhri teaches receiving a request including a temporary account code 103 that is securely sequenced and formed:

Alternatively or additionally, the requester 106 may be communicatively coupled to a radio receiver to receive from a remote machine or device, a wireless request for the **temporary account code 103**. In various example embodiments, the requester 106 is to forward requests for the temporary account code 103 to a generator of the temporary account code 103. For some example embodiments the generator of the temporary account code 103 includes a machine (not shown) communicatively coupled to the account access object via a network. Without departing from the claimed subject matter, the provider 108 located on the account access object 104 may alternatively or additionally generate and provide the temporary account code 103.

The provider 108 is to make the temporary account code 103 available for use to access a value holding account. As stated above, the provider 108 may generate the temporary account code 103. The provider 108 may include hardware and/or software logic configured to **securely generate and store random numbers (e.g., and/or characters) randomly sequenced to form the temporary account code 103**.

APPL-1006, [0022]-[0023].

172. Vadhri teaches that the temporary account code 103 (also labeled 203 in Fig. 2) is used to authorize the purchase of goods and/or services:

At block 408 of the flow 400, the method may include the user action of receiving notification of whether the account code (e.g., the temporary account code of FIG. 2) is considered to be valid or invalid. In some example embodiments, notification may be sent to a card reader and/or to the account access card itself via wired and/or wireless signals. In an example embodiment, a valid temporary card number or the persistent card number may be used to access what is of value within the value holding account 405. For some example embodiments, **this may include receiving authorization to purchase goods and/or services using the persistent card number/expiration date 202 or the temporary card number/expiration date 203 of the account access card 204.**

APPL-1006, [0046].

173. Vadhri explains that the temporary account code 103 has an expiration that is earlier relative to a persistent account code 102:

FIG. 2 is shown to include a card number portion 208 (an example embodiment of the provider 108 of FIG. 1) to provide via LCD and/or imprinting, a persistent card number/expiration date 202 and a temporary card number/expiration date 203 (examples of the account codes 102 and 103 respectively of FIG. 1). **Throughout this document, the word “persistent” when used in “persistent card number” means persistent relative to the temporary card number/expiration date 203. For example the temporary card number will always have an expiration date that is earlier than or equal to the persistent card number's expiration date.**

APPL-1006, [0027].

174. A POSITA would have understood Vadhri's temporary account code 103 to be a "secure, perishable purchase code" as recited because it is securely generated account code that is used to purchase items and has a specified expiration.

175. Third, a POSITA would have been motivated include Vadhri's temporary account code 103 as Dill's transaction identifier for additional security by limiting the amount of time that the code is available.

By using the example temporary card number, a user may control the amount of time an account number is at risk of fraud due to being exposed on the internet and/or to merchants or any other person or machine. For example, a user's credit card number may be at risk for a number of years when it is used to make a purchase via the internet, while for the same purchase, a user's temporary card number would be at risk for a number of hours.

APPL-1006, [0015]. Thus, it would have been obvious to include the secure temporary code of Vadhri with the mobile application 145 of Dill.

176. Fourth, a POSITA would have understood that the secure, perishable purchase code of Vadhri would be "return[ed] ... to the customer over at least one of the plurality of channels connected to the computing system" as taught by Dill. As discussed in [1.3A], Dill teaches that transactions are conducted over interfaces 136-138 (which include all communications required for the transactions,

including notifications returned to the mobile devices 125, 130). APPL-1005, [0101].

177. Therefore, the inclusion of Vadhi's temporary account code 103 in Dill's transaction communications teaches a step to "*return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system*" as recited by the claim.

**[1.12A] receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system,**

178. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive communications from an agent 135 ("agent terminal") over its communication channels ("at least one of the plurality of channels connected to the computing system").

179. First, Dill teaches an agent 135 ("agent terminal") that is in communication with its money transfer facilitator 140.

The system can also include an agent 135 in communication with the money transfer facilitator 140. The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which entities can access the services of the money transfer facilitator 140. It should also be noted that, while not illustrated here for the sake of simplicity and clarity, the agent 135 and/or money transfer facilitator 140 can also provide other channels for accessing the services of the money transfer facilitator 140.

APPL-1005, [0051]. A POSITA would have recognized the agent 135 as an “agent terminal” as claimed because it can include systems associated with the agent. *Id.*

180. Second, Dill teaches receiving communication with the money transfer facilitator 140 from agent 135, and in particular, that the communication includes information or routing details for a transaction:

The recipient 110, after receiving 355 the notification, can present 360 an identification, the MSISDN, the MTCN, answer to a test question and/or other information to an agent 135 of the money transfer facilitator, e.g., at a retail outlet of the money transfer facilitator 140. **The agent 135 of the money transfer facilitator 140 can in turn submit 365 this information and/or routing details for the transfer to the mobile application 145 of the money transfer facilitator 140.**

The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

181. Third, Dill teaches that the communications from the agent 135, as well as all transaction communications, are routed over communication channels in its financial transfer system:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, **the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer.**

APPL-1005, [0090].

182. For the particular communications received by the money transfer facilitator 140 from the agent 135, Fig. 9 shows exemplary communication channels which could be used, as indicated below (APPL-1005, [0032], [0052]).

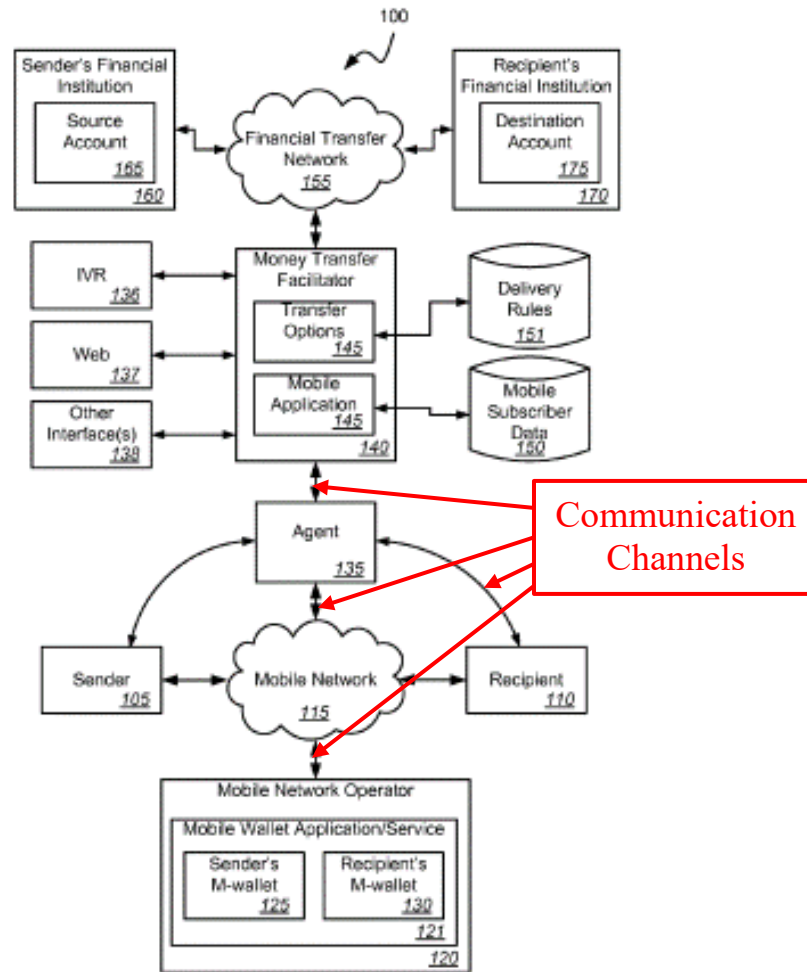


FIG. 9

APPL-1005, Fig. 9 (annotated).

183. Thus, Dill's financial transfer system teaches a step to "receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system" as recited by the claim.

**[1.12B] ... the agent terminal communication indicating that the purchase code has been presented to an agent;**

184. The combination of Dill and Vadhri teaches this limitation. In particular, it would have been obvious to include Vadhri's steps to verify its secure

temporary account code 103 (“indicating that the purchase code has been presented”) in Dill’s transaction communications relating to agent 135 (“an agent”).

185. First, as discussed in [1.12A], Dill teaches that the agent 135 sends and receives information including transaction and/or routing details. It would also have been obvious to include Vadhri’s secure temporary account code 103 along with the transaction and/or routing details of Dill’s payment system communications (including to the agent 135) for additional security by limiting the amount of time that the code is available (and associated time that the transaction information could be compromised). APPL-1006, [0015], [0027].

186. Second, Vadhri teaches a step to determine the validity of the account code after presentation and notify the user accordingly:

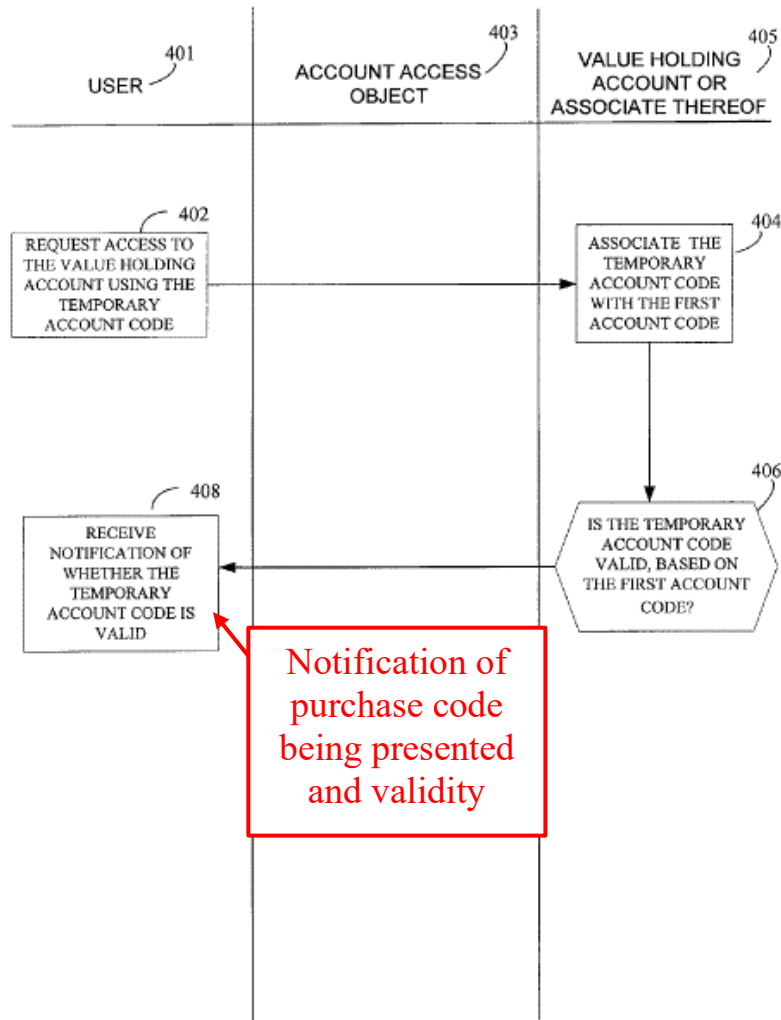


FIG. 4

APPL-1006, Fig. 4 (annotated).

At block 408 of the flow 400, **the method may include the user action of receiving notification of whether the account code** (e.g., the temporary account code of FIG. 2) is **considered to be valid or invalid**. In some example embodiments, notification may be sent to a card reader and/or to the account access card itself via wired and/or wireless signals. In an example embodiment, a valid temporary card number or the persistent card number may be used to access what is of value within

the value holding account 405. For some example embodiments, this may include receiving authorization to purchase goods and/or services using the persistent card number/expiration date 202 or the temporary card number/expiration date 203 of the account access card 204.

APPL-1006, [0046].

187. It would have been obvious to include Vadhri's step to verify its purchase code and provide notification accordingly with Dill's transaction details sent out by the agent 135, as this would improve the security of Dill's transactions by limiting the time the transaction details could be compromised (APPL-1006, [0015]) as well as verifying that the purchase code itself had been provided (APPL-1006, [0046]-[0048]). As discussed in [1.10B], Dill's agent 135 similarly "provides a channel by which entities can access the services" of its financial system. APPL-1005, [0051]. This is consistent with how the '196 patent defines an agent as a representative of a financial system. APPL-1001, 6:53-54. Thus, a POSITA would have understood that transactions details include Vadhri's temporary purchase code would be presented to Dill's agent 135, therefore "indicating that the purchase code has been presented to an agent" as recited.

188. As discussed above, these notifications are sent "via wired and/or wireless signals" which a POSITA would have understood to be "the plurality of channels" recited by the claim and taught by Dill, as discussed above. APPL-1005, [0090].

189. Thus, the combination of Vadhri's temporary account code 103 and step to verify the code with Dill's financial transfer system teaches "*the agent terminal communication indicating that the purchase code has been presented to an agent*" as recited by the claim.

**[1.13] debit the mobile wallet by the specified amount of funds;**

190. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to debit a mobile wallet 125, 130 for a specific transaction ("debit the mobile wallet by the specified amount of funds"). As discussed in the Claim Construction section, a POSITA would have understood this limitation to mean to "transfer the specified amount of funds from the stored value on a mobile device."

191. Dill's financial system facilitates transactions between sender and recipient accounts, which include stored value accounts as discussed in the '196 patent. These transactions may be assigned a unique transaction identifier:

**As noted above, a transaction identifier can be assigned or chosen for a transfer transaction.** For example, the unique identifier for the receiver can be one or any combination of a mobile phone number, an email address, an instant messaging identification, a customer number, **account information (e.g., stored value account identifier,** bank account number and/or ABA routing number), tax number (e.g., Social Security Number or Taxpayer Identification Number), drivers' license number, state ID number, student ID number or other unique identifier.

A customer number can be a preferred customer number or any other unique customer identifier issued by a money transfer facilitator, an agent of money transfer facilitator, a mobile network operator, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party.

**This identifier can be used to identifier the sender 105, the recipient 110, or both** and can be used by the transfer options module 145 to determine delivery of the transfer, e.g., used by the to select a delivery rule 151, if any.

APPL-1005, [0105].

192. Among the examples of sender and recipient accounts, Dill specifically teaches transactions between a sender's mobile wallet and a recipient's mobile wallet:

Such a system allows a money transfer facilitator, using a unique customer identifier and internal and/or external mapping databases, to provide **a structured settlement between unrelated entities such as the sending mobile wallet and receiving mobile wallet**, or between the sending cash retail location and receiving mobile wallet. It need not be a closed-loop system that allows mobile remittances only for consumers who are enrolled in the same mobile wallet system but rather allows entities that are unrelated to allow their enrolled consumers to send a mobile money transaction to a consumer either enrolled under another entity or not enrolled in which case they are able to enroll in a mobile wallet service, pick up cash at a retail location of the money

transfer facilitator or other cash retail outlet or designate a destination for receipt of the money transfer.

APPL-1005, [0038].

193. Dill provides further examples of these transfers in Fig. 9, showing the sender and recipient mobile wallets:

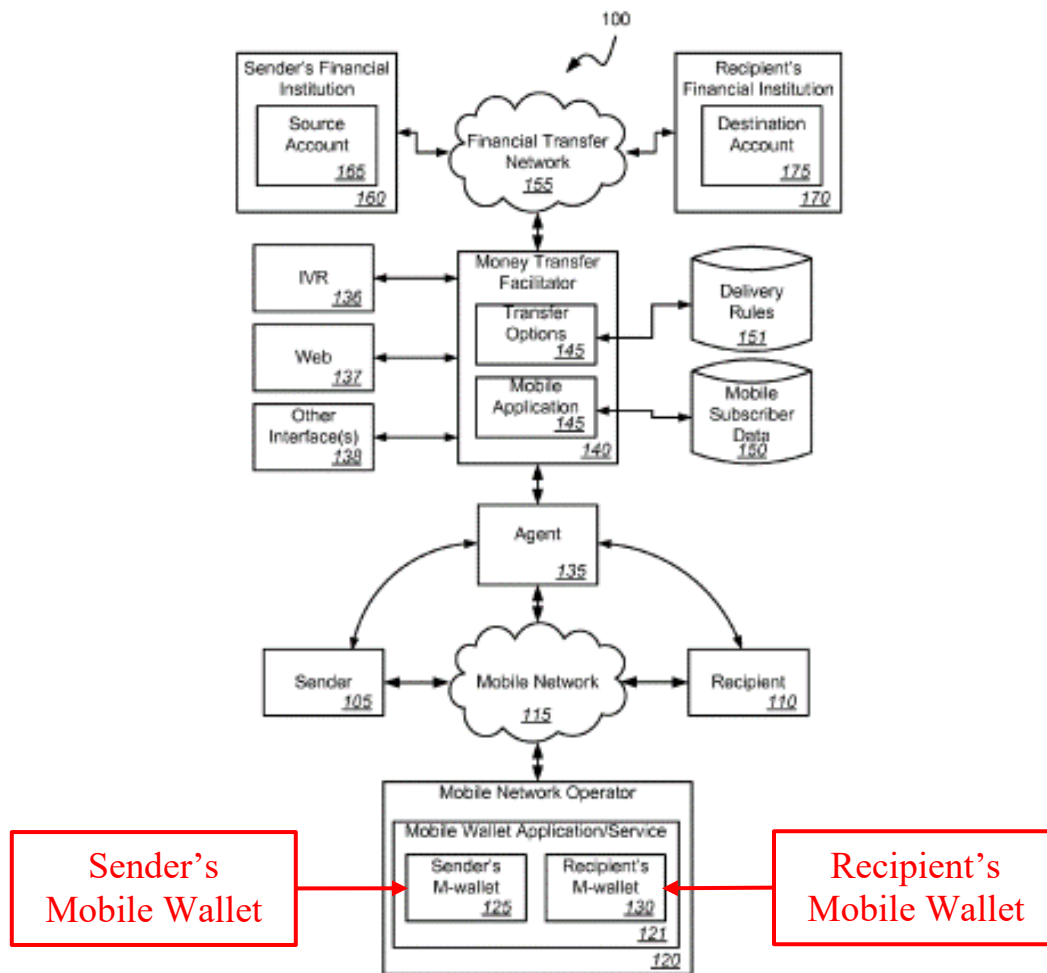


**FIG. 9**

APPL-1005, Fig. 9 (annotated).

194. Dill also teaches that specified payments are requested and carried out in transactions between the mobile wallets of the sender and recipient:

The mobile network operator system 120 can include and/or execute a mobile wallet application 120 or service. Generally speaking, the mobile wallet application 121 maintains **mobile wallets 125 and 130 for one or more subscribers, such as the sender 105 and/or recipient 110 to the mobile wallet service 121.** The mobile wallets 125 and 130 can each comprise information related to the device and accounts of the entity for which the mobile wallet is maintained. For example, the sender's mobile wallet 125 can maintain information identifying the sender's 105 mobile device, one or more accounts 165 associated with the mobile wallet, and other possible identifying information. Similarly, the recipient's mobile wallet 130 can maintain information identifying the recipient's 110 mobile device, one or more accounts 175 associated with the mobile wallet, and other possible identifying information. According to one embodiment, the money transfer facilitator 140 can receive a request to initiate the money transfer transaction, for example **a payment from the sender 105 to the recipient 110.**

...

Once the destination for transferring funds for the money transfer transaction to the recipient 110 has been determined, **the funds can be transferred to the determined destination** and the recipient 110 can be notified of availability of funds at the determined destination.

...

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 150, to provide **a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130**, or between the sending cash retail location and receiving mobile wallet 130.

APPL-1005, [0053]-[0057].

195. Thus, based on Dill's teachings that a sender mobile wallet sends a specified payment to a recipient, and that the mobile wallet accounts can be the same type of stored value accounts referred to by the '196 patent, a POSITA would have understood that Dill teaches a step to "*debit the mobile wallet by the specified amount of funds*" as recited by the claim.

**[1.14] credit an agent account by the specified amount of funds; and**

196. Dill teaches this limitation. For example, Dill teaches routing a specified amount of money ("credit by the specified amount of funds") to an agent 135 ("an agent account").

197. Dill teaches many different ways that a transaction can be carried out by its financial transfer system. One of these is by a sender initiating a money transfer through an agent 135:

FIG. 3 describes the process beginning with a sender 105 initiating a money transfer by sending a request to a mobile wallet application 121 of the sender's mobile network operator 120, it should be appreciated

that a sender 105 can begin the process by initiating a money transfer through a money transfer facilitator 140 (or its agent 135), which then queries a mobile network operator 120 whether sufficient funds are available in the account 160 associated with the mobile wallet 125 of the sender.

APPL-1005, [0066].

198. Dill further describes that money for the transfer can be routed directly through the agent 135:

The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

199. By making these specified funds (with associated specified amounts of money) available through the agent 135, a POSITA would understand that Dill teaches “credit[ing] an agent account by the specified amount of funds.”

200. Thus, Dill’s financial transfer system teaches a step to “*credit an agent account by the specified amount of funds*” as recited by the claim.

**[1.15] 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.**

201. Dill teaches this limitation. For example, Dill teaches selecting a communication channel (“a particular channel”), sending a transfer notification (“notification communication”) from the money transfer facilitator 140 (“computing system”) to the agent 135 (“agent terminal”) indicating that the transaction has been processed (“notification indicating confirmation of the processing of the transaction”).

202. First, Dill teaches that is payment system is configured to “select a particular channel included in the plurality of channels.” For example, as discussed in [1.3A] and [1.14], Dill’s payment system is configured to send messages over a number of communication interfaces 136-138 and in particular, to an agent terminal. APPL-1005, [0070], [0090], [0101]. Dill teaches that any of these channels (i.e., “a particular channel included in the plurality of channels”) can be selected to send notification between parties. Dill also provides a specific example of a sender 105 initiating a transaction with a recipient using a particular communication channel, such as a web site.

It should also be noted that, while not illustrated here for the sake of simplicity and clarity, the agent 135 and/or money transfer facilitator 140 can also provide other channels for accessing the services of the money transfer facilitator 140. For example, such channels can include but are not limited to a web site, a telephone service, a kiosk, an ATM or other channels. Generally speaking and as understood by one skilled in the art, via one or more such channels, **a sender 105 can initiate a**

**transaction to transfer money to a recipient 110. For example, a sender 105 can access the services of the money transfer facilitator 140 via a web site of the money transfer facilitator 140 and initiate a money transfer from a source account 165 owned by the sender 105.** The recipient 110 of the payment may then, for example, pick up the payment from the agent's 135 retail location.

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, **the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.**

APPL-1005, [0051]-[0052].

203. A POSITA would have understood Dill's example of selecting a web site (or other communication sources) as teaching "selecting a particular channel included in the plurality of channels" as recited by the claim.

204. Second, Dill teaches that after a channel is selected, its payment system "send[s] a notification communication from the computing system to the agent terminal using the particular channel." As discussed above, Dill teaches that

many different types of communication channels can be used to complete a transaction, and that communication is directed to an agent over these channels.

Once the destination for transferring funds for the money transfer transaction to the recipient has been determined, the funds can be transferred to the determined destination and the recipient can be notified of availability of funds at the determined destination. **Notification can be sent by a money transfer facilitator to the recipient and/or to any party associated with the designated destination (e.g., to a mobile network operator, a retailer, a bank, a service provider** (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0037].

**The system can also include an agent 135 in communication with the money transfer facilitator 140.** The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which entities can access the services of the money transfer facilitator 140.

APPL-1005, [0051].

205. Dill further teaches that after selecting a communication type and channel, information is sent from the recipient to the agent:

The recipient 110, **after receiving 355 the notification, can present 360 an identification, the MSISDN, the MTCN, answer to a test question and/or other information to an agent 135** of the money

transfer facilitator, e.g., at a retail outlet of the money transfer facilitator 140. The agent 135 of the money transfer facilitator 140 can in turn submit 365 this information and/or routing details for the transfer to the mobile application 145 of the money transfer facilitator 140. The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

206. Since Dill teaches that these notifications can be sent to any party associated with the transaction including the agent, a POSITA would have understood that Dill teaches after selecting a particular communication channel, “send[ing] a notification communication from the computing system to the agent terminal using the particular channel” as recited by the claim.

207. Third, Dill teaches that the selected channel is “connected to the computing system.” As discussed above, Dill’s communication channels are connected to Dill’s money transfer facilitator 145 which includes computer system 200 (and are therefore “connected to the computing system” as recited). APPL-1005, [0059].

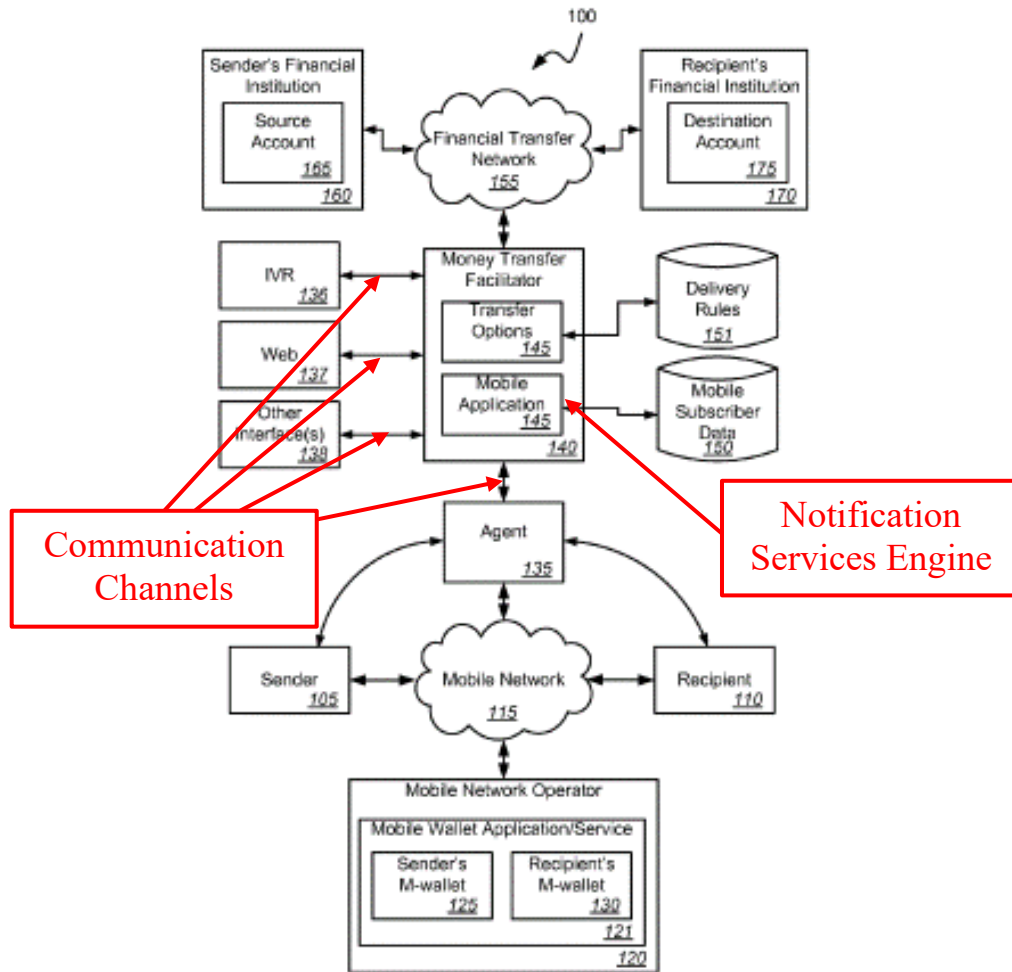


FIG. 9

APPL-1005, Fig. 9 (annotated).

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates **a computer system 200 such as may be used**, in whole, in part, or with various modifications, **to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator system 140**, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

208. Thus, Dill teaches “sending a notification communication from the computing system to the agent terminal using the particular channel, which is connected to the computing system” as recited by the claim.

209. Fourth, Dill teaches that “the notification communication provid[es] a notification indicating confirmation of the processing of the transaction.” As discussed above in this claim element, Dill teaches sending a notification from the computing system to the agent terminal. This notification provides confirmation of the processing of the transaction:

A response can be sent 836 to the mobile wallet application 121 from the application 145 of the money transfer facilitator 140. **The response can indicate completion of the money transfer transaction.** The mobile wallet application 121 can receive 838 the response message from the application 145 of the money transfer facilitator 140. A balance maintained by the mobile wallet application 121 for the recipient's mobile wallet 130 can be updated 840 based on the response indicating completion of the money transfer transaction. In some cases, a notification can be provided 842 and 844 to a user of the mobile wallet application. For example, the notification can indicate the updated balance of the recipient's mobile wallet 130.

APPL-1005, [0098].

210. As discussed above, Dill teaches that its notifications can also be sent to all parties of a transaction, including the agent terminal.

Once the destination for transferring funds for the money transfer transaction to the recipient has been determined, the funds can be transferred to the determined destination and the recipient can be notified of availability of funds at the determined destination. **Notification can be sent by a money transfer facilitator to the recipient and/or to any party associated with the designated destination** (e.g., to a mobile network operator, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0037].

211. Therefore, a POSITA would understand that Dill teaches “the notification communication providing a notification indicating confirmation of the processing of the transaction” as recited by the claim.

212. Thus, Dill teaches “*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*” as recited by the claim.

## **F. Claim 2**

**[2.0] 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.**

213. Dill teaches this limitation. For example, Dill's money transfer facilitator 140 ("computing system") facilitates communications between mobile wallets including a customer ("notifies the customer") indicating that the transaction has been processed ("confirmation of the processing of the transaction") over its communication channels ("communication channels connected to the computing system").

214. First, as discussed in [1.4A], Dill's money transfer facilitator 140 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9.

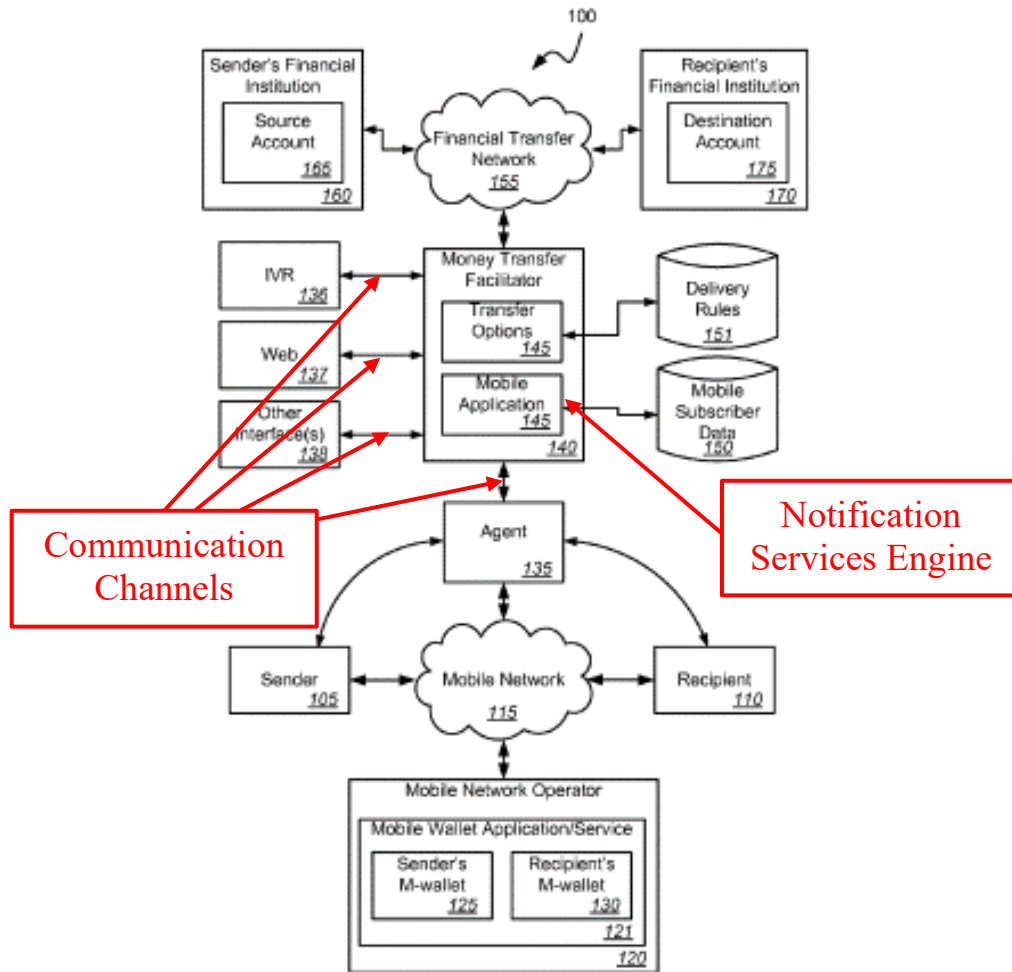


FIG. 9

APPL-1005, Fig. 9 (annotated).

215. Dill states that this includes a message indicating success or failure of the transfer:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can perform a money transfer release process 570. The process 570 can perform a transfer of the funds to the identified account 175 of the recipient 110 and send a message to the mobile wallet application 121 of the recipient 110 indicating success

**or failure of the transfer.** The mobile wallet application 121 of the recipient 110 can in turn update 575 a balance of the account, assuming a successful transfer, and notify 580 and 585 the recipient 110 of the transfer.

APPL-1005, [0082].

216. Dill also teaches that these messages include a notification indicating completion of the transaction sent to the mobile wallet application 121:

**A response can be sent 836 to the mobile wallet application 121 from the application 145 of the money transfer facilitator 140. The response can indicate completion of the money transfer transaction.** The mobile wallet application 121 can receive 838 the response message from the application 145 of the money transfer facilitator 140. A balance maintained by the mobile wallet application 121 for the recipient's mobile wallet 130 can be updated 840 based on the response indicating completion of the money transfer transaction. In some cases, a notification can be provided 842 and 844 to a user of the mobile wallet application. For example, the notification can indicate the updated balance of the recipient's mobile wallet 130.

APPL-1005, [0098].

217. Since the mobile wallet application is accessed by the customer of the mobile device 125, a POSITA would understand that Dill teaches “the computing system notifies the customer of confirmation of the processing of the transaction using the mobile wallet” as recited.

218. Second, as discussed in [1.15], Dill teaches that all communications, including the notification described above are sent over communication lines in Dill's financial transfers system:

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, **the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.**

APPL-1005, [0052].

219. A POSITA would include the broad teachings of Dill that communications can be sent over various channels to teach that the notification of completion is sent “over at least one of the plurality of communication channels connected to the computing system” as recited.

220. Thus, Dill teaches “*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*” as recited by the claim.

### G. Claim 3

**[3.0] The computing system of claim 1, wherein the mobile wallet is a native mobile wallet.**

221. Dill teaches this limitation. For example, Dill teaches that financial transaction system provides for a mobile wallet in its own network (“wherein the mobile wallet is a native mobile wallet”).

222. The ’196 patent explains that there are two types of mobile wallets – “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.” APPL-1001, 7:14-20. Dill teaches that its financial transaction system can interact with both of these types of mobile wallets (i.e., enrolled or not enrolled in its mobile wallet service):

Additionally or alternatively, in response to determining the recipient is not enrolled in the mobile wallet service of the mobile network operator, **a message can be sent to the recipient inviting the recipient to enroll in the mobile wallet service. If the recipient enrolls in the mobile wallet service of the mobile network operator,** the destination for transferring funds for the money transfer transaction to the recipient can comprise **an account associated with the mobile wallet service.** If the mobile network operator for the recipient does not have a relationship with the money transfer facilitator, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination.

APPL-1005, [0036].

223. A POSITA would have recognized these accounts enrolled by the mobile wallet service of the mobile network operator to be “a native mobile wallet” as claimed. In other words, Dill teaches that its financial transfer system is designed to work with mobile wallets provided by the system, and even enroll new mobile wallets for those that do not have one in the system. Dill’s disclosure is consistent with how the ’196 patent describes mobile wallets.

224. Thus, Dill teaches “*wherein the mobile wallet is a native mobile wallet*” as recited by the claim.

#### **H. Claim 4**

**[4.0] The computing system of claim 1, wherein the mobile wallet is a third party mobile wallet.**

225. Dill teaches this limitation. For example, Dill teaches that financial transaction system includes transactions with mobile wallets outside its network (“wherein the mobile wallet is a third party mobile wallet”).

226. As discussed in [3.0], Dill teaches facilitating transactions with third-party mobile wallets or wallets within the system:

**If the recipient is not enrolled in the mobile wallet service of the mobile network operator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination. Additionally or alternatively, in response to determining the recipient

is not enrolled in the mobile wallet service of the mobile network operator, a message can be sent to the recipient inviting the recipient to enroll in the mobile wallet service. If the recipient enrolls in the mobile wallet service of the mobile network operator, the destination for transferring funds for the money transfer transaction to the recipient can comprise an account associated with the mobile wallet service. **If the mobile network operator for the recipient does not have a relationship with the money transfer facilitator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination.

APPL-1005, [0036].

227. Additionally, Dill provides for transactions between “unrelated entities” such as two different mobile wallets 125, 130:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 150, to provide **a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130**, or between the sending cash retail location and receiving mobile wallet 130.

APPL-1005, [0057]. Therefore, Dill teaches that its financial transfer system is designed to work with mobile wallets outside its system.

228. Thus, Dill teaches “*wherein the mobile wallet is a third party mobile wallet*” as recited by the claim.

## I. Claim 5

**[5.0] The computing system of claim 4, wherein the third party mobile wallet is provided by a third party mobile wallet provider.**

229. Dill teaches this limitation. For example, Dill teaches a financial transaction system is configured to communicate with mobile wallets outside its network, and in particular, those provided for by a third party mobile wallet provider (“wherein the third party mobile wallet is provided by a third party mobile wallet provider”).

230. As discussed in [4.0], Dill teaches that its financial transaction system can interact with third-party mobile wallets. These include mobile wallets provided for by a third party mobile network operator:

Determining the destination for transferring funds to the recipient can comprise determining a mobile network operator for the recipient and **determining whether the mobile network operator for the recipient has a relationship with a money transfer facilitator supporting the money transfer transaction. If the recipient is not enrolled in the mobile wallet service of the mobile network operator,** the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or **other designated destination**. Additionally or alternatively, in response to determining the recipient is not enrolled in the mobile wallet service of the mobile network operator, a message can be sent to the recipient inviting the recipient to enroll in the mobile wallet service. If the recipient enrolls in the mobile wallet service of the mobile network

operator, the destination for transferring funds for the money transfer transaction to the recipient can comprise an account associated with the mobile wallet service. **If the mobile network operator for the recipient does not have a relationship with the money transfer facilitator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination.

APPL-1005, [0036].

231. Dill provides further broad language that the entities and service providers are “appropriate to that recipient”:

In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

232. Therefore, A POSITA would have understood that the third party mobile network operator supporting a third party mobile wallet is a “third party mobile wallet provider” as recited because it supports the associated third party mobile wallets.

233. Thus, Dill teaches “wherein the third party mobile wallet is provided by a third party mobile wallet provider” as recited by the claim.

**J. Claim 6**

**[6.0] The computing system of claim 5, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.**

234. Dill teaches this limitation. For example, Dill’s financial transaction system is designed to work with third party systems and their providers, and these may include point of sale (POS) devices.

235. As discussed in [5.0], Dill’s financial transfer system supports transactions with third party mobile wallets and their providers. APPL-1005, [0036]. Dill’s financial transaction system is designed to work with many different types of devices, including Point-Of-Sale (POS) devices:

The use of mobile devices in various types of transactions is also becoming more common. For example, various forms of wireless or mobile device such as cell phone, Personal Digital Assistants (PDAs), etc. can be used to initiate a contactless communication with a Point-Of-Sale (POS) device and pay for goods and services purchased by the user of the device. These devices can also be used to provide other functions with regard to financial accounts to which they may be linked or related. However, money transfer services and systems have not yet been adapted to take advantage of the flexibility and functionality that the use of such mobile devices can provide. Hence, there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.

APPL-1005, [0004].

236. A POSITA would understand that Dill’s broad language including transactions with POS devices and service providers “appropriate to that recipient” (APPL-1005, [0090]) includes third party mobile providers with their own POS processing systems. Additionally, Dill gives the example of its sender and/or recipient (which may be mobile wallets 125, 130) being registered with an “action site” like eBay:

In yet other examples the **sender and/or recipient can be registered with an action site like eBay**. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

237. A POSITA would have understood that the third party services and “action site[s]” referred to by Dill would include POS processing systems to receive payments for goods and services (such as other third parties providing payment services). APPL-1005, [0033]. Thus, a POSITA would understand eBay to be a “third party mobile wallet provider [with] their own point of sale (POS) processing system,” and therefore, Dill teaches this limitation.

238. Thus, Dill teaches “*wherein each third party mobile wallet provider has their own point of sale (POS) processing system*” as recited by the claim.

**K. Claim 7**

**[7.0] 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.**

239. Dill teaches this limitation. For example, Dill’s financial transaction system is configured to receive a transfer request from a customer through a mobile wallet application of a mobile device (“initiated by the customer through the mobile wallet application installed on a device of the customer”).

240. Dill teaches many different examples of initiating a transfer request, and is not limited to any particular device:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. **Rather, the sender, the recipient, or both can use any of a variety of channels to initiate a transfer**, receive notification of the transfer, and/or direct funds in the transfer.

APPL-1005, [0090].

241. Dill gives the particular example of receiving a transfer request from a customer through a mobile wallet application of a mobile device:

Stated another way, a method of supporting a money transfer transaction can comprise receiving a request to initiate the money

transfer transaction. Receiving the request to initiate the money transfer transaction can comprise receiving the request from a mobile wallet application of a mobile device, from a web site of a money transfer facilitator, from a retail agent location of a money transfer facilitator, from a telephone money transfer service of a money transfer facilitator, from a kiosk, from an ATM or from another channel.

APPL-1005, [0035].

242. Since the request is received from a “mobile wallet application of a mobile device,” a POSITA would have understood that Dill teaches that the mobile wallet would be “installed” on the device.

243. Thus, Dill teaches “*wherein the customer communication is initiated by the customer through the mobile wallet application installed on a device of the customer*” as recited by the claim.

#### **L. Claim 8**

**[8.0] A computer-implemented method of facilitating management of a mobile wallet,**

244. To the extent that the preamble is found to be limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a money transfer facilitator 140 that carries out methods (“computer-implemented method”) of managing mobile wallets 125, 130 (“facilitating management of a mobile wallet”).

245. Dill describes methods for financial transfers for a mobile wallet application:

**Methods**, systems, and machine-readable media are disclosed **for financial transfers** utilizing a unique identifier to facilitate flexible payment options for the transaction. According to one embodiment, a method for supporting a money transfer transaction can comprise receiving a Personal Identification Number (PIN) and a transaction identifier for a previously initiated **money transfer transaction at a mobile wallet application**. The PIN can be verified with the mobile wallet application and, in response to verifying the PIN, the transaction identifier can be sent to an application of a money transfer facilitator supporting the money transfer transaction.

APPL-1005, [0005].

246. These methods are carried out through the system shown in Fig. 9 which has been reproduced below:

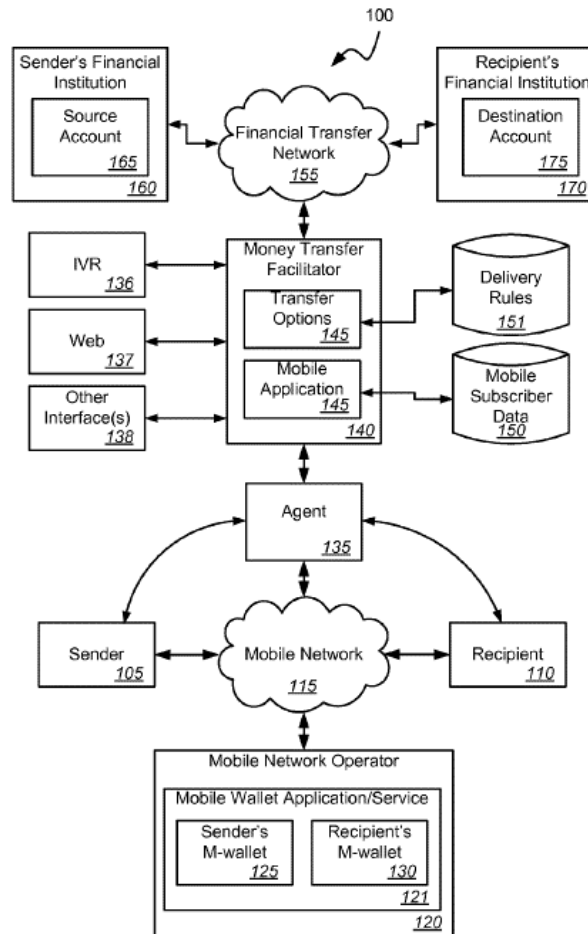


FIG. 9

APPL-1005, Fig. 9.

247. As discussed in [1.0], Dill teaches that a computer system 200 provides the functions of its transfer facilitator system 140:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. **This example illustrates a computer system 200** such as may be used, in whole, in part, or with various modifications, **to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator**

system 140, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

248. Thus, a POSITA would have understood that Dill's money transfer facilitator system 140, carryout out transactions for mobile wallets 125, 130 through computer system 200 teaches “[a] *computer-implemented method of facilitating management of a mobile wallet*” as recited by the claim.

**[8.1] 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:**

249. Dill discloses this limitation. For example, Dill teaches that its financial transfer methods are carried out by a money transfer facilitator 140 using a computer system 200 with CPUs 210 (“hardware processors”) running code (“computer executable instructions”).

250. First, as discussed in [1.0], Dill's methods are performed by a computer system 200. APPL-1005, [0059]. This computer system includes CPUs 210:

The computer system 200 is shown comprising hardware elements that may be electrically coupled via a bus 290. The hardware elements may include one or more central processing units 210, one or more input devices 220 (e.g., a mouse, a keyboard, etc.), and one or more output devices 230 (e.g., a display device, a printer, etc.). The computer

system 200 may also include one or more storage device 240. By way of example, storage device(s) 240 may be disk drives, optical storage devices, solid-state storage device such as a random access memory (“RAM”) and/or a read-only memory (“ROM”), which can be programmable, flash-updateable and/or the like.

APPL-1005, [0060].

251. Second, as discussed in [1.1], Dill’s methods are performed by processors running code:

Furthermore, embodiments may be implemented by hardware, Software, firmware, middleware, microcode, hard ware description languages, or any combination thereof. When implemented in software, firmware, middleware or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine readable medium. **A processor(s) may perform the necessary tasks.**

APPL-1005, [0031].

252. A POSITA would have understood software code to be “executable instructions.” Thus, Dill teaches financial transfer methods that are carried out by a money transfer facilitator 140 using a computer system 200 with CPUs 210 running code and accordingly “*the computer-implemented method being performed by one or more hardware processors executing computer executable instructions for the computer-implemented method*” as recited by the claim.

**[8.2A] a computer system receiving communication from a customer over one of a plurality of channels connected to the computer system,**

253. *See* Section VII.E (Limitation [1.10A]).

**[8.2B] ... 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;**

254. *See* Section VII.E (Limitation [1.10B]).

**[8.3] returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computer system;**

255. *See* Section VII.E (Limitation [1.11]).

**[8.4A] receiving communication from the agent terminal over at least one of the plurality of channels connected to the computer system,**

256. *See* Section VII.E (Limitation [1.12A]).

**[8.4B] the agent terminal communication indicating that the purchase code has been presented to an agent;**

257. *See* Section VII.E (Limitation [1.12B]).

**[8.5] debiting the mobile wallet by the specified amount of funds;**

258. *See* Section VII.E (Limitation [1.13]).

**[8.6] crediting an agent account by the specified amount of funds; and**

259. *See* Section VII.E (Limitation [1.14]).

**[8.7] after selecting a particular channel included in the plurality of channels, sending a notification communication from the computer system to the agent terminal 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:**

260. *See* Section VII.E (Limitation [1.15]).

**[8.8] one or more processors;**

261. See Section VII.E (Limitation [1.1]).

**[8.9] system memory;**

262. See Section VII.E (Limitation [1.2]).

**[8.10A] an integration tier configured to manage mobile wallet sessions with a mobile device**

263. See Section VII.E (Limitation [1.3A]).

**[8.10B] [an integration tier configured to manage mobile wallet sessions with a mobile device] on which a mobile wallet application is installed**

264. Dill discloses this limitation. For example, Dill's financial transfer system includes a mobile application executed by mobile device ("a mobile device on which a mobile wallet application is installed"). For example, Dill states:

According to yet another embodiment, a system can comprise a mobile communications network and a mobile device communicatively coupled with the mobile communications network. **The mobile device can execute a mobile wallet application.**

APPL-1005, [0045].

265. Dill also states that transfers are initiated from a mobile wallet application of a mobile device:

Stated another way, a method of supporting a money transfer transaction can comprise receiving a request to initiate the money transfer transaction. **Receiving the request to initiate the money transfer transaction can comprise receiving the request from a mobile wallet application of a mobile device,** from a web site of a

money transfer facilitator, from a retail agent location of a money transfer facilitator, from a telephone money transfer service of a money transfer facilitator, from a kiosk, from an ATM or from another channel.

APPL-1005, [0035].

266. Since the mobile device of Dill executes a mobile wallet application on the mobile device, a POSITA would have understood that Dill teaches “*a mobile device on which a mobile wallet application is installed*” as recited by the claim.

**[8.10C] [an integration tier configured to manage mobile wallet sessions with a mobile device] and including web services communication mechanisms for interfacing with the mobile wallet application and**

267. See Section VII.E (Limitation [1.3B]).

**[8.10D] [an integration tier configured to manage mobile wallet sessions with a mobile device and] ... a plurality of different device types over the plurality of different communication channels,**

268. See Section VII.E (Limitation [1.3C]).

**[8.10E] ... the integration tier being configured to receive binary and text messages from the mobile device;**

269. See Section VII.E (Limitation [1.3D]).

**[8.11A] a notification services engine configured to interface with the integration tier and**

270. See Section VII.E (Limitation [1.4A]).

**[8.11B] [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;**

271. See Section VII.E (Limitation [1.4B]).

**[8.11C] [a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages ... to different devices,] including the mobile device, to interface with the mobile wallet application installed on the mobile device;**

272. See Section VII.E (Limitation [1.4C]).

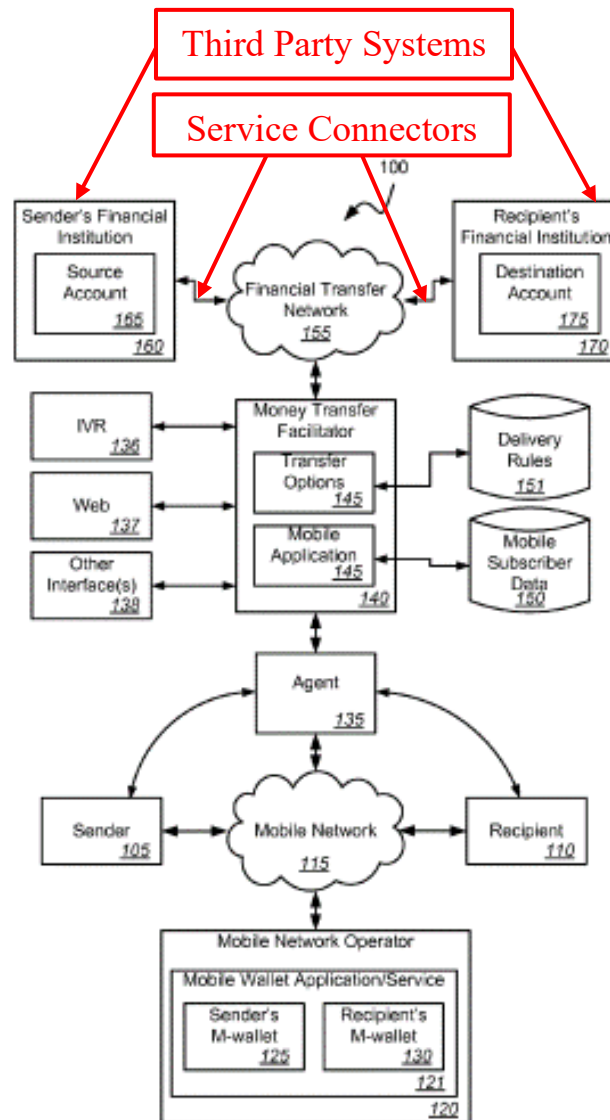
**[8.12A] service connectors that are each configured to connect the computer system to a different third party system,**

273. See Section VII.E (Limitation [1.5]).

**[8.12B] ... each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;**

274. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes channels ("service connectors") that connect its money transfer facilitator 140 ("computing system") to financial institutions 160, 170 ("a different third party system") that may each be a separate module.

275. First, as discussed in [1.5], Dill teaches this its money transfer facilitator 140 system is connected to the financial institutions via "service connectors" as shown in Fig. 9 which has been reproduced below:

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

276. A POSITA would have understood these communication channels and corresponding software APIs and/or implementation to be “service connectors” to the separate financial institutions 160, 170 through the channels shown above to “affect a transfer.” APPL-1005, [0049].

277. Second, a POSITA would have also understood each of the channels shown above to be “configured as a separate module for integrating a corresponding external service to the computing system” based on Dill’s broad description that each channel is appropriate to its sender:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer. For example, the sender and/or recipient can be a customer of a bank, a payment service (like PayPal), a local and/or long distance telephone service, a cable or satellite television service.

...

In any of these examples, **transfers can be initiated by a sender through a channel appropriate to that sender**, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities **as appropriate for that channel**, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

278. In the particular configuration shown in Fig. 9, the appropriate channels for the separate financial institutions 160, 170 would be “configured as a separate module for integrating” the institutions 160, 170 with Dill’s financial system.

279. Thus, Dill’s financial system teaches “*each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system*” as recited by the claim.

**[8.13] a payment handler that exposes a common API for interacting with different payment processors;**

280. See Section VII.E (Limitation [1.6]).

**[8.14] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and**

281. See Section VII.E (Limitation [1.7]).

**[8.15] a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.**

282. See Section VII.E (Limitation [1.8]).

#### **M. Claim 9**

**[9.0] 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.**

283. See Section VII.F (Limitation [2.0]).

#### **N. Claim 10**

**[10.0] The method of claim 8, wherein the mobile wallet is a native mobile wallet.**

284. See Section VII.G (Limitation [3.0]).

**O. Claim 11**

**[11.0] The method of claim 8, wherein the mobile wallet is a third party mobile wallet.**

285. See Section VII.H (Limitation [4.0]).

**P. Claim 12**

**[12.0] The method of claim 11, wherein the third party mobile wallet is provided by a third party mobile wallet provider.**

286. See Section VII.I (Limitation [5.0]).

**Q. Claim 13**

**[13.0] The method of claim 12, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.**

287. See Section VII.J (Limitation [6.0]).

**R. Claim 14**

**[14.0] 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.**

288. Dill teaches this limitation. For example, Dill teaches that third parties, including processing systems, communicate together through its network.

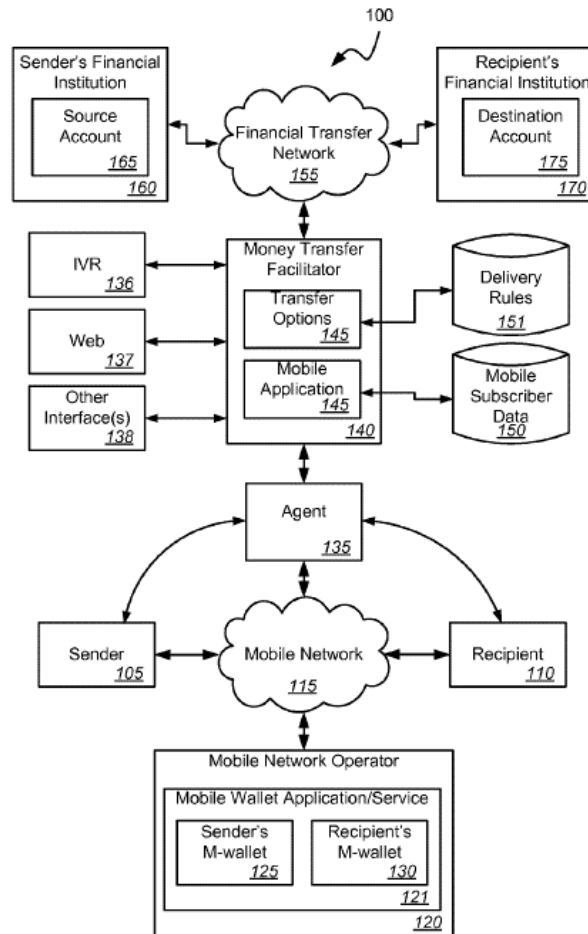
289. As discussed in [6.0], a POSITA would understand that Dill's broad language including transactions with POS devices and service providers "appropriate to that recipient" (APPL-1005, [0090]) includes third party mobile

providers with their own POS processing systems. APPL-1005, [0004]. Dill also teaches that the mobile device and accompanying providers are connected through its mobile network:

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. **A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.** It should be noted that the names sender and recipient are used only to illustrate a particular entity's and/or device's function at a given time and are not intended to imply any limitations on the functions that can be performed by a given entity and/or device. That is, any given entity and/or device associated with that entity can alternately act as sender or recipient. Also, it should be understood that while only one mobile network 115 and mobile network operator 120 are illustrated here for the sake of simplicity and clarity, multiple mobile networks 115 and mobile network operators 120 may be present.

APPL-1005, [0052].

290. Dill's mobile network 115 connecting sender and recipient (with corresponding mobile wallets and providers) is shown in Fig. 9 below:

**FIG. 9**

APPL-1005, Fig. 9.

291. Since Dill’s mobile network 114 connects the sender mobile wallet and recipient mobile wallet, and Dill’s broad language including transactions with POS devices and service providers “appropriate to that recipient” (APPL-1005, [0090]), a POSITA would also understand that Dill’s system supports “*third party mobile wallet providers’ POS processing systems communicat[ing] with each other using the computer system to process the transaction*” as recited by the claim.

### S. Claim 15

**[15.0] 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.**

292. See Section VII.K (Limitation [7.0]).

**T. Claim 16**

**[16.0] 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:**

293. To the extent that the preamble is found to be limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a computer system 200 (“computer program product comprising one or more hardware storage devices”) that runs code (“computer-executable instructions”) that carry out transactions with mobile wallets 125, 130 (“configure the computer system to facilitate management of a mobile wallet”).

294. First, Dill teaches financial transfer systems for carrying out transactions with mobile wallets including using machine-readable media:

**Methods, systems, and machine-readable media are disclosed for financial transfers utilizing a unique identifier to facilitate flexible payment options for the transaction.** According to one embodiment, a method for supporting a money transfer transaction can comprise receiving a Personal Identification Number (PIN) and a transaction identifier for a previously initiated money transfer transaction at a

mobile wallet application. The PIN can be verified with the mobile wallet application and, in response to verifying the PIN, the transaction identifier can be sent to an application of a money transfer facilitator supporting the money transfer transaction.

APPL-1005, [0005].

295. As discussed in [1.0], Dill's financial transfer system is implemented with a computer system 200:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates **a computer system 200 such as may be used, in whole, in part, or with various modifications, to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, the money transfer facilitator system 140, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

296. A POSITA would have understood Dill's computer system 200 carrying out functions of its financial transfer system to be "a computer program product comprising one or more hardware storage devices" since it contains CPUs and memory modules (as discussed in [1.1] and [1.2], APPL-1005, [0059]-[0060].).

297. Second, as discussed in [1.8], Dill teaches that software is executed by its computer system 200:

**The computer system 200 may also comprise software elements, shown as being currently located within a working memory 280, including an operating system 284 and/or other code 288.** It should

be appreciated that alternate embodiments of a computer system 200 may have numerous variations from that described above. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Furthermore, connection to other computing devices such as network input/output and data acquisition devices may also occur.

**Software of computer system 200 may include code 288 for implementing any or all of the function of the various elements of the architecture as described herein.** For example, software, stored on and/or executed by a computer system such as system 200, can provide the functions of the sending subscriber interface, the receiving subscriber interface, the agent server 125, the source transfer network 165, the primary transfer network 160, the destination transfer network 190, the communication network 115, and/or other components of the invention such as those discussed above.

APPL-1005, [0063]-[0064].

298. A POSITA would have understood this code implemented by the Dill's computer system 200 to be "computer-executable instructions that are executable by one or more processors of a computer system."

299. Third, Dill teaches that its software is configured to conduct transactions with mobile wallets, such as mobile wallets 125, 130. APPL-1005, [0005], [0059]. A POSITA would have understood this software to "configure the computer system to facilitate management of a mobile wallet" as recited by the claim.

300. Thus, Dill's financial transfer system with computer system 200 carrying out financial transactions teaches "*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*" as recited by the claim.

**[16.1A] receive communication from a customer over one of a plurality of communication channels connected to the computing system,**

301. See Section VII.E (Limitation [1.10A]).

**[16.1B] ... 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;**

302. See Section VII.E (Limitation [1.10B]).

**[16.2] return a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the computing system;**

303. See Section VII.E (Limitation [1.11]).

**[16.3A] receive communication from the agent terminal over at least one of the plurality of channels connected to the computing system,**

304. *See* Section VII.E (Limitation [1.12A]).

**[16.3B] the agent terminal communication indicating that the purchase code has been presented to an agent;**

305. *See* Section VII.E (Limitation [1.12B]).

**[16.4] debit the mobile wallet by the specified amount of funds;**

306. *See* Section VII.E (Limitation [1.13]).

**[16.5] credit an agent account by the specified amount of funds; and**

307. *See* Section VII.E (Limitation [1.14]).

**[16.6] after selecting a particular channel included in the plurality of channels, send a notification communication from the computer system to the agent terminal 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:**

308. *See* Section VII.E (Limitation [1.15]).

**[16.7] one or more processors;**

309. *See* Section VII.E (Limitation [1.1]).

**[16.8] system memory;**

310. *See* Section VII.E (Limitation [1.2]).

**[16.9A] an integration tier configured to manage mobile wallet sessions with a mobile device**

311. *See* Section VII.E (Limitation [1.3A]).

**[16.9B] [an integration tier configured to manage mobile wallet sessions with a mobile device] on which a mobile wallet application is installed and**

312. *See* Section VII.L (Limitation [8.10B]).

**[16.9C] [an integration tier configured to manage mobile wallet sessions with a mobile device] ... including web services communication mechanisms for interfacing with the mobile wallet application and**

313. *See* Section VII.E (Limitation [1.3B]).

**[16.9D] [an integration tier configured to manage mobile wallet sessions with a mobile device] ... a plurality of different device types over the plurality of different communication channels,**

314. *See* Section VII.E (Limitation [1.3C]).

**[16.9E] ... the integration tier being configured to receive binary and text messages from the mobile device;**

315. *See* Section VII.E (Limitation [1.3D]).

**[16.10A] a notification services engine configured to interface with the integration tier and**

316. *See* Section VII.E (Limitation [1.4A]).

**[16.10B] [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,**

317. *See* Section VII.E (Limitation [1.4B]).

**[16.10C] [a notification services engine configured to interface with the integration tier and to send a plurality of corresponding different types of messages ... to different devices,] including the mobile device, to interface with the mobile wallet application;**

318. *See* Section VII.E (Limitation [1.4C]).

**[16.11A] service connectors that are each configured to connect the computer system to a different third party system,**

319. *See* Section VII.E (Limitation [1.5]).

**[16.11B] ... each of the service connectors being configured as a separate module for integrating a corresponding external service to the computer system;**

320. *See* Section VII.L (Limitation [8.12B]).

**[16.12] a payment handler that exposes a common API for interacting with different payment processors;**

321. *See* Section VII.E (Limitation [1.6]).

**[16.13] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and**

322. *See* Section VII.E (Limitation [1.7]).

**[16.14] a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.**

323. *See* Section VII.E (Limitation [1.8]).

#### **U. Claim 17**

**[17.0] 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.**

324. *See* Section VII.F (Limitation [2.0]).

#### **V. Claim 18**

**[18.0] The computer program product of claim 16, wherein the mobile wallet is a native mobile wallet.**

325. *See* Section VII.G (Limitation [3.0]).

#### **W. Claim 19**

**[19.0] The computer program product of claim 16, wherein the mobile wallet is a third party mobile wallet.**

326. See Section VII.H (Limitation [4.0]).

**X. Claim 20**

**[20.0] 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.**

327. See Section VII.K (Limitation [7.0]).

**Y. Claim 21**

**[21.0] A computing system for facilitating management of a mobile wallet, including:**

328. See Section VII.E (Limitation [1.0]).

**[21.1] one or more processors;**

329. See Section VII.E (Limitation [1.1]).

**[21.2] system memory;**

330. See Section VII.E (Limitation [1.2]).

**[21.3A] an integration tier configured to manage mobile wallet sessions with a mobile device and**

331. See Section VII.E (Limitation [1.3A]).

**[21.3B] [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**

332. See Section VII.E (Limitation [1.3B]).

**[21.3C] [an integration tier configured to manage mobile wallet sessions with a mobile device] ... as well as with a plurality of different device types over a plurality of different communication channels,**

333. See Section VII.E (Limitation [1.3C]).

**[21.3D] ... the integration tier being configured to receive digital communications from the mobile device;**

334. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to receive digital communications from mobile devices 125, 130 ("the mobile device").

335. As discussed in [1.3D], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121 over interfaces 136-138. *See* APPL-1005, [0032], [0101], Fig. 9. Dill also includes examples of communication interfaces connecting the transfer options module 145 and various sending and receiving devices, including mobile devices:

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, **a web interface 137**, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, or **other interfaces 138**. **The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138**, provide a notification of the transaction to a

recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

336. A POSITA would have understood the transfer options module 145 receiving transaction communications from a mobile device 125, 130 coupled to a web interface as “being configured to receive digital communications from the mobile device.”

337. Thus, Dill’s communication system including transfer options module 145 teaches “*the integration tier being configured to receive digital communications from the mobile device*” as recited.

**[21.4A] a notification services engine configured to interface with the integration tier and**

338. See Section VII.E (Limitation [1.4A]).

**[21.4B] [a notification services engine configured to interface with the integration tier and] to send digital messages over the different communication channels to different devices,**

339. See Section VII.E (Limitation [1.4B]).

**[21.4C] [a notification services engine configured to interface with the integration tier and to send digital messages ... 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;**

340. See Section VII.E (Limitation [1.4C]).

**[21.5A] service connectors that are each configured to connect the computing system to a different third party system,**

341. See Section VII.E (Limitation [1.5]).

**[21.5B] ... each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;**

342. See Section VII.L (Limitation [8.12B]).

**[21.6] a payment handler that exposes a common API for interacting with different payment processors;**

343. See Section VII.E (Limitation [1.6]).

**[21.7] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);**

344. See Section VII.E (Limitation [1.7]).

**[21.8] 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**

345. See Section VII.E (Limitation [1.8]).

**[21.9] 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:**

346. See Section VII.E (Limitation [1.9]).

**[21.10A] the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform,**

347. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests and other communications (“communication”) from a

customer over various communication channels including interfaces 136-138 (“the plurality of channels connected to the computing system”) that are connected to Dill’s transaction system with Vadhri’s cloud-based characteristics (“cloud-based transaction system”).

348. First, as discussed in [1.10A] above, Dill teaches that its financial system is configured to receive communications from customers over various communication channels requesting a purchase or payment. APPL-1005, [0067].

349. Second, Vadhri teaches that its processors are configured to support performance of operations in a “‘cloud computing’ environment”:

The one or more processors may also operate to support performance of the relevant operations in a “cloud computing” environment or as a “software as a service” (SaaS). For example, at least some of the operations may be performed by a group of computers (as examples of machines including processors), these operations being accessible via a network (e.g., the Internet) and via one or more appropriate interfaces (e.g., Application Program Interfaces (APIs).)

APPL-1006, [0089].

350. The benefits of cloud-based computing were well known in the art at the time of filing of the ’196 patent, as evidenced by Barton (APPL-1010). *See* APPL-1010, [0067]-[0069] (describing shared data, use in public and private networks, etc.) It would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill’s financial system to achieve the well

known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004].

351. Thus, the incorporation of Vadhri's cloud-based environment into Dill's financial system teaches "*the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform*" as recited by the claim.

**[21.10B] ... 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,**

352. See Section VII.E (Limitation [1.10B]).

**[21.10C] ... 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;**

353. Dill discloses this limitation. For example, Dill's financial transfer system includes transfers from a sender mobile wallet 125 to a receiver mobile wallet 130 ("a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet") as well as withdrawals and deposits from mobile wallets 125, 130.

354. For example, Dill's financial transaction system is configured to provide a structured settlement between a sending mobile wallet 125 and receiving mobile wallet 130:

Once the destination for **transferring funds for the money transfer transaction to the recipient 110** has been determined, the funds can be transferred to the determined destination and the recipient 110 can be notified of availability of funds at the determined destination.

...

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 150, to provide **a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130**, or between the sending cash retail location and receiving mobile wallet 130.

355. APPL-1005, [0057]. Dill also provides for various types of mobile wallet transactions, such as “mobile-to-cash,” “cash-to-mobile,” and “mobile-to-mobile” which can be facilitated between mobile wallets 125, 130. APPL-1005, [0066], Figs. 3-8. A POSITA would have understood these transactions to be a “mobile wallet transfer,” as well as a “mobile wallet withdrawal” and a “mobile wallet deposit” as recited by the claims.

356. Moreover, it was well-known in the art to use a mobile wallet on a mobile device to withdraw funds from an account of the mobile device user, as evidenced by Liao (APPL-1012). In particular, Liao teaches that a user may utilize “mobile wallet application software running on the controller module 200” to “withdraw money from a bank account.” APPL-1012, 5:44-55, *see also* Fig. 3. A

POSITA would have understood this type of withdrawal to be similar to the transactions outlined by Dill.

357. Thus, a POSITA would have understood this financial transfer to be “a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet” as recited by the claim.

**[21.11] the computing system sending the communication from the agent terminal to the third party mobile wallet platform;**

358. See Section VII.E (Limitation [1.12A]).

**[21.12A] the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal**

359. Dill discloses this limitation. For example, Dill’s financial transfer system is configured to determine whether a withdrawal is to be performed from a mobile wallet 125 the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal”).

360. As discussed in [21.10C], Dill’s financial transaction system is configured to provide a structured settlement between a sending mobile wallet 125 and receiving mobile wallet 130. APPL-1005, [0057]. These structured settlements also include determining how much is to be transferred from the sender’s mobile wallet:

The mobile wallet application 121 can check 310 a current balance of the account 165 associated with the sender's mobile wallet 125 and, if the funds in the account 165 associated with the sender's mobile wallet

125 are sufficient for the transfer, the mobile wallet application 121 can in turn send 315 a request to a mobile application 145 of the money transfer facilitator 140.

APPL-1005, [0066].

361. As further discussed in [21.10C], it was well-known in the art to use a mobile wallet on a mobile device to withdraw funds from an account of the mobile device user, as evidenced by Liao. APPL-1012, 5:44-55.

362. A POSITA would have understood that by determining an amount of money to transfer from a sender's mobile wallet, Dill's financial transfer system teaches "*the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal*" as recited by the claim.

**[21.12B] ... 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;**

363. See Section VII.E (Limitation [1.11]).

**[21.13] 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**

364. Dill teaches this limitation. For example, as discussed in [21.10C], Dill teaches "a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet" since its financial transfer system includes various types of transfers between mobile wallets 125,

130. *See* Section VII.Y (Limitation [21.10C]); APPL-1005, [0057]. Dill teaches sending a notification of these transfers to many different parties using various devices and along various types of channels:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are **not limit to use with any type of device, wired or wireless, or any channel of communication**. Rather, **the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer**. For example, the sender and/or recipient can be a customer of a bank, a payment service (like PayPal), a local and/or long distance telephone service, a cable or satellite television service.

...

In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, **the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient**, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

365. A POSITA would have understood the recipient of these notifications to include its computer system 200. *Id.* Thus, Dill teaches “*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” as recited by the claim.*

**[21.14] after selecting a particular communication channel included in the plurality of communication channels, the computing system sending a notification communication to the agent terminal 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.**

366. See Section VII.E (Limitation [1.15]).

**Z. Claim 22**

**[22.0] A computing system for facilitating management of a mobile wallet, including:**

367. See Section VII.E (Limitation [1.0]).

**[22.1] one or more processors;**

368. See Section VII.E (Limitation [1.1]).

**[22.2] system memory;**

369. See Section VII.E (Limitation [1.2]).

**[22.3A] an integration tier configured to manage mobile wallet sessions with a mobile device and**

370. See Section VII.E (Limitation [1.3A]).

**[22.3B] [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**

371. See Section VII.E (Limitation [1.3B]).

**[22.3C] [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] ... as well as with a plurality of different device types over a plurality of different communication channels,**

372. See Section VII.E (Limitation [1.3C]).

**[22.3D] ... the integration tier being configured to receive digital communications from the mobile device;**

373. See Section VII.E (Limitation [21.3D]).

**[22.4A] a notification services engine configured to interface with the integration tier and**

374. See Section VII.E (Limitation [1.4A]).

**[22.4B] [a notification services engine configured to interface with the integration tier and] to send digital messages over the different communication channels to different devices,**

375. See Section VII.E (Limitation [1.4B]).

**[22.4C] ... including the mobile device, to interface with the mobile wallet application installed on the computer readable media executable by the mobile device;**

376. See Section VII.E (Limitation [1.4C]).

**[22.5A] service connectors that are each configured to connect the computing system to a different third party system,**

377. See Section VII.E (Limitation [1.5]).

**[22.5B] ... each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;**

378. See Section VII.L (Limitation [8.12B]).

**[22.6] a payment handler that exposes a common API for interacting with different payment processors;**

379. See Section VII.E (Limitation [1.6]).

**[22.7] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);**

380. See Section VII.E (Limitation [1.7]).

**[22.8] 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**

381. See Section VII.E (Limitation [1.8]).

**[22.9] 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:**

382. See Section VII.E (Limitation [1.9]).

**[22.10A] the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to a cloud-based transaction platform,**

383. See Section VII.Y (Limitation [21.10A]).

**[22.10B] ... 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,**

384. See Section VII.Y (Limitation [21.10B]).

**[22.10C] ... wherein the mobile wallet transaction comprises digitally transferring of funds for a purchase;**

385. Dill discloses this limitation. For example, Dill's financial transfer system includes digital transactions from a mobile wallet 125 to make purchases (digitally transferring of funds for a purchase")

386. First, Dill's financial transaction system is configured for mobile wallet transactions for purchases, and in one example, purchases over eBay:

In other examples, the sender and/or recipient may hold a loyalty card issued by a money transfer facilitator 140 (e.g., Western Union Gold Card holder who receives money is notified of transfer and can designate destination for receiving the transfer) or by a third party (e.g., receiver has loyalty number (represented by account number, telephone number, barcode, etc.) issued by a retailer such as a grocery store and sender can use that loyalty number to send money to an account designated by the recipient **for recipient's use in making purchases at retailer. In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender,** the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

387. A POSITA would have understood that Dill's teaching that purchases can be conducted over a web interface for products as provided by eBay using a mobile wallet 125 "*comprises digitally transferring of funds for a purchase*" as recited by the claim.

**[22.11] the computing system sending the communication from the agent terminal to the third party mobile wallet platform;**

388. See Section VII.E (Limitation [1.12A]).

**[22.12A] the computing system, upon determining that the mobile wallet transaction comprises the the digital transfer of funds,**

389. See Section VII.Y (Limitation [21.12A]).

**[22.12B] 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;**

390. See Section VII.Y (Limitation [21.12B]).

**[22.13] 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**

391. See Section VII.Y (Limitation [21.13]).

**[22.14] after selecting a particular communication channel included in the plurality of communication channels, the computing system sending a notification communication to the agent terminal 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.**

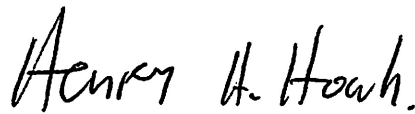
392. See Section VII.E (Limitation [1.15]).

**VIII. CONCLUSION**

This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on 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 35 U.S.C. § 1001.

Date: December 18, 2022

Respectfully submitted,

A handwritten signature in black ink that reads "Henry H. Houh." The signature is written in a cursive style with a period at the end.

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Henry H. Houh