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(54) **Title:** A METHOD, DEVICE AND SYSTEM FOR CONDUCTING A FINANCIAL TRANSACTION

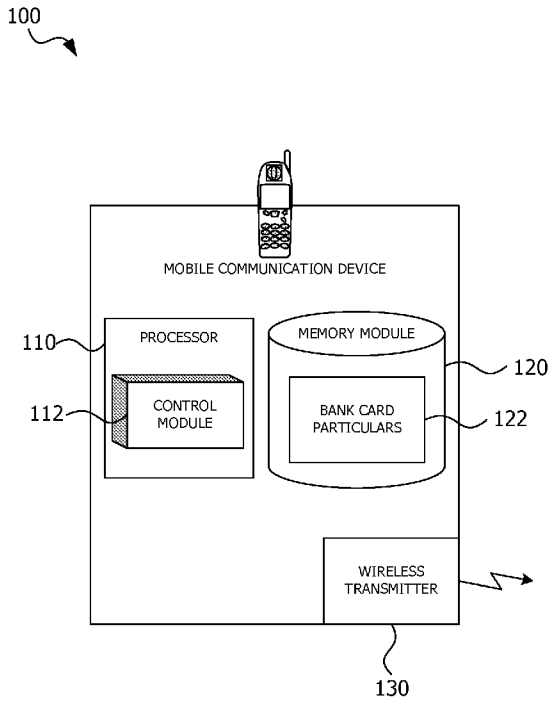

FIG. 1

(57) **Abstract:** This invention relates to a method (200) of conducting a financial transaction, to a mobile communication device (100) and to a banking system (150). The method includes receiving (208) by a mobile communication device (100) a user input directing the mobile communication device (100) to initiate transmission of a wireless transaction message. The method further includes transmitting (210) wirelessly, in response to receipt of the user input, a transaction message including particulars of at least one bank account to a banking terminal (152) of a vendor.

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A method, device and system for conducting a financial transaction

FIELD OF INVENION

THIS INVENTION relates to a method, device and system for conducting a financial transaction.

BACKGROUND OF THE INVENTION

The Inventor has noted that bank cards, while providing access to financial services which otherwise may not be available, have their drawbacks. For instance, a purchaser is required to carry his/her bank card to conduct many types of transactions. Furthermore, fraudulent use or theft of bank cards is possible.

The Inventor has noted a proliferation of mobile telephone banking services in recent times. While there are products and services which address the above problems to some extent, the Inventor desires a better or alternative method, device and system to provide an improved product or service.

SUMMARY OF INVENTION

According to one aspect of the invention, there is provided a method of conducting a financial transaction, the method including:

receiving by a mobile communication device a user input directing the mobile communication device to initiate transmission of a wireless transaction message; and

transmitting wirelessly, in response to receipt of the user input, a transaction message including particulars of at least one bank account to a banking terminal of a vendor.

More particularly, the particulars of a bank account may be particulars of a bank card. In this specification, the term "bank card" is understood to include any card issued by a bank or other provider of financial services (such as a retail store) and includes a credit card, a debit card, and ATM card, a garage card, cards relating to an account of a retail store/merchant, and the like.

The method may include the prior step of storing the particulars of the bank card on the mobile communication device. In this regard, "particulars" is understood to include, but is not necessarily limited to, a bank card number (e.g. account number), a name of the bank card holder, an expiry date, and the like.

The mobile communication device may be in the form of a mobile telephone (e.g. a cellular telephone), a PDA (Personal Digital Assistant), a portable computer (such as a notebook) or other similar electronic device. In the specification, the term "mobile" is understood also to include portable.

The method may include the step of receiving, by the banking terminal, the transaction message. The banking terminal may be in the form of a point of sale (POS) terminal (such as a till or cash register). For example, the point of sale terminal may be hosted by a vendor in the form of a retail store (or other provider of products or services). Instead, or in addition, the banking terminal may be an ATM terminal, in which case the vendor would be the bank itself.

The method may include communicating the particulars of the bank account to a bank or banking network to authenticate the particulars and thereafter to conduct the financial transaction. In other words, once the banking terminal has received a transaction message from the mobile communication device, it authenticates the particulars as though it had received them in conventional fashion from the swiping or

insertion of the bank card to which the particulars relate. It is thus intended that the mobile communication device in accordance with the invention could replace (at least some functionality of) existing bank cards. A financial transaction using the mobile communication device may emulate that using a conventional bank card.

Transmitting the transaction message may include transmitting the message directly to the banking terminal. In such case, the message may be an infrared message or an RF (Radio Frequency) message (e.g. a Bluetooth message, WiFi, WiMax, etc). Instead, the message may be a NFC (Near Field Communication) message.

Instead, or in addition, transmitting of the transaction message may include transmitting the message indirectly, for example via a mobile telephone network, to the banking terminal. In such case, the message may be in the form of an SMS (Short Message Service) message or the like.

The method may include selecting one bank account from a plurality of possible bank accounts from which to send the particulars. The method may include providing the mobile communication device with a user interface, for example in the form of an interactive menu, via which the purchaser may select a particular bank account and enter the user input directing the mobile communication device to initiate transmission of the transaction message.

The method may include authenticating a user and allowing access to the user interface only to an authenticated user. More specifically, the method may include encrypting the user interface and requiring entry of a PIN (Personal Identification Number) before allowing full access to the user interface. The PIN may be an alphanumeric combination of characters which may be the same as all different for a PIN (if present) of the mobile communication device itself.

Sending of the transaction message may not necessarily require receipt of an interrogation message from the banking terminal, the communication from the mobile communication device to the banking terminal need only be unidirectional. Thus, a

banking terminal for use in accordance with the method need only be operable to receive the transaction message and need not be configured for transmitting any messages to the mobile communication device.

Also to be appreciated is that the mobile communication device does not necessarily communicate directly with a bank or banking network, but rather with the banking terminal which if desired may communicate, in turn, with the bank or banking network.

The method may be implemented, at least partially, by a set of instructions (e.g. a computer program) stored on the mobile communication device. The method may therefore include the prior step of installing the computer program on a conventional mobile communication device so that it may then perform a method in accordance with the invention.

The invention extends to a method of conducting a financial transaction, the method including receiving by a banking terminal of a vendor a wireless transaction message from a mobile communication device without the banking terminal sending an interrogating message.

According to another aspect of the invention, there is provided a mobile communication device which includes:

a memory module having stored thereon particulars of at least one bank account;

a wireless transmitter operable to send a wireless transaction message which includes the particulars of the bank account;

an input arrangement operable to receive a user input directing the mobile communication device to initiate transmission of the transaction message; and

a control module operable to generate and send the transaction message from the transmitter in response to receipt of the user input.

The input arrangement may be in the form of a keypad or touch sensitive display screen.

The mobile communication device may include a processor. In such case, the control module may be a conceptual module corresponding to a task performed by the processor. To this end, the mobile communication device may include a machine-readable medium, e.g. the memory module, which carries a set of instructions (e.g. a computer program or software application) to direct the operation of the processor. It is to be understood that the processor may be one or more microprocessors, controllers, or any other suitable computing device, resource, hardware, software, or embedded logic.

The mobile communication device may include a display screen, in which case the control module may be operable to provide a user interface, for example by displaying an interactive menu on the display screen. The menu may include a plurality of options relating to one or more of payments, withdrawals, account management, and/or other financial services. In particular, the user/purchaser may enter the user input via the keypad by selecting one of the menu options. The purchaser may select details of a particular bank account (or bank card) to transmit in the transaction message. The control module may be operable to authenticate a user and to allow access to the user interface only to authenticated users. More specifically, the control module may require entry of a PIN before providing access to further features and/or before allowing transmission of the transaction message.

The mobile communication device may be an existing device (e.g. a cellular telephone) on which a computer program is installed, thus rendering it a mobile communication device in accordance with the invention.

The mobile communication device may be operable independently of mobile telephone networks. Thus, regardless of which mobile telephone network the mobile communication device is in communication with (or indeed even whether or not the mobile communication device is in communication with a mobile telephone network), the financial transaction may still be capable of being conducted.

The invention extends further to a banking system which includes:

a mobile communication device as defined above; and

a banking terminal which includes a wireless receiver operable to receive the transaction message.

The banking terminal may be a conventional banking terminal (e.g. POS terminal or ATM terminal) adapted to include the wireless receiver. The banking terminal may include a communication arrangement operable to communicate to a bank or bank network the particulars of a bank account thereby to authorise and conduct the financial transaction. In other words, the banking terminal may authenticate the particulars with a bank or bank network as though the banking terminal had received the particulars from conventional insertion or swiping of a bank card. The banking terminal may require input of a PIN (e.g. for debit cards) or verification of a signature (e.g. for credit cards) prior to concluding a particular transaction.

The invention extends to a machine-readable medium embodying a set of instructions which, when executed by a machine, causes the machine to perform a method as above defined.

BRIEF DESCRIPTION OF DRAWINGS

The invention will now be further described, by way of example, with reference to the accompanying diagrammatic drawings.

In the drawings:

Figure 1 shows a schematic view of a device in accordance with the invention;

Figure 2 shows a schematic view of a system including the device of Figure 1;

Figure 3 shows a flow diagram of a method in accordance with the invention;

Figure 4 shows a user interface in accordance with the invention; and

Figure 5 shows a diagrammatic representation of a machine within which a set of instructions, for causing the device to perform any one or more of the methodologies discussed herein, may be executed.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring now to Figure 1, reference numeral 100 generally indicates a mobile communication device in accordance with the invention. For ease of explanation, this example is further described with reference to a mobile communication device 100 in the form of a cellular telephone 100.

The cellular telephone 100 includes a processor 110 and a memory module 120 in conventional fashion. However, in accordance with the invention, the processor 110 embodies a control module 112 while the memory module 120 has stored thereon particulars 122 relating to at least one bank account. The particulars of the bank account include particulars of a bank card, and in this example include particulars of a plurality of bank cards.

The cellular telephone 100 further includes a wireless transmitter 130 which in this example is an NFC (Near Field Communication) transmitter which is in the form of at least one loop antenna. In other embodiments, the transmitter 130 could be optical (e.g. infrared) or other relatively short range RF (e.g. Bluetooth). The cellular telephone 100 includes a keypad via which a user (further referred to in this example as a purchaser) can enter a user input and includes a display screen on which a user interface can be displayed to prompt and guide the purchaser for input.

The control module 112 is a conceptual module which corresponds to a functional task performed by the processor 110. To this end, the cellular telephone 100 includes (for instance stored on the memory module 120) a set of instructions, for example in the form of an executable software application which may be downloaded

from a cellular telephone network and stored on and executed by the cellular telephone 100. Instead, the application may be pre-installed on new cellular telephones.

More particularly, the control module 112 is configured to send, in response to a user input directing the cellular telephone 100 to initiate transmission of a transaction message, the transaction message from the wireless transmitter 130, the transaction message including the particulars 122 of one bank card which is stored on the memory module 120.

In other words, the transmission of the transaction message is initiated by the purchaser by pressing the appropriate button or button combinations on the keypad. This process is further described below.

Referring now also to Figure 2, reference numeral 150 generally indicates a system in accordance with the invention. The system 150 includes at least one cellular telephone 100 and at least one banking terminal 152. In this example, the banking terminal 152 is in the form of a POS terminal 152, although it is to be appreciated that it could take many other forms. In accordance with the invention, the POS terminal includes a wireless receiver which is configured to receive the transaction message once it is transmitted from the cellular telephone 100.

In conventional fashion, the POS terminal 152 includes an authentication module 156 and a communication arrangement 158. If desired, the communication arrangement 158 could be integral with the wireless receiver 154. The authentication module 156 is configured to authenticate bank details (e.g. bank card particulars 122) received by the POS terminal 152 by communicating the details via the communication arrangement 158 with a banking network 160 and receiving a response message allowing or denying the pending financial transaction. In accordance with POS terminals of the prior art, the bank card details are received via a card reader which is configured to read a magnetic strip and/or a smart chip of a bank card. The POS terminal 152 in accordance with the invention may still include such a card reader, but

also includes the wireless receiver 154 for receiving bankcard details from the cellular telephone 100.

It is thus to be appreciated that the cellular telephone 100 in accordance with the invention can be used to emulate a conventional card-based financial transaction.

The example is further described in use with reference also to Figures 3 and 4. Figure 3 shows a flow diagram of a method 200 in accordance with the invention. Although the method 200 is described with reference to the cellular telephone 100 and the system 150, it is to be appreciated that the method 200 may find application with a different device and/or system and that the cellular telephone 100 may be used in accordance with a different method.

First, a software application is installed, at block 202, on the cellular telephone 100 (if it is not already installed). The application may be installed, for example, by connecting the cellular telephone 100 to a communications cable or wirelessly from a gateway of a cellular telephone network. The application embodies the control module 112 and is operable to present the user interface (in the form of a plurality of menus) which is illustrated by reference numeral 300 in Figure 4. It is to be appreciated that the application could, if desired, be integrated with the operating software of the cellular telephone 100.

Once the application is installed, the purchaser may access the user interface 300 on the cellular telephone 100. An icon or button of the cellular telephone 100 can then be associated with the user interface 300 conveniently to access it as required.

For security, the method 200 includes authenticating the purchaser and allowing access to the user interface only to authenticated purchasers. More specifically, the user interface 300 is encrypted and requires a PIN to allow access to its menu functions. The PIN can be defined the first time that the application is executed.

Thus, a purchaser has the application installed and has defined a PIN. The purchaser accesses the user interface by pressing the icon/button and a first menu 302 prompts, at block 203, the purchaser to enter his/her unique PIN. The cellular telephone 100 receives, at block 204, the PIN and if the PIN is correct, the cellular telephone 100 presents, at block 206, the purchaser with a plurality of menu options in the form of a top level banking menu 304.

The top-level banking menu 304 of Figure 4 shows four example options. It is to be appreciated that these options may be changed or further options added. Option 3 (banking) is used for conventional telephone banking and will not be discussed in further detail.

The purchaser uses option 1 (payment) to pay for products or services which he/she is busy purchasing. For instance, the purchaser is in the process of purchasing an article (e.g. clothing or the like) from a vendor and wishes to pay for the article. Instead of presenting his/her credit card as is conventionally done, the purchaser selects option 1 on the menu 304 and the cellular telephone receives, at block 208, a user input indicative of the selection. The user interface 300 presents a payment menu 306 offering the purchaser a choice of banking cards with which to complete the purchase. It is to be appreciated that the particulars 122 of the banking cards have been pre-inputted by the purchaser and stored on the memory module 120 of the cellular telephone 100.

The purchaser inputs a selection of one of the banking cards and the cellular telephone 100 receives (also at block 208) a user input indicative of the particular banking card thus directing the cellular telephone 100 to initiate transmission of a transaction message to a proximate POS terminal 152. Under the direction of the control module 112, the cellular telephone 100 gathers the particulars 122 of the selected bank card, generates a transaction message which includes the particulars 122 and transmits, at block 210, the transaction message wirelessly (e.g. via NFC) to the POS terminal 152.

It will be observed that at no stage up to and including the transmission of the transaction message was any interrogating or other communication received by the cellular telephone 100 from the POS terminal 152. Thus, the communication between the cellular telephone 100 and the banking terminal 152 is unidirectional and initiated on the direction of the purchaser.

Correspondingly, the POS terminal 152 receives, at block 212, the transaction message using its wireless receiver 154. The banking terminal 152 then proceeds to authenticate, at block 214, the particulars 122 of the bank card contained in the transaction message as though it had received the particulars in conventional fashion from its card reader. The transaction is then completed in conventional fashion, e.g. with the purchaser being required to enter a PIN into the POS terminal 152 as in the case of a debit card.

Menu option 2 is used for withdrawing cash from an ATM (Automatic Teller Machine). The same method 200 is still applicable. If the purchaser wishes to make a cash withdrawal, he/she stands proximate the ATM (now acting as the banking terminal 152) selects menu option 2 from the top level banking menu 304 and is presented with a withdrawal menu 308.

The purchaser selects a banking card (in similar fashion to making a payment described above) from the withdrawal menu 308 and inputs, at block 208, the selection directing the cellular telephone 100 to initiate and send, at block 210, the transaction message including the particulars 122 of the selected bank card. The ATM 152 would typically prompt for entry of a PIN and issue banknotes in response to entry of the correct PIN on a keypad of the ATM.

An additional feature which can be offered by the user interface 300 of the cellular telephone 100, if desired, is that of accounts payment. This is useful for paying recurring accounts such as a utility or telephone account. The purchaser can enter the details of the payee to be provided with an option of sending a transaction message to that particular payee in an account menu 310. In this instance, the transaction

message is indirectly sent to the payee, for example in the form of an SMS message sent across the cellular telephone network. Thus, the details of the payee (previously entered by the purchaser) advantageously include a telephone number.

The purchaser selects menu option 4 from the top level banking menu 304 and then selects a particular account which he/she wishes to pay from the account menu 310. The purchaser is then presented with a sub-account menu 312 from which to select a particular bank card for payment of the account in similar fashion as with payments or withdrawals. Also, the purchaser is prompted for an amount, from account menu 314.

Once the purchaser has entered an amount, the cellular telephone 100 transmits the transaction message in the form of an SMS message which includes particulars 122 of the selected bank card, an amount to be paid and authorisation for the payee to deduct that amount from the bank account associated with the bank card.

Figure 5 shows a diagrammatic representation of a machine in the example form of a computer system 400 within which a set of instructions, for causing the machine to perform any one or more of the methodologies discussed herein, may be executed. In alternative embodiments, the machine operates as a standalone device or may be connected (e.g., networked) to other machines. In a networked deployment, the machine may operate in the capacity of a server or a client machine in server-client network environment, or as a peer machine in a peer-to-peer (or distributed) network environment. The machine may be a personal computer (PC), a tablet PC, a set-top box (STB), a Personal Digital Assistant (PDA), a cellular telephone, a web appliance, a network router, switch or bridge, or any machine capable of executing a set of instructions (sequential or otherwise) that specify actions to be taken by that machine. Further, while only a single machine is illustrated, the term "machine" shall also be taken to include any collection of machines that individually or jointly execute a set (or multiple sets) of instructions to perform any one or more of the methodologies discussed herein.

The example computer system 400 includes a processor 402 (e.g., a central processing unit (CPU), a graphics processing unit (GPU), a digital signal processor (DSP), or any combination of these processors, a main memory 404 and a static memory 406, which communicate with each other via a bus 408. The computer system 400 may further include a video display unit 410 (e.g., a liquid crystal display (LCD)). The computer system 400 also includes an alphanumeric input device 412 (e.g., a keyboard), a user interface (UI) navigation device 414 (e.g., a mouse), a disk drive unit 416, a signal generation device 418 (e.g., a speaker) and a network interface device 420.

The disk drive unit 416 includes a machine-readable medium 422 on which is stored one or more sets of instructions and data structures (e.g., software 424) embodying or utilised by any one or more of the methodologies or functions described herein. The software 424 may also reside, completely or at least partially, within the main memory 404 and/or within the processor 402 during execution thereof by the computer system 400, the main memory 404 and the processor 402 also constituting machine-readable media.

The software 424 may further be transmitted or received over a network 426 via the network interface device 420 utilising any one of a number of well-known transfer protocols (e.g., HTTP, WAP).

While the machine-readable medium 422 is shown in an example embodiment to be a single medium, the term "machine-readable medium" should be taken to include a single medium or multiple media (e.g., a centralised or distributed database, and/or associated caches and servers) that store the one or more sets of instructions. The term "machine-readable medium" shall also be taken to include any medium that is capable of storing, encoding or carrying a set of instructions for execution by the machine and that cause the machine to perform any one or more of the methodologies of the present embodiments, or that is capable of storing, encoding or carrying data structures utilised by or associated with such a set of instructions. The

term "machine-readable medium" shall accordingly be taken to include, but not be limited to, solid-state memories, optical and magnetic media, and carrier wave signals.

The mobile communication device 100 and/or banking terminal 152 may be in the form of the computer system 400.

The Inventor believes that the invention as exemplified is advantageous as it provides a user-friendly and convenient device and method for conducting a financial transaction. Furthermore, the method may be implemented largely by existing devices (e.g. cellular telephones) and does not require complicated communication protocols between the mobile communication device and the banking terminal. In fact, because the communication is unidirectional, it is relatively quick as there is no need for pairing two devices with each other or for back and forth communication.

CLAIMS

1. A method of conducting a financial transaction, the method including:

receiving by a mobile communication device a user input directing the mobile communication device to initiate transmission of a wireless transaction message; and

transmitting wirelessly, in response to receipt of the user input, a transaction message including particulars of at least one bank account to a banking terminal of a vendor.

2. A method as claimed in claim 1, in which the particulars of a bank account are particulars of a bank card.

3. A method as claimed in claim 1 or claim 2, in which the method includes the prior step of storing the particulars of the bank account on the mobile communication device.

4. A method as claimed in any of the preceding claims, which includes the step of receiving, by the banking terminal, the transaction message.

5. A method as claimed in claim 4, which includes communicating the particulars of the bank account to a bank or banking network to authenticate the particulars and thereafter to conduct the financial transaction.

6. A method as claimed in any of the preceding claims, in which transmitting the transaction message includes transmitting the message directly to the banking terminal.

7. A method as claimed in claim 6, in which the message is one selected from the group composed of an infrared message and an RF (Radio Frequency) message.

8. A method as claimed in claim 6, in which the message is a NFC (Near Field Communication) message.

9. A method as claimed in any of claims 1 to 5 inclusive, in which transmitting of the transaction message includes transmitting the message indirectly, via a mobile telephone network, to the banking terminal.

10. A method as claimed in claim 9, in which the message is in the form of an SMS (Short Message Service) message.

11. A method as claimed in any of the preceding claims, which includes selecting one bank account from a plurality of possible bank accounts from which to send the particulars.

12. A method as claimed in claim 11, which includes providing a user interface via which the purchaser may select a particular bank account and enter the user input directing the mobile communication device to initiate transmission of the transaction message.

13. A method as claimed in claim 12, which includes:

authenticating a user; and

allowing access to the user interface only to an authenticated user.

14. A method as claimed in claim 13, which includes encrypting the user interface and requiring entry of a PIN (Personal Identification Number) before allowing full access to the user interface.

15. A method as claimed in any of the preceding claims, in which the sending of the transaction message does not require receipt of an interrogation message from the banking terminal, the communication from the mobile communication device to the banking terminal therefore being unidirectional.

16. A method as claimed in any of the preceding claims, which includes communicating between the banking terminal of the vendor and the bank or banking network, thereby to authorise the financial transaction.

17. A method of conducting a financial transaction, the method including receiving by a banking terminal of a vendor a wireless transaction message from a mobile communication device without the banking terminal sending an interrogating message.

18. A mobile communication device which includes:

a memory module having stored thereon particulars of at least one bank account;

a wireless transmitter operable to send a wireless transaction message which includes the particulars of the bank account;

an input arrangement operable to receive a user input directing the mobile communication device to initiate transmission of the transaction message; and

a control module operable to generate and send the transaction message from the transmitter in response to receipt of the user input, thereby to initiate a financial transaction.

19. A mobile communication device as claimed in claim 18, which includes a processor and in which the control module is a conceptual module corresponding to a task performed by the processor.

20. A mobile communication device as claimed in claim 18 or claim 19, in which:

the mobile communication device includes a display screen; and

the control module is operable to provide a user interface on the display screen.

21. A mobile communication device as claimed in claim 20, in which the control module is operable to authenticate a user and to allow access to the user interface only to authenticated users.

22. A mobile communication device as claimed in any of claims 18 to 21 inclusive, which is operable independently of mobile telephone networks.

23. A banking system which includes:

a mobile communication device as claimed in any of claims 18 to 22 inclusive; and

a banking terminal which includes a wireless receiver operable to receive the transaction message.

24. A banking system as claimed in claim 23, in which the banking terminal includes a communication arrangement operable to communicate to a bank or bank network the particulars of a bank account thereby to authorise and conduct the financial transaction.

25. A machine-readable medium embodying a set of instructions which, when executed by a machine, causes the machine to perform a method as claimed in any of claims 1 to 17 inclusive.

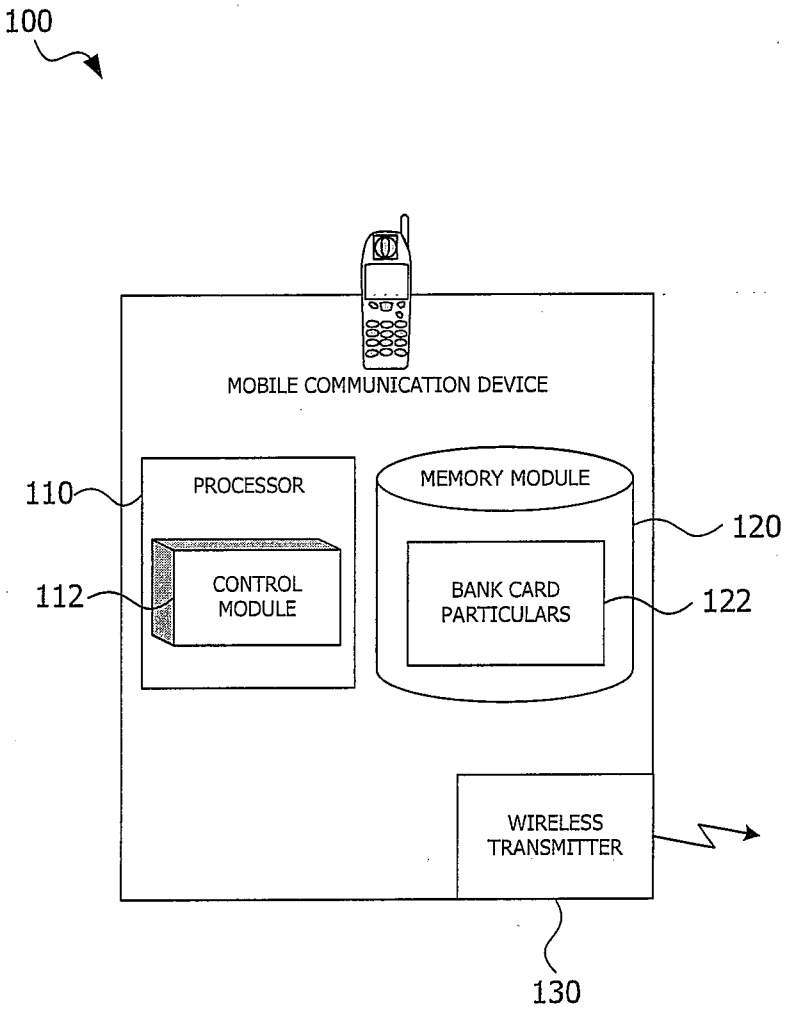
100
MOBILE COMMUNICATION DEVICE
PROCESSOR
110
CONTROL MODULE
112
MEMORY MODULE
120
BANK CARD PARTICULARS
122
WIRELESS TRANSMITTER
130

FIG. 1

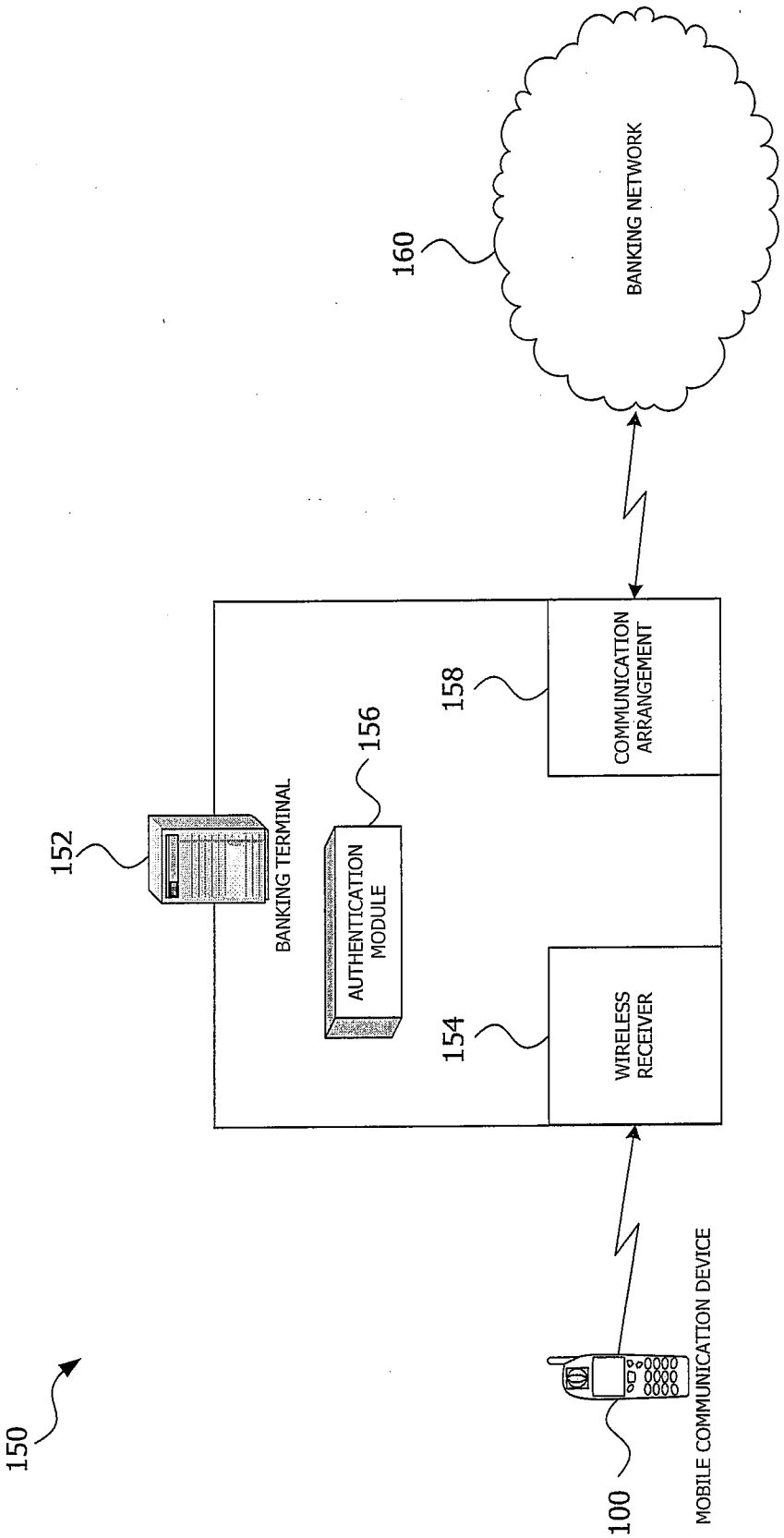
150
100
MOBILE COMMUNICATION DEVICE
152
BANKING TERMINAL
156
AUTHENTICATION MODULE
154
WIRELESS RECEIVER
158
COMMUNICATION ARRANGEMENT
160
BANKING NETWORK

FIG. 2

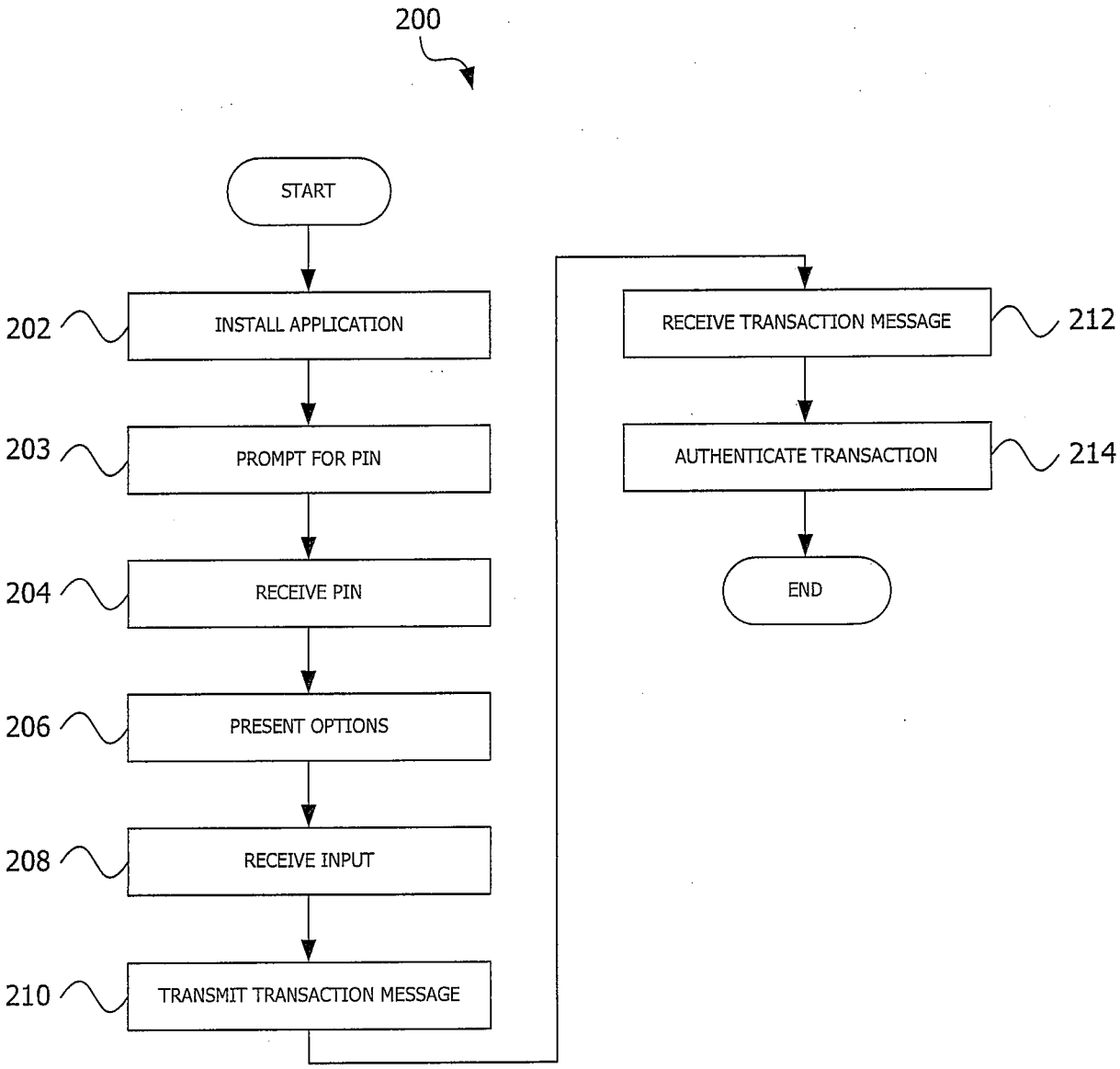
200
START
202
INSTALL APPLICATION
203
PROMPT FOR PIN
204
RECEIVE PIN
206
PRESENT OPTIONS
208
RECEIVE INPUT
210
TRANSMIT TRANSACTION MESSAGE
RECEIVE TRANSACTION MESSAGE
212
AUTHENTICATE TRANSACTION
214
END

FIG. 3

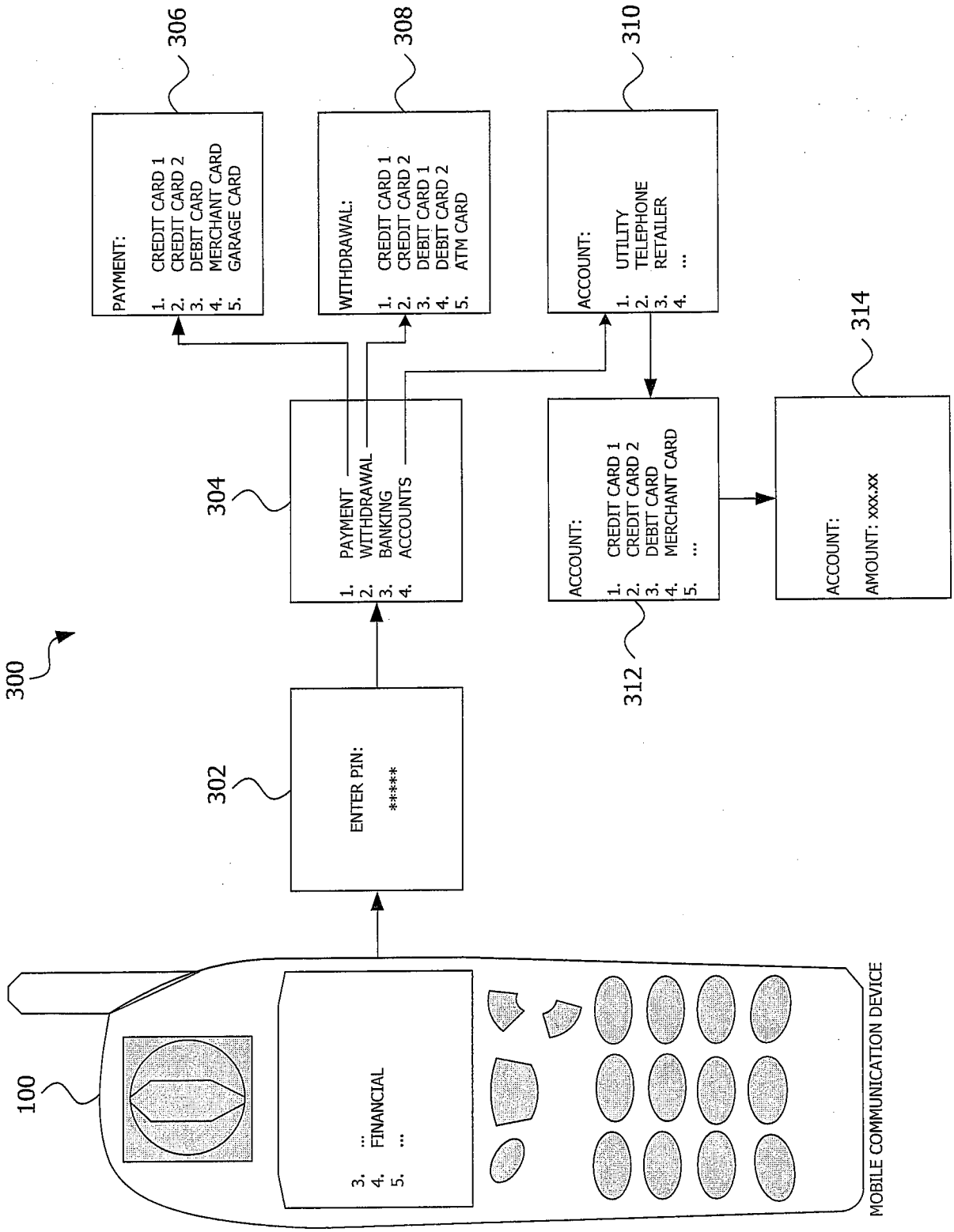
100
MOBILE COMMUNICATION DEVICE
3. ...
4. FINANCIAL
5. ...
300
302
ENTER PIN:
*****
304
1. PAYMENT
2. WITHDRAWAL
3. BANKING
4. ACCOUNTS
306
PAYMENT:
1. CREDIT CARD 1
2. CREDIT CARD 2
3. DEBIT CARD
4. MERCHANT CARD
5. GARAGE CARD
308
WITHDRAWAL:
1. CREDIT CARD 1
2. CREDIT CARD 2
3. DEBIT CARD 1
4. DEBIT CARD 2
5. ATM CARD
310
ACCOUNT:
1. UTILITY
2. TELEPHONE
3. RETAILER
4. ...
312
ACCOUNT:
1. CREDIT CARD 1
2. CREDIT CARD 2
3. DEBIT CARD
4. MERCHANT CARD
5. ...
314
ACCOUNT:
AMOUNT: xxx.xx

FIG. 4

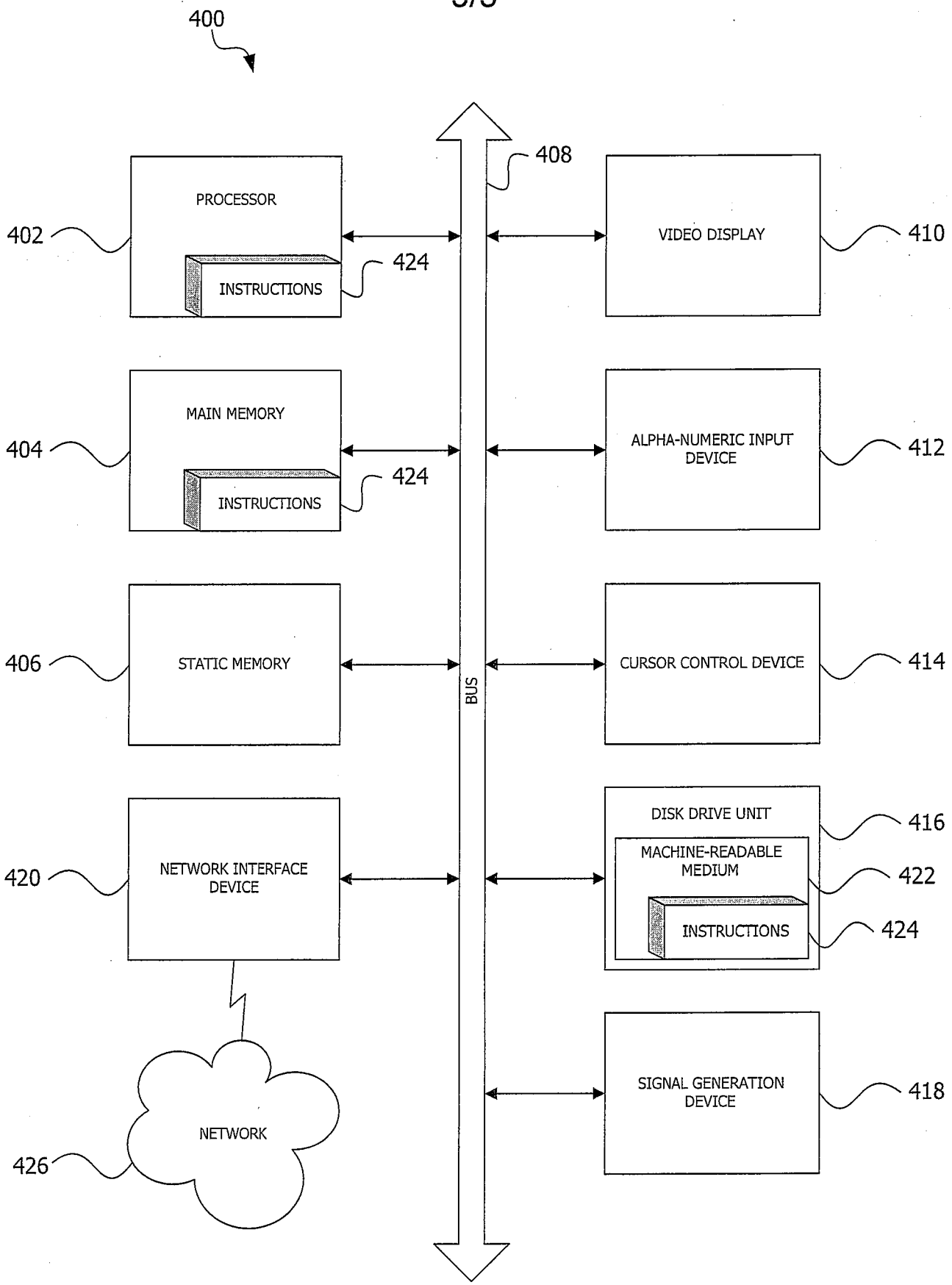
400
PROCESSOR
402
INSTRUCTIONS
424
MAIN MEMORY
404
INSTRUCTIONS
424
STATIC MEMORY
406
NETWORK INTERFACE DEVICE
420
NETWORK
426
BUS
408
VIDEO DISPLAY
410
ALPHA-NUMERIC INPUT DEVICE
412
CURSOR CONTROL DEVICE
414
DISK DRIVE UNIT
416
MACHINE-READABLE MEDIUM
422
INSTRUCTIONS
424
SIGNAL GENERATION DEVICE
418

FIG. 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2009/050341

A. CLASSIFICATION OF SUBJECT MATTER
INV. G07F7/10 G06Q20/00

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G07F G06Q

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/08238 A (IBM [US]; IBM UK [GB]) 18 February 1999 (1999-02-18) abstract page 7, line 30 - page 11, line 7 page 13, line 7 - page 14, line 41 page 15, line 26 - page 16, line 2 page 17, line 11 - page 18, line 39 figures -----	1-25
X	EP 1 136 962 A (NCR INT INC [US]) 26 September 2001 (2001-09-26) abstract paragraphs [0068] - [0071] figures -----	1-25

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 April 2009	28/04/2009

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Breugelmans, Jan

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2009/050341

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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