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Acharya

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(54) **SYSTEM AND METHOD FOR ELECTRONIC DEPOSIT OF A FINANCIAL INSTRUMENT BY BANKING CUSTOMERS FROM REMOTE LOCATIONS BY USE OF A DIGITAL IMAGE**

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G06Q 20/32 (2012.01)
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CPC ***G06Q 20/20*** (2013.01); *G06Q 20/32* (2013.01); *G06Q 20/04* (2013.01)
USPC **705/42**; 705/39; 705/79; 705/43; 705/44; 705/16; 235/379; 235/380; 455/414.1

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USPC 705/18, 35, 42
See application file for complete search history.

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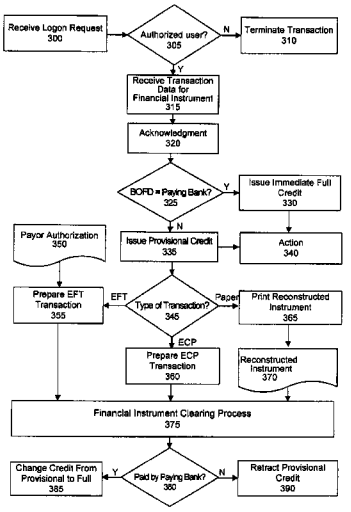
(57) **ABSTRACT**

A system and method for initiating a deposit transaction, where the depositor is a banking customer located at a remote location, and where the item to be deposited is a financial instrument, such as a paper check from a third party, payable to the depositor. The enabling system features a Remote Customer Terminal (RCT) with certain input devices, connected to a bank system. An image and/or other data of the financial instrument are transmitted from the RCT to the Bank of First Deposit (BOFD) where the data may be processed by conversion to Electronic Funds Transfer (EFT), via Electronic Check Presentment (ECP), or via check reconstruction. The deposit transaction can be accomplished without physical transfer of the financial instrument to or through the bank system. The system and method provide convenience and improved transaction processing speed compared to other deposit transactions of financial instruments.

36 Claims, 3 Drawing Sheets



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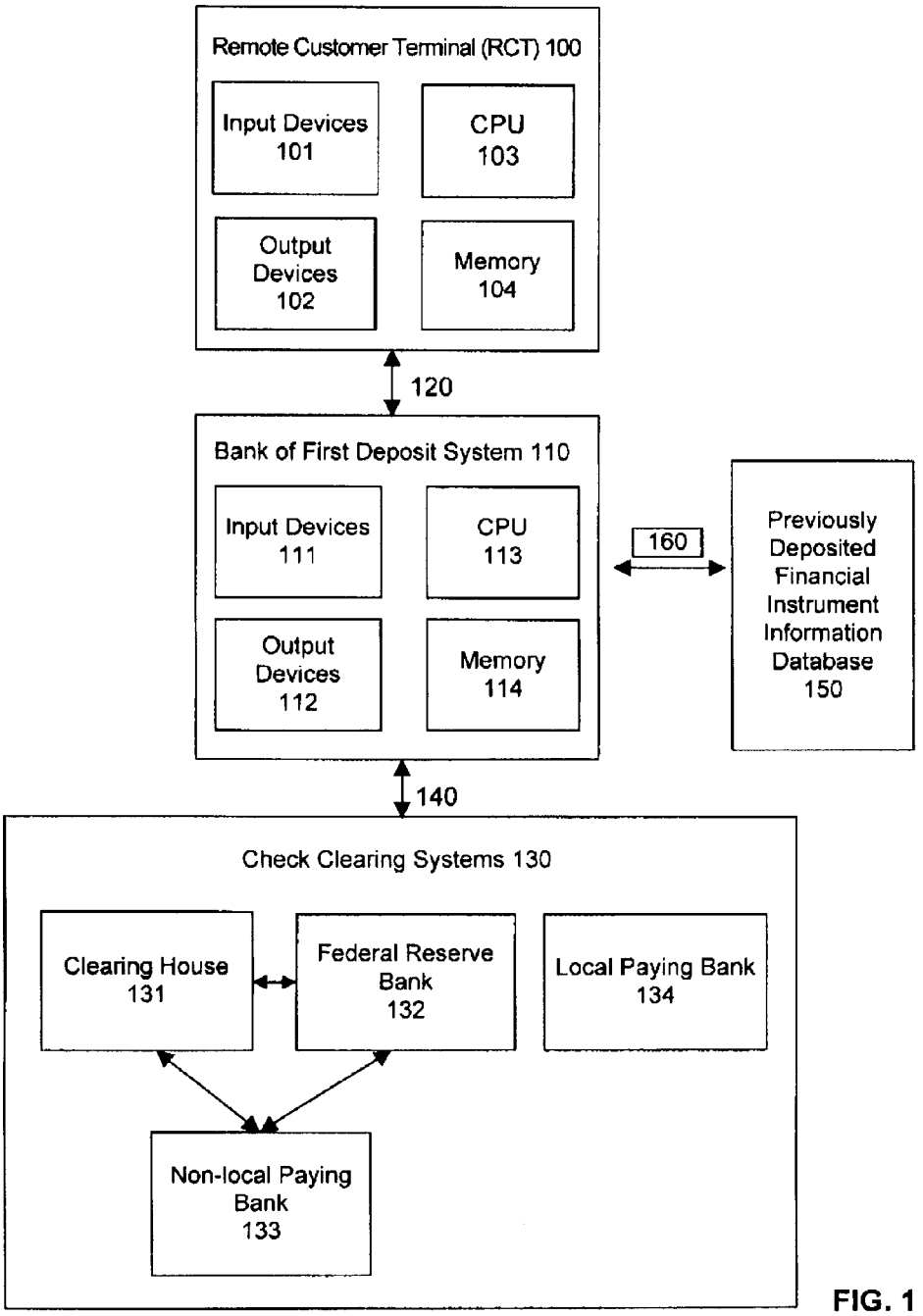
Remote Customer Terminal (RCT) 100
Input Devices 101
CPU 103
Output Devices 102
Memory 104
120
Bank of First Deposit System 110
Input Devices 111
CPU 113
Output Devices 112
Memory 114
160
Previously Deposited Financial Instrument Information Database 150
140
Check Clearing Systems 130
Clearing House 131
Federal Reserve Bank 132
Local Paying Bank 134
Non-local Paying Bank 133

FIG. 1

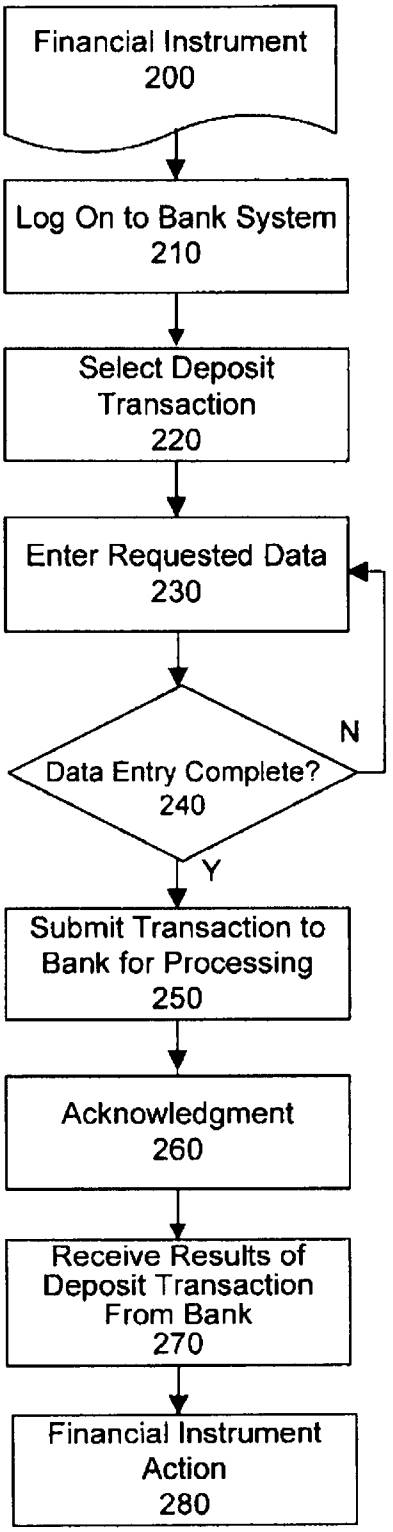
Financial Instrument
200
Log On to Bank System
210
Select Deposit Transaction
220
Enter Requested Data
230
Data Entry Complete?
240
N
Y
Submit Transaction to Bank for Processing
250
Acknowledgment
260
Receive Results of Deposit Transaction From Bank
270
Financial Instrument Action
280

FIG. 2

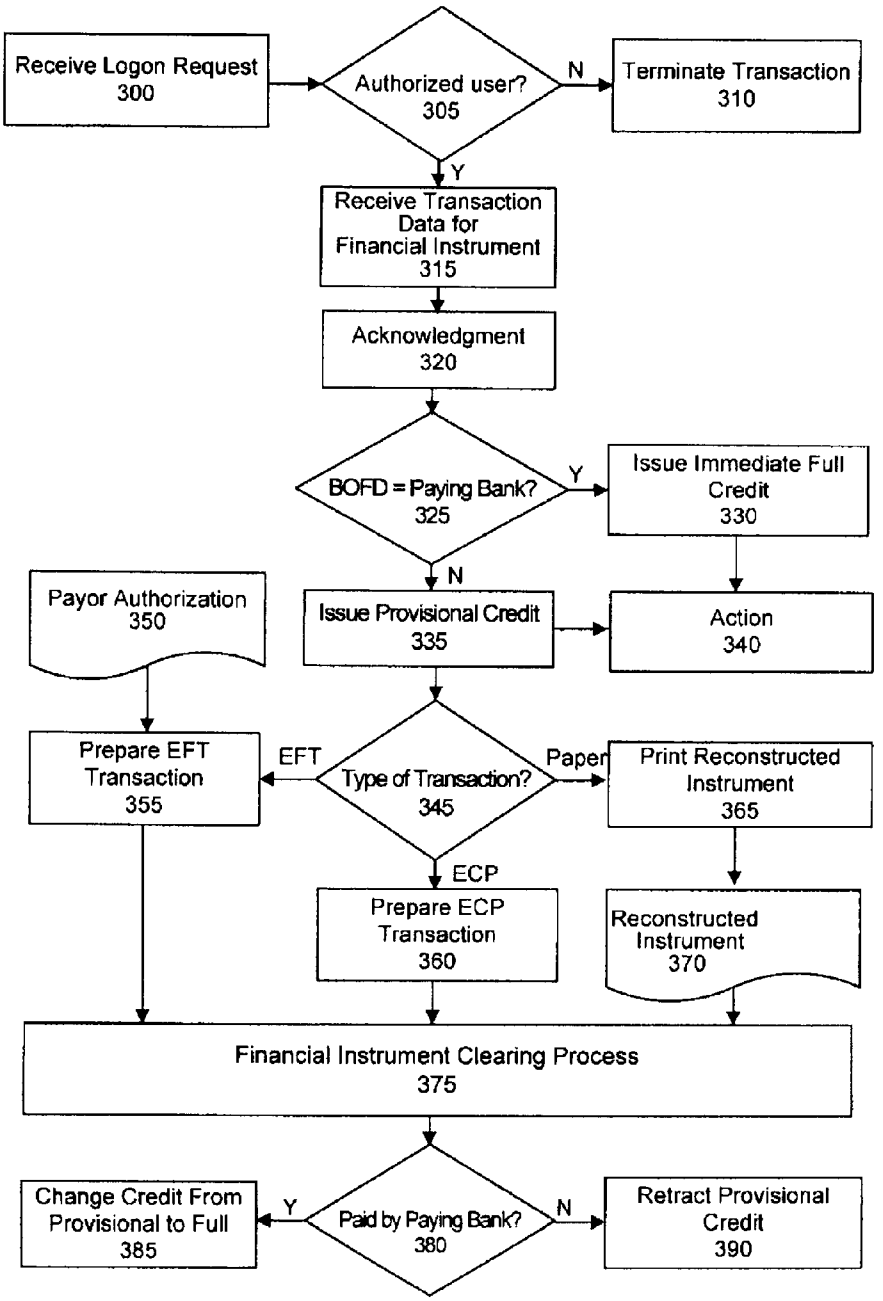
Receive Logon Request
300
Authorized user?
305
N
Terminate Transaction
310
Y
Receive Transaction Data for Financial Instrument
315
Acknowledgment
320
BOFD = Paying Bank?
325
Y
Issue Immediate Full Credit
330
N
Payor Authorization
350
Issue Provisional Credit
335
Action
340
Prepare EFT Transaction
355
EFT
Type of Transaction?
345
Paper
Print Reconstructed Instrument
365
ECP
Prepare ECP Transaction
360
Reconstructed Instrument
370
Financial Instrument Clearing Process
375
Change Credit From Provisional to Full
385
Y
Paid by Paying Bank?
380
N
Retract Provisional Credit
390

FIG. 3

SYSTEM AND METHOD FOR ELECTRONIC DEPOSIT OF A FINANCIAL INSTRUMENT BY BANKING CUSTOMERS FROM REMOTE LOCATIONS BY USE OF A DIGITAL IMAGE

RELATED APPLICATIONS

This application is a continuation-in-part of U.S. patent application Ser. No. 09/506,434, titled "System and Method For Electronic Deposit of Third-Party Checks By Non-Commercial Bank Customers From Remote Locations," filed on Feb. 18, 2000, the specification of which is hereby incorporated by reference in its entirety.

FIELD OF THE INVENTION

The invention relates generally to a system and method for initiating a deposit transaction, where the depositor is a banking customer located at a remote location, where the item is to be deposited without physical transport of the item to a bank and where the item to be deposited is a financial instrument, e.g. a paper check, from a third party (i.e., other than the bank customer or the paying bank), payable to the depositor, where the banking customer has or creates a digital image of the financial instrument.

As used herein, a "bank" may be a bank or other financial institution, and a "financial instrument" may be any financial instrument, including paper-based financial instruments such as checks or other negotiable instruments, now known or later developed.

BACKGROUND OF THE INVENTION

Methods and systems for initiating electronic financial transactions from remote locations are increasingly common. Examples are the use of Automated Teller Machines (ATMs) to withdraw cash, and the use of telephonic systems and personal computers to initiate a transfer of funds between banking customer accounts, or to pay bills. Such transactions are commonly referred to as Electronic Funds Transfer (EFT).

Two principal advantages of EFT, from the perspective of the banking customer, are convenience and speed. They are convenient to the extent that they do not require banking customers to physically visit the bank in order to initiate a financial transaction. Electronic transactions are also completed more quickly than those involving paper instruments and/or documents that must be physically routed to different locations in order to complete the transaction. A significant disadvantage of present EFT systems, however, is that they are not equipped to accept certain financial instruments, such as paper checks, as part of the transaction. Since it is estimated that paper check volume in the United States exceeds sixty billion annually, this is a significant drawback.

Some approaches have been disclosed for converting paper checks to electronic transactions. Using an approach commonly known as Electronic Check Presentment (ECP), a bank of first deposit (the bank first receiving a paper check for deposit, hereinafter BOFD) will capture an electronic image of the check or otherwise convert the check to an electronic transaction for processing through a clearing house and the paying bank. The image of the check and/or check data essentially take the place in the settlement process of the paper check for the purposes of payment. For a general description of the ECP process, see U.S. Pat. No. 5,237,159. While the ECP method may speed transaction time, it offers no

improvement in convenience for the banking customer who must still initiate the transaction by physically delivering the paper check to the bank.

A related approach allows a banking customer to write a paper check for purchases at the point-of-sale, typically a retail store, where the transaction is then converted into either an EFT or ECP transaction. Under this method, however, the banking customer is the payor. No provision is made for the deposit of checks by a payee.

Existing systems that perform electronic banking transactions are either not equipped to handle certain financial instruments such as paper checks, are configured only for bank-to-bank transactions, or do not accept third party checks for deposit. The resulting lack of convenience, and other drawbacks, limits the utility of such systems for bank customers.

SUMMARY OF THE INVENTION

It is one object of the invention to provide a system and method for allowing banking customers to deposit financial instruments, including third-party checks, from remote locations without physically transporting the financial instruments to the bank.

It is another object of the invention to provide a system and method that would allow banking customers to initiate such deposit transactions at home, providing convenience and a level of independence for banking customers who are confined to their homes.

It is another object of the invention to provide a method that would allow banking customers to deposit financial instruments, such as third party checks, at ATM machines. Most ATMs simply provide a means for holding paper checks until they are collected for processing. The present invention would make ATMs more useful by providing for electronic deposit of financial instruments, such as third party checks.

It is another object of the invention to provide alternative methods for the BOFD system to process such transactions. By identifying a system and method for deposit that is compatible with ECP, EFT and reconstructed check processing, banks will have practical alternatives in the implementation of this new approach. Further, banks can execute such deposit transactions without having to physically receive and/or process the physical financial instrument.

To achieve these and other objects of the invention, a payee would deposit a financial instrument, such as a third party paper check, using a Remote Customer Terminal (RCT) that can communicate with a BOFD system. The payee may prepare, or receive from a third party, a digital image of the financial instrument that is to be deposited. Software and/or hardware accessible at or through the RCT can "recognize" data in or on the digital image of the financial instrument. Such data could include data contained in the MICR line, RTN, account number, amount of financial instrument, date of financial instrument or any other characters present in or on the digital image of the financial instrument. Recognition can be made of such data, whether in human-visible or machine readable form. Alternatively or additionally, the banking customer can input data taken from the financial instrument, or the digital image of the financial instrument, directly into the RCT. In general terms, the RCT may be equipped to "accept" digital images and data regarding the financial instrument. The digital image of the financial instrument and/or data recognized from the financial instrument or inputted into the RCT by the banking customer is transmitted from the RCT to the BOFD system. The BOFD system can process the deposit transaction in several different fashions.

In one embodiment of the invention, the RCT is located at home, and comprises a digital camera, or a personal computer or wireless handheld device, such as a Blackberry® or Palm Treo®, having digital imaging capabilities such as an attached image scanner or a digital camera. To initiate the transaction, the banking customer uses an Internet-based application loaded on the RCT to access the BOFD system. A pre-assigned Personal Identification Number (PIN) or other password or secret, including a biometric, may be required to allow the banking customer access to the BOFD system. Either when prompted or prior to accessing the BOFD system, the banking customer captures the digital image of the financial instrument by the scanner or the digital camera and prepares a file storing the digital image. Upon prompting by the BOFD system, the banking customer forwards the digital image to the BOFD system along with the data that was either "recognized" from the digital image of the financial instrument or was input into the RCT by the banking customer. Alternatively, the customer may input data regarding the financial instrument directly into the BOFD system.

The automated system can provide immediate provisional credit from the BOFD system to the banking customer, and forward the digital image of the financial instrument and other data to a clearing house in the form of an ECP transaction. Once the transaction has cleared the paying bank, the BOFD system issues a permanent credit to the banking customer. Accordingly, the banking customer has initiated deposit of a financial instrument from a third party, such as a paper check, from the convenience of his/her own home using a digital image of the financial instrument and without having to physically present the financial instrument to the BOFD system, with the speed of an electronic transaction.

Certain actions can be taken to prevent redeposit of the same financial instrument. For example, if the banking customer is in possession of the physical financial instrument, the financial instrument may be marked at the RCT by a printer using human- or machine-readable ink to prevent redeposit. Alternatively, the RCT may further comprise a storage vault, and the financial instrument may be physically "captured" thus preventing redeposit. Another embodiment comprises checking identification information of the financial instrument, such as serial number and any other identifying information, against a database to see if the financial instrument has been previously deposited. If it is determined that the financial instrument has been previously deposited, redeposit can be denied by the BOFD system.

The following drawings and descriptions further describe the invention, including several different embodiments of the major system components and processes. The construction of such a system, implementation of such a process, and advantages will be clear to a person skilled in the art of automated financial transactions.

BRIEF DESCRIPTION OF THE DRAWINGS

Purposes and advantages of the exemplary embodiments will be apparent to those of ordinary skill in the art from the following detailed description in conjunction with the appended drawings in which like reference characters are used to indicate like elements, and in which:

FIG. **1** is schematic diagram of the system, according to one embodiment of the invention.

FIG. **2** is a flow diagram from the perspective of a banking customer, according to one embodiment of the invention.

FIG. **3** is a flow diagram from the perspective of the BOFD system, according to one embodiment of the invention.

These and other embodiments and advantages will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, illustrating by way of example the principles of the various exemplary embodiments.

DETAILED DESCRIPTION OF THE INVENTION

As indicated above, the invention is directed to a system and method for the deposit of financial instruments, such as third party checks, using a digital image of the financial instrument from remote locations by banking customers.

Overview of the System

FIG. **1** is schematic diagram of the system, according to one embodiment of the invention. The key components are a Remote Customer Terminal (RCT) **100** that is connected to a Bank of First Deposit (BOFD) system **110**.

The RCT **100** may be a telephone, digital camera, fax machine, personal computer, ATM, cell phone, PDA or any other computer, apparatus, wireless handheld device such as a Blackberry® or Palm Treo® or system capable of collecting data and communicating with BOFD system **110**. For instance, the RCT **100** may comprise a workstation or other device running the Microsoft Windows™ NT™, Windows™ 2000, Windows Vista™, Windows XP™, Windows Mobile™, Unix, Linux, Xenix, IBM AIX, Hewlett-Packard UX, Novell Netware™, Sun Microsystems Solaris™, OS/2™, BeOS™, Mach, Apache, OpenStep™, Mac OS X™, GAME BOY™, PXP™ or any other operating system or platform now known or later developed. RCT **100** may also comprise two or more such devices.

Additionally, the RCT **100** may comprise certain input devices **101**, output devices **102**, Central Processing Unit (CPU) **103**, and machine-readable electronic memory **104**.

The RCT input devices **101** may comprise a keypad, a keyboard, a microphone, a Magnetic Ink Character Reader (MICR), a Digital Image Scanner (DIS), a digital camera, any other digital imaging capabilities now known or later developed, a bar code scanner, a mouse, a touch screen, a voice reader, a voice recognizer, a dialogue screen, a menu box, a list, a checkbox, a toggle switch, a pushbutton or any other device that allows a user to receive information regarding the operation of the processing machine as it processes a set of instructions and/or provide the CPU **103** with information. The information provided to the CPU **103** may be in the form of a command, a selection of data, or some other input, for example.

The RCT output devices **102** may comprise a speaker, a display unit, a paper printer, or any other output device that can communicate a message to a human or a machine.

The RCT memory **104** may comprise a database that might use any desired arrangement of files such as a flat file arrangement or a relational database arrangement, for example. RCT memory **104** may be contained on any of a wide variety of media or medium utilized to hold instructions and/or data used in the invention and may take on any of a variety of physical forms or transmissions. RCT memory **104**, for example, may be in the form of paper, paper transparencies, a compact disk, a DVD, an integrated circuit, a hard disk, a floppy disk, an optical disk, a magnetic tape, a RAM, a ROM, a PROM, an EPROM, a wire, a cable, a fiber, communications channel, a satellite transmission or other remote transmission.

Certain instructions may also be stored in RCT memory **104** and executed by the CPU **103**, for example, to assist in communication and data collection functions. For example, optical character recognition software may be used in conjunction with the DIS or the digital camera to convert machine

printed characters on the financial instrument or the digital image of the financial instrument to electronic text. Likewise, intelligent character recognition software may be used to convert handwritten characters on the financial instrument or on the digital image of the financial instrument to electronic text. Additionally, any browser, such as Netscape Navigator™, Internet Explorer™ or Mozilla Firefox™, may be used for Internet communications.

Software may also be stored in RCT memory **104** and executed by CPU **103** that is capable of "recognizing" machine-readable data in or on the digital image of the financial instrument. Such data could include data included in the MICR line or data that may be included in a financial instrument in, for example, a bar code.

Alternatively or additionally, the banking customer can input data from the financial instrument, or the digital image of the financial instrument, directly into the RCT **100** using input devices **101** such as keypad, keyboard or microphone.

The digital image of the financial instrument, along with data input into the RCT **100** from the financial instrument, can be stored in a file in RCT memory **104** or on other memory now known or later developed.

The BOFD system **110** may comprise a telephone, a cellular phone, a facsimile machine, a personal computer, a mainframe computer, a personal digital assistant (PDA), a wireless handheld device such as a Blackberry® or Palm Treo® or any other computer, apparatus, or system capable of receiving data from the RCT **100**, and initiating a deposit transaction. Like RCT **100**, BOFD system **110** may comprise a workstation running the Microsoft Windows™ NT™, Windows™ 2000, Windows Vista™, Windows XP™, Windows Mobile®, Unix, Linux, Xenix, IBM AIX, Hewlett-Packard UX, Novell Netware™, Sun Microsystems Solaris™, OS/2™, BeOS™, Mach, Apache, OpenStep™, Mac OS X™, GAME BOY™, PXP™ or any other operating system or platform now known or later developed. Also like the RCT **100**, the BOFD system **110** may comprise input devices **111**, output devices **112**, CPU **113**, and electronic memory **114**. The BOFD system **110** may further comprise an attended operator terminal with or without display, or it may be fully automated comprising a VRU in conjunction with CTI.

Additionally, the BOFD system **110** is broadly defined to include such network servers or other devices necessary to perform functions such as communication, data collection, and preparation of electronic transactions. Data collection, for example, may be implemented by hosting a World Wide Web site on an Internet server. Further, reference to singular components, such as CPU **113** and electronic memory **114**, is not intended to be limiting and BOFD system **110** may comprise a plurality of CPUs **113** and electronic memories **114**, whether located in a single physical location or located in different physical locations.

The RCT **100** and BOFD system **110** communicate with each other via a communication link **120**. The link may operate through a network, such as by direct dial connection to the Internet over a telephone network. It may be accomplished via point-to-point communication, such as with a dedicated line or via the Internet, an intranet, a PAN (Personal Area Network), a LAN (Local Area Network), a WAN (Wide Area Network) or a MAN (Metropolitan Area Network), a frame relay connection, an Advanced Intelligent Network (AIN) connection, a synchronous optical network (SONET) connection, a digital T1, T3 or E1 line, Digital Data Service (DDS) connection, DSL (Digital Subscriber Line) connection, an Ethernet connection, an ISDN (Integrated Services Digital Network) line, a dial-up port such as a V.90, V.34 or V.34bis analog modem connection, a cable modem, an ATM (Asynchronous Transfer Mode) connection, or FDDN (Fiber Distributed Data Networks) or CDDI (Copper Distributed Data Interface) connections. Communications link **120** may furthermore be, include or access any one or more of a WAP (Wireless Application Protocol) link, a GPRS (General Packet Radio Service) link, a GSM (Global System for Mobile Communication) link, a CDMA (Code Division Multiple Access) or TDMA (Time Division Multiple Access) link such as a cellular phone channel, a GPS (Global Positioning System) link, CDPD (cellular digital packet data), a RIM (Research in Motion, Limited) duplex paging type device, a Bluetooth™ radio link, or an IEEE 802.11-based radio frequency link. Communications link **120** may yet further be, include or access any one or more of an RS-232 serial connection, an IEEE-1394 (Firewire) connection, an IrDA (infrared) port, a SCSI (Small Computer Serial Interface) connection, a USB (Universal Serial Bus) connection or other wired or wireless, digital or analog interface or connection. Any type of communication link that is capable of transmitting data, by wired or wireless methods, between RCT **100** and BOFD system **110** is suitable for use in the invention, whether now known or later developed.

Communications over communication link **120** may be secure to safeguard against theft of transmitted data. For example, communications along communications link **120** may be encrypted using any method of encryption now known or later developed, including but not limited to symmetric key encryption such as DES, IDEA or AES, asymmetric or public key encryption, checksums, cyclic redundancy checks, message authentication codes, digital signatures, or combinations or variations of the foregoing.

Additionally, the BOFD system **110** may be connected to one or more check clearing systems **130** via a communication link **140**. The check clearing systems may comprise for-profit clearing houses **131**, Federal Reserve banks **132**, and local paying banks **134**. The clearing houses **131** and Federal Reserve banks **132** may in turn have means for communication with non-local paying banks **133**.

Further, the BOFD system **110** may include or be connected via a communication link **160** to one or more databases **150** that include information on financial instruments that have been previously deposited.

As with link **120**, links **140** and **160** may be accomplished through any number of schemes for networked or point-to-point communications. Communications along links **140** and **160** may also be encrypted as for link **120** for security of information that is transmitted along those links.

The next two sections provide a description of a method for depositing financial instruments as provided by the invention.

Overview of the Information Flow from the Customer Perspective

FIG. **2** is a diagram illustrating the flow of information from the perspective of a banking customer, according to one embodiment of the present invention.

The process begins when the banking customer receives a financial instrument payable to him/her 200. The financial instrument may be drawn on the banking customer's bank, a local bank, a non-local bank in the United States, or a foreign bank. Alternatively, the banking customer may receive a digital image of a financial instrument payable to him/her.

The banking customer may then "log on" to the BOFD system **110** from a RCT **100** using a Personal Identification Number (PIN), password, secret and/or other means of identification **210**. Any means of verifying the banking customer's identification may be used, including biometrics such as retinal scan, fingerprint, voice recognition, DNA, handprint recognition or handwriting recognition (alone or in combina-

tion), or any other identification means now known or later developed. The banking customer may then select "deposit" from a menu of transaction options **220** as presented by the BOFD system **110**.

In step **230**, the banking customer may respond to prompts for each item of data needed to deposit the financial instrument. In one embodiment, the banking customer may enter a predetermined set of data all at once, for example where all data input fields are visible on the display screen of the RCT **100**. The banking customer may be prompted to supply additional information in step **240** if the BOFD system **110** requests information not entered previously by the banking customer.

In another embodiment, either before logging on to the BOFD system **110** or during a session initiated by logging in, the banking customer may prepare a digital image of the financial instrument using DIS or a digital camera, or any other method of preparing a digital image now known or later developed. Additionally or alternatively, the banking customer may receive a digital image of the financial instrument from the payor. The banking customer may store the digital image of the financial instrument in the RCT memory **104**.

Additionally, the banking customer may access software stored in the RCT memory **104** that can "recognize" data in or on the digital image of the financial instrument and store that data in the RCT memory **104**. This data may be stored in the same file as the digital image of the financial instrument, or it may be stored in a different memory location. If stored in different locations, the files storing the digital image and the data may be linked. In another embodiment, in addition or alternatively, the banking customer may enter data into the RCT memory **104** using RCT input devices **101** such as the keypad, keyboard or microphone for storage. Further, the digital image of the financial instrument may be stored in RCT memory **104** either before the session initiated by logging on to the BOFD system **110**, or during the session.

Data may comprise customer identification, customer account number, name of payor, name and routing number of payor's bank, the amount of the financial instrument, an image of the financial instrument, along with other information.

Upon prompting by the BOFD system **110** during the session, the banking customer may submit the data taken from the financial instrument, along with the digital image of the financial instrument, to the BOFD system **110** for processing **250**, and may receive acknowledgement from the BOFD system **110** that the transaction is being processed **260**. Alternatively, the banking customer may upload the digital image of the financial instrument and the data from the financial instrument directly to the BOFD system **110** from other storage or using input devices without storing that digital image and data into RCT memory **104**. For example, memory devices such as "thumb" drives, non-persistent memory devices or any other method of storing a digital image and data that can be accessed for uploading to the BOFD system **110** are suitable.

In another embodiment, two or more devices may comprise the RCT **110**. For example, the banking customer may prepare a digital image of the financial instrument and/or enter data taken from the financial instrument into a device such as a digital camera, a cell phone or a PDA, transmit that information to a workstation such as a personal computer and then log into the BOFD system **110** from the workstation. In yet another embodiment, the banking customer may prepare a digital image of the financial instrument with a device such as a digital camera, a cell phone or a PDA, transmit the digital image to a workstation such as a personal computer, enter data taken from the financial instrument into an input device in communication with the workstation and then log into the BOFD system **110** from the workstation. Any combination of devices and input devices may comprise the RCT **100**.

The banking customer may receive a response **270** indicating, for example, that immediate provisional credit for the deposit of the financial instrument has been given, that full credit has been awarded, or that the transaction request has been denied, according to bank procedures.

If credit was issued, the financial instrument may be subjected to certain actions **280** in order to prevent re-deposit of the same financial instrument. One possible action is that the financial instrument is marked, for example, by human or machine readable ink. Alternatively, the financial instrument may be physically captured by the RCT **100**, for example, via deposit into an ATM vault.

In one embodiment, the banking customer may log onto BOFD system **110** and check the status of a deposit transaction. In another embodiment, the BOFD system **110** may notify the banking customer that there is missing or erroneous information or data regarding the financial instrument or deposit transaction request, or there are outstanding questions regarding the deposit transaction request, in which case the banking customer may log onto the BOFD system **110** and input missing or erroneous information or data or provide answers to outstanding questions. In another embodiment, the banking customer may access BOFD system **110** and access previously inputted data to check for correctness, to correct erroneous inputted data or to make other alterations to the deposit transaction request. For example, the banking customer may request that the deposit be placed in a different account than was originally requested, that some of the deposit amount be credited to an outstanding account such as a loan or a credit account or that some of the deposit amount be placed in a stored value account.

Overview of the Information Flow from the Bank Perspective

FIG. **3** is a diagram illustrating the flow of information from the perspective of the BOFD system, according to one embodiment of the invention.

The process may begin with a logon request **300** from the banking customer. A security function **305** may terminate the process for any unauthorized user **310**. Once the banking customer has been authorized to access the BOFD system **110**, the authorized user may be promoted to a data collection step, where data regarding the banking customer and the financial instrument is received **315**, and an acknowledgement of receipt is sent to the customer **320**.

The BOFD system **110** may review the identity of the paying bank **325**. If the BOFD is the paying bank, the BOFD system **110** may issue immediate full credit to the account of the payee banking customer **330**. Otherwise, the BOFD system **110** may issue "provisional" credit to the banking customer **335**. Regardless of the type of credit issued, the BOFD system **110** may initiate certain actions **340** to prevent redeposit of the same financial instrument (see discussion of step **280** above). This may end the interactive session with the banking customer.

Next, the BOFD system **110** may make a decision concerning the method for "clearing" the financial instrument through another bank **345**. If the transaction will be converted to an Electronic Funds Transfer (EFT), the BOFD system **110** may have to obtain a payor authorization **350** to support preparation of the EFT transaction **355** using the financial instrument data that was transmitted from the RCT **100** to the BOFD system **110**. Alternatively, the BOFD system **110** may format the transaction for Electronic Check Presentment (ECP) **360** using the financial instrument data that was trans-

mitted from the RCT **100** to the BOFD system **110**, according to certain pre-established agreements with the paying bank. If, however, the BOFD system **110** does not have either the payor's authorization for an EFT, or an agreement with the paying bank for ECP, then the BOFD may print a reconstructed check **365** using the financial instrument data that was transmitted from the RCT **100** to the BOFD system **110**. In any of these alternatives, the deposit of the financial instrument can be "cleared" without physical receipt of the financial instrument by the BOFD system **110**.

In the case of "clearing" using a reconstructed check **370**, the clearing process **375** is the traditional method for physically routing a paper financial instrument to the paying bank for payment. In an EFT or ECP transaction, the clearing process **375** may be accomplished by automated systems. The BOFD system **110** may submit the electronic transactions individually, or in batch. The clearing process **375** may involve data transfer directly to a local paying bank, or it may involve transfer of data to a clearing house or Federal Reserve bank for ultimate credit by the paying bank.

The paying bank may issue credit for the financial instrument **380**. If credit is given, the BOFD system **110** may change the banking customer's credit from "provisional" to "full" **385**. If however, the paying bank fails to pay the financial instrument, the BOFD system **110** may retract the "provisional" credit issued earlier **390**.

The specification and examples provided above should be considered exemplary only. It will be evident that various modifications and changes may be made thereto, and additional embodiments may be implemented, without departing from the broader scope of the disclosure. The specification and drawings are accordingly to be regarded in an illustrative rather than restrictive sense.

What is claimed is:

1. A system for depositing value associated with a financial instrument into a bank account of a banking customer payee comprising:

a customer terminal, located remote from a bank, the customer terminal comprising, a cell phone, a wireless handheld device, a personal digital assistant, or any combination thereof, the customer terminal further comprising at least an electronic processor and digital imaging capabilities;

an automated banking system comprising an electronic processor and connected to the customer terminal via a communication link; and

a check clearing system comprising an electronic processor, the check clearing system connected to the automated banking system via a communication link, the check clearing system being located remote from the automated banking system,

wherein the automated banking system is configured such that information from the financial instrument is received from the customer terminal, the information originating from a digital image of the financial instrument, the digital image having been electronically received by the banking customer payee from a digital camera interfaced with the customer terminal as part of the digital imaging capabilities and the digital image is directly sent to the automated banking system without requiring the banking customer payee to produce a physical copy of the digital image and the information is used to determine whether the automated banking system is associated with a paying bank of the financial instrument, wherein the information comprises a routing number, an account number, a date written, and an amount of the financial instrument, as well as the digital image of the financial instrument, and

wherein the automated banking system and check clearing system are configured to effectuate deposit of the value of the financial instrument into the bank account of the banking customer payee without physical receipt of the financial instrument by the automated banking system.

2. The system of claim **1**, wherein the remote customer terminal further comprises one or more of a keypad, a keyboard, a microphone, a magnetic ink character reader, a digital image scanner, or a bar code scanner.

3. The system of claim **2**, wherein the remote customer terminal further comprises optical recognition software configured to convert machine printed characters to electronic text or an intelligent character recognition configured to convert handwritten characters to electronic text.

4. The system of claim **1**, wherein the remote customer terminal further comprises a printer configured to print a receipt or to mark the financial instrument using human readable ink or machine readable ink.

5. The system of claim **1**, wherein the banking customer account comprises a demand deposit account.

6. The system of claim **1**, wherein the automated banking system comprises a telephone, a cellular phone, a facsimile machine, a personal computer, a mainframe computer, a wireless handheld device, a personal digital assistant or any combination thereof.

7. The system of claim **1**, wherein the financial instrument comprises a negotiable instrument.

8. The system of claim **7**, wherein the financial instrument comprises a check.

9. A computerized method for a banking customer to deposit a value of a financial instrument into a bank account from a location that is remotely situated with respect to a bank, comprising:

logging the banking customer onto an automated electronic banking system through a customer terminal remotely located with respect to the bank and the automated electronic banking system, wherein the customer terminal comprises a cell phone, a wireless handheld device, a personal digital assistant, or any combination thereof, the customer terminal further comprising at least an electronic processor and digital imaging capabilities;

receiving a request by the automated electronic banking system from the banking customer to deposit the value of the financial instrument that is made payable to the banking customer;

receiving, by the automated electronic banking system, a digital image of the financial instrument from the customer terminal, the digital image having been electronically received by the banking customer from a digital camera interfaced with the customer terminal as part of the digital imaging capabilities and the digital image is directly sent to the automated banking system without requiring the banking customer to produce a physical copy of the digital image;

receiving, by the automated electronic banking system, transaction data transmitted by the banking customer and determining whether the automated electronic banking system is associated with a paying bank of the financial instrument based at least in part on the transaction data, wherein the transaction data comprises a routing number, an account number, a date written and an amount of the financial instrument;

depositing, by the automated electronic banking system, the value of the financial instrument into a bank account

represented by the routing number and the account number without physical receipt of the financial instrument by the automated electronic banking system; and

transmitting by the automated electronic banking system to the banking customer a result of the transaction for the financial instrument.

10. The method of claim **9**, wherein the result of the transaction comprises a credit to the banking customer's account, a provisional credit to the banking customer payee's account, or a denial of the transaction.

11. The method of claim **9**, wherein depositing comprises electronic funds transfer, electronic check presentment or printing a reconstructed check, and physically routing the reconstructed check to the paying bank for payment.

12. The method of claim **11**, wherein the reconstructed check is printed from the digital image of the financial instrument being deposited by the banking customer.

13. The method of claim **9**, further comprising

subjecting the financial instrument to one or more actions to prevent redeposit of the financial instrument.

14. The method of claim **13**, wherein the one or more actions comprise marking the financial instrument by human or machine readable ink, making an inquiry to a database whether the financial instrument has previously been deposited before receipt of the present deposit request, or combinations thereof.

15. The method of claim **9**, wherein the bank account comprises a demand deposit account.

16. The method of claim **9**, wherein the automated electronic banking system comprises a telephone, a cellular phone, a facsimile machine, a personal computer, a mainframe computer, a wireless handheld device, a wireless handheld device, a personal digital assistant, or any combination thereof.

17. The method of claim **9**, wherein the financial instrument comprises a plurality of financial instruments payable to a plurality of banking customers.

18. The method of claim **9**, wherein the financial instrument comprises a negotiable instrument.

19. The method of claim **18**, wherein the financial instrument comprises a check.

20. A computerized method for a banking customer to deposit a value of a financial instrument from a location that is remote from a bank, comprising:

logging onto an automated electronic banking system from a customer terminal located remote from the bank, wherein the customer terminal comprises a cell phone, a wireless handheld device, a personal digital assistant, or any combination thereof, the customer terminal further comprising at least an electronic processor and digital imaging capabilities;

transmitting to the automated electronic banking system a request for authorization to make a transaction;

receiving authorization to access the automated electronic banking system;

transmitting a digital image of the financial instrument, the digital image having been electronically received by the banking customer from a digital camera interfaced with the customer terminal as part of the digital imaging capabilities and the digital image is directly sent to the automated banking system without requiring the banking customer to produce a physical copy of the digital image, and transaction data to the automated electronic banking system and determining whether the automated electronic banking system is associated with a paying bank of the financial instrument based at least in part on the transaction data, wherein the transaction data comprises a routing number, an account number, a date written and an amount of the financial instrument; and

receiving confirmation that the value of the financial instrument has been deposited into the account of the banking customer by the automated electronic banking system without physical receipt of the financial instrument by the automated electronic banking system.

21. The method of claim **20**, wherein the value of the financial instrument is credited to the banking customer's account, provisionally credited to the banking customer payee's account, or the deposit request is denied.

22. The method of claim **20**, wherein the value of the financial instrument is deposited by the automated electronic banking system by electronic funds transfer, electronic check presentment or printing of a reconstructed check and physically routing the reconstructed check to the paying bank for payment.

23. The method of claim **22**, wherein the reconstructed check is printed from the digital image of the financial instrument being deposited by the banking customer.

24. The method of claim **20**, further comprising subjecting the financial instrument to one or more actions to prevent redeposit of the financial instrument.

25. The method of claim **24**, wherein the one or more actions comprise marking the financial instrument by human or machine readable ink, making an inquiry by the automated electronic banking system to a database whether the financial instrument has previously been deposited before receipt of the present deposit request, or combinations thereof.

26. The method of claim **20**, wherein the account comprises a demand deposit account.

27. The method of claim **20**, wherein the automated electronic banking system comprises a telephone, a cellular phone, a facsimile machine, a personal computer, a mainframe computer, a wireless handheld device, a personal digital assistant, a wireless handheld device, or combinations thereof.

28. The method of claim **20**, wherein the financial instrument comprises a plurality of financial instruments.

29. The method of claim **20**, wherein the customer terminal further comprises one or more input devices and output devices, a processing unit, a memory device, and a communications link to the automated electronic banking system.

30. The method of claim **29**, wherein the one or more input devices comprise a keypad, a keyboard, a microphone, a magnetic ink character reader, a digital image scanner, a bar code scanner, or any combination thereof.

31. The method of claim **20**, wherein the customer terminal digital imaging capabilities comprise optical recognition software configured to convert machine printed characters to electronic text and an intelligent character recognition software configured to convert handwritten characters to electronic text.

32. The method of claim **20**, further comprising entering the transaction data into the customer terminal through one or more input devices.

33. The method of claim **20**, wherein at least part of the transaction data comprises machine readable data on the financial instrument.

34. The method of claim **20**, wherein at least part of the transaction data is stored in a memory device associated with the customer terminal.

35. The method of claim **20**, wherein the financial instrument comprises a negotiable instrument.

36. The method of claim **35**, wherein the financial instrument comprises a check.

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