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(12) **United States Patent**
Fisher

(10) **Patent No.: US 10,902,399 B2**
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(54) **USING A MOBILE DEVICE FOR POINT OF ENTRY NFC TRANSACTIONS**

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(73) Assignee: **Michelle Fisher**, Berkeley, CA (US)

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(21) Appl. No.: **12/592,581**

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(Continued)

(51) **Int. Cl.**

G06Q 20/20	(2012.01)
G06Q 20/32	(2012.01)
G06Q 30/02	(2012.01)
G06Q 20/10	(2012.01)
G06Q 20/42	(2012.01)
H04W 4/80	(2018.01)

(Continued)

(52) **U.S. Cl.**

CPC ***G06Q 20/202*** (2013.01); ***G06Q 20/102*** (2013.01); ***G06Q 20/20*** (2013.01); ***G06Q 20/204*** (2013.01); ***G06Q 20/32*** (2013.01); ***G06Q 20/325*** (2013.01); ***G06Q 20/327*** (2013.01); ***G06Q 20/3226*** (2013.01); ***G06Q 20/3227*** (2013.01); ***G06Q 20/3278*** (2013.01); ***G06Q 20/387*** (2013.01); ***G06Q 20/401*** (2013.01); ***G06Q 20/425*** (2013.01); ***G06Q 30/0238*** (2013.01); ***H04W 4/80*** (2018.02)

(58) **Field of Classification Search**

USPC 455/552.1

See application file for complete search history.

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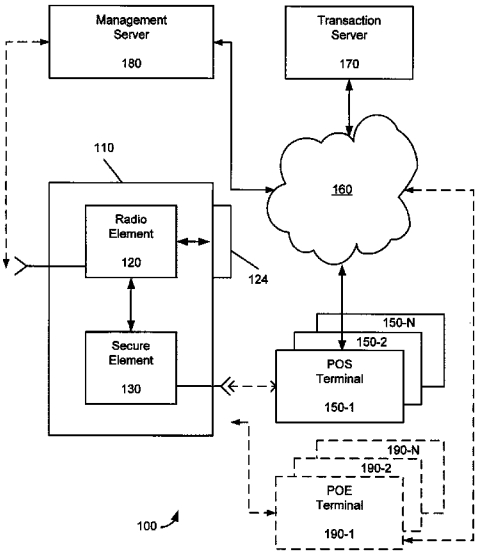
Primary Examiner — Steven S Kelley

(57) **ABSTRACT**

The present invention provides a method and apparatus for completing a transaction using a wireless mobile communication channel and another communication channel, particularly another communication channel that provides for near field radio channels (NFC), as well as other communication channels, such as Bluetooth or WIFI. The present invention also provides a method of completing a transaction in which a management server assists a transaction server and a point of sale terminal in forwarding transaction information to a hand-held mobile device, with the transaction having originated from the hand-held mobile device. There is also provided a hand-held mobile device that wirelessly communicates between a secure element and a radio element that are associated with the hand-held mobile device.

26 Claims, 9 Drawing Sheets



Related U.S. Application Data

(60) Provisional application No. 60/766,171, filed on Dec. 31, 2005, provisional application No. 60/766,172, filed on Dec. 31, 2005.

(51) **Int. Cl.**
G06Q 20/38 (2012.01)
G06Q 20/40 (2012.01)

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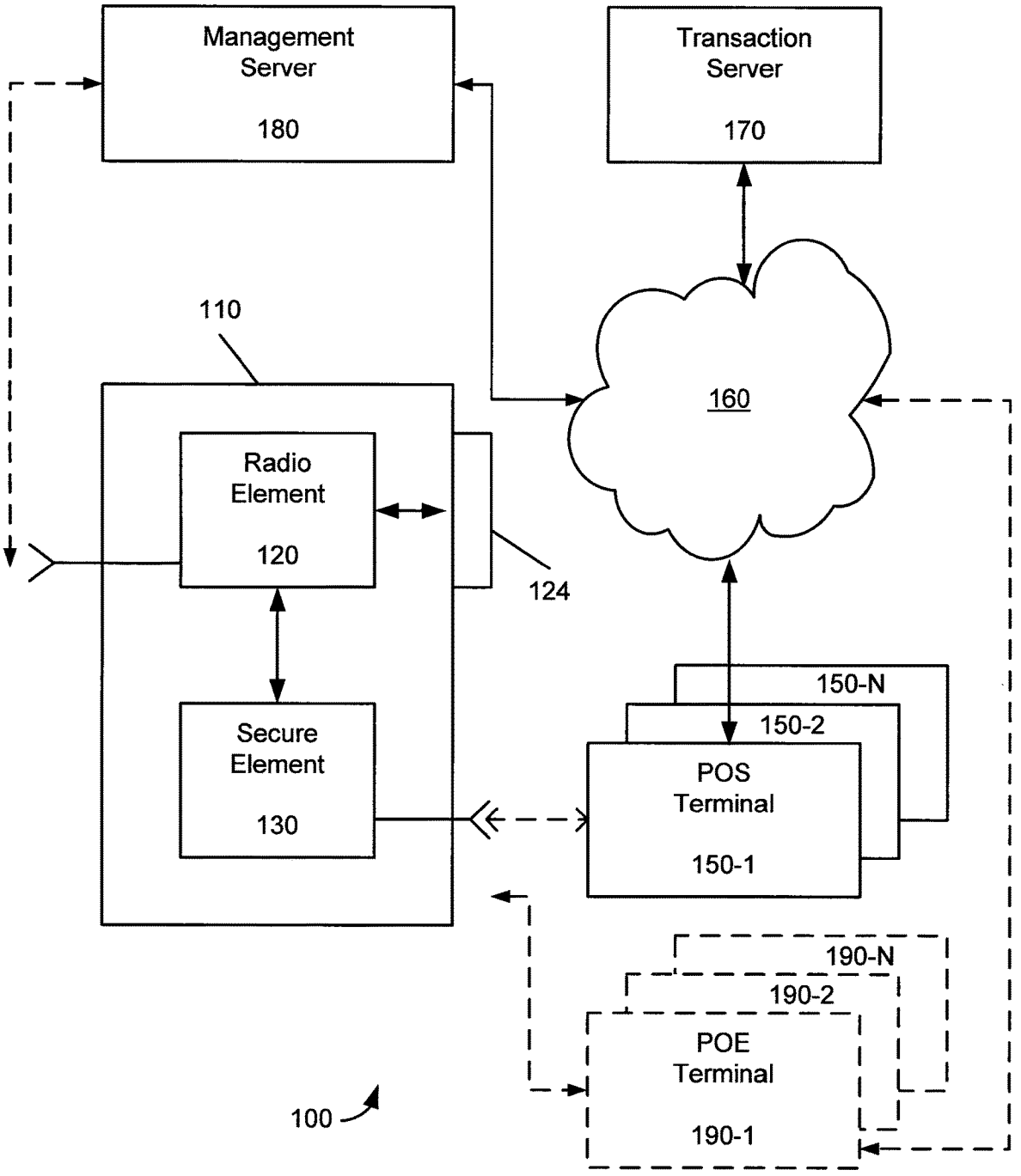
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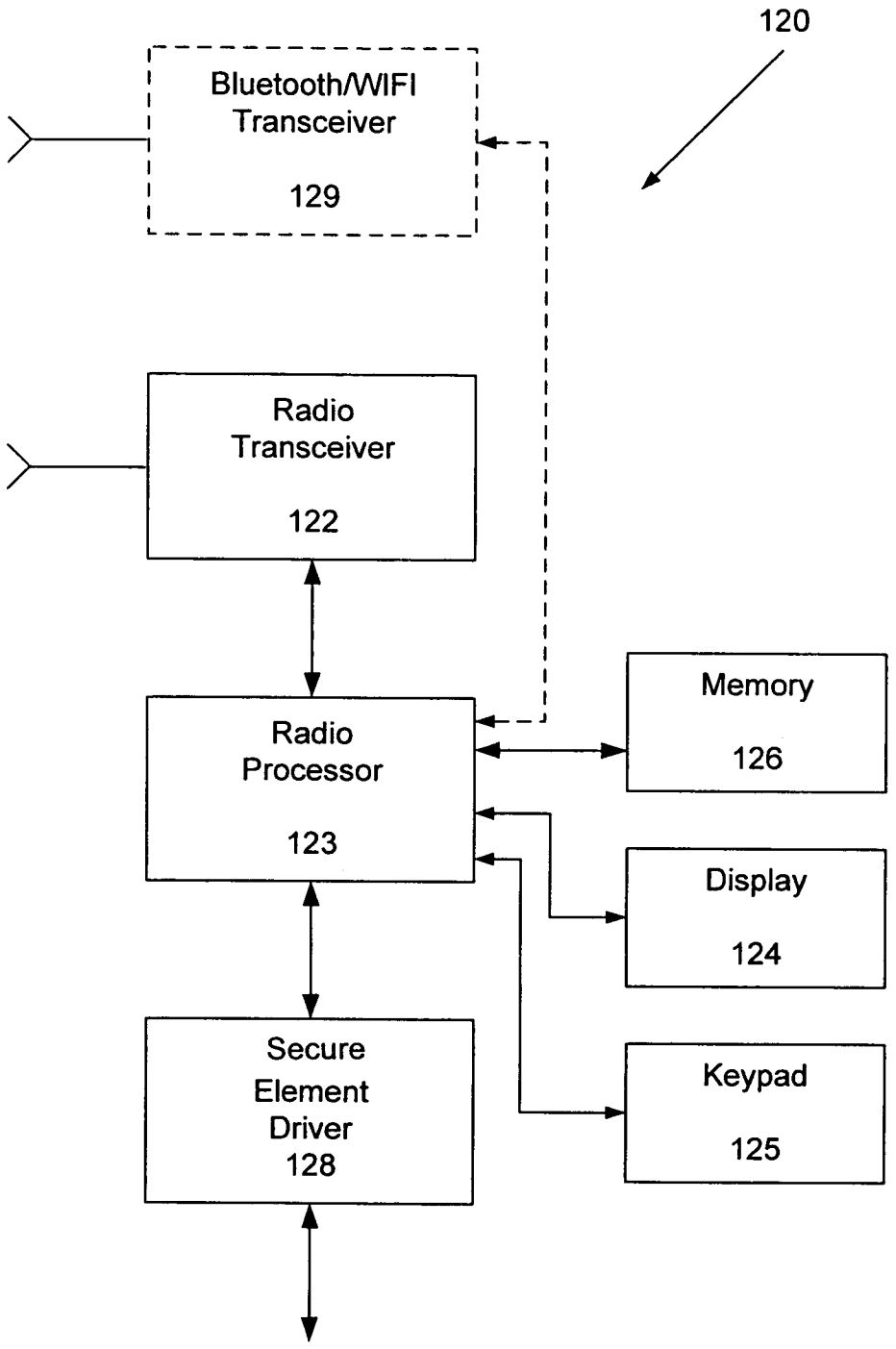
180
Transaction Server
170
110
160
Radio Element
120
124
Secure Element
130
150-N
150-2
POS Terminal
150-1
190-N
190-2
POE Terminal
190-1
100

Fig. 1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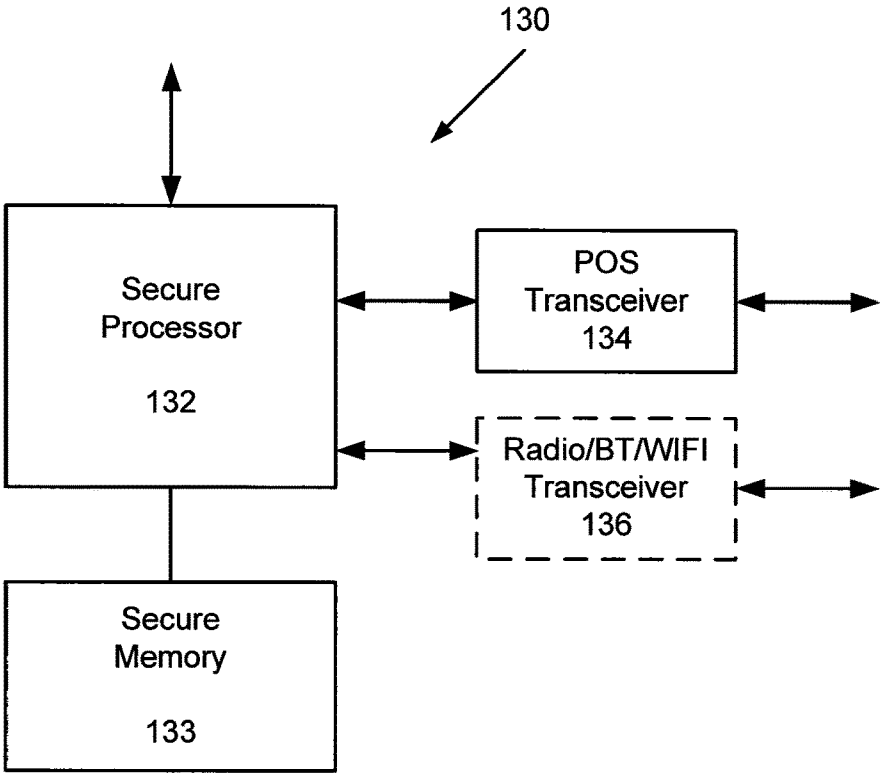
Bluetooth/WIFI
Transceiver
129
Radio
Transceiver
122
Radio
Processor
123
Memory
126
Display
124
Keypad
125
Secure
Element
Driver
128

Fig. 2A



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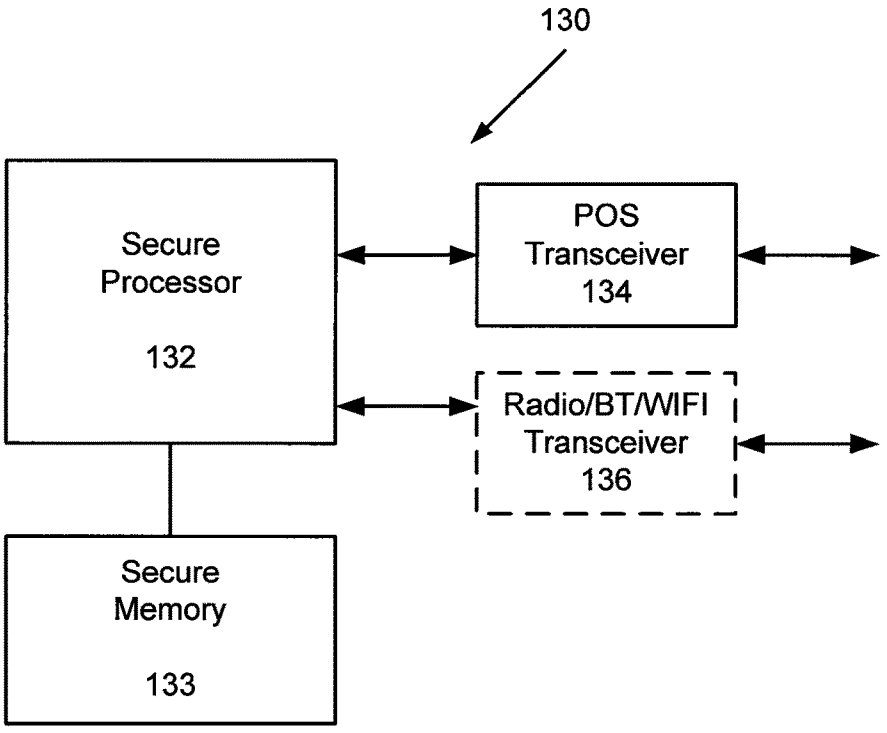

Fig. 2B2A

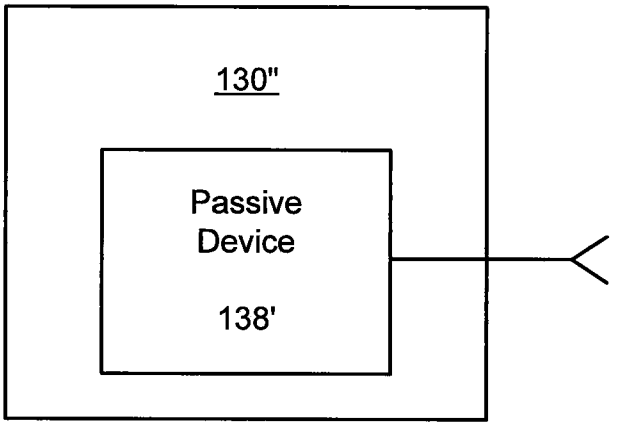

Fig. 2B2B

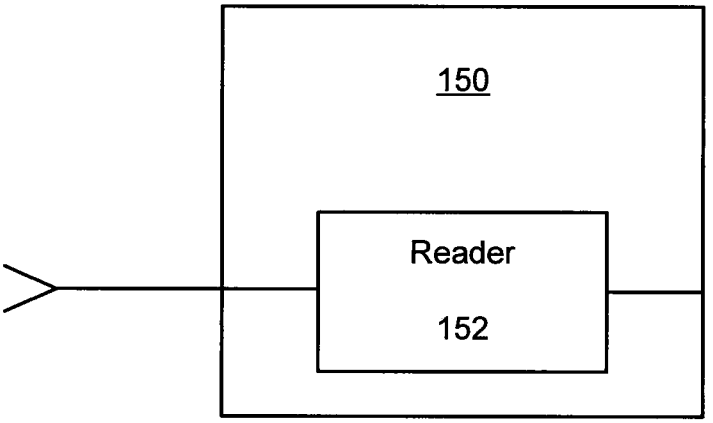

Fig. 2C

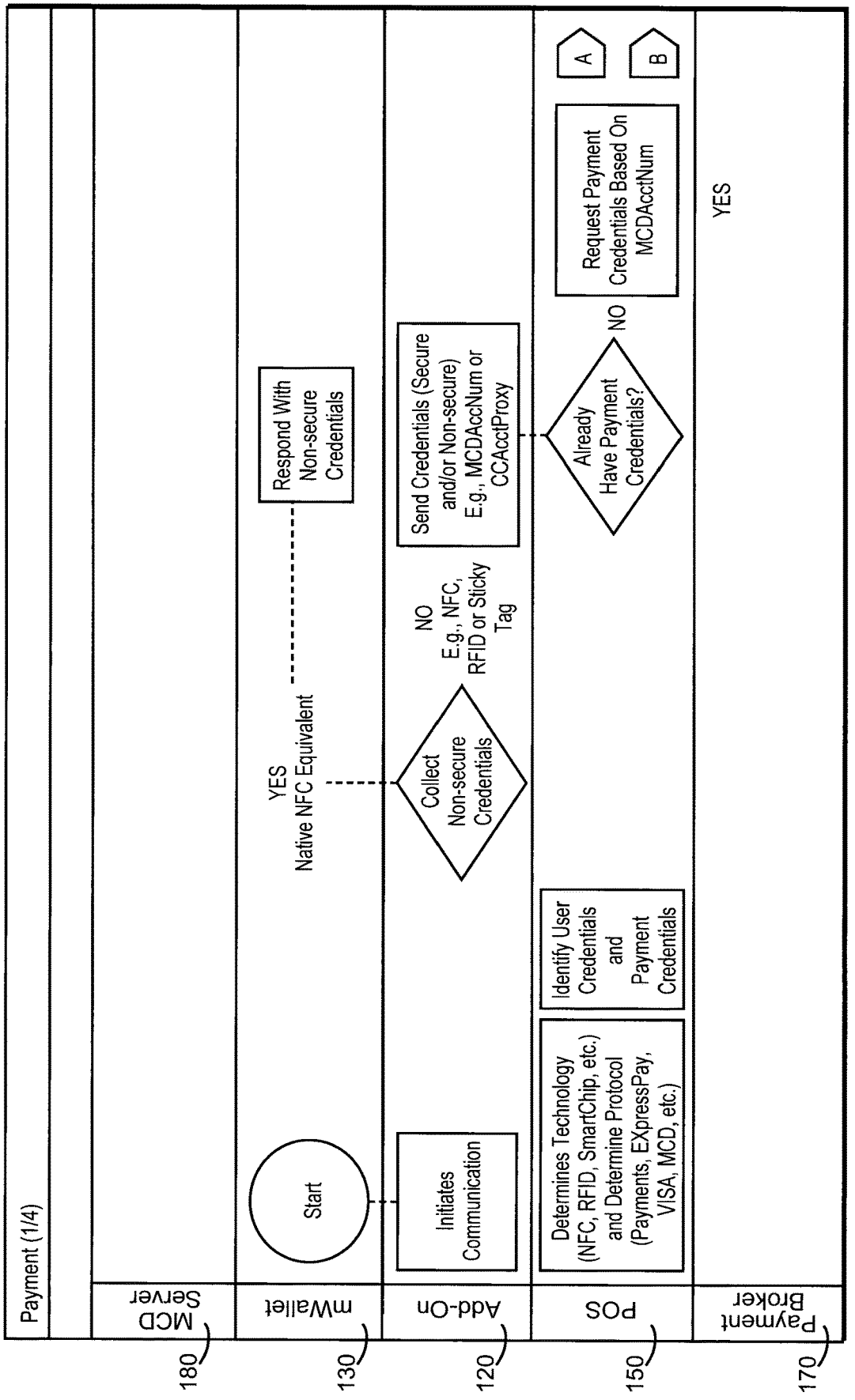
Payment (1/4)
MCD Server
mWallet
Add-On
POS
Payment Broker
180
130
120
150
170
Start
Initiates Communication
Respond With Non-secure Credentials
YES
Native NFC Equivalent
Collect Non-secure Credentials
NO
E.g., NFC, RFID or Sticky Tag
Send Credentials (Secure and/or Non-secure) E.g., MCDAccNum or CCAcctProxy
Determines Technology (NFC, RFID, SmartChip, etc.) and Determine Protocol (Payments, EXpressPay, VISA, MCD, etc.)
Identify User Credentials and Payment Credentials
Already Have Payment Credentials?
NO
YES
Request Payment Credentials Based On MCDAcctNum
A
B

FIG. 3A

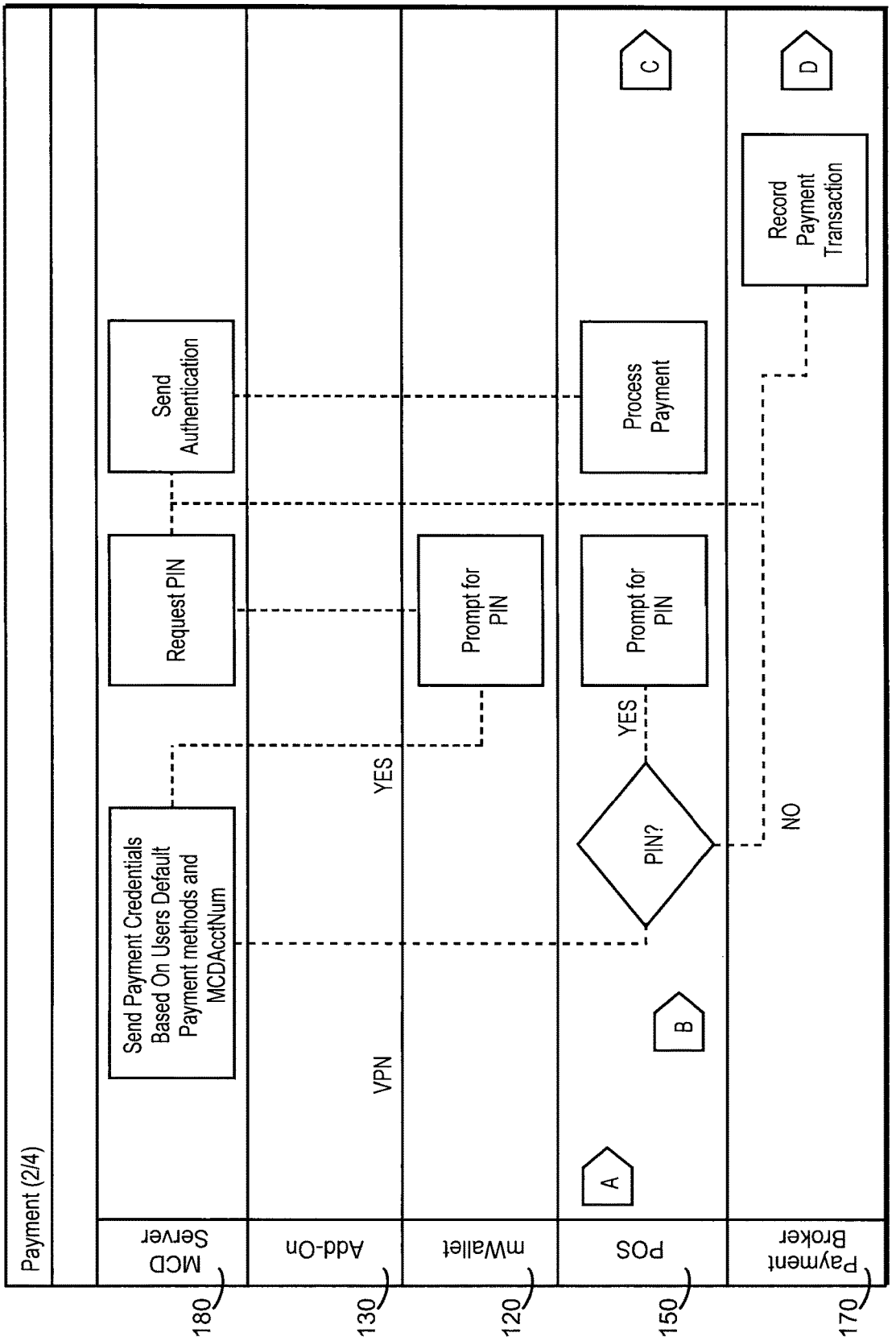
Payment (2/4)
MCD Server
Add-On
mWallet
POS
Payment Broker
180
130
120
150
170
Send Payment Credentials Based On Users Default Payment methods and MCDAcctNum
Request PIN
Send Authentication
Prompt for PIN
Prompt for PIN
Process Payment
Record Payment Transaction
VPN
YES
YES
NO
PIN?
A
B
C
D

FIG. 3B

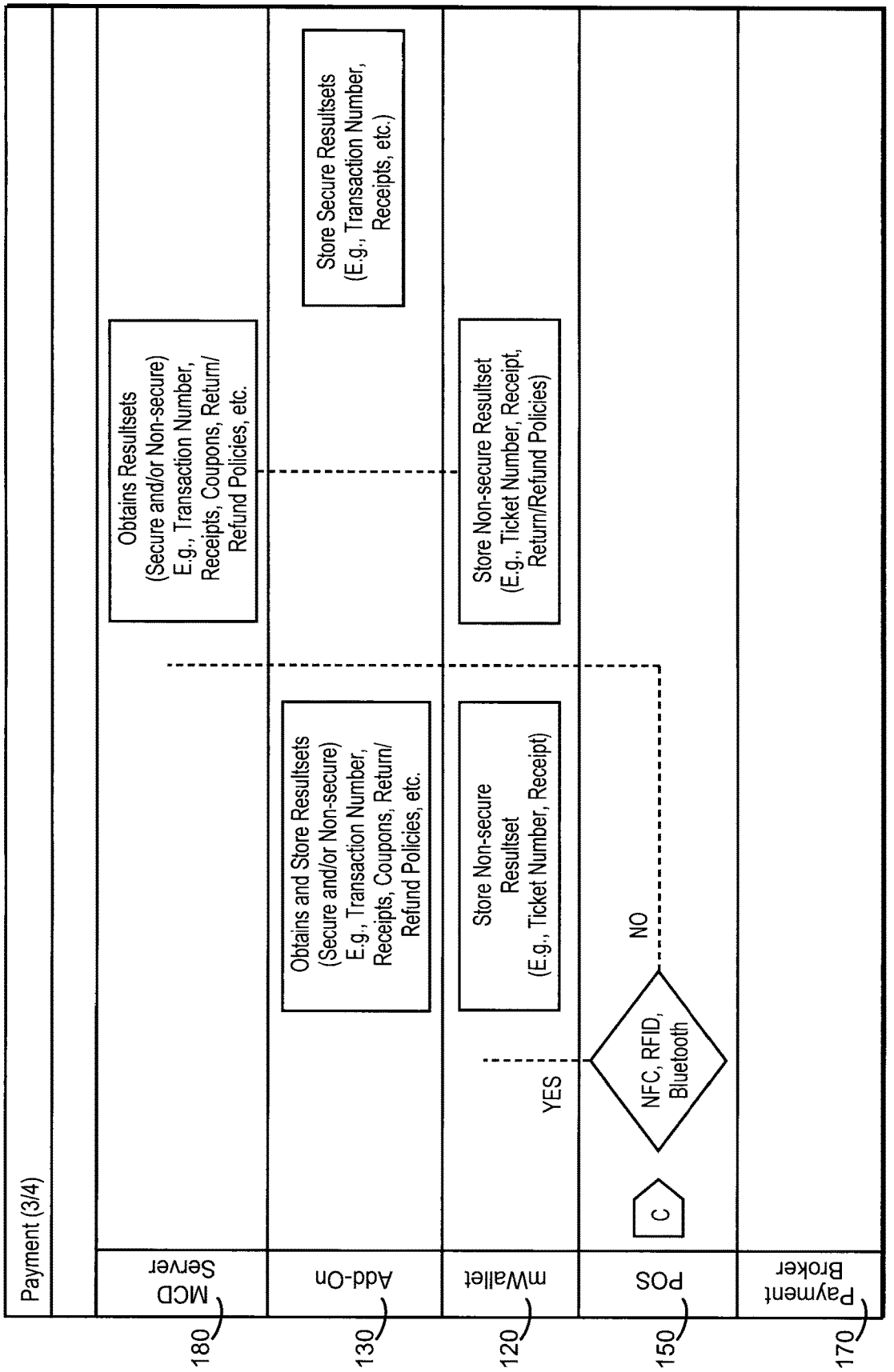
Payment (3/4)
MCD Server
180
Add-On
130
mWallet
120
POS
150
Payment Broker
170
Obtains Resultsets (Secure and/or Non-secure) E.g., Transaction Number, Receipts, Coupons, Return/ Refund Policies, etc.
Store Secure Resultsets (E.g., Transaction Number, Receipts, etc.)
Store Non-secure Resultset (E.g., Ticket Number, Receipt, Return/Refund Policies)
Obtains and Store Resultsets (Secure and/or Non-secure) E.g., Transaction Number, Receipts, Coupons, Return/ Refund Policies, etc.
Store Non-secure Resultset (E.g., Ticket Number, Receipt)
C
NFC, RFID, Bluetooth
YES
NO

FIG. 3C

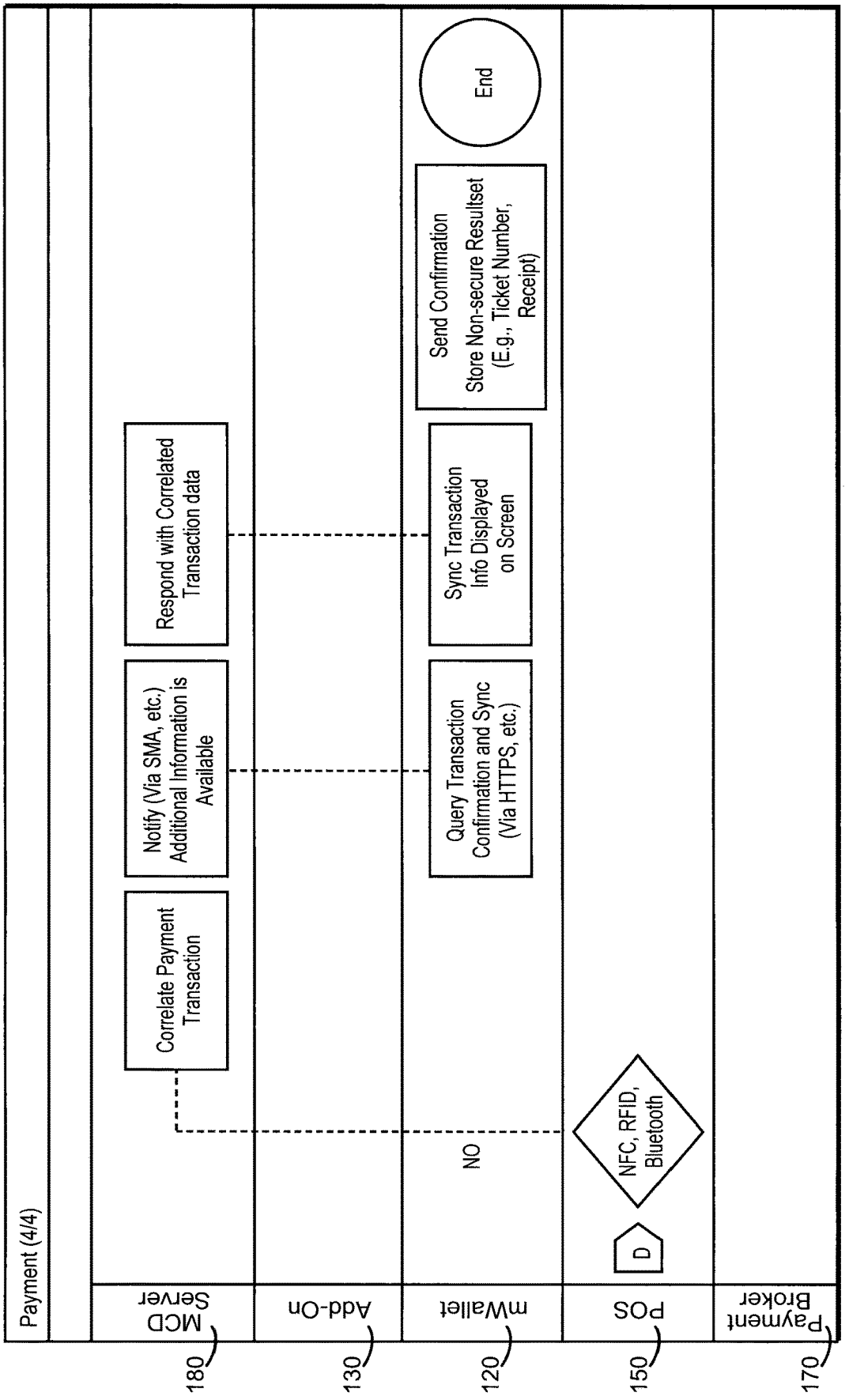
Payment (4/4)
MCD Server
Add-On
mWallet
POS
Payment Broker
180
130
120
150
170
Correlate Payment Transaction
Notify (Via SMA, etc.) Additional Information is Available
Respond with Correlated Transaction data
Query Transaction Confirmation and Sync (Via HTTPS, etc.)
Sync Transaction Info Displayed on Screen
Send Confirmation Store Non-secure Resultset (E.g., Ticket Number, Receipt)
End
NO
D
NFC, RFID, Bluetooth

FIG. 3D

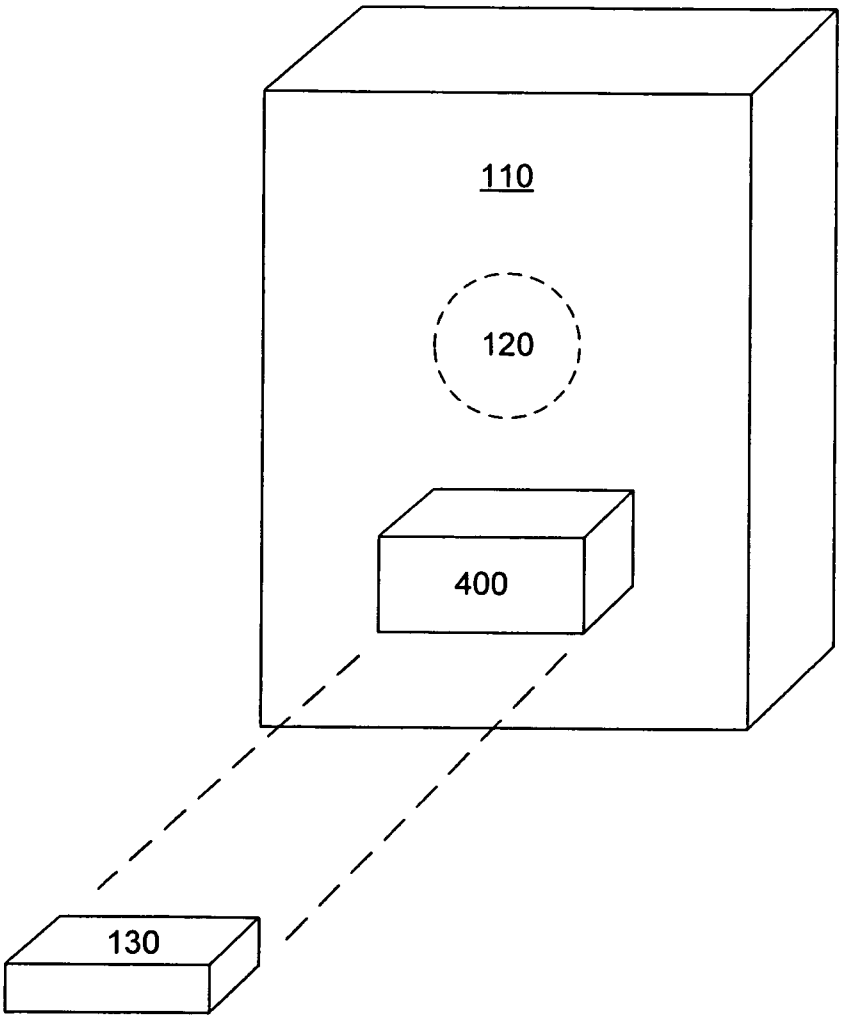

Fig. 4

USING A MOBILE DEVICE FOR POINT OF ENTRY NFC TRANSACTIONS

CLAIM OF PRIORITY

This invention is a continuation of U.S. patent application Ser. No. 11/467,441 filed Aug. 25, 2006, entitled "Method and Apparatus for Completing a Transaction Using a Wireless Mobile Communication Channel and Another Communication Channel" which claims the benefit of U.S. Provisional Application Ser. No. 60/766,171 filed Dec. 31, 2005, entitled "Mobile Credit Card Account Installer" and U.S. Provisional Application Ser. No. 60/766,172 filed Dec. 31, 2005 entitled "Mobile Ticket" and are expressly incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to a method and apparatus for completing a transaction using a wireless mobile communication channel and another communication channel, particularly another communication channel that provides for near field radio channels (NFC), as well as other communication channels, such as Bluetooth or WIFI.

BACKGROUND OF THE INVENTION

Online transactions, such as for purchasing goods or receiving downloads or tickets, which involve personal computers and the Internet are well known. Further, mobile wireless communication devices, such as cell phones, blackberries or other personal digital assistants are also being used for making transactions.

For example, U.S. Patent Application No. US/2003/0172028 provides a description of a personal payment system that utilizes a wireless enabled device such as a cell phone. As described, this system interacts using a Bluetooth protocol with a terminal located nearby.

In another example, U.S. Pat. No. 7,031,945 describes a system and method that provides an electronic ticket to a smart card or standard wireless device that is identified with a user's account.

Further, wireless mobile devices that include a near field communication (NFC) device, coupled with some type of transaction device having a code, such as a smart card that uses an RFID for identification purposes, allow for debit cards to securely make a simple transaction, such as purchasing a bus ticket, by simply waving the wireless mobile device near a reader installed on the bus, so that the bus fare is deducted from a total amount that is available stored on the smart card of the wireless mobile device, or by forwarding the fare to a server that can identify the identification code of the particular RFID and then subsequently charge the user.

While the above exemplary references illustrate that certain simple transactions are possible and known using mobile wireless communication devices, one problem associated with them is that they are not typically useful in a wide range of different areas, but are tied to a specific platform. For example, NFC devices are only usable with NFC readers, which are not common at present. Another problem is that other mobile wireless communication devices have very limited ability to be used in transactions.

The present invention attempts to overcome the above and other problems.

SUMMARY OF THE INVENTION

The present invention provides a method and apparatus for completing a transaction using a wireless mobile communication channel and another communication channel, particularly another communication channel that provides for near field radio channels (NFC), as well as other communication channels, such as Bluetooth or WIFI.

In one aspect of the invention, the present invention provides a method of completing a transaction in which a management server assists a transaction server and a point of sale terminal in forwarding transaction information to a hand-held mobile device, with the transaction having originated from the hand-held mobile device.

In another aspect of the invention, there is provided a hand-held mobile device that wirelessly communicates between a secure element and a radio element that are associated with the hand-held mobile device.

In still another aspect of the invention there is provided a hand-held mobile device that has a secure element that is insertable into a body of the hand-held mobile device, to thereby allow for wired communication between the secure element and a radio element of the hand-held mobile device.

A method according to the invention includes the steps of sending a first transaction request signal from a first transceiver to any one of a plurality of conventional point-of-sale terminals using a first communication channel, the transaction request signal including an identifier stored in the secure memory and that is associated with the user of the hand-held mobile device, thereby causing the one conventional point-of-sale terminal to transmit the transaction request signal to a transaction server that is remote from the point-of-sale device;

receiving from a management server a first transaction response signal at the second transceiver over a second communication channel that is different than the first communication channel, wherein the management server obtains transaction data from a transaction server, associates the transaction data with the user, and provides at least some of the transaction data as the first transaction response signal to the second transceiver; and

displaying at least some of the first transaction response signal on the visual display associated with the hand-held mobile device.

In another embodiment is described a system for assisting a user to complete a transaction. The system comprises a hand-held mobile device, the hand-held mobile device having: a processor; a secure memory coupled to the processor; a first transceiver coupled to the processor and adapted to send transaction request signals and receive transaction response signals over a first communication channel, the transaction request signals and the transaction response signals associated with the transaction; a visual display coupled to the processor; and a second radio transceiver coupled to the processor and adapted to send outgoing voice and data signals and receive incoming voice and data signals over a second communication channel that is different than the first communication channel, the incoming and outgoing data signals including transaction signals associated with the transaction. Included in the system is also a point-of-sale terminal that receives one of the transaction request signals and transmits the one transaction request signal to the transaction server; a transaction server that receives the one transaction request signal from the point-of-sale terminal, verifies the transaction, and forwards a transaction verification signal to the management server; and a management server that receives the transaction verification signal, identifies the user corresponding thereto, and provides as one of the transaction signals a first transaction response signal to the second radio transceiver.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other aspects and features of the present invention will become apparent to those of ordinary skill in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying figures, wherein:

FIG. **1** illustrates an overview block diagram of the system according to the present invention;

FIGS. **2**A, **2**B**1**, **2**B**2**A, **2**B**2**B and **2**C illustrate mores details regarding certain of the components illustrated in FIG. **1**;

FIGS. **3**A-**3**D provide a flowchart of a preferred embodiment for conducting a transaction according to the present invention; and

FIG. **4** illustrates another embodiment of a mobile device according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention provides a system and method for assisting a user to complete a transaction. A preferred embodiment of the system is illustrated in FIG. **1**.

One feature of the system **100** is the hand-held mobile device **110**. The mobile device **110** includes a radio element **120** and a secure element **130**. A display **124** is shown associated with the radio element **120**, and antennas, not labeled, are shown as associated with each of the radio element **120** and the secure element **130**, although it is noted that the illustration of antenna can physically be implemented in a manner that is different from the wireless antenna shown, such as by a stripe is passed along a reader, or some other transmission mechanism. Although elements **120** and **130** are shown as distinct and separate, and display **124** is shown as connected to the radio element **120**, it will be understood that other configurations are within the scope of the invention, in particular, a combination in which a single processor is used to execute the functions that are currently performed and described herein as being provided by both the radio element **120** and the secure element **130**, as described further herein. Further as illustrated in FIG. **1**, both the radio element **120** and the secure element **130** are internal to the mobile device **110** as illustrated, although in certain embodiments the secure element **130** can be external to the mobile device **110**, as described hereinafter. Also, various different functionalities can be included within the radio element **120** and the secure element **130**, as also described hereinafter.

As an overview, the mobile device **110** has the functionality to communicate with one of many different a point of sale (POS) terminals **150-1** to **150-***n*, preferably in a contactless manner using some type of wireless protocol, as mentioned hereinafter. It can also similarly communicate with one of many point of entry (POE) terminals **190-1** to **190-***n*.

The point-of-sale terminal **150** receives one of the transaction request signals from the mobile device **110** and transmits the one transaction request signal to the transaction server **170**, typically using a communication channel **160** such as the internet. The transaction server **170** that receives the one transaction request signal from the point-of-sale terminal **150** verifies the transaction, and forwards a transaction verification signal to the management server **180**. The management server **180** that receives the transaction verification signal, identifies the user corresponding thereto, and provides as one of the transaction signals, a first transaction response signal back to the mobile device **110**.

In one embodiment, the first transaction response signal is communicated back to the mobile device **110** using a communication channel that is different from the communication channel used to initiate the transaction, which can have advantages. In another embodiment, different transaction response signals can be communicated back to the mobile device **110** using communication channels from the management server **180** to the radio element **120** associated with the device **110**, as well as from the management server **180** to the secure element **130** through the POS terminal **150** or the POE terminal **190**. Further detailed descriptions of these embodiments will be provided hereinafter.

FIG. **2**A illustrates a preferred embodiment of the radio element **120** associated with the mobile device **110**, and illustrates the radio element **120** connected to the display **124** of the mobile device **110**. As illustrated, the radio element **120** includes a radio transceiver **122** that is adapted to send outgoing voice and data signals and receive incoming voice and data signals over a radio communication channel. Such a radio communication channel is preferably a digital radio communication channel, such as CDMA or GSM. Such a radio communication channel has the capacity to communicate both voice and data messages using conventional techniques that need not be described further herein.

The radio transceiver **122** communicates with a radio processor **123**, which processor has the capability to perform not only the radio communication services necessary to allow for phone and data communications, but can also execute various programs that are stored in the memory **126**, which programs can receive inputs from the user via the display **124** and/or a keypad **125** associated with the mobile device **110**.

Application programs running on the radio processor **123** are commonly BREW or J2ME applications and can encompass a broad array of application types. For example, current applications include games, enterprise applications, and multimedia applications. While all such applications can be used with the present invention, or particular significance with the present invention are applications, as described further herein, that provide movie & event information applications that provide for ticket, content, item and service purchases and payment management (wallet) applications.

The radio processor **123** also has the capability of recognizing secure communications, and transmits data which must be stored in a secure environment to the secure element driver **128**, for transmission to the secure element **130**, where, in this preferred embodiment, with both the radio element **120** and the secure element **130** being internal to the mobile device **110**, such communicating takes place using an internal wired communication channel. The radio processor **123** also has the capability of receiving data from the secure element **130**, in the same manner using the internal wired communication channel in this preferred embodiment as described. In a preferred embodiment the secure element **130** and the radio element **120** communicate using signals described in the Java Card 2.1 Platform API Specification.

In a preferred embodiment, both the radio element **120** and the secure element **130** are both disposed internally within a body of the mobile device **110**. In a variant implementation, illustrated in FIG. **4**, the mobile device **110** contain a slot **400**, which allows for the insertion of a secure element **130** into the slot **400** and thus the physical insertion, mechanical and electrical connection as needed. In this configuration, the secure element can be purchased inde-

pendently of the mobile device **110**. The secure element **130** can also be disposed into a slot **400** that only provides for physical insertion and mechanical connection to the body of the mobile device **110**, and can then preferably include a transceiver that allows for the communication with the radio element **130** using a wireless local communication channel.

The radio element **120** also is illustrated as optionally including another transceiver **129**, such as a Bluetooth or WIFI transceiver, which can transmit and receive signals with an external device and then communicate signals to and from the radio processor **123**. This additional communication channel allows for communications between other external devices, such as an external Bluetooth enabled smartcard, and provides an additional communication channel that is useful for certain transactions, as described further herein.

FIG. **2**B**1** illustrates a preferred embodiment of the secure element **130** associated with the mobile device **110**, the secure element **130** being commonly known as a smart card. As illustrated, the secure element **130** has a secure processor **132**, a secure memory **133** and a POS transceiver **134** adapted to send transaction request signals and receive transaction response signals over a first communication channel. The secure processor **132** communicates via the secure element driver **128** with the radio processor **123**, using, as mentioned above, signals described in the Java Card 2.1 Platform API Specification. The transaction request signals and the transaction response signals associated with the transaction preferably include identification code associated with the user, as well as information relative to the transaction, such as item, quantity, vendor, as is known. The POS transceiver **134** is preferably an NFC device of some type, which uses an NFC modem, although it can also be a Bluetooth, WIFI or other transceiver. In the case of the implementation of the POS transceiver being an NFC modem, such an NFC modem will typically have a set of registers that can be read/written by the secure processor **132**. These registers are in turn available for reading and writing over the RFID communications channel and serve as a sort of shared memory between the secure processor **123** within the secure element **130** and the RFID reader that is associated with the POS terminal **150**. This communication is specified, for example, in the ISO 14443A/B standard.

Illustrated in an alternative embodiment is the inclusion of a radio/Bluetooth/WIFI transceiver **136**, which can communicate with other devices, such as a transceiver associated with the radio processor **120** or for other external devices having those communication capabilities, thus allowing for more flexibility.

FIG. **2**B**2**A shows a modified secure element **130**, in which the radio element **120** does not communicate with the secure element through a secure element driver **128** of some type. In this case, for example, the secure element **130** may be external to the mobile device **110** and as such is not connected to the radio element through the secure element driver **128**. In such an implementation, however, if the transceiver **136** as described above is included, and a similar transceiver **129** associated with the radio element **130** as described previously with respect to FIG. **2**A is included, then this communication channel can be used to wirelessly obtain direct communications between the radio element **120** and the secure element **130**.

This implementation allows for certain bidirectional communications with other devices, as well as with the radio element **120**, and as such more functionality and flexibility is achieved. This implementation is particularly useful since it establishes a direct local communication path with the radio element **120**, since there is not communications with the radio element **120** via the path of driver **128**.

If either of the transceivers **129** or **136** are not associated with the respective radio element **120** or secure element **130**, and there is no direct connection between the radio element **120** an the secure element **130**, then a direct communication link between the radio element **120** an the secure element **130** will not exist. As such, while ticketing and many transactions can still exist, data from a real-time transaction performed using the secure element **130** cannot be made directly available to the radio processor and the applications stored thereon, which can prevent, for example, certain redundancy checks to occur, such as a ticketing application in which, after the ticket order has been placed, the ticketing application in the memory **126** associated with the radio element **130** can be programmed to provide an alert if the ticket receipt, via the management server **180**, has not been received within a certain period of time. Such an alert would not be possible to program directly (although it could be programmed indirectly via the button panel on the phone, though such an implementation requires extra user intervention, which, if possible, one attempts to avoid in transactions such as this.

FIG. **2**B**2**B shows a modified secure element **130"**, in which the secure element does not include a processor that is capable of bidirectional communications, but instead is a passive device **138'**, such as an RFID sticker or some other tag, that allows for a user identification, such that a transaction that is initiated with the passive device **138'** will cause the management server **180** to perform the transaction details. In this implementation, the code received from the POS terminal **150** or the POE terminal **190** is transmitted from the POS terminal **150** or the POE terminal **190** to the management server **190**, which then takes over the transaction. This passive device **138'**, with the identification code stored thereon, can thus be associated with a mobile device **110** not otherwise equipped for such communications, and the management server **190** can provide transactional information to the mobile device **110** using available channels on the mobile device (such as audio, sms or other known data transmission methods). While bidirectional communications do not occur with other devices, transactions are possible, because the management server **190** is involved.

The point of sale terminal **150** illustrated in FIG. **2**C is conventional, in that it has the capability of electronically reading information from a device equipped to transmit information in a format that it reads. Thus, the reader **152** within the point of sale terminal **150** can be of one or many types. If the point of sale terminal reader **152** includes the provision for NFC communications, then simply bringing the secure element **130** with the NFC transceiver will cause initiation of a transaction and the transmission of the identification code associated with the secure element **130** and thus the user.

For the embodiments described above, various software that is downloaded into the memory **126** of the radio element **120** and the secure memory **132** of the secure element **130**, along with software resident on the management server **180**, will cooperate at a layer that is above the physical layer of the communications, in order for the desired transaction to occur. This software is implemented using based upon known knowledge of mobile device **110** internals and application platforms, NFC, smartcard internals and application platforms, payment protocols (e.g. PayPass), and the working/workflow associated with POS and POE terminals, and the transaction and management servers. In addition, the present invention provides for piggybacking a tunneling

protocol on top of the payment protocol, so that the secure elements **130** can communicate with the transaction server **170** and/or the management server **180**, without modification to the POS terminal **150** or the POE terminal **190**. As such, this includes software within the secure element **130** that embeds the required information in fields which will not adversely affect the performance of the POS terminal **150** and/or the POE terminal **190**, and also software in transaction server **170** that will extract the piggybacked payload, associate the payload with the management server **180** if needed, and then authenticate, authorize, and execute transfers of transaction information to the management server **180**.

In another embodiment, the piggybacked payload is sent, instead of to the transaction server **170**, to the management server **180**, which can then associate the transaction and notify the transaction server **170**, the POS terminal **150** and/or the POE terminal as needed.

Another significant aspect of the present invention is that the management server **180** has the capability of storing codes that are from a variety of different mobile devices. Thus, codes that are associated with a smart card having an RFID can be stored, as can be codes stored from an RFID sticker, as well as codes that are associated with a smart card that communicates using a slide reader, Bluetooth, or an NFC channel, for example. As such, the management server **180** can store user personal and credit and transactional information and history, including a code associated with the user, for a variety of different mobile devices, thereby allowing a system which can scale.

FIGS. **3**A-**3**D illustrate a flowchart of the present invention, and the various steps that are included in a particular transaction, with reference to which of the various devices are implementing this step. As the flowchart is self-explanatory, a further discussion is not provided herein.

The present invention, as described previously, allows for various different programs to exist within the memory **126** of the radio element **120**, as well as in the secure memory **132** of the secure element **130**, as mentioned above.

The present invention can also be interfaced with certain known and implanted payment protocols, such as Paypass. For implementing these additional payment protocols, implementation of streaming communication protocols (in the full NFC case), protocols for session setup, and configuration of communications modules and secure data areas as needed is necessary, taking into account the communication protocol used (e.g. NFC, Bluetooth, WIFI, CDMA, 3^{rd} Generation CDMA for example) as well as file transfer protocols and facilities access protocols. In particular, in implementing such protocols, it is preferable to provide for the ability to extract transaction information from the POS terminal **150** to the secure element **130** during the course of the local interaction between the POS terminal **150** and the secure element **130**. For instance, the implementation of PayPass within the invention will take note, and alert the application running on the radio processor **123** that a purchase or purchase attempt has occurred, as noted above in the context of the alert discussion. It is also preferable to provide the ability to augment the information passed via the PayPass protocol to the POS terminal **150** and thence to the transaction server **170** with additional fields containing the elements of the tunneling protocol, for subsequent processing by the transaction server **170**, either directly, or through the management server **180**, as described above.

The two transaction workflows that have been specifically discussed above are the credit card and ticketing workflows. Other transaction flows are also intended within the scope of the invention. Debit card and cash card transactions are similar to credit card transactions, with variations being implemented to account for the differences that exist in those types of transactions, which types of transactions are well understood. Coupons can be implemented with the invention, in much the same manner as tickets, though coupons can be transmitted without there being payment.

Many of the transaction types noted herein will, as is apparent, require communication between the secure element **130** and the radio element **120**. As such, due to that requirement, a significant part of the preceding discussion has been directed to how to implement that communication, particularly for mobile devices **110** that are not manufactured to allow for such communications.

An example of a typical transaction requiring such communication between the secure element **130** and the radio element **120** is one in which the POS terminal **150** allows for the transfer of detailed purchase information from the POS terminal **150** to the secure element **130**, as well as transactional information from the POS terminal **150** and/or the transaction server **170** to the management server **180**. The management server **180** can then also communicate with the radio element **120** via the radio channel. This allows for the matching and reconciliation of detailed purchase information and, if the transaction fails, failure details can be matched to the purchase information, and forwarded in real-time to the user via the radio element **120**.

In another embodiment of the invention, there is included the provision for different phones to communicate the results of a transaction, particularly using the POS transceiver or one of the Bluetooth/Wifi transceivers. In this embodiment, after a transaction has been completed with one of the mobile devices **110***a*, another mobile device **110***b* can receive information regarding the transaction completed. Thus, for instance, if mobile device **110***a* purchases two tickets, one of the tickets can be transmitted to the mobile device **11***b* by each using a POS transceiver or one of the Bluetooth/Wifi transceivers.

Although the present invention has been particularly described with reference to embodiments thereof, it should be readily apparent to those of ordinary skill in the art that various changes, modifications and substitutes are intended within the form and details thereof, without departing from the spirit and scope of the invention. Accordingly, it will be appreciated that in numerous instances some features of the invention will be employed without a corresponding use of other features. Further, those skilled in the art will understand that variations can be made in the number and arrangement of components illustrated in the above figures. It is intended that the scope of the appended claims include such changes and modifications.

What is claimed:

1. A method for conducting a Near Field Communication (NFC) transaction using an NFC protocol, the method comprising:

maintaining an identification code associated with a user and a secure element application configured to use the NFC protocol in a secure element memory, the secure element memory, a secure element processor and a secure element transceiver supporting a first communication channel comprising the NFC protocol included in a secure element embedded within the body of a mobile device, the mobile device comprising of a mobile device memory, a mobile device processor, and a mobile device wireless transceiver;

executing the secure element application in response to a near field communication inductive signal by an NFC terminal;

wirelessly transmitting, using the secure element application, a transaction request including the identification code associated with the user via the secure element transceiver over a first communication channel to the NFC terminal in response to the near field communication inductive signal by the NFC terminal, wherein the transaction request including the identification code associated with the user is transmitted over a second communication channel that is different than the first communication channel to a server for processing the NFC transaction using a payment method stored at the server that corresponds to the identification code associated with the user, wherein the NFC terminal and the first communication channel is configured to use the NFC protocol; and

after a payment has been processed by the server, receiving a transaction response at the mobile application from the server over the second communication channel.

2. The method of claim **1**, further wherein the secure element receives the transaction response from the server via the NFC terminal during an NFC inductive interaction between the secure element and the NFC terminal.

3. The method of claim **1**, wherein the transaction response comprises at least one of a transaction number, receipt, ticket, coupon, or content.

4. The method of claim **1**, further wherein the secure element application operates above a physical level to enable the NFC transaction.

5. The method of claim **1**, wherein the payment method is a credit card, debit card, or cash card.

6. The method of claim **1**, further wherein during the NFC transaction, a coupon is automatically applied during an NFC inductive interaction between the secure element and the NFC terminal.

7. The method of claim **1**, further wherein based on information related to the identification code, the NFC terminal transmits the identification code to a specific server for processing the NFC transaction using the payment method stored at the server that correspond to the identification code.

8. The method of claim **1**, further wherein, the transaction response is based on the server correlating the identification code associated with the user, information related to the payment method, information related to a user, information related to the NFC transaction, and information related to transaction history.

9. The method of claim **1**, further wherein the, mobile application sends an alert to the server if it has not received the transaction response from the server within a certain period of time.

10. The method of claim **2**, further wherein, the mobile application receives the transaction response from the secure element using an internal wired communication channel between the secure element and the mobile device and further wherein mobile application sends an alert to the server if the mobile device has not received the transaction response from the secure element within a certain period of time.

11. The method of claim **1**, further wherein the server is configured to store a single identification code associated with the user for a variety of the user's mobile devices.

12. The method of claim **1**, further wherein the NFC application is executed without using the mobile device processor.

13. The method of claim **1**, wherein the server verifies information related to the transaction request.

14. A mobile device using a Near Field Communication (NFC) protocol to conduct an NFC transaction, the mobile device comprising:

a mobile device memory;

a mobile device processor;

a secure element permanently embedded within the body of the mobile device, the secure element including a secure element memory that maintains an identification code associated with a user and a secure element application configured to use the NFC protocol, a secure element processor, a secure element transceiver supporting a first communication channel comprising the NFC protocol, wherein the secure element application is executed in response to a near field communication inductive signal by an NFC terminal and the secure element application wirelessly transmits a transaction request including the identification code associated with the user over a first communication channel via the secure element transceiver to the NFC terminal in response to the near field communication inductive signal by the NFC terminal, further wherein the transaction request including the identification code associated with the user is transmitted over a second communication channel that is different from the first communication channel to a server for processing of the NFC transaction using a payment method stored at the server that corresponds to the identification code associated with the user, the NFC terminal and first communication channel configured to use the NFC protocol; and

a mobile device wireless transceiver, that after a payment has been processed by the server, receives a transaction response from the server over the second communication channel.

15. The mobile device of claim **14**, further wherein, the secure element receives the transaction response from the server via the NFC terminal during an NFC inductive interaction between the secure element and the NFC terminal.

16. The mobile device of claim **14**, wherein the transaction response comprises at least one of a transaction number, receipt, ticket, coupon, or content.

17. The mobile device of claim **14**, further wherein the secure element application operates above a physical level to enable the NFC transaction.

18. The mobile device of claim **14**, wherein the payment method is a credit card, debit card, or cash card.

19. The mobile device of claim **14**, further wherein during the NFC transaction, a coupon is automatically applied during an NFC inductive interaction between the secure element and the NFC terminal.

20. The mobile device of claim **14**, further wherein based on information related to the identification code, the NFC terminal transmits the identification code to a specific server for processing the NFC transaction using the payment method stored at the server that corresponds to the identification code.

21. The mobile device of claim **14**, further wherein, the transaction response is based on the server correlating the identification code associated with the user, information related to the payment method, information related to the

user, information related to the NFC transaction, and information related to transaction history.

22. The mobile device of claim **14**, further wherein the, mobile application sends an alert to the server if it has not received the transaction response from the server within a certain period of time.

23. The mobile device of claim **15**, further wherein, the mobile application receives the transaction response from the secure element using an internal wired communication channel between the secure element and the mobile device and further wherein the mobile application sends an alert to the server if the mobile device has not received the transaction response from the secure element within a certain period of time.

24. The mobile device of claim **14**, further wherein the server is configured to store a single identification code associated with the user for a variety of the user's mobile devices.

25. The mobile device of claim **14**, further wherein the NFC application is executed without using the mobile device processor.

26. The mobile device of claim **14**, wherein the server verifies information related to the transaction request.

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