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I hereby appoint:



Practitioners associated with Customer Number:

26797

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:



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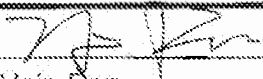
Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

Assignee Name and Address: RFCyber Corporation, 4160 Technology Drive, Suite A, Fremont, CA 94538

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee:

Signature:		Date:	3/27/2013
Name:	Hsin Pan	Telephone:	
Title:	General Manager		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**STATEMENT UNDER 37 CFR 3.73(c)**

Applicant/Patent Owner: RF Cyber Corporation

Application No./Patent No.: Unassigned Filed/Issue Date: herewith

Titled: Method and apparatus for settling payments using mobile devices

RF Cyber Corporation, a California corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

- 1.  The assignee of the entire right, title, and interest.
- 2.  An assignee of less than the entire right, title, and interest (check applicable box):
  - The extent (by percentage) of its ownership interest is \_\_\_\_\_%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
  - There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

[Empty box for listing other parties in option 2]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 3.  The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

[Empty box for listing other parties in option 3]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 4.  The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A.  An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
- B.  A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**STATEMENT UNDER 37 CFR 3.73(c)**

3. From: \_\_\_\_\_ To: \_\_\_\_\_

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4. From: \_\_\_\_\_ To: \_\_\_\_\_

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The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/ joe zheng /  
\_\_\_\_\_  
Signature

03/28/2013  
\_\_\_\_\_  
Date

Joe Zheng  
\_\_\_\_\_  
Printed or Typed Name

39,450  
\_\_\_\_\_  
Title or Registration Number

# ASSIGNMENT OF PATENT APPLICATION

Whereas I, an undersigned inventor, have invented certain new and useful improvements as set forth in the patent application entitled:

## Method and apparatus for settling payments using mobile devices

(Docket No. RFID-085), (check one)

- for which I have executed a U.S. patent application on even date herewith. (Accompanying)  
 which bears U.S. application No. \_\_\_\_\_ . (Not accompanying)  
 which is a U.S. provisional application. (Accompanying)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, an undersigned inventor, hereby:

- 1) Sell, assign and transfer to RFCyber Corp., a corporation in the State of California having a principal place of business at 4160 Technology Drive, Suite A, Fremont, CA 94538, USA ("ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, applications based upon, and patents (including foreign patents and the right to claim priority) granted upon, the above-referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division, continuation, substitute, renewal, re-examination or reissue thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the ASSIGNEE, its successors, assigns and other legal representative, and shall be binding upon the inventor, as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Authorize and request my representative to insert above the application No. in order to assist with recordal of this assignment.

Signed on the date indicated beside my signature.

1. Inventor Signature: Xie Xiangzhen Date: 2013.7.28  
Xiangzhen Xie

2. Inventor Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Liang Seng Koh

3. Inventor Signature: Hsin Pat Date: 3/27/2013  
Hsin Pat

# ASSIGNMENT OF PATENT APPLICATION

Whereas I, an undersigned inventor, have invented certain new and useful improvements as set forth in the patent application entitled:

## Method and apparatus for settling payments using mobile devices

(Docket No. RFID-085), (check one)

- for which I have executed a U.S. patent application on even date herewith. (Accompanying)  
 which bears U.S. application No. \_\_\_\_\_ . (Not accompanying)  
 which is a U.S. provisional application. (Accompanying)

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, an undersigned inventor, hereby:

- 1) Sell, assign and transfer to RFCyber Corp., a corporation in the State of California having a principal place of business at 4160 Technology Drive, Suite A, Fremont, CA 94538, USA ("ASSIGNEE"), the entire right, title and interest in any and all improvements and inventions disclosed in, applications based upon, and patents (including foreign patents and the right to claim priority) granted upon, the above-referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division, continuation, substitute, renewal, re-examination or reissue thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the ASSIGNEE, its successors, assigns and other legal representative, and shall be binding upon the inventor, as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Authorize and request my representative to insert above the application No. in order to assist with recordal of this assignment.

Signed on the date indicated beside my signature.

1. Inventor Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Xiangzhen Xie

2. Inventor Signature: \_\_\_\_\_ Date: 3/27/2013  
Liang Seng Kph

3. Inventor Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Hsin Pan

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

UTILITY PATENT APPLICATION

FOR

**Method and apparatus for mobile payments**

Inventor(s): Xiangzhen Xie  
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I hereby certify that this paper or fee is being deposited with the United States Postal Service using "Express Mail Post Office To Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to "Mail Stop: New Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313"

Signed:  / joe zheng /  
Joe Zheng

# Method and apparatus for mobile payments

Xiangzhen Xie  
Liang Seng Koh  
Hsin Pan

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of co-pending US Pat. App. Serial No.: 13/853,937 filed on 03/29/2013, now US Pat. No.: 9,047,601 issued on 06/02/2015.

## BACKGROUND OF THE INVENTION

Field of the Invention

**[0001]** The present invention is generally related to the area of electronic commerce. Particularly, the present invention is related to a mobile device configured to settle payments using a mobile device reading electronic bills or invoices off from another mobile device in a near field communication range.

The Background of Related Art

**[0002]** For many credit or debit card transactions, the payment process is started by a customer asking for a bill when checking out a purchase. A cashier or service member brings a bill to the customer for verification. The customer then hands out a credit/debit card to the service member. The service member brings the card to a Point of Sales (POS) counter to initiate a transaction payment. The service member then brings back a receipt to the customer for signature to authorize the transaction. It is a lengthy process that typically takes a couple of minutes or much longer when the service member has to take care of multiple payment transactions at a time. In addition, in the case for the debit card transactions, the process may be even more troublesome when a PIN is needed to authorize the transaction at the POS.

**[0003]** There is a need to simplify the payment process. With the advancement in mobile devices, it is anticipated that many consumers will carry one with them. Thus there is an opportunity of using a mobile device to quickly settle the payment at a point of sale (POS).

### **SUMMARY OF THE INVENTION**

**[0004]** This section is for the purpose of summarizing some aspects of the present invention and to briefly introduce some preferred embodiments. Simplifications or omissions may be made to avoid obscuring the purpose of the section. Such simplifications or omissions are not intended to limit the scope of the present invention.

**[0005]** The present invention is related to techniques for mobile devices configured to support settlement of charges in electronic invoices or bills. According to one aspect of the present invention, a mobile device embedded with a secure element generates or is loaded with an electronic invoice. When the mobile device is brought to a consumer with an NFC mobile device, the data including the electronic invoice and other information regarding the mobile device or an owner thereof is read off wirelessly into the NFC mobile device. After the user verifies the amount being charged and authorizes the payment, the NFC mobile device communicates with a payment gateway or network for payment that is configured to proceed with the payment in accordance with a chosen payment method.

**[0006]** According to another aspect of the present invention, the mobile device is a contactless card or part of a point of sale (POS) machine used to generate the electronic invoice. One embodiment of the present invention provides unanticipated benefits and advantages in an application in which a payment process would otherwise have to be involved in more than one contacts between a merchant and the consumer. One of such applications is a payment process in a restaurant, where a consumer is given a check first for verification and a chance to add a gratitude before



a final charge is determined and paid. Using the NFC mobile device, the consumer can finish the payment using a chosen payment method at the point of sale without further contacting the merchant.

**[0007]** According to still another aspect of the present invention, a consumer uses his/her mobile device, per the data received therein, to settle the payment process with a payment network, where the payment network may be an existing payment infrastructure (e.g., money transfer or credit card/debit). A payment response is sent to the merchant once a payment is delivered to a designated account by the merchant.

**[0008]** According to still another aspect of the present invention, the mobile device being used by the consumer is itself an electronic purse. Thus the consumer operates his/her mobile device to settle the charge once the electronic invoice is received and displayed thereon.

**[0009]** According to still another aspect of the present invention, the mobile device used by the consumer is a near field communication (NFC) device and being part of a mobile payment ecosystem in which various parties are work with each other in order for the mobile payment ecosystem successful. Via a server (e.g., implemented as a manager) configured to provide what is referred to herein as Trusted Service Management (TSM), the secure element in the mobile device can be remotely personalized and various applications or modules can be downloaded, updated, managed or replaced after they are respectively provisioned via the Trusted Service Manager (i.e., the TSM server). One of the modules being installed in the POS machine or an NFC device used by the merchant is referred to as Smart Bill Payment. The module is configured to facilitate the communication between the merchant (its device) and the user (his/her mobile device) and the data exchange therebetween, where the mobile device being used by the user is installed with a corresponding application related to Smart Bill Payment.

**[0010]** One important features, advantages and benefits in the present invention is to facilitate the settlement of charges using an NFC mobile device to read off data pertaining to an electronic invoice. The present invention may be implemented as a

single device, a server, a system or a part of system. It is believed that various implementations may lead to results that may not be achieved conventionally.

**[0011]** According to one embodiment, the present invention is a method for settling a payment, the method comprises: providing a software module to be executed in a first mobile device embedded with a secure element, wherein the secure element has been personalized and the software module is provisioned with the personalized secure element, the first mobile device is configured to include data pertaining to an electronic invoice; receiving a payment request from a second mobile device after a user of the second mobile device authorizes the payment to the electronic invoice transported wirelessly from the first mobile device, wherein the second mobile device is a near-field communication device and is configured to execute an application that communicates with the software module in the first mobile device to read the data off from the first mobile device; verifying the payment request; and sending a payment response to a user of the first mobile device after the payment request is processed. In the embodiment, the second mobile device includes a display screen and is caused to display the electronic invoice when the data is in the second mobile device.

**[0012]** According to another embodiment, the present invention is a gateway provided for settling a payment, the gateway may include a server or a collection of servers. The gateway comprises a portal providing a software module to be downloaded and executed in a first mobile device embedded with a secure element, wherein the secure element has been personalized and the software module is provisioned with the personalized secure element, the first mobile device is configured to include data pertaining to an electronic invoice. The gateway further comprises a server that includes: a processor and a store, coupled to the processor, for code to be executed in the processor to cause the server to perform operations of:

receiving a payment request from a second mobile device after a user of the second mobile device authorizes the payment to the electronic invoice transported wirelessly from the first mobile device, wherein the second mobile device is a near-field communication device and is configured to execute an

application that communicates with the software module in the first mobile device to read the data off from the first mobile device;  
verifying the payment request; and  
sending a payment response to a user of the first mobile device after the payment request is processed.

**[0013]** Other objects, features, and advantages of the present invention will become apparent upon examining the following detailed description of an embodiment thereof, taken in conjunction with the attached drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0014]** The invention will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

**[0015]** FIG. 1A shows a system configuration according to one embodiment of the present invention, where the payment network represents a collection of services or networks provided to settle payments via a financial institution;

**[0016]** FIG. 1B shows a flowchart or process of settling a payment according to one embodiment, where the process may be implemented in software or a combination of software and hardware;

**[0017]** FIG. 2A shows a mobile payment ecosystem in which related parties are shown in order for the mobile payment ecosystem successful;

**[0018]** FIG. 2B shows a flowchart or process of provisioning one or more applications according to one embodiment;

**[0010]** FIG. 2C shows a data flow illustrating various interactions among different parties when an application is being provisioned in one embodiment;

**[0011]** FIG. 2D shows a data flow among different entities when preparing the application data in provisioning an application;

**[0012]** FIG. 2E shows a flowchart or process for locking or disabling an installed application;

**[0013]** FIG. 2F shows an exemplary architecture diagram of a portable device enabled as an e-purse conducting e-commerce and m-commerce, according to one embodiment of the present invention;

**[0014]** FIG. 3A is a block diagram of related modules interacting with each other to achieve what is referred to herein as e-purse personalization by an authorized personnel (a.k.a., personalizing a mobile device or a secure element therein while provisioning an application);

**[0015]** FIG. 3B shows a block diagram of related modules interacting with each other to achieve what is referred to herein as e-purse personalization by a user of the e-purse;

**[0016]** FIG. 3C shows a flowchart or process of personalizing an e-purse according to one embodiment of the present invention;

**[0017]** FIG. 4A and FIG. 4B show together a flowchart or process of financing, funding, load or top-up an e-purse according to one embodiment of the present invention;

**[0018]** FIG. 4C shows an exemplary block diagram of related blocks interacting with each other to achieve the process FIG. 4A and FIG. 4B;

**[0019]** FIG. 5A is a diagram showing a first exemplary architecture of a portable device for enabling e-commerce and m-commerce functionalities over a cellular communications network (i.e., 3G, LTE or GPRS network), according an embodiment of the present invention;

**[0020]** FIG. 5B is a diagram showing a second exemplary architecture of a portable device for enabling e-commerce and m-commerce functionalities over a wired and/or wireless data network (e.g., Internet), according another embodiment of the present invention;

**[0021]** FIG. 5C is a flowchart illustrating an exemplary process of enabling the portable device of FIG. 5A for services/applications provided by one or more service providers in accordance with one embodiment of the present invention;

**[0022]** FIG. 6A is a diagram showing an exemplary architecture, in which a portable device is enabled as a mobile POS conducting e-commerce and m-commerce, according to one embodiment of the present invention;

**[0023]** FIG. 6B is a diagram showing an exemplary architecture, in which a portable device is enabled as a mobile POS conducting a transaction upload operation over a network, according to an embodiment of the present invention;

**[0024]** FIG. 6C is a flowchart illustrating an exemplary process of conducting m-commerce using the portable device enabled as a mobile POS with an e-token enabled device as a single functional card in accordance with one embodiment of the present invention;

**[0025]** FIG. 6D is a flowchart illustrating an exemplary process of conducting m-commerce using the portable device enabled as a mobile POS against a an e-token enabled device as a multi-functional card; and

**[0026]** FIG. 7 is a diagram depicting an exemplary configuration in which a portable device used for an e-ticking application.

## DETAILED DESCRIPTION OF THE INVENTION

**[0019]** In the following description, numerous specific details are set forth to provide a thorough understanding of the present invention. The present invention may be practiced without these specific details. The description and representation herein are the means used by those experienced or skilled in the art to effectively convey the substance of their work to others skilled in the art. In other instances, well-known methods, procedures, components, and circuitry have not been described in detail since they are already well understood and to avoid unnecessarily obscuring aspects of the present invention.

**[0020]** Reference herein to “one embodiment” or “an embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one implementation of the invention. The appearances of the phrase “in one embodiment” or “in the embodiment” in various

places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Further, the order of blocks in process, flowcharts or functional diagrams representing one or more embodiments do not inherently indicate any particular order nor imply limitations in the invention. As used in this specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the context clearly dictates otherwise. It should also be noted that the term "or" is generally employed in its sense including "and/or" unless the context clearly dictates otherwise.

**[0021]** Embodiments of the present invention are discussed herein with reference to FIGS. 1A - 7. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes only as the invention extends beyond these limited embodiments.

**[0022]** Near Field Communication (NFC) presents significant business opportunities when used in mobile devices for applications such as payment, transport ticketing, loyalty, physical access control, and other exciting new services. To support this fast evolving business environment, various NFC-enabled mobile phones or devices are being advanced to support various uses in daily life.

**[0023]** FIG. 1A shows a system configuration 100 according to one embodiment of the present invention. A network 102 represents a collection of services or networks provided to settle payments by a financial institution. In other words, it is a system providing services to electronically transfer money or settle payments. What makes it a system is that it employs cash-substitutes as the traditional payments are negotiable instruments such as drafts (e.g., checks) and documentary credits, such as letter of credits. With the advent of computers and electronic communications, a large number of alternative electronic payment systems have emerged. These include debit cards, credit cards, electronic funds transfers, direct credits, direct debits, internet banking and e-commerce payment systems. Payment systems are used in lieu of tendering cash in domestic and international transactions and consist of a major service provided by banks and other financial institutions.

**[0024]** The payment system or network 102 may be physical or electronic and has its own procedures and protocols. An example of the payment system that has become globally available is Visa or Master Card, a true global credit card and automated teller machine network. Both merchants and consumers use the payment system to settle transactions.

**[0025]** According to one embodiment, a payment gateway 104 includes a server or a collection of servers configured to provide an application that may be installed in a mobile device for a user thereof to enjoy one of the benefits in the present invention. The application named smart bill payment herein is published in the Internet and may be downloaded from a designated place (e.g., a portal provided by a server). A user uses a mobile device to download the application and install it in the mobile device. The application may be automatically or manually executed to authorize a payment to a displayed electronic invoice, wherein the electronic invoice is generated or produced from a data exchange with another device via a secure element in the mobile device. Unless otherwise explicitly indicated, the term of “mobile device”, “computing device”, “smart phone”, “portable device”, “handset” or the like will be interchangeably used herein, but those skilled in the art will understand the description herein shall be equally applicable to other devices such as a wearable watch, a tablet, a laptop computer, and other portable computing device with the capability of near field communication (NFC).

**[0026]** Referenced by 106 is a device at a point of sale (POS), herein a POS device. Depending on implementation, the POS device 106 may come as a single device (e.g., an NFC device) or a stationary device with one or more portable devices (e.g., contactless cards). One of the purposes for the device 106 is to generate an electronic bill (or invoice) to be loaded to a portable device 108 (e.g., a contactless card or an NFC device) for contacting with an NFC device of a consumer for settlement of the invoice.

**[0027]** According to one embodiment, the POS device is a single device embedded with a secure element. The single device may be an NFC device that is used to enter information to generate an invoice. For example, a customer has

ordered several dishes in a restaurant, a cashier enters the individual charges for the dishes in the NFC device that generates a bill showing the total including the sale tax and sometimes the tips. The cashier or a waiter brings the NFC device to the customer for authorization and payment. According to another embodiment, the POS device includes a stationary device corresponding to 106 of FIG. 1A and one or more contactless cards corresponding to 108 of FIG. 1A. The stationary device is used by the cashier to enter charging information to generate an invoice. A contactless card is loaded with the electronic invoice and brought to the customer for authorization and payment. In the following description, unless specifically stated, a POS device means either one of the cases and will be described as if it is a single device. Given the detailed description herein, those skilled in the art can fully appreciate what a POS device means when practicing one embodiment of the present invention.

**[0028]** As will be further described below, the POS device is embedded with a secure element. It is the secure element that provides the security and confidentiality required to support secure data communication between two devices, and facilitates the communication between a mobile device and a server. In general, a secure element (SE) is a tamper-resistant platform (e.g., a single-chip secure microcontroller) capable of securely hosting applications and their confidential and cryptographic data (e.g., key management) in accordance with the rules and security requirements set forth by a set of well-identified trusted authorities. The common form factors of SE include: Universal Integrated Circuit Card (UICC), embedded SE and microSD. Both the UICC and microSD are removable. In one embodiment of the invention, a software module is configured to act as an SE and upgradable by overwriting some or all of the components therein. Regardless of the form factors, each form factor links to a different business implementation and satisfies a different market need. For a secure element to be used, it has to be personalized. The details of personalizing a secure element may be found in co-pending US App. Ser. No.: 13/749,696 which is hereby incorporated by reference.

**[0029]** According to one embodiment, a software module (e.g., an applet), referred to herein as smart bill payment applet, corresponding to an application as described above, is loaded in the POS device and provisioned with the secure element



therein. The module may be published by a service provider operating the gateway or server 104 and downloadable to an NFC device over a wireless or wired network. Once downloaded, the module must be provisioned with the service provider so that secure data may be exchanged with the server 104. Co-pending US App. Ser. No.: 13/749,696 describes the details of provisioning an application with a personalized secure element, which is hereby incorporated by reference.

**[0030]** FIG. 1B shows a flowchart or process 120 of settling a payment according to one embodiment of the present invention. The process 120 may be implemented in software or a combination of software and hardware. Without any implied limitations, the process 120 may be better understood in conjunction of FIG. 1A.

**[0031]** To facilitate the description of the process 120, it is assumed that a customer has dined in a restaurant, where the restaurant has installed a POS device that includes a stationary device for a cashier to manage/input various charging data to generate a bill for the customer. The POS device also includes a reader exchanging data with one or more contactless cards. In other words, after the cashier enters the necessary information, an electronic bill is generated and loaded into a contactless card.

**[0032]** At the end of the dining, a waiter lets a cashier prepare a check (i.e., a bill) on a POS machine corresponding to 106 of FIG. 1. The POS machine generates an electronic bill that is transported to a contactless card at 122, where the contactless card is embedded with a personalized secure element. At 124, the waiter brings the contactless card to the customer. The customer uses his mobile device to read the contactless card at 126. As described above, the mobile device is assumed to have been installed with a corresponding smart bill application. Upon detecting the contactless card in the near field, the smart bill application is executed and reads off data pertaining to the electronic bill from the contactless card at 128 and subsequently displays the electronic bill on a screen of the mobile device for the consumer to verify. Unlike a traditional invoice commonly seen on a screen, the electronic bill in the contactless card and being transferred from the contactless card to the mobile device

includes security information of a registered user associated with the restaurant or the merchant. The security information includes, but may not be limited to, an account and bank information of the restaurant, the identifier of the secure element in the contactless card or the POS device. In one embodiment, the data also includes an address or a link from which the merchant gets a notification (i.e., the payment response) when the charge is settled. Depending on the implementation, the notification may be sent to a designated mobile device as a short message or an email message.

**[0033]** Upon seeing the displayed bill being displayed on a display screen, the customer may choose a method to settle the invoice. Depending on implementation, the customer may choose to settle the charge with an electronic wallet or purse (a.k.a., e-purse) already created in the mobile device, cash, a traditional credit or debit card, an electronic transfer/payment or others. The settlement with e-purse will be further detailed below.

**[0034]** FIG. 1B is provided to illustrate one embodiment of using the electronic payment, a type of money transfer service provided by the payment gateway 102 as shown in FIG. 1A. At 130, the customer has chosen the electronic payment that is provided by the installed smart bill application and enters how much to be paid against the bill. It shall be noted that the consumer may enter more than what is being charged in the invoice as a tip to the service provided by the restaurant. Once the total amount is entered by the consumer, at 132, the application (i.e., the mobile device) sends a payment request including the data pertaining to the electronic bill to the server 104 for processing. As further described late herein, in one embodiment, the data exchange between the mobile device and the gateway 102 is conducted in a secured channel established in accordance with the security information in the data pertaining to the electronic invoice.

**[0035]** Upon receiving the payment request, the server 104 is configured to verify if the amount entered by the consumer is sufficient to cover the charge in the bill at 134. If the amount is less than what is being charged in the bill, for example, the consumer may enter a wrong number or a typo in the number, the server 104 would

return the payment request to the mobile device. Upon receiving the rejection, the bill application in the mobile device displays the rejection to get attention from the consumer so that an appropriate step may be taken to proceed with the payment. If the amount is equal or more than what is being charged (e.g., the consumer desires to include a tip on top of the charge), the server 104 proceeds with the payment request at 136.

**[0036]** As shown in FIG. 1B, the server 104 receives the payment request authorized by the consumer and proceeds with the payment request in conjunction with the payment network 102. In one embodiment, the server 104 provides a payment service similar to Paypal commonly used in US and other countries or Alipay mainly used in China. Once the transaction is complete or denied, the server 104 sends a notice to the merchant (e.g., the restaurant).

**[0037]** As indicated above, in one embodiment, the device 110 of FIG. 1A is configured to function as an electronic purse or e-purse that may be used to directly settle a charge being displayed on a display screen thereof. The following description details how the e-purse works in a mobile payment ecosystem.

**[0038]** Referring now to FIG. 2A, it shows a mobile payment ecosystem 200 in which related parties are involved in order for the mobile payment ecosystem successful. According to one embodiment, an NFC device is allowed to install or download one or more applications from respective designated servers 202 (i.e., application management providers), where the applications are originally developed by developers 204 and distributed by service providers 210, application management providers 202 or others. It is assumed that the secure element 206 provided by a secure element provider 208 has already been personalized via a TSM or a trusted third party (e.g., a financial institution 212).

**[0039]** Once an application (e.g., a Smart Bill Payment application in the device 110 or a Smart Bill Payment applet in the POS device 106 of FIG. 1A) is installed in an NFC device, the next step is to provision the application with the secure element therein. An application provisioning process can be started in several ways. One of the ways is that an SE holder selects an application from a TSM portal on the mobile

device and initiates the provisioning process. Another one is that the SE holder receives an application provisioning notification on the mobile device from the TSM on behalf of an application (service) provider.

**[0040]** The TSM or application providers can publish their applications on a TSM portal to be downloaded to a mobile device with the SE and/or subscribed at a request of a user (a.k.a., an SE holder). In one embodiment, the TSM is a cloud service to serve many SE issuers. Thus, many applications from various service providers are available on the TSM portal. However, when getting onto the TSM portal, SE holders can only see those applications approved by its own SE issuer. Depending on the arrangement between an SE and a service provider, an application can either be downloaded/installed/personalized using the ISD keyset of the SE or a specific SSD keyset of the service provider. If an SSD keyset has not been installed on the SE, it can be installed during an application installation.

**[0041]** The TSM is designed to know the memory state or status of an SE for various SSDs. Based on the state of the SE and the memory allocation policy of the SSDs, the available applications for the various SSD in the application store may be marked with different indicators, for example, “OK to install”, or “Insufficient memory to install”. This will prevent unnecessary failure for users.

**[0042]** Once an application is installed on an NFC device, the application initiates a provisioning process by itself, or the TSM can push a provisioning notification to the NFC device via a cellular network or a wireless data network. Depending on the type of the devices, there are many different types of push messages to cause the NFC device to initial the provision process. An example of the push methods includes an SMS push or an Android Google Push. Once a user accepts the notification, the provisioning process starts. The details of the provisioning process will be described below whenever deemed appropriate.

**[0043]** As part of the application provisioning, a TSM server implements some protective mechanism. One is to prevent an SE from being accidentally locked. Another is to disable application download if there is no sufficient memory on SE. In some cases, an SE may permanently lock itself if there are too many failed mutual

authentications during secure channel establishment. In order to prevent the SE from being accidentally locked, the TSM keeps the track of the number of failed authentications between an SE and the TSM when establishing a secured channel between the two entities. In one embodiment, the TSM is configured to reject any further request if a preset limit is reached. The TSM can continue to process the SE request if the SE is reset at the service center manually.

**[0044]** The TSM also keeps track of the memory usage of each SE. The TSM decides whether an application can be installed on an SE based on the memory allocation assigned by the SE issuer to each service provider. According one embodiment, there are three types of policies:

- pre-assigned fixed memory to guarantee a space of fixed capacity.
- pre-assigned minimum memory to guarantee a space of a minimum capacity (implying that the capacity may be expanded under some conditions).
- best efforts (e.g., a contractual provision which requires the SE issuer to use its highest efforts to perform its obligations and to maximize the benefits to be received by the user).

**[0045]** According to one embodiment, an SE issuer uses a TSM web portal to make this assignment.

1. For a batch of SE, the SE issuer can pre-assign a memory policy for a service provider to install its applications via the TSM web portal;
2. The TSM server verifies whether the space of the respective service provider conforms to its policy when a mobile device requests to install one of its applications. If not conformed, this request is rejected, otherwise, the TSM server will proceed to handle the provisioning request;
3. If the provisioning succeeds, the TSM will accumulate the memory size of this application service.

**[0046]** When a mobile user subscribes to a mobile application (assuming it has been installed), the application has to be provisioned with the SE in the mobile device before it can be used. According to one embodiment, the provisioning process includes four major stages:

- to create an supplemental security domain (SSD) on the SE, if needed;
- to download and install an application cap on the SE;
- to personalize the application on the SE; and
- to download a UI component on mobile phone.

**[0047]** FIG. 2B shows a flowchart or process 220 of provisioning one or more applications according to one embodiment. The process 220 may be implemented in software or a combination of software and hardware. In one embodiment, the application provisioning process 220 needs to go through a provisioning manager (i.e., proxy) on the mobile phone to interact with the SE therein.

**[0048]** As shown in FIG. 2B, at 222, the application provisioning process 220 may be started manually or automatically. For example, a user may initiate the process 220 by selecting an installed application to subscribe related services or the installed application, when activated, initiates the provisioning process, provided it has not been provisioned. In another embodiment, a provider of an application pushes a message (e.g., SMS) to the mobile phone to initiate the provisioning process.

**[0049]** As shown in FIG. 2B, at 222, the application provisioning process 220 may be started manually or automatically. For example, a user may initiate the process 220 by selecting an installed application to subscribe related services or the installed application, when activated, initiates the provisioning process, provided it has not been provisioned. In another embodiment, a provider of an application pushes a message (e.g., SMS) to the mobile phone to initiate the provisioning process.

**[0050]** In any case, the process 220 goes to 224 to establish a communication with a dedicated server (e.g., a TSM server or a server operated by an application distributor) after the device information (e.g., CPLC) is retrieved from the SE in the mobile device. The device information along with an identifier identifying the application is transmitted to the server at 226. Based on the device information, the server identifies the issuer for the SE first at 228 to determine if the SE has been personalized at 230. If the SE has not been personalized, the process 220 goes to 232 to personalize the SE.

**[0051]** It is now assumed that the SE in the mobile device has been personalized. The process 220 now goes to 234 to establish a secure channel with the SE using the derived ISD. Depending on who houses the HSM (TSM or SE issuer) for the ISD, the server will contact the HSM to compute the derived ISD for the SE and establish a secure channel with the SE using this derived ISD. The server is then configured to check to see whether there is an SSD associated with this application at 236. If there is not an SSD associated with the application, the server is configured to check a database to see whether it has been installed with this SE. If the SSD installation is needed, then the process 220 goes to install the SSD. In one embodiment, the user is alerted of the installation of the SSD (keys). Should the user refuse to install the SSD at 238, the process 220 stops and goes to 222 to restart the provisioning process 220.

**[0052]** It is now assumed that the process of installing the SSD proceeds at 240. Installing the SSD is similar to installing the ISD. The TSM server is configured to contact the HSM that houses the SSD master key to compute the derived SSD key set for the SE. The master SSD key set can be either in the TSM or with the service provider or the SE issuer, largely depending on how the arrangement is made with all parties involved.

**[0053]** To download/install the application to the SE, the server is configured to establish a secure channel with the SE using this derived SSD at 242. In one embodiment, this is similar to how the ISD-based secure channel is established. At 244, the data for the application is prepared, the detail of which will be further discussed below. According to one embodiment, the server is configured to contact the service provider to prepare asset of APDUs, such as STORE DATA APDUs, where ADPU stands for Application Protocol Data Unit. Depending on an application installed in a mobile device, the server may be caused to repeatedly issue STORE DATA to personalize the application with the SE. Additional data including an appropriate interface (e.g., a user interface of the application per the mobile device) may be downloaded provided that the provisioning process is successfully done. At 246, the server will notify the application provider the status of the application that has been provisioned. According to one embodiment and the above description, FIG. 2C

shows a data flow 250 illustrating various interactions among different parties when an application is being provisioned in one embodiment.

**[0054]** As shown in 244 of FIG. 2B, one of the important functions in provisioning an application is to prepare customized application data for the targeted SE. For example, for an e-purse application, the personalized data for the application includes various personalized transaction keys generated based on the device information (e.g., CPLC info) of the SE. For transit e-purse, part of the personalized data includes the Mifare access keys derived from an identifier (ID) of the Mifare card, the server is configured to personalize both Java Card applications and Mifare4Mobile service objects. In general, there are at least two different ways to prepare the data to facilitate subsequent transactions.

**[0055]** For data preparation, one embodiment of the present invention supports two operation modes to interact with service providers for computing the personalized application data. For the first mode, a TSM server does not have direct access to the HSM associated with a service provider. The service provider may have a server interacting with its HSM to generate the application keys (e.g., Transit, e-purse, or Mifare Key). The TSM data preparation implementation is to make use of application program interfaces (API) or a protocol provided by the server to request for derived application keys. The second mode is that data preparation implementation can directly access the HSM associated with the service provider to generate the application keys.

**[0056]** According to one embodiment, FIG. 2D shows a data flow 255 among different entities when preparing the application data in provisioning an application. FIG. 2D is provided to show the first mode in which a TSM server does not have direct access to the HSM associated with a service provide. The second mode has a similar flow except that the application data preparation implementation will interact directly with the HSM of a service provider.

**[0057]** Besides supporting a provisioning process, one embodiment of the present invention also supports the life cycle management of an SE. The life cycle management includes, but may not be limited to, SE lock, SE unlock, Application



Delete (disabling). The initiation of these activities may be through a TSM push notification. In actual use of mobile devices, FIG. 2E shows a flowchart or process 260 of locking an installed application. An NFC device may have been installed with a number of applications in connection with or running on top of the secured element therein. For some reason (e.g., no activity for a prolonged period or expiration), an application needs to be disabled or locked by its distributor or provider.

**[0058]** FIG. 2E shows an operation or process 260 to disable an installed application. The process 260 is initiated at 262. In one embodiment, the process 260 is initiated by an operator manually via a TSM web portal. In another embodiment, the process 260 is automatically initiated by a service provider internal workflow (e.g., using TSM web service API). Once the process 260 is initiated, a message is pushed to an NFC device (e.g., within a mobile device) in which an application is to be disabled. Depending on application, such a message may come in different forms. In one embodiment, the message is a PUSH command. In another embodiment, the message is a TCP/IP request delivered to the device via a network. The message may be sent from a server (e.g., a TSM server) at 264. Depending on implementation, such a message may include an identifier identifying an application to be locked or disabled. Upon receiving such a message, a card manager proxy on the device is caused to verify whether such a message is indeed from its original distributor or provider by returning a message at 266. According to one embodiment, the message is sent to the TSM server for verification. If the verification fails, namely there is no acknowledgement to such an inquiry, the process 260 is abandoned.

**[0059]** It is now assumed that the verification is successful, namely the inquiry from the device to a provider of the application returns an acknowledgement that the original request is authenticated. In general, such an acknowledgement includes an identifier confirming the application to be locked at 268. The TSM server is configured to establish a secure channel with the SE as described previously. Then, the TSM server is to prepare appropriate APDUs (such as SET STATUS, or/and DELETE) for the SE for execution via the card manager proxy.

**[0060]** In any case, in responding to the command, the SE proceeds by locking the application at 272. According to one embodiment, the SE is caused to disassociate with the application, thus making the installed application no longer usable with the SE. At 274, the SE is configured to send out an acknowledgement to notify related parties that this application is no longer operating in the device. In one embodiment, the acknowledgement is sent over to the TSM server where there is a database recording what applications have been installed in what device, and a corresponding status of each. The database is updated with the acknowledgement from the SE.

**[0061]** FIG. 2E shows a flowchart or process for disabling or locking an installed application. It is known to those skilled in the art that other operations, such as unlocking or enabling an installed application, extending expiration of an installed application, are similar to the one shown in FIG. 2E, and thus the flowcharts thereof are not provided herein.

**[0062]** Referring now to FIG. 2F, there shows an exemplary architecture diagram 280 of a portable device enabled as an electronic wallet or e-purse to facilitate e-commerce and m-commerce, according to one embodiment of the present invention. The diagram 280 includes a cell phone 282 embedded with a smart card module. An example of such a cell phone is a near field communication (NFC) enabled cellphone that includes a Smart MX (SMX) module. Not separately shown, there is an SE that has already personalized according to the process discussed above. An application to enable the device as e-purse has also been installed. Unless explicitly stated, the following description will not call out which part is performing the function of a secure element and which part is performing as an application. Those skilled in the art shall appreciate the proper parts or functions being performed given the detailed description herein.

**[0063]** The SMX is pre-loaded with a Mifare emulator 288 (which is a single functional card) for storing values. The portable phone is equipped with a contactless interface (e.g., ISO 14443 RFID) that allows the portable phone to act as a tag. In one embodiment, the SMX is a JavaCard that can run Java applets. The e-purse application is configured to be able to access the Mifare data structures with

appropriate transformed passwords based on the access keys created when the SE is personalized.

**[0064]** In the portable phone 282, an e-purse manager MIDlet 204 is provided. For m-commerce, the MIDlet 284 acts as an agent to facilitate communications between an e-purse applet 286 and one or more payment network and servers 290 to conduct transactions therebetween. As used herein, a MIDlet is a software component suitable for being executed on a portable device. The e-purse manager MIDlet 284 is implemented as a “MIDlet” on a Java cell phone, or an “executable application” on a PDA device. One of the functions of the e-purse manager MIDlet 284 is to connect to a wireless network and communicate with an e-purse applet which can reside on either the same device or an external smart card. In addition, it is configured to provide administrative functions such as changing a PIN, viewing an e-purse balance and a transaction history log. In one application in which a card issuer provides a SAM 292 that is used to enable and authenticate any transactions between a card and a corresponding server (also referred to as a payment server). As shown in FIG. 2F, APDU commands are constructed by the servers 290 having access to a SAM 292, where the APDU is a communication unit between a reader and a card. The structure of an APDU is defined by the ISO 7816 standards in one embodiment. Typically, an APDU command is embedded in network messages and delivered to the server 290 or the e-purse applet 286 for processing.

**[0065]** For e-commerce, a web agent 294 on a computer (not shown) is responsible for interacting with a contactless reader (e.g., an ISO 14443 RFID reader) and the network server 290. In operation, the agent 294 sends the APDU commands or receives responses thereto through the contactless reader 296 to/from the e-purse applet 286 residing in the cell phone 282. On the other hand, the agent 294 composes network requests (such as HTTP) and receives responses thereto from the payment server 280.

**[0066]** To personalize or provision the portable phone 282, FIG. 3A shows a block diagram 300 of related modules interacting with each other to achieve what is referred to herein as e-purse personalization (or provisioning) by an authorized

person. FIG. 3B shows a block diagram 320 of related modules interacting with each other to achieve what is referred to herein as e-purse personalization by a user of the e-purse as shown in FIG. 2F.

**[0100]** FIG. 3C shows a flowchart or process 350 of personalizing an e-purse applet according to one embodiment of the present invention. FIG. 3C is suggested to be understood in conjunction with FIG. 3A and FIG. 3B. The process 350 may be implemented in software, hardware or a combination of both.

**[0101]** As described above, an e-purse manager is built on top of the already-personalized SE to provide a security mechanism necessary to personalize the e-purse applet designed therefor. In operation, a security domain is used for establishing a secured channel between a personalization application server and the e-purse applet. According to one embodiment, the essential data to be personalized into the e-purse applet include one or more operation keys (e.g., a load or top-up key and a purchase key), default PINs, administration keys (e.g., an unblock PIN key and a reload PIN key), and passwords (e.g., from Mifare).

**[0102]** It is assumed that a user desires to personalize an e-purse applet embedded in a portable device (e.g., a cell phone). At 352 of FIG. 3C, a personalization process is initiated. Depending on implementation, the personalization process may be implemented in a module in the portable device and activated manually or automatically, or a physical process initiated by an authorized person (typically associated with a card issuer). As shown in FIG. 3A, an authorized personal initiates a personalization process 304 to personalize the e-purse applet for a user thereof via an existing new e-purse SAM 306 and an existing SAM 308 with the contactless reader 310 as the interface. The card manager 311 performs at least two functions: 1) establishing a security channel, via a security domain, to install and personalize an external application (e.g., e-purse applet) in the card personalization; and 2) creating security means (e.g., PINs) to protect the application during subsequent operations. As a result of the personalization process using the personalization application server 304, the e-purse applet 312 and the emulator 314 are personalized.

**[0103]** Similarly, as shown in FIG. 3B, a user of an e-purse desires to initiate a personalization process to personalize the e-purse applet wirelessly (e.g., via the m-commerce path of FIG. 2). Different from FIG. 3A, FIG. 3B allows the personalization process to be activated manually or automatically. For example, there is a mechanism on a cell phone that, if pressed, activates the personalization process. Alternatively, a status of “non-personalized” may prompt to the user to start the personalization process. As described above, a MIDlet 322 (i.e., a provisioning manager or a service manager) in a portable device acts as an agent to facilitate the communication between a payment server 324 and the e-purse applet 312 as well as the emulator 314, wherein the payment server 324 has the access to the existing new e-purse SAM 306 and an existing SAM 308. As a result of the personalization process, the e-purse applet 312 and the emulator 314 are personalized.

**[0104]** Referring now back to FIG. 3C, after the personalization process is started, in view of FIG. 3A, the contactless reader 310 is activated to read the tag ID (i.e., RFID tag ID) and essential data from a smart card in the device at 354. With an application security domain (e.g., a default security setting by a card issuer), a security channel is then established at 356 between a new e-purse SAM (e.g., the SAM 306 of FIG. 3A) and an e-purse applet (e.g., the e-purse applet 312 of FIG. 3A) in the portable device.

**[0105]** Each application security domain key set includes at least three (3) DES keys. For example:

Key1: 255/1/DES-ECB/404142434445464748494a4b4c4d4e4f

Key2: 255/2/DES-ECB/404142434445464748494a4b4c4d4e4f

Key3: 255/3/DES-ECB/404142434445464748494a4b4c4d4e4f

A security domain is used to generate session keys for a secured session between two entities, such as the card manager applet and a host application, in which case the host application may be either a desktop personalization application or a networked personalization service provided by a backend server.

**[0106]** A default application domain can be installed by a card issuer and assigned to various application/service providers. The respective application owner can change the value of the key sets before the personalization process (or at the initial of the

process). Then the application can use the new set to create a security channel for performing the personalization process.

**[0107]** With the security channel is established using the application provider's application security domain, the first set of data can be personalized to the e-purse applet. The second set of data can also be personalized with the same channel, too. However, if the data are in separate SAM, then a new security channel with the same key set (or different key sets) can be used to personalize the second set of data.

**[0108]** Via the new e-purse SAM 306, a set of e-purse operation keys and PINs are generated for data transactions between the new e-purse SAM and the e-purse applet to essentially personalize the e-purse applet at 358.

**[0109]** A second security channel is then established at 360 between an existing SAM (e.g., the SAM 308 of FIG, 3A) and the e-purse applet (e.g., the e-purse applet 312 of FIG, 3A) in the portable device. At 362, a set of transformed keys is generated using the existing SAM and the tag ID. The generated keys are stored in the emulator for subsequent data access authentication. At 358, a set of MF passwords is generated using the existing SAM and the tag ID, then is stored into the e-purse applet for future data access authentication. After it is done, the e-purse including the e-purse applet and the corresponding emulator is set to a state of "personalized".

**[0110]** FIG. 4A and FIG. 4B show together a flowchart or process 400 of financing or funding an e-purse according to one embodiment of the present invention. The process 400 is conducted via the m-commerce path of FIG. 2. To better understand the process 400, FIG. 4C shows an exemplary block diagram 450 of related blocks interacting with each other to achieve the process 400. Depending on an actual application of the present invention, the process 400 may be implemented in software, hardware or a combination of both.

**[0111]** A user is assumed to have obtained a portable device (e.g., a cell phone) that is configured to include an e-purse. The user desires to fund the e-purse from an account associated with a bank. At 402, the user enters a set of personal identification numbers (PIN). Assuming the PIN is valid, an e-purse manger in the portable device is

activated and initiates a request (also referred to as an over-the-air (OTA) top-up request) at 404. The MIDlet in the portable device sends a request to the e-purse applet at 406, which is illustrated in FIG. 4C where the e-purse manager MIDlet 434 communicates with the e-purse applet 436.

**[0112]** At 408, the e-purse applet composes a response in responding to the request from the MIDlet. Upon receiving the response, the MIDlet sends the response to a payment network and server over a cellular communications network. As shown in FIG. 4C, the e-purse manager MIDlet 434 communicates with the e-purse applet 436 for a response that is then sent to the payment network and server 440. At 410, the process 400 needs to verify the validity of the response. If the response cannot be verified, the process 400 stops. If the response can be verified, the process 400 moves to 412 where a corresponding account at a bank is verified. If the account does exist, a fund transfer request is initiated. At 414, the bank receives the request and responds to the request by returning a response. In general, the messages exchanged between the payment network and server and the bank are compliant with a network protocol (e.g., HTTP for the Internet).

**[0113]** At 416, the response from the bank is transported to the payment network and server. The MIDlet strips and extracts the APDU commands from the response and forwards the commands to the e-purse applet at 418. The e-purse applet verifies the commands at 420 and, provided they are authorized, sends the commands to the emulator at 420 and, meanwhile updating a transaction log. At 422, a ticket is generated to formulate a response (e.g., in APDU format) for the payment server. As a result, the payment server is updated with a successful status message for the MIDlet, where the APDU response is retained for subsequent verification at 424.

**[0114]** As shown in FIG. 4C, the payment network and server 440 receives a response from the e-purse manager MIDlet 434 and verifies that the response is from an authorized e-purse applet 436 originally issued therefrom with a SAM 444. After the response is verified, the payment network and server 440 sends a request to the financing bank 442 with which the user 432 is assumed to maintain an account. The

bank will verify the request, authorize the request, and return an authorization number in some pre-arranged message format. Upon receiving the response from the bank 442, the payment server 440 will either reject the request or accept the request by forming a network response sent to the MIDlet 434.

**[0115]** The e-purse manager 434 verifies the authenticity (e.g., in APDU format) and sends commands to the emulator 438 and updates the transaction logs. By now, the e-purse applet 436 finishes the necessary steps and returns a response to the MIDlet 434 that forwards an (APDU) response in a network request to the payment server 440.

**[0116]** Although the process 400 is described as funding the e-purse. Those skilled in the art can appreciate that the process of making purchasing over a network with the e-purse is substantially similar to the process 400, accordingly no separate discussion on the process of making purchasing is provided.

**[0117]** Referring to FIG. 5A, there is shown a first exemplary architecture 500 of enabling a portable device 530 for e-commerce and m-commerce over a cellular communications network 520 (e.g., a GPRS network) in accordance with one embodiment of the present invention. The portable device 530 comprises a baseband 524 and a secured element 529 (e.g., a smart card). One example of such portable device is a Near Field Communication (NFC) enabled portable device (e.g., a cell mobile phone or a PDA). The baseband 524 provides an electronic platform or environment (e.g., a Java Micro Edition (JME), or Mobile Information Device Profile (MIDP)), on which an application MIDlet 523 and a service manager 522 can be executed or run. The secured element 529 contains a global platform (GP) card manager 526, an emulator 528 and other components such as PIN manager (not shown), wherein the global platform is an independent, not-for-profit organization concerned with a standardized infrastructure for development, deployment and management of smart cards.

**[0118]** To enable the portable device 530 to conduct e-commerce and m-commerce, one or more services/applications need to be pre-installed and pre-configured thereon. An instance of a service manager 522 (e.g., a MIDlet with GUI)



needs to be activated. In one embodiment, the service manager 522 is downloaded and installed. In another embodiment, the service manager 522 is preloaded. In any case, once the service manager 522 is activated, a list of directories for various services is shown. The items in the list may be related to the subscription by a user, and may also include items in promotion independent of the subscription by the user. The directory list may be received from a directory repository 502 of a directory server 512. The directory server 512 acts as a central hub (i.e., yellow page functions) for different service providers (e.g., an installation server, a personalization server) that may choose to offer products and/or services to subscribers. The yellow page functions of the directory server 512 may include service plan information (e.g., service charge, start date, end date, etc.), installation, personalization and/or MIDlet download locations (e.g., Internet addresses). The installation and personalization may be provided by two different business entities. For example, the installation is provided by an issuer of a secured element 529, while the personalization may be provided by a service provider who holds application transaction keys for a particular application.

**[0119]** According to one embodiment, the service manager 522 is configured to connect to one or more servers 514 (e.g., a TSM server) from a service provider(s) over the cellular communications network 520. It is assumed that the user has chosen one of the applications from the displayed directory. A secured channel 518 is established between the one or more servers 514 and the GP manager 526 to install/download an application applet 527 selected by the user and then to personalize the application applet 527 and optionally emulator 528, and finally to download an application MIDlet 523. The applet repository 504 and MIDlet repository 506 are the sources of generic application applets and application MIDlets, respectively. GP SAM 516 and application SAM 517 are used for creating the secured channel 518 for the personalization operations.

**[0120]** FIG. 5B is a diagram showing a second exemplary architecture 540 of enabling a portable device 530 for e-commerce and m-commerce over a public network 521, according to another embodiment of the present invention. Most of the components of the second architecture 540 are substantially similar to those of the first architecture 500 of FIG. 5A. While the first architecture 500 is based on operations

over a cellular communications network 520, the public network 521 (e.g., Internet) is used in the second architecture 540. The public network 521 may include a local area network (LAN), a wide area network (WAN), a Wi-Fi (IEEE 802.11) wireless link, a Wi-Max (IEEE 802.16) wireless link, etc. In order to conduct service operations over the public network 521, an instance of the service manager 532 (i.e., same or similar functionality of the service manager MIDlet 522) is installed on a computer 538, which is coupled to the public network 521. The computer 538 may be a desktop personal computer (PC), a laptop PC, or other computing devices that can execute the instance of the service manager 532 and be connected to the public network 521. The connection between the computer 538 and the portable device 530 is through a contactless reader 534. The service manager 532 acts as an agent to facilitate the installation and personalization between one or more servers 514 of a service provider and a GP card manager 526 via a secured channel 519.

**[0121]** FIG. 5C is a flowchart illustrating a process 550 of enabling a portable device for e-commerce and m-commerce functionalities in accordance with one embodiment of the present invention. The process 550 may be implemented in software, hardware or a combination of both depending on implementation. To better understand the process 500, previous figures especially FIG. 5A and FIG. 5B are referred to in the following description.

**[0122]** Before the process 550 starts, an instance of a service manager 522 or 532 has been downloaded or pre-installed on either the portable device 530 or a computer 538. At 552, the service manager is activated and sends a service request to the server 514 at a service provider. Next after the authentication of a user and the portable device has been verified, at 554, the process 550 provides a directory list of services/applications based on subscription of the user of the portable device 530. For example, the list may contain a mobile POS application, an e-purse application, an e-ticketing application, and other commercially offered services. Then one of the services/applications is chosen from the directory list. For example, an e-purse or a mobile-POS may be chosen to configure the portable device 530. Responding to the user selection, the process 550 downloads and installs the selected services/applications at 556. For example, e-purse applet (i.e., application applet 527)

is downloaded from the applet repository 504 and installed onto a secured element 529. The path for downloading or installation may be either via a secured channel 518 or 519. At 558, the process 550 personalizes the downloaded application applet and the emulator 528 if needed. Some of the downloaded application applets do not need to be personalized and some do. In one embodiment, a mobile POS application applet (“POS SAM”) needs to be personalized, and the following information or data array has to be provided:

- a unique SAM ID based on the unique identifier of the underlying secured element;
- a set of debit master keys;
- a transformed message encryption key;
- a transformed message authentication key;
- a maximum length of remark for each offline transaction;
- a transformed batch transaction key; and
- a GP PIN.

**[0123]** In another embodiment, personalization of an e-purse applet for a single functional card not only needs to configure specific data (i.e., PINs, transformed keys, start date, end date, etc.) onto the e-purse, but also needs to configure the emulator to be operable in an open system. Finally, at 560, the process 550 downloads and optionally launches the application MIDlet 523. Some of the personalized data from the application applet may be accessed and displayed or provided from the user. The process 550 ends when all of the components of services/applications have been installed, personalized and downloaded.

**[0124]** According to one embodiment, an exemplary process of enabling a portable device 530 as a mobile POS is listed as follows:

- connecting to an installation server (i.e., one of the service provider server 514) to request the server to establish a first security channel (e.g., the secured channel 518) from an issuer domain (i.e., applet repository 504) to the GP card manager 526 residing in a secured element 529;
- receiving one or more network messages including APDU requests that envelop a POS SAM applet (e.g., a Java Cap file from the applet repository 504);

extracting the APDU requests from the received network messages;  
sending the extracted APDU requests to the GP card manager 526 in a correct order for installation of the POS SAM (i.e., application applet 527) onto the secured element 529;  
connecting to a personalization server (i.e., one of the service provider servers 514) for a second security channel (may or may not be the secured channel 518 depending on the server and/or the path) between the personalization server and the newly downloaded applet (i.e., POS SAM);  
receiving one or more network messages for one or more separated 'STORE DATA APDU'; and  
extracting and sending the 'STORE DATA APDU' to personalize POS SAM; and  
downloading and launching POS manager (i.e., application MIDlet 523).

**[0125]** Referring to FIG. 6A, there is shown an exemplary architecture 600, in which a portable device 630 is enabled as a mobile POS to conduct e-commerce and m-commerce, according to one embodiment of the present invention. The portable device 630 comprises a baseband 624 and a secured element 629. A POS manager 623 is downloaded and installed in the baseband 623 and a POS SAM 628 is installed and personalized in the secured element 629 to enable the portable device 630 to act as a mobile POS. Then a real time transaction 639 can be conducted between the mobile POS enabled portable device 630 and an e-token enabled device 636 (e.g., a single functional card or a portable device enabled with an e-purse). The e-token may represent e-money, e-coupon, e-ticket, e-voucher or any other forms of payment tokens in a device.

**[0126]** The real time transaction 639 can be conducted offline (i.e., without the portable device connecting to a backend POS transaction server 613). However, the portable device 630 may connect to the backend POS transaction servers 613 over the cellular network 520 in certain instances, for example, the amount of the transaction is over a pre-defined threshold or limit, the e-token enabled device 636 needs a top-up or virtual top-up, transactional upload (single or in batch).

**[0127]** Records of accumulated offline transactions need to be uploaded to the backend POS transaction server 613 for settlement. The upload operations are conducted with the portable device 630 connecting to the POS transaction server 613 via a secured channel 618. Similar to the installation and personalization procedures, the upload operations can be conducted in two different routes: the cellular communications network 520; or the public network 521. The first route has been described and illustrated in FIG. 6A.

**[0128]** The second route is illustrated in FIG. 6B showing an exemplary architecture 640, in which a portable device 630 is enabled as a mobile POS conducting a transaction upload in batch operation over a public network 521, according to an embodiment of the present invention. Records of offline transactions in the mobile POS are generally kept and accumulated in a transaction log in the POS SAM 628. The transaction log are read by a contactless reader 634 into a POS agent 633 installed on a computer 638. The POS agent 633 then connects to a POS transaction server 613 over the public network 521 via a secured channel 619. Each of the upload operations is marked as a different batch, which includes one or more transaction records. Data communication between the POS SAM 628, the contactless reader 634 and the POS agent 632 in APDU containing the transaction records. Network messages that envelop the APDU (e.g., HTTP) are used between the POS agent 632 and the POS transaction server 613.

**[0129]** In one embodiment, an exemplary batch upload process from the POS manager 623 or the POS agent 633 includes:

- sending a request to the POS SAM 628 to initiate a batch upload operation;
- retrieving accumulated transaction records in form of APDU commands from a marked “batch” or “group” in the POS SAM 628 when the POS SAM 628 accepts the batch upload request;
- forming one or more network messages containing the retrieved APDU commands;
- sending the one or more network messages to the POS transaction server 613 via a secured channel 619;
- receiving a acknowledgement signature from the POS transaction server 613;

forwarding the acknowledgement signature in form APDU to the POS SAM 628 for verification and then deletion of the confirmed uploaded transaction records; and repeating the step b) to step f) if there are additional un-uploaded transaction records still in the same “batch” or “group”.

**[0130]** Referring to FIG. 6C, there is shown a flowchart illustrating a process 650 of conducting m-commerce using the portable device 630 enabled to act as a mobile POS with an e-token enabled device 636 as a single functional card in accordance with one embodiment of the present invention. The process 650, which is preferably understood in conjunction with the previous figures especially FIG. 6A and FIG. 6B, may be implemented in software, hardware or a combination of both.

**[0131]** The process 650 (e.g., a process performed by the POS manager 623 of FIG. 6A) starts when a holder of an e-token enabled device (e.g., a Mifare card or an e-purse enabled cell phone emulating single functional card) desires to make a purchase or order a service with the mobile POS (i.e., the portable device 630). At 652, the portable device 630 retrieving an e-token (e.g., tag ID of Mifare card) by reading the e-token enabled device. Next, the process 650 verifies whether the retrieved e-token is valid at 654. If the e-token enabled device 636 of FIG. 6A is a single functional card (e.g., Mifare), the verification procedure performed by the POS manager 623 includes: i) reading the card identity (ID) of the card stored on an area that is unprotected or protected by a well-known key; ii) sending an APDU request containing the card ID to the POS SAM 628; iii) and receiving one or more transformed keys (e.g., for transaction counter, an issuer data, etc.) generated by the POS SAM 628. If the one or more received transformed keys are not valid, that is, the retrieved e-token being not valid, then the process 650 ends. Otherwise, the process 650 following the “yes” branch to 656, in which it is determined whether there is enough balance in the retrieved e-token to cover the cost of the current transaction. If the result is “no” at 656, the process 650 may optionally offer the holder to top-up (i.e., load, fund, finance) the e-token at 657. If “no”, the process 650 ends. Otherwise if the holder agrees to a real time top-up of the e-token enabled device, the process 650 performs either a top-up or a virtual top-up operation at 658. Then the process 650

goes back to 656. Whereas there is enough balance in the e-token, the process 650 deducts or debits the purchase amount from the e-token of the e-token enabled device 636 at 660. In the single functional card case, the one or more transformed keys are used to authorize the deduction. Finally at 662, records of one or more offline transactions accumulated in the POS SAM 628 are uploaded to the POS transaction server 613 for settlement. The upload operations may be conducted for each transaction or in batch over either the cellular communications network 520 or the public domain network 521.

**[0132]** The top-up operations have been described and shown in the process 400 of FIG. 4A. A virtual top-up operation is a special operation of the top-up operation and typically is used to credit an e-token by a sponsor or donor. To enable a virtual top-up operation, the sponsor needs to set up an account that ties to an e-token enabled device (e.g., a single functional card, a multi-functional card, an e-token enable cell phone, etc.). For example, an online account is offered by a commercial entity (e.g., business, bank, etc.). Once the sponsor has funded the e-token to the online account, the holder of the e-token enabled device is able to receive an e-token from the online account when connecting to the mobile POS. Various security measures are implemented to ensure the virtual top-up operation is secure and reliable. One exemplary usage of the virtual top-up is that a parent (i.e., a sponsor) can fund an e-token via an online account, which is linked to a cell phone (i.e., an e-token enabled device) of a child (i.e., the holder), such that the child may receive the funded e-token while the child makes a purchase at a mobile POS. In addition to various e-commerce and m-commerce functionalities described herein, the POS manager 623 is configured to provide various query operations, for example, a) checking the un-batched (i.e., not uploaded) balance accumulated in the POS SAM, b) listing the un-batched transaction log in the POS SAM, c) viewing details of a particular transaction stored in the POS SAM, d) checking the current balance of an e-token enabled device, e) listing a transaction log of the e-token enabled device, and f) viewing details of a particular transaction of the e-token enabled device.

**[0133]** Referring to FIG. 6D, there is shown a flowchart illustrating an exemplary process 670 of conducting m-commerce using the portable device 630 enabled to act

as a mobile POS with an e-token enabled device 636 as a multi-functional card in accordance with one embodiment of the present invention. The process 670, which is preferably understood in conjunction with the previous figures especially FIG. 6A and FIG. 6B, may be implemented in software, hardware or a combination of both.

**[0134]** The process 670 (e.g., a process performed by the POS manager 623 of FIG. 6A) starts when a holder of an e-token enabled device 636 (e.g., a multi-functional card or an e-purse enabled cell phone emulating a multi-functional card) desires to make a purchase or order a service with the mobile POS (i.e., the portable device 630). At 672, the process 670 sends an initial purchase request to the e-token enabled device 636. The purchase amount is sent along with the initial request (e.g., APDU commands). Next the process 670 moves to decision 674. When there is not enough balance in the e-token enabled device 636. The initial purchase request will be turned down as a return message received at the POS manager 623. As a result, the process 670 ends with the purchase request being denied. If there is enough balance in the e-token enabled device 636, the result of the decision 674 is “yes” and the process 670 follows the “yes” branch to 676. The received response (e.g., APDU commands) from the e-token enabled device 636 is forwarded to the POS SAM 628. The response comprises information such as the version of the e-token key and a random number to be used for establishing a secured channel between the applet (e.g., e-purse applet) resided on the e-token enabled device 636 and the POS SAM 628 installed on the portable device 630. Then, at 678, the process 670 receives a debit request (e.g., APDU commands) generated by the POS SAM 628 in response to the forwarded response (i.e., the response at 676). The debit request contains a Message Authentication Code (MAC) for the applet (i.e., e-purse applet) to verify the upcoming debit operation, which is performed in response to the debit request sent at 680. The process 670 moves to 682 in which a confirmation message for the debit operation is received. In the confirmation message, there are additional MACs, which are used for verification and settlement by the POS SAM 628 and the POS transaction server 613, respectively. Next at 684, the debit confirmation message is forwarded to the POS SAM 628 for verification. Once the MAC is verified and the purchase transaction is recorded in the POS SAM 628, the recorded transaction is displayed at



686 before the process 670 ends. It is noted that the e-commerce transaction described may be carried out offline or online with the POS transaction server 613. Also when there is not enough balance in the e-token enabled device, a top-up or funding operation may be performed using the process 400 illustrated in FIG. 4A and FIG. 4B.

**[0135]** FIG. 7 shows an exemplary configuration in which a portable device is used for an e-ticketing application. A portable device 730 is configured to include an e-purse 724. When an owner or holder of the portable device 730 desires to purchase a ticket for a particular event (e.g., a concert ticket, a ballgame ticket, etc.), the owner can use e-purse 724 to purchase a ticket through an e-ticket service provider 720. The e-ticket service provider 720 may contact a traditional box office reservation system 716 or an online ticketing application 710 for ticket reservation and purchase. Then e-token (e.g., e-money) is deducted from the e-purse 724 of the portable device 730 to pay the ticket purchase to a credit/debit system 714 (e.g., a financial institute, a bank). A SAM 718 is connected to the e-ticket service provider 720 so that the authentication of e-purse 724 in the portable device 730 can be assured. Upon a confirmation of the payment is received, the e-ticket is delivered to the portable device 730 over the air (e.g., a cellular communications network) and stored onto a secured element 726 electronically, for example, an e-ticket code or key or password. Later on, when the owner of the portable device 730, the ticket holder, attends the particular event, the owner needs only to let a gate check-in reader 734 to read the stored e-ticket code or key in the portable device 730. In one embodiment, the gate check-in reader 734 is a contactless reader (e.g., an ISO 14443 complied proximity coupling device). The portable device 730 is a NFC capable mobile phone.

**[0136]** Referring now to FIG. 8A, it shows a diagram of multiple parties involved in a TSM operated and orchestrated by a business according to one embodiment. A TSM operation team 802 includes an administration responsible for managing accounts for users that have personalized their SEs via the TSM and other tasks. In one embodiment, the TSM operation team 802 includes someone for managing the accounts and someone for managing system resources, such as managing HSM, creating HSM indices and GP keyset mapping. In addition, the team is responsible for

offline importing default ISD info from one or more SE manufacturers. The team may also include someone referred to as a certification engineer responsible to collaborate with service providers and the SE issuers on application approval process. The TSM sales team 804, also referred to as business account manager, is responsible for sales and account management for the vendors of the TSM. Some of the team 804 may only work with the SE manufacturers, some may only work with SE Issuers while other may work with more than one type of vendors. The TSM partner service team 806, also referred to as support engineers, is responsible for providing technical support to the vendors of the TSM, such as the SE issuers and the service providers. The TSM partner service team 806, does not deal directly with mobile users but helps partners analyze audit logs. The vendors 808 include one or more of the SE Issuers, the SE manufacturers, and the service providers. An SE issuer holds the responsibilities for the issuance of SEs and owns the ISD of the SEs. Working with the TSM teams, it can install additional SSD for service providers if needed. An SE manufacturer as the name suggests is responsible for manufacturing the SEs and installing a default ISD in the SEs. It also works with the TSM teams to provide these default ISD key sets. The service provider is responsible for developing NFC mobile applications. Exemplary applications from the service providers include, but may not be limited to, transit purses, bank's e-purses and credit cards. Smaller service providers may be those to provide applications used as room keys.

**[0137]** FIG. 8B shows relevant operations among the parties in the TSM according to one embodiment. The description of the operations is not to be described in detail herein to avoid obscuring the important aspect of the embodiment of the present invention. FIG. 8C shows a work flow among multiple parties to establish mutually agreed arrangement in an exemplary TSM. An SE issuer or a service provider asks the TSM to house its GP keyset. For the SE issuer. In one embodiment, this GP keyset is most likely to be used as ISD. For the service provider, this keyset will be used as SSD. The process of creating the keyset involves creating the keys in the HSM and creates a mapping in TSM system as indicated in FIG. 8C. The effective range of the mapping will be set to a contract expiring date. In general, an HSM key index cannot be active for more than one mapping at the same time.

**[0138]** When the keyset is about to expire, a renewal may be made. The renewal flow is similar to the creation process shown in FIG. 8C. According to one embodiment, the TSM will send a notification to the keyset owner periodically a few months before the keyset expires. The notification stops once the keyset owner renews the contract. The keyset owner can start the renewal process by creating a work request or item. A responsible TSM business account manager approves/rejects the work item. Upon receiving the approved work item, the TSM administration updates the keyset expiring date according to the renewal contract.

**[0139]** Similarly, the keyset can be expired earlier or terminated. The terminate flow is similar to the creation process shown in FIG. 8C. The keyset owner can request to stop the keyset at a future date. The responsible TSM business account manager will verify and approve/reject the request immediately. The TSM administration sets the expiring date of the mapping to the specified date. The HSM key indices can be reused by the TSM for other vendors. An audit log is maintained to keep track of the transactions.

**[0140]** FIG. 8D shows a data flow for an ISD mapping between an SE issuer and the TSM. In general, the ISD mappings are managed by each SE Issuer directly. An SE Issuer can create a mapping to bind an external or internal keyset to an ISD key index. External keysets are keysets not residing in an HSM associated with a TSM while the internal keysets are those residing in the HSM. Normally, the SE issuer should not need to specify the default ISD as the default ISD comes from the SE manufacturer. However, an SE Issuer has an option to overwrite this default ISD if needed.

**[0141]** According to FIG. 8D, the SE Issuer creates an ISD mapping for a card OS to bind a keyset and an ISD key index (e.g., ranging from 1 to 127). If the keyset is not external, the TSM will ensure that the keyset mapping with its HSM exists. In operation, the SE issuer can directly modify or delete the ISD mapping. As described above, an SE Manufacturer has the default ISD information for the SEs that it produces. The TSM provides both batch and real-time approaches for the SE manufacturer to share this information. Depending on the agreement with TSM, the

manufacturer can use either the batch or real-time approach, which has been described above.

**[0142]** For security reasons, a service provider (SP) may want to have its own SSD for personalizing its applications. The SSD mapping is created by an SE issuer to bind a key index it assigns to the service provider to the SP keyset. FIG. 8E shows a corresponding data flow among a server provider, an SE issuer and the TSM. Similar to the SSD creation, a service provider may request the SE issuer to delete an SSD mapping. The workflow is substantially similar to the SSD creation.

**[0143]** As described above, applications are provided by service providers to the users. An application needs to be approved and published before it is available for mobile users to subscribe and download. For example, a service provider needs to submit an application to SE issuer and TSM for approval. In operation, a service provider needs to submit an application to the SE issuer and TSM for approval. FIG. 8F shows a data flow for the approval of an application by an SE issuer. If a dedicated SSD is needed, the service provider can request an SSD beforehand as described in Section 6, or can indicate in the request. If a dedicated SSD is needed, the service provider can request an SSD beforehand as above or can indicate in the request. Before an approved application is available to general public yet, either the service provider or the SE issuer can initiate the publishing process. Both parties must agree before the application is published in the TSM for the users. Then the vendors are notified of the date and availability of the application.

**[0144]** In some cases, an SE needs to be replaced. The SE replacement could happen at a request of either a mobile user or its SE issuer. Mostly, it is to upgrade a SE for a bigger memory for more services. The following three points should be noted:

- For those applications need to migrate their application states from the old SE, the old SE need to be still accessible by the applications (via TSM).
- For those applications requiring no state migration, the TSM needs simply just reinstall and personalize the applications.

- However, if any applications that have states in the SE but do not support state migration, the TSM is not able to migrate their states. For these applications, they will be treated as the second case (namely, the applications must be reinstalled and personalized).

**[0145]** FIG. 8G shows a process of replacing an SE and involves the following stages. An SE issuer informs a TSM about

- SE issuer informs TSM about SE replacement request;
- TSM collaborates with service providers to prepare APDU commands for collecting states of applications on the old SE;
- For each application, TSM executes the command(s) to retrieve application states and lock the application;
- TSM informs mobile user to physically change the new SE. Mobile user may change his/her mind to rollback the replacement request. No rollback is possible after this step;
- TSM will update the default ISD if it has not been done; and
- Collaborating with Service Providers, TSM will install and personalize or provision each application. If needed, TSM will install the SSD for service providers. The personalization data will be prepared based on the static data in the service provider and the dynamic application states.

**[0146]** Referring now to FIG. 9, it shows a snapshot of a screen display of an account for a personalized SE. As shown in the menu 902, the account maintains detailed information 904 about the SE that has been personalized. In addition, the account includes a list of provisioned applications as well as security keys. Other information such as application owners (who developed the applications), the responsible contact at the TSM, an SE log as well as an applications log may be maintained.

**[0147]** The invention is preferably implemented by software, but can also be implemented in hardware or a combination of hardware and software. The invention can also be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data which

can thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, DVDs, magnetic tape, optical data storage devices, and carrier waves. The computer readable medium can also be distributed over network-coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

**[0148]** The present invention has been described in sufficient details with a certain degree of particularity. It is understood to those skilled in the art that the present disclosure of embodiments has been made by way of examples only and that numerous changes in the arrangement and combination of parts may be resorted without departing from the spirit and scope of the invention as claimed. Accordingly, the scope of the present invention is defined by the appended claims rather than the foregoing description of embodiment.

## Claims

We claim:

1. A method for mobile payment, the method comprising:  
causing a mobile device to receive an electronic invoice from a point of sale (POS) device, wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice;  
displaying the electronic invoice on a display screen of the mobile device for a user to verify the payment request;  
processing the payment request in the mobile device; and  
notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device.
2. The method as recited in claim 1, wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device.
3. The method as recited in claim 2, wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and a payment gateway.
4. The method as recited in claim 1, wherein said displaying the electronic invoice on a display screen of the mobile device comprises:  
causing the user to verify an amount in the electronic invoice and make a change to the amount when needed;  
paying the amount with a chosen instrument, wherein the chosen instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer.

5. The method as recited in claim 1, wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises causing the mobile device to execute an installed module upon detecting a contactless card in a near field of the mobile device, wherein the installed module is configured to read off data pertaining to the electronic bill from the contactless card.
6. The method as recited in claim 5, wherein the data includes security information of a registered user associated with the POS device, the security information includes an account and bank information of the registered user, an identifier of the secure element in the contactless card or the POS device.
7. The method as recited in claim 6, wherein said processing the payment request in the mobile device:
  - transporting the payment request over a secured channel to a payment gateway, where the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates a notification to be sent to the registered user associated with the POS device.
8. The method as recited in claim 7, wherein said displaying the electronic invoice on a display screen of the mobile device comprises:
  - causing the user to verify an amount in the electronic invoice and make a change to the amount when needed;
  - paying the amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate a payment request including the data pertaining to the electronic invoice to a payment gateway for processing.
9. The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established in



accordance with the security information in the data pertaining to the electronic invoice.

10. The method as recited in claim 9, wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway.
11. The method as recited in claim 9, wherein said notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the registered user of the POS device.
12. A method for mobile payment, the method comprising:
  - generating an electronic invoice in a point of sale (POS) device;
  - transporting the electronic invoice to a mobile device by causing the mobile device to read off data pertaining to the electronic invoice from the POS device, wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice;
  - receiving a notification from a payment gateway that the electronic invoice has been settled, wherein a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice.
13. The method as recited in claim 12, wherein the POS device includes a contactless card loaded with the electronic invoice, and the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device.
14. The method as recited in claim 13, wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and the payment gateway.

15. The method as recited in claim 14, wherein the data includes security information of a registered user associated with the POS device, the security information includes an account and bank information of the registered user, an identifier of the secure element in the contactless card or the POS device.
16. The method as recited in claim 15, wherein the registered user receives a notification that the electronic invoice has been settled via the mobile device.
17. The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established in accordance with the security information in the data pertaining to the electronic invoice.
18. A system for mobile payment, the system comprising:
  - a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry;
  - a contactless card loaded with the electronic invoice, wherein the contactless card is placed in a near field of a mobile device configured to execute an installed application therein to read off data communicate with the POS device to generate a payment request in response to the electronic invoice, wherein the POS device receives a notification from a payment gateway that the electronic invoice has been settled, after a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice, the mobile device is configured to establish a secure communication session with the payment gateway to proceed with the payment to the electronic invoice.
19. The system as recited in claim 18, wherein the installed application is configured to cause the mobile device to transport the data to the payment gateway, the data includes security information of a registered user associated with the POS device,

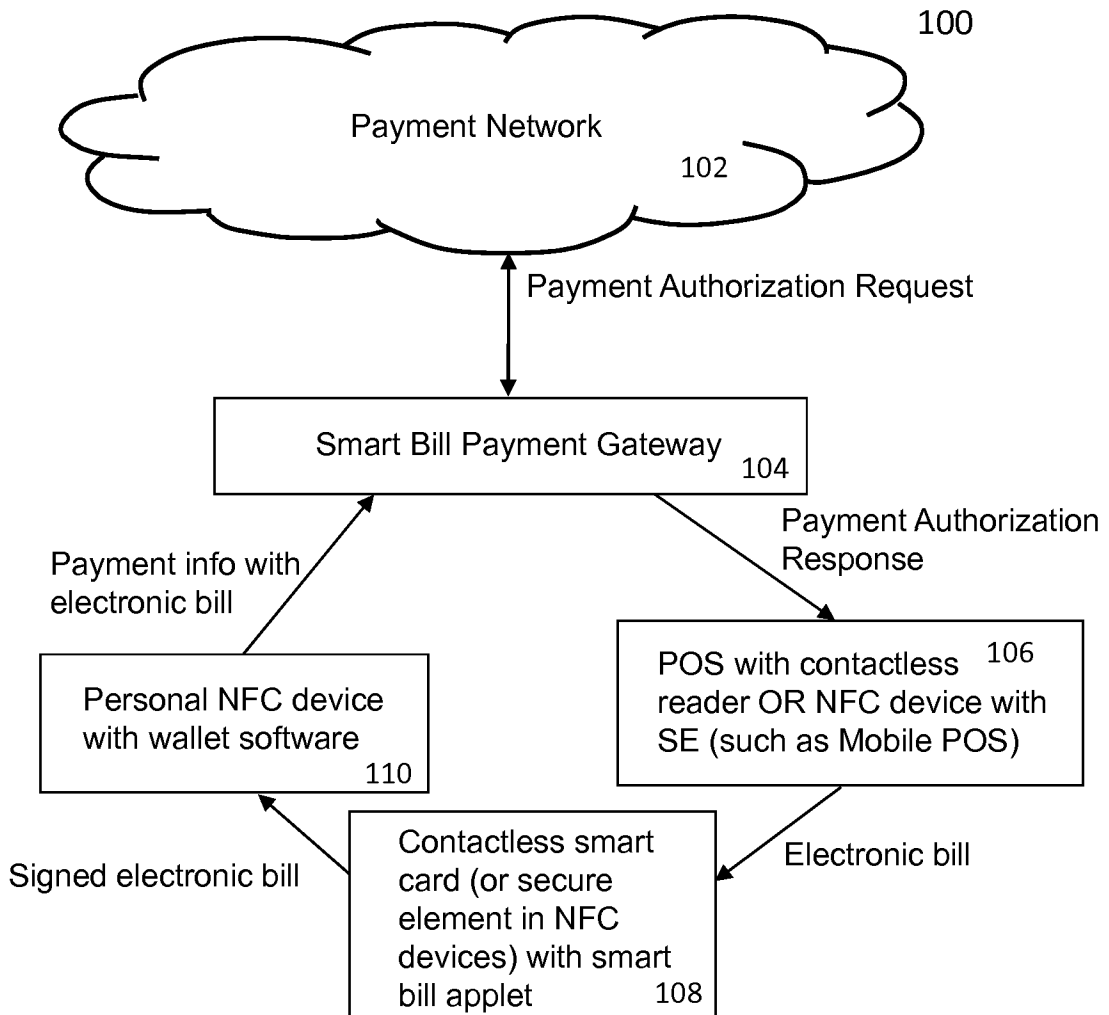
the security information includes an account and bank information of the registered user, an identifier of the secure element in the contactless card or the POS device.

20. The system as recited in claim 19, wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

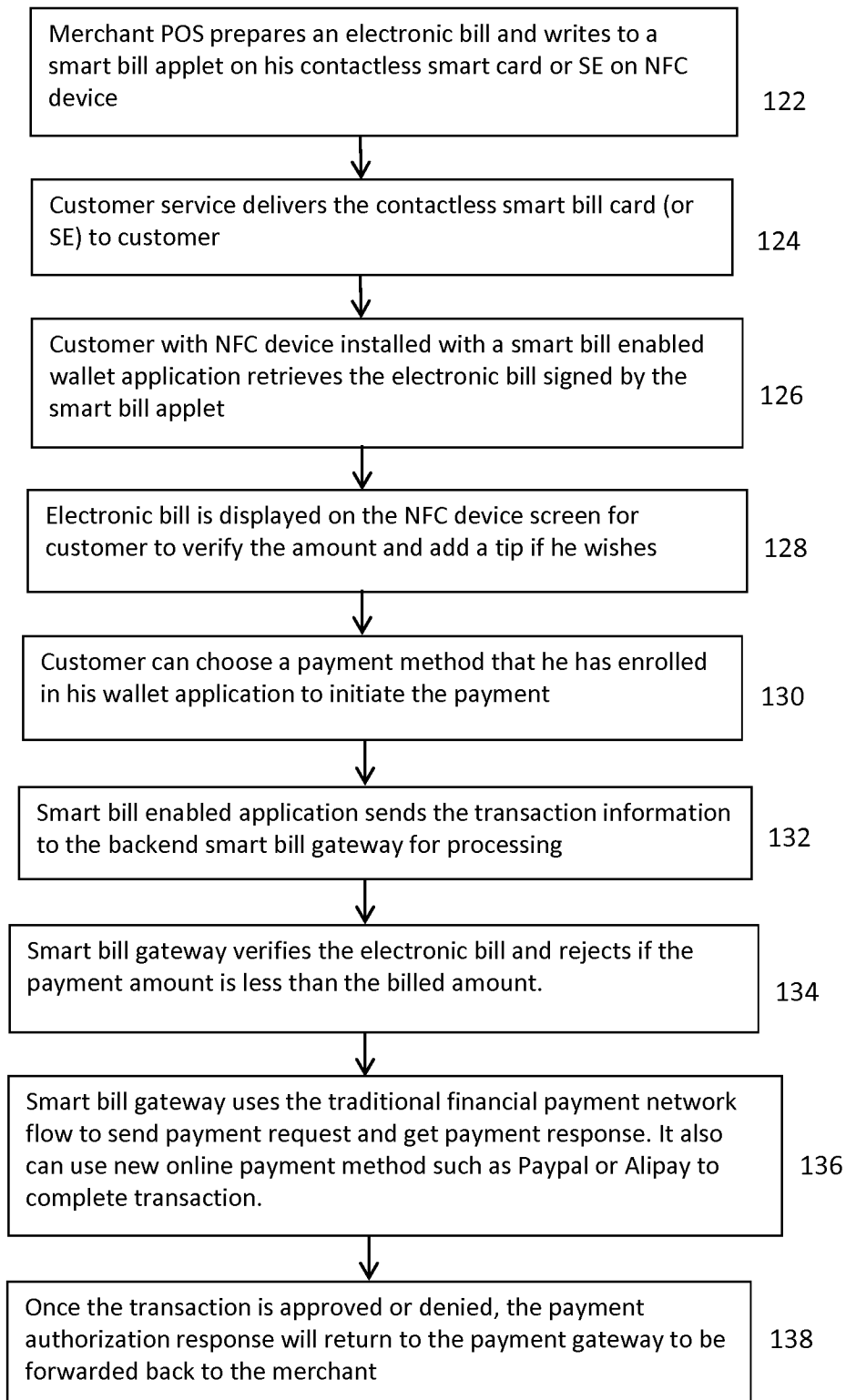
# **Method and apparatus for mobile payments**

## **Abstract**

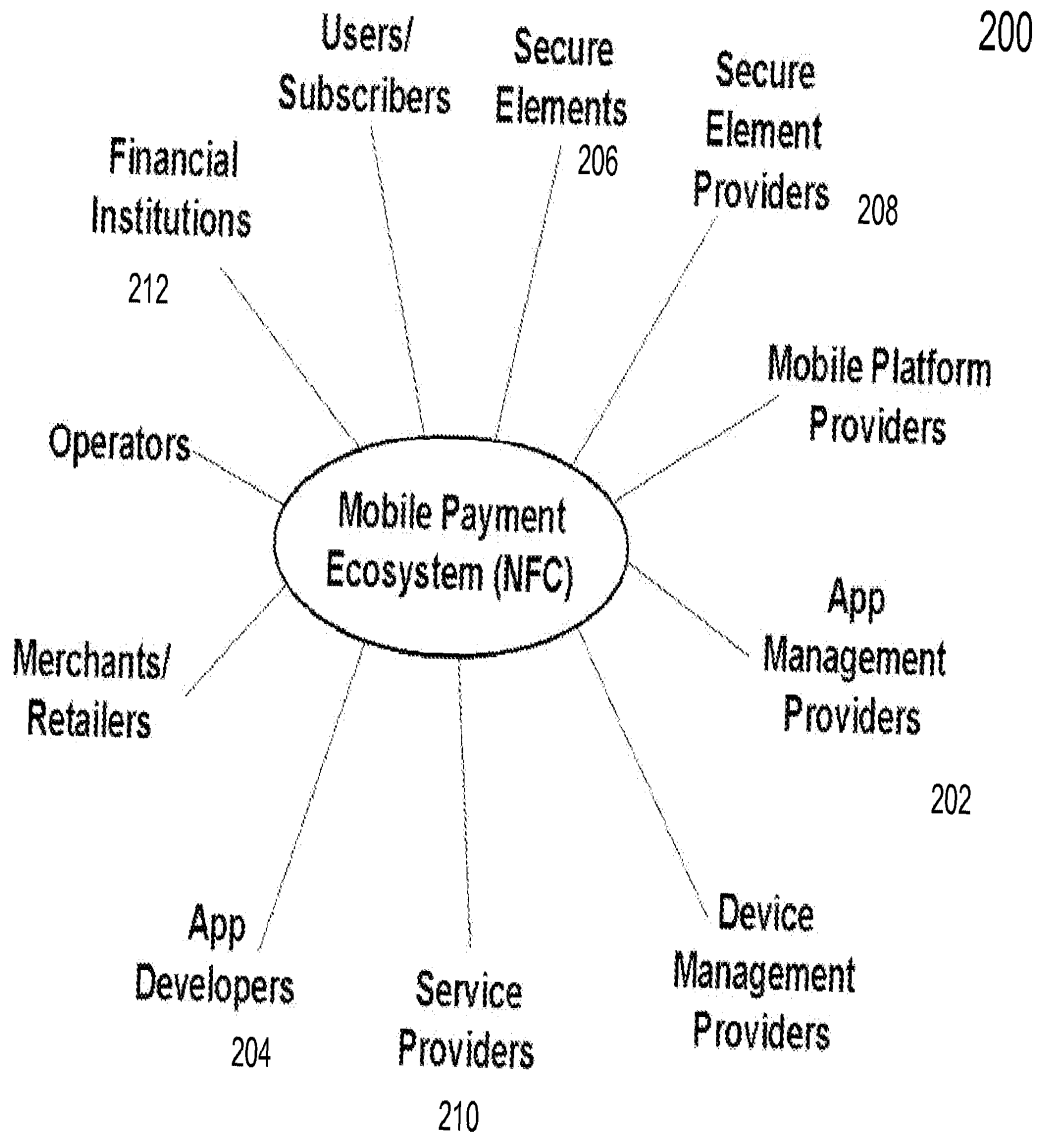
Techniques for mobile devices configured to support settlement of charges in electronic invoices or bills are described. An NFC mobile device is used to read off from a POS device data pertaining to the electronic invoices for payment. The data includes the electronic invoice and other information regarding a registered user of the POS device or an owner thereof is. After the user verifies the amount being charged and authorizes the payment, the NFC mobile device communicates with a payment gateway or network for payment that is configured to proceed with the payment in accordance with a chosen payment methods.



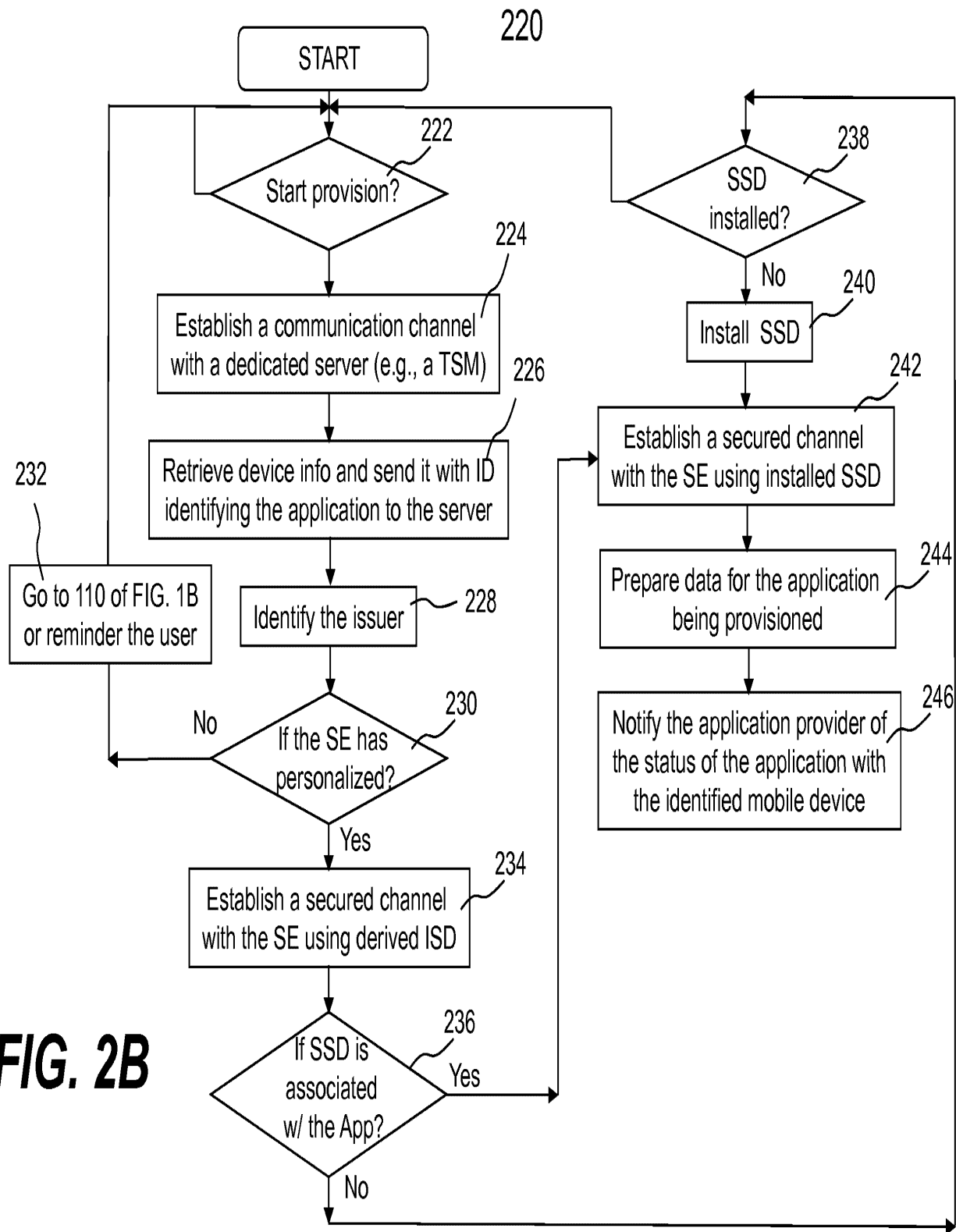
**FIG. 1**



**FIG. 2**

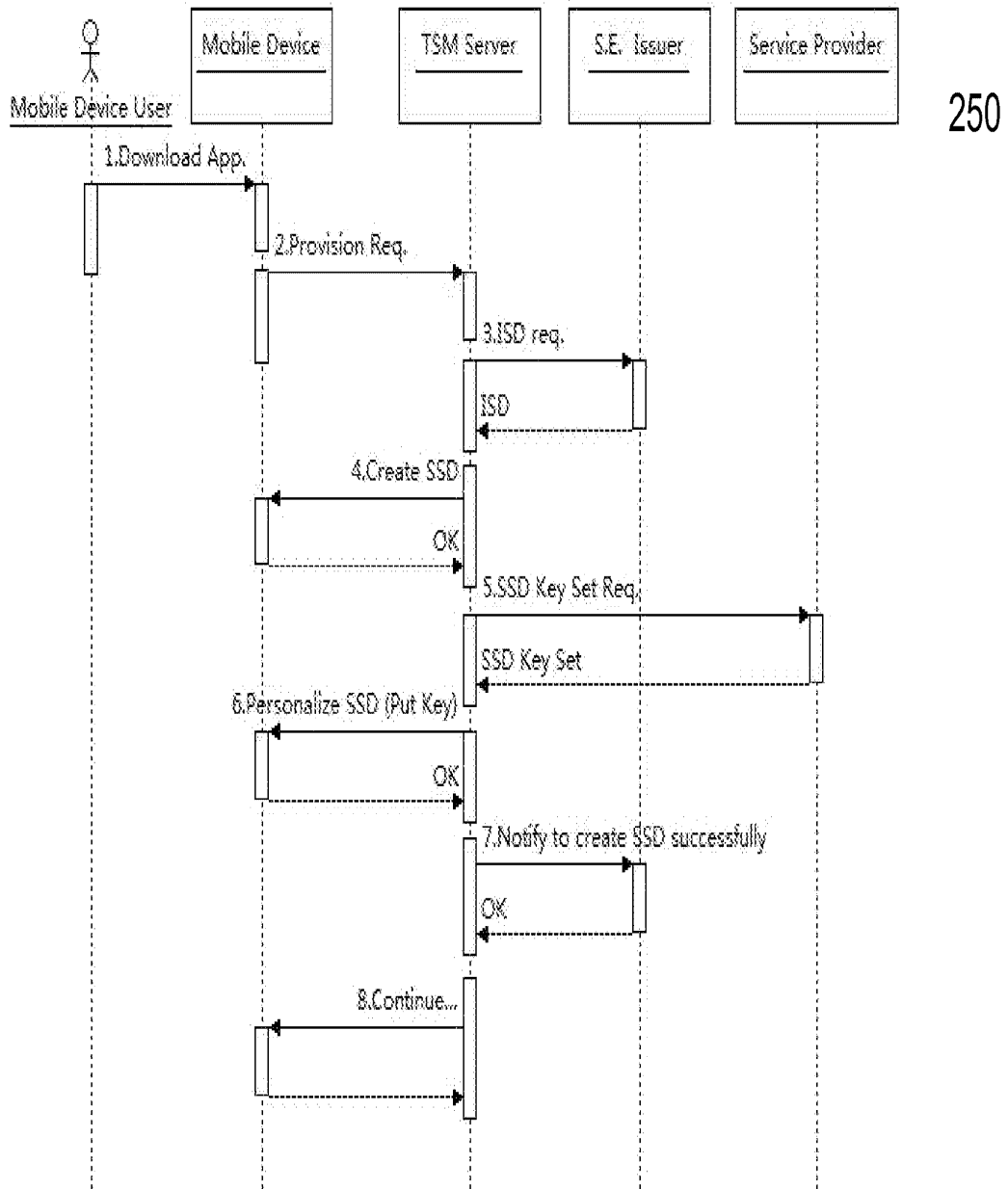


**FIG. 2A**

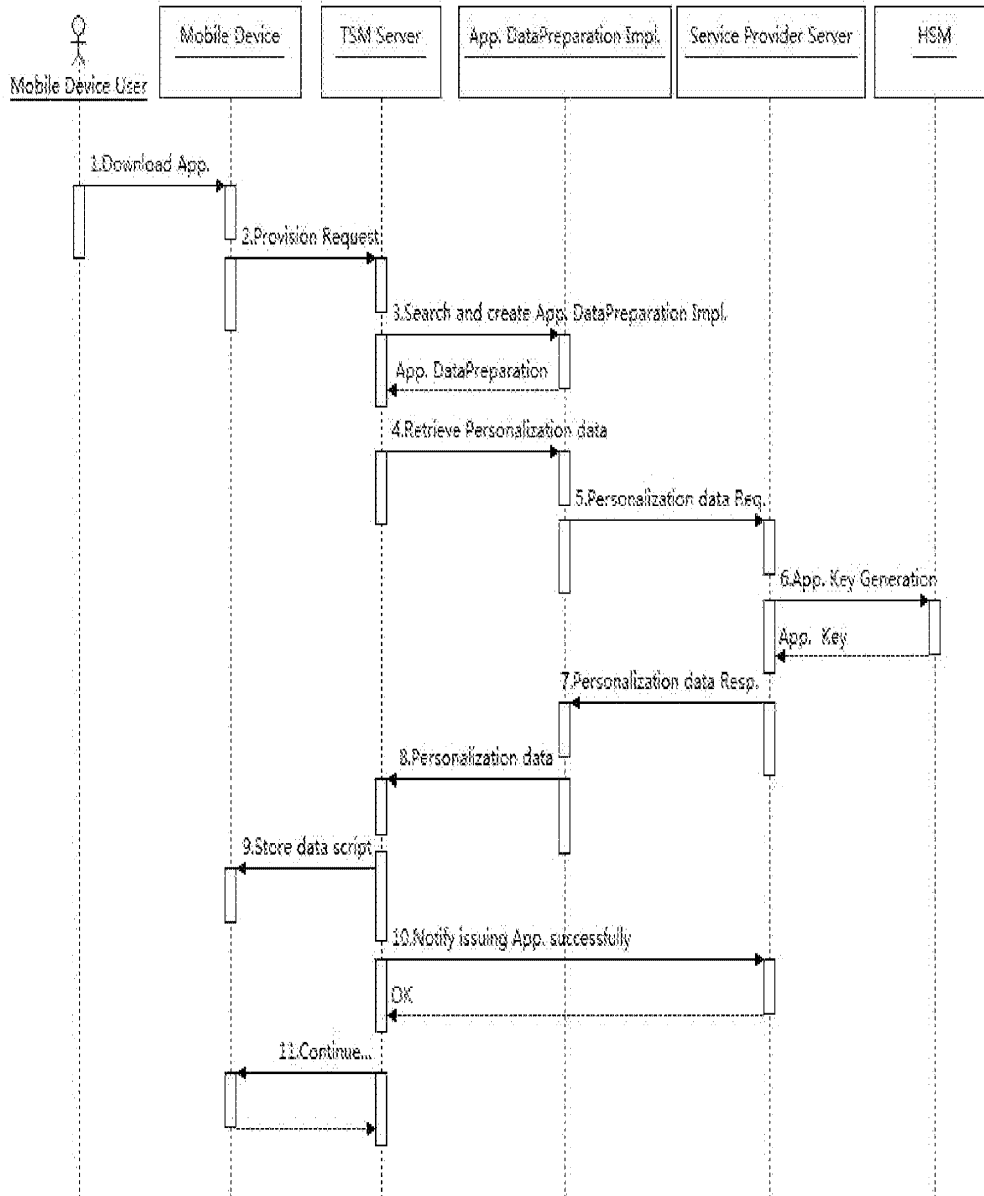


**FIG. 2B**



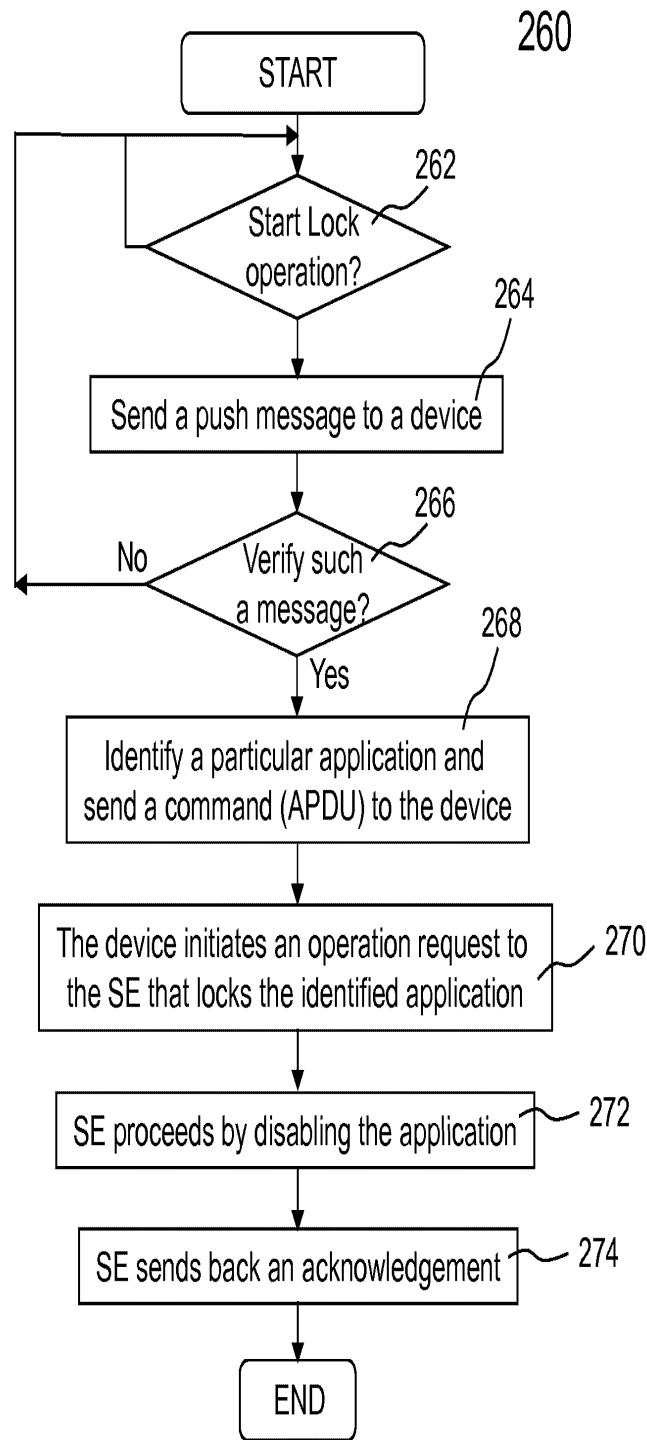


**FIG. 2C**

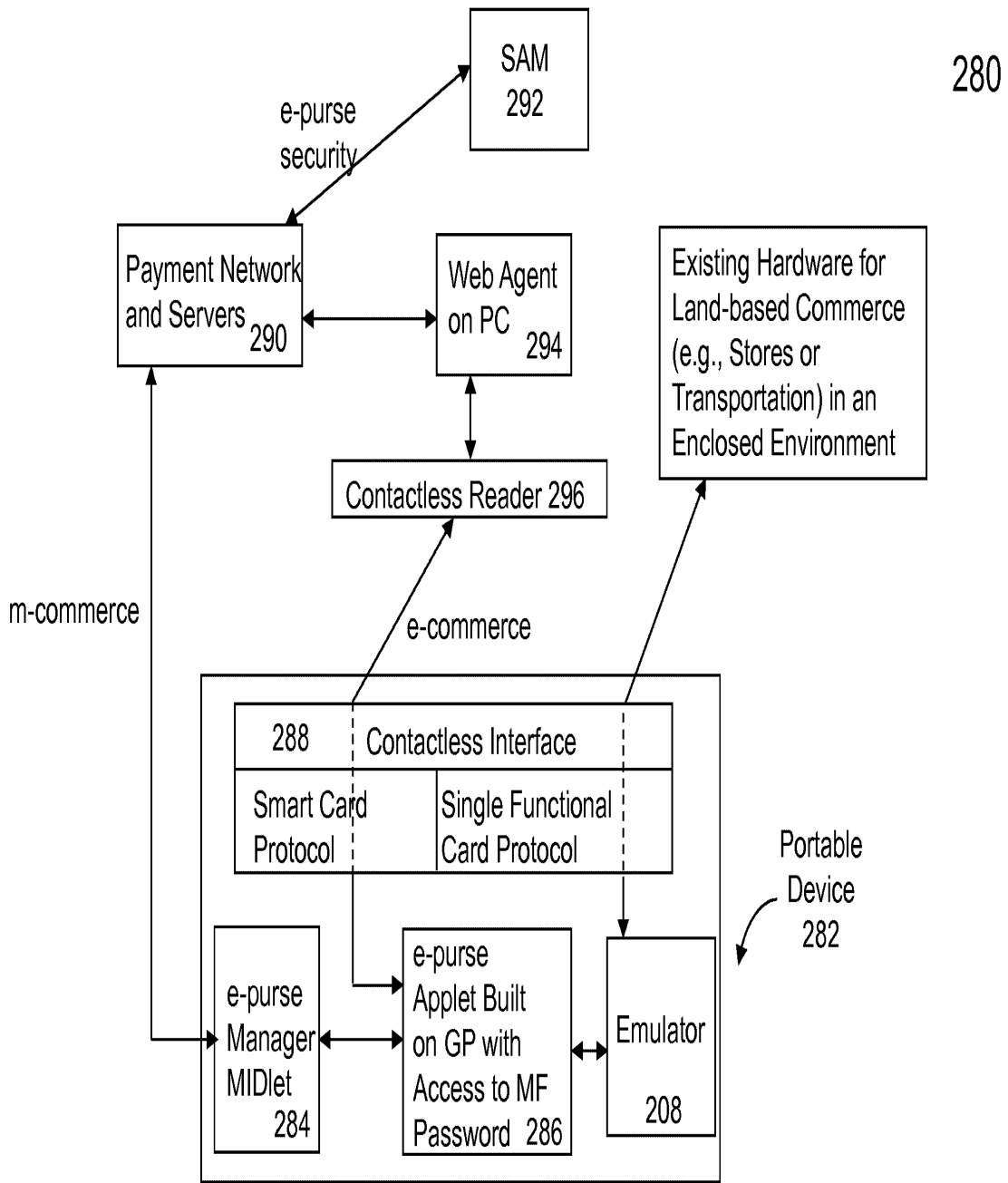


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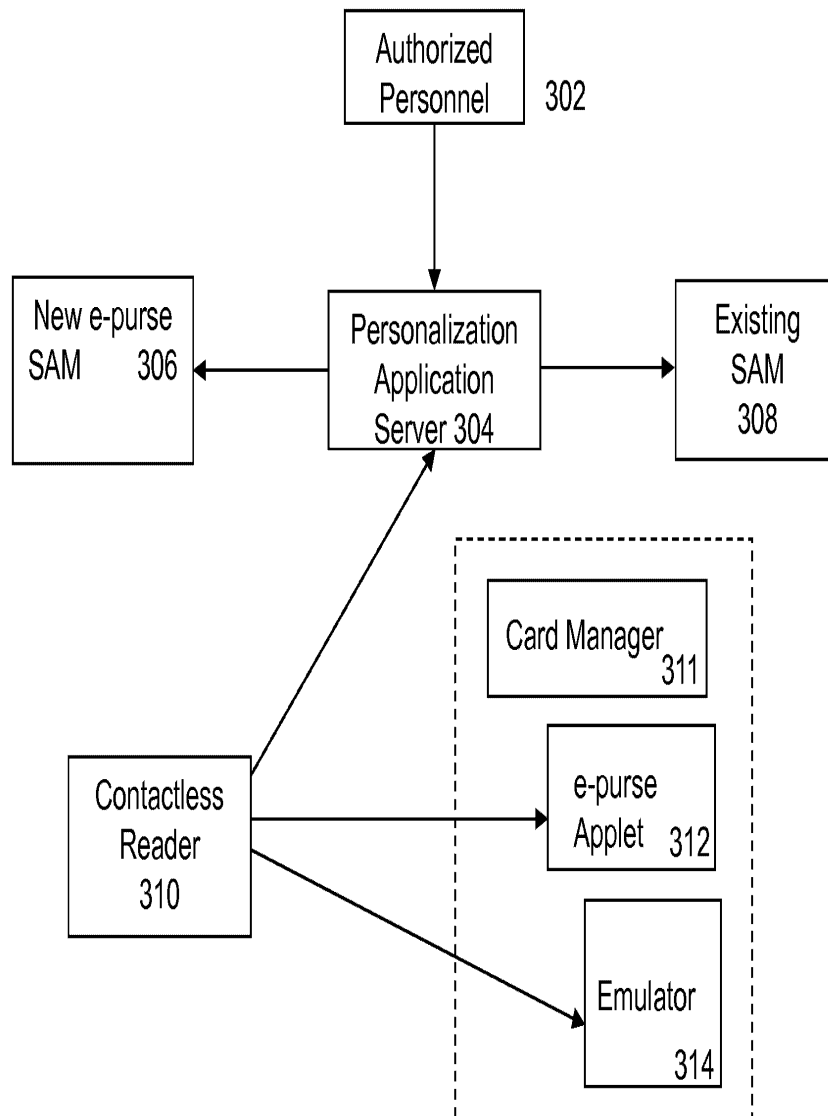
**FIG. 2D**



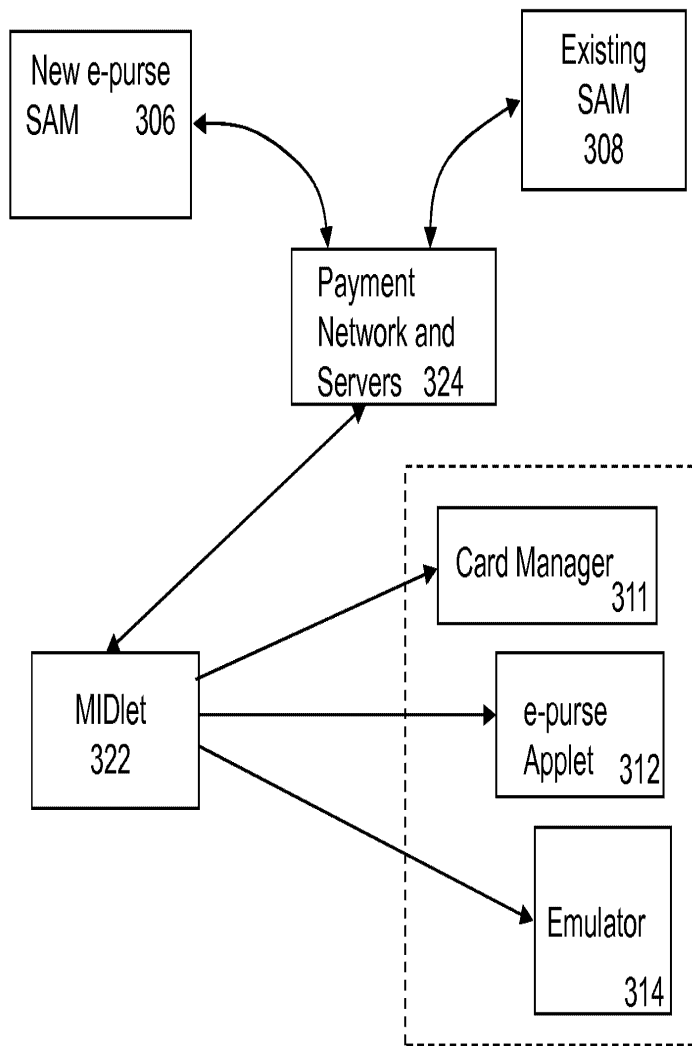
**FIG. 2E**



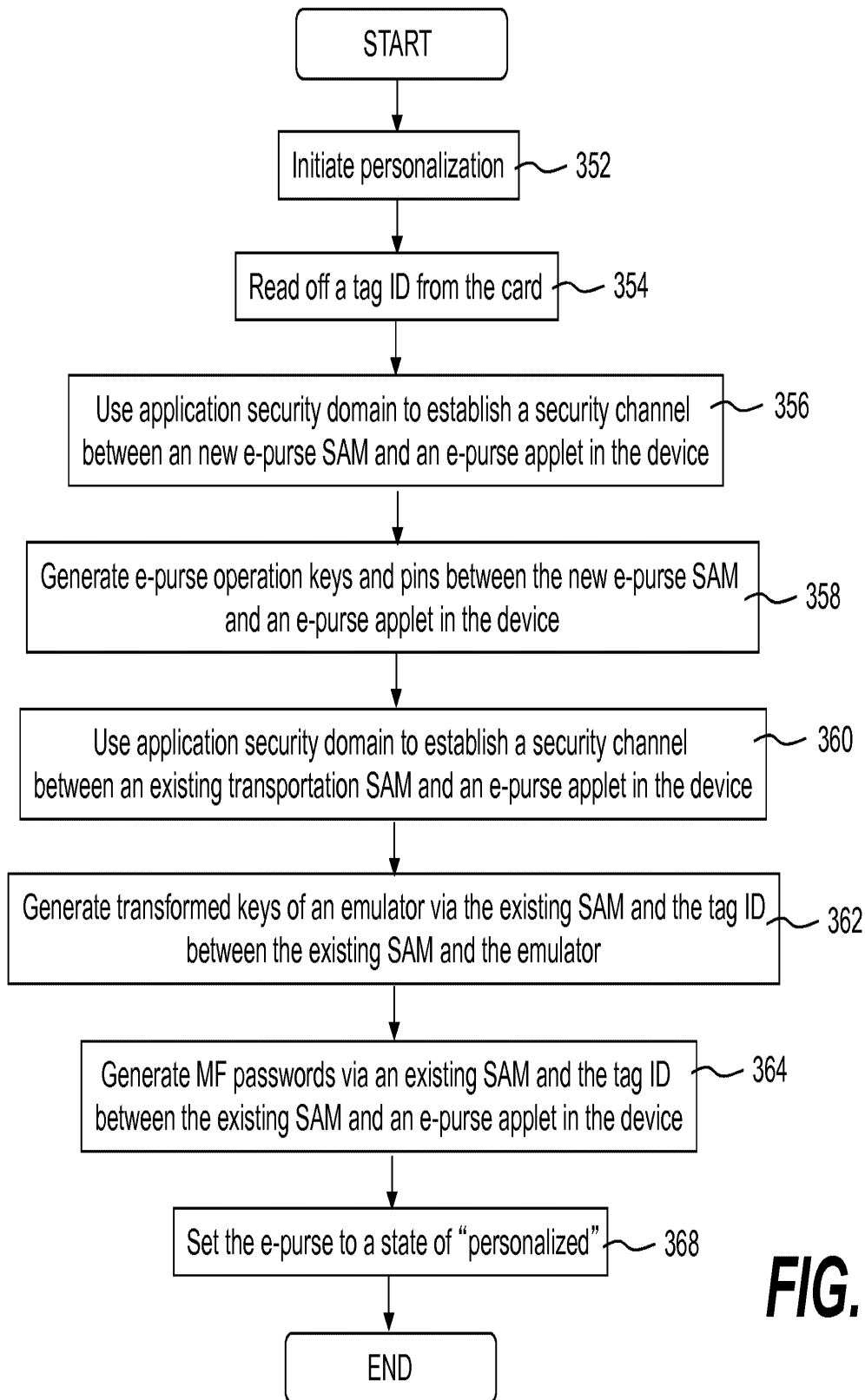
**FIG. 2F**



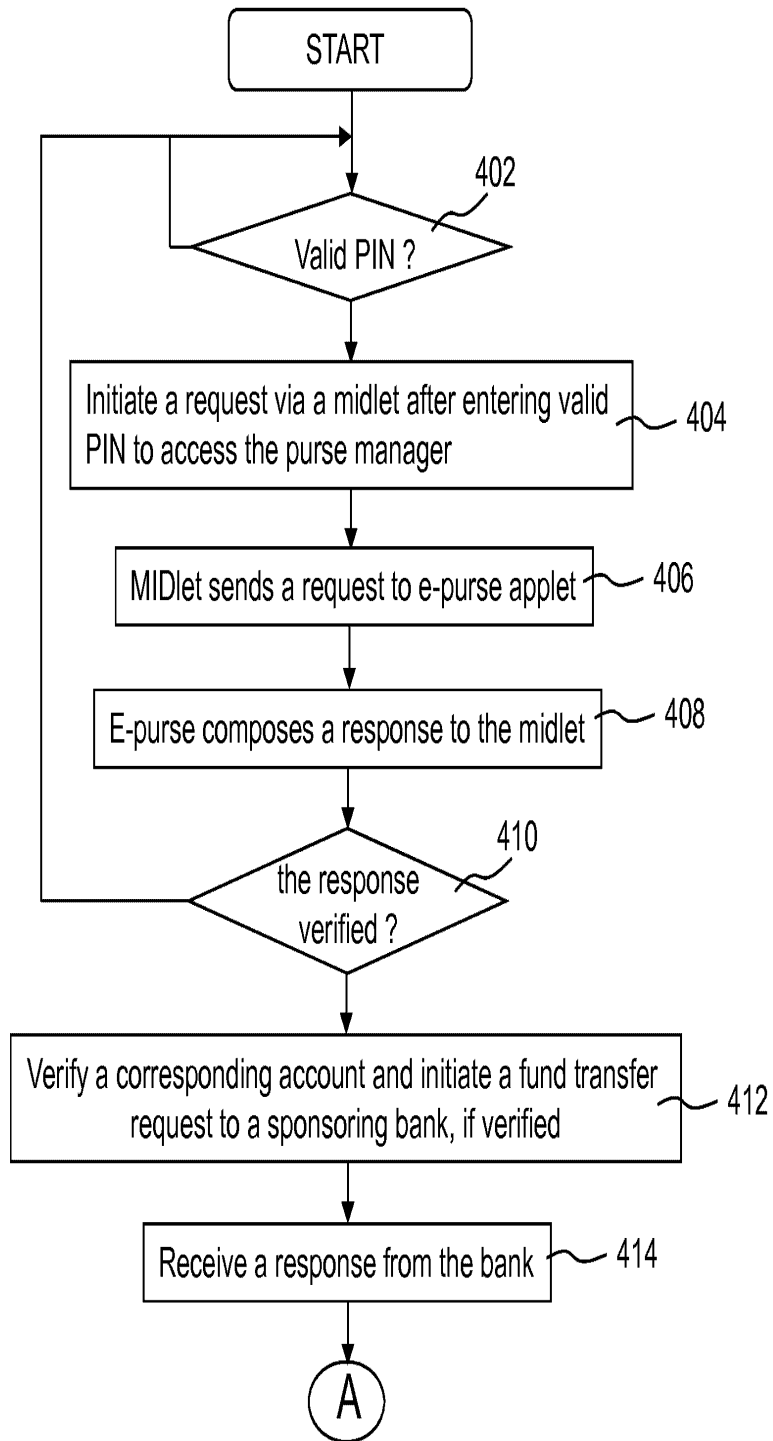
**FIG. 3A**



**FIG. 3B**

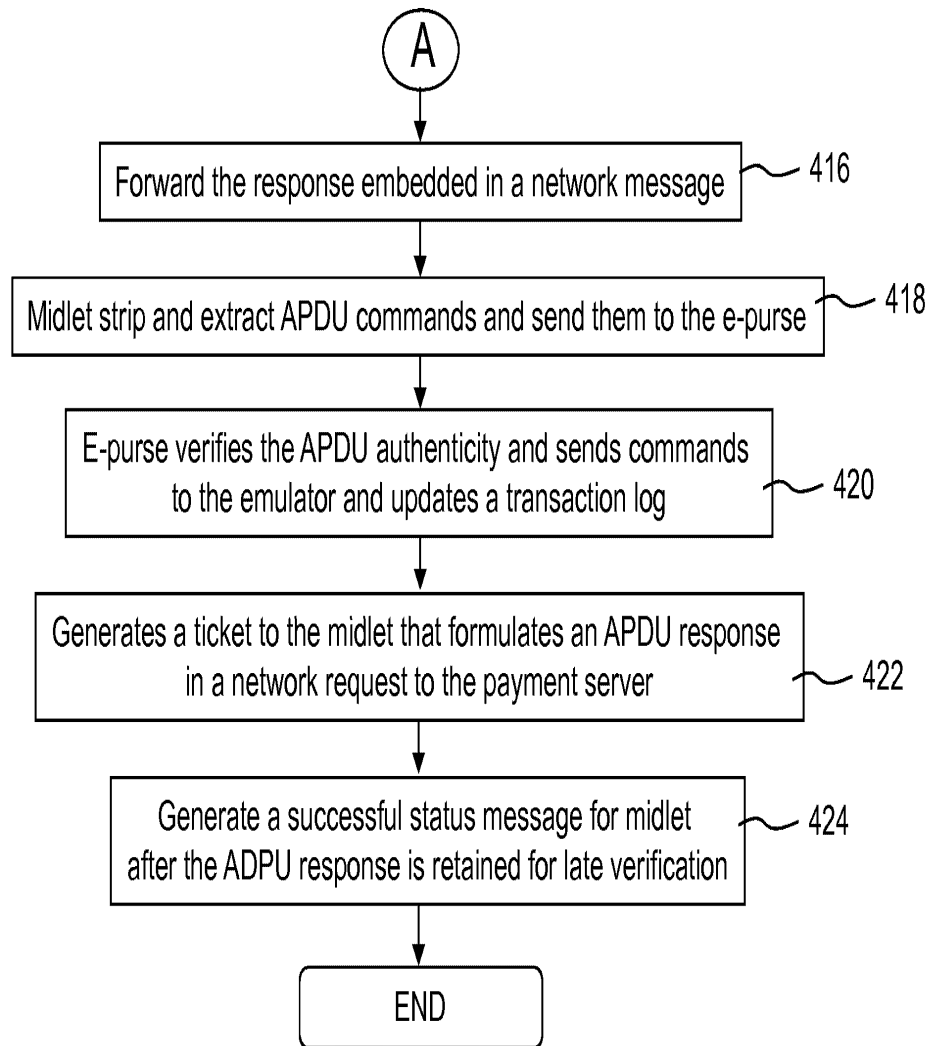


**FIG. 3C**

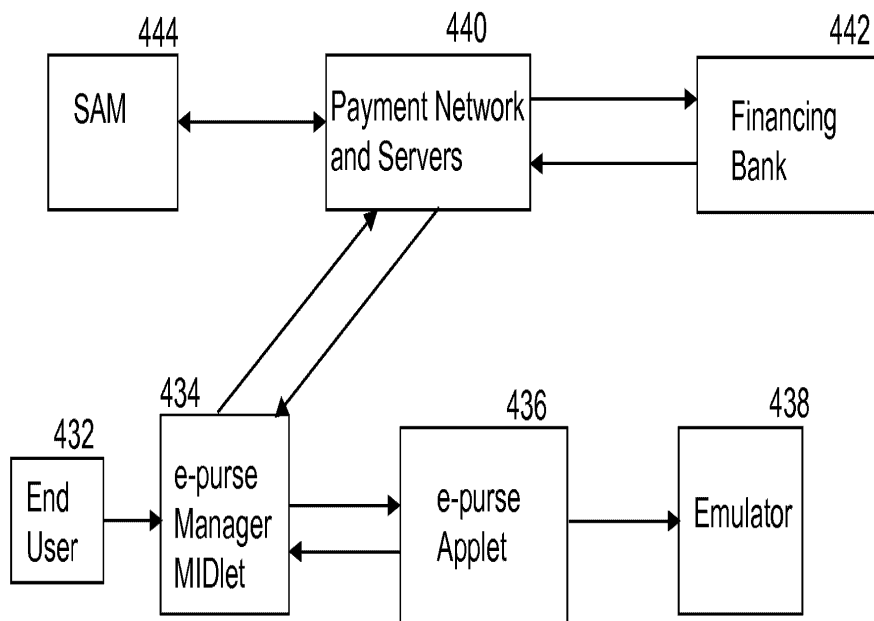


**FIG. 4A**

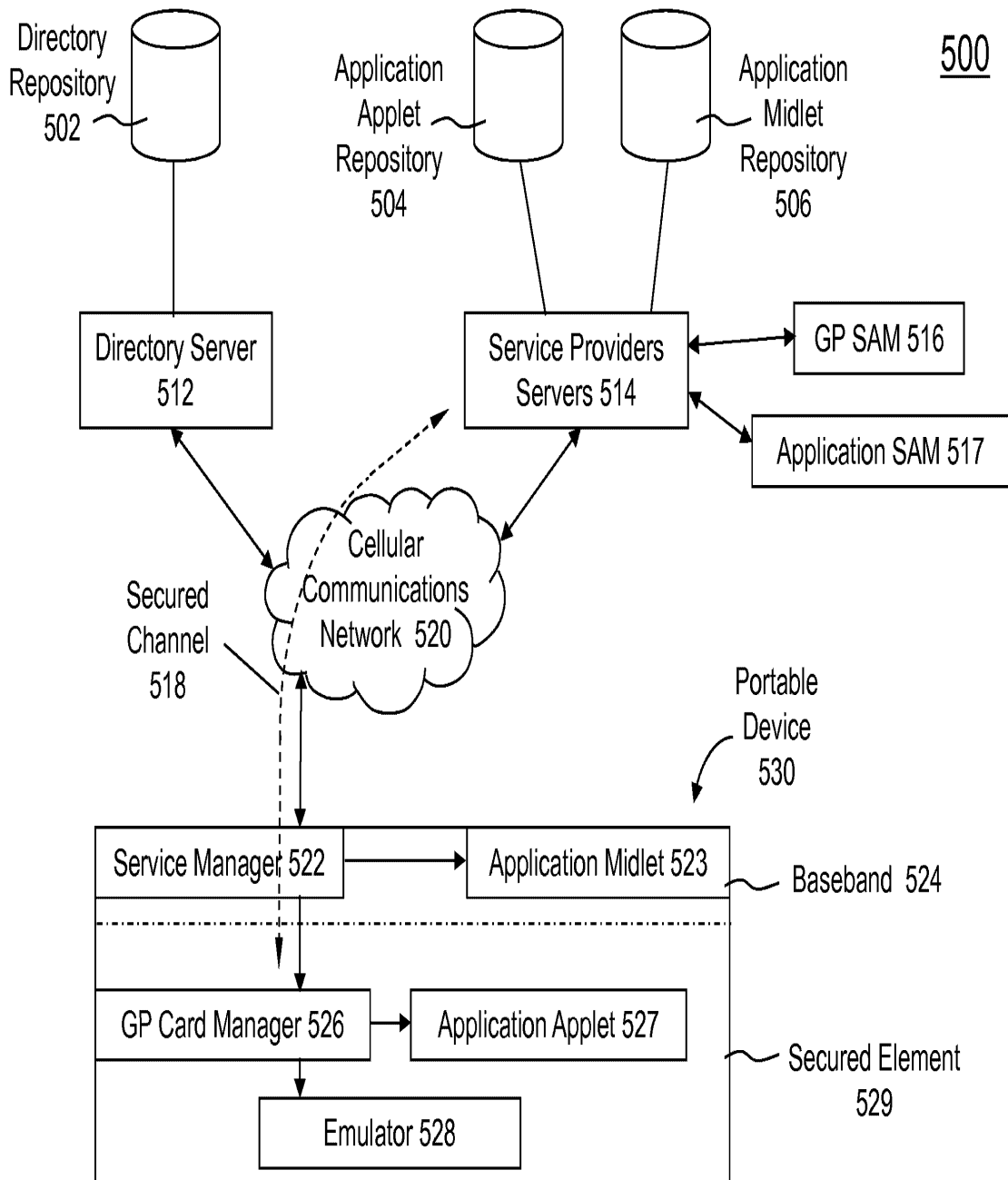




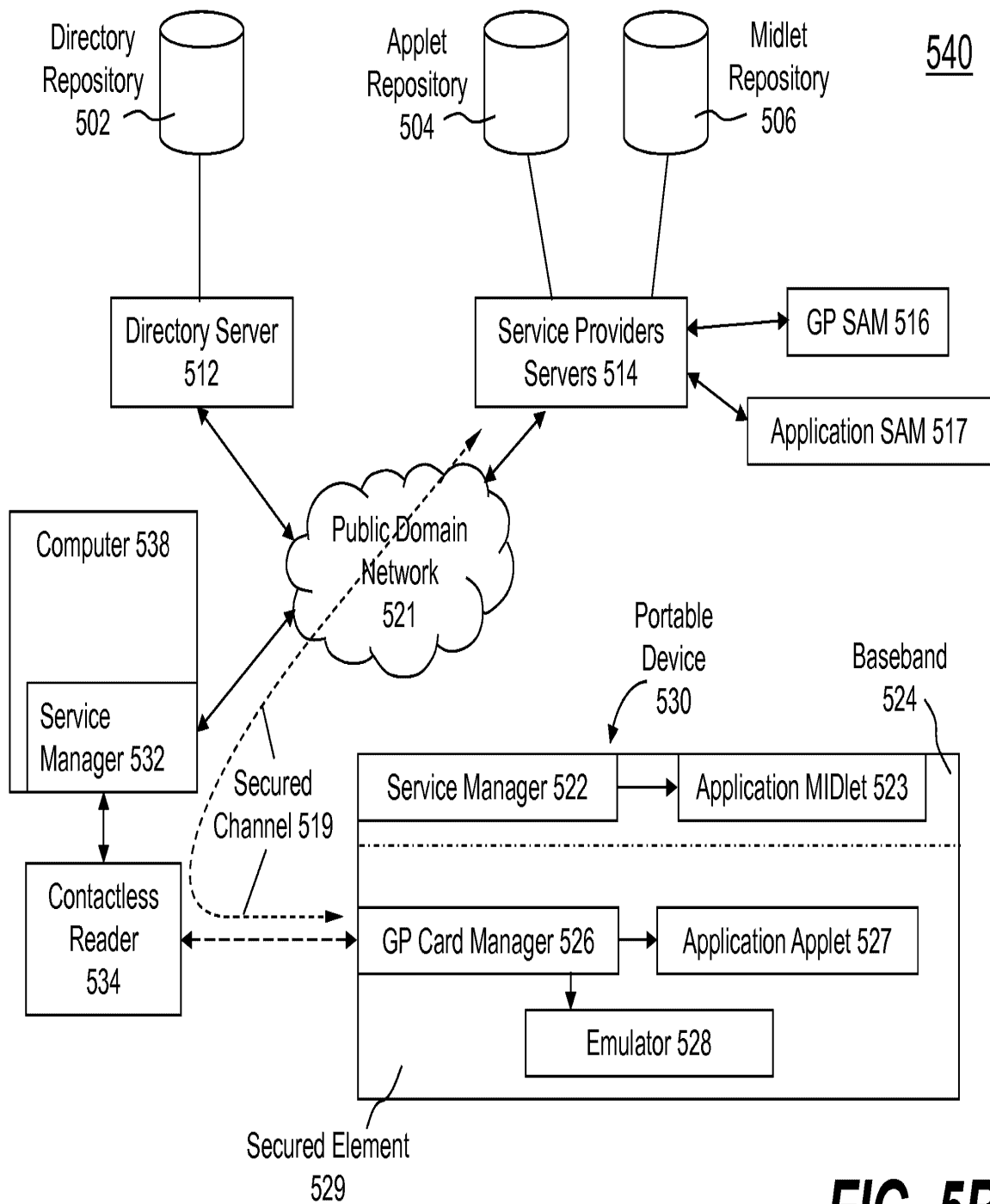
**FIG. 4B**



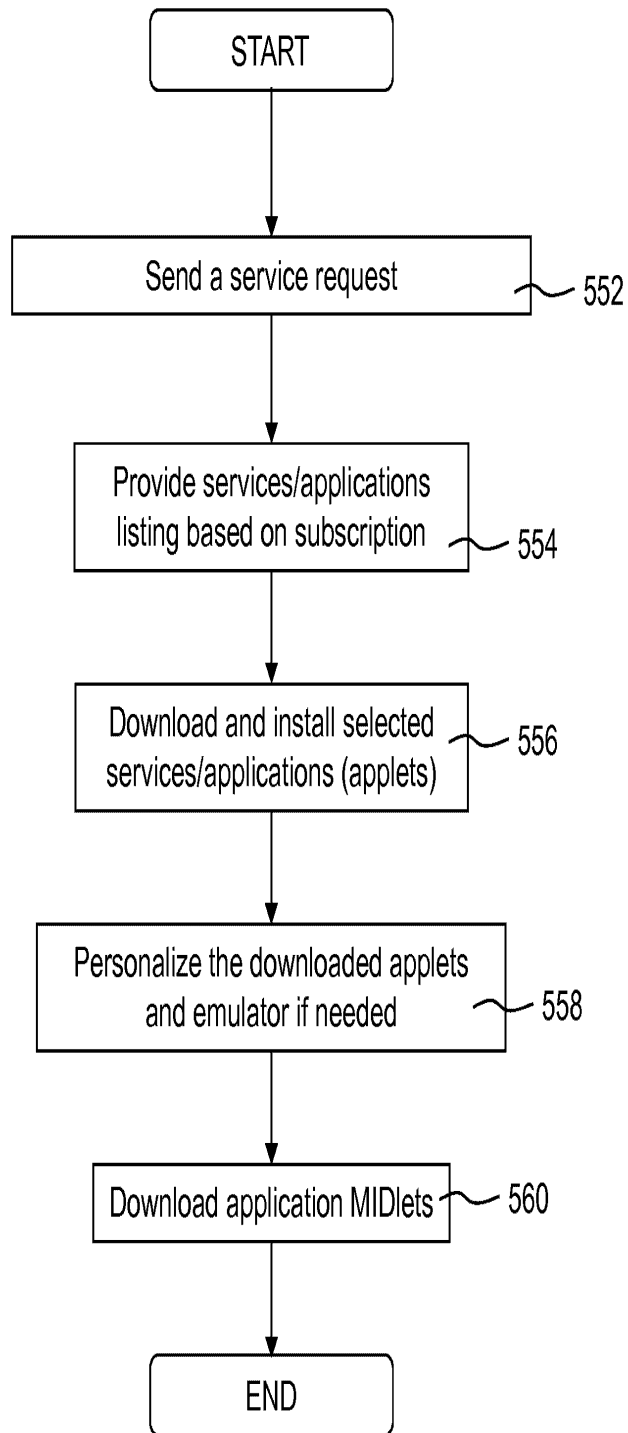
**FIG. 4C**



**FIG. 5A**



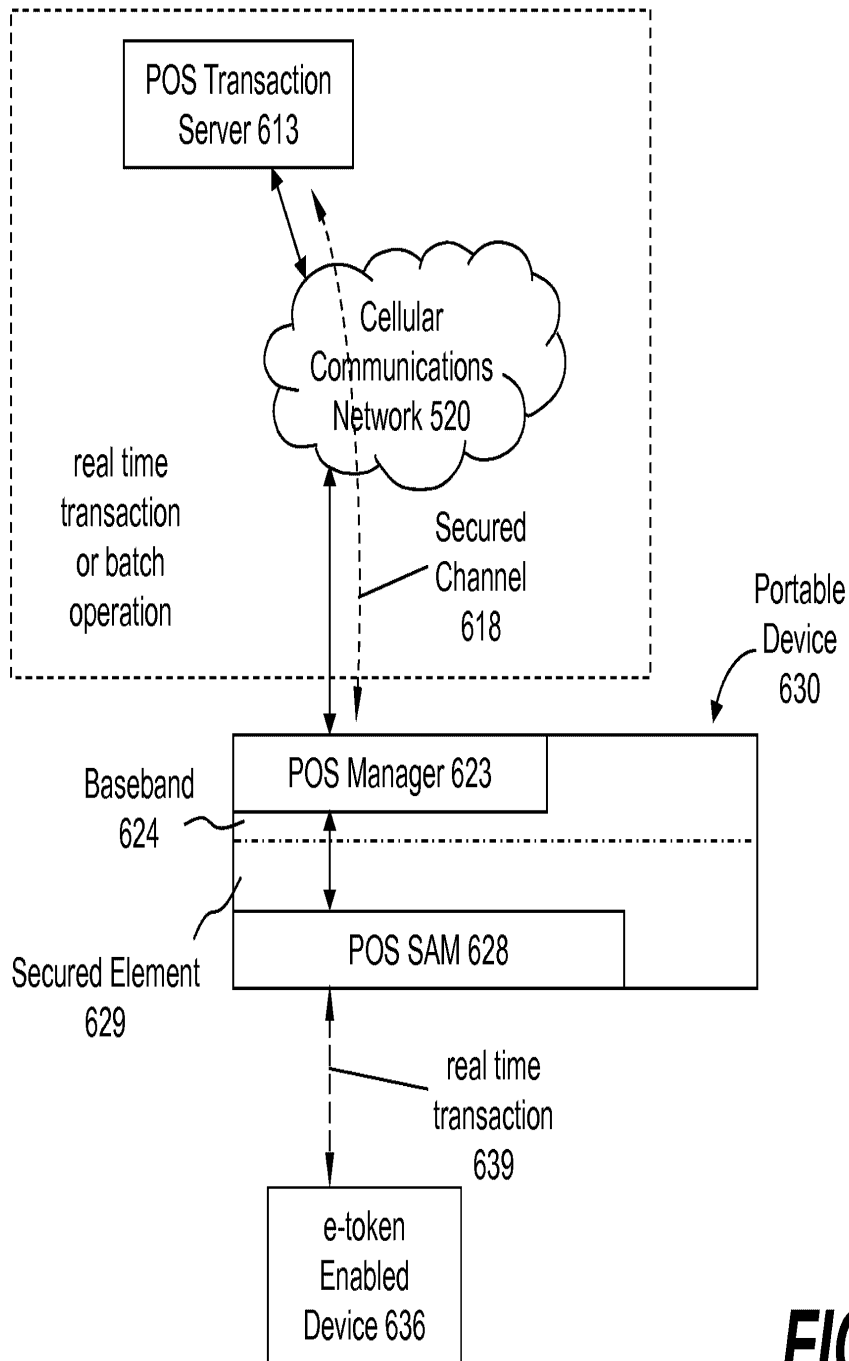
**FIG. 5B**



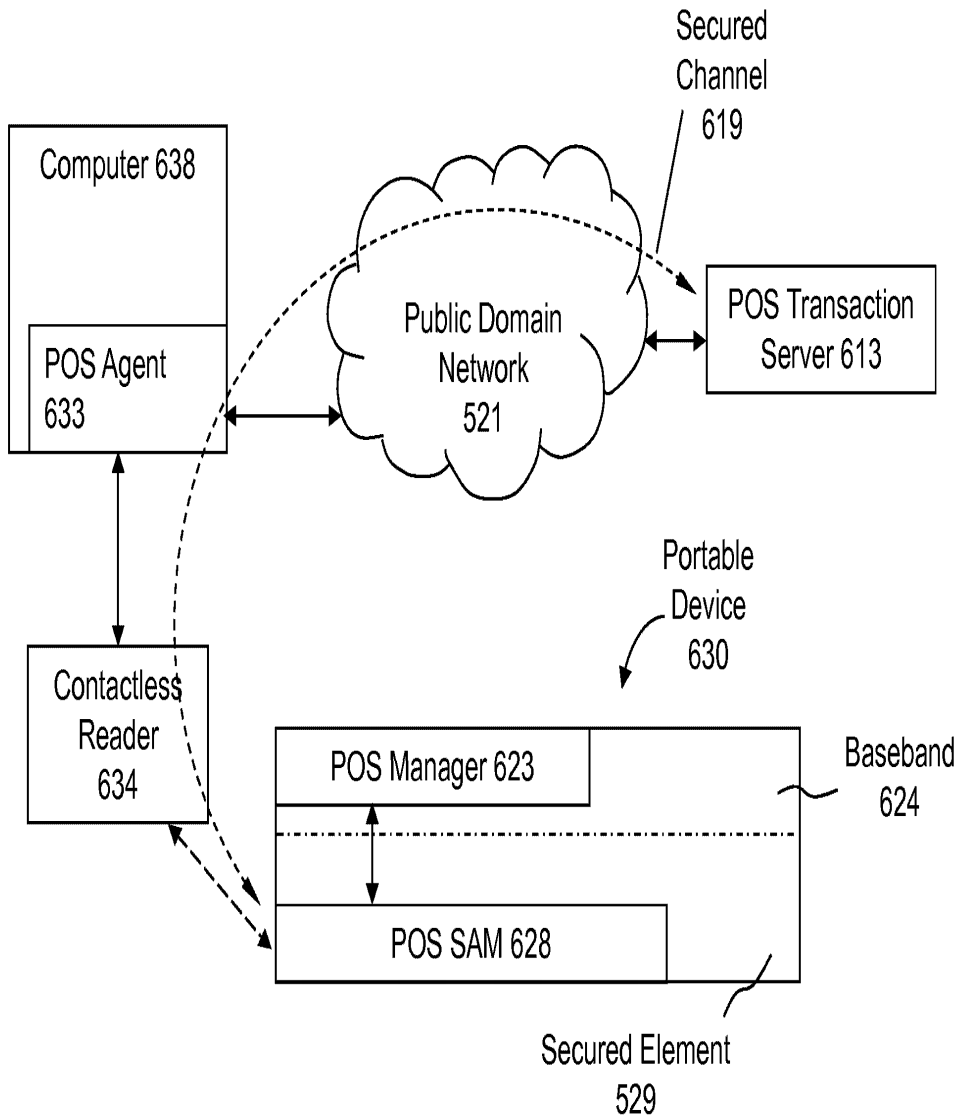
550

**FIG. 5C**

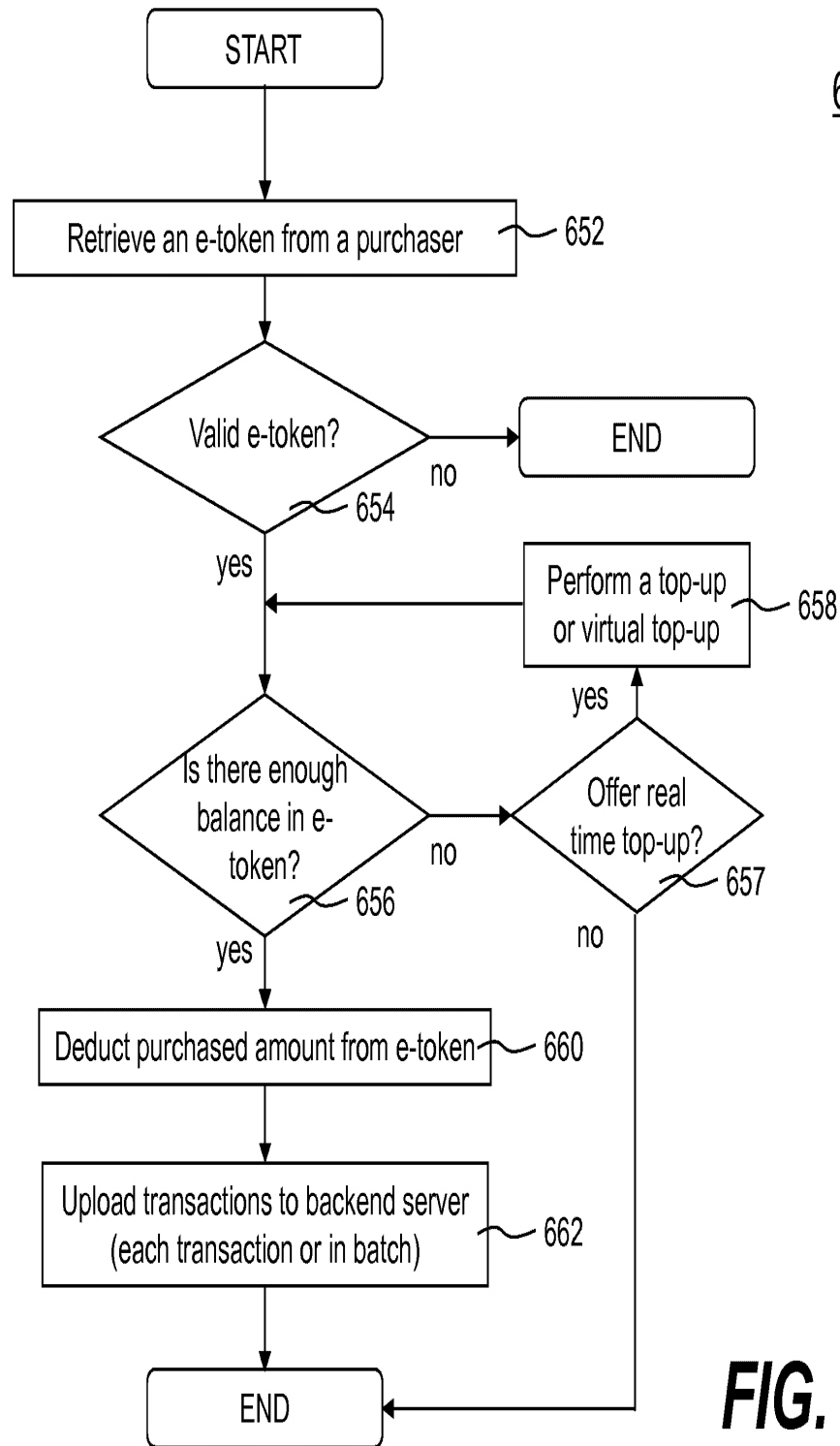
600



**FIG. 6A**

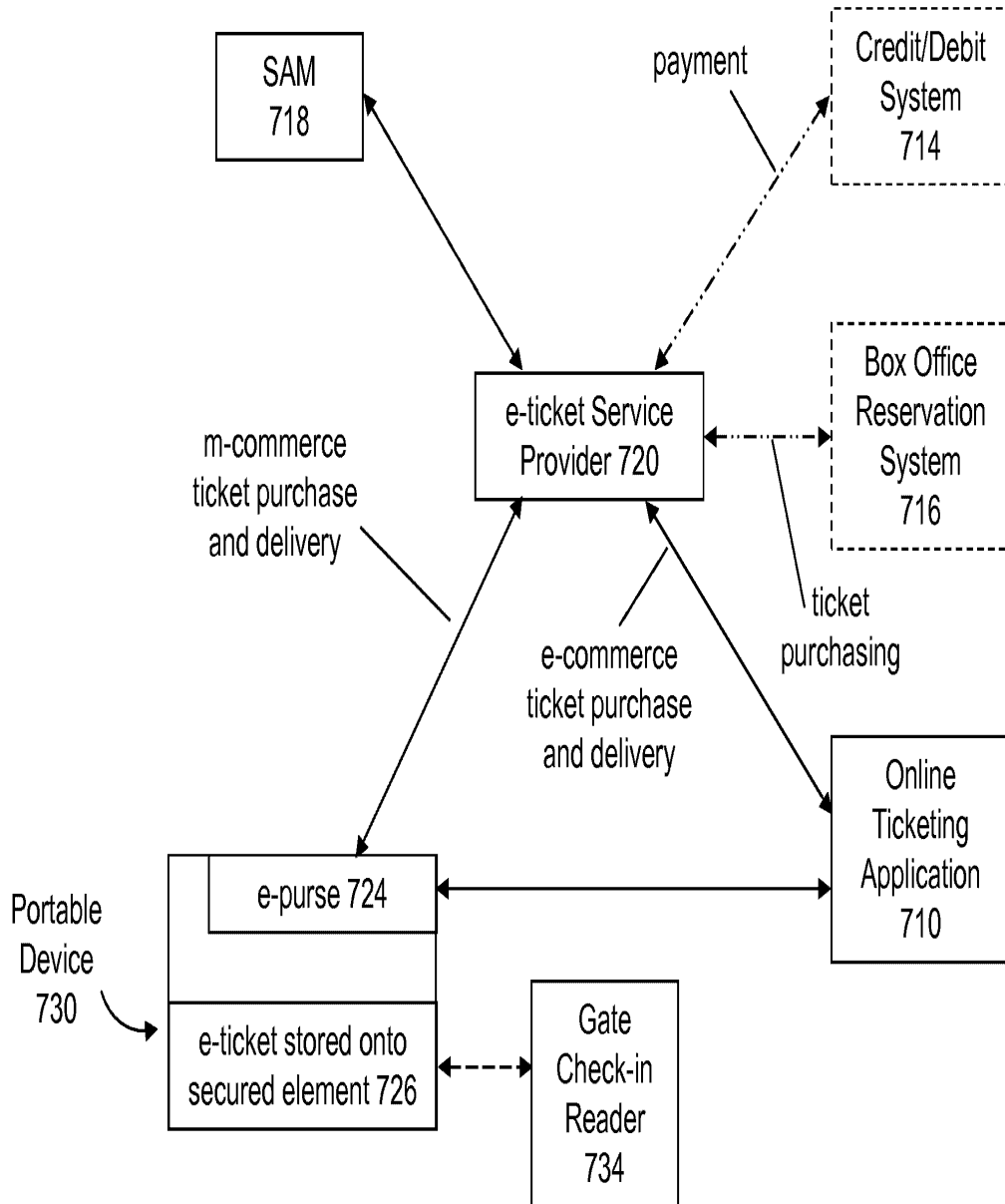


**FIG. 6B**



**FIG. 6C**





**FIG. 7**

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	
<b>Filing Date:</b>	
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Filer:</b>	Joe Zheng
<b>Attorney Docket Number:</b>	RFID-085C1

Filed as Small Entity

### Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360

**Pages:**

**Claims:**

**Miscellaneous-Filing:**

**Petition:**

**Patent-Appeals-and-Interference:**

IPR2022-01239

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>730</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	22512132
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	02-JUN-2015
<b>Filing Date:</b>	
<b>Time Stamp:</b>	15:28:06
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$730
RAM confirmation Number	2037
Deposit Account	502436
Authorized User	ZHENG, JOE

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

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Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	1433430	no	7
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<b>Warnings:</b>					
<b>Information:</b>					
2	Oath or Declaration filed	SignedDeclaration.pdf	605363	no	3
			2693c8c139c43ca6662b562a41fb8904fb2a56f4		
<b>Warnings:</b>					
<b>Information:</b>					
3	Power of Attorney	SignedPOA.pdf	699460	no	5
			ffb204ec544fd43a73d3987d8b05c79a9bfd302		
<b>Warnings:</b>					
<b>Information:</b>					
4	Specification	PatentAsFiled.pdf	227907	no	41
			4ec7842c190641a987a8c908368616b469472d37		
<b>Warnings:</b>					
<b>Information:</b>					
5	Claims	Claims.pdf	76497	no	5
			0697faab35e94cd050acb340e12dddb22c726a8a		
<b>Warnings:</b>					
<b>Information:</b>					
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<b>Warnings:</b>					
<b>Information:</b>					
7	Drawings-only black and white line drawings	DrawingsAsFiled.pdf	572277	no	21
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<b>Warnings:</b>					
<b>Information:</b>					

8	Fee Worksheet (SB06)	fee-info.pdf	34801 6450e79436942d2d51b9673b419b87aa4357566b	no	2
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**Warnings:**

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<b>Total Files Size (in bytes):</b>	3714678
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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	22512132
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	02-JUN-2015
<b>Filing Date:</b>	
<b>Time Stamp:</b>	15:28:06
<b>Application Type:</b>	Utility under 35 USC 111(a)

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Authorized User	ZHENG, JOE

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IPR2022-01239

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	1433430	no	7
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<b>Warnings:</b>					
<b>Information:</b>					
2	Oath or Declaration filed	SignedDeclaration.pdf	605363	no	3
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<b>Warnings:</b>					
<b>Information:</b>					
3	Power of Attorney	SignedPOA.pdf	699460	no	5
			ffb204ec544fd43a73d3987d8b05c79a9bfd302		
<b>Warnings:</b>					
<b>Information:</b>					
4	Specification	PatentAsFiled.pdf	227907	no	41
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<b>Warnings:</b>					
<b>Information:</b>					
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<b>Information:</b>					
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<b>Warnings:</b>					
<b>Information:</b>					
7	Drawings-only black and white line drawings	DrawingsAsFiled.pdf	572277	no	21
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<b>Warnings:</b>					
<b>Information:</b>					



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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	3714678
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	RFID-085C1
		Application Number	
Title of Invention	Method and apparatus for mobile payments		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

**Secrecy Order 37 CFR 5.2**

<input type="checkbox"/> Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--

**Inventor Information:**

<b>Inventor 1</b>					<input type="button" value="Remove"/>
<b>Legal Name</b>					
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>	
Mr.	Xiangzhen		Xie		
<b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
<b>City</b>	Shenzhen	<b>State/Province</b>		<b>Country of Residence <sup>i</sup></b>	CN

**Mailing Address of Inventor:**

<b>Address 1</b>	C505, Long Tai Xuan, Nanguang Village,				
<b>Address 2</b>	Nanshang District				
<b>City</b>	Shenzhen	<b>State/Province</b>	GD		
<b>Postal Code</b>	518051	<b>Country <sup>i</sup></b>	CN		

<b>Inventor 2</b>					<input type="button" value="Remove"/>
<b>Legal Name</b>					
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>	
Mr.	Liang Seng		Koh		
<b>Residence Information (Select One)</b> <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
<b>City</b>	Fremont	<b>State/Province</b>	CA	<b>Country of Residence <sup>i</sup></b>	US

**Mailing Address of Inventor:**

<b>Address 1</b>	41291 Carmen Street				
<b>Address 2</b>					
<b>City</b>	Fremont	<b>State/Province</b>	CA		
<b>Postal Code</b>	94539	<b>Country <sup>i</sup></b>	US		

<b>Inventor 3</b>					<input type="button" value="Remove"/>
<b>Legal Name</b>					
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>	
Mr.	Hsin		Pan		
<b>Residence Information (Select One)</b> <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					

IPR2022-01239

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	RFID-085C1
		Application Number	
Title of Invention	Method and apparatus for mobile payments		

City	Fremont	Country of Residence	CA
------	---------	----------------------	----

**Mailing Address of Inventor:**

Address 1	2374 Olive Avenue		
Address 2			
City	Fremont	State/Province	CA
Postal Code	94539	Country	US
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.			<input type="button" value="Add"/>

**Correspondence Information:**

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.	
Customer Number	26797
Email Address	uspatents@sbcglobal.net <input type="button" value="Add Email"/> <input type="button" value="Remove Email"/>

**Application Information:**

Title of the Invention	Method and apparatus for mobile payments		
Attorney Docket Number	RFID-085C1	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	21	Suggested Figure for Publication (if any)	1

**Publication Information:**

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> <b>Request Not to Publish.</b> I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application <b>has not and will not</b> be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

**Representative Information:**

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	RFID-085C1	
		Application Number		
Title of Invention	Method and apparatus for mobile payments			
<p>Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.</p>				
Please Select One:				
		<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	26797			

### Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.					
Prior Application Status		Patented		<a href="#">Remove</a>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	13853937	2013-03-29	9047601	2015-06-02
Prior Application Status		Pending		<a href="#">Remove</a>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
13853937	non provisional of	61618802	2012-04-01		
Prior Application Status		Pending		<a href="#">Remove</a>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
13853937	Continuation in part of	13350832	2012-01-16		
Prior Application Status		Pending		<a href="#">Remove</a>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
13350832	Continuation in part of	11534653	2006-09-24		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the <b>Add</b> button.					<a href="#">Add</a>

### Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
			<a href="#">Remove</a>
Application Number	Country <sup>i</sup>	Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the <b>Add</b> button.			<a href="#">Add</a>

<b>Application Data Sheet 37 CFR 1.76</b>	Attorney Docket Number	RFID-085C1
	Application Number	
Title of Invention	Method and apparatus for mobile payments	

## Authorization to Permit Access:

<input type="checkbox"/> Authorization to Permit Access to the Instant Application by the Participating Offices
<p>If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.</p> <p>In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.</p> <p>In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.</p>

## Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.		
<b>Applicant 1</b>	<input type="button" value="Remove"/>	
<p>If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.</p>		
<input type="button" value="Clear"/>		
<input checked="" type="radio"/> Assignee	<input type="radio"/> Legal Representative under 35 U.S.C. 117	<input type="radio"/> Joint Inventor
<input type="radio"/> Person to whom the inventor is obligated to assign.	<input type="radio"/> Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:		
Name of the Deceased or Legally Incapacitated Inventor : <input type="text"/>		
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>		
Organization Name	RFCyber Corporation	

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	RFID-085C1
		Application Number	
Title of Invention	Method and apparatus for mobile payments		

<b>Mailing Address Information:</b>			
Address 1	41291 Carmen Street		
Address 2			
City	Fremont	State/Province	CA
Country i	US	Postal Code	94539
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

## Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

<b>Assignee 1</b>				
Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).				
				<input type="button" value="Remove"/>
If the Assignee is an Organization check here. <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
<b>Mailing Address Information:</b>				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>	Attorney Docket Number	RFID-085C1
	Application Number	
Title of Invention	Method and apparatus for mobile payments	

**Signature:**

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
<b>Signature</b>	/ joe zheng /			Date (YYYY-MM-DD)	2015-06-02
First Name	Joe	Last Name	Zheng	Registration Number	39450
Additional Signature may be generated within this form by selecting the Add button.					<input type="button" value="Add"/>

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

# Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



## DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Method and apparatus for settling payments using mobile devices
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input checked="" type="checkbox"/> The attached application, or <input type="checkbox"/> United States application or PCT international application number _____ filed on _____</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p style="text-align: center;"><b>WARNING:</b></p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>	
<p>LEGAL NAME OF INVENTOR</p> <p>Inventor: <u>Xiangzhen Xie</u> Date (Optional): _____</p> <p>Signature: <u>Xie Xiangzhen</u> <u>2013-3-28</u></p>	
<p>Note: An application data sheet (PTO/SF/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.</p>	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-8199 and select option 2.*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN  
APPLICATION DATA SHEET (37 CFR 1.76)**Title of  
Invention

Method and apparatus for settling payments using mobile devices

As the below named inventor, I hereby declare that:

This declaration  
is directed to:

The attached application, or



United States application or PCT international application number \_\_\_\_\_

filed on \_\_\_\_\_

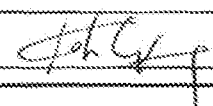
The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001  
by fine or imprisonment of not more than five (5) years, or both.**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

## LEGAL NAME OF INVENTOR

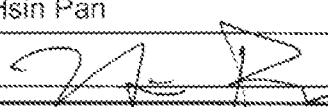
Inventor: Liang Seng KohDate (Optional): 3/27/2013Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 3.

## DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

<b>Title of Invention</b>	Method and apparatus for settling payments using mobile devices
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input checked="" type="checkbox"/> The attached application, or <input type="checkbox"/> United States application or PCT international application number _____ filed on _____.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p style="text-align: center;"><b>WARNING:</b></p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>	
<p><b>LEGAL NAME OF INVENTOR</b></p> <p>Inventor: <u>Hsin Pan</u> Date (Optional): <u>3/27/2013</u></p> <p>Signature: </p>	
<p><small>Note: An application data sheet (PTO/SB/4 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.</small></p>	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## SCORE Placeholder Sheet for IFW Content

Application Number: 14728349

Document Date: 06/02/2015

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

- Drawings – Other than Black and White Line Drawings

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

To access the documents in the SCORE database, refer to instructions below.

At the time of document entry (noted above):

- Examiners may access SCORE content via the eDAN interface.
- Other USPTO employees can bookmark the current SCORE URL (<http://Score.uspto.gov/ScoreAccessWeb/>).
- External customers may access SCORE content via the Public and Private PAIR interfaces.

**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
14/728,349

**APPLICATION AS FILED - PART I**

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	20 minus 20 = *	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 = *	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

**SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	0.00
x 210 =	0.00
	0.00
	0.00
<b>TOTAL</b>	<b>730</b>

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
<b>TOTAL</b>	

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**APPLICATION AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**
Independent (37 CFR 1.16(h))	*	Minus	***	=
Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

(Column 1) (Column 2) (Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**
Independent (37 CFR 1.16(h))	*	Minus	***	=
Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY. DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/728,349, 06/02/2015, 2642, 730, RFID-085C1, 20, 3

CONFIRMATION NO. 5346

FILING RECEIPT

26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015



Date Mailed: 06/12/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)

Xiangzhen Xie, Shenzhen, CHINA;
Liang Seng Koh, Fremont, CA;
Hsin Pan, Fremont, CA;

Applicant(s)

RFCyber Corporation, Fremont, CA;

Power of Attorney: The patent practitioners associated with Customer Number 26797

Domestic Priority data as claimed by applicant

This application is a CON of 13/853,937 03/29/2013 PAT 9047601
which claims benefit of 61/618,802 04/01/2012
and is a CIP of 13/350,832 01/16/2012
which is a CIP of 11/534,653 09/24/2006 PAT 8118218

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 06/10/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/728,349

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

**\*\* SMALL ENTITY \*\***

**Title**

Method and apparatus for mobile payments

**Preliminary Class**

455

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No**

**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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***SelectUSA***

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.





UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (14/728,349), FILING OR 371(C) DATE (06/02/2015), FIRST NAMED APPLICANT (Xiangzhen Xie), ATTY. DOCKET NO./TITLE (RFID-085C1)

CONFIRMATION NO. 5346

FORMALITIES LETTER

26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015



Date Mailed: 06/12/2015

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
More than one figure is present and each figure is not labeled "Fig." with a consecutive Arabic numeral (1, 2, etc.) or an Arabic numeral and capital letter in the English alphabet (A, B, etc.)(see 37 CFR 1.84(u)(1)). See Figure(s) 1, 2, 6D. A brief description of the several views of the drawings (see 37 CFR 1.74) should be added or amended to correspond to the corrected numbering of the figures. See also 37 CFR 1.77(b)(9).

The following item(s) appear to have been omitted from the application:

- Figure(s) 1A, 1B described in the specification.

Applicant must reply to this notice within the time period set forth in this notice to avoid abandonment of this application. Applicant must select one of the three following options and the reply must comply with the requirements set forth in the selected option and any other requirements set forth in this notice. The reply should also indicate which option applicant has selected.

I. Petition for date of deposit: Should applicant contend that the above-noted omitted item(s) was in fact deposited in the U.S. Patent and Trademark Office (USPTO) with the nonprovisional application papers, a copy of this Notice and a petition (and the petition fee set forth in 37 CFR 1.17(f) with evidence of such deposit must be filed within TWO MONTHS of the date of this Notice. The petition fee will be refunded if it is determined that the item(s) was received by the USPTO. THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b).

II. Petition for later filing date: Should applicant desire to supply the omitted item(s) and accept the date that such omitted item(s) was filed in the USPTO as the filing date of the above-identified application, a copy of this Notice, the omitted item(s), and a petition under 37 CFR 1.182 with the petition fee set forth in 37 CFR 1.17(f) requesting the later filing date must be filed within TWO MONTHS of the date of this Notice. THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b).

Applicant is advised that generally the filing fee required for an application is the filing fee in effect on the filing date accorded the application and that payment of the requisite basic filing fee on a date later than the filing date of the application requires payment of a surcharge (37 CFR 1.16(f)). To avoid processing delays and payment of a surcharge, applicant should submit any balance due for the requisite filing fee based on the later filing date being requested when submitting the omitted item(s) and the petition (and petition fee) requesting the later filing date.

**III. Acceptance of application as deposited:** Applicant may accept the application as deposited in the USPTO by filing an appropriate amendment as set forth in either (A) or (B) below within **TWO MONTHS** of the date of this Notice. **THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b)**. The application will maintain a filing date as of the date of deposit of the application papers in the USPTO, and original application papers (i.e., the original disclosure of the invention) will include only those application papers present in the USPTO on the date of deposit. A petition is not required for this option.

**(A)** If applicant wants to accept the application as deposited without adding the subject matter that was in the omitted item (e.g., a missing page or figure), applicant is required to submit one or more of the following items without adding any new matter (see 35 U.S.C. 132(a)):

1. For a missing page of the specification,
  - a) a substitute specification including claims that amends the specification to renumber the pages consecutively and cancels any incomplete sentences, and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;
2. For a missing figure of the drawings,
  - a) replacement drawing sheets in compliance with 37 CFR 1.121(d) to renumber the drawing figures consecutively (if necessary),
  - b) a substitute specification excluding claims that amends the specification to cancel any references to any omitted drawing(s) and corrects the references in the specification to the drawing figures to correspond with any relabeled drawing figures, and
  - c) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;
3. For a missing page of the claim listing only, a replacement claim listing with the claims renumbered consecutively or, if amendment to the claims is also necessary, then a complete claim listing in compliance with 37 CFR 1.121(c);
4. For a missing or unreadable compact disc,
  - a) a substitute specification (excluding the claims) deleting the reference to the compact disc and the files contained on the compact disc, and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125; and
5. For a missing or unreadable file submitted on a compact disc,
  - a) a substitute specification (excluding the claims) deleting the reference to the missing or unreadable file, and a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125; and
  - b) a replacement transmittal letter listing all of the files except the missing or unreadable file in compliance with 37 CFR 1.52(e)(3)(ii).

**(B)** Alternatively, if applicant wants to accept the application as deposited but wishes to add the subject matter in the omitted item (e.g., a missing page or figure) by relying on an incorporation by reference under 37 CFR 1.57 or other portions of the original disclosure, applicant is required to submit one or more of the following items without adding any new matter (see 35 U.S.C. 132(a)):

1. To add the subject matter in a missing page of specification,
  - a) a substitute specification excluding claims and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;

2. To add a missing figure of the drawings, new and replacement drawing sheets in compliance with 37 CFR 1.121(d);
3. To add the subject matter in a missing page of the claim listing, a complete claim listing in compliance with 37 CFR 1.121(c) (e.g., a claim in the missing page should be submitted as a new claim);
4. To add the subject matter in a missing or unreadable compact disc,
  - a) a replacement compact disc and a duplicate copy of the compact disc, in compliance with 37 CFR 1.52(e); and
  - b) a statement that the replacement compact disc contains no new matter in compliance with 37 CFR 1.52(e)(4); and,
5. To add the subject matter in a missing or unreadable file submitted on a compact disc,
  - a) a replacement compact disc that contains all of the files listed in the specification including the missing or unreadable file and a duplicate copy of the compact disc, in compliance with 37 CFR 1.52(e); and
  - b) a statement that the replacement compact disc contains no new matter in compliance with 37 CFR 1.52(e)(4).

If applicant is relying on an incorporation by reference under 37 CFR 1.57 to add the omitted subject matter, then applicant must also comply with the requirements of 37 CFR 1.57.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".  
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tlulu/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie, et al  
**Title:** Method and apparatus for mobile payments  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Examiner:** Unknown  
**Group Art Unit:** Unknown  
**Docket No.:** RFID-085C1

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June 13, 2015

Mail Stop: Missing  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to**  
**NOTICE TO FILE CORRECTED APPLICATION PAPERS**  
***Filing Date Granted***

Dear Sir:

In response to NOTICE TO FILE CORRECTED APPLICATION PAPERS– Filing Date Granted, (hereinafter “NOTICE”), mailed by the United States Patent and Trademark Office on June 12, 2015. FIG. 6D is enclosed to complete the filing of the above-identified patent application.

The Applicant chooses the option "**III. Acceptance of application as deposited: (A)**" and respectfully requests the following amendments be entered:

**AMENDMENTS TO THE DRAWINGS** begin on page 2 of this Amendment.

**REMARKS** begin on page 3 of this Amendment.

## **AMENDMENTS TO THE DRAWINGS**

FIG. 1A and FIG. 1B are enclosed herewith to replace FIG. 1 and FIG. 2 as originally filed.

## REMARKS

The Applicant hereby states no new matter is introduced

It is hereby respectfully submitted that the enclosed document completes the filing of the above patent application.

Please telephone the undersigned at (408)777-8873, if there are any questions.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on June 13, 2015.

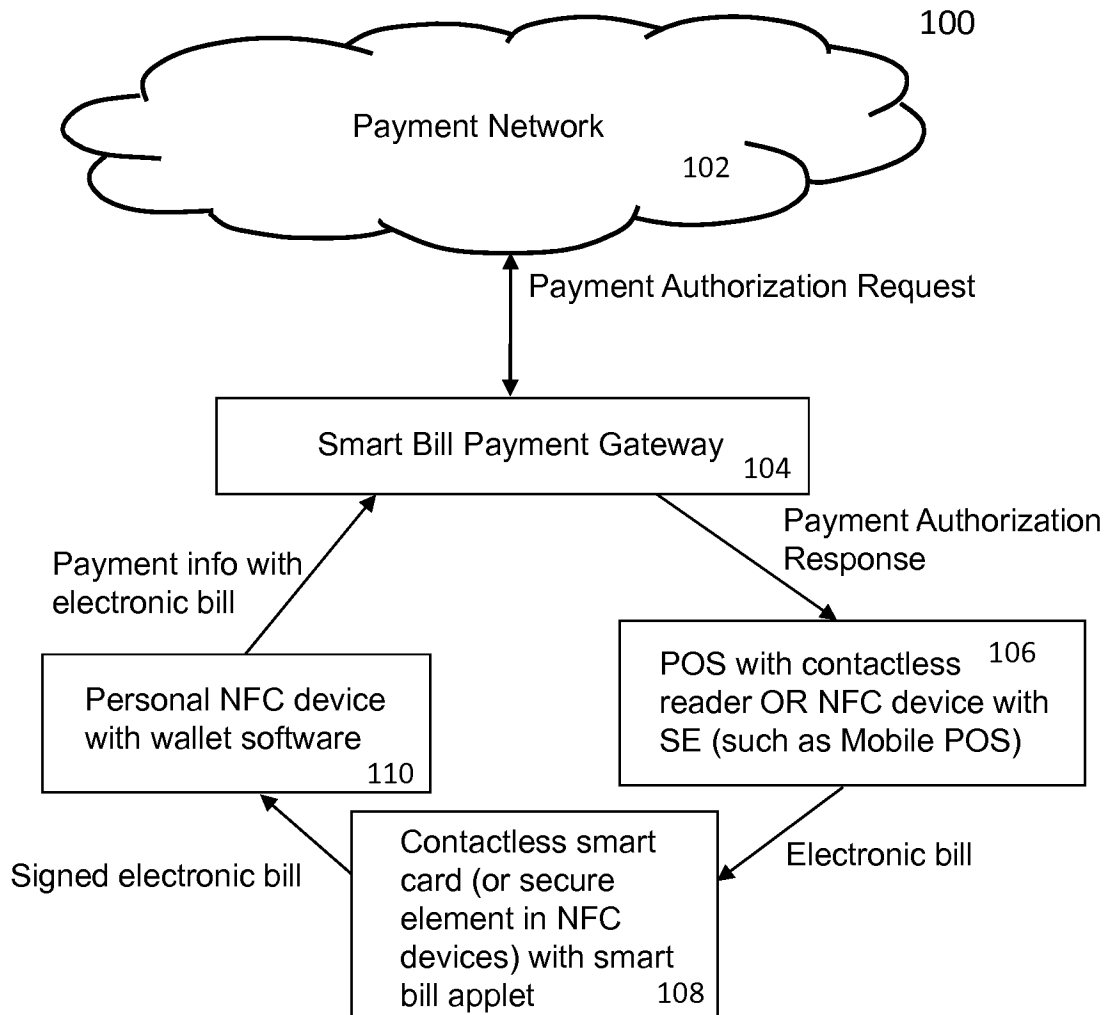
Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

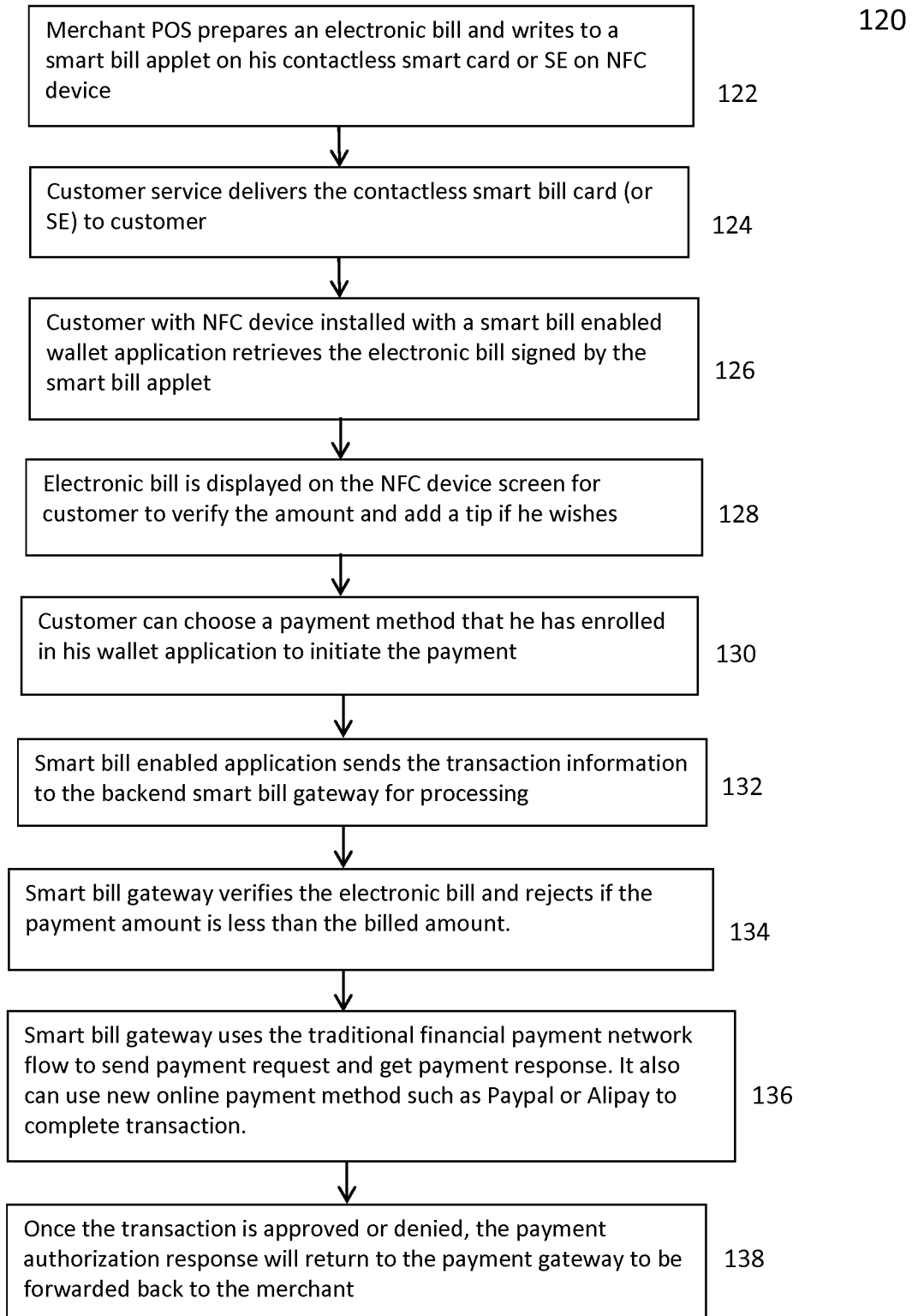
/ joe zheng /

Joe Zheng  
Reg.: No. 39,450



**FIG. 1A**

## Replacement sheet



**FIG. 1B**



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	22624479
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	13-JUN-2015
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	14:52:44
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
------------------------	----

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response to Pre-Exam Sequence Notice	ResponseToMissingParts.pdf	197993 <small>679acd1b6cdf656103fa0a2399deae8e13fd ddd3</small>	no	5

### Warnings:

### Information:

IPR2022-01239

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 4 columns: APPLICATION NUMBER (14/728,349), FILING OR 371(C) DATE (06/02/2015), FIRST NAMED APPLICANT (Xiangzhen Xie), ATTY. DOCKET NO./TITLE (RFID-085C1)

CONFIRMATION NO. 5346

WITHDRAWAL NOTICE



26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015

Date Mailed: 06/19/2015

Letter Regarding a New Notice and/or the Status of the Application

If a new notice or Filing Receipt is enclosed, applicant may disregard the previous notice mailed on 06/12/2015. The time period for reply runs from the mail date of the new notice. Within the time period for reply, applicant is required to file a reply in compliance with the requirements set forth in the new notice to avoid abandonment of the application.

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at
1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

If the reply is not filed electronically via EFS-Web, the reply must be accompanied by a copy of the new notice.

If the Office previously granted a petition to withdraw the holding of abandonment or a petition to revive under 37 CFR 1.137, the status of the application has been returned to pending status.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tpetros/

**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
14/728,349

**APPLICATION AS FILED - PART I**

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	20 minus 20 =	*
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	0.00
x 210 =	0.00
	0.00
TOTAL	730

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

**APPLICATION AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(j))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(j))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



UNITED STATES PATENT AND TRADEMARK OFFICE

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CONFIRMATION NO. 5346

FORMALITIES LETTER



26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015

Date Mailed: 06/19/2015

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification in compliance with 37 CFR 1.52, 1.121(b)(3), and 1.125, is required. The substitute specification must be submitted with markings and be accompanied by a clean version (without markings) as set forth in 37 CFR 1.125(c) and a statement that the substitute specification contains no new matter (see 37 CFR 1.125(b)). The specification, claims, and/or abstract page(s) submitted is not acceptable and cannot be scanned or properly stored because:
- The application contains drawings, but the specification does not contain a brief description of the several views of the drawings as required by 37 CFR 1.74 and 37 CFR 1.77(b)(9).

The following item(s) appear to have been omitted from the application:

- Figure(s) 6D described in the specification.

Applicant must reply to this notice within the time period set forth in this notice to avoid abandonment of this application. Applicant must select one of the three following options and the reply must comply with the requirements set forth in the selected option and any other requirements set forth in this notice. The reply should also indicate which option applicant has selected.

I. Petition for date of deposit: Should applicant contend that the above-noted omitted item(s) was in fact deposited in the U.S. Patent and Trademark Office (USPTO) with the nonprovisional application papers, a copy of this Notice and a petition (and the petition fee set forth in 37 CFR 1.17(f) with evidence of such deposit must be filed within TWO MONTHS of the date of this Notice. The petition fee will be refunded if it is determined that the item(s) was received by the USPTO. THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b).

II. Petition for later filing date: Should applicant desire to supply the omitted item(s) and accept the date that such omitted item(s) was filed in the USPTO as the filing date of the above-identified application, a copy of this Notice, the omitted item(s), and a petition under 37 CFR 1.182 with the petition fee set forth in 37 CFR 1.17(f) requesting the later filing date must be filed within TWO MONTHS of the date of this Notice. THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b).

Applicant is advised that generally the filing fee required for an application is the filing fee in effect on the filing date accorded the application and that payment of the requisite basic filing fee on a date later than the filing date of the application requires payment of a surcharge (37 CFR 1.16(f)). To avoid processing delays and payment of a surcharge, applicant should submit any balance due for the requisite filing fee based on the later filing date being requested when submitting the omitted item(s) and the petition (and petition fee) requesting the later filing date.

**III. Acceptance of application as deposited:** Applicant may accept the application as deposited in the USPTO by filing an appropriate amendment as set forth in either (A) or (B) below within **TWO MONTHS** of the date of this Notice. **THIS TWO MONTH PERIOD IS EXTENDABLE UNDER 37 CFR 1.136(a) or (b)**. The application will maintain a filing date as of the date of deposit of the application papers in the USPTO, and original application papers (i.e., the original disclosure of the invention) will include only those application papers present in the USPTO on the date of deposit. A petition is not required for this option.

**(A)** If applicant wants to accept the application as deposited without adding the subject matter that was in the omitted item (e.g., a missing page or figure), applicant is required to submit one or more of the following items without adding any new matter (see 35 U.S.C. 132(a)):

1. For a missing page of the specification,
  - a) a substitute specification including claims that amends the specification to renumber the pages consecutively and cancels any incomplete sentences, and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;
2. For a missing figure of the drawings,
  - a) replacement drawing sheets in compliance with 37 CFR 1.121(d) to renumber the drawing figures consecutively (if necessary),
  - b) a substitute specification excluding claims that amends the specification to cancel any references to any omitted drawing(s) and corrects the references in the specification to the drawing figures to correspond with any relabeled drawing figures, and
  - c) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;
3. For a missing page of the claim listing only, a replacement claim listing with the claims renumbered consecutively or, if amendment to the claims is also necessary, then a complete claim listing in compliance with 37 CFR 1.121(c);
4. For a missing or unreadable compact disc,
  - a) a substitute specification (excluding the claims) deleting the reference to the compact disc and the files contained on the compact disc, and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125; and
5. For a missing or unreadable file submitted on a compact disc,
  - a) a substitute specification (excluding the claims) deleting the reference to the missing or unreadable file, and a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125; and
  - b) a replacement transmittal letter listing all of the files except the missing or unreadable file in compliance with 37 CFR 1.52(e)(3)(ii).

**(B)** Alternatively, if applicant wants to accept the application as deposited but wishes to add the subject matter in the omitted item (e.g., a missing page or figure) by relying on an incorporation by reference under 37 CFR 1.57 or other portions of the original disclosure, applicant is required to submit one or more of the following items without adding any new matter (see 35 U.S.C. 132(a)):

1. To add the subject matter in a missing page of specification,
  - a) a substitute specification excluding claims and
  - b) a statement that the substitute specification includes no new matter, in compliance with 37 CFR 1.121(b)(3) and 1.125;

2. To add a missing figure of the drawings, new and replacement drawing sheets in compliance with 37 CFR 1.121(d);
3. To add the subject matter in a missing page of the claim listing, a complete claim listing in compliance with 37 CFR 1.121(c) (e.g., a claim in the missing page should be submitted as a new claim);
4. To add the subject matter in a missing or unreadable compact disc,
  - a) a replacement compact disc and a duplicate copy of the compact disc, in compliance with 37 CFR 1.52(e); and
  - b) a statement that the replacement compact disc contains no new matter in compliance with 37 CFR 1.52(e)(4); and,
5. To add the subject matter in a missing or unreadable file submitted on a compact disc,
  - a) a replacement compact disc that contains all of the files listed in the specification including the missing or unreadable file and a duplicate copy of the compact disc, in compliance with 37 CFR 1.52(e); and
  - b) a statement that the replacement compact disc contains no new matter in compliance with 37 CFR 1.52(e)(4).

If applicant is relying on an incorporation by reference under 37 CFR 1.57 to add the omitted subject matter, then applicant must also comply with the requirements of 37 CFR 1.57.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".  
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tpetros/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY. DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/728,349, 06/02/2015, 2642, 730, RFID-085C1, 20, 3

CONFIRMATION NO. 5346

FILING RECEIPT

26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015



Date Mailed: 06/19/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)

Xiangzhen Xie, Shenzhen, CHINA;
Liang Seng Koh, Fremont, CA;
Hsin Pan, Fremont, CA;

Applicant(s)

RFCyber Corporation, Fremont, CA;

Power of Attorney: The patent practitioners associated with Customer Number 26797

Domestic Priority data as claimed by applicant

This application is a CON of 13/853,937 03/29/2013 PAT 9047601
which claims benefit of 61/618,802 04/01/2012
and is a CIP of 13/350,832 01/16/2012
which is a CIP of 11/534,653 09/24/2006 PAT 8118218

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 06/10/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/728,349

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No



**\*\* SMALL ENTITY \*\***

**Title**

Method and apparatus for mobile payments

**Preliminary Class**

455

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No**

**PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

## SCORE Placeholder Sheet for IFW Content

Application Number: 14728349

Document Date: 06/23/2015

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Method and apparatus for mobile payments  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Examiner:** Unknown  
**Group Art Unit:** Unknown  
**Docket No.:** RFID-085C1

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June 23, 2015

Mail Stop: Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to**  
**NOTICE TO FILE CORRECTED APPLICATION PAPERS**  
***Filing Date Granted***

Dear Sir:

In response to NOTICE TO FILE CORRECTED APPLICATION PAPERS– Filing Date Granted, (hereinafter “NOTICE”), mailed by the United States Patent and Trademark Office on 06/19/2015, the Applicant respectfully request the Commissioner to enter the following preliminary amendments:

**AMENDMENTS TO THE DRAWINGS** begin on page 2 of this Response.

**REMARKS** begin on page 3 of this Response.

## **AMENDMENTS TO THE DRAWINGS**

FIG. 6D is enclosed. A complete set of the drawings is enclosed herewith to facilitate the entry of the amendments.

## REMARKS

FIG. 6D was missing from the originally filed drawings. The Applicant chose the option "**III. Acceptance of application as deposited: (A)**".

The Applicant hereby states no new matter is introduced with the inclusion of FIG. 6D. The full description of FIG. 6D is given in paragraphs [0133]-[0134]. Further, this instant application is a continuation of US Pat. App. Serial No.: 13/853,937 filed on 03/29/2013, now US Pat. No.: 9,047,601 issued on 06/02/2015.

It is hereby respectfully submitted that the enclosed document completes the filing of the above patent application and justifies the US filing date of 03/29/2013. Please telephone the undersigned at (408)777-8873, if there are any questions.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on June 23, 2015.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng  
Reg.: No. 39,450

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	22718276
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	23-JUN-2015
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	18:06:44
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Drawings-other than black and white line drawings	DrawingsAsFiled.pdf	581533 <small>b97a83ad654dae34e6f18e5e50baf656577a0f81</small>	no	22

### Warnings:

### Information:

IPR2022-01239

2	Response to Pre-Exam Sequence Notice	ResponseToMissingParts2.pdf	87925 8801549c68964033e8501c2ca64217febfd2 24ee	no	3
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**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>	669458
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**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

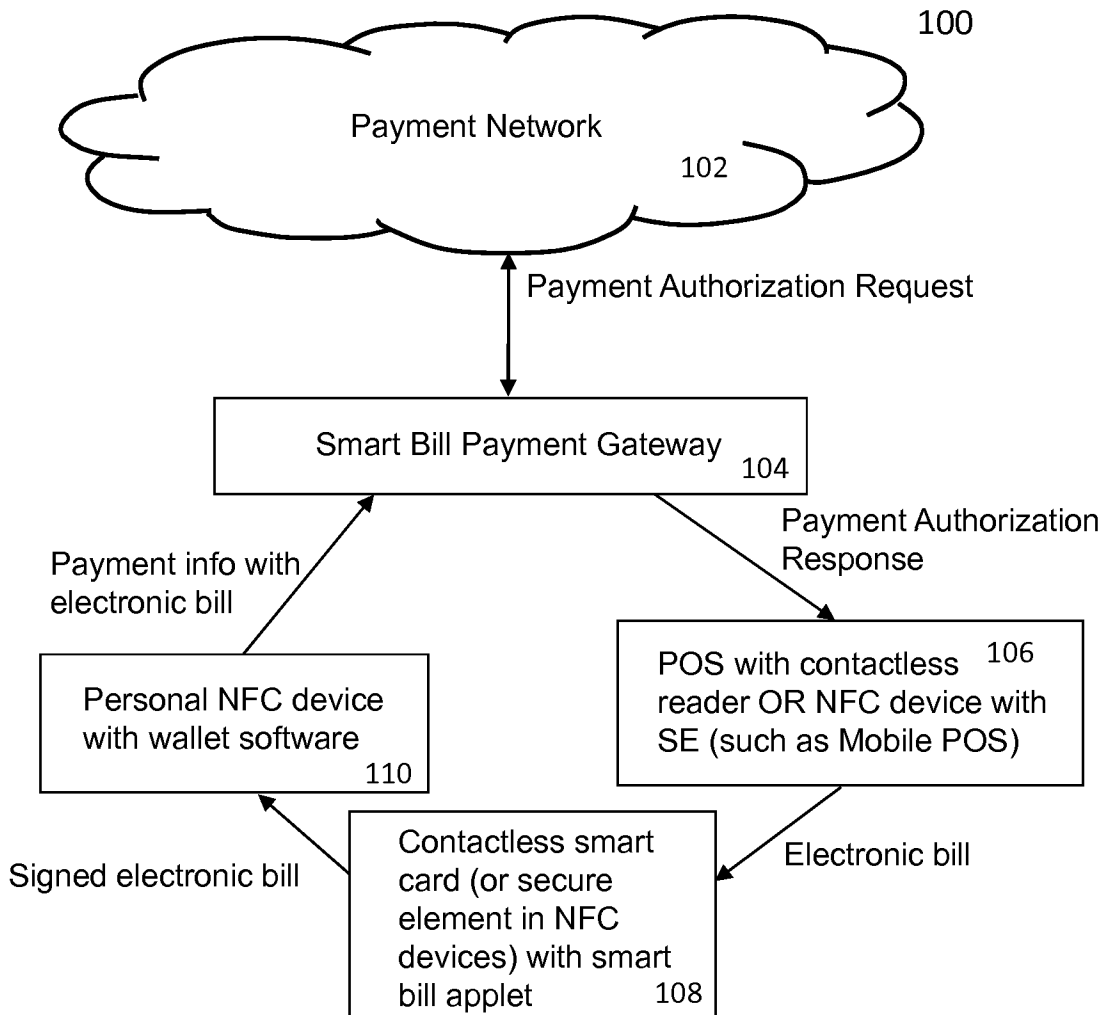
**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

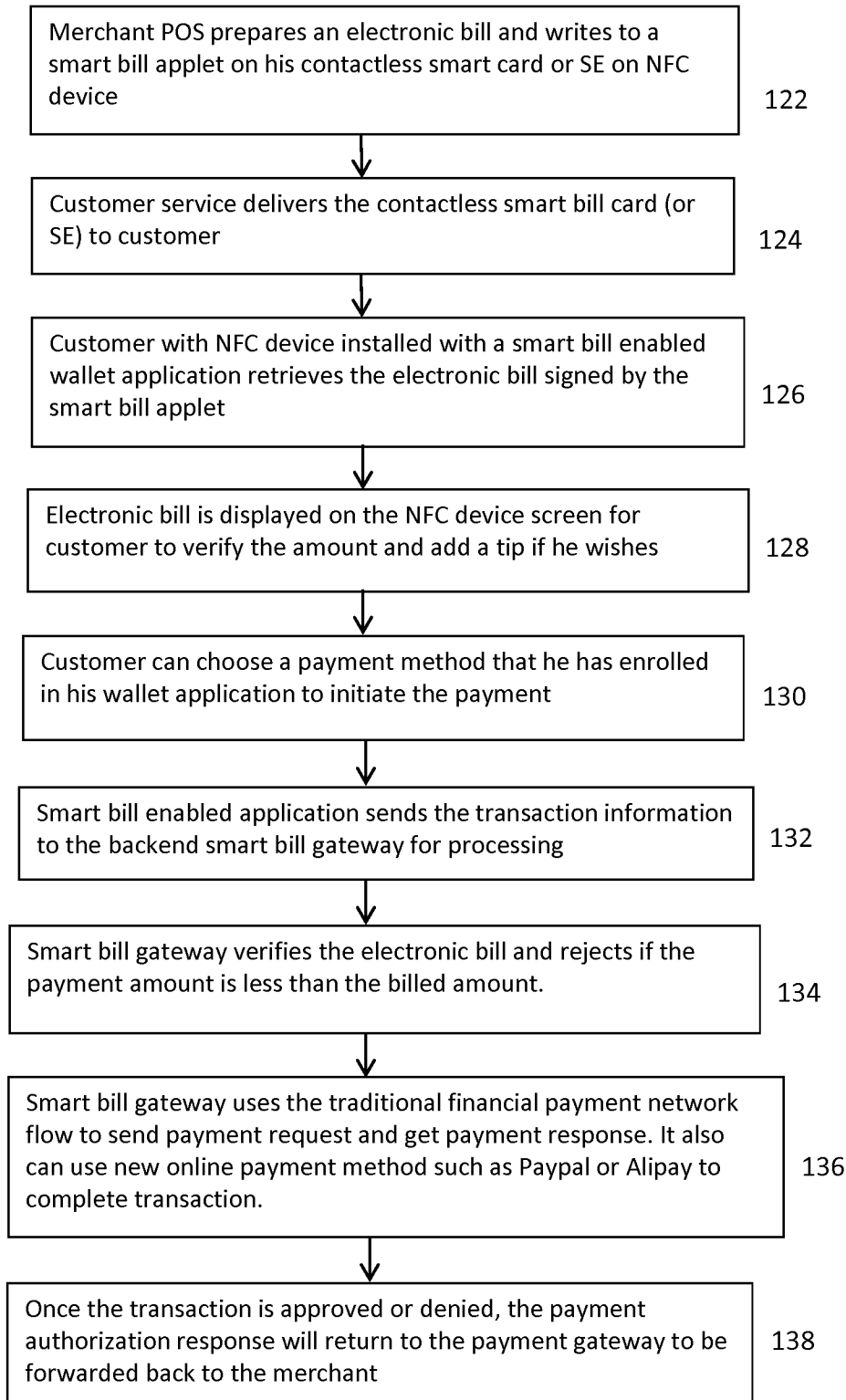
**New International Application Filed with the USPTO as a Receiving Office**

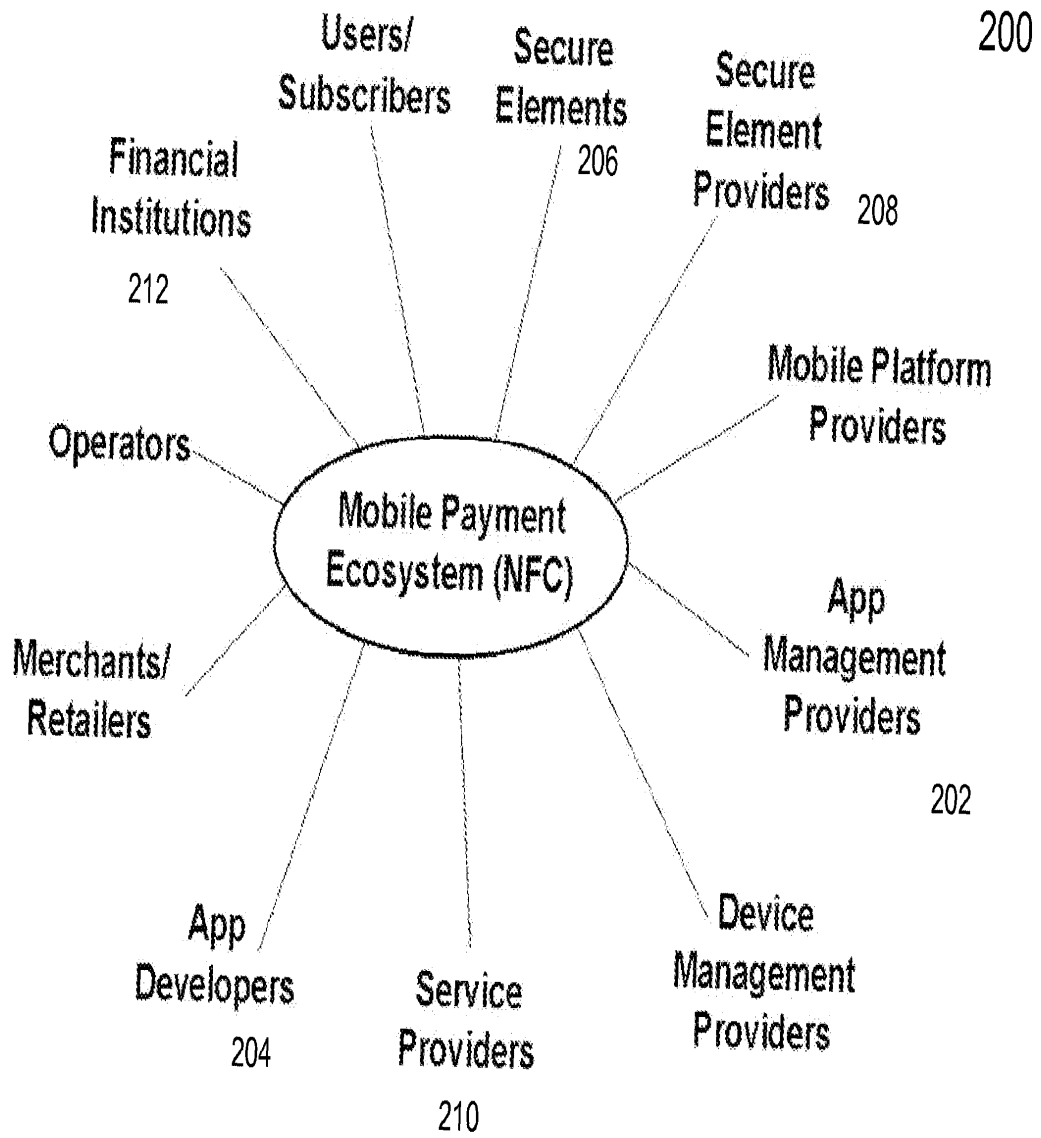
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**



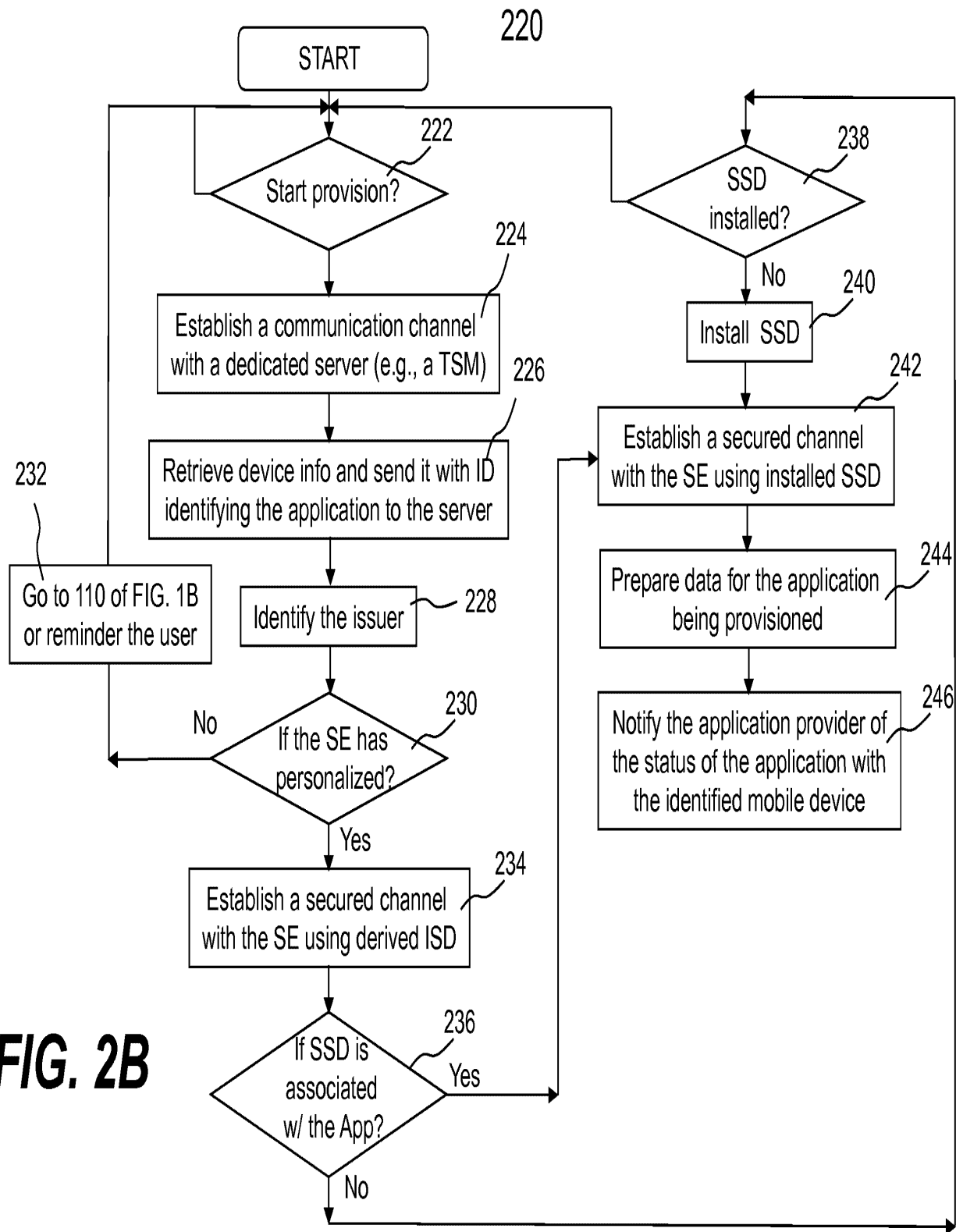


**FIG. 1A**

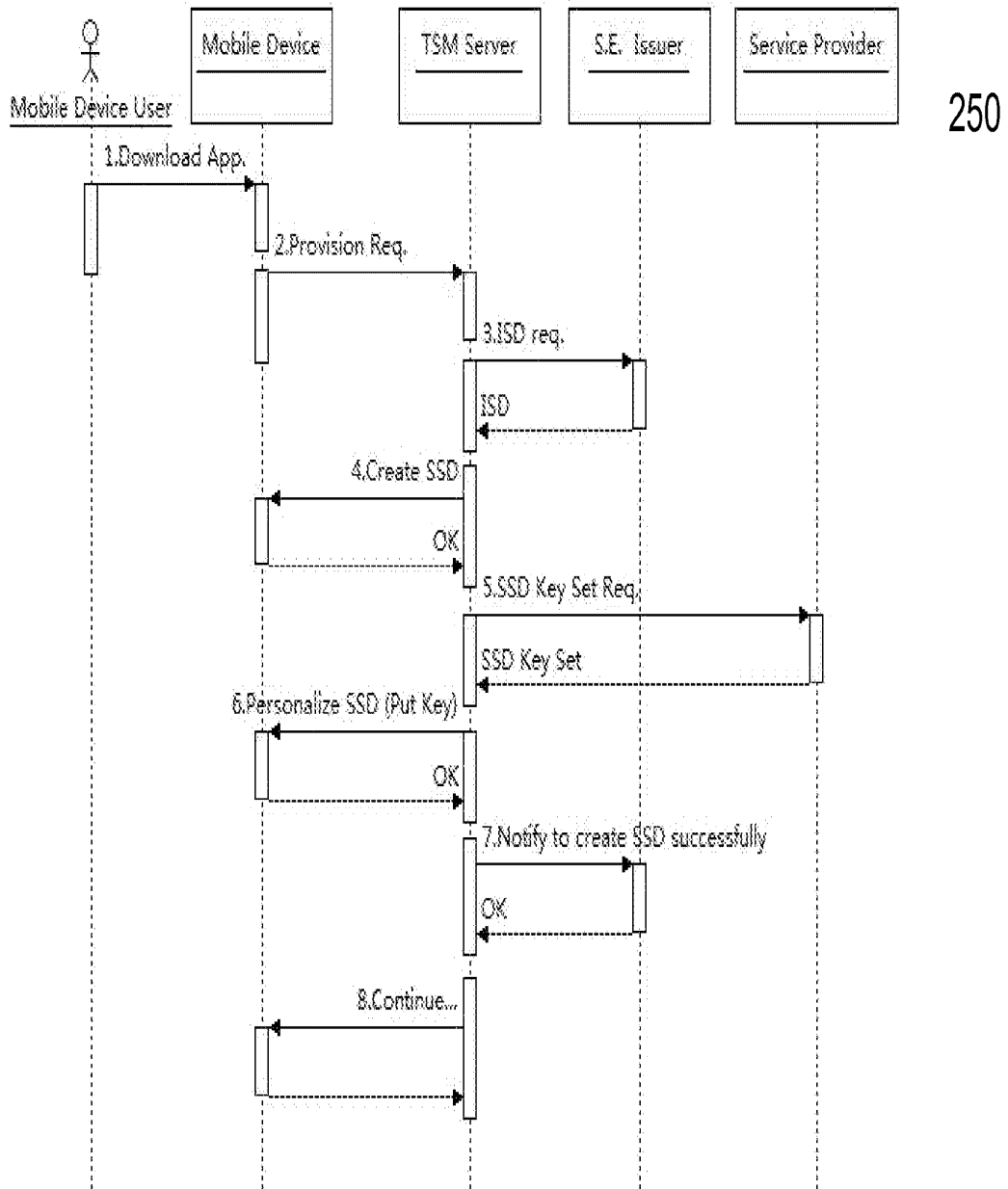
**FIG. 1B**



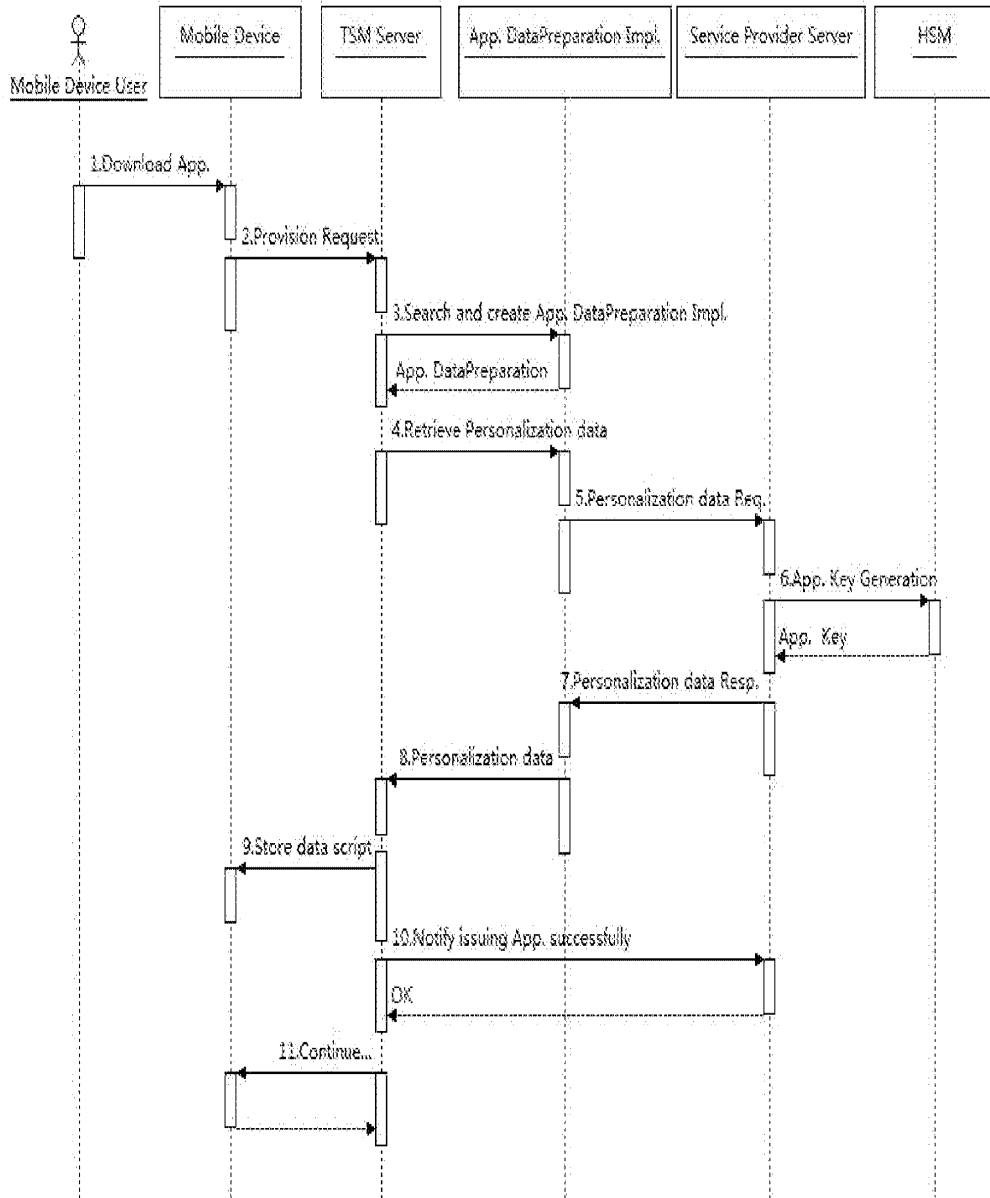
**FIG. 2A**



**FIG. 2B**

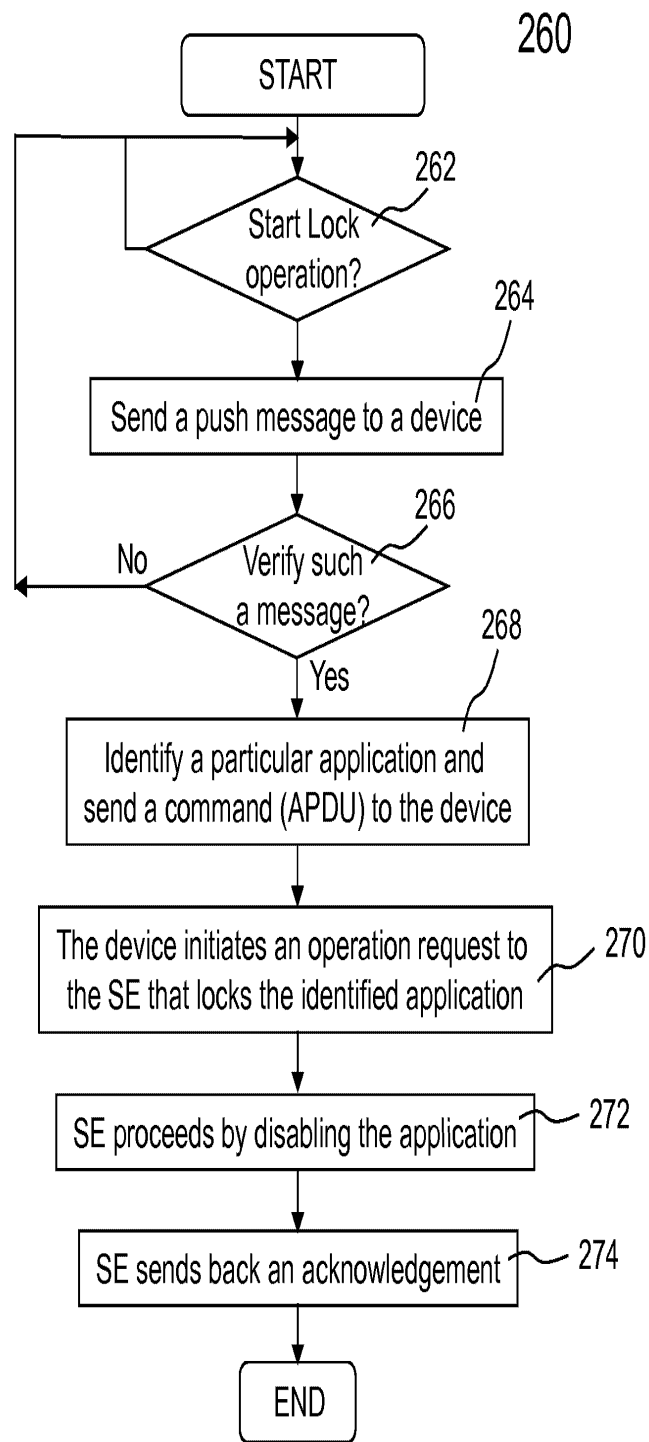


**FIG. 2C**

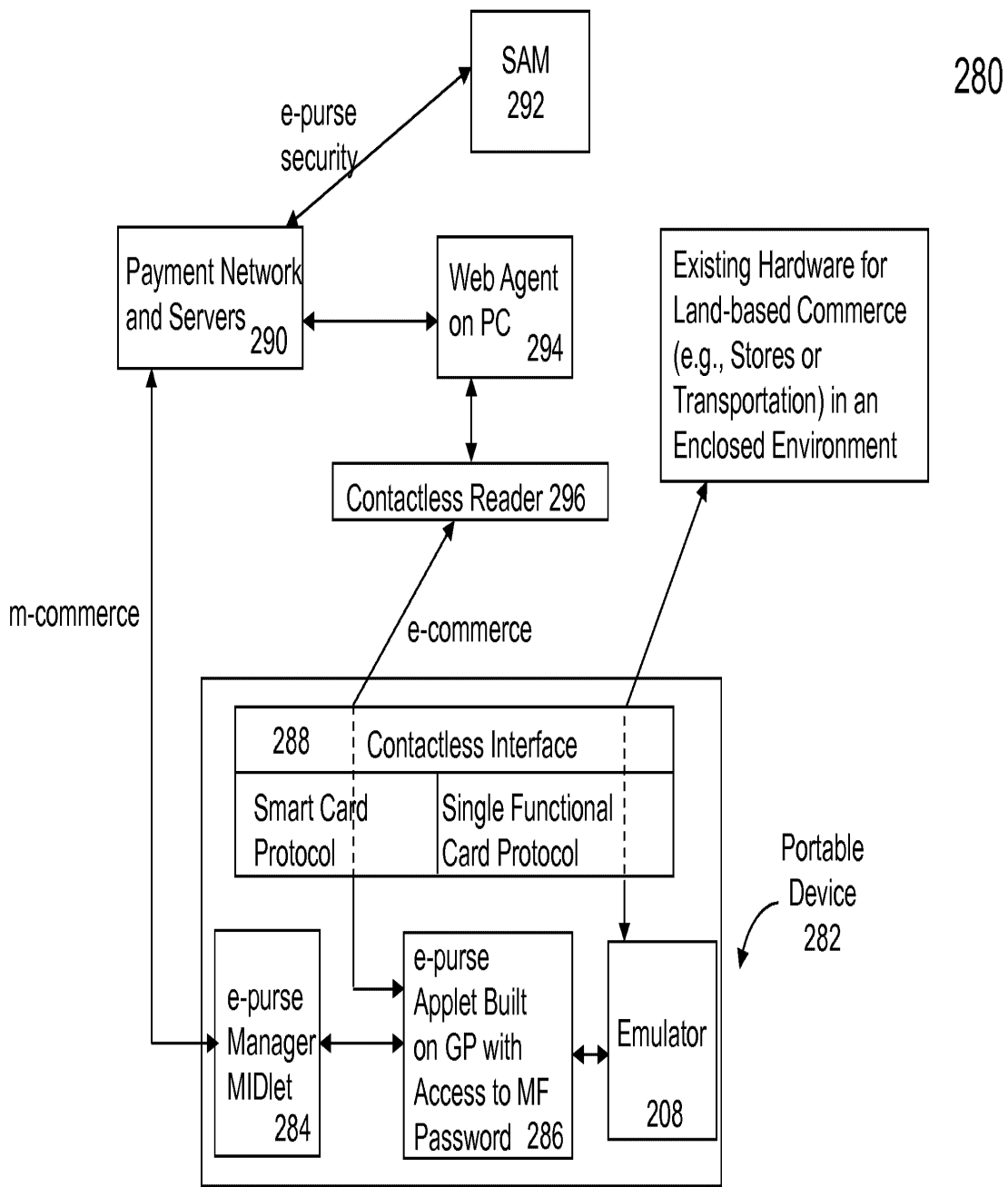


255

**FIG. 2D**

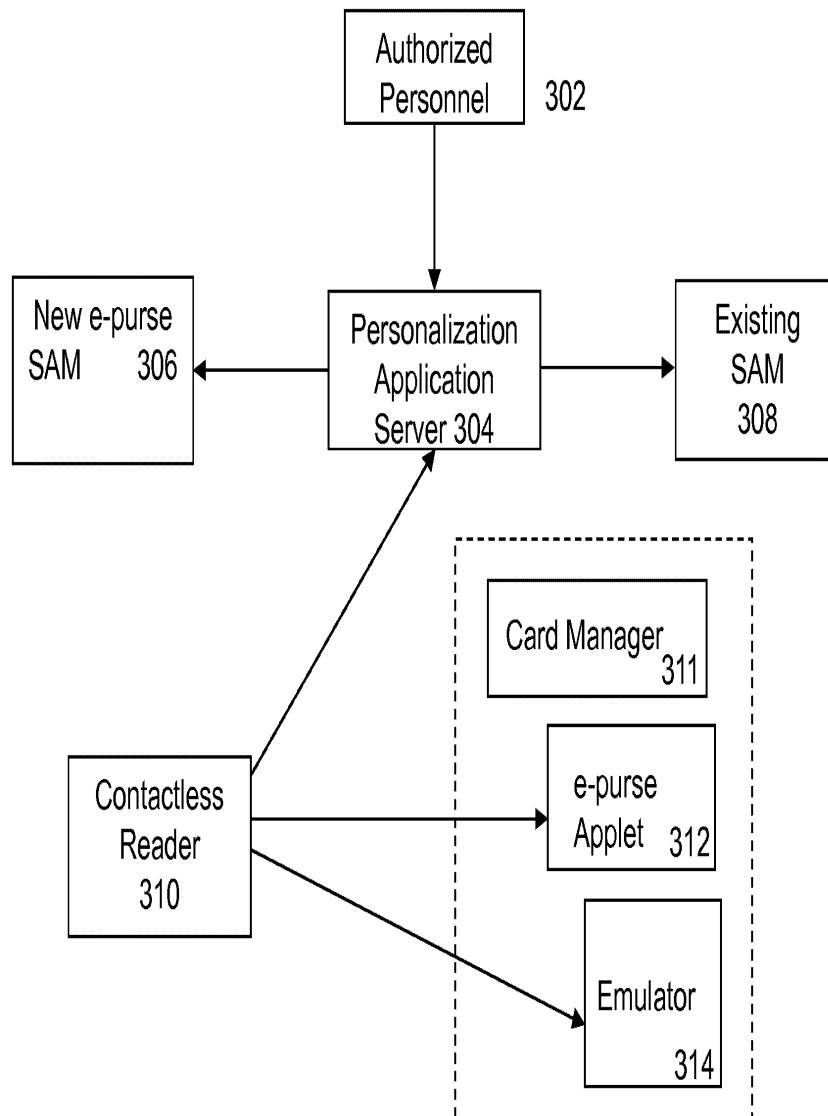


**FIG. 2E**

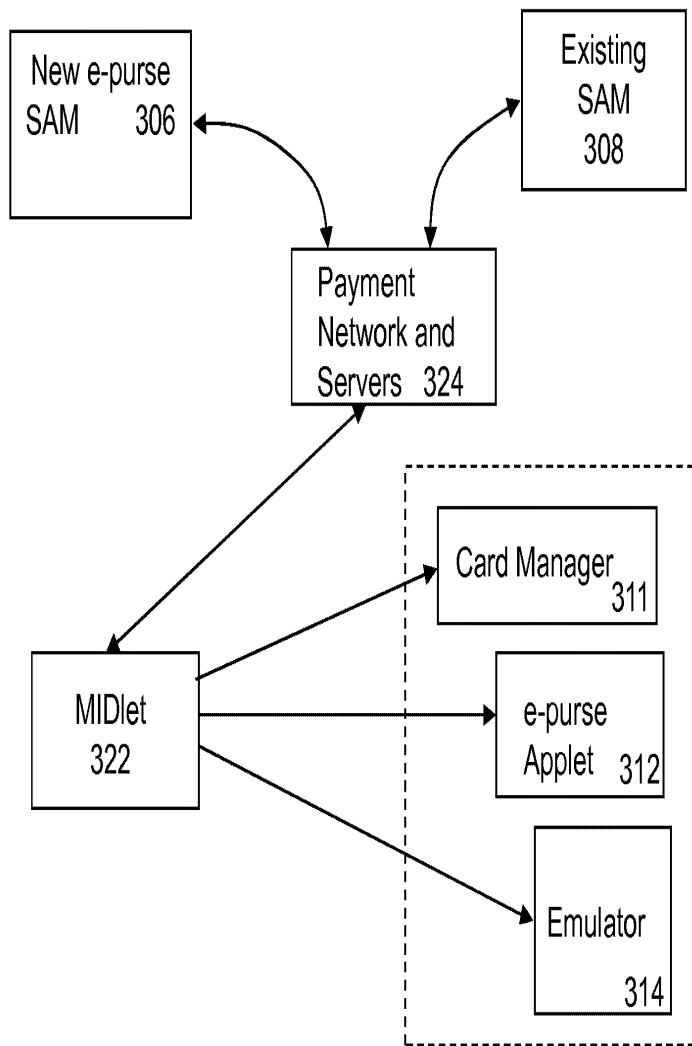


**FIG. 2F**

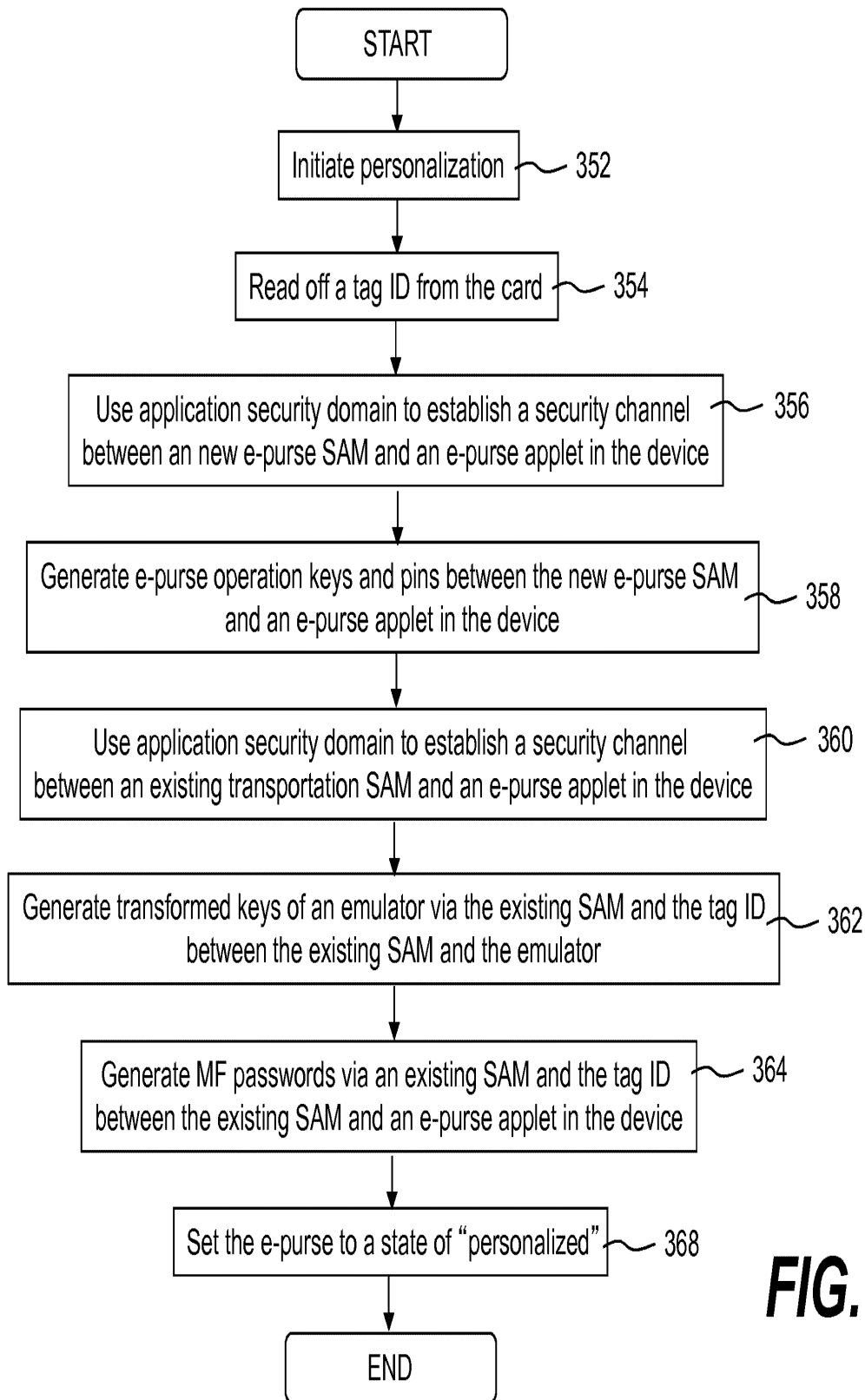




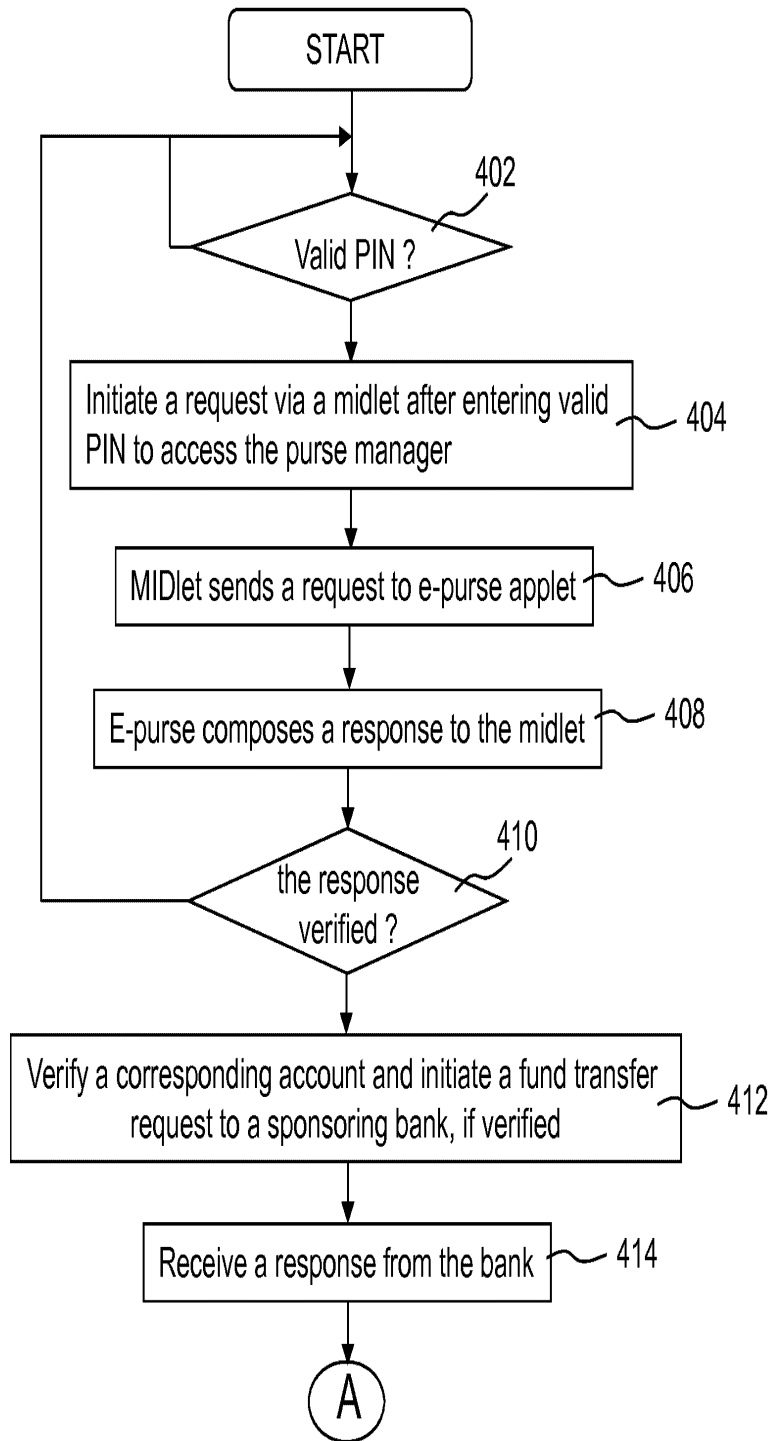
**FIG. 3A**



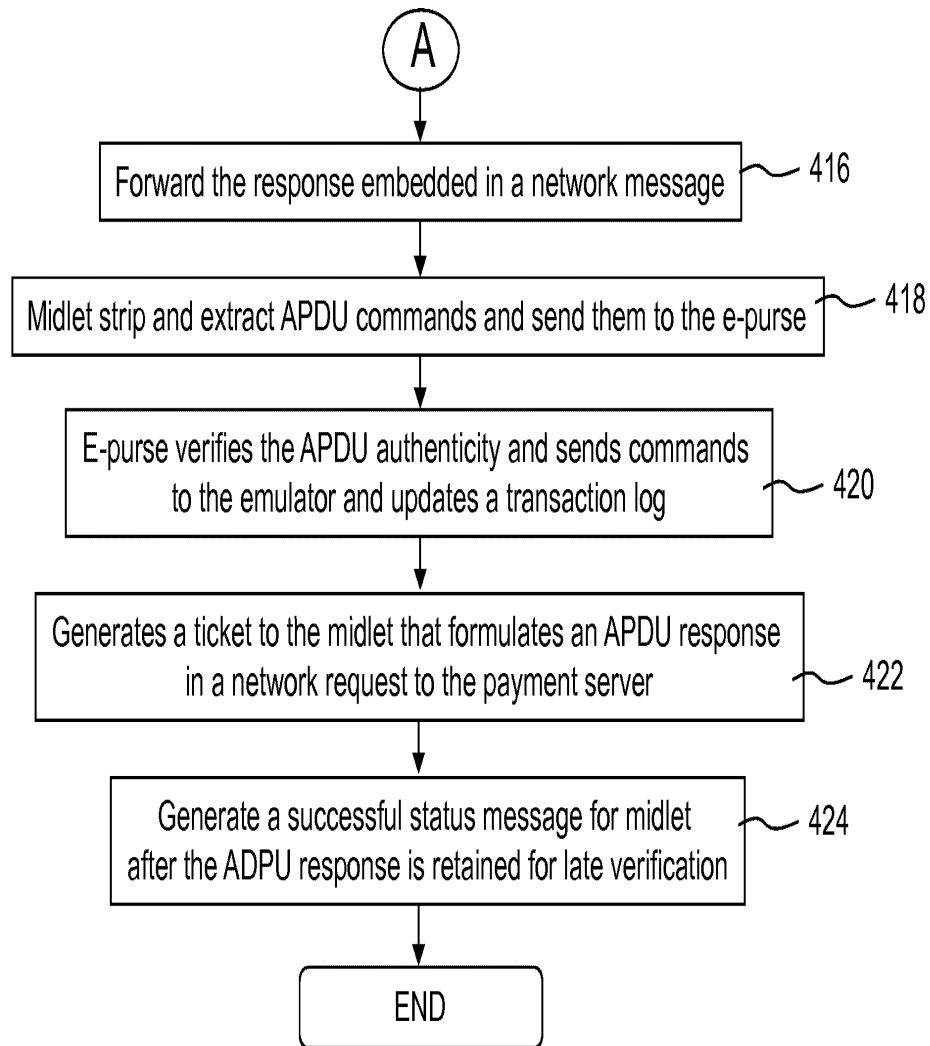
**FIG. 3B**



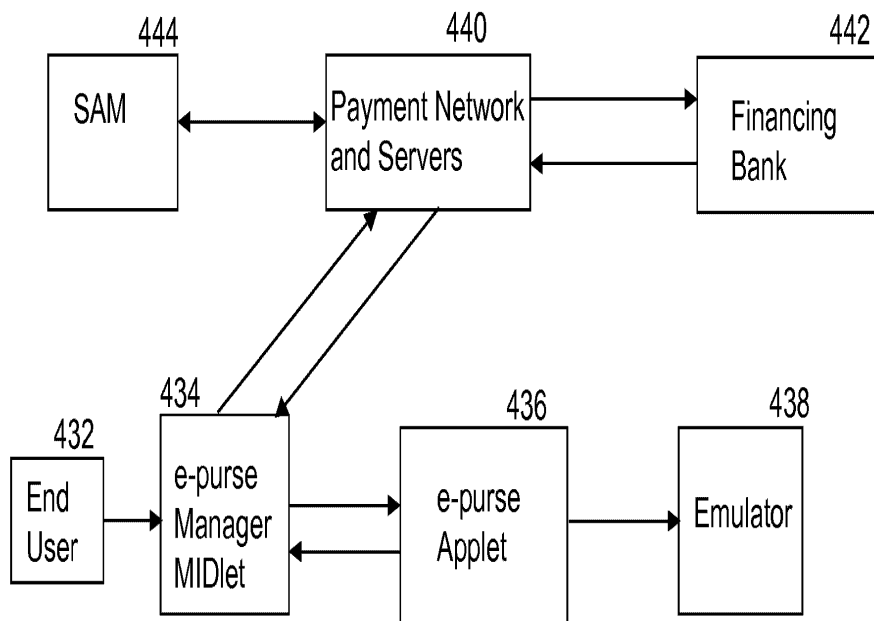
**FIG. 3C**



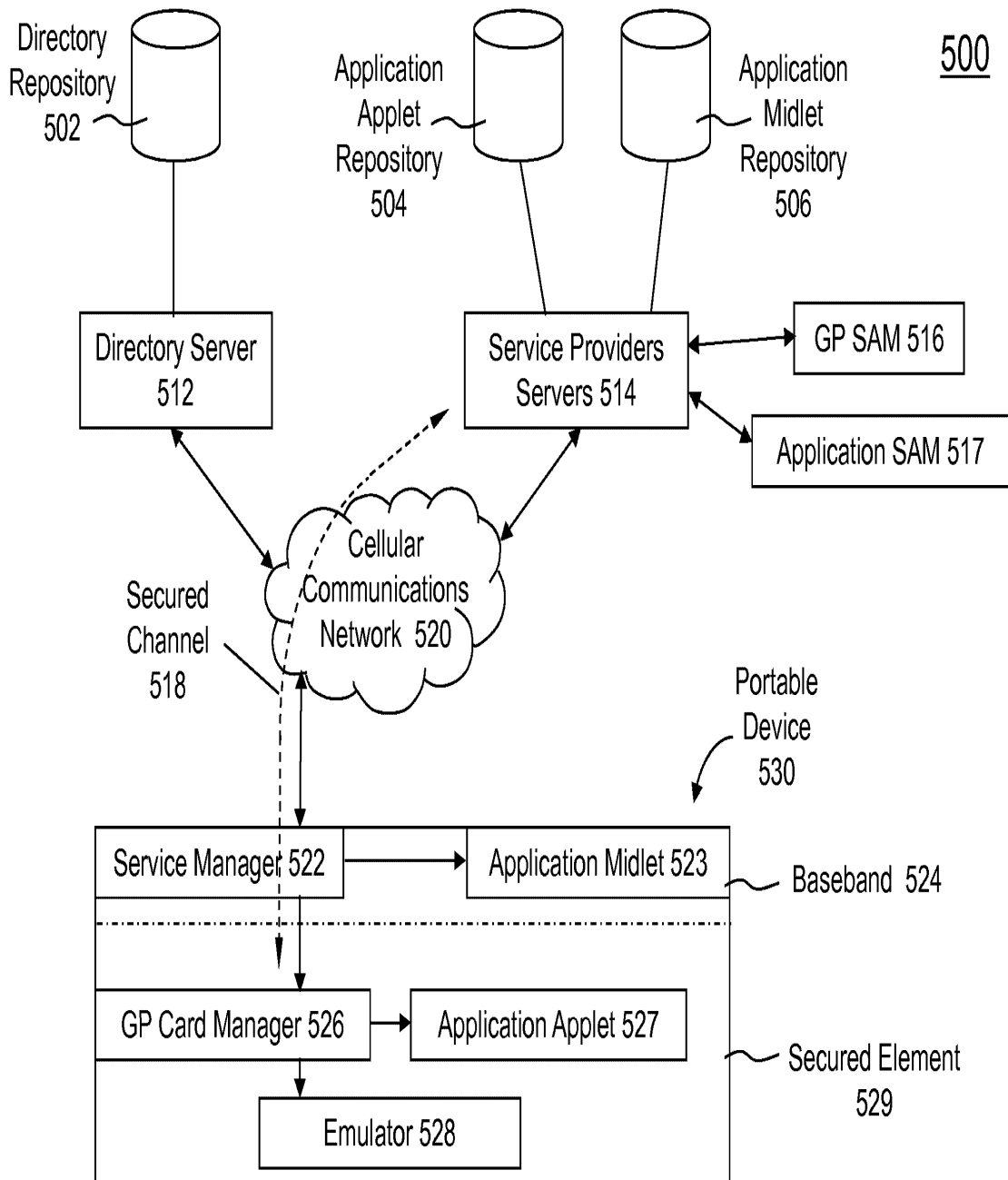
**FIG. 4A**



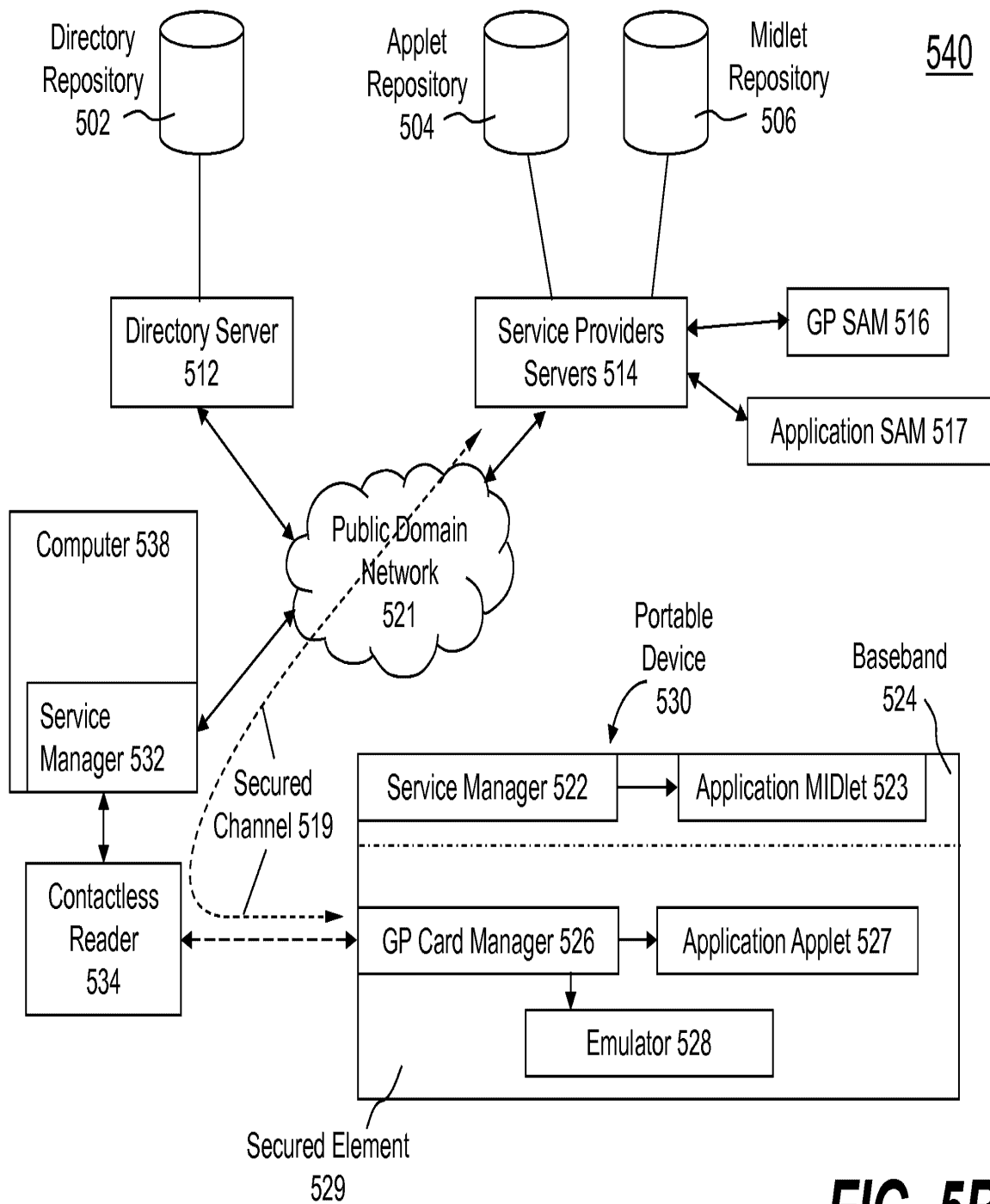
**FIG. 4B**



**FIG. 4C**

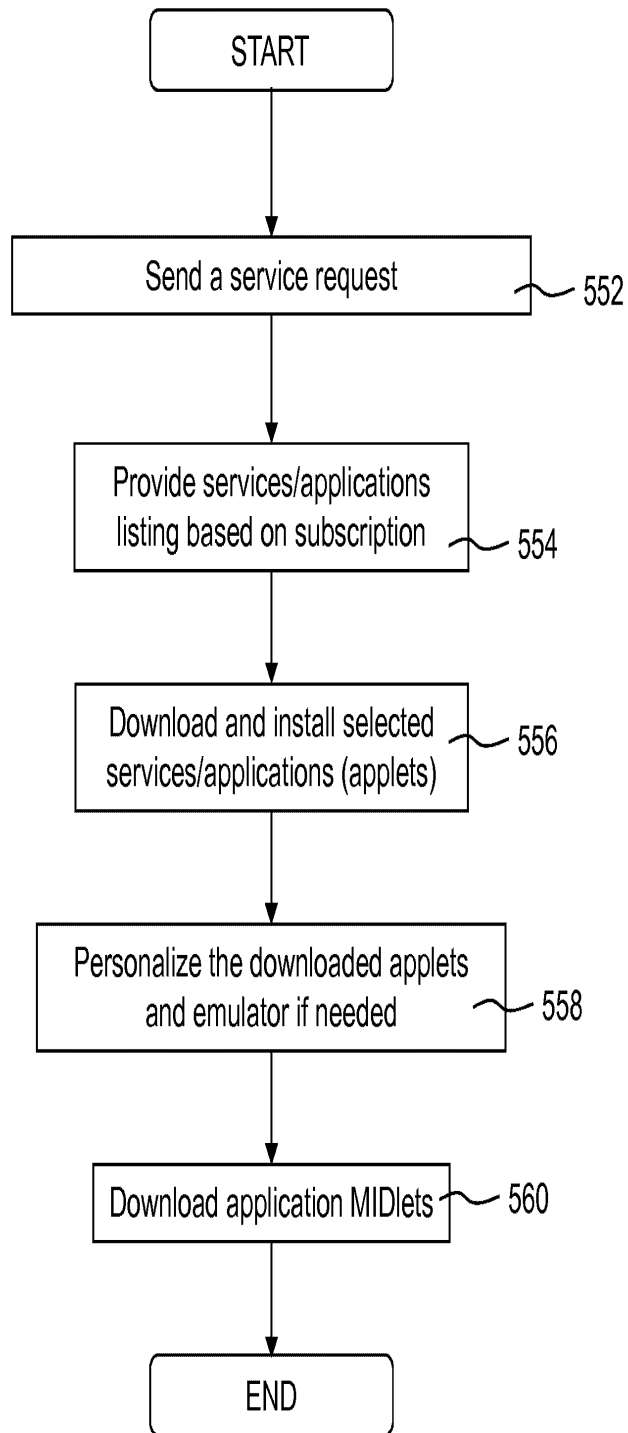


**FIG. 5A**



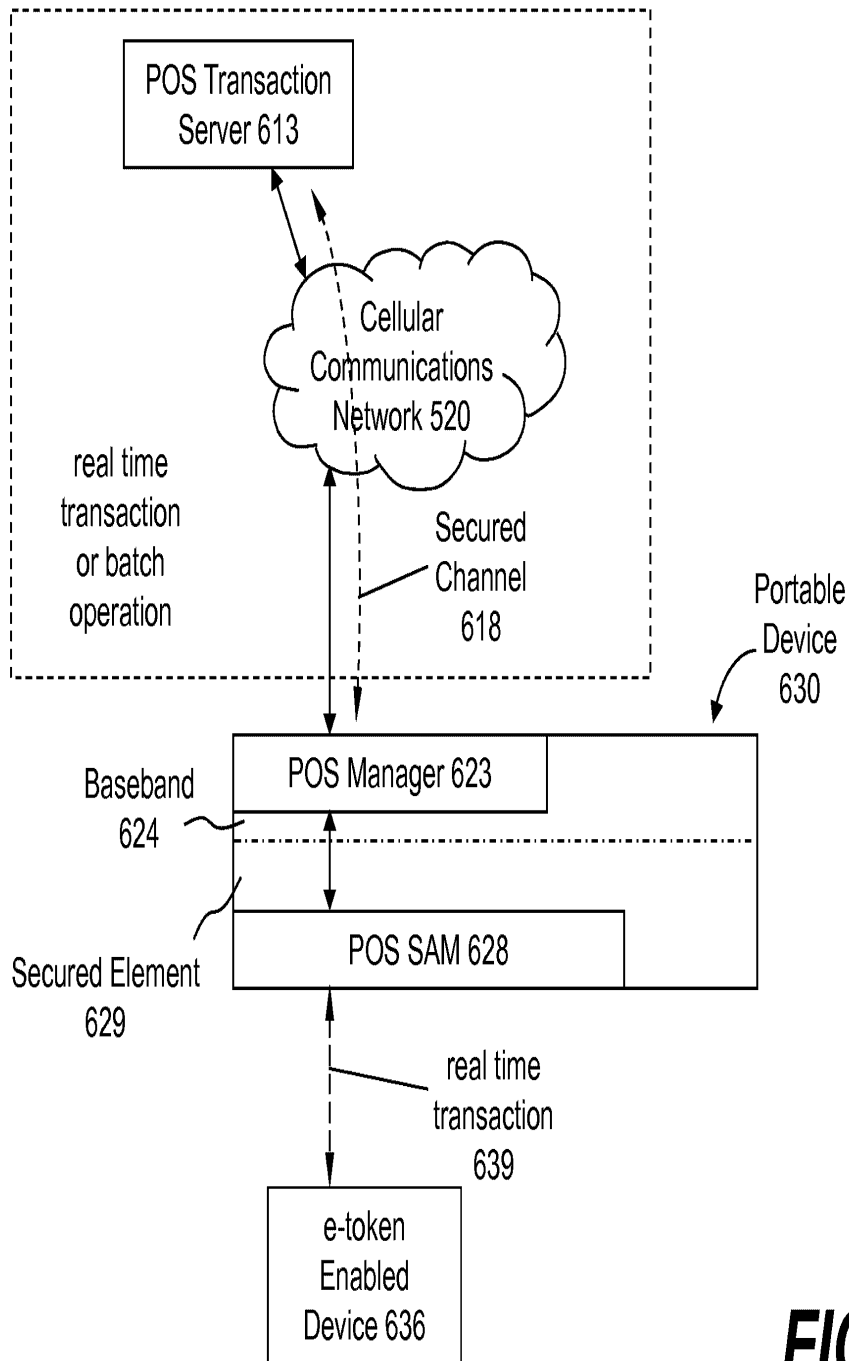
**FIG. 5B**



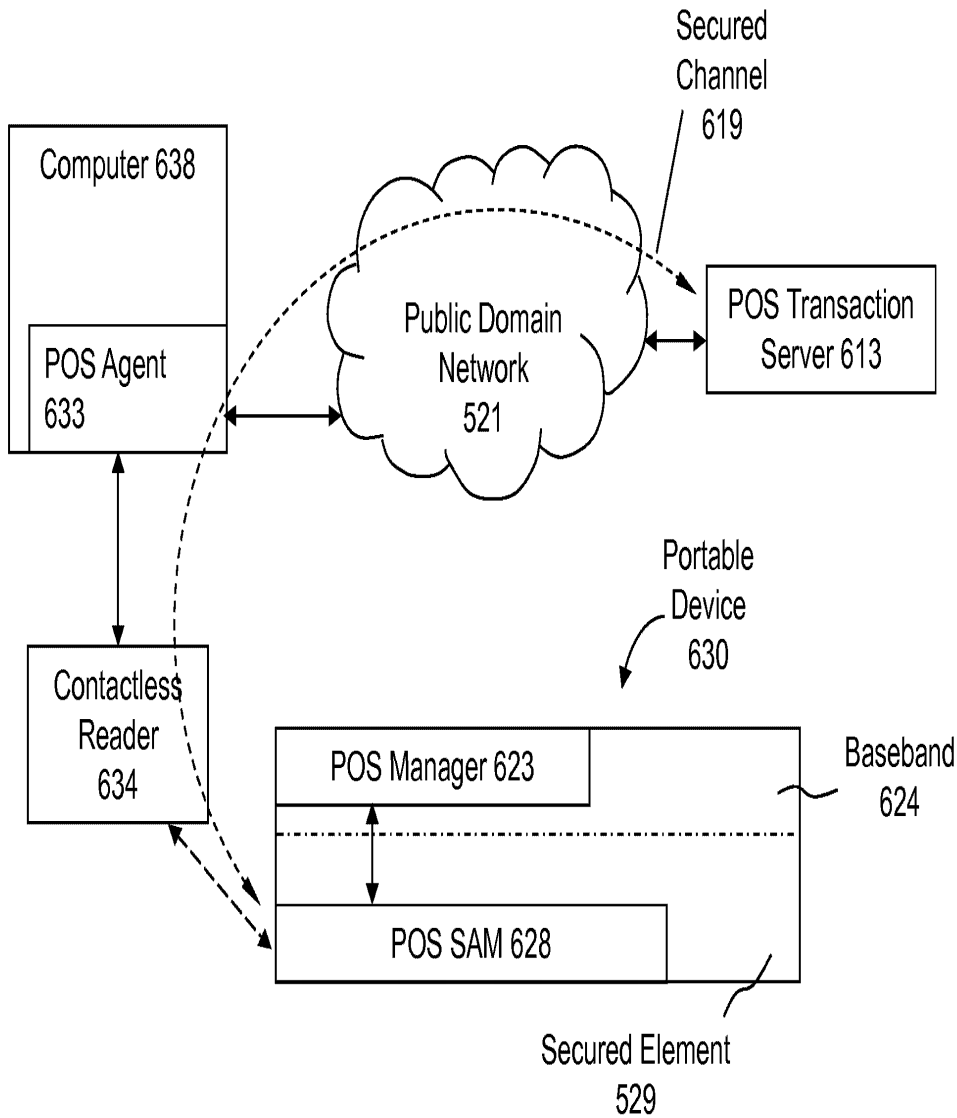


550

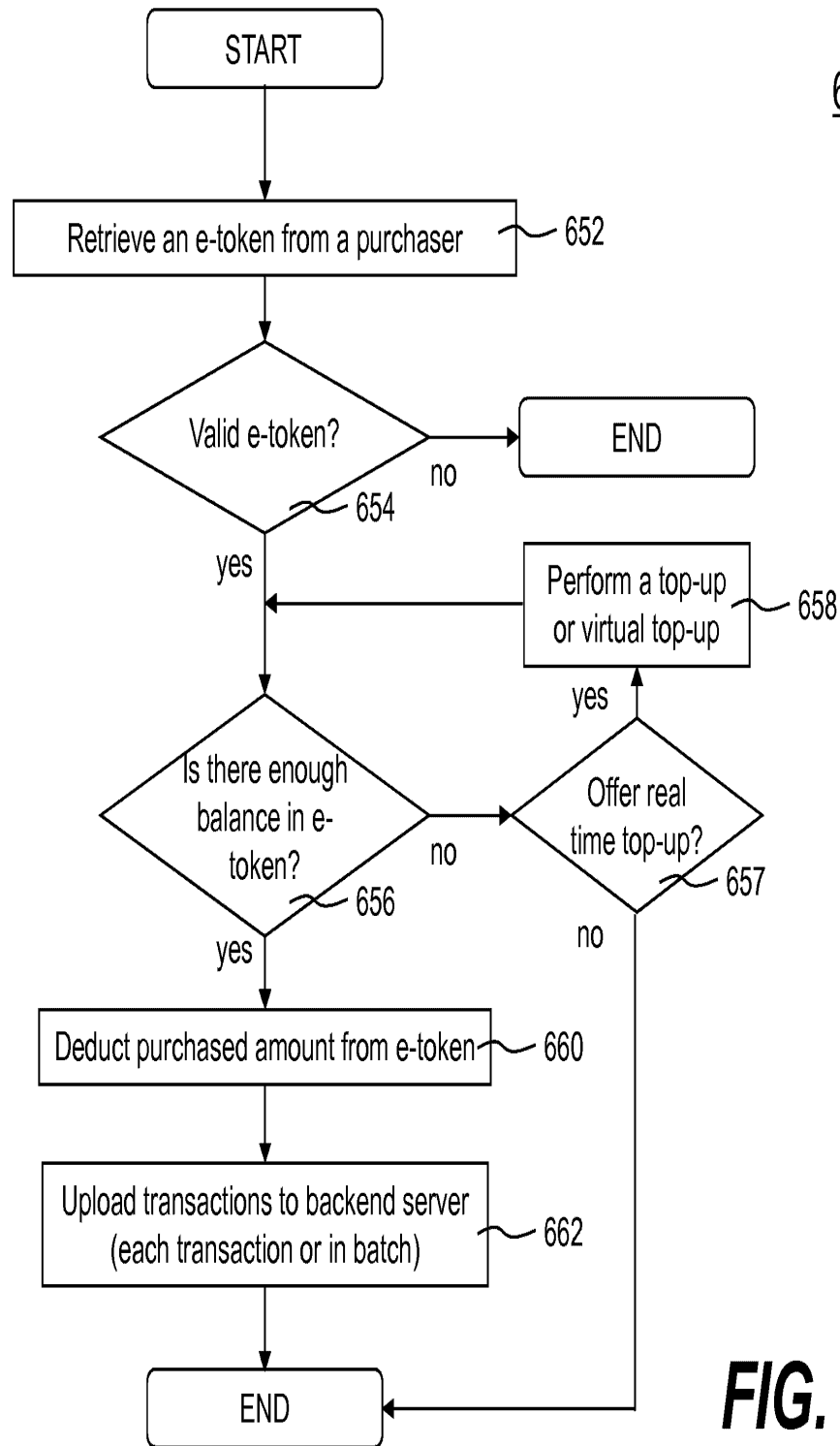
**FIG. 5C**



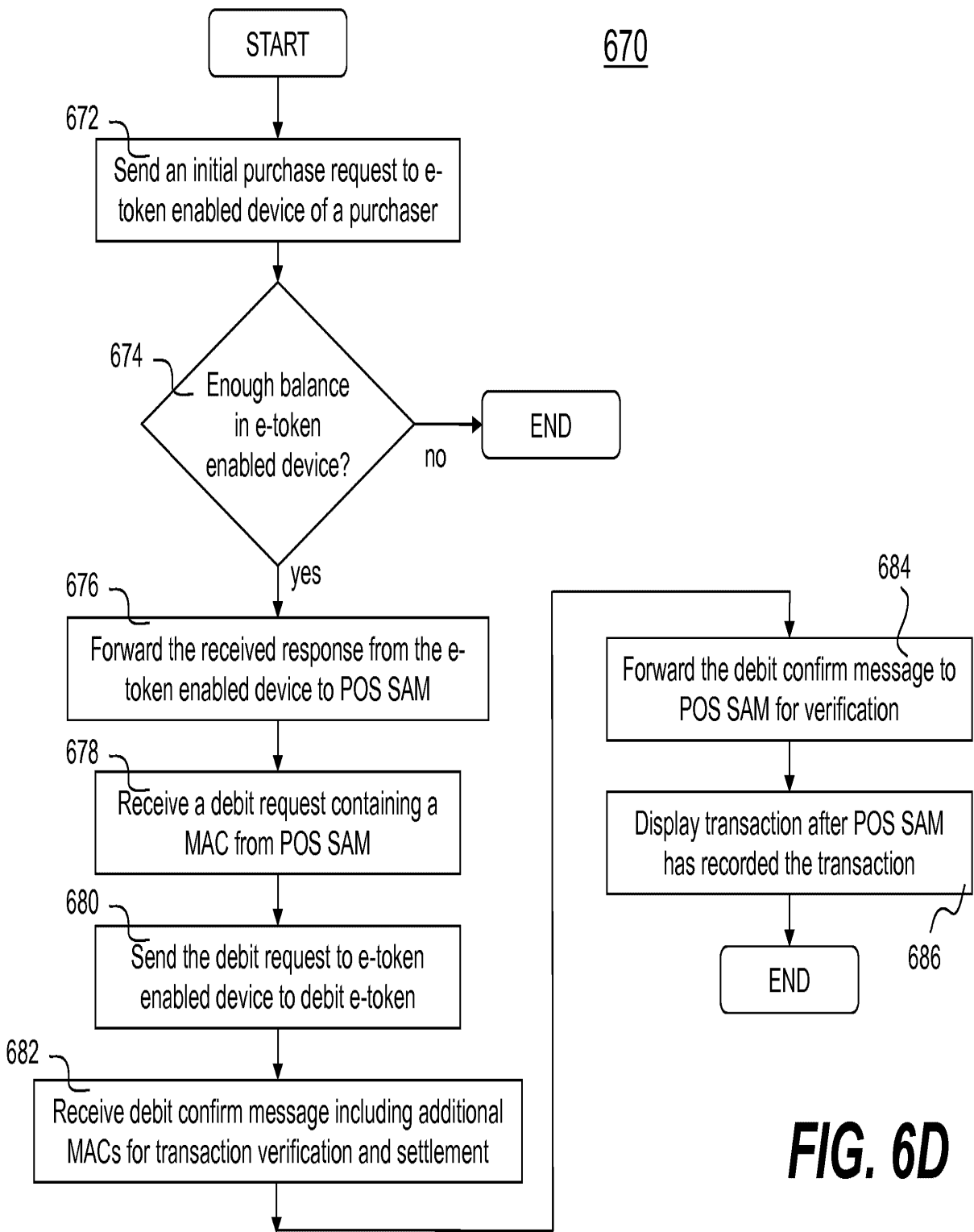
**FIG. 6A**



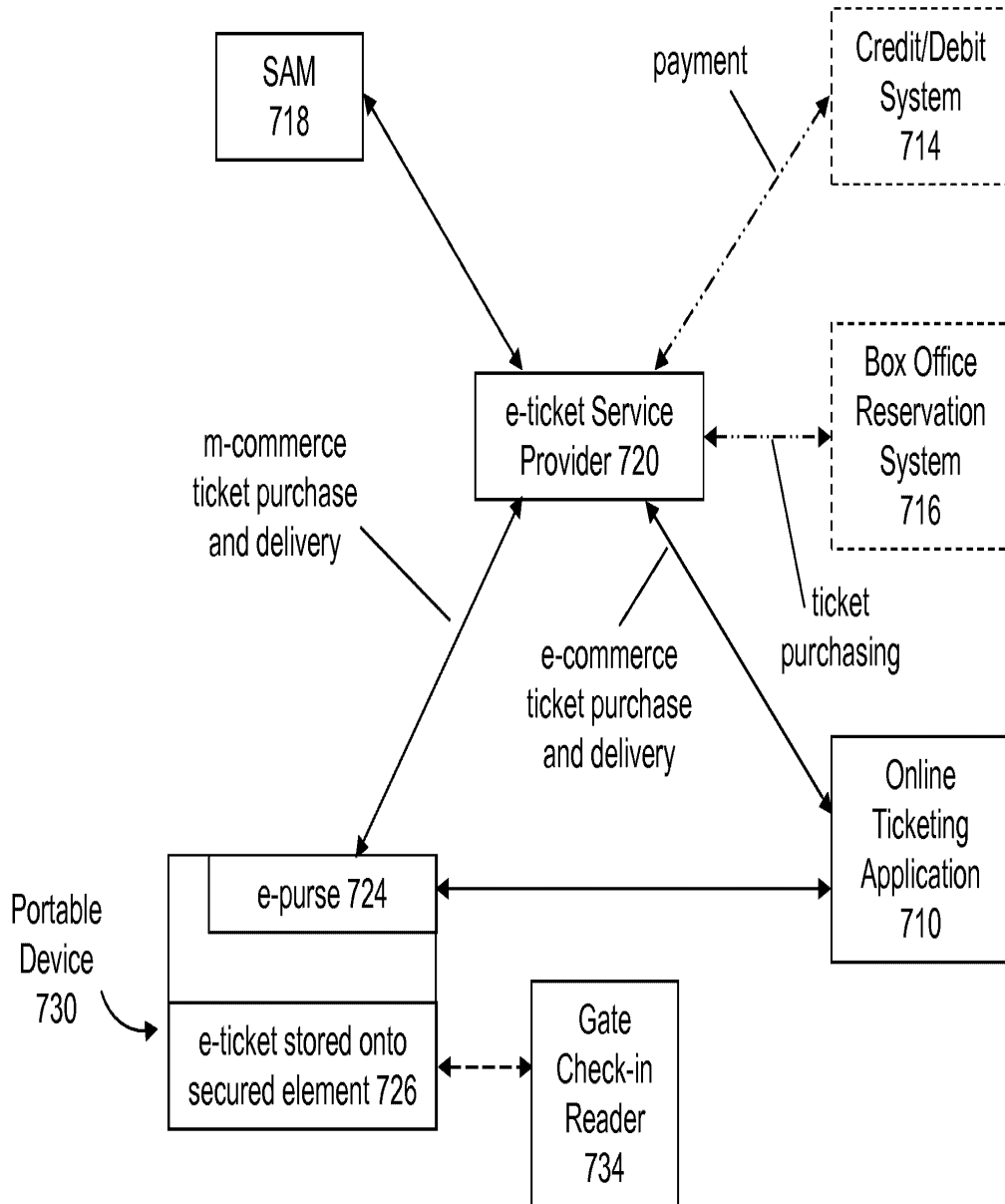
**FIG. 6B**



**FIG. 6C**



**FIG. 6D**



**FIG. 7**

**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875

Application or Docket Number  
14/728,349

**APPLICATION AS FILED - PART I**

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	20 minus 20 =	*
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

\* If the difference in column 1 is less than zero, enter "0" in column 2.

**SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	0.00
x 210 =	0.00
	0.00
	0.00
<b>TOTAL</b>	<b>730</b>

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
<b>TOTAL</b>	

**APPLICATION AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

**SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

**OR OTHER THAN SMALL ENTITY**

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
<b>TOTAL ADD'L FEE</b>	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".  
 The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY. DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/728,349, 06/02/2015, 2642, 730, RFID-085C1, 20, 3

CONFIRMATION NO. 5346

UPDATED FILING RECEIPT

26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015



Date Mailed: 06/26/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)

Xiangzhen Xie, Shenzhen, CHINA;
Liang Seng Koh, Fremont, CA;
Hsin Pan, Fremont, CA;

Applicant(s)

RFCyber Corporation, Fremont, CA;

Power of Attorney: The patent practitioners associated with Customer Number 26797

Domestic Priority data as claimed by applicant

This application is a CON of 13/853,937 03/29/2013 PAT 9047601
which claims benefit of 61/618,802 04/01/2012
and is a CIP of 13/350,832 01/16/2012
which is a CIP of 11/534,653 09/24/2006 PAT 8118218

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 06/10/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/728,349

Projected Publication Date: 10/01/2015

Non-Publication Request: No

Early Publication Request: No



**\*\* SMALL ENTITY \*\***

**Title**

Method and apparatus for mobile payments

**Preliminary Class**

455

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No**

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Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

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Table with 4 columns: APPLICATION NUMBER (14/728,349), FILING OR 371(C) DATE (06/02/2015), FIRST NAMED APPLICANT (Xiangzhen Xie), ATTY. DOCKET NO./TITLE (RFID-085C1)

CONFIRMATION NO. 5346

PUBLICATION NOTICE

26797
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015



Title:Method and apparatus for mobile payments

Publication No.US-2015-0278800-A1
Publication Date:10/01/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.


The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

<b>Index of Claims</b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

<b>CLAIMS</b>											
<input type="checkbox"/>		Claims renumbered in the same order as presented by applicant			<input type="checkbox"/>		CPA	<input type="checkbox"/>	T.D.	<input type="checkbox"/>	R.1.47
<b>CLAIM</b>		<b>DATE</b>									
Final	Original	09/21/2017									
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*	B	US-20100211504-A1	08-2010	Aabye; Christian	G06Q20/10	705/44
*	C	US-20130171929-A1	07-2013	ADAMS; NEIL PATRICK	H04W4/008	455/41.1
*	D	US-20120078792-A1	03-2012	Bacastow; Steven V.	G06Q20/3223	705/44
*	E	US-20130144731-A1	06-2013	Baldwin; Christopher F.	G06Q20/20	705/17
*	F	US-20130060618-A1	03-2013	Barton; Loren	G06Q20/3223	705/14.23
*	G	US-20110087610-A1	04-2011	Batada; Asif	G06F21/72	705/318
*	H	US-20090164330-A1	06-2009	Bishop; Fred A.	G06Q20/02	705/19
*	I	US-20090289106-A1	11-2009	Bishop; Fred	G06Q20/02	235/379
*	J	US-20130054413-A1	02-2013	Brendell; Brian	G06Q20/3276	705/26.41
*	K	US-20120304255-A1	11-2012	Carnes; Daniel Wilson	H04L9/3234	726/3
*	L	US-20130103574-A1	04-2013	Conrad; Abbe Elizabeth	G06Q20/36	705/39
*	M	US-8577731-B1	11-2013	Cope; Warren B.	G06Q20/3224	705/17

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	U	MasterCard International Incorporated, Partnering for performance with e-business solutions, Pg.8
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*	B	US-20080126260-A1	05-2008	Cox; Mark A.	G06Q20/20	705/67
*	C	US-20140095382-A1	04-2014	Desai; Mehul	G06Q20/322	705/41
*	D	US-20130246258-A1	09-2013	Dessert; Robert	G06Q20/40	705/41
*	E	US-20120290376-A1	11-2012	Dryer; Trevor D.	G06Q20/3278	705/14.23
*	F	US-20120239566-A1	09-2012	Everett; David	G06Q20/10	705/41
*	G	US-20130203345-A1	08-2013	Fisher; Michelle	H04B11/00	455/41.1
*	H	US-20110112968-A1	05-2011	FLOREK; Miroslav	G06Q20/20	705/50
*	I	US-20100274726-A1	10-2010	Florek; Miroslav	G06Q20/20	705/72
*	J	US-20100274677-A1	10-2010	Florek; Miroslav	G06Q20/10	705/16
*	K	US-20040127256-A1	07-2004	Goldthwaite, Scott	G06K7/0004	455/558
*	L	US-8565676-B2	10-2013	Gormley; Georgiana	H04B5/0012	455/214
*	M	US-20130140360-A1	06-2013	GRAYLIN; WILL W.	G06Q20/322	235/380

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*	C	US-20120072309-A1	03-2012	Hultberg; Stefan	G06Q20/32	705/26.41
*	D	US-8341083-B1	12-2012	Jain; Deepak	G06K19/07739	705/41
*	E	US-20130024383-A1	01-2013	Kannappan; Sasikumar	G06Q20/40	705/71
*	F	US-20110251952-A1	10-2011	Kelly; Mary L.	G06Q20/102	705/40
*	G	US-20130124349-A1	05-2013	Khan; Mohammad	G06Q20/36	705/21
*	H	US-20120116963-A1	05-2012	Klein; Charmaine	G06Q20/102	705/40
*	I	US-20130173736-A1	07-2013	KRZEMINSKI; Marek	H04W12/10	709/213
*	J	US-20140012751-A1	01-2014	Kuhn; Stephen	G06Q20/36	705/41
*	K	US-20130221092-A1	08-2013	Kushevsky; Mikhail	G06Q20/3672	235/379
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*	B	US-20130160134-A1	06-2013	MARCOVECCHIO; Vincenzo Kazimierz	G06Q20/3563	726/26
*	C	US-20130198086-A1	08-2013	Mardikar; Upendra	G06Q20/1085	705/71
*	D	US-20090307140-A1	12-2009	Mardikar; Upendra	G06Q20/1085	705/71
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*	F	US-20110155800-A1	06-2011	Mastrangelo; Edward L.F.	G06Q20/352	235/379
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*	H	US-20130218766-A1	08-2013	Mueller; Michael	G06Q20/32	705/42
*	I	US-20110180610-A1	07-2011	Narendra; Siva G.	G06K19/0701	235/492
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*	B	US-20110117839-A1	05-2011	Rhelimi; Alain	G06K19/0719	455/41.1
*	C	US-20130060699-A1	03-2013	Romagnoli; Amy Sobocinski	G06Q20/10	705/44
*	D	US-20120136786-A1	05-2012	Romagnoli; Amy Sobocinski	G06Q20/10	705/44
*	E	US-7962369-B2	06-2011	Rosenberg; Einar	G06Q20/20	705/26.1
*	F	US-20130254102-A1	09-2013	Royyuru; Vijay Kumar	G06Q20/382	705/39
*	G	US-20130097031-A1	04-2013	Royyuru; Vijay Kumar	G06Q20/20	705/16
*	H	US-20130152185-A1	06-2013	Singh; Ravi	G06F21/35	726/9
*	I	US-20100114773-A1	05-2010	Skowronek; Daniel P.	G06Q20/40	705/44
*	J	US-20130097080-A1	04-2013	Smets; Patrik	H04N19/85	705/44
*	K	US-20130200999-A1	08-2013	Spodak; Douglas A.	G05B1/01	340/5.65
*	L	US-20100306076-A1	12-2010	Taveau; Sebastien	G06Q20/02	705/26.8
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**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20130151292-A1	06-2013	Van Deloo; Lori	G06Q10/02	705/5
*	B	US-20120166333-A1	06-2012	von Behren; Rob	G06Q20/10	705/41
*	C	US-8646059-B1	02-2014	von Behren; Rob	G06Q20/367	719/311
*	D	US-8196131-B1	06-2012	von Behren; Rob	G06Q20/367	705/64
*	E	US-20130334318-A1	12-2013	Wakerly; Michael John	G06Q20/352	235/492
*	F	US-20100213253-A1	08-2010	Wollbrand; Karin	G06K19/07769	235/380
*	G	US-20120317628-A1	12-2012	Yeager; C. Douglas	G06Q20/204	726/5
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**FOREIGN PATENT DOCUMENTS**

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## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	758	(electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:44
S2	138	S1 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S3	137	S2 and (app or application or applet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S4	86	S3 and PIN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S5	43	S4 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S6	3	((("20130124351") or ("20080011833")) or ("20130132219")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/04/22 17:49
S7	156	(mobile or portable or wireless) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 16:54
S8	34	(mobile or portable or wireless) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/04/23 16:54

IPR2022-01239

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			DERWENT; IBM_TDB			
S9	0	(smartcard) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S10	2	(smartcard) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S11	0	(smartcard) near ("transaction terminal") and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S12	76	(smartcard) near NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S13	40	S12 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:06
S14	98	("smart card" or "chip card" or EMV) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:11
S15	38	(contactless) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:17
S16	217	(contactless) near (POS or payment or transaction) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S17	217	((contactless) near (POS or payment or transaction)) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/24 10:18

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S18	165	S17 and (provision\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S19	124	S18 and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S20	58	S17 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:30
S21	139	((contactless or NFC) near (POS or payment or transaction)) and (send\$4 or transmit\$4) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S22	59	S21 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S23	64	(wireless or mobile) near POS and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 21:46
S24	4	POS near (contactless near (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:10
S25	1838	POS near ( (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S26	100	S25 and (contactless near (transaction	US-PGPUB;	OR	ON	2014/04/25

		or payment))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			22:11
S27	16	(portable) near POS and ((nfc or contactless) near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 20:39
S28	17	folio and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:33
S29	0	(restaurant near folio) and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:37
S30	273	(restaurant or table) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S31	165	S30 and provision\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S32	55	S31 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:39
S33	32	proximity near mobile near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:46
S34	403	(mobile near (transaction or payment)) and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/04/26 21:58

			IBM_TDB			
S35	29	(mobile near (transaction or payment)) with (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:59
S36	0	(smartcard-smartcard) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S37	9	(mobile near phone) with (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S38	2	(mobile near phone) near (transaction or payment) and (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:27
S39	0	(mobile near phone) near (transaction or payment) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:28
S40	9	(mobile near phone) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:29
S41	67	(person-person) or (peer-peer) and (smartcard near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:35
S42	4	(smartcard or chipcard) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:48
S43	9	(nfc) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/04/26 22:49

			EPO; JPO; DERWENT; IBM_TDB			
S44	0	proximity near smartcard near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:59
S45	3	"20130124351"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:04
S46	54	(portable or mobile or slim or wireless) near (POS or "transaction terminal") and (nfc or emv or smartcard) near (reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:14
S47	67	(portable or mobile or slim or wireless) near (nfc or emv or smartcard) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:17
S48	123	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:25
S49	0	(portable or mobile or slim or wireless) near (rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 07:22
S50	99	(rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:18
S51	598	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:19
S52	104	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or	US-PGPUB; USPAT;	OR	ON	2014/04/29 09:21



		contactless) near (device or terminal) and (mobile or wireless or cellular) near (payment or transaction)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S53	11	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (digital or electronic) near (bill or invoice or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:28
S54	6	(portable or mobile or wireless) near (contactless) near (transaction or payment) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:32
S55	0	S51 and (person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S56	5	(person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S57	0	("peer to peer") near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S58	1128	(peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S59	133	S58 and (nfc or emv or smartcard or contactless) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S60	10	S59 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:49

S61	550	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal or scanner)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S62	1	S61 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S63	0	("2013/0221092").URPN.	USPAT	OR	ON	2014/04/29 11:16
S64	229	(mobile or cellular near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S65	180	(( mobile or cellular) near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S66	1	S65 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:28
S67	46	S65 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:29
S68	1776	(electronic near (transaction or payment) near card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S69	397	S68 and (nfc or emv or smartcard or contactless)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S70	49	S69 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/29 11:32

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S71	3	"20130024383"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 07:06
S72	3	"20130132219"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:14
S73	258	TSM with (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S74	161	S73 and (nfc or emv or smartcard or chipcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S75	14	S74 and SAM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S76	147	S74 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S77	2	"20130218766"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 11:58
S78	41	(TSM or "trusted service") and (transaction or payment) near sett\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:56
S79	3	13/245498	US-PGPUB;	OR	ON	2014/05/02

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:59
S80	531	provision\$4 near (POS or merchant or vendor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:07
S81	3	S80 and (TSM or "trusted service") and (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:08
S82	2	12/563444	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:16
S83	27	(TSM or "trusted service") and (transaction or payment) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:45
S84	5	(TSM or "trusted service") and (purchase) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:55
S85	88	(TSM or "trusted service") and (verif\$4 or confirm\$4) near (purchase or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:56
S86	34	S85 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:58
S87	393	(TSM or "trusted service") and (purchase or transaction) near (process\$4 or settl\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/05/04 12:17

			IBM_TDB			
S88	152	S87 and (smartcard or chipcard or nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S89	131	S88 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S90	58	S89 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S91	19	S89 and (SAM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S92	2230	(electronic near (purse or wallet)) and (payment or transaction) near (settl\$4 or process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:42
S93	41	S92 and (TSM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:43
S94	59	(mobile near nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/10 17:20
S95	415	(smartcard or chipcard ) and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:04
S96	54	S95 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/05/11 15:05

			EPO; JPO; DERWENT; IBM_TDB			
S97	53	S96 and (provisioning or personal\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S98	25	S96 and (provisioning or personaliz\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S99	78	(smartcard or chipcard ) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S100	42	S99 and (payment near process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S101	248	(nfc with (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:13
S102	78	S101 and (mobile near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:14
S103	25	(nfc with mobile near (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:49
S104	0	(secure near element) and (mobile near (billing or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S105	549	(secure near element) and ((billing or invoic\$4))	US-PGPUB; USPAT;	OR	ON	2014/05/13 22:52

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S106	83	S105 and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:53
S107	41	(smartcard or chipcard ) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:07
S108	0	(nfc near (transaction or payment)) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S109	175	(nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S110	0	(secure adj element) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S111	107	(secure adj element) and ((transmit\$4 or receiv\$4) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S112	2	S111 and (nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S113	2	S111 and (nfc near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10

S114	106	(nfc near (transaction or payment)) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S115	15	S114 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S116	589	(smartcard or chipcard or emv) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S117	0	S116 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S118	246	S116 and trusted	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S119	27	S116 and trusted near service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S120	55	(smartcard or chipcard or emv) with ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:14
S121	15	"security authentication module" and (electronic or virtual) near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/15 14:36
S122	10	"security authentication module" and (mobile near (purchase or payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/05/15 14:47



			DERWENT; IBM_TDB			
S123	66	(personal\$4) near (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 14:59
S124	21	S123 and (identif\$4 near issuer)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 15:00
S125	2	"20120290376"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 16:15
S126	1	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (device or element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:16
S127	0	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:17
S128	4	((identif\$4 or match\$4 or locat\$4) near issuer) same ((secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:18
S129	1	(mobile-mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S130	30	(mobile adj mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S131	1	S130 and (secure adj element)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/10/03 14:41

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S132	1102	(smartcard or chipcard ) and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S133	1	S132 and (personal\$4 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S134	97	S132 and (personal\$6near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S135	1	S132 and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S136	11	(Fund adj transfer) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:56
S137	137	("20010011250"   "20010021927"   "20010027441"   "20010039657"   "20020004783"   "20020042776"   "20020068554"   "20020194138"   "20030023954"   "20030074579"   "20030140176"   "20040029569"   "20040030601"   "20040123152"   "20040128259"   "20040140351"   "20050001711"   "20050071418"   "20050091659"   "20050102679"   "20050149926"   "20050184163"   "20050184164"   "20050184165"   "20050188360"   "20050193218"   "20050222961"   "20060036570"   "20060041507"   "20060126831"   "20060165060"   "20060219774"   "20070067325"   "20070090195"   "20070135164"   "20070169043"   "20070226786"   "20080056501"   "20080073426"   "20080130902"   "20080162834"   "20080167988"   "20080208681"   "20080208762"   "20080270253"   "20090158028"	US-PGPUB; USPAT; USOCR	OR	ON	2014/10/09 15:57

		"20090239512"   "20090261172"   "20090307142"   "20090312011"   "20100012732"   "20100042824"   "20100050271"   "20100058463"   "20100063893"   "20100088237"   "20100114731"   "20100131413"   "20100138518"   "20100203870"   "20100205432"   "20100207742"   "20100211507"   "20100250956"   "20100291896"   "20100291904"   "20100306076"   "20100306107"   "20100306531"   "20100323681"   "20100330958"   "20110016275"   "20110029671"   "20110072425"   "20110078081"   "20110087610"   "20110113473"   "20110131421"   "20120009873"   "20120129452"   "4851653"   "5221838"   "5991399"   "6005942"   "6092201"   "6101477"   "6141752"   "6151657"   "6230267"   "6233683"   "6402028"   "6434238"   "6484174"   "6601761"   "6609113"   "6633984"   "6647260"   "6792536").PN. OR ("6823520"   "6907608"   "6922835"   "6963270"   "7093122"   "7140549"   "7152782"   "7159180"   "7165727"   "7191288"   "7206769"   "7232073"   "7243853"   "7275685"   "7346170"   "7349885"   "7353396"   "7360691"   "7374099"   "7382762"   "7395535"   "7469151"   "7478389"   "7502946"   "7607175"   "7631346"   "7631810"   "7708198"   "7712658"   "7739731"   "7860486"   "7967215"   "8120460"   "8126806"   "8150767"   "8171137").PN. OR ("8429409").URPN.				
S138	0	contactless near (Fund adj transfer) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S139	0	contactless near (Fund adj transfer\$4) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S140	11	(Fund adj transfer\$4) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:00
S141	9	S132 and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/10/09 16:02

			DERWENT; IBM_TDB			
S142	8	(contactless near (transaction or payment)) and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:03
S143	580	(contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S144	9	mobile adj (contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S145	5	(contactless) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:06
S146	1	(contactless near (transaction or payment)) and (virtual near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:08
S147	0	(contactless near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:09
S148	0	(EMV near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:12
S149	1	(EMV near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S150	41	(EMV near (transaction or payment)) and ((bill or invoice))	US-PGPUB; USPAT; USOCR;	OR	ON	2014/10/09 16:13

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S151	56	((EMV or chipcard or smartcard) near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S152	64	((contactless) near (transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:17
S153	62	((contactless) near (transaction or payment)) and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:53
S154	6410	((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:54
S155	2	"20130151400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:03
S156	0	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S157	73	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S158	0	S157 and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S159	0	S157 and ((digital or electronic or	US-PGPUB;	OR	ON	2014/10/09

		paperless) near (bill or invoice))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			17:05
S181	215	(contactless or NFC or wireless or proximity) adj (billing or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:36
S182	8	S181 and (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:39
S183	52	(contactless or NFC or wireless or proximity) adj (payment or transaction or purchase) and (electronic adj (invoic\$4 or billing))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:41
S184	886	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 18:00
S185	32	S184 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:01
S186	648	POS adj card	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S187	7	S186 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S188	1	cashless adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/18 18:31

			IBM_TDB			
S189	2	cashless near POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S190	283	cashless same POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S191	2	S190 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:35
S192	17804	(SIM) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S193	564	(SIM adj card) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S194	9	(SIM adj card) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S195	11	("20010056398"   "20020097715"   "20020120537"   "20030060246"   "20070295803"   "20100030634"   "20100161478"   "6598028"   "7540408"   "7603312"   "8281991").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:15
S196	2	(card-to-card) near payment	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:17
S197	48	POS and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:18
S198	3936	(mobile or m) adj POS	US-PGPUB;	OR	ON	2017/09/18

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:49
S199	4	S198 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S200	16	S198 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S201	114	S198 and (contactless or NFC or wireless or proximity) adj (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 20:54
S202	109	S198 and (SIM adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S203	114	S198 and ((nfc or contactless or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S204	8	S203 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:56
S205	234	merchant adj wallet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:58
S206	51	merchant adj (mobile adj wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/18 20:58



			IBM_TDB			
S207	222	((mobile or m) adj POS) and ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S208	69	((mobile or m) adj POS) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S209	1545	((payment or transaction) adj terminal) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S210	0	S209 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S211	21	S209 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S212	91	((peer-to-peer) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:20
S213	58	S212 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:21
S214	0	((peer-to-peer) adj (POS)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:22
S215	1	((peer-to-peer) adj (POS))	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/18 21:22

			EPO; JPO; DERWENT; IBM_TDB			
S216	4	("20070233554"   "20100227553"   "20120092137"   "8229354").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 21:23
S217	1	(POS near emulat\$4) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:24
S218	56	(POS near application) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:08
S219	11745	POS and SOC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:09
S220	2680	POS and (system near chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S221	366	POS and (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S222	12	POS same (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S223	47	((touch or tap) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:13
S224	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/09/19 09:21

			IBM_TDB			
S225	174	S224 and (electronic or digital) adj (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:22
S227	11	S224 and (e-bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:23
S228	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S229	5	S228 and (electronic or digital) adj (statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S230	887	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:17
S231	31	S230 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:18
S232	3518	(POS) and ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S233	282	S232 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S234	92	S233 and (contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/19 12:23

			EPO; JPO; DERWENT; IBM_TDB			
S235	25	(POS) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:25
S236	189	(merchant) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:53
S237	4	"20070131780"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 16:42
S238	15	("2007/0131780").URPN.	USPAT	OR	OFF	2017/09/19 16:43
S239	184	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) and ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:33
S240	59	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) same ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:34
S241	4	("2003023080").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:17
S242	2	("20040127256").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:20
S243	1	(mobile or portable) adj POS and ((contactless or nfc or proximity) adj (adapter))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:21

S244	294	("2004/0127256").URPN.	USPAT	OR	OFF	2017/09/19 18:22
S245	0	(10/625823).APP.	USPAT; USOCR	OR	OFF	2017/09/19 18:25
S246	95	POS near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 07:00
S247	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 08:39
S248	1145	POS same (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:05
S249	44	S248 and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:23
S250	76	S248 and ((merchant or vendor) near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S251	67	S248 and ((merchant or vendor) adj (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S252	256	virtual adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06
S253	14	S252 and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06

S254	7	S252 and (emv) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:37
S255	3	emv adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:38
S256	0	"201000274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S257	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S258	203	(contactless or proximity or RFID) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S259	0	(NFC) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S260	7	S258 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S261	16	(NFC) near (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S262	0	(smartcard) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/25 17:10

			DERWENT; IBM_TDB			
S263	0	S258 and (transaction or payment) adj terminal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:12
S264	6563	((customer or client) adj side) and ((payment or transaction) adj process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:07
S265	87	S264 and (electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:07
S266	34	(merchant-to-person)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:17
S267	3	(person-to-merchant) and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S268	0	(person-to-merchant) and (nfc) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S269	23	(person-to-merchant) and (nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S270	618	(contactless or proximity or RFID) adj (payment or transaction) same (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S271	1	S270 and (security adj element)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/09/25 21:22

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S272	243	S270 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S273	4	S272 and (electronic or digital or e) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:23
S274	0	S272 and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S275	5	(contactless or proximity or RFID or nfc) adj (payment or transaction) and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S276	78	(contactless or proximity or RFID or nfc) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:25
S277	11	(person-to-merchant) and ((smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S278	12	(person-to-merchant) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S279	930	(person-to-person) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S280	443	S279 and POS	US-PGPUB;	OR	OFF	2017/09/25



			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:27
S281	121	S280 and (transmit\$4 or send\$4) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S282	15	(person-to-person) same ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S283	82	S281 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S284	41	S281 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S285	72	business-to-consumer and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:32
S286	12	S285 and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:32
S287	5	card-to-card and (nfc or contactless or RFID or proximity or wireless) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:34
S288	7	card-to-card and (nfc or contactless or RFID or proximity or wireless) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/25 21:34

			IBM_TDB			
S289	203	(contactless or proximity or RFID or nfc) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S290	0	(card-to-card) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S291	45	(card-to-card) same (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S292	0	S289 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 22:09
S293	148	(client-side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S294	1	S293 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S295	0	S293 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S296	212	(client adj side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S297	6	S296 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/10/04 23:36

			EPO; JPO; DERWENT; IBM_TDB			
S298	2	S296 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S299	358	(closed-loop adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S300	1	S299 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S301	0	S300 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S302	6	"20100114773"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 08:56
S303	459	(proximity or contactless or smartcard) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:06
S304	91	S303 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:07
S305	535	(mobile or virtual) adj (wallet or purse) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:54
S306	339	S305 and POS	US-PGPUB; USPAT;	OR	OFF	2017/10/05 12:55

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S307	179	S306 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S308	83	S307 and (smart adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S309	4	"20140187153"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 13:12
S310	271	(smartcard) and (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:37
S311	53	(smartcard) with (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S312	182	S310 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S313	51	S311 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:39
S314	1265	(electronic or digital) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40

S315	1267	(electronic or digital or virtual) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S316	99209	nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S317	66	S315 and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S318	90	S315 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 21:04
S319	1372	(electronic or virtual or digital) adj (bill or invoice) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:06
S320	50	S319 and (wireless or contactless or nfc or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:12
S321	376	(electronic or virtual or digital) adj (check) and (nfc or wireless or contactless or proximity) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S322	376	(electronic or virtual or digital) adj (check) and ((nfc or wireless or contactless or proximity) adj (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S323	207	S322 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2017/10/06 06:16

			DERWENT; IBM_TDB			
S324	79	S323 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S325	6	"20140143104"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/09 07:10
S326	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 08:38
S327	4	((("20090170559") or ("20120191612")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:46
S328	0	5748737/pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S329	4	"5748737".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S330	13595	(electronic or digital or virtual) adj (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S331	1082	S330 and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S332	732	S331 and POS	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/10/09 11:50

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S333	87	S332 and (electronic or digital or virtual) adj (bill or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S334	25	(electronic or digital or virtual) adj (bill or invoic\$4) adj (payment) and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:54
S335	0	(nfc or contactless or proximity) adj (bill or invoic\$4) adj (payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 06:09
S336	139452	restaurant brands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S337	0	restaurantbrands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01

**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S160	1647	705/21	USPAT	OR	ON	2015/03/26 16:56
S161	75	S160 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:57
S162	25	S161 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:57
S163	0	S162 and TSM	USPAT	OR	ON	2015/03/26 16:58
S164	16	S162 and S161 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S165	16	S162 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S166	0	S165 and TSM	USPAT	OR	ON	2015/03/26 16:58
S167	483	705/14.23	USPAT	OR	ON	2015/03/26

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						16:58
S168	10	S167 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:58
S169	0	S168 and TSM	USPAT	OR	ON	2015/03/26 16:58
S170	3229	705/41	USPAT	OR	ON	2015/03/26 16:58
S171	259	S170 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:59
S172	114	S171 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:59
S173	75	S172 and provision\$4	USPAT	OR	ON	2015/03/26 16:59
S174	0	S173 and TSM	USPAT	OR	ON	2015/03/26 16:59
S175	0	S173 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S176	0	S171 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S177	8994	705/39	USPAT	OR	ON	2015/03/26 17:00
S178	743	S177 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 17:00
S179	206	S178 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 17:00
S180	1	S179 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00

**10/10/2017 6:58:50 PM**

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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Xiangzhen Xie and examiner HAYLES, ASHFORD S.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@sbcglobal.net

**Office Action Summary**

<b>Application No.</b> 14/728,349	<b>Applicant(s)</b> Xie et al.	
<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687	<b>AIA Status</b> No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 6/2/2015  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims\***

- 5)  Claim(s) 1-20 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6)  Claim(s) \_\_\_\_\_ is/are allowed.
- 7)  Claim(s) 1-20 is/are rejected.
- 8)  Claim(s) \_\_\_\_\_ is/are objected to.
- 9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

**Application Papers**

- 10)  The specification is objected to by the Examiner.
- 11)  The drawing(s) filed on 23 June 2015 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
**Certified copies:**

- a)  All      b)  Some\*\*      c)  None of the:
  - 1.  Certified copies of the priority documents have been received.
  - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
  - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)  
Paper No(s)/Mail Date \_\_\_\_\_ .
- 3)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_ .
- 4)  Other: \_\_\_\_\_ .

**DETAILED CORRESPONDENCE**

1. This communication is a first Office Action Non-Final rejection on the merits. Claims 1-20 as originally filed are currently pending and are considered below.

***Notice of Pre-AIA or AIA Status***

2. The present application is being examined under the pre-AIA first to invent provisions.

***Drawings***

3. The drawings were received on June 13, 2015 and June 23 2015. These drawings are sufficient.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**4. Claim(s) 1 and 12 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Mullen et al. U.S. 2012/029472.**

**As per Claim 1**, Mullen et al. discloses a method for mobile payment, the method comprising:  
causing a mobile device to receive an electronic invoice from a point of sale (POS) device (pg.13, ¶ [0155] discusses a merchant may send a message (e.g., an email or text message) to the user-supplied address that may contain a link to the user's bill),

wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice (pg.13, ¶ [0158] discusses a payment application installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

displaying the electronic invoice on a display screen of the mobile device for a user to verify the payment request (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data (e.g., add a tip to the bill). A user may, for example, review a total to be charged, verify such a total, and then present payment card 2504 to mobile device 2502 to settle the total amount);

processing the payment request in the mobile device (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement); and

notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server) and may further request that the payment server deliver a receipt to the mobile device in a text message format).

**As per Claim 12**, Mullen et al. discloses a method for mobile payment, the method comprising: generating an electronic invoice in a point of sale (POS) device (pg.13, ¶ [0154] discusses Mobile device 2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant);

transporting the electronic invoice to a mobile device by causing the mobile device to read off data pertaining to the electronic invoice from the POS device (pg.13, ¶ [0155] discusses a merchant may send a message (e.g., an email or text message) to the user-supplied address that may contain a link to the user's bill),

wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice (pg.13, ¶ [0158] discusses a payment application installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

receiving a notification from a payment gateway that the electronic invoice has been settled (pg.9, ¶ [0116] discusses a mobile device may also provide a text message address (e.g., an SMS text

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message address) to the payment server. In so doing, for example, the mobile device may receive a receipt of the completed purchase transaction from the payment server via a text message at the text message address provided by the mobile device),

wherein a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice (pg.13, ¶ [0154] discusses a user may monitor each item on the bill, enter an additional amount into the bill (e.g., a tip), and then pay the bill all from the convenience of the user's mobile device 2502).

***Claim Rejections - 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 2, 4, 5, 7-9, 11-13, 16-18 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. US 2012/0290472 in view of Dryer et al. US2012/0290376.**

**As per Claim 2**, Mullen et al. discloses the method as recited in claim 1. However, Mullen et al. is silent regarding wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device.

Dryer et al. teaches wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips

or cards 119, 129, which are utilized to establish a NFC connection with each other when they are brought together or sufficiently close to each other, ¶ [0045] discusses the merchant generating invoice, receipt or transaction data using electronic payment device for purchase of item by the consumer from the merchant).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant POS with a NFC transaction card as taught by Dryer et al. to provide a system and method where Authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 4**, Mullen et al. discloses the method as recited in claim 1, wherein said displaying the electronic invoice on a display screen of the mobile device comprises:

causing the user to verify an amount in the electronic invoice and make a change to the amount when needed (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data, e.g. add a tip to the bill).;

paying the amount with a chosen instrument, wherein the chosen instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer (pg.6, ¶ [0086] discusses GUI 500 may be generated to allow a user an opportunity to select which payment option (e.g., credit option 502) from a number of payment options is to be used to settle a payment transaction, pg.9, ¶ [0111] discusses a user may elect to charge \$10 against a VISA credit account, \$35 against a MIC debit account, and 500 rewards points earned by the VISA credit account towards full payment of a \$50 amount owing for a particular selected purchase).



**As per Claim 5**, Mullen et al. discloses the method as recited in claim 1. However, Mullen et al. is silent regarding a method wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises causing the mobile device to execute an installed module upon detecting a contactless card in a near field of the mobile device, wherein the installed module is configured to read off data pertaining to the electronic bill from the contactless card.

Dryer et al. teaches wherein the POS device includes a contactless card loaded with the electronic invoice (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips or cards 119, 129, ¶ [0046] discusses the payment application 123 executing on the electronic payment device 120 generates an authorization token 170<sup>1</sup>.),

and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises causing the mobile device to execute an installed module upon detecting a contactless card in a near field of the mobile device (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other,

wherein the installed module is configured to read off data pertaining to the electronic bill from the contactless card, (pg.5 ¶ [0054] discusses the payment application 123 executing on the electronic payment device 120 or the mobile wallet application 113 executing on the mobile communication device 110 transforms or encodes the merchant-generated authorization token. The encoded authorization token 170 may embody or be encoded with transaction data 122, and may be decoded by the cloud wallet server 140 using an appropriate key or decoding mechanism. The ability to encode and

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<sup>1</sup> Examiner is construing authorization token as an electronic invoice because the token includes invoice amount and transaction data.

decode the authorization data provides for more flexibility and inclusion of additional information associated with the merchant 125 and/ or transaction to ensure that the credit card data 147 to be utilized is utilized for payment is for the correct amount, e.g., if the invoice or receipt amount 122 is encoded within or transmitted with the authorization token 170, and that the payment request is for a particular merchant 125 for that specified amount).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to receive transaction data from a merchant in order to process a mobile payment as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 7**, Mullen et al. discloses the method as recited in claim 6, wherein said processing the payment request in the mobile device:

transporting the payment request to a payment gateway (pg.13, ¶ [0149] discusses mobile device 2302 may customize a payment message to remote application 2308 that includes only the filtered subset of data that is needed by remote application 2308 to complete the purchase transaction),

where the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user (pg.11, ¶ [0137] discusses enable a funds transfer from a source account (e.g., an account associated with a payment card that is tapped against a display of a mobile device) to a target account (e.g., a car loan account). Portion 2002 may, for example, list account details that may be associated with a target account (e.g., an account number associated with a car loan, the payoff amount, and the amount due). Portion 2002 may, for example, include details that may be associated with a target account that a mobile device has collected

from a network entity (e.g., a bank) via a network connection between the mobile device and the network entity).

Mullen discloses the claimed invention except for a secure channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to send data to a payment gateway using a secure channel since it was known in the art that payment gateways such as VISA and MasterCard require SET protocols to communicate data when conducting transactions over the Internet<sup>2</sup>.

However, Mullen et al. is silent regarding generating a notification to be sent to the registered user associated with the POS device.

Dryer et al. teaches generating a notification to be sent to the registered user associated with the POS device (pg.5, ¶ [0043] discusses sends the associated credit card data 147 to the payment processor computer 130 at 208, which then processes electronic transaction, updates merchant account 132 and notifies merchant 125 as necessary at 210).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 8**, Mullen et al. discloses the method as recited in claim 7, wherein said displaying the electronic invoice on a display screen of the mobile device comprises:

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<sup>2</sup> *Partnering for Performance with MasterCard e-Business Solutions*, pg.8, MasterCard International Incorporated 2001.

causing the user to verify an amount in the electronic invoice and make a change to the amount when needed (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data (e.g., add a tip to the bill). A user may, for example, review a total to be charged, verify such a total, and then present payment card 2504 to mobile device 2502 to settle the total amount);

paying the amount with an electronic payment provided by an installed module in the mobile device (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement),

wherein the installed module in the mobile device is configured to generate a payment request including the data pertaining to the electronic invoice to a payment gateway for processing (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement).

**As per Claim 9**, Mullen et al. discloses the method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway (pg.10, ¶ [0128] discusses a mobile device may communicate payment information to a payment server to complete a purchase transaction)

Mullen discloses the claimed invention except for a secure channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to send data to a payment gateway using a secure channel since it was known in the art that payment gateways such as VISA and MasterCard require SET protocols to communicate data when conducting transactions over the Internet<sup>3</sup>.

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<sup>3</sup> *Partnering for Performance with MasterCard e-Business Solutions*, pg.8, MasterCard International Incorporated 2001.

Dryer et al. teaches (pg.6, ¶ [0052] discusses based at least in part upon data 122 received from merchant 125 (if merchant specifies types of payment) and electronic payment option data 147 stored locally on mobile communication device 110 indicating which credit cards can be used), the Examiner is construing the ability to specify types of payment sent along with the transaction data, as using the secured channel established by the security information in the data pertaining to the electronic invoice, because the cited portion of Dryer describes the received transaction data having invoice amount and payment type e.g. MasterCard. In, the instant case, MasterCard would require that Internet and online payments use SET secure electronic transaction protocol to move messages securely over the Internet.

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide payment specific instructions when delivering transaction data to a mobile device to carry out a mobile transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 11**, Mullen et al. discloses the method of the claimed invention, wherein said notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server) and may further request that the payment server deliver a receipt to the mobile device in a text message format).

However, Mullen et al. is silent regarding sending a notification of successful payment to the registered user of the POS device.

Dryer et al. teaches sending a notification of successful payment to the registered user of the POS device (pg.5, ¶ [0043] discusses sends the associated credit card data 147 to the payment processor

computer 130 at 208, which then processes electronic transaction, updates merchant account 132 and notifies merchant 125 as necessary at 210).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 13**, Mullen et al. discloses the method as recited in claim 12. However, Mullen et al. is silent regarding wherein the POS device includes a contactless card loaded with the electronic invoice, and the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device.

Dryer et al. teaches wherein the POS device includes a contactless card loaded with the electronic invoice (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips or cards 119, 129, ¶ [0046] discusses the payment application 123 executing on the electronic payment device 120 generates an authorization token 170<sup>4</sup>), and

the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other).

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<sup>4</sup> Examiner is construing authorization token as an electronic invoice because the token includes invoice amount and transaction data.

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant POS with a NFC transaction card as taught by Dryer et al. to provide a system and method where Authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 16**, Mullen et al. discloses the method of the claimed invention. However, Mullen et al. is silent regarding wherein the registered user receives a notification that the electronic invoice has been settled via the mobile device.

Dryer et al. teaches wherein the registered user receives a notification that the electronic invoice has been settled via the mobile device (pg.5, ¶ [0043] discusses sends the associated credit card data 147 to the payment processor computer 130 at 208, which then processes electronic transaction, updates merchant account 132 and notifies merchant 125 as necessary at 210).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 17**, Mullen et al. discloses the method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway (pg.10, ¶ [0128] discusses a mobile device may communicate payment information to a payment server to complete a purchase transaction)

Mullen discloses the claimed invention except for a secure channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to send data to a payment gateway using a secure channel since it was known in the art that payment gateways such as VISA and MasterCard require SET protocols to communicate data when conducting transactions over the Internet<sup>5</sup>.

Dryer et al. teaches (pg.6, ¶ [0052] discusses based at least in part upon data 122 received from merchant 125 (if merchant specifies types of payment) and electronic payment option data 147 stored locally on mobile communication device 110 indicating which credit cards can be used), the Examiner is construing the ability to specify types of payment sent along with the transaction data, as using the secured channel established by the security information in the data pertaining to the electronic invoice, because the cited portion of Dryer describes the received transaction data having invoice amount and payment type e.g. MasterCard. In, the instant case, MasterCard would require that Internet and online payments use SET secure electronic transaction protocol to move messages securely over the Internet.

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide payment specific instructions when delivering transaction data to a mobile device to carry out a mobile transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 18**, Mullen et al. discloses a system for mobile payment, the system comprising:  
after a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice (pg.13, ¶ [0158] discusses a payment application

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<sup>5</sup> *Partnering for Performance with MasterCard e-Business Solutions*, pg.8, MasterCard International Incorporated 2001.



installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

the mobile device is configured to establish a communication session with the payment gateway to proceed with the payment to the electronic invoice (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server).

Mullen discloses the claimed invention except for a secure channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to send data to a payment gateway using a secure channel since it was known in the art that payment gateways such as VISA and MasterCard require SET protocols to communicate data when conducting transactions over the Internet<sup>6</sup>.

Dryer et al. teaches a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry (pg.5, ¶ [0045] discusses the merchant generating invoice, receipt or transaction data using electronic payment device for purchase of item by the consumer from the merchant);

a contactless card loaded with the electronic invoice (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips or cards 119, 129, ¶ [0046] discusses the payment application 123 executing on the electronic payment device 120 generates an authorization token 170<sup>7</sup>.),

wherein the contactless card is placed in a near field of a mobile device configured to execute an installed application therein to read off data communicate with the POS device to generate a payment

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<sup>6</sup> *Partnering for Performance with MasterCard e-Business Solutions*, pg.8, MasterCard International Incorporated 2001.

<sup>7</sup> Examiner is construing authorization token as an electronic invoice because the token includes invoice amount and transaction data.

request in response to the electronic invoice (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other, pg.5 ¶ [0054] discusses the payment application 123 executing on the electronic payment device 120 or the mobile wallet application 113 executing on the mobile communication device 110 transforms or encodes the merchant-generated authorization token. The encoded authorization token 170 may embody or be encoded with transaction data 122, and may be decoded by the cloud wallet server 140 using an appropriate key or decoding mechanism. The ability to encode and decode the authorization data provides for more flexibility and inclusion of additional information associated with the merchant 125 and/ or transaction to ensure that the credit card data 147 to be utilized is utilized for payment is for the correct amount, e.g., if the invoice or receipt amount 122 is encoded within or transmitted with the authorization token 170, and that the payment request is for a particular merchant 125 for that specified amount),

wherein the POS device receives a notification from a payment gateway that the electronic invoice has been settled (pg.5, ¶ [0043] discusses sends the associated credit card data 147 to the payment processor computer 130 at 208, which then processes electronic transaction, updates merchant account 132 and notifies merchant 125 as necessary at 210).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**6. Claims 3, 6, 10, 14, 15 and 19-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. US 2012/0290472 in view of Dryer et al. US2012/0290376 further in view of Florek et al. 2011/0112968.**

**As per Claims 3 and 14**, Mullen et al. and Dryer et al. discloses the method of the claimed invention. However, Mullen et al. and Dryer et al. are silent regarding wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and a payment gateway.

Florek et al. teaches wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and a payment gateway (pg.10, ¶ [0089] discusses In its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide a merchant sales device with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a microSD card (pg.1, ¶ [0001]).

**As per Claims 10 and 20**, Mullen et al. and Dryer et al. discloses the method of the claimed invention. However, Mullen et al. and Dryer et al. are silent regarding wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

Florek et al. teaches wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway (Figure 6, depicts MicroSD 18 for insertion into customer mobile phone having Secure Element 31).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide a customer mobile phone with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a microSD card (pg.1, ¶ [0001]).

**As per Claims 6, 15 and 19**, Mullen et al. discloses the claimed invention. However, Mullen et al. is silent regarding wherein the data includes security information of a registered user associated with the POS device, the security information includes an account and bank information of the registered user, an identifier of the secure element in the contactless card or the POS device.

Dryer et al. teaches wherein the data includes security information of a registered user associated with the POS device, the security information includes an account and bank information of the registered user (pg.5, ¶ [0046] discusses includes or is encoded with transaction data 122 such as merchant identification (Merchant ID) types of electronic payment accepted by the merchant (e.g. VISA, MASTERCARD, etc.).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide merchant identification and payment type information as taught by Dryer et al. to provide a system and method

where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

However, Mullen et al. and Dryer et al. are silent regarding an identifier of the secure element in the contactless card or the POS device.

Florek et al. teaches an identifier of the secure element in the contactless card or the POS device (pg.10, ¶ [0089] discusses in its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide information identifying a merchant sales device with a secure element within a mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a microSD card (pg.1, ¶ [0001]).

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goldthwaite et al. U.S. Patent Application Publication 2004/0127256 discusses a mobile device equipped with a contactless smart card reader/writer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHFORD S HAYLES whose telephone number is (571)270-5106. The examiner can normally be reached on M-F 6AM-4PM with Flex.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahd Obeid can be reached on 5712703324. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ASHFORD S HAYLES/  
Primary Examiner, Art Unit 3687

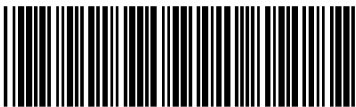

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**BIB DATA SHEET**
**CONFIRMATION NO. 5346**

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/728,349	06/02/2015	705	3687	RFID-085C1		
<b>APPLICANTS</b> RFCyber Corporation, Fremont, CA; <b>INVENTORS</b> Xiangzhen Xie, Shenzhen, CHINA; Liang Seng Koh, Fremont, CA; Hsin Pan, Fremont, CA; <b>** CONTINUING DATA *****</b> This application is a CON of 13/853,937 03/29/2013 PAT 9047601 which claims benefit of 61/618,802 04/01/2012 and is a CIP of 13/350,832 01/16/2012 which is a CIP of 11/534,653 09/24/2006 PAT 8118218 <b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b> 06/10/2015						
Foreign Priority claimed	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>STATE OR COUNTRY</b>	<b>SHEETS DRAWINGS</b>	<b>TOTAL CLAIMS</b>	<b>INDEPENDENT CLAIMS</b>
35 USC 119(a-d) conditions met	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Met after Allowance	CHINA	22	20	3
Verified and Acknowledged	/ASHFORD S HAYLES/ Examiner's Signature	Initials				
<b>ADDRESS</b> LogicPatents, LLC 21701 Stevens Creek Boulevard, #284 CUPERTINO, CA 95015 UNITED STATES						
<b>TITLE</b> Method and apparatus for mobile payments						
<b>FILING FEE RECEIVED</b> 730	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees		
				<input type="checkbox"/> 1.16 Fees (Filing)		
				<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)		
				<input type="checkbox"/> 1.18 Fees (Issue)		
				<input type="checkbox"/> Other _____		
			<input type="checkbox"/> Credit			



<b>Search Notes</b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	21	09/21/2017	ASH

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST (SEE ATTACHMENTS)	09/21/2017	ASH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	
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**Courtesy Reminder for  
Application Serial No: 14/728,349**

Attorney Docket No: RFID-085C1

Customer Number: 26797

Date of Electronic Notification: 10/13/2017

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Trusted Service Management Process  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Confirmation:** 5346  
**Examiner:** HAYLES, ASHFORD S  
**Group Art Unit:** 3687  
**Docket No.:** RFID-085C1

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January 13, 2018

Mail Stop: No-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to First OA**

Dear Sir:

In response to Office Action dated 10/13/2017, the Applicant respectfully requests the Examiner to enter the following amendments before reconsidering the above-referenced application:

**AMENDMENTS TO THE SPECIFICATION** begin on page 2 of this Response.

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 3 of this Response.

**REMARKS/ARGUMENTS** begin on page 9 of this Response.

## AMENDMENTS TO THE SPECIFICATION

1. Please amend Paragraph [0007] as follows:

**[0007]** According to still another aspect of the present invention, a consumer uses his/her mobile device, per the data received therein, to settle the payment process with a payment network, where the payment network may be an existing payment infrastructure (e.g., money transfer or credit card/debit). A payment response is sent to the merchant once a payment is delivered to a ~~designed~~ designated account by the merchant.

2. Please amend Paragraph [0009] as follows:

**[0009]** According to still another aspect of the present invention, the mobile device used by the consumer is a near field communication (NFC) device and being part of a mobile payment ecosystem in which various parties ~~are~~ work with each other in order for the mobile payment ecosystem successful. Via a server (e.g., implemented as a manager) configured to provide what is referred to herein as Trusted Service Management (TSM), the secure element in the mobile device can be remotely personalized and various applications or modules can be downloaded, updated, managed or replaced after they are respectively provisioned via the Trusted Service Manager (i.e., the TSM server). One of the modules being installed in the POS machine or an NFC device used by the merchant is referred to as Smart Bill Payment. The module is configured to facilitate the communication between the merchant (its device) and the user (his/her mobile device) and the data exchange therebetween, where the mobile device being used by the user is installed with a corresponding application related to Smart Bill Payment.

## AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 3-8, 10-12, 14-16, and 18-20 as follows:

1. (*Currently amended*) A method for mobile payment, the method comprising:  
causing a mobile device to receive data wirelessly ~~an electronic invoice~~ from a point of sale (POS) device, the data including an electronic invoice and settlement information with a merchant associated with the POS device;  
displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is ~~a near-field communication device and~~ configured to execute an installed application therein to communicate with the POS device;  
receiving an entry by the mobile device, the entry including an additional amount from the user;  
calculating a total amount by adding the additional amount to the amount in the electronic invoice;  
~~to generating~~ a payment request in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;  
displaying the electronic invoice on ~~a the~~ display screen of the mobile device for the user to verify the payment request along with the chosen paying instrument;  
~~processing~~ sending the payment request ~~in~~ from the mobile device to a payment gateway, wherein the payment gateway sends a message to the POS device that a monetary transaction per the payment request has been successfully completed with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and  
~~notifying the user~~ receiving a confirmation in the mobile device that ~~the~~ monetary transaction per the payment request has been successfully completed with the POS device.

2. *(Original)* The method as recited in claim 1, wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device.
3. *(Currently amended)* The method as recited in claim 2, wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and the mobile device ~~a payment gateway~~.
4. *(Currently amended)* The method as recited in claim 1, wherein said displaying the electronic invoice on a display ~~screen~~ of the mobile device comprises:
  - ~~causing~~ allowing the user to verify ~~an~~ the amount in the electronic invoice and make a change to the amount when needed;
  - paying the total amount with ~~a~~ the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer.
5. *(Currently amended)* The method as recited in claim 1; further comprising:  
~~wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises causing the mobile device to execute an installed module upon detecting~~ the POS device ~~a contactless card in a near field of the mobile device, wherein the installed module~~ executed ~~is configured to read off to receive the data pertaining to the electronic bill from the~~ POS device ~~contactless card~~.
6. *(Currently amended)* The method as recited in claim 5, wherein the data further includes security information ~~of a registered user about the merchant~~ associated

with the POS device, the security information includes an account and bank information of the registered merchant user, an identifier of the secure element in the contactless card or the POS device.

7. (*Currently amended*) The method as recited in claim 6, wherein said ~~processing~~ sending the payment request ~~from~~ in the mobile device to a payment gateway ~~comprises:~~

transporting the payment request over a secured channel to ~~a~~ the payment gateway, wherein in the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates an electronic notification ~~to be sent for sending to the registered user associated with~~ the POS device.

8. (*Currently amended*) The method as recited in claim 7, wherein said displaying the electronic invoice on ~~a~~ the display screen of the mobile device comprises:

~~causing~~ allowing the user to ~~verify an~~ modify the total amount in the electronic invoice ~~and make a change to the amount when needed;~~

paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate ~~a~~ the payment request including the data pertaining to the electronic invoice to ~~a~~ the payment gateway for processing.

9. (*Original*) The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established in accordance with the security information in the data pertaining to the electronic invoice.

10. (*Currently amended*) The method as recited in claim 9, wherein the mobile device includes a secure element ~~that provides~~ ing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

11. (*Currently amended*) The method as recited in claim 9, wherein said notifying the user in the mobile device that ~~a~~then monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant registered user of the POS device.

12. (*Currently amended*) A method for mobile payment, the method comprising: generating an electronic invoice in a point of sale (POS) device; transporting the electronic invoice to a mobile device by causing the mobile device to read off data pertaining to the electronic invoice from the POS device, wherein the data further includes settlement information with a merchant associated with the POS device, the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice; and receiving a message in the POS device notification from a the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice, wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the ~~a~~ user of the mobile devices ~~verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice.~~

13. (*Original*) The method as recited in claim 12, wherein the POS device includes a contactless card loaded with the electronic invoice, and the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device.



14. (*Currently amended*) The method as recited in claim 13, wherein the POS device includes a secure element ~~that provides~~ing security and confidentiality required to support secure data communication between the POS device and the mobile device~~payment gateway~~.
15. (*Currently amended*) The method as recited in claim 14, wherein the data includes security information of ~~a registered user~~the merchant associated with the POS device, the security information includes an account and bank information ~~of the registered user~~, an identifier of the secure element in the contactless card or the POS device.
16. (*Currently amended*) The method as recited in claim 15, wherein the message received in the POS device ~~registered user receives a notification~~shows how much has been received from the user of the mobile device ~~that the electronic invoice has been settled via the mobile device~~.
17. (*Original*) The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established in accordance with the security information in the data pertaining to the electronic invoice.
18. (*Currently amended*) A system for mobile payment, the system comprising:  
a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry, wherein data including the electronic invoice is sent to a mobile device when the POS device is presented near the mobile device, the mobile device is executing a module configured to read the data and display an amount expressed in the electronic invoice; and wherein  
~~a contactless card loaded with the electronic invoice, wherein the contactless card is placed in a near field of a mobile device configured to execute an installed application therein to read off data communicate with the POS device~~

~~to generate a payment request in response to the electronic invoice, wherein~~  
the POS device receives an electronic notification from a payment gateway that  
the electronic invoice has been settled for a total amount including an additional  
amount and the amount expressed in the electronic invoice, the additional  
amount is added by the used, after ~~a~~ the user of the mobile devices verifies the  
electronic invoice displayed on the mobile device and authorizes a payment to  
the electronic invoice, the mobile device is configured to generate a payment  
request to be sent to establish a secure communication session with the  
payment gateway to proceed with ~~the~~ a payment according to the payment  
request to the electronic invoice.

19. (*Currently amended*) The system as recited in claim 18, wherein ~~the installed~~  
~~application is configured to cause the mobile device to transport the data to the~~  
~~payment gateway, the data includes security information of a registered user~~  
~~associated with the POS device, the security information~~ the data from the POS  
device includes an account and bank information of the registered usermerchant  
of the POS device, ~~an identifier of the secure element in the contactless card or~~  
~~the POS device.~~

20. (*Currently amended*) The system as recited in claim 19, wherein the payment  
gateway acts to deduct an amount equivalent to the total amount from an  
account associated with the user of the mobile devices and generates the  
electronic notification for the POS device ~~the mobile device includes a secure~~  
~~element that provides security and confidentiality required to support secure data~~  
~~communication between the mobile device and the payment gateway.~~

## REMARKS

Claims 1 - 20 were submitted for examination. In the Office Action dated 10/13/2017, Claim(s) 1 and 12 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Mullen et al. (US 2012/029472, hereinafter "Mullen"), Claims 2, 4, 5, 7-9, 11-13, 16-18 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Dryer et al. (US 2012/0290376, hereinafter "Dryer"), and Claims 3, 6, 10, 14, 15 and 19-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Dryer further in view of Florek et al. (US 2011/0112968).

The Applicant appreciates the Examiner for providing detailed comments in the Office Action. In the foregoing amendments, Claims 1, 3-8, 10-12, 14-16, and 18-20 have been amended. No new matters have been introduced. Reconsideration of pending claims is respectfully requested.

### ***Claim Rejections - 35 USC § 102***

On Page 3, Section 4, of this Office Action, Claim(s) 1 and 12 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Mullen. The Applicant respectfully traverses the rejections of Claims 1 and 12 under 35 USC 102, assuming the foregoing amendments have been entered. A cited prior art reference anticipates a claimed invention under 35 USC 102 only if every element of the claimed invention is identically shown in the single reference, arranged as they are in the claim. MPEP 2131; in re Bond, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990). Each and every limitation of the claimed invention is significant and must be found in the single cited prior reference. In re Donohue, 766 F.2d 531, 534, 266 USPQ 619, 621 (Feb. Cir. 1985). As set forth more fully below, Mullen neither discloses nor suggests each and every element of the claimed invention.

As amended, Claim 1 now recites:

causing a mobile device to receive data wirelessly from a point of sale (POS) device, the data including an electronic invoice and settlement information with a merchant associated with the POS device;

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to communicate with the POS device;

receiving an entry by the mobile device, the entry including an additional amount from the user;

calculating a total amount by adding the additional amount to the amount in the electronic invoice;

generating a payment request in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;

displaying the electronic invoice on the display for the user to verify the payment request along with the chosen paying instrument;

sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message to the POS device that a monetary transaction per the payment request has been successfully completed with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and

receiving a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with the POS device.

*(emphasis added)*

As shown in FIG. 1A of the instant application, one of the key features is, instead of talking back to the POS device 106 (or 108) after the POS device sends an invoice to the mobile device 110, the mobile device sends a payment request to the payment network 104 that is authorized to process the payment request (assuming there is a valid account associated with the user of the POS device 106 (or 108) after the POS device sends an invoice to the mobile). Again instead of receiving a payment response from the mobile device, the POS device receives a confirmation from the payment network that the payment has been made to the payment request originated by the mobile device. In summary, the mobile device 110 (a.k.a., a customer's device) does NOT talk back to the POS device 106 upon receiving the invoice. To view all entities graphically in one perspective, they communicate in circular one-way fashion as shown in FIG. 1A. Further, the mobile device allows the user to modify the charge expressed in the invoice by including an

additional amount (e.g., a tip). As a result, a merchant with the POS device receives more than what is charged in the invoice.

In contrast, Mullen teaches a mobile device used as a point-of-sale terminal and a payment card as paying instrument to communicate payment information with the mobile device. An application in the mobile device is remotely activated to allow the mobile device to accept payment information directly from the payment card. In view of the instant application, the mobile device in Mullen may be viewed as the POS device 106 while the payment card is the mobile device 110. However, the mobile device in Mullen does not send an electronic invoice to the payment card but only accepts information about the payment card. Mullen is also silent about the payment card "*generating a payment request*" for the payment gateway, as there is no need to do so in Mullen. As shown in FIG. 2, Mullen explicitly states "Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities (e.g., payment server 216 and/or issuer 220)". In other words, it is the mobile device 202 (corresponding to the POS device 106 in the instant application) that communicates with the payment network, teaching away from "*sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message to the POS device ...*" (note the mobile device in Mullen means the POS device). Further, Mullen does not allow a buyer to modify the charge displayed on the mobile device (the POS device 106) by adding an additional amount. Accordingly, the Applicant submits Claim 1 as amended shall be allowable over Mullen. Reconsideration of Claims 1-11 is kindly requested.

Claim 12 has been amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 12 and submits Mullen neither teaches nor suggests "*the payment request being sent to a gateway...*" and "*receiving a message in the POS device from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice*". Accordingly,

the Applicant submits Claim 12 as amended shall be allowable over Mullen. Reconsideration of Claims 12-17 is kindly requested.

Claim 18 has been also amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 18 and submits Mullen neither teaches nor suggests *"the POS device receives an electronic notification from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice, the additional amount is added by the used"*. Accordingly, the Applicant submits Claim 18 as amended shall be also allowable over Mullen. Reconsideration of Claims 18-20 is kindly requested.

### ***Claim Rejections - 35 USC § 103***

Claims 2, 4, 5, 7-9, 11-13, 16-18 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Dryer and Claims 3, 6, 10, 14, 15 and 19-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Dryer further in view of Florek.

Dryer states "A near field communication connection is established between a mobile communication device of a consumer that serves as a mobile wallet and an electronic payment device of a merchant. Authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant" (see Abstract). Dryer explicitly restricts the communication between two devices, vastly departing from Claim 1 as amended in the instant application. The Applicant submits the modification of Mullen with Dryer would not cure the deficiency in Mullen as expressed above. Accordingly, Claims 2, 4, 5, 7-9, 11-13, 16-18 as amended shall be allowable over Mullen and Dryer. Reconsideration of Claims 2, 4, 5, 7-9, 11-13, 16-18 in view of Claim 1 as amended is kindly requested.

Florek shows in FIG. 2 and FIG. 5 that a mobile device is used to conduct a payment with a merchant, where the mobile devices installs a payment instrument (e.g., in a removable memory card). However, Florek is also silent about "generating

a payment request" for a payment gateway for settlement and sending a message to the POS device. The Applicant submits the modification of Mullen and Dryer with Florek would not cure the deficiency in Mullen as expressed above. Accordingly, Claims 2, 4, 5, 7-9, 11-13, 16-18 as amended shall be allowable over Mullen and Dryer. Reconsideration of Claims 3, 6, 10, 14, 15 and 19-20 in view of Claim 1 as amended is kindly requested.

The patentability of the independent claims has been argued specifically as set forth above and thus Applicant will not take this opportunity to argue further the merits of the rejection with regard to each dependent claim. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

In view of the above amendments and remark, the Applicant believes that Claims 1-20 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", January 16, 2018. e-filed.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng  
Reg.: No. 39,450

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	31517931
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	16-JAN-2018
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	19:28:37
<b>Application Type:</b>	Utility under 35 USC 111(a)

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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	ResponseTo1stOA.pdf	166612  <small>964d4638d52ba77f1e2b965be17aaf5370495030</small>	no	13

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IPR2022-01239



<b>Information:</b>	
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<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>	

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<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number <b>14/728,349</b>	Filing Date <b>06/02/2015</b>	<input type="checkbox"/> To be Mailed
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ENTITY:  LARGE  SMALL  MICRO

**APPLICATION AS FILED – PART I**

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED – PART II**

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	<b>01/16/2018</b>	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X \$50 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$230 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	<b>0</b>

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.  
 \*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".  
 \*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 14/728,349, 06/02/2015, Xiangzhen Xie, RFID-085C1, 5346
Row 2: 26797, 7590, 04/12/2018, LogicPatents, LLC, 21701 Stevens Creek Boulevard, #284, CUPERTINO, CALIFORNIA 95015, UNITED STATES OF AMERICA, EXAMINER HAYLES, ASHFORD S, ART UNIT 3687, PAPER NUMBER, NOTIFICATION DATE 04/12/2018, DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@sbcglobal.net



**DETAILED ACTION**

Amendment received on January 16, 2018 has been acknowledged. Claims 1, 3-8, 10-12, 14-16 and 18-20 have been amended and entered. Therefore, claims 1-20 are pending.

***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**1. Claims 1, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. U.S. 2012/029472 in view of Shank et al. U.S. 2011/0066550.**

**As per Claim 1**, Mullen et al. discloses a method for mobile payment, the method comprising: causing a mobile device to receive an electronic invoice from a point of sale (POS) device (pg.13, ¶ [0155] discusses a merchant may send a message (e.g., an email or text message) to the user-supplied address that may contain a link to the user's bill),

wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice (pg.13, ¶ [0158] discusses a payment application installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

displaying the electronic invoice on a display screen of the mobile device for a user to verify the payment request (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data (e.g.,

add a tip to the bill). A user may, for example, review a total to be charged, verify such a total, and then present payment card 2504 to mobile device 2502 to settle the total amount);

receiving an entry by the mobile device the entry including an additional amount from the user (pg.13, ¶ [0154] discusses a user may monitor each item on the bill, enter an additional amount into the bill e.g., a tip);

calculating a total amount by adding the additional amount to the amount in the electronic invoice (pg.13, ¶ [0154] discusses and then pay the bill all from the convenience of the user's mobile device 2502<sup>1</sup>);

processing the payment request in the mobile device (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement); and

notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server) and may further request that the payment server deliver a receipt to the mobile device in a text message format).

Shank teaches causing a mobile device to receive data wirelessly from a point of sale device (POS) (pg.4, ¶ [0047] discusses once the bill is complete, the biller may instruct the device 12b to send the bill by pressing a send button pg.5, ¶ [0050] discusses the billing device 12b may establish a dedicated peer-to-peer connection with the paying device 12a);

the data including an electronic invoice and settlement information with a merchant associated with the POS device (pg.5, ¶ [0051] discusses the billing device 12b may send a list of one or more active

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<sup>1</sup> The Examiner is construing the ability to pay the final bill as calculating a total amount including the additional amount, because it is old and well known to include the tip when making a purchase at a restaurant as described within the cited portion of Mullen.

bills 88 to the paying device, pg.4, ¶ [0047] discusses the details may provide an itemized record describing the goods and/or services provided, the taxes charged, and any other suitable details. The biller may then select an account for receiving the funds);

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device (Figure 4F, Bill 88 depicts the amount to be paid on the payer device),

generating a payment request in response to the electronic invoice after the user has chosen a paying instrument (pg.5, ¶ [0051] discusses once the bill 88 has been selected the payer selects an account for making the payment, ¶ [0052] discusses upon receiving the accept bill message, the billing device 12b may send "Pay To" information to the paying device 12a, as shown in step 216. The Pay To information may include the device identifier of the billing device, the location of the billing device, a bill number, the bill title, the payment amount, the bill details, and/or one or more authorization codes),

wherein the payment request includes the total amount and the settlement information (pg.5, ¶ [0054] discusses the paying device 12a may include only certain parameters of the Pay To information, such as the device identifier of the billing device, the location of the billing device, the bill title, the payment amount, and the authorization codes);

sending the payment request from the mobile device to a payment gateway ¶ [0054] discusses the paying device 12a may send a transaction to the gateway 14 at step 222. The transaction may include the Pay To information and "Bill To" information describing the paying device 12a), wherein the payment gateway, sends a message to the POS device that a monetary transaction per the payment request has been successfully completed with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user (pg.6, ¶ [0061] discusses the gateway 14 may receive the result of the transaction from the paying bank 16a. The result may indicate whether the transaction succeeded, a transaction number, and/or an estimated date that the transferred funds will become available to the biller, pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a



of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway 14, rather than from the paying device 16a, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 4**, Mullen et al. discloses the method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:

allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data, e.g. add a tip to the bill).;

paying the total amount with the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer (pg.6, ¶ [0086] discusses GUI 500 may be generated to allow a user an opportunity to select which payment option (e.g., credit option 502) from a number of payment options is to be used to settle a payment transaction, pg.9, ¶ [0111] discusses a user may elect to charge \$10 against a VISA credit account, \$35 against a MIC debit account, and 500 rewards points earned by the VISA credit account towards full payment of a \$50 amount owing for a particular selected purchase).

**As per Claim 12**, Mullen et al. discloses a method for mobile payment, the method comprising:  
generating an electronic invoice in a point of sale (POS) device (pg.13, ¶ [0154] discusses Mobile device 2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant);

transporting the electronic invoice to a mobile device by causing the mobile device to read off data pertaining to the electronic invoice from the POS device (pg.13, ¶ [0155] discusses a merchant may send a message (e.g., an email or text message) to the user-supplied address that may contain a link to the user's bill),

the payment request includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed on the bill (pg.13, ¶ [0154] discusses Mobile device 2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant) a user may monitor each item on the bill, enter an additional amount into the bill e.g., a tip and then pay the bill all from the convenience of the user's mobile device 2502<sup>2</sup>),

wherein the mobile device is a near-field communication device and configured to execute an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice (pg.13, ¶ [0158] discusses a payment application installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

receiving a notification from a payment gateway that the electronic invoice has been settled (pg.9, ¶ [0116] discusses a mobile device may also provide a text message address (e.g., an SMS text

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<sup>2</sup> The Examiner is construing the food and alcohol as an amount expressed on the bill and the tip as the additional amount.

message address) to the payment server. In so doing, for example, the mobile device may receive a receipt of the completed purchase transaction from the payment server via a text message at the text message address provided by the mobile device),

wherein a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice (pg.13, ¶ [0154] discusses a user may monitor each item on the bill, enter an additional amount into the bill (e.g., a tip), and then pay the bill all from the convenience of the user's mobile device 2502).

Mullen et al. teaches a total amount more than the amount expressed in the electronic invoice, by stating that the user can add a tip to the food and alcohol bill as stated above.

Shank teaches wherein the data further includes settlement information with a merchant associated with the POS device (pg.5, ¶ [0051] discusses the billing device 12b may send a list of one or more active bills 88 to the paying device, pg.4, ¶ [0047] discusses the details may provide an itemized record describing the goods and/or services provided, the taxes charged, and any other suitable details. The biller may then select an account for receiving the funds);

receiving a message in the POS device from the payment gateway that the electronic invoice has been settled (pg.6, ¶ [0061] discusses the gateway 14 may receive the result of the transaction from the paying bank 16a. The result may indicate whether the transaction succeeded, a transaction number, and/or an estimated date that the transferred funds will become available to the biller ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232.).

the payment request being sent to a payment gateway includes a total amount expressed on the electronic invoice (pg.5, ¶ [0054] discusses the paying device 12a may include only certain parameters of the Pay To information, such as the device identifier of the billing device, the location of the billing device, the bill title, the payment amount, and the authorization codes, ¶ [0054] discusses the

paying device 12a may send a transaction to the gateway 14 at step 222. The transaction may include the Pay To information and "Bill To" information describing the paying device 12a),

wherein the payment gateway, is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices (pg.6, ¶ [0062] Sending the result to the billing device 16b from the gateway 14, rather than from the paying device 16a, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 17**, Mullen et al. discloses the method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway (pg.10, ¶ [0128] discusses a mobile device may communicate payment information to a payment server to complete a purchase transaction)

Mullen discloses the claimed invention except for a secure channel.

Shank et al. teaches a secure channel (pg.5, ¶ [0053] discusses each device 12 may open a connection with the gateway 14. The connections may be opened according to any suitable network communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL)).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a secure

connection between mobile devices and a payment gateway to complete a payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 18**, Mullen et al. discloses a system for mobile payment, the system comprising: after a user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice (pg.13, ¶ [0158] discusses a payment application installed on mobile device, pg.5, ¶ [0074] discusses Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities e.g., payment server 216 and/or issuer 220);

the mobile device is configured to establish a communication session with the payment gateway to proceed with the payment to the electronic invoice (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server).

Mullen discloses the claimed invention except for a secure channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to send data to a payment gateway using a secure channel since it was known in the art that payment gateways such as VISA and MasterCard require SET protocols to communicate data when conducting transactions over the Internet<sup>3</sup>.

Mullen further discloses including an additional amount and the amount expressed in the electronic invoice, the additional amount is added by the user (pg.13, ¶ [0154] discusses mobile device

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<sup>3</sup> *Partnering for Performance with MasterCard e-Business Solutions*, pg.8, MasterCard International Incorporated 2001.

2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant)a user may monitor each item on the bill, enter an additional amount into the bill e.g., a tip), and then pay the bill all from the convenience of the user's mobile device).

Shank teaches a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry (pg.4, ¶ [0047] discusses the user of the billing device (i.e., the biller) may create a bill at step 204. For example, the biller may access a billing menu 84 of the application as shown in FIG. 4B. The billing menu 84 may allow the biller to create a new bill by pressing an add bill button);

wherein data including the electronic invoice is sent to a mobile device when the POS device is presented near the mobile device (pg.4, ¶ [0048] discusses the billing device may broadcast a device identifier. In some embodiments, the device identifier may be broadcast locally over a short-range wireless communication protocol, such as a BLUETOOTH protocol, ¶ [0050] discusses Upon receiving the accept message containing the connection instructions and its own device identifier, the billing device 12b may establish a dedicated peer-to-peer connection with the paying device 12a at step 210. The dedicated connection may be established according to the short-range wireless communication protocol being used ¶ [0051] discusses the billing device may send a list of one or more active bills to the paying device);

the mobile device is executing a module configured to read the data and display an amount expressed in the electronic invoice (pg.3, ¶ [0035] discusses Peer-to-Peer Payment application, See Figures 5A-5B);

the POS device receives an electronic notification from a payment gateway that the electronic invoice has been settled for a total amount (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 19**, Mullen et al. discloses the claimed invention. However, Mullen et al. is silent regarding wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

Shank teaches wherein the data from the POS device includes an account and bank information of the merchant of the POS device (pg.5, ¶ [0052] discusses The Pay To information may include the device identifier of the billing device, the location of the billing device, a bill number, the bill title, the payment amount, the bill details, and/or one or more authorization codes. In some embodiments, the authorization codes may include a biller authorization code representing a user name of the biller and a biller account code representing the account to which the funds are to be transferred)

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide merchant account and bank information for completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 20**, Mullen discloses the claimed invention. However, Mullen is silent regarding wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device.

Shank teaches the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices (pg.5, ¶ [0058] discusses the gateway 14 may instruct the payer's account manager 16a (e.g., the paying bank) to withdraw the payment amount from the paying account and to deposit the payment amount into the billing account and generates the electronic notification for the POS device (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a payment gateway to deduct payment from a customer account to a merchant account as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).



**2. Claims 2, 5, and 13 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. US 2012/0290472 in view of Shank US 2011/0066550 further in view of Dryer et al. US2012/0290376.**

**As per Claim 2**, Mullen et al. discloses the method as recited in claim 1. However, Mullen et al. is silent regarding wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device.

Dryer et al. teaches wherein the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point of sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips or cards 119, 129, which are utilized to establish a NFC connection with each other when they are brought together or sufficiently close to each other, ¶ [0045] discusses the merchant generating invoice, receipt or transaction data using electronic payment device for purchase of item by the consumer from the merchant).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant POS with a NFC transaction card as taught by Dryer et al. to provide a system and method where Authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 5**, Mullen et al. discloses the method as recited in claim 1. Shank discloses the billing device may broadcast a device identifier. In some embodiments, the device identifier may be broadcast locally over a short-range wireless communication protocol, such as a BLUETOOTH protocol.

However, Mullen et al. and Shank are silent regarding a causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device, wherein the installed module executed to receive the data from the POS device.

Dryer et al. teaches a causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other,

wherein the installed module executed to receive the data from the POS device, (pg.5 ¶ [0054] discusses the payment application 123 executing on the electronic payment device 120 or the mobile wallet application 113 executing on the mobile communication device 110 transforms or encodes the merchant-generated authorization token. The encoded authorization token 170 may embody or be encoded with transaction data 122, and may be decoded by the cloud wallet server 140 using an appropriate key or decoding mechanism. The ability to encode and decode the authorization data provides for more flexibility and inclusion of additional information associated with the merchant 125 and/ or transaction to ensure that the credit card data 147 to be utilized is utilized for payment is for the correct amount, e.g., if the invoice or receipt amount 122 is encoded within or transmitted with the authorization token 170, and that the payment request is for a particular merchant 125 for that specified amount).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to receive transaction data from a merchant in order to process a mobile payment as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the

electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**As per Claim 13**, Mullen et al. discloses the method as recited in claim 12. However, Mullen et al. is silent regarding wherein the POS device includes a contactless card loaded with the electronic invoice, and the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device.

Dryer et al. teaches wherein the POS device includes a contactless card loaded with the electronic invoice (pg.5, ¶ [0041] discusses electronic payment device 120 are equipped with respective NFC chips or cards 119, 129, ¶ [0046] discusses the payment application 123 executing on the electronic payment device 120 generates an authorization token 170<sup>4</sup>), and

the mobile device reads off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant POS with a NFC transaction card as taught by Dryer et al. to provide a system and method where Authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

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<sup>4</sup> Examiner is construing authorization token as an electronic invoice because the token includes invoice amount and transaction data.

**3. Claims 3, 6-11, 14, 15 and 16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. US 2012/0290472 in view of Shank et al. US2011/0066550 in view of Dryer et al. US2012/0290376 further in view of Florek et al. 2011/0112968.**

As per Claims 3 and 14, Shank teaches where the billing device 12b may establish a dedicated peer-to-peer connection with the paying device 12a at step 210. The dedicated connection may be established according to the short-range wireless communication protocol being used (pg.5, ¶ [0050]). However, Mullen et al., Dryer et al. and Shank are silent regarding wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device and the mobile device.

Florek et al. teaches wherein the POS device includes a secure element that provides security and confidentiality required to support secure data communication between the POS device the mobile device (pg.10, ¶ [0089] discusses In its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen, Shank and Dryer et al., to include the ability to provide a merchant sales device with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

As per Claims 6 and 15, Mullen et al. discloses the claimed invention. However, Mullen et al. is silent regarding wherein the data further includes security information about the merchant associated

with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device.

Dryer et al. teaches wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device (pg.5, ¶ [0046] discusses includes or is encoded with transaction data 122 such as merchant identification (Merchant ID) types of electronic payment accepted by the merchant (e.g. VISA, MASTERCARD, etc.).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide merchant identification and payment type information as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

However, Mullen et al. and Dryer et al. are silent regarding an identifier of the secure element in the contactless card or the POS device.

Florek et al. teaches an identifier of the secure element in the contactless card or the POS device (pg.10, ¶ [0089] discusses in its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide information identifying a merchant sales device with a secure element within a mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless

transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claim 7**, Mullen et al. discloses the method as recited in claim 6, wherein said sending the payment request from the mobile device to a payment gateway comprises

transporting the payment request to the payment gateway (pg.13, ¶ [0149] discusses mobile device 2302 may customize a payment message to remote application 2308 that includes only the filtered subset of data that is needed by remote application 2308 to complete the purchase transaction),

wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user (pg.11, ¶ [0137] discusses enable a funds transfer from a source account (e.g., an account associated with a payment card that is tapped against a display of a mobile device) to a target account (e.g., a car loan account). Portion 2002 may, for example, list account details that may be associated with a target account (e.g., an account number associated with a car loan, the payoff amount, and the amount due). Portion 2002 may, for example, include details that may be associated with a target account that a mobile device has collected from a network entity (e.g., a bank) via a network connection between the mobile device and the network entity).

However, Mullen et al. fails to explicitly state a secure channel and is silent regarding generating an electronic notification for sending to the POS device.

Shank et al. teaches a secure channel (pg.5, ¶ [0053] discusses each device 12 may open a connection with the gateway 14. The connections may be opened according to any suitable network

communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL).

Shank further teaches generating an electronic notification for sending to the POS device (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway 14, rather than from the paying device, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a security protocol and provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 8**, Mullen et al. discloses the method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:

allowing the user to modify the total amount in the electronic invoice when needed (pg.13, ¶ [0155] discusses a user's meal tab at a restaurant may be itemized by GUI 2508 and an alphanumeric entry box (e.g., box 2510) may allow the user to enter additional data (e.g., add a tip to the bill). A user may, for example, review a total to be charged, verify such a total, and then present payment card 2504 to mobile device 2502 to settle the total amount<sup>5</sup>);

paying the total amount with an electronic payment provided by an installed module in the mobile device (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated

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<sup>5</sup> Examiner is construing the ability to enter an additional amount as modifying the total.

with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement),

wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement).

**As per Claim 9**, Mullen et al. discloses the method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway (pg.10, ¶ [0128] discusses a mobile device may communicate payment information to a payment server to complete a purchase transaction)

Mullen discloses the claimed invention however fails to explicitly state a secure channel. Shank et al. teaches a secure channel (pg.5, ¶ [0053] discusses each device 12 may open a connection with the gateway 14. The connections may be opened according to any suitable network communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL)).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a secure connection between mobile devices and a payment gateway to complete a payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 10**, Mullen et al. and Dryer et al. discloses the method of the claimed invention. However, Mullen et al. and Dryer et al. are silent regarding wherein the mobile device includes a secure



element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

Florek et al. teaches wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway (Figure 6, depicts Micros 18 for insertion into customer mobile phone having Secure Element 31).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide a customer mobile phone with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claim 11**, Mullen et al. discloses the method of the claimed invention, wherein said notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server) and may further request that the payment server deliver a receipt to the mobile device in a text message format).

However, Mullen et al. is silent regarding sending a notification of successful payment to the merchant of the POS device.

Shank et al. teaches sending a notification of successful payment to the merchant of the POS device (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step

230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a notification to a merchant regarding the completion of a payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 16**, Mullen et al. discloses the method of the claimed invention. However, Mullen et al. is silent regarding wherein the message received in the POS device shows how much has been received from the user of the mobile device.

Shank teaches wherein the message received in the POS device shows how much has been received from the user of the mobile device (pg.6, ¶ [0062] discusses the result may be communicated to the user via email, text message, or any suitable type of notification. An example of a result 94 received by the billing device 12b is illustrated in FIG. 4F).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHFORD S HAYLES whose telephone number is (571)270-5106. The examiner can normally be reached on M-F 6AM-4PM with Flex.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahd Obeid can be reached on 5712703324. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ASHFORD S HAYLES/

Primary Examiner, Art Unit 3687

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*	C	US-20130334318-A1	12-2013	Wakerly; Michael John	G06Q20/352	235/492
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*	E	US-8646059-B1	02-2014	von Behren; Rob	G06Q20/367	719/311
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CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner


US Classification - Searched*			
Class	Subclass	Date	Examiner
705	21	09/21/2017	ASH

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST (SEE ATTACHMENTS)	09/21/2017	ASH
UPDATED EAST (SEE ATTACHMENTS)	04/06/2018	ASH
COMMON CITATION ( <a href="http://ccd.fiveipoffices.org">http://ccd.fiveipoffices.org</a> ) (SEE ATTACHMENTS )	04/06/2018	ASH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

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Final	Original	09/21/2017	04/06/2018						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						

## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	758	(electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:44
S2	138	S1 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S3	137	S2 and (app or application or applet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S4	86	S3 and PIN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S5	43	S4 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S6	3	((("20130124351") or ("20080011833") or ("20130132219")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/04/22 17:49
S7	156	(mobile or portable or wireless) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 16:54
S8	34	(mobile or portable or wireless) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/04/23 16:54

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			DERWENT; IBM_TDB			
S9	0	(smartcard) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S10	2	(smartcard) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S11	0	(smartcard) near ("transaction terminal") and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S12	76	(smartcard) near NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S13	40	S12 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:06
S14	98	("smart card" or "chip card" or EMV) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:11
S15	38	(contactless) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:17
S16	217	(contactless) near (POS or payment or transaction) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S17	217	((contactless) near (POS or payment or transaction)) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/24 10:18

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S18	165	S17 and (provision\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S19	124	S18 and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S20	58	S17 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:30
S21	139	((contactless or NFC) near (POS or payment or transaction)) and (send\$4 or transmit\$4) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S22	59	S21 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S23	64	(wireless or mobile) near POS and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 21:46
S24	4	POS near (contactless near (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:10
S25	1838	POS near ( (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S26	100	S25 and (contactless near (transaction	US-PGPUB;	OR	ON	2014/04/25

		or payment))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			22:11
S27	16	(portable) near POS and ((nfc or contactless) near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 20:39
S28	17	folio and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:33
S29	0	(restaurant near folio) and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:37
S30	273	(restaurant or table) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S31	165	S30 and provision\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S32	55	S31 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:39
S33	32	proximity near mobile near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:46
S34	403	(mobile near (transaction or payment)) and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/04/26 21:58



			IBM_TDB			
S35	29	(mobile near (transaction or payment) with (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:59
S36	0	(smartcard-smartcard) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S37	9	(mobile near phone) with (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S38	2	(mobile near phone) near (transaction or payment) and (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:27
S39	0	(mobile near phone) near (transaction or payment) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:28
S40	9	(mobile near phone) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:29
S41	67	(person-person) or (peer-peer) and (smartcard near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:35
S42	4	(smartcard or chipcard) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:48
S43	9	(nfc) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/04/26 22:49

			EPO; JPO; DERWENT; IBM_TDB			
S44	0	proximity near smartcard near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:59
S45	3	"20130124351"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:04
S46	54	(portable or mobile or slim or wireless) near (POS or "transaction terminal") and (nfc or emv or smartcard) near (reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:14
S47	67	(portable or mobile or slim or wireless) near (nfc or emv or smartcard) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:17
S48	123	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:25
S49	0	(portable or mobile or slim or wireless) near (rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 07:22
S50	99	(rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:18
S51	598	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:19
S52	104	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or	US-PGPUB; USPAT;	OR	ON	2014/04/29 09:21

		contactless) near (device or terminal) and (mobile or wireless or cellular) near (payment or transaction)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S53	11	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (digital or electronic) near (bill or invoice or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:28
S54	6	(portable or mobile or wireless) near (contactless) near (transaction or payment) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:32
S55	0	S51 and (person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S56	5	(person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S57	0	("peer to peer") near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S58	1128	(peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S59	133	S58 and (nfc or emv or smartcard or contactless) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S60	10	S59 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:49

S61	550	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal or scanner)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S62	1	S61 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S63	0	("2013/0221092").URPN.	USPAT	OR	ON	2014/04/29 11:16
S64	229	(mobile or cellular near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S65	180	((mobile or cellular) near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S66	1	S65 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:28
S67	46	S65 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:29
S68	1776	(electronic near (transaction or payment) near card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S69	397	S68 and (nfc or emv or smartcard or contactless)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S70	49	S69 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/29 11:32

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S71	3	"20130024383"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 07:06
S72	3	"20130132219"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:14
S73	258	TSM with (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S74	161	S73 and (nfc or emv or smartcard or chipcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S75	14	S74 and SAM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S76	147	S74 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S77	2	"20130218766"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 11:58
S78	41	(TSM or "trusted service") and (transaction or payment) near sett\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:56
S79	3	13/245498	US-PGPUB;	OR	ON	2014/05/02

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:59
S80	531	provision\$4 near (POS or merchant or vendor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:07
S81	3	S80 and (TSM or "trusted service") and (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:08
S82	2	12/563444	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:16
S83	27	(TSM or "trusted service") and (transaction or payment) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:45
S84	5	(TSM or "trusted service") and (purchase) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:55
S85	88	(TSM or "trusted service") and (verif\$4 or confirm\$4) near (purchase or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:56
S86	34	S85 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:58
S87	393	(TSM or "trusted service") and (purchase or transaction) near (process\$4 or settl\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/05/04 12:17

			IBM_TDB			
S88	152	S87 and (smartcard or chipcard or nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S89	131	S88 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S90	58	S89 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S91	19	S89 and (SAM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S92	2230	(electronic near (purse or wallet)) and (payment or transaction) near (settl\$4 or process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:42
S93	41	S92 and (TSM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:43
S94	59	(mobile near nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/10 17:20
S95	415	(smartcard or chipcard ) and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:04
S96	54	S95 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/05/11 15:05

			EPO; JPO; DERWENT; IBM_TDB			
S97	53	S96 and (provisioning or personal\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S98	25	S96 and (provisioning or personaliz\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S99	78	(smartcard or chipcard ) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S100	42	S99 and (payment near process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S101	248	(nfc with (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:13
S102	78	S101 and (mobile near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:14
S103	25	(nfc with mobile near (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:49
S104	0	(secure near element) and (mobile near (billing or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S105	549	(secure near element) and ((billing or invoic\$4))	US-PGPUB; USPAT;	OR	ON	2014/05/13 22:52



			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S106	83	S105 and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:53
S107	41	(smartcard or chipcard ) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:07
S108	0	(nfc near (transaction or payment)) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S109	175	(nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S110	0	(secure adj element) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S111	107	(secure adj element) and ((transmit\$4 or receiv\$4) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S112	2	S111 and (nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S113	2	S111 and (nfc near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10

S114	106	(nfc near (transaction or payment)) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S115	15	S114 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S116	589	(smartcard or chipcard or emv) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S117	0	S116 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S118	246	S116 and trusted	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S119	27	S116 and trusted near service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S120	55	(smartcard or chipcard or emv) with ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:14
S121	15	"security authentication module" and (electronic or virtual) near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/15 14:36
S122	10	"security authentication module" and (mobile near (purchase or payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/05/15 14:47

			DERWENT; IBM_TDB			
S123	66	(personal\$4) near (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 14:59
S124	21	S123 and (identif\$4 near issuer)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 15:00
S125	2	"20120290376"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 16:15
S126	1	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (device or element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:16
S127	0	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:17
S128	4	((identif\$4 or match\$4 or locat\$4) near issuer) same ((secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:18
S129	1	(mobile-mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S130	30	(mobile adj mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S131	1	S130 and (secure adj element)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/10/03 14:41

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S132	1102	(smartcard or chipcard ) and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S133	1	S132 and (personal\$4 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S134	97	S132 and (personal\$6near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S135	1	S132 and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S136	11	(Fund adj transfer) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:56
S137	137	("20010011250"   "20010021927"   "20010027441"   "20010039657"   "20020004783"   "20020042776"   "20020068554"   "20020194138"   "20030023954"   "20030074579"   "20030140176"   "20040029569"   "20040030601"   "20040123152"   "20040128259"   "20040140351"   "20050001711"   "20050071418"   "20050091659"   "20050102679"   "20050149926"   "20050184163"   "20050184164"   "20050184165"   "20050188360"   "20050193218"   "20050222961"   "20060036570"   "20060041507"   "20060126831"   "20060165060"   "20060219774"   "20070067325"   "20070090195"   "20070135164"   "20070169043"   "20070226786"   "20080056501"   "20080073426"   "20080130902"   "20080162834"   "20080167988"   "20080208681"   "20080208762"   "20080270253"   "20090158028"	US-PGPUB; USPAT; USOCR	OR	ON	2014/10/09 15:57

		"20090239512"   "20090261172"   "20090307142"   "20090312011"   "20100012732"   "20100042824"   "20100050271"   "20100058463"   "20100063893"   "20100088237"   "20100114731"   "20100131413"   "20100138518"   "20100203870"   "20100205432"   "20100207742"   "20100211507"   "20100250956"   "20100291896"   "20100291904"   "20100306076"   "20100306107"   "20100306531"   "20100323681"   "20100330958"   "20110016275"   "20110029671"   "20110072425"   "20110078081"   "20110087610"   "20110113473"   "20110131421"   "20120009873"   "20120129452"   "4851653"   "5221838"   "5991399"   "6005942"   "6092201"   "6101477"   "6141752"   "6151657"   "6230267"   "6233683"   "6402028"   "6434238"   "6484174"   "6601761"   "6609113"   "6633984"   "6647260"   "6792536").PN. OR ("6823520"   "6907608"   "6922835"   "6963270"   "7093122"   "7140549"   "7152782"   "7159180"   "7165727"   "7191288"   "7206769"   "7232073"   "7243853"   "7275685"   "7346170"   "7349885"   "7353396"   "7360691"   "7374099"   "7382762"   "7395535"   "7469151"   "7478389"   "7502946"   "7607175"   "7631346"   "7631810"   "7708198"   "7712658"   "7739731"   "7860486"   "7967215"   "8120460"   "8126806"   "8150767"   "8171137").PN. OR ("8429409").URPN.				
S138	0	contactless near (Fund adj transfer) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S139	0	contactless near (Fund adj transfer\$4) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S140	11	(Fund adj transfer\$4) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:00
S141	9	S132 and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/10/09 16:02

			DERWENT; IBM_TDB			
S142	8	(contactless near (transaction or payment)) and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:03
S143	580	(contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S144	9	mobile adj (contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S145	5	(contactless) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:06
S146	1	(contactless near (transaction or payment)) and (virtual near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:08
S147	0	(contactless near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:09
S148	0	(EMV near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:12
S149	1	(EMV near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S150	41	(EMV near (transaction or payment)) and ((bill or invoice))	US-PGPUB; USPAT; USOCR;	OR	ON	2014/10/09 16:13

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S151	56	((EMV or chipcard or smartcard) near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S152	64	((contactless) near (transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:17
S153	62	((contactless) near (transaction or payment)) and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:53
S154	6410	((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:54
S155	2	"20130151400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:03
S156	0	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S157	73	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S158	0	S157 and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S159	0	S157 and ((digital or electronic or	US-PGPUB;	OR	ON	2014/10/09

		paperless) near (bill or invoice)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			17:05
S181	215	(contactless or NFC or wireless or proximity) adj (billing or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:36
S182	8	S181 and (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:39
S183	52	(contactless or NFC or wireless or proximity) adj (payment or transaction or purchase) and (electronic adj (invoic\$4 or billing))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:41
S184	886	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 18:00
S185	32	S184 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:01
S186	648	POS adj card	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S187	7	S186 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S188	1	cashless adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/18 18:31



			IBM_TDB			
S189	2	cashless near POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S190	283	cashless same POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S191	2	S190 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:35
S192	17804	(SIM) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S193	564	(SIM adj card) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S194	9	(SIM adj card) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S195	11	("20010056398"   "20020097715"   "20020120537"   "20030060246"   "20070295803"   "20100030634"   "20100161478"   "6598028"   "7540408"   "7603312"   "8281991").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:15
S196	2	(card-to-card) near payment	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:17
S197	48	POS and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:18
S198	3936	(mobile or m) adj POS	US-PGPUB;	OR	ON	2017/09/18

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:49
S199	4	S198 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S200	16	S198 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S201	114	S198 and (contactless or NFC or wireless or proximity) adj (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 20:54
S202	109	S198 and (SIM adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S203	114	S198 and ((nfc or contactless or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S204	8	S203 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:56
S205	234	merchant adj wallet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:58
S206	51	merchant adj (mobile adj wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/18 20:58

			IBM_TDB			
S207	222	((mobile or m) adj POS) and ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S208	69	((mobile or m) adj POS) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S209	1545	((payment or transaction) adj terminal) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S210	0	S209 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S211	21	S209 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S212	91	((peer-to-peer) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:20
S213	58	S212 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:21
S214	0	((peer-to-peer) adj (POS)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:22
S215	1	((peer-to-peer) adj (POS))	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/18 21:22

			EPO; JPO; DERWENT; IBM_TDB			
S216	4	("20070233554"   "20100227553"   "20120092137"   "8229354").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 21:23
S217	1	(POS near emulat\$4) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:24
S218	56	(POS near application) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:08
S219	11745	POS and SOC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:09
S220	2680	POS and (system near chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S221	366	POS and (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S222	12	POS same (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S223	47	((touch or tap) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:13
S224	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/09/19 09:21

			IBM_TDB			
S225	174	S224 and (electronic or digital) adj (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:22
S227	11	S224 and (e-bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:23
S228	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S229	5	S228 and (electronic or digital) adj (statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S230	887	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:17
S231	31	S230 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:18
S232	3518	(POS) and ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S233	282	S232 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S234	92	S233 and (contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/19 12:23

			EPO; JPO; DERWENT; IBM_TDB			
S235	25	(POS) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:25
S236	189	(merchant) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:53
S237	4	"20070131780"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 16:42
S238	15	("2007/0131780").URPN.	USPAT	OR	OFF	2017/09/19 16:43
S239	184	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) and ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:33
S240	59	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) same ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:34
S241	4	("2003023080").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:17
S242	2	("20040127256").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:20
S243	1	(mobile or portable) adj POS and ((contactless or nfc or proximity) adj (adapter))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:21

S244	294	("2004/0127256").URPN.	USPAT	OR	OFF	2017/09/19 18:22
S245	0	(10/625823).APP.	USPAT; USOCR	OR	OFF	2017/09/19 18:25
S246	95	POS near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 07:00
S247	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 08:39
S248	1145	POS same (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:05
S249	44	S248 and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:23
S250	76	S248 and ((merchant or vendor) near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S251	67	S248 and ((merchant or vendor) adj (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S252	256	virtual adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06
S253	14	S252 and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06

S254	7	S252 and (emv) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:37
S255	3	emv adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:38
S256	0	"201000274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S257	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S258	203	(contactless or proximity or RFID) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S259	0	(NFC) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S260	7	S258 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S261	16	(NFC) near (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S262	0	(smartcard) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/25 17:10



			DERWENT; IBM_TDB			
S263	0	S258 and (transaction or payment) adj terminal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:12
S264	6563	((customer or client) adj side) and ((payment or transaction) adj process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:07
S265	87	S264 and (electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:07
S266	34	(merchant-to-person)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:17
S267	3	(person-to-merchant) and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S268	0	(person-to-merchant) and (nfc) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S269	23	(person-to-merchant) and (nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S270	618	(contactless or proximity or RFID) adj (payment or transaction) same (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S271	1	S270 and (security adj element)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/09/25 21:22

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S272	243	S270 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S273	4	S272 and (electronic or digital or e) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:23
S274	0	S272 and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S275	5	(contactless or proximity or RFID or nfc) adj (payment or transaction) and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S276	78	(contactless or proximity or RFID or nfc) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:25
S277	11	(person-to-merchant) and ((smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S278	12	(person-to-merchant) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S279	930	(person-to-person) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S280	443	S279 and POS	US-PGPUB;	OR	OFF	2017/09/25

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:27
S281	121	S280 and (transmit\$4 or send\$4) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S282	15	(person-to-person) same ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S283	82	S281 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S284	41	S281 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S285	72	business-to-consumer and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:32
S286	12	S285 and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:32
S287	5	card-to-card and (nfc or contactless or RFID or proximity or wireless) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:34
S288	7	card-to-card and (nfc or contactless or RFID or proximity or wireless) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/25 21:34

			IBM_TDB			
S289	203	(contactless or proximity or RFID or nfc) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S290	0	(card-to-card) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S291	45	(card-to-card) same (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S292	0	S289 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 22:09
S293	148	(client-side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S294	1	S293 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S295	0	S293 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S296	212	(client adj side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S297	6	S296 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/10/04 23:36

			EPO; JPO; DERWENT; IBM_TDB			
S298	2	S296 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S299	358	(closed-loop adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S300	1	S299 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S301	0	S300 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S302	6	"20100114773"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 08:56
S303	459	(proximity or contactless or smartcard) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:06
S304	91	S303 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:07
S305	535	(mobile or virtual) adj (wallet or purse) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:54
S306	339	S305 and POS	US-PGPUB; USPAT;	OR	OFF	2017/10/05 12:55

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S307	179	S306 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S308	83	S307 and (smart adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S309	4	"20140187153"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 13:12
S310	271	(smartcard) and (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:37
S311	53	(smartcard) with (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S312	182	S310 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S313	51	S311 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:39
S314	1265	(electronic or digital) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40

S315	1267	(electronic or digital or virtual) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S316	99209	nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S317	66	S315 and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S318	90	S315 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 21:04
S319	1372	(electronic or virtual or digital) adj (bill or invoice) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:06
S320	50	S319 and (wireless or contactless or nfc or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:12
S321	376	(electronic or virtual or digital) adj (check) and (nfc or wireless or contactless or proximity) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S322	376	(electronic or virtual or digital) adj (check) and ((nfc or wireless or contactless or proximity) adj (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S323	207	S322 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2017/10/06 06:16

			DERWENT; IBM_TDB			
S324	79	S323 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S325	6	"20140143104"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/09 07:10
S326	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 08:38
S327	4	((("20090170559") or ("20120191612")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:46
S328	0	5748737/pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S329	4	"5748737".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S330	13595	(electronic or digital or virtual) adj (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S331	1082	S330 and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S332	732	S331 and POS	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/10/09 11:50



			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S333	87	S332 and (electronic or digital or virtual) adj (bill or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S334	25	(electronic or digital or virtual) adj (bill or invoic\$4) adj (payment) and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:54
S335	0	(nfc or contactless or proximity) adj (bill or invoic\$4) adj (payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 06:09
S336	139452	restaurant brands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S337	0	restaurantbrands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S338	7	"20140006205"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 08:50
S339	6	"20130138517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 08:52
S340	18375	(electronic or digital) near (bill\$4 or invoic\$4 or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:19
S341	5793	POS near (payment or transaction)	US-PGPUB;	OR	OFF	2018/04/06

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			09:20
S342	533	S340 and S341	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S343	405	S342 and 705/\$	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S344	5	"20110066550"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:39

## EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S160	1647	705/21	USPAT	OR	ON	2015/03/26 16:56
S161	75	S160 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:57
S162	25	S161 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:57
S163	0	S162 and TSM	USPAT	OR	ON	2015/03/26 16:58
S164	16	S162 and S161 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S165	16	S162 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S166	0	S165 and TSM	USPAT	OR	ON	2015/03/26 16:58
S167	483	705/14.23	USPAT	OR	ON	2015/03/26 16:58
S168	10	S167 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:58
S169	0	S168 and TSM	USPAT	OR	ON	2015/03/26 16:58
S170	3229	705/41	USPAT	OR	ON	2015/03/26 16:58
S171	259	S170 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:59
S172	114	S171 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:59

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S173	75	S172 and provision\$4	USPAT	OR	ON	2015/03/26 16:59
S174	0	S173 and TSM	USPAT	OR	ON	2015/03/26 16:59
S175	0	S173 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S176	0	S171 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S177	8994	705/39	USPAT	OR	ON	2015/03/26 17:00
S178	743	S177 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 17:00
S179	206	S178 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 17:00
S180	1	S179 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00

4/ 6/ 2018 7:46:22 PM

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## Application US201213468462

INPADOC family has approximately 3 simple families with 21 family members

Loaded: 1 simple family with 7 family members

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FamSeqNr	ApplnSeq	ApplnCC	ApplnNrEPODOC	ApplnNrDOCDB	ApplnFilingDate
	1	1 CA	<a href="#">CA20122835508</a>	CA2835508	2012-05-10
	1	2 EP	<a href="#">EP20120783038</a>	EP12783038	2012-05-10
	1	2 EP	<a href="#">EP20120783038</a>	EP12783038	2012-05-10
	1	2 EP	<a href="#">EP20120783038</a>	EP12783038	2012-05-10
	1	2 EP	<a href="#">EP20120783038</a>	EP12783038	2012-05-10
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APPLE INC [US]  
RACKWITZ KARSTEN [DE]

WAY SYSTEMS INC [US], et al

**NPLbiblio**





**CitnCategory**

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**Passage**

abstract  
paragraphs [0003] , [0018] - [0020] - [0055] - [0068]  
abstract  
paragraphs [0017] - [0020] - [0025] - [0056]  
abstract  
paragraphs [0178] - [0197]  
abstract  
paragraphs [0015] , [0022]  
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abstract





**Claims**

1-3,9

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000,  
provides for continued examination of an utility or plant application  
filed on or after June 8, 1995.

See The American Inventors Protection Act of 1999 (AIPA).

Application Number	14/728,349
Filing Date	06/02/2015
First Named Inventor	Xiangzhen Xie
Group Art Unit	3687
Examiner Name	HAYLES, ASHFORD S
Attorney Docket Number	RFID-085C1

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

**NOTE:** 37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Final Rule, 65 Fed. Reg. 50092 (Aug. 16, 2000); Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

## 1. Submission required under 37 C.F.R. § 1.114

- a.  Previously submitted
- i.  Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on \_\_\_\_\_  
(Any unentered amendment(s) referred to above will be entered).
- ii.  Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
- iii.  Other \_\_\_\_\_
- b.  Enclosed
- i.  Amendment/Reply
- ii.  Affidavit(s)/Declaration(s)
- iii.  Information Disclosure Statement (IDS)
- iv.  Other \_\_\_\_\_

## 2. Miscellaneous

- a.  Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required)
- b.  Other \_\_\_\_\_

## 3. Fees

The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.

- a.  The Director is hereby authorized to charge the following fees, or credit any overpayments, to  
Deposit Account No. \_\_\_\_\_
- i.  RCE fee required under 37 C.F.R. § 1.17(e) **Small Entity**
- ii.  Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
- iii.  Other \_\_\_\_\_
- b.  Check in the amount of \$ \_\_\_\_\_ enclosed
- c.  Payment by credit card (Form PTO-2038 enclosed) paid via PAIR

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Joe Zheng	Registration No. (Attorney/Agent)	39,450
Signature	/ joe zheng /	Date	08/07/2017

### CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner For Patents, Box RCE, Washington, DC 20231, or facsimile transmitted to the U.S. Patent and Trademark Office on:

Name (Print/Type)	Joe Zheng
Signature	/ joe zheng /
Date	08/07/2017

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND Fees and Completed Forms to the following address: Assistant Commissioner for Patents, Box RCE, Washington, DC 20231.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Trusted Service Management Process  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Confirmation:** 5346  
**Examiner:** HAYLES, ASHFORD S  
**Group Art Unit:** 3687  
**Docket No.:** RFID-085C1

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Aug. 7, 2018

Mail Stop: AF/RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to Final OA**

Dear Sir:

In response to Office Action dated 04/12/2018, the Applicant concurrently submitted USPTO Automated Interview Request (AIR) Form and respectfully requests the Examiner to call the undersigned for conference when ready to examine this instant application. Further the Applicant respectfully requests the Examiner to enter the following amendments:

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 2 of this Response.

**REMARKS/ARGUMENTS** begin on page 9 of this Response.



## AMENDMENTS TO THE CLAIMS

Please amend Claims 1-3, 5, 7, 9, 12-14 and 17-18 as follows:

1. (*Currently amended*) A method for mobile payment, the method comprising:  
causing a mobile device to ~~receive~~ capture data wirelessly directly from a medium ~~point-of-sale (POS) device~~, the data including an electronic invoice and settlement information with a merchant associated with ~~the a~~ a POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium;  
displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to ~~communicate with the POS device~~ capture the data from the medium;  
receiving an entry by the mobile device, the entry including an additional amount from the user;  
calculating a total amount by adding the additional amount to the amount in the electronic invoice;  
generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;  
displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument;  
sending the payment request ~~from the mobile device to a payment gateway,~~ wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and

~~receiving-recording~~ a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice-POS-device.

2. *(Currently amended)* The method as recited in claim 1, wherein said causing a mobile device to capture data directly from a medium includes placing the medium near the mobile device~~-the POS device includes a contactless card loaded with the electronic invoice, and said causing a mobile device to receive an electronic invoice from a point-of-sale (POS) device comprises reading the contactless card to obtain the electronic invoice by the mobile device.~~
3. *(Currently amended)* The method as recited in claim 2, wherein the POS device includes a secure element that provides security and authentication to generate the electronic bill and transfer the data to the medium~~-confidentiality required to support secure data communication between the POS device and the mobile device.~~
4. *(Previously amended)* The method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:
  - allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed;
  - paying the total amount with the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer.
5. *(Currently amended)* The method as recited in claim 1 further comprising: causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device, wherein the installed module is executed to receive the data from the ~~POS device~~medium carrying the electronic invoice and the settlement information.

6. *(Previously amended)* The method as recited in claim 5, wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device.
7. *(Currently amended)* The method as recited in claim 6, wherein said sending the payment request from the mobile device to a payment gateway comprises:
  - transporting the payment request over a secured channel to the payment gateway, wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates an electronic notification for sending to the POS device.
8. *(Previously amended)* The method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:
  - allowing the user to modify the total amount in the electronic invoice when needed;
  - paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing.
9. *(Currently amended)* The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established therebetween ~~in accordance with the security information in the data pertaining to the electronic invoice.~~
10. *(Previously amended)* The method as recited in claim 9, wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

11. (*Previously amended*) The method as recited in claim 9, wherein said notifying the user in the mobile device that then monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant of the POS device.
12. (*Currently amended*) A method for mobile payment, the method comprising:  
generating an electronic invoice in a point of sale (POS) device;  
transporting data to a medium, wherein the data includes the electronic invoice and settlement information with a merchant associated with the POS device;  
~~transporting the electronic invoice to a mobile device by causing the mobile device to read-off capture the data pertaining to the electronic invoice from the medium POS device, wherein the data further includes settlement information with a merchant associated with the POS device, wherein the mobile device executes an installed application therein to communicate with the POS device to generate a payment request in response to the electronic invoice captured data, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice; and~~  
receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice, wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices.
13. (*Currently amended*) The method as recited in claim 12, wherein the medium is placed near the mobile device to allow the user to use the mobile device to capture the data, ~~the POS device includes a contactless card loaded with the electronic invoice, and the mobile device reads-off a contactless card in a near field of the mobile device to obtain the data pertaining to the electronic invoice from the POS device.~~

14. (*Currently amended*) The method as recited in claim 13, wherein the POS device includes a secure element providing security and authentication to generate the electronic invoice ~~and confidentiality required to support secure data communication between the POS device and the mobile device.~~
15. (*Previously amended*) The method as recited in claim 14, wherein the data includes security information of the merchant associated with the POS device, the security information includes an account and bank information, an identifier of the secure element in the contactless card or the POS device.
16. (*Previously amended*) The method as recited in claim 15, wherein the message received in the POS device shows how much has been received from the user of the mobile device.
17. (*Currently amended*) The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway ~~in accordance with the security information in the data pertaining to the electronic invoice.~~
18. (*Currently amended*) A system for mobile payment, the system comprising:  
a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry, wherein data including the electronic invoice and settlement information is sent transferred to a medium ~~mobile device when the POS device is presented near the mobile device~~, the mobile device is executing a module configured to read capture the data and display an amount expressed in the electronic invoice; and wherein  
the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice, the

additional amount is added by the used, after the user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice, the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request.

19. (*Previously amended*) The system as recited in claim 18, wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

20. (*Previously amended*) The system as recited in claim 19, wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device.

## REMARKS

Claims 1 - 20 were examined again. In the Office Action dated 04/12/2018, Claims 1, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen et al. U.S. 2012/029472 (hereinafter "Mullen") in view of Shank et al. U.S. 2011/0066550 (hereinafter "Shank"), Claims 2, 5, and 13 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Shank further in view of Dryer et al. US2012/0290376 (hereinafter "Dryer"), Claims 3, 6-11, 14, 15 and 16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Shank in view of Dryer further in view of Florek et al. 2011/0112968 (hereinafter "Florek").

The Applicant appreciates the Examiner for providing detailed comments in the Office Action. In the foregoing amendments, Claims 1-3, 5, 7, 9, 12-14 and 17-18 have been amended. No new matters have been introduced. Reconsideration of pending claims is respectfully requested.

### ***Claim Rejections - 35 USC § 103***

On Page 3, Section 4, of this Office Action, Claims 1, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Shank.

As amended, Claim 1 now recites:

causing a mobile device to capture data directly from a medium, the data including an electronic invoice and settlement information with a merchant associated with a POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium;

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the medium;

receiving an entry by the mobile device, the entry including an additional amount from the user;

calculating a total amount by adding the additional amount to the amount in the electronic invoice;  
generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;  
displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument;  
sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and  
recording a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice.

*(emphasis added)*

As explicitly shown in FIG. 1B, a bill (electronic invoice) is prepared in the POS device, but a customer (payer) is presented with a medium. In other words, the mobile device used by the payer captures data directly from the medium, where the data includes the bill and settlement information. As also shown in FIG. 1B, the mobile device generates a payment request and sends the request to the payment network that is authorized to process the payment request. The POS device receives a confirmation directly from the payment network that the payment has been made to the payment request originated by the mobile device.

In contrast, Mullen teaches a mobile device used as a point-of-sale terminal and a payment card as paying instrument to communicate payment information with the mobile device. An application in the mobile device is remotely activated to allow the mobile device to accept payment information directly from the payment card. In view of the instant application, the mobile device in Mullen may be viewed as the POS device 106 while the payment card is the mobile device 110. However, the mobile device in Mullen does not send an electronic invoice to the payment card but only accepts information about the payment card. Mullen is also silent about the payment card "*generating a payment request*" for the payment gateway, as there is no need to do so



in Mullen. As shown in FIG. 2, Mullen explicitly states "Mobile device 202 may, for example, complete a purchase transaction by first obtaining required payment information from contactless device 204 and then communicating such payment information to network entities (e.g., payment server 216 and/or issuer 220)". In other words, it is the mobile device 202 (corresponding to the POS device 106 in the instant application) that communicates with the payment network, teaching away from "*sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message directly to the POS device ...*" (note the mobile device in Mullen means the POS device). The logic data flow is very different from Claim 1 of the instant application. Further, Mullen is silent about the use of a medium presented to the payer for capturing the data including a charge that payer is supposed to pay for.

On Page 5 of the Office Action, the Examiner cites Shank to show the teaching in combination with Mullen. In Particular, the Examiner points "pg.6, ¶ [0061] discusses the gateway 14 may receive the result of the transaction from the paying bank 16a". Regardless how Shank is interpreted, the modification with Shank would not cure the deficiency presented above. Shank neither teaches nor suggests the use of a medium presented to the payer for capturing the data including a charge that payer is supposed to pay for. Accordingly, the Applicant submits the combination of Mullen and Shank fails to suggest "*a mobile device to capture data directly from a medium, the data including an electronic invoice and settlement information with a merchant associated with a POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium*" and "*to capture the data from the medium*". Claim 1 shall be allowable over Mullen and Shank, viewed alone or in combination. Reconsideration of Claims 1-11 is kindly requested.

Claim 12 has been amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 12 and submits the combination of Mullen and Shank fails to suggest "*transporting data to medium, wherein the data includes the electronic invoice and settlement information with a merchant associated with the POS device; by causing the*

*mobile device to capture the data from the medium*". Accordingly, the Applicant submits Claim 12 as amended shall be allowable over Mullen and Shank, viewed alone or in combination. Reconsideration of Claims 12-17 is kindly requested.

Claim 18 has been also amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 18 and submits Mullen neither teaches nor suggests "*a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry, wherein data including the electronic invoice and settlement information is transferred to a medium, the mobile device is executing a module configured to capture...*". Accordingly, the Applicant submits Claim 18 as amended shall be also allowable over Mullen. Reconsideration of Claims 18-20 is kindly requested.

### ***Claim Rejections - 35 USC § 103***

Claims 2, 5, and 13 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Shank further in view of Dryer, Claims 3, 6-11, 14, 15 and 16 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Mullen in view of Shank in view of Dryer further in view of Florek.

It appears that the Examiner renders the rejection based on Paragraph [0041] of Dryer. A careful review of Dryer indicates that the Examiner misinterprets "contactless card" as "NFC chips or cards 119, 129" in Dryer. As explicitly described in Paragraph [0026], a contactless card in the instant application is clearly NOT or not even close to "NFC chips or cards 119, 129" in Dryer. As shown in FIG. 1A, in one example, the contactless card 108 as a medium, is presented to a user for his mobile device 110 to capture the data from the contactless card 108. The Applicant submits the modification of Mullen and Shank with Dryer would not cure the deficiency in Mullen and Shank as expressed above. Accordingly, Claims 2, 5 and 13 as amended shall be allowable over Mullen, Shank and Dryer. Reconsideration of Claims 2, 5 and 13 in view of Claim 1 as amended is kindly requested.

Florek shows in FIG. 2 and FIG. 5 that a mobile device is used to conduct a payment with a merchant, where the mobile devices installs a payment instrument (e.g.,

in a removable memory card). However, Florek is also silent about "generating a payment request" in a mobile device for a payment gateway to settle the charge from the POS device and sending a confirmation directly to the POS device. The Applicant submits the modification of Mullen, Shank and Dryer with Florek would not cure the deficiency in Mullen as expressed above. Accordingly, Claims 3, 6-11, 14, 15 and 16 in view of Claim 1 shall be allowable over Mullen, Shank, Dryer and Florek. Reconsideration of Claims 3, 6-11, 14, 15 and 16 in view of Claim 1 as amended is kindly requested.

The patentability of the independent claims has been argued specifically as set forth above and thus Applicant will not take this opportunity to argue further the merits of the rejection with regard to each dependent claim. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

In view of the above amendments and remark, the Applicant believes that Claims 1-20 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to " Mail Stop: AF/RCE Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450", Aug. 7, 2018. e-filed.

Name: Joe Zheng

Signature: / ioe zhena /

Respectfully submitted;

/ joe zheng /

Joe Zheng  
Reg.: No. 39,450

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	14728349
<b>Filing Date:</b>	02-Jun-2015
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Filer:</b>	Joe Zheng
<b>Attorney Docket Number:</b>	RFID-085C1

Filed as Small Entity

### Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	2251	1	100	100
<b>Miscellaneous:</b>				
RCE- 1ST REQUEST	2801	1	650	650
<b>Total in USD (\$)</b>				<b>750</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33404153
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	07-AUG-2018
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	22:47:52
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$750
RAM confirmation Number	080818INTEFSW22494100
Deposit Account	502436
Authorized User	Joe Zheng

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

IPR2022-01239

37 CFR 1.19 (Document supply fees)  
 37 CFR 1.20 (Post Issuance fees)  
 37 CFR 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCEReqTrnsAsFiled.pdf	127914 34a132fd8cc468ede91f6518f45db060df3f4504	no	1

**Warnings:**

This is not a USPTO supplied RCE SB30 form.

**Information:**

2	Amendment Submitted/Entered with Filing of CPA/RCE	ResponseToFinalOA.pdf	162105 a09d5c28f9688937e12e995cf56d0a4a03d1deb1	no	12
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**Warnings:**

**Information:**

3	Fee Worksheet (SB06)	fee-info.pdf	32149 71a4a4ca535d3cab1c346903694811c57baeea8	no	2
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**Warnings:**

**Information:**

**Total Files Size (in bytes):** 322168

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number 14/728,349	Filing Date 06/02/2015	<input type="checkbox"/> To be Mailed
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ENTITY:  LARGE  SMALL  MICRO

**APPLICATION AS FILED - PART I**

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$210 =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED - PART II**

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	08/07/2018		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	20	Minus	** 20	= 0
	Independent (37 CFR 1.16(h))	*	3	Minus	*** 3	= 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*		Minus	**	=
	Independent (37 CFR 1.16(h))	*		Minus	***	=
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. LIE

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". diana A bates

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*





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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Xiangzhen Xie and examiner HAYLES, ASHFORD S.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@sbcglobal.net

## Office Action Summary

**Application No.**

14/728,349

**Applicant(s)**

Xie et al.

**Examiner**

ASHFORD S HAYLES

**Art Unit**

3687

**AIA Status**

No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)  Responsive to communication(s) filed on 8/7/2018.

A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.

2a)  This action is **FINAL**.

2b)  This action is non-final.

3)  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.

4)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims\***

5)  Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

6)  Claim(s) \_\_\_\_\_ is/are allowed.

7)  Claim(s) 1-20 is/are rejected.

8)  Claim(s) \_\_\_\_\_ is/are objected to.

9)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

**Application Papers**

10)  The specification is objected to by the Examiner.

11)  The drawing(s) filed on See Continuation Sheet is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)  All      b)  Some\*\*      c)  None of the:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)

3)  Interview Summary (PTO-413)

Paper No(s)/Mail Date \_\_\_\_\_

2)  Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4)  Other: \_\_\_\_\_

Paper No(s)/Mail Date \_\_\_\_\_

Continuation of Application Papers 11): 6/23/2015

**DETAILED ACTION**

Amendment received on August 7, 2018 has been acknowledged. Claims 1-3, 5, 7, 9, 12-14 and 17-18 have been amended and entered. Therefore, claims 1-20 are pending.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2018 has been entered.

**Response to Arguments**

Applicant's arguments filed August 7, 2018 have been fully considered but they are not persuasive.

Applicant argues:

*"...the mobile device in Mullen does not send an electronic invoice to the payment card but only accepts information about the payment card. Mullen is also silent about the payment card "generating a payment request "for the payment gateway, as there is no need to do so in Mullen"*

Examiner respectfully disagrees. Mullen clearly teaches that a link is sent to user's mobile device which has the user's bill. Mullen teaches where the payment card data is transferred onto the mobile device via tapping against the mobile device and it is the application within the mobile device that generates a payment request that is sent to a payment gateway for processing. Therefore, Mullen teaches a device that is capable of generating and transmitting a payment request to a payment server or issuer as required by claims 1, 12 and 18.

Applicant's arguments with respect to claim 2 and 13 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection. Regarding Claim 5, Dryer et al. teaches a system that can create a NFC connection between the devices so as to communicate to each other. Mullen and Shank both provide the capability to perform mobile transactions, it would have been obvious to one having ordinary skill within the art to include the NFC functionality as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument data to a merchant.

Applicant argues:

*"...the modification of Mullen, Shank and Dryer with Florek would not cure the deficiency in Mullen as expressed above."*

Examiner respectfully disagrees. Florek is combined to teach the specific limitations regarding the POS having a secure element installed and an identification of the secure element used in a payment transaction which is disclosed throughout Florek et al.

***Claim Rejections - 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 1, 2, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai U.S. 2013/0339253 in view of Mullen et al. U.S. 2012/029472 further in view of Shank et al. U.S. 2011/0066550.**

**As per Claim 1**, Sincai discloses a method for mobile payment, the method comprising:

causing a mobile device to capture data directly from a medium (pg.6, ¶ [0164] discusses The customer uses the mobile device 501 incorporated camera to capture the transaction code),

the data including an electronic invoice and settlement information with a merchant associated with a POS device (pg.6, ¶ [0166] discusses the transaction code identifies the specific purchase and contains information such as PoS ID and invoice number),

wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium (pg.6, ¶ [0166] discusses the code is generated by the PoS and printed by the cashier printer either on the bill, a dedicated note or on a screen);

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device (Figure 7C, depicts a mobile device displaying a bill from Giarffe which includes an amount to be paid).

wherein the mobile device is configured to execute an installed application therein to capture the data from the medium (pg.5, ¶ [0143] discusses registration of mobile payment application, that captures payment code);

displaying the electronic invoice on a display of the mobile device for a user to verify the payment request along with the chosen paying instrument (pg.6, ¶ [0171] discusses the end user receives the bill and change the payment means (which was suggested automatically by the system servers 504) and approves/denies the payment, See Figure 7C, which includes Gold Visa payment method);

receiving an entry by the mobile device the entry including an additional amount from the user (pg.6, ¶ [0171] discusses end user receives the bill he may select/deselect purchased items, decide to pay just part of the sum, set additional attributes (such as tip amount, number of payments, split tab etc.);

calculating a total amount by adding the additional amount to the amount in the electronic invoice (pg.6, ¶ [0171] discusses end user receives the bill he may select/deselect purchased items, set additional attributes such as tip amount, and approves/denies the payment ¶[0172] end user approves transaction<sup>1</sup>).

Sincai teaches a user choosing a paying instrument (See Figure 7A, payment means, Figure 7E, selectable payment means) and recording a confirmation that a monetary transaction per the payment request has been successfully completed with the respect to the electronic invoice (pg.7, ¶ [0176] discusses if the user has sufficient funds it approves the payment, updates the amount of money in the prepaid account, stores the payment record in the database, sends back an approval to the PoS 503 and sends a notification to the user's device).

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<sup>1</sup> The Examiner is construing the ability to approve, set an additional and approve a transaction as calculating a total amount including the additional amount, because it is old and well known to include the additional amount when approving a transaction.



However, Sincai fails to explicitly state generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument and recording a confirmation in the mobile device that a monetary transaction per the payment request has been successfully completed with the respect to the electronic invoice.

Mullen et al. teaches generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement) and

recording a confirmation in the mobile device that a monetary transaction per the payment request has been successfully completed with the respect to the electronic invoice (pg.9, ¶ [0116] discusses a mobile device may complete a purchase transaction with an entity of a payment network (e.g., a payment server) and may further request that the payment server deliver a receipt to the mobile device in a text message format. Accordingly, for example, in addition to providing payment information to the payment server, a mobile device may also provide a text message address (e.g., an SMS text message address) to the payment server. In so doing, for example, the mobile device may receive a receipt of the completed purchase transaction from the payment server via a text message at the text message address provided by the mobile device<sup>2</sup>).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment

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<sup>2</sup> By receiving the receipt as a text message, multimedia message, email or purchase receipt by the mobile device constitutes as storing a confirmation within the mobile device.

information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

Shank teaches generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument (pg.5, ¶ [0051] discusses once the bill 88 has been selected the payer selects an account for making the payment, ¶ [0052] discusses upon receiving the accept bill message, the billing device 12b may send "Pay To" information to the paying device 12a, as shown in step 216. The Pay To information may include the device identifier of the billing device, the location of the billing device, a bill number, the bill title, the payment amount, the bill details, and/or one or more authorization codes),

wherein the payment request includes the total amount and the settlement information (pg.5, ¶ [0054] discusses the paying device 12a may include only certain parameters of the Pay To information, such as the device identifier of the billing device, the location of the billing device, the bill title, the payment amount, and the authorization codes);

sending the payment request from the mobile device to a payment gateway (¶ [0054] discusses the paying device 12a may send a transaction to the gateway 14 at step 222. The transaction may include the Pay To information and "Bill To" information describing the paying device 12a),

wherein the payment gateway, sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user (pg.6, ¶ [0061] discusses the gateway 14 may receive the result of the transaction from the paying bank 16a. The result may indicate whether the transaction succeeded, a transaction number, and/or an estimated date that the transferred funds will become available to the biller, pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to

the billing device 16b from the gateway 14, rather than from the paying device 16a, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai and Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 2**, Sincai discloses the method as recited in claim 1, wherein said causing a mobile device to capture data directly from a medium includes placing the medium near the mobile device (Figure 7B, depicts the mobile device using the incorporated camera to capture the transaction code).

**As per Claim 4**, Sincai discloses the method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:

allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed (Figure 7C depicts where the user can view/edit a bill from Giarffe).;

paying the total amount with the chosen paying instrument (pg.6, ¶ [0171] discusses suggested payment means or the end user may change the payment means),

wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer (Figure 7E depicts credit and debit cards pg. 6, ¶ [0178] discusses Money Transfer).

**As per Claim 12**, Sincai discloses a method for mobile payment, the method comprising:

generating an electronic invoice in a point of sale (POS) device (pg.6, ¶ [0166] discusses the code is generated by the PoS and printed by the cashier printer either on the bill, a dedicated note or on a screen);

transporting data to a medium, wherein the data includes the electronic invoice and settlement information with a merchant associates with the POS device (pg.6, ¶ [0166] discusses the transaction code identifies the specific purchase and contains information such as PoS ID and invoice number),

by causing the mobile device to capture the data from the medium (Figure 7B, depicts mobile device capturing data and Figure 7C depicts an electronic bill amount);

receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice (pg.6, ¶ [0173] discusses the system servers 504 perform the authorization process 201 vis-a-vis the acquiring bank and return it's response (approved/denied) to both the PoS 503, which sends back the response to the cashier 502, and the end-user 501),

wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account with the user of the mobile device (pg.6, ¶ [0176] discusses If the user has sufficient funds it approves the payment, updates the amount of money in the prepaid account, stores the payment record in the database, sends back an approval to the PoS 503 and sends a notification to the user's device).

Mullen et al. teaches wherein the mobile device executes an installed application therein to generate a payment request in response to the captured data (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement),

the payment request includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice (pg.13, ¶ [0154] discusses Mobile device 2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant) a user may monitor each item on the bill, enter an additional amount into the bill e.g., a tip and then pay the bill all from the convenience of the user's mobile device 2502<sup>3</sup>).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

Shank teaches wherein the data further includes settlement information with a merchant associated with the POS device (pg.5, ¶ [0051] discusses the billing device 12b may send a list of one or more active bills 88 to the paying device, pg.4, ¶ [0047] discusses the details may provide an itemized record describing the goods and/or services provided, the taxes charged, and any other suitable details. The biller may then select an account for receiving the funds);

receiving a message in the POS device from the payment gateway that the electronic invoice has been settled (pg.6, ¶ [0061] discusses the gateway 14 may receive the result of the transaction from the paying bank 16a. The result may indicate whether the transaction succeeded, a transaction number, and/or an estimated date that the transferred funds will become available to the biller ¶ [0062]

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<sup>3</sup> The Examiner is construing the food and alcohol as an amount expressed on the bill and the tip as the additional amount.

discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232.)<sub>2</sub>

the payment request being sent to a payment gateway includes a total amount expressed on the electronic invoice (pg.5, ¶ [0054] discusses the paying device 12a may include only certain parameters of the Pay To information, such as the device identifier of the billing device, the location of the billing device, the bill title, the payment amount, and the authorization codes, ¶ [0054] discusses the paying device 12a may send a transaction to the gateway 14 at step 222. The transaction may include the Pay To information and "Bill To" information describing the paying device 12a)<sub>2</sub>

wherein the payment gateway, is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices (pg.6, ¶ [0062] Sending the result to the billing device 16b from the gateway 14, rather than from the paying device 16a, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 13**, Sincai discloses the method as recited in claim 1, wherein the medium is placed near the mobile device to allow the user to use the mobile device to capture the data (pg.6, ¶ [0167] discusses position a unique identification sticker in a visible and accessible place on the cashier counter. In this case the transaction code identifies the specific PoS terminal and Figure 7b depicts mobile device capturing electronic bill).

**As per Claim 16**, Sincai discloses the method of the claimed invention. However, Sincai is silent regarding wherein the message received in the POS device shows how much has been received from the user of the mobile device.

Shank teaches wherein the message received in the POS device shows how much has been received from the user of the mobile device (pg.6, ¶ [0062] discusses the result may be communicated to the user via email, text message, or any suitable type of notification. An example of a result 94 received by the billing device 12b is illustrated in FIG. 4F).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 17**, Sincai discloses the method as recited in claim 12. However, Sincai is silent regarding wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway.

Shank et al. teaches wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway (pg.5, ¶ [0053] discusses *each device 12 may open a connection with the gateway 14*. The connections may be opened according to any suitable network communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL)).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a secure

connection between mobile devices and a payment gateway to complete a payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 18**, Sincai discloses a system for mobile payment, the system comprising:

a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry (pg.6, ¶ [0166] discusses the code is generated by the PoS and printed by the cashier printer either on the bill, a dedicated note or on a screen),

wherein data including the electronic invoice and settlement information is transferred to a medium (pg.6, ¶ [0166] discusses the transaction code identifies the specific purchase and contains information such as PoS ID and invoice number),

the mobile device is executing a module configured to capture the data and display an amount expressed in the electronic invoice (Figure 7B, depicts mobile device capturing data and Figure 7C depicts an electronic bill amount);

the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice (pg.6, ¶ [0171] discusses receives the bill he may select/deselect purchased items, decide to pay just part of the sum, set additional attributes (such as tip amount, number of payments, split tab etc.) and change the payment means (which was suggested automatically by the system servers 504) and approves/denies the payment, the data is sent back to the system servers 504 and ¶ [173] discusses the system servers 504 perform the authorization process 201 vis-a-vis the acquiring bank and return it's response (approved/denied) to both the PoS 503, which sends back the response to the cashier 502, and the end-user 501),



after the user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice (pg.6, ¶ [0171] discusses receives the bill he may select/deselect purchased items and approves/denies the payment, the data is sent back to the system servers 504 and ¶ [173] discusses if the end user approved[s] the transaction)

Sincai discloses the claimed invention, where a user has multiple payment means to select from (Figure 7E). However, Sincai fails to explicitly disclose the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request.

Mullen et al. teaches the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement and pg.13, ¶ [0154] discusses Mobile device 2502 may interact with a merchant establishment (e.g., a restaurant) to gain entry into a user's tab at the merchant's establishment (e.g., a food and alcohol bill generated by the restaurant) a user may monitor each item on the bill, enter an additional amount into the bill e.g., a tip and then pay the bill all from the convenience of the user's mobile device 2502<sup>4</sup>).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment

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<sup>4</sup> The Examiner is construing the food and alcohol as an amount expressed on the bill and the tip as the additional amount.

information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

Shank teaches a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry (pg.4, ¶ [0047] discusses the user of the billing device (i.e., the biller) may create a bill at step 204. For example, the biller may access a billing menu 84 of the application as shown in FIG. 4B. The billing menu 84 may allow the biller to create a new bill by pressing an add bill button);

wherein data including the electronic invoice is sent to a mobile device when the POS device is presented near the mobile device (pg.4, ¶ [0048] discusses the billing device may broadcast a device identifier. In some embodiments, the device identifier may be broadcast locally over a short-range wireless communication protocol, such as a BLUETOOTH protocol, ¶ [0050] discusses Upon receiving the accept message containing the connection instructions and its own device identifier, the billing device 12b may establish a dedicated peer-to-peer connection with the paying device 12a at step 210. The dedicated connection may be established according to the short-range wireless communication protocol being used ¶ [0051] discusses the billing device may send a list of one or more active bills to the paying device);

the mobile device is executing a module configured to read the data and display an amount expressed in the electronic invoice (pg.3, ¶ [0035] discusses Peer-to-Peer Payment application, See Figures 5A-5B);

the POS device receives an electronic notification from a payment gateway that the electronic invoice has been settled for a total amount (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a merchant

with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 19**, Sincai discloses the claimed invention. However, Sincai is silent regarding wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

Shank teaches wherein the data from the POS device includes an account and bank information of the merchant of the POS device (pg.5, ¶ [0052] discusses The Pay To information may include the device identifier of the billing device, the location of the billing device, a bill number, the bill title, the payment amount, the bill details, and/or one or more authorization codes. In some embodiments, the authorization codes may include a biller authorization code representing a user name of the biller and a biller account code representing the account to which the funds are to be transferred)

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide merchant account and bank information for completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 20**, Sincai discloses the claimed invention. However, Sincai is silent regarding wherein the payment gateway acts to deduct an amount equivalent to the total amount from an

account associated with the user of the mobile devices and generates the electronic notification for the POS device.

Shank teaches the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices (pg.5, ¶ [0058] discusses the gateway 14 may instruct the payer's account manager 16a (e.g., the paying bank) to withdraw the payment amount from the paying account and to deposit the payment amount into the billing account and generates the electronic notification for the POS device (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a payment gateway to deduct payment from a customer account to a merchant account as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**Claim 5 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai U.S. 2013/0339253 in view of Mullen et al. U.S. 2012/029472 in view of Shank US 2011/0066550 further in view of Dryer et al. US2012/0290376.**

As per Claim 5, Sincai discloses wherein the installed module executed to receive the data from the medium carrying the electronic invoice and the settlement information (pg.6, ¶ [0164] discusses the customer uses the mobile device 501 incorporated camera to capture the transaction code, ¶ [0166] discusses the transaction code identifies the specific purchase and contains information such as PoS ID and invoice number).

Shank discloses the billing device may broadcast a device identifier. In some embodiments, the device identifier may be broadcast locally over a short-range wireless communication protocol, such as a BLUETOOTH protocol.

However, Sincai and Shank are silent regarding a causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device.

Dryer et al. teaches a causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device (pg.6, ¶ [0047] discusses the consumer's mobile communication device 110 and the merchant's electronic payment device 120 brought into contact or in proximity with each other to establish a temporary connection, e.g., a NFC connection 160, between the devices so they can communicate with each other).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai and Shank et al. to include the ability to receive transaction data from a merchant in order to process a mobile payment as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

**Claims 3, 6-11, 14 and 15 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai U.S. 2013/0339253 in view of Mullen et al. U.S. 2012/029472 in view of Shank et al. US2011/0066550 in view of Dryer et al. US2012/0290376 further in view of Florek et al. 2011/0112968.**

**As per Claims 3 and 14**, Sincai teaches a programming interface (API) adapted to handle all communication with the PoS, handle authentication and validation services of the system<sup>5</sup> (pg.8, ¶ [0226]).

Shank teaches where the billing device 12b may establish a dedicated peer-to-peer connection with the paying device 12a at step 210. The dedicated connection may be established according to the short-range wireless communication protocol being used (pg.5, ¶ [0050]).

However, Sincai and Shank are silent regarding wherein the POS device includes a secure element that provides security.

Florek et al. teaches wherein the POS device includes a secure element that provides security (pg.10, ¶ [0089] discusses In its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai, Mullen, Shank and Dryer et al., to include the ability to provide a merchant sales device with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device.

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<sup>5</sup> Examiner is construing the ability for the API to handle authentication and validation of the system to include the ability for the POS to authenticate and generate the electronic bill.

The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claims 6 and 15**, Sincai discloses the claimed invention. However, Sincai is silent regarding wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device.

Dryer et al. teaches wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device (pg.5, ¶ [0046] discusses includes or is encoded with transaction data 122 such as merchant identification (Merchant ID) types of electronic payment accepted by the merchant (e.g. VISA, MASTERCARD, etc.).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide merchant identification and payment type information as taught by Dryer et al. to provide a system and method where authorization data is shared between the mobile communication device and the electronic payment device without providing electronic payment instrument (e.g. credit card) data to the merchant (Abstract).

However, Sincai and Dryer et al. are silent regarding an identifier of the secure element in the contactless card or the POS device.

Florek et al. teaches an identifier of the secure element in the contactless card or the POS device (pg.10, ¶ [0089] discusses in its hardware on the SAM card 42 the Sales Device 28 encompasses a Secure Element 6 into which the POS payment terminal 27 identification and also the Master Key for the encryption of the communicated data is loaded).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide information identifying a merchant sales device with a secure element within a mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claim 7**, Sincai discloses the claimed invention. However, Sincai is silent regarding wherein said sending the payment request from the mobile device to a payment gateway comprises

transporting the payment request to the payment gateway, wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user.

Mullen et al. teaches wherein said sending the payment request from the mobile device to a payment gateway comprises:

transporting the payment request to the payment gateway (pg.13, ¶ [0149] discusses mobile device 2302 may customize a payment message to remote application 2308 that includes only the filtered subset of data that is needed by remote application 2308 to complete the purchase transaction),

wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user (pg.11, ¶ [0137] discusses enable a funds transfer from a source account (e.g., an account associated with a payment card that is



tapped against a display of a mobile device) to a target account (e.g., a car loan account). Portion 2002 may, for example, list account details that may be associated with a target account (e.g., an account number associated with a car loan, the payoff amount, and the amount due). Portion 2002 may, for example, include details that may be associated with a target account that a mobile device has collected from a network entity (e.g., a bank) via a network connection between the mobile device and the network entity).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

However, Sincai and Mullen et al. fails to explicitly state a secure channel and is silent regarding generating an electronic notification for sending to the POS device.

Shank et al. teaches a secure channel (pg.5, ¶ [0053] discusses each device 12 may open a connection with the gateway 14. The connections may be opened according to any suitable network communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL)).

Shank further teaches generating an electronic notification for sending to the POS device (pg.6, ¶ [0062] discusses the gateway 14 may notify the paying device 16a of the result at step 230 and may notify the billing device 16b of the result at step 232. Sending the result to the billing device 16b from the gateway 14, rather than from the paying device, may reduce the risk of fraud).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a security

protocol and provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 8**, Sincai discloses the method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:

allowing the user to modify the total amount in the electronic invoice when needed (pg.6, ¶ [0171] discusses the end user receives the bill he may select/deselect purchased items, decide to pay just part of the sum, set additional attributes (such as tip amount, number of payments, split tab etc.) and change the payment means (which was suggested automatically by the system servers 504) and approves/denies the payment<sup>6</sup>);

paying the total amount with an electronic payment provided by an installed module in the mobile device (pg.6, ¶ [0171] end user may approve transaction).

However, Sincai fails to explicitly state paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing.

Mullen et al. teaches paying the total amount with an electronic payment provided by an installed module in the mobile device (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement),

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<sup>6</sup> Examiner is construing the ability to enter an additional attributes, such as tip, as modifying the total.

wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing (pg.9, ¶ [0114] discusses Payment information used to settle a transaction associated with the selected food purchase may be collected and/or generated by the mobile device and forwarded onto a payment server and/or an associated issuer for settlement).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

**As per Claim 9**, Sincai discloses the method of the claimed invention. However, Sincai is silent regarding wherein data exchange between the mobile device and the payment gateway.

Mullen teaches wherein data exchange between the mobile device and the payment gateway (pg.10, ¶ [0128] discusses a mobile device may communicate payment information to a payment server to complete a purchase transaction).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Sincai to include the ability for the mobile device to generate a payment message as taught by Mullen et al. to provide a mobile device to [may] provide payment acceptance for purchases, payments and/or money transfers by accepting payment information from a powered, or a non-powered, card using a contactless communication channel formed between the card and the mobile device (Abstract).

Sincai and Mullen discloses the claimed invention however fails to explicitly state a secure channel.

Shank et al. teaches a secure channel (pg.5, ¶ [0053] discusses each device 12 may open a connection with the gateway 14. The connections may be opened according to any suitable network communications protocol. The connections may be secured by any suitable security protocol, such as Secure Socket Layer (SSL).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen to include the ability to provide a secure connection between mobile devices and a payment gateway to complete a payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**As per Claim 10**, Sincai and Dryer et al. discloses the method of the claimed invention. However, Sincai and Dryer et al. are silent regarding wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.

Florek et al. teaches wherein the mobile device includes a secure element that provides security and confidentiality required to support secure data communication between the mobile device and the payment gateway (Figure 6, depicts Micros 18 for insertion into customer mobile phone having Secure Element 31).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Mullen and Dryer et al., to include the ability to provide a customer mobile phone with a secure element to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is

intended above all for small business premises, can be created using a mobile communication device.

The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claim 11**, Sinclair discloses the method of the claimed invention, wherein said notifying the user in the mobile device that a monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant of the POS device (pg.6, ¶ [0173] discusses the system servers 504 perform the authorization process 201 vis-a-vis the acquiring bank and return it's response (approved/denied) to both the PoS 503, which sends back the response to the cashier 502, and the end-user 501).

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wentker et al. U.S. Patent Application Publication 2008/0167017 discusses a mobile payment management.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHFORD S HAYLES whose telephone number is (571)270-5106. The examiner can normally be reached on M-F 6AM-4PM with Flex.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahd Obeid can be reached on 5712703324. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit: 3687

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/ASHFORD S HAYLES/  
Primary Examiner, Art Unit 3687

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3687

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**U.S. PATENT DOCUMENTS**

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*	B	US-20130198086-A1	08-2013	Mardikar; Upendra	G06Q20/1085	705/71
*	C	US-20120317628-A1	12-2012	Yeager; C. Douglas	G06Q20/204	726/5
*	D	US-20080126260-A1	05-2008	Cox; Mark A.	G06Q20/20	705/67
*	E	US-20100306076-A1	12-2010	Taveau; Sebastien	G06Q20/02	705/26.8
*	F	US-20100213253-A1	08-2010	Wollbrand; Karin	G06K19/07769	235/380
*	G	US-20130203345-A1	08-2013	Fisher; Michelle	H04B11/00	455/41.1
*	H	US-20130144731-A1	06-2013	Baldwin; Christopher F.	G06Q20/20	705/17
*	I	US-20130054413-A1	02-2013	Brendell; Brian	G06Q20/3276	705/26.41
*	J	US-20120166333-A1	06-2012	von Behren; Rob	G06Q20/10	705/41
*	K	US-20130200999-A1	08-2013	Spodak; Douglas A.	G05B1/01	340/5.65
*	L	US-20130140360-A1	06-2013	GRAYLIN; WILL W.	G06Q20/322	235/380
*	M	US-20110112968-A1	05-2011	FLOREK; Miroslav	G06Q20/20	705/50

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
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**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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*	A	US-20130160134-A1	06-2013	MARCOVECCHIO; Vincenzo Kazimierz	G06Q20/3563	726/26
*	B	US-20120118952-A1	05-2012	Norair; John Peter	G06K7/0008	235/380
*	C	US-20110180610-A1	07-2011	Narendra; Siva G.	G06K19/0701	235/492
*	D	US-20120178433-A1	07-2012	Narendra; Siva G.	G06K19/06187	455/420
*	E	US-20130151292-A1	06-2013	Van Deloo; Lori	G06Q10/02	705/5
*	F	US-20130097080-A1	04-2013	Smets; Patrik	G06T1/20	705/44
*	G	US-20090289106-A1	11-2009	Bishop; Fred	G06Q20/02	235/379
*	H	US-20110117839-A1	05-2011	Rhelimi; Alain	G06K19/0719	455/41.1
*	I	US-8646059-B1	02-2014	von Behren; Rob	G06Q20/367	719/311
*	J	US-8196131-B1	06-2012	von Behren; Rob	G06Q20/367	705/64
*	K	US-20130221092-A1	08-2013	Kushevsky; Mikhail	G06Q20/3672	235/379
*	L	US-20130218766-A1	08-2013	Mueller; Michael	G06Q20/32	705/42
*	M	US-20080093467-A1	04-2008	Narendra; Siva G.	G06Q20/341	235/492

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*	B	US-20130024383-A1	01-2013	Kannappan; Sasikumar	G06Q20/40	705/71
*	C	US-20130132219-A1	05-2013	Liberty; Michael A.	G06Q20/202	705/21
*	D	US-20130334318-A1	12-2013	Wakerly; Michael John	G06Q20/352	235/492
*	E	US-20130173736-A1	07-2013	KRZEMINSKI; Marek	H04W12/10	709/213
*	F	US-20130171929-A1	07-2013	ADAMS; NEIL PATRICK	H04W4/80	455/41.1
*	G	US-20130152185-A1	06-2013	Singh; Ravi	G06F21/35	726/9
*	H	US-20130151400-A1	06-2013	Makhotin; Oleg	G06Q20/3227	705/39
*	I	US-20130138959-A1	05-2013	PELLY; Nicholas Julian	H04L9/083	713/168
*	J	US-20130124349-A1	05-2013	Khan; Mohammad	G06Q20/36	705/21
*	K	US-20130103574-A1	04-2013	Conrad; Abbe Elizabeth	G06Q20/36	705/39
*	L	US-20130060618-A1	03-2013	Barton; Loren	G06Q20/3223	705/14.23
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*	C	US-20110113473-A1	05-2011	Corda; Alexandre	G06Q20/32	726/3
*	D	US-20110087610-A1	04-2011	Batada; Asif	G06F21/72	705/318
*	E	US-20110078081-A1	03-2011	Pirzadeh; Kiushan	G06Q20/20	705/44
*	F	US-8601266-B2	12-2013	Aabye; Christian	G06F21/445	713/168
*	G	US-8577731-B1	11-2013	Cope; Warren B.	G06Q20/3224	705/17
*	H	US-20100211504-A1	08-2010	Aabye; Christian	G06Q20/10	705/44
*	I	US-20130060699-A1	03-2013	Romagnoli; Amy Sobocinski	G06Q20/10	705/44
*	J	US-20120136786-A1	05-2012	Romagnoli; Amy Sobocinski	G06Q20/10	705/44
*	K	US-20140012751-A1	01-2014	Kuhn; Stephen	G06Q20/36	705/41
*	L	US-20120072309-A1	03-2012	Hultberg; Stefan	G06Q20/32	705/26.41
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*	B	US-20140013406-A1	01-2014	Tremlet; Christophe	G06F21/32	726/5
*	C	US-8341083-B1	12-2012	Jain; Deepak	G06K19/07739	705/41
*	D	US-20130346305-A1	12-2013	Mendes; Rui	G06Q20/351	705/41
*	E	US-20130246258-A1	09-2013	Dessert; Robert	G06Q20/40	705/41
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*	H	US-20120290376-A1	11-2012	Dryer; Trevor D.	G06Q20/3278	705/14.23
*	I	US-20090164330-A1	06-2009	Bishop; Fred A.	G06Q20/02	705/19
*	J	US-20110155800-A1	06-2011	Mastrangelo; Edward L.F.	G06Q20/352	235/379
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*	B	US-20090307140-A1	12-2009	Mardikar; Upendra	G06Q20/1085	705/71
*	C	US-20110042456-A1	02-2011	Masaryk; Michal	G06Q20/20	235/380
*	D	US-20100274726-A1	10-2010	Florek; Miroslav	G06Q20/20	705/72
*	E	US-20100274677-A1	10-2010	Florek; Miroslav	G06Q20/10	705/16
*	F	US-20120116963-A1	05-2012	Klein; Charmaine	G06Q20/102	705/40
*	G	US-20100114773-A1	05-2010	Skowronek; Daniel P.	G06Q20/40	705/44
*	H	US-20110066550-A1	03-2011	Shank; Clinton L.	G06Q20/1085	705/43
*	I	US-20130138517-A1	05-2013	Khan; Sameer Mohamed	G06Q30/00	705/16
*	J	US-20080167017-A1	07-2008	Wentker; Dave	G06Q20/10	455/414.1
*	K	US-20130339253-A1	12-2013	Sincai; Dan Moshe	G06Q20/3227	705/71
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<b>Search Notes</b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner


US Classification - Searched*			
Class	Subclass	Date	Examiner
705	21	09/21/2017	ASH

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST (SEE ATTACHMENTS)	09/21/2017	ASH
UPDATED EAST (SEE ATTACHMENTS)	04/06/2018	ASH
COMMON CITATION ( <a href="http://ccd.fiveipoffices.org">http://ccd.fiveipoffices.org</a> ) (SEE ATTACHMENTS )	04/06/2018	ASH
UPDATED EAST (SEE ATTACHMENTS)	09/11/2018	ASH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	
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<b><i>Index of Claims</i></b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

**CLAIMS**

Claims renumbered in the same order as presented by applicant      CPA      T.D.      R.1.47

CLAIM		DATE										
Final	Original	09/21/2017	04/06/2018	09/11/2018								
	1	✓	✓	✓								
	2	✓	✓	✓								
	3	✓	✓	✓								
	4	✓	✓	✓								
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	18	✓	✓	✓								
	19	✓	✓	✓								
	20	✓	✓	✓								

## Bibliographic Data

Application No: 14/728,349

Foreign Priority claimed:  Yes  No

35 USC 119 (a-d) conditions met:  Yes  No  Met After Allowance

Verified and Acknowledged: /ASHFORD S HAYLES/

ASH

Examiner's Signature

Initials

Title: Method and apparatus for mobile payments

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
06/02/2015	705	3687	RFID-085C1
<b>RULE</b>			

### APPLICANTS

RFCyber Corporation, Fremont, CA, UNITED STATES

### INVENTORS

Xiangzhen Xie Shenzhen, CHINA

Liang Seng Koh Fremont, CA, UNITED STATES

Hsin Pan Fremont, CA, UNITED STATES

### CONTINUING DATA

This application is a CON of 13853937 03/29/2013 PAT 9047601

13853937 has PRO of 61618802 04/01/2012

13853937 is a CIP of 13350832 01/16/2012

13350832 is a CIP of 11534653 09/24/2006 PAT 8118218

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## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	0	"20120290472"	USPAT; USOCR	OR	OFF	2018/09/12 11:36
L3	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 11:36
S1	758	(electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:44
S2	138	S1 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S3	137	S2 and (app or application or applet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S4	86	S3 and PIN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S5	43	S4 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S6	3	((("20130124351") or ("20080011833") or ("20130132219")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/04/22 17:49
S7	156	(mobile or portable or wireless) near (POS) and NFC	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/23 16:54

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			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S8	34	(mobile or portable or wireless) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 16:54
S9	0	(smartcard) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S10	2	(smartcard) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S11	0	(smartcard) near ("transaction terminal") and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S12	76	(smartcard) near NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S13	40	S12 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:06
S14	98	("smart card" or "chip card" or EMV) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:11
S15	38	(contactless) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:17
S16	217	(contactless) near (POS or payment or	US-PGPUB;	OR	ON	2014/04/24

		transaction) and (electronic or digital) near (receipt or bill or invoice)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:18
S17	217	((contactless) near (POS or payment or transaction)) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S18	165	S17 and (provision\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S19	124	S18 and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S20	58	S17 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:30
S21	139	((contactless or NFC) near (POS or payment or transaction)) and (send\$4 or transmit\$4) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S22	59	S21 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S23	64	(wireless or mobile) near POS and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 21:46
S24	4	POS near (contactless near (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/04/25 22:10

			IBM_TDB			
S25	1838	POS near ( (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S26	100	S25 and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S27	16	(portable) near POS and ((nfc or contactless) near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 20:39
S28	17	folio and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:33
S29	0	(restaurant near folio) and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:37
S30	273	(restaurant or table) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S31	165	S30 and provision\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S32	55	S31 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:39
S33	32	proximity near mobile near payment	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/04/26 21:46

			EPO; JPO; DERWENT; IBM_TDB			
S34	403	(mobile near (transaction or payment)) and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:58
S35	29	(mobile near (transaction or payment)) with (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:59
S36	0	(smartcard-smartcard) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S37	9	(mobile near phone) with (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S38	2	(mobile near phone) near (transaction or payment) and (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:27
S39	0	(mobile near phone) near (transaction or payment) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:28
S40	9	(mobile near phone) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:29
S41	67	(person-person) or (peer-peer) and (smartcard near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:35
S42	4	(smartcard or chipcard) and (POS near emulat\$4)	US-PGPUB; USPAT;	OR	ON	2014/04/26 22:48

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S43	9	(nfc) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:49
S44	0	proximity near smartcard near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:59
S45	3	"20130124351"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:04
S46	54	(portable or mobile or slim or wireless) near (POS or "transaction terminal") and (nfc or emv or smartcard) near (reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:14
S47	67	(portable or mobile or slim or wireless) near (nfc or emv or smartcard) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:17
S48	123	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:25
S49	0	(portable or mobile or slim or wireless) near (rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 07:22
S50	99	(rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:18

S51	598	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:19
S52	104	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:21
S53	11	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (digital or electronic) near (bill or invoice or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:28
S54	6	(portable or mobile or wireless) near (contactless) near (transaction or payment) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:32
S55	0	S51 and (person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S56	5	(person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S57	0	("peer to peer") near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S58	1128	(peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S59	133	S58 and (nfc or emv or smartcard or contactless) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/04/29 09:43

			DERWENT; IBM_TDB			
S60	10	S69 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:49
S61	550	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal or scanner)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S62	1	S61 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S63	0	("2013/0221092").URPN.	USPAT	OR	ON	2014/04/29 11:16
S64	229	(mobile or cellular near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S65	180	((mobile or cellular) near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S66	1	S65 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:28
S67	46	S65 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:29
S68	1776	(electronic near (transaction or payment) near card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32



S69	397	S68 and (nfc or emv or smartcard or contactless)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S70	49	S69 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S71	3	"20130024383"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 07:06
S72	3	"20130132219"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:14
S73	258	TSM with (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S74	161	S73 and (nfc or emv or smartcard or chipcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S75	14	S74 and SAM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S76	147	S74 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S77	2	"20130218766"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/05/02 11:58

			DERWENT; IBM_TDB			
S78	41	(TSM or "trusted service") and (transaction or payment) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:56
S79	3	13/245498	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:59
S80	531	provision\$4 near (POS or merchant or vendor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:07
S81	3	S80 and (TSM or "trusted service") and (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:08
S82	2	12/563444	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:16
S83	27	(TSM or "trusted service") and (transaction or payment) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:45
S84	5	(TSM or "trusted service") and (purchase) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:55
S85	88	(TSM or "trusted service") and (verif\$4 or confirm\$4) near (purchase or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:56
S86	34	S85 and "secure element"	US-PGPUB; USPAT; USOCR;	OR	ON	2014/05/02 19:58

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S87	393	(TSM or "trusted service") and (purchase or transaction) near (process\$4 or settl\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:17
S88	152	S87 and (smartcard or chipcard or nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S89	131	S88 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S90	58	S89 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S91	19	S89 and (SAM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S92	2230	(electronic near (purse or wallet)) and (payment or transaction) near (settl\$4 or process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:42
S93	41	S92 and (TSM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:43
S94	59	(mobile near nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/10 17:20
S95	415	(smartcard or chipcard ) and (mobile	US-PGPUB;	OR	ON	2014/05/11

		near (payment or transaction))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:04
S96	54	S95 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:05
S97	53	S96 and (provisioning or personal\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S98	25	S96 and (provisioning or personaliz\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S99	78	(smartcard or chipcard ) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S100	42	S99 and (payment near process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S101	248	(nfc with (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:13
S102	78	S101 and (mobile near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:14
S103	25	(nfc with mobile near (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/05/13 22:49

			IBM_TDB			
S104	0	(secure near element) and (mobile near (billing or invoice\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S105	549	(secure near element) and ((billing or invoice\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S106	83	S105 and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:53
S107	41	(smartcard or chipcard ) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:07
S108	0	(nfc near (transaction or payment)) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S109	175	(nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S110	0	(secure adj element) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S111	107	(secure adj element) and ((transmit\$4 or receiv\$4) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S112	2	S111 and (nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/05/14 23:10

			EPO; JPO; DERWENT; IBM_TDB			
S113	2	S111 and (nfc near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S114	106	(nfc near (transaction or payment)) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S115	15	S114 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S116	589	(smartcard or chipcard or emv) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S117	0	S116 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S118	246	S116 and trusted	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S119	27	S116 and trusted near service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S120	55	(smartcard or chipcard or emv) with ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:14
S121	15	"security authentication module" and (electronic or virtual) near (purse or	US-PGPUB; USPAT;	OR	ON	2014/05/15 14:36

		wallet)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S122	10	"security authentication module" and (mobile near (purchase or payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/15 14:47
S123	66	(personal\$4) near (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 14:59
S124	21	S123 and (identif\$4 near issuer)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 15:00
S125	2	"20120290376"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 16:15
S126	1	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (device or element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:16
S127	0	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:17
S128	4	((identif\$4 or match\$4 or locat\$4) near issuer) same ((secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:18
S129	1	(mobile-mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40

S130	30	(mobile adj mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S131	1	S130 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:41
S132	1102	(smartcard or chipcard ) and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S133	1	S132 and (personal\$4 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S134	97	S132 and (personal\$6near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S135	1	S132 and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S136	11	(Fund adj transfer) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:56
S137	137	( "20010011250"   "20010021927"   "20010027441"   "20010039657"   "20020004783"   "20020042776"   "20020068554"   "20020194138"   "20030023954"   "20030074579"   "20030140176"   "20040029569"   "20040030601"   "20040123152"   "20040128259"   "20040140351"   "20050001711"   "20050071418"   "20050091659"   "20050102679"   "20050149926"   "20050184163"   "20050184164"   "20050184165"   "20050188360"   "20050193218"	US-PGPUB; USPAT; USOCR	OR	ON	2014/10/09 15:57



		"20050222961"   "20060036570"   "20060041507"   "20060126831"   "20060165060"   "20060219774"   "20070067325"   "20070090195"   "20070135164"   "20070169043"   "20070226786"   "20080056501"   "20080073426"   "20080130902"   "20080162834"   "20080167988"   "20080208681"   "20080208762"   "20080270253"   "20090158028"   "20090239512"   "20090261172"   "20090307142"   "20090312011"   "20100012732"   "20100042824"   "20100050271"   "20100058463"   "20100063893"   "20100088237"   "20100114731"   "20100131413"   "20100138518"   "20100203870"   "20100205432"   "20100207742"   "20100211507"   "20100250956"   "20100291896"   "20100291904"   "20100306076"   "20100306107"   "20100306531"   "20100323681"   "20100330958"   "20110016275"   "20110029671"   "20110072425"   "20110078081"   "20110087610"   "20110113473"   "20110131421"   "20120009873"   "20120129452"   "4851653"   "5221838"   "5991399"   "6005942"   "6092201"   "6101477"   "6141752"   "6151657"   "6230267"   "6233683"   "6402028"   "6434238"   "6484174"   "6601761"   "6609113"   "6633984"   "6647260"   "6792536").PN. OR ("6823520"   "6907608"   "6922835"   "6963270"   "7093122"   "7140549"   "7152782"   "7159180"   "7165727"   "7191288"   "7206769"   "7232073"   "7243853"   "7275685"   "7346170"   "7349885"   "7353396"   "7360691"   "7374099"   "7382762"   "7395535"   "7469151"   "7478389"   "7502946"   "7607175"   "7631346"   "7631810"   "7708198"   "7712658"   "7739731"   "7860486"   "7967215"   "8120460"   "8126806"   "8150767"   "8171137").PN. OR ("8429409").URPN.				
S138	0	contactless near (Fund adj transfer) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S139	0	contactless near (Fund adj transfer\$4) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S140	11	(Fund adj transfer\$4) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT;	OR	ON	2014/10/09 16:00

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S141	9	S132 and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:02
S142	8	(contactless near (transaction or payment)) and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:03
S143	580	(contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S144	9	mobile adj (contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S145	5	(contactless) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:06
S146	1	(contactless near (transaction or payment)) and (virtual near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:08
S147	0	(contactless near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:09
S148	0	(EMV near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:12

S149	1	((EMV near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S150	41	((EMV near (transaction or payment)) and ((bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S151	56	((EMV or chipcard or smartcard) near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S152	64	((contactless) near (transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:17
S153	62	((contactless) near (transaction or payment)) and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:53
S154	6410	((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:54
S155	2	"20130151400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:03
S156	0	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S157	73	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/10/09 17:05

			DERWENT; IBM_TDB			
S158	0	S157 and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S159	0	S157 and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S181	215	(contactless or NFC or wireless or proximity) adj (billing or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:36
S182	8	S181 and (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:39
S183	52	(contactless or NFC or wireless or proximity) adj (payment or transaction or purchase) and (electronic adj (invoic\$4 or billing))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:41
S184	886	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 18:00
S185	32	S184 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:01
S186	648	POS adj card	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S187	7	S186 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR;	OR	ON	2017/09/18 18:29

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S188	1	cashless adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:31
S189	2	cashless near POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S190	283	cashless same POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S191	2	S190 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:35
S192	17804	(SIM) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S193	564	(SIM adj card) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S194	9	(SIM adj card) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S195	11	("20010056398"   "20020097715"   "20020120537"   "20030060246"   "20070295803"   "20100030634"   "20100161478"   "6598028"   "7540408"   "7603312"   "8281991").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:15
S196	2	(card-to-card) near payment	US-PGPUB; USPAT;	OR	OFF	2017/09/18 20:17

			USOCR			
S197	48	POS and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:18
S198	3936	(mobile or m) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S199	4	S198 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S200	16	S198 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S201	114	S198 and (contactless or NFC or wireless or proximity) adj (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 20:54
S202	109	S198 and (SIM adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S203	114	S198 and ((nfc or contactless or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S204	8	S203 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:56
S205	234	merchant adj wallet	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2017/09/18 20:58

			EPO; JPO; DERWENT; IBM_TDB			
S206	51	merchant adj (mobile adj wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:58
S207	222	((mobile or m) adj POS) and ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S208	69	((mobile or m) adj POS) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S209	1545	((payment or transaction) adj terminal) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S210	0	S209 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S211	21	S209 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S212	91	((peer-to-peer) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:20
S213	58	S212 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:21
S214	0	((peer-to-peer) adj (POS)) and (contactless or NFC or wireless or	US-PGPUB; USPAT;	OR	OFF	2017/09/18 21:22

		proximity) adj (card)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S215	1	((peer-to-peer) adj (POS))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:22
S216	4	("20070233554"   "20100227553"   "20120092137"   "8229354").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 21:23
S217	1	(POS near emulat\$4) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:24
S218	56	(POS near application) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:08
S219	11745	POS and SOC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:09
S220	2680	POS and (system near chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S221	366	POS and (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S222	12	POS same (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S223	47	((touch or tap) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/19 09:13



			EPO; JPO; DERWENT; IBM_TDB			
S224	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:21
S225	174	S224 and (electronic or digital) adj (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:22
S227	11	S224 and (e-bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:23
S228	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S229	5	S228 and (electronic or digital) adj (statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S230	887	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:17
S231	31	S230 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:18
S232	3518	(POS) and ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S233	282	S232 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT;	OR	OFF	2017/09/19 12:23

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S234	92	S233 and (contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S235	25	(POS) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:25
S236	189	(merchant) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:53
S237	4	"20070131780"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 16:42
S238	15	("2007/0131780").URPN.	USPAT	OR	OFF	2017/09/19 16:43
S239	184	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) and ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:33
S240	59	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) same ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:34
S241	4	("2003023080").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:17
S242	2	("20040127256").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/19 18:20

			DERWENT; IBM_TDB			
S243	1	(mobile or portable) adj POS and ((contactless or nfc or proximity) adj (adapter))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:21
S244	294	("2004/0127256").URPN.	USPAT	OR	OFF	2017/09/19 18:22
S245	0	(10/625823).APP.	USPAT; USOCR	OR	OFF	2017/09/19 18:25
S246	95	POS near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 07:00
S247	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 08:39
S248	1145	POS same (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:05
S249	44	S248 and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:23
S250	76	S248 and ((merchant or vendor) near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S251	67	S248 and ((merchant or vendor) adj (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S252	256	virtual adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/25 12:06

			DERWENT; IBM_TDB			
S253	14	S252 and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06
S254	7	S252 and (emv) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:37
S255	3	emv adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:38
S256	0	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S257	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S258	203	(contactless or proximity or RFID) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S259	0	(NFC) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S260	7	S258 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S261	16	(NFC) near (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/09/25 17:08

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S262	0	(smartcard) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:10
S263	0	S258 and (transaction or payment) adj terminal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:12
S264	6563	((customer or client) adj side) and ((payment or transaction) adj process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:07
S265	87	S264 and (electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:07
S266	34	(merchant-to-person)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:17
S267	3	(person-to-merchant) and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S268	0	(person-to-merchant) and (nfc) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S269	23	(person-to-merchant) and (nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S270	618	(contactless or proximity or RFID) adj	US-PGPUB;	OR	OFF	2017/09/25

		(payment or transaction) same (wallet or purse)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:22
S271	1	S270 and (security adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S272	243	S270 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S273	4	S272 and (electronic or digital or e) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:23
S274	0	S272 and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S275	5	(contactless or proximity or RFID or nfc) adj (payment or transaction) and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S276	78	(contactless or proximity or RFID or nfc) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:25
S277	11	(person-to-merchant) and ((smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S278	12	(person-to-merchant) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/09/25 21:27

			IBM_TDB			
S279	930	(person-to-person) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S280	443	S279 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S281	121	S280 and (transmit\$4 or send\$4) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S282	15	(person-to-person) same ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S283	82	S281 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S284	41	S281 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S285	72	business-to-consumer and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:32
S286	12	S285 and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:32
S287	5	card-to-card and (nfc or contactless or RFID or proximity or wireless) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2017/09/25 21:34

			EPO; JPO; DERWENT; IBM_TDB			
S288	7	card-to-card and (nfc or contactless or RFID or proximity or wireless) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:34
S289	203	(contactless or proximity or RFID or nfc) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S290	0	(card-to-card) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S291	45	(card-to-card) same (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S292	0	S289 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 22:09
S293	148	(client-side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S294	1	S293 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S295	0	S293 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S296	212	(client adj side) adj (transaction or payment)	US-PGPUB; USPAT;	OR	OFF	2017/10/04 23:35



			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S297	6	S296 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S298	2	S296 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S299	358	(closed-loop adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S300	1	S299 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S301	0	S300 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S302	6	"20100114773"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 08:56
S303	459	(proximity or contactless or smartcard) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:06
S304	91	S303 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:07

S305	535	(mobile or virtual) adj (wallet or purse) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:54
S306	339	S305 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:55
S307	179	S306 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S308	83	S307 and (smart adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S309	4	"20140187153"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 13:12
S310	271	(smartcard) and (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:37
S311	53	(smartcard) with (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S312	182	S310 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S313	51	S311 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/10/05 20:39

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			DERWENT; IBM_TDB			
S314	1265	(electronic or digital) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S315	1267	(electronic or digital or virtual) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S316	99209	nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S317	66	S315 and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S318	90	S315 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 21:04
S319	1372	(electronic or virtual or digital) adj (bill or invoice) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:06
S320	50	S319 and (wireless or contactless or nfc or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:12
S321	376	(electronic or virtual or digital) adj (check) and (nfc or wireless or contactless or proximity) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S322	376	(electronic or virtual or digital) adj (check) and ((nfc or wireless or contactless or proximity) adj	US-PGPUB; USPAT; USOCR;	OR	ON	2017/10/06 06:16

		(transaction or payment))	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S323	207	S322 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S324	79	S323 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S325	6	"20140143104"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/09 07:10
S326	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 08:38
S327	4	((("20090170559") or ("20120191612")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:46
S328	0	5748737/pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S329	4	"5748737".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S330	13595	(electronic or digital or virtual) adj (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S331	1082	S330 and (nfc or contactless or	US-PGPUB;	OR	OFF	2017/10/09

		proximity) adj (payment or transaction)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			11:49
S332	732	S331 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S333	87	S332 and (electronic or digital or virtual) adj (bill or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S334	25	(electronic or digital or virtual) adj (bill or invoic\$4) adj (payment) and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:54
S335	0	(nfc or contactless or proximity) adj (bill or invoic\$4) adj (payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 06:09
S336	139452	restaurant brands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S337	0	restaurantbrands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S338	7	"20140006205"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 08:50
S339	6	"20130138517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 08:52

			IBM_TDB			
S340	18375	(electronic or digital) near (bill\$4 or invoic\$4 or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:19
S341	5793	POS near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S342	533	S340 and S341	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S343	405	S342 and 705/\$	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S344	5	"20110066550"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:39
S345	6	(("20070253187") or ("20090309748") or ("20120323676")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:37
S346	17	nfc near (invoice or bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:40
S347	3	"20080167017"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:43
S348	4	"20120078701"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/09/11 14:45

			EPO; JPO; DERWENT; IBM_TDB			
S349	98	(bar or QR or 2D) adj (invoice or bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:49
S350	61	("2013/0339253").URPN.	USPAT	OR	OFF	2018/09/11 14:55
S351	8	((("7152230") or ("6367011") or ("20130159710")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 17:34
S352	0	(13/594914).APP.	USPAT; USOCR	OR	OFF	2018/09/12 05:53

## EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S160	1647	705/21	USPAT	OR	ON	2015/03/26 16:56
S161	75	S160 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:57
S162	25	S161 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:57
S163	0	S162 and TSM	USPAT	OR	ON	2015/03/26 16:58
S164	16	S162 and S161 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S165	16	S162 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S166	0	S165 and TSM	USPAT	OR	ON	2015/03/26 16:58
S167	483	705/14.23	USPAT	OR	ON	2015/03/26 16:58
S168	10	S167 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:58
S169	0	S168 and TSM	USPAT	OR	ON	2015/03/26 16:58
S170	3229	705/41	USPAT	OR	ON	2015/03/26 16:58
S171	259	S170 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:59
S172	114	S171 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:59
S173	75	S172 and provision\$4	USPAT	OR	ON	2015/03/26 16:59
S174	0	S173 and TSM	USPAT	OR	ON	2015/03/26 16:59

S175	0	S173 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S176	0	S171 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S177	8994	705/39	USPAT	OR	ON	2015/03/26 17:00
S178	743	S177 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 17:00
S179	206	S178 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 17:00
S180	1	S179 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00

**9/ 12/ 2018 1:48:08 PM**

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**Courtesy Reminder for  
Application Serial No: 14/728,349**

Attorney Docket No: RFID-085C1

Customer Number: 26797

Date of Electronic Notification: 09/17/2018

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

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## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	14728349
<b>Filing Date:</b>	02-Jun-2015
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Filer:</b>	Joe Zheng
<b>Attorney Docket Number:</b>	RFID-085C1

Filed as Small Entity

### Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 2 months with \$0 paid	2252	1	300	300
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>300</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	35145434
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	14-FEB-2019
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	02:53:41
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$300
RAM confirmation Number	021419INTEFSW02544800
Deposit Account	502436
Authorized User	Joe Zheng

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

IPR2022-01239

37 CFR 1.20 (Post Issuance fees)  
 37 CFR 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	ResponseTo1stOARCE.pdf	155885 4af6f2f1af0c372d65e73444a676502374331559	no	11

**Warnings:**

**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30269 85b481a92be3534279e85acedcfd450464d581a1	no	2
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**Warnings:**

**Information:**

**Total Files Size (in bytes):** 186154

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Trusted Service Management Process  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Confirmation:** 5346  
**Examiner:** Ashford Hayles  
**Group Art Unit:** 3687  
**Docket No.:** RFID-085C1

---

February 13, 2019

Mail Stop: No-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to First OA (RCE)**

Dear Sir:

In response to Office Action dated 09/17/2019, the Applicant respectfully requests the Examiner to enter the following amendments:

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 2 of this Response.

**REMARKS/ARGUMENTS** begin on page 9 of this Response.

## AMENDMENTS TO THE CLAIMS

Please amend Claims 1-6, 8, 12-15 and 18 as follows:

1. (*Currently amended*) A method for mobile payment, the method comprising:  
causing a mobile device to capture data directly from ~~a medium tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom,~~ the data including an electronic invoice and settlement information with a merchant associated with ~~a the POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium;~~  
displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the medium;  
receiving an entry by the mobile device, the entry including an additional amount from the user;  
calculating a total amount by adding the additional amount to the amount in the electronic invoice;  
generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;  
displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument;  
sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and

recording a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice.

2. (*Currently amended*) The method as recited in claim 1, wherein said causing a mobile device to capture data directly from a ~~medium-tag physically presented thereto~~ includes placing the ~~mobile device~~ medium near the ~~tag~~ mobile device.
3. (*Currently amended*) The method as recited in claim 2, wherein the POS device ~~includes a secure element that provides security and authentication to generate the electronic bill and transfer the data to the~~ medium tag.
4. (*Currently amended*) The method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:
  - allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed; and
  - paying the total amount with the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer.
5. (*Currently amended*) The method as recited in claim 1 further comprising: causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device, wherein the installed module is executed to receive the data directly from the ~~medium-tag~~ carrying the electronic invoice and the settlement information.
6. (*Currently amended*) The method as recited in claim 5, wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered



merchant, an identifier of ~~the secure element in the contactless card~~ the tag or the POS device.

7. (*Previously amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to a payment gateway comprises:
  - transporting the payment request over a secured channel to the payment gateway, wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates an electronic notification for sending to the POS device.
8. (*Currently amended*) The method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:
  - allowing the user to modify the ~~total~~ amount in the electronic invoice when needed;
  - paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing.
9. (*Previously amended*) The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established therebetween.
10. (*Previously amended*) The method as recited in claim 9, wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.
11. (*Previously amended*) The method as recited in claim 9, wherein said notifying the user in the mobile device that then monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant of the POS device.

12. (*Currently amended*) A method for mobile payment, the method comprising:  
generating a set of data in a point of sale (POS) device, the data including an electronic invoice and settlement information with a merchant associated with the POS device in a point of sale (POS) device;  
~~transporting the data directly to a medium tag;~~ wherein the data includes the ~~electronic invoice and settlement information with a merchant associated with the POS device;~~ by  
presenting the tag to the mobile device;  
causing the mobile device to capture the data from the medium tag, wherein the mobile device executes an installed application therein to generate a payment request in response to the captured data, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice;  
and  
receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice, wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices.
13. (*Currently amended*) The method as recited in claim 12, wherein the medium tag is placed-presented near the mobile device to allow the user to use the mobile device to capture the data.
14. (*Currently amended*) The method as recited in claim 13, wherein the POS device is provided with ~~includes a secure element providing security and authentication to~~ generate the electronic invoice.
15. (*Currently amended*) The method as recited in claim 14, wherein the data includes security information of the merchant associated with the POS device, the security

information includes an account and bank information, an identifier of ~~the secure element in the contactless card or~~ the tag or the POS device.

16. *(Previously amended)* The method as recited in claim 15, wherein the message received in the POS device shows how much has been received from the user of the mobile device.

17. *(Previously amended)* The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway.

18. *(Currently amended)* A system for mobile payment, the system comprising: a point of sale (POS) device provided to generate a set of data including an electronic invoice upon receiving an entry, wherein the data including the electronic invoice and settlement information is transferred to a mediumtag, the mobile device is executing a module configured to capture the data directly from the tag physically presented thereto and display an amount expressed in the electronic invoice; and wherein

the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice, the additional amount is added by the user, after the user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice, the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request.

19. *(Previously amended)* The system as recited in claim 18, wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

20. (*Previously amended*) The system as recited in claim 19, wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device.

## REMARKS

Claims 1 - 20 were examined again. In the Office Action dated 09/17/2019, Claims 1, 2, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai U.S. 2013/0339253 (hereinafter "Sincai") in view of Mullen et al. U.S. 2012/029472 (hereinafter "Mullen") further in view of Shank et al. U.S. 2011/0066550 (hereinafter "Shank"), Claim 5 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai in view of Mullen et in view of Shank further in view of Dryer et al. US2012/0290376 (hereinafter "Dryer"), and Claims 3, 6-11, 14 and 15 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai in view of Mullen in view of Shank in view of Dryer further in view of Florek et al.2011/0112968 (hereinafter "Florek").

The Applicant appreciates the Examiner for providing detailed comments in the Office Action. In the foregoing amendments, Claims 1-6, 8, 12-15 and 18 have been amended. No new matters have been introduced. Reconsideration of pending claims is respectfully requested.

### *Interview Summary*

The Applicant appreciates the Examiner for granting a telephonic interview that took place on February 12, 2019. The participants included Mr. Ashford Hayles (Examiner), Mr. Liangseng Koh (Co-inventor) and Joe Zheng (the undersigned representative). The Applicant had the opportunity to present the distinctions between Claims 1 and the cited references and listen to how the Examiner viewed the cited references and claims. Proposed amendments were also discussed. No agreement was reached, the Examiner will perform another search after a formal response is filed.

### *Claim Rejections - 35 USC § 103*

On Page 5 of this Office Action, Claims 1, 2, 4, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Sincai in view of Mullen further in view of Shank.

As amended, Claim 1 now recites:

causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom, the data including an electronic invoice and settlement information with a merchant associated with the POS device;

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the medium;

...

*(emphasis added)*

As shown in FIG. 1, the mobile device 110 is getting the data directly from a tag (e.g., the contactless card 108), where the tag includes data generated and transferred onto the tag by the POS 106. In contrast, Sincai teaches explicitly in Paragraph [0162]-[0169] and in FIG. 5 that a POS generates the relevant payment data and sends the data to the system server 504. A user scans a transaction code and downloads the data from the system server 504 per the transaction code. The subtle difference between Claim 1 of the instant application and Sincai is the configuration. In Sincai, a 3<sup>rd</sup> entity (i.e., a repository server) is required to cache the data while the instant application is a one-to-one scheme without a server. Sincai teaches away from “*causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom, the data including an electronic invoice and settlement information with a merchant associated with the POS device*”. Accordingly, Claim 1 as amended shall be allowable over Sincai.

On Page 7, the Examiner cites Mullen as Sincai fails to explicitly state: generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument and recording a confirmation in the mobile device that a monetary transaction per the payment request has been successfully completed with the respect to the electronic invoice. As shown in FIG. 14,

Mullen explicitly requires the mobile device to generate the payment request based on the total amount of the purchased items calculated in the mobile device, contradicting *"the data directly from a POS device and allows the mobile device to capture the data therefrom"*. The modification of Sincai with Mullen would not cure the deficiencies in Sincai as reasoned above. Accordingly, Claim 1 as amended shall be allowable over Sincai and Mullen.

On Page 8, Shank is cited to show generating a payment request in the mobile device in response to the electronic invoice. Shank explicitly teaches that the transferring of bill is initiated from the biller device to the payer device. Conversely in the instant application, the biller device generates a bill and writes it to a tag. Again the modification of Sincai and Mullen with Shank would not cure the deficiencies in Sincai as reasoned above. Accordingly, Claim 1 as amended shall be allowable over Sincai, Mullen and Shank, viewed alone or in combination. Reconsideration of Claims 1-11 is kindly requested.

Claim 12 has been amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 12 and submits the combination of Sincai, Mullen and Shank fails to suggest *"generating a set of data in a point of sale (POS) device, the data including an electronic invoice and settlement information with a merchant associated with the POS device"* and *"transporting the data directly to a tag"*. Accordingly, the Applicant submits Claim 12 as amended shall be allowable over Sincai, Mullen and Shank, viewed alone or in combination. Reconsideration of Claims 12-17 is kindly requested.

Claim 18 has been also amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 18 and submits neither one or the combination of Sincai, Mullen and Shank suggests *" wherein the data including the electronic invoice and settlement information is transferred to a tag, the mobile device is executing a module configured to capture the data directly from the tag physically presented thereto..."*, the Applicant

submits Claim 18 as amended shall be also allowable over Sincai, Mullen and Shank, viewed alone or in combination. Reconsideration of Claims 18-20 is kindly requested.

The patentability of the independent claims has been argued specifically as set forth above and thus Applicant will not take this opportunity to argue further the merits of the rejection with regard to each dependent claim. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

In view of the above amendments and remark, the Applicant believes that Claims 1-20 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to " Mail Stop: No-fee Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450", Feb. 13, 2019. e-filed.

Name: Joe Zheng

Signature: / ioe zhena /

Respectfully submitted;

/ joe zheng /

Joe Zheng  
Reg.: No. 39,450



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number 14/728,349	Filing Date 06/02/2015	<input type="checkbox"/> To be Mailed
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ENTITY:  LARGE  SMALL  MICRO

**APPLICATION AS FILED - PART I**

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$210 =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED - PART II**

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	02/14/2019		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
		CLAIMS REMAINING AFTER AMENDMENT				
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$50 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$230 = 0
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0
<b>AMENDMENT</b>			HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
		CLAIMS REMAINING AFTER AMENDMENT				
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/LISA R WRIGHT/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".						
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*



UNITED STATES PATENT AND TRADEMARK OFFICE

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for Xiangzhen Xie and examiner HAYLES, ASHFORD S.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@sbcglobal.net

<b><i>Applicant-Initiated Interview Summary</i></b>	<b>Application No.</b> 14/728,349	<b>Applicant(s)</b> Xie et al.	
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687	<b>AIA Status</b> No

All participants (applicant, applicants representative, PTO personnel):

- (1) ASHFORD S. HAYLES. (3) Liangsen Koh.  
(2) Joe Zheng. (4) \_\_\_\_.

Date of Interview: 12 February 2019.

Type:  Telephonic  Video Conference  
 Personal [copy given to:  applicant  applicant's representative]

Exhibit shown or demonstration conducted:  Yes  No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed 101 112 102 103 Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1.

Identification of prior art discussed: n/a.

**Substance of Interview**

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Discussed proposed amendments, recommended that clarification of how the payment gateway server is introduced into the payment process or state the novel limitation of writing data to an nfc medium provided by the POS. Additional search will be required, no agreement has been reached. Formal response to follow..

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Attachment

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	
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## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiners responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicants correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,-
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicants record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiners version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, Interview Record OK on the paper recording the substance of the interview along with the date and the examiners initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Trusted Service Management Process  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Confirmation:** 5346  
**Examiner:** HAYLES, ASHFORD S  
**Group Art Unit:** 3687  
**Docket No.:** RFID-085C1

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1. The Applicant has authorized the communication with the Examiner via the internet
2. This is for informal discussion with the Examiner, content of which is not intended for entry as record.

**Interview Agenda**

Time: 02:00PM EST (11:00 AM PST)

Date: Tuesday, February 12, 2019

Participants: Examiner: Ashford

Inventor: Liangseng Koh

Representative: Joe Zheng (Reg. No.: 39,450, Cell: 408-891-9381)

Connection: Dialing in: (415)363-6338, and conference ID:987987

**Agenda:**

1. Joe briefly describes what this invention is about with respect to Claim 1;
2. Joe presents the distinctions between Claim 1 and the three cited references Sincai (U.S. 2013/0339253) in view of Mullen (U.S. 2012/029472) further in view of Shank (U.S. 2011/0066550)
3. Examiner presents his view on the distinctions;
4. Examiner suggests possible amendments to overcome the references;
5. Conclusion (Interview Summary)

## AMENDMENTS TO THE CLAIMS

Please amend Claim 1 as follows:

1. (*Currently amended*) A method for mobile payment, the method comprising:  
causing a mobile device to capture data directly from a medium physically presented thereto, the data including an electronic invoice and settlement information with a merchant associated with a POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium;  
displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the medium;  
receiving an entry by the mobile device, the entry including an additional amount from the user;  
calculating a total amount by adding the additional amount to the amount in the electronic invoice;  
generating a payment request automatically in the mobile device in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;  
displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument;  
sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and  
recording a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice.

As shown in FIG. 1, the mobile device 110 is getting the data directly from the medium 108, where the data is generated and transferred onto the medium by the POS 106. In contrast, Sinclair teaches explicitly in Paragraph [0162]-[0169] and in FIG. 5 that a POS generates the relevant payment data and sends the data to the

system server 504. A user scans a transaction code and downloads the data from the system server 504 per the transaction code. The subtle difference between Claim 1 above and Sincai is the 3<sup>rd</sup> entity (i.e., a repository server) required in Sincai to cache the data while the instant application is a one-to-one scheme without a server. Accordingly, Sincai teaches away from "*causing a mobile device to capture data directly from a medium physically presented thereto, the data including an electronic invoice and settlement information with a merchant associated with a POS device, wherein the POS device is used to prepare the electronic invoice and transfer the data to the medium*".

On Page 7, the Examiner cites Mullen as Sincai fails to explicitly state two more limitations recited in Claim 1. As shown in FIG. 14, Mullen explicitly requires the mobile device to generate the payment request based on the total amount of the purchased items calculated in the mobile device, contradicting "*the POS device is used to prepare the electronic invoice and transfer the data to the medium, ... the payment request includes the total amount and the settlement information [from the POS]*". The modification of Sincai with Mullen could not cure the deficiencies in Sincai.

On Page 8, Shank is cited to show generating a payment request in the mobile device in response to the electronic invoice. Again the modification of Sincai and Mullen with Shank could not cure the deficiencies in Sincai.

2. (*Previously amended*) The method as recited in claim 1, wherein said causing a mobile device to capture data directly from a medium includes placing the medium near the mobile device.
3. (*Previously amended*) The method as recited in claim 2, wherein the POS device includes a secure element that provides security and authentication to generate the electronic bill and transfer the data to the medium.
4. (*Previously amended*) The method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:
  - allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed;
  - paying the total amount with the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet

already created in the mobile device, a traditional credit or debit card, and an electronic transfer.

5. (*Previously amended*) The method as recited in claim 1 further comprising: causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device, wherein the installed module is executed to receive the data from the medium carrying the electronic invoice and the settlement information.
6. (*Previously amended*) The method as recited in claim 5, wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the secure element in the contactless card or the POS device.
7. (*Previously amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to a payment gateway comprises:
  - transporting the payment request over a secured channel to the payment gateway, wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates an electronic notification for sending to the POS device.
8. (*Previously amended*) The method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:
  - allowing the user to modify the total amount in the electronic invoice when needed;
  - paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing.



9. (*Previously amended*) The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established therebetween.
10. (*Previously amended*) The method as recited in claim 9, wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.
11. (*Previously amended*) The method as recited in claim 9, wherein said notifying the user in the mobile device that then monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant of the POS device.
12. (*Previously amended*) A method for mobile payment, the method comprising:  
generating an electronic invoice in a point of sale (POS) device;  
transporting data to a medium, wherein the data includes the electronic invoice and settlement information with a merchant associated with the POS device; by causing the mobile device to capture the data from the medium, wherein the mobile device executes an installed application therein to generate a payment request in response to the captured data, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice;  
and  
receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice, wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices.

13. (*Previously amended*) The method as recited in claim 12, wherein the medium is placed near the mobile device to allow the user to use the mobile device to capture the data.
14. (*Previously amended*) The method as recited in claim 13, wherein the POS device includes a secure element providing security and authentication to generate the electronic invoice.
15. (*Previously amended*) The method as recited in claim 14, wherein the data includes security information of the merchant associated with the POS device, the security information includes an account and bank information, an identifier of the secure element in the contactless card or the POS device.
16. (*Previously amended*) The method as recited in claim 15, wherein the message received in the POS device shows how much has been received from the user of the mobile device.
17. (*Previously amended*) The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway.
18. (*Previously amended*) A system for mobile payment, the system comprising:  
a point of sale (POS) device provided to generate an electronic invoice upon receiving an entry, wherein data including the electronic invoice and settlement information is transferred to a medium, the mobile device is executing a module configured to capture the data and display an amount expressed in the electronic invoice; and wherein  
the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice, the additional amount is added by the used, after the user of the mobile devices

verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice, the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request.

19. (*Previously amended*) The system as recited in claim 18, wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

20. (*Previously amended*) The system as recited in claim 19, wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device.



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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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**DETAILED ACTION**

Amendment received on February 14, 2019 has been acknowledged. Claims 1-6, 8, 12-15 and 18 have been amended and entered. Therefore, claims 1-20 are pending.

***Response to Arguments***

Applicant's arguments with respect to claims 1-6, 8, 12-15 and 18 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

***Claim Objections***

Claim 18 is objected to because of the following informalities: The amendment to claim 18 appears to read: "*a set of date including*". Based on the context of the claim language it appears that date should be *data*. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 5 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claim 1 recites the limitation "the medium" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites: "*causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device*"

The claims as amended are directed toward a POS device writing data to a tag that is physically brought to the customer to read the electronic invoice. Claim 5 now requires that the mobile device engage a POS device via NFC communication. It is unclear as to why the mobile device would enter a near field communication with the POS device when the claims are directed toward reading data from a tag. The Examiner is interpreting claim 5 as executing an application installed within the mobile device upon detecting the tag in a near field of the mobile device. Appropriate clarification is requested.

***Claim Rejections - 35 USC § 103***

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 1, 2, 4, 5, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher U.S. Patent Application Publication 2011/0173060 in view of Brendell et al. U.S. Patent Application Publication 2013/0048717.**

**As per Claim 1**, Gallagher discloses a method for mobile payment, the method comprising: causing a mobile device to capture data directly from a tag physically presented thereto (pg.3, ¶ [0037] discusses the guest recognizes the logo 46, highlighted by the magnifying window 48, as indicating a wireless payment capability and brings his wireless mobile device 62 near the logo. In step 106, the wireless mobile device 62 establishes communication with the wireless communication device 44 and reads the stored payment facilitating information),

wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom (pg.3, ¶ [0034] discusses the restaurant management module running in the restaurant POS system 52 displays the guest check for the correct table where the guest is sitting. In step 100, when the waiter brings a check presenter near the wireless reader/writer 54, the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter2 through the wireless reader/writer 54)



the data including an electronic invoice and settlement information with a merchant associated with the POS device (pg.3, ¶ [0034] discusses the payment facilitating information includes the following information: 1) restaurant identifier, 2) unique identifier of the wireless communication device 44, if not present already, 3) identifier of the table where the guest is sitting, 4) identifier of the guest check, 5) location information of the restaurant interface system 56 such as the URL (Uniform Resource Locator) and 6) identifier of a restaurant application which is to be run by the wireless mobile device 62 of the guest when the device is brought near the wireless communication device 44);

displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device (pg.3, ¶ [0041] discusses the guest review the guest check information either on the wireless mobile device or the physical check),

wherein the mobile device is configured to execute an installed application therein to capture the data from the medium (pg.3, ¶ [0038] discusses the wireless mobile device 62 will attempt to download it through the restaurant interface system 56 using the URL provided by the wireless communication device 44. If the wireless mobile device 62 does locate the application within the device itself, it will load and execute the program. Thus, any subsequent steps done by the wireless mobile device 62 are under the control of the restaurant application);

receiving an entry by the mobile device, the entry including an additional amount from the user (pg.3, ¶ [0041] discusses the guest review the guest check information either on the wireless mobile device or the physical check and adds any gratuity to the total);

calculating a total amount by adding the additional amount to the amount in the electronic invoice (pg.3, ¶ [0041] discusses the guest reviews the guest check information either on the wireless mobile device 62 or the physical check and adds any gratuity to the total);

generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument (pg.4, ¶ [0041] discusses upon selection of a financial

instrument to use for payment by the guest, the wireless mobile device 62 retrieves the selected financial instrument information from a secure memory area of the mobile device),

wherein the payment request includes the total amount and the settlement information (pg.4, ¶ [0042] discusses the wireless mobile device 62 transmits the payment facilitating information, the retrieved financial instrument information and the total amount including the gratuity to the restaurant interface system 56 for processing the payment);

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument (pg.4, ¶ [0041] discusses upon selection of a financial instrument to use for payment ¶ [0042] discusses upon approval by the guest);

sending the payment request from the mobile device to a payment gateway (pg.4, ¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating information, the retrieved financial instrument information and the total amount directly to the payment processing system 58 for processing the payment),

recording a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice (pg.4, ¶ [0042] discusses the payment processing system 58 transmits the received approval message to the wireless mobile device 62 as receipt and to the restaurant POS system 52 to indicate to the restaurant management software that the guest check has been paid).

Gallagher teaches the payment processing system 58 processes the payment authorization in a known manner and returns an approval message to the restaurant interface system 56 and Figure 4, Step 118 Payment Approval Message is transmitted to Restaurant POS System (pg.4, ¶ [0042]), thereby transferring funds from the customer to the merchant and providing a notification of such transfer to the POS system.

However, Gallagher fails to explicitly state wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user.

Brendell teaches wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user (pg.3, ¶ [0023] discusses the consumer can provide the information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as indicated by the merchant information. Such a transaction has additional security in that the consumer's account number is never transmitted during the processing).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to deduct the total bill amount from a customer's bank account and send the merchant an indication of the transaction as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill. *Abstract*

**As per Claim 2**, Gallagher discloses the method as recited in claim 1, wherein said causing a mobile device to capture data directly from tag physically presented thereto includes placing the mobile device near the tag (Figure 4, Step 104, Guest brings mobile device near the guest check presenter).

**As per Claim 4**, Gallagher discloses the method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:

allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed (Figure 4, Step 110, Guest Reviews Bill and Adds Gratuity); and

paying the total amount with the chosen paying instrument (Figure 4, Step 112, Mobile Device Retrieves Financial Instrument Information From Mobile Device),

wherein the chosen paying instrument is selected from a traditional credit or debit card, and an electronic transfer (pg.4, ¶ [0041] discusses the wireless mobile device 62 retrieves the selected financial instrument information from a secure memory area of the mobile device. The financial instrument information can include an account number, name of the account holder, expiration date and CVV (card verification value) and the like).

However, Gallagher is silent regarding group consisting of an electronic wallet already created in the mobile device,

Brendell teaches group consisting of an electronic wallet already created in the mobile device (pg.3, ¶ [0022] discusses the contactless-enabled device 120 may store multiple accounts which the consumer may select from to make the payment, Incorporated Reference 13/215,111 pg. 3, ¶ [0027] discusses virtual wallet program).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to include a virtual wallet within the mobile device as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer

accessible payment network, and receiving payment from the consumer for satisfaction of the total bill.

*Abstract*

**As per Claim 5**, Gallagher discloses the method as recited in claim 1 further comprising:

causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device (pg.3, ¶ [0034] discusses and identifier of a restaurant application which is to be run by the wireless mobile device 62 of the guest when the device is brought near the wireless communication device 44)

wherein the installed module is executed to receive the data directly from the tag carrying the electronic invoice and the settlement information (pg.3, [0038] discusses Based on the restaurant application identifier, the wireless mobile device 62 attempts to locate the application in its data storage... If the wireless mobile device 62 does locate the application within the device itself, it will load and execute the program. Thus, any subsequent steps done by the wireless mobile device 62 are under the control of the restaurant application, ¶ [0040] discusses the line item details of the guest check can be programmed into the data storage of the wireless communication device 44 in step 100 in which case such data will be read by the wireless mobile device 62 in step 106).

**As per Claim 12**, Gallagher discloses a method for mobile payment, the method comprising:

generating a set of data in a point of sale device, the data including an electronic invoice and settlement information with a merchant associated with the POS device (pg.3, ¶ [0034] discusses upon instruction by the waiter, the restaurant management module running in the restaurant POS system 52 displays the guest check for the correct table where the guest is sitting. In step 100, when the waiter brings a check presenter near the wireless reader/writer 54, the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter2 through the wireless reader/writer 54... the payment facilitating information includes the following information: 1) restaurant identifier, 2) unique identifier of the

wireless communication device 44, if not present already, 3) identifier of the table where the guest is sitting, 4) identifier of the guest check, 5) location information of the restaurant interface system 56 such as the URL (Uniform Resource Locator) and 6) identifier of a restaurant application which is to be run by the wireless mobile device 62 of the guest when the device is brought near the wireless communication device 44),

transporting the data direct to a tag; (pg.3, ¶ [0034] discusses the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter2 through the wireless reader/writer 54)

presenting the tag to the mobile device (pg.3, ¶ [0036] discusses the waiter brings the programmed guest check presenter 2 to the guest)

causing the mobile device to capture the data from the tag (pg.3, ¶ [0037] the wireless mobile device 62 establishes communication with the wireless communication device 44 and reads the stored payment facilitating information),

wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom (pg.3, ¶ [0034] discusses the restaurant management module running in the restaurant POS system 52 displays the guest check for the correct table where the guest is sitting. In step 100, when the waiter brings a check presenter near the wireless reader/writer 54, the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter2 through the wireless reader/writer 54)

the data including an electronic invoice and settlement information with a merchant associated with the POS device (pg.3, ¶ [0034] discusses the payment facilitating information includes the following information: 1) restaurant identifier, 2) unique identifier of the wireless communication device 44, if not present already, 3) identifier of the table where the guest is sitting, 4) identifier of the guest check, 5) location information of the restaurant interface system 56 such as the URL (Uniform Resource Locator)

and 6) identifier of a restaurant application which is to be run by the wireless mobile device 62 of the guest when the device is brought near the wireless communication device 44);

wherein the mobile device executes an installed application therein to generate a payment request in response to the captured data, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and an amount expressed in the electronic invoice (pg.3, ¶ [0037] discusses the wireless mobile device 62 establishes communication with the wireless communication device 44 and reads the stored payment facilitating information and pg.4, ¶ [0042] discusses the wireless mobile device 62 transmits the payment facilitating information, the retrieved financial instrument information and the total amount including the gratuity to the restaurant interface system 56 for processing the payment); and

receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice (pg.4, ¶ [0042] discusses the payment processing system 58 transmits the received approval message to the wireless mobile device 62 as receipt and to the restaurant POS system 52 to indicate to the restaurant management software that the guest check has been paid),

Gallagher teaches the payment processing system 58 processes the payment authorization in a known manner and returns an approval message to the restaurant interface system 56 and Figure 4, Step 118 Payment Approval Message is transmitted to Restaurant POS System (pg.4, ¶ [0042]), thereby transferring funds from the customer to the merchant and providing a notification of such transfer to the POS system.

However, Gallagher fails to explicitly state wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices.

Brendell teaches wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices (pg.3, ¶ [0023] discusses the consumer can provide the information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as indicated by the merchant information. Such a transaction has additional security in that the consumer's account number is never transmitted during the processing).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to deduct the total bill amount from a customer's bank account and send the merchant an indication of the transaction as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill. *Abstract*

**As per Claim 13**, Gallagher discloses the method as recited in claim 12, wherein the tag is presented near the mobile device to allow the user to use the mobile device to capture the data (Figure 4, Step 104, Guest brings mobile device near the guest check presenter, Step 106, Mobile Device Reads Stored Information from Guest Check Presenter).

**As per Claim 17**, Gallagher discloses the method recited in claim 12, wherein data exchange between the mobile device and payment gateway is conducted in channel established between the mobile device and payment gateway (pg.4, ¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating information, the retrieved financial instrument information and the



total amount directly to the payment processing system 58 for processing the payment...pg.3, ¶ [0030] discusses VISA™ interchange system).

However, Gallagher fails to explicit state a secured channel.

Brendell teaches a secured channel (pg.8, ¶ [0074] discusses a web client may implement security protocols such as Secure Sockets Layer (SSL) and Transport Layer Security (TLS). A web client may implement several application layer protocols including http, https, ftp, and sftp).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to include the ability to communicate via known security protocols as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill.

*Abstract*

**As per Claim 18**, Gallagher discloses a system for mobile payment, the system comprising:

a point of sale (POS) device provided to generate a set of data including an electronic invoice upon receiving an entry (Figure 4, Step 100, Restaurant POS Module writes facilitating information to guest check presenter),

wherein the data including the electronic invoice and settlement information is transferred to a tag (pg.3, ¶ [0034] discusses the payment facilitating information includes the following information: 1) restaurant identifier, 2) unique identifier of the wireless communication device 44, if not present already, 3) identifier of the table where the guest is sitting, 4) identifier of the guest check, 5) location information of the restaurant interface system 56 such as the URL (Uniform Resource Locator) and 6)

identifier of a restaurant application which is to be run by the wireless mobile device 62 of the guest when the device is brought near the wireless communication device 44),

the mobile device is executing a module configured to capture the data directly from the tag physically presented thereto (Figure 4, Step 102, Waiter bring programmed guest check presenter to guest, Step 106 Mobile Device Reads stored information from the guest check presenter and pg.3, ¶ [0038] discusses any subsequent steps done by the wireless mobile device 62 are under the control of the restaurant application); and

wherein the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice (pg.4, ¶ [0042] discusses the payment processing system 58 transmits the received approval message to the wireless mobile device 62 as receipt and to the restaurant POS system 52 to indicate to the restaurant management software that the guest check has been paid and ¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating information, the retrieved financial instrument information and the total amount directly to the payment processing system 58 for processing the payment),

the additional amount is added by the user, after the user of the mobile devices verifies the electronic invoice displayed on the mobile device (Figure 4, Step 110 Guest Reviews Bill and Adds Gratuity) and

authorizes a payment to the electronic invoice (pg.4, ¶ [0042] discusses approval by the guest), the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request (pg.4, ¶ [0042] discusses the wireless mobile device 62 transmits the payment facilitating information, the retrieved financial instrument information and the total amount including the gratuity to the restaurant interface system 56 for processing the payment...¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating

information, the retrieved financial instrument information and the total amount directly to the payment processing system 58 for processing the payment).

Brendell teaches wherein the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice (pg.3, ¶ [0023] discusses the consumer can provide the information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as indicated by the merchant information. Such a transaction has additional security in that the consumer's account number is never transmitted during the processing).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to deduct the total bill amount from a customer's bank account and send the merchant an indication of the transaction as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill. *Abstract*

**As per Claim 19**, Gallagher discloses the system as recited in claim 18. However, Gallagher is silent regarding wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

Brendell teaches wherein the data from the POS device includes an account and bank information of the merchant of the POS device (pg.3, ¶ [0023] discusses the transaction information, for example, may include the amount due and merchant information.... the consumer can provide the

information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as indicated by the merchant information<sup>1</sup>).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to include a virtual wallet within the mobile device as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill.

*Abstract*

**As per Claim 20**, Gallagher discloses the system of the claimed invention. However, Gallagher is silent regarding wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device.

Brendell teaches wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account associated with the user of the mobile devices and generates the electronic notification for the POS device (pg.3, ¶ [0023] discusses the consumer can provide the information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as

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<sup>1</sup> The cited portion of Brendell teaches that the merchant information includes an account and bank information of a merchant because the bank needs such information to finalize a transaction.

indicated by the merchant information. Such a transaction has additional security in that the consumer's account number is never transmitted during the processing).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to deduct the total bill amount from a customer's bank account and send the merchant an indication of the transaction as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill. *Abstract*

**Claims 3, 6-11, 14-15 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher U.S. Patent Application Publication 2011/0173060 in view of Brendell US 2013/0054412 further in view of Florek et al. 2011/0112968.**

As per Claims 3 and 14, Gallagher discloses the method as recited in the claimed invention, wherein the POS device generate the electronic bill and transfer the data to the tag (pg.3, ¶ [0034] discusses the restaurant management module running in the restaurant POS system 52 displays the guest check for the correct table where the guest is sitting. In step 100, when the waiter brings a check presenter near the wireless reader/writer 54, the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter 2 through the wireless reader/writer 54).

However, Gallagher and Brendell are silent regarding POS device provides security and authentication.

Florek et al. teaches wherein POS device provides security and authentication (pg.6, ¶ [0045] discusses Sales Device will be very small and simple. It can be in the form of a small box with a display and keyboard through which the merchant will enter the required payment amount. The identification data can be stored directly in the corresponding element on the printed circuit of Sales Device, or they can be stored on the ICC (integrated circuit card) card or on other carriers as e.g. up until now known SAM (Security Authentication Module) cards with cryptographic key).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Gallagher and Dryer et al. to include the ability to provide a merchant sales device with a security authentication module to conduct mobile transactions as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication

device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claims 6 and 15**, Gallagher discloses the claimed invention, wherein the data further includes security information about the merchant associated with the POS device (pg.3, ¶ [0034] discusses the payment facilitating information includes the following information: 1) restaurant identifier, 2) unique identifier of the wireless communication device 44, if not present already, 3) identifier of the table where the guest is sitting, 4) identifier of the guest check, 5) location information of the restaurant interface system 56 such as the URL (Uniform Resource Locator) and 6) identifier of a restaurant application),

an identifier of the tag or the POS device (pg.3, ¶ [0034] discusses the payment facilitating information includes the following information: 2) unique identifier of the wireless communication device 44, if not present already.

However, Gallagher is silent regarding the security information includes an account and bank information of the registered merchant.

Brendell teaches wherein the security information includes an account and bank information of the registered merchant (pg.3, ¶ [0023] discusses the transaction information, for example, may include the amount due and merchant information.... the consumer can provide the information to a personal bank, where the bank receives the amount due and the merchant information, along with a consumer identifier. Once the consumer is identified and verified, the bank may approve the transaction and submit payment of the amount due to the merchant of record as indicated by the merchant information<sup>2</sup>).

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<sup>2</sup> The cited portion of Brendell teaches that the merchant information includes an account and bank information of a merchant because the bank needs such information to finalize a transaction.

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to include a virtual wallet within the mobile device as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill.

*Abstract*

**As per Claim 7**, Gallagher discloses the claimed invention, wherein said sending the payment request from the mobile device to a payment gateway comprises:

transporting the payment request over a secured channel to the payment gateway (pg.3, ¶ [0030] discusses forwarding request to appropriate interchange system such as VISA™<sup>3</sup>,

wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user (pgs,2-3, ¶ [0030]-[0031] discusses when the payment processing system 58 receives a credit card payment authorization request from the restaurant interface system 56, it routes the request to the merchant's acquiring bank which then forwards the request to the appropriate interchange system such as VISA™ which then routes the request to the issuing bank of the credit card. The process is reversed for a payment authorization. The authorization message from the issuing bank is routed to the interchange system and then to the acquirer which routes it to the payment processing system 58 and

generates an electronic notification for sending to the POS device (Figure 4, Step 118, Payment Approval message transmitted to Mobile Device and to Restaurant POS system).

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<sup>3</sup> Examiner notes, it is old and well known to one having ordinary skill at the time of the invention that in order to communicate financial data with VISA™ one must use a secure channel.



**As per Claim 8**, Gallagher discloses the method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:

allowing the user to modify the amount in the electronic invoice when needed (Figure 4, Step 110, Guest Reviews Bill and Adds Gratuity),

paying the total amount with an electronic payment provided by an installed module in the mobile device (pg.4, ¶ [0042] discusses upon approval by the guest, the wireless mobile device 62 transmits the payment facilitating information, the retrieved financial instrument information and the total amount including the gratuity to the restaurant interface system 56 for processing the payment),

wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing (pg.3, ¶ [0038] discusses any subsequent steps done by the wireless mobile device 62 are under the control of the restaurant application...pg.4, ¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating information, the retrieved financial instrument information and the total amount directly to the payment processing system 58 for processing the payment).

**As per Claim 9**, Gallagher discloses the method recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established there between (pg.4, ¶ [0043] discusses the wireless mobile device 62 can transmit the payment facilitating information, the retrieved financial instrument information and the total amount directly to the payment processing system 58 for processing the payment...pg.3, ¶ [0030] discusses VISA™ interchange system).

However, Gallagher fails to explicit state a secure channel.

Brendell teaches (pg.8, ¶ [0074] discusses a web client may implement security protocols such as Secure Sockets Layer (SSL) and Transport Layer Security (TLS). A web client may implement several application layer protocols including http, https, ftp, and sftp).

Therefore it would have been obvious to one of ordinary skill in the art of contactless payments at the time of the invention to modify the system of Gallagher to include the ability to include the ability to communicate via known security protocols as taught by Brendall to provide a contactless payment system for merchant transactions (e.g., a restaurant) comprises generating, at the contactless payment system, a total bill of purchases associated with a consumer, associating a unique identifier of a RFID tag or a QR code with the total bill, transmitting the total bill and associated unique identifier to a consumer accessible payment network, and receiving payment from the consumer for satisfaction of the total bill.

*Abstract*

**As per Claim 10**, Gallagher discloses the method as recited in claim 9, wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway (pg.4, ¶ [0041] discusses retrieves the selected financial instrument information from a secure memory area of the mobile device).

However, Gallagher and Brendell fail to explicitly state wherein the mobile device includes a secure element.

Florek et al. teaches (pg.6, ¶ [0049] discusses several units of independent payment cards can be stored on the removable memory card and that either on the physical separate secure elements or on independent domains of one secure element. In this configuration the payment terminal application can run directly on the removable memory card and the data on the customer's payment card are not sent over external readers and neither into internet area, a fact that has positive impact on the security of the payment operation).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Gallagher and Brendell. to include a secure element to store virtual cards of a customer on a mobile device as taught by Florek et al. to provide a method of direct debit payment using a contactless transmission link and describes a configuration, in which a

temporary payment terminal, with simplified structure that is intended above all for small business premises, can be created using a mobile communication device. The solution refers to increase in security and comfort in paying over the mobile communication device with removable memory card for example in the form of a micro SD card (pg.1, ¶ [0001]).

**As per Claim 11**, Gallagher discloses the method as recited in claim 9, wherein said notifying the user in the mobile device that then monetary transaction per the payment request has been successfully completed with the POS device comprising:

    sending a notification of successful payment to the merchant of the POS device (pg.4, ¶ [0042] discusses the payment processing system 58 transmits the received approval message to the wireless mobile device 62 as receipt and to the restaurant POS system 52 to indicate to the restaurant management software that the guest check has been paid).

**Claim 16 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher U.S. Patent Application Publication 2011/0173060 in view of Brendell US 2013/0054412 in view of Florek et al. 2011/0112968 further in view of Shank et al. U.S. Patent Application Publication 2011/0066550.**

**As per Claim 16**, Gallagher, Brendall and Florek disclose the method as recited in claim 15. However, Gallagher, Brendall and Florek are silent regarding wherein the message received in the POS device shows how much has been received from the user of the mobile device.

Shank teaches wherein the message received in the POS device shows how much has been received from the user of the mobile device (pg.6, ¶ [0062] discusses the result may be communicated to the user via email, text message, or any suitable type of notification. An example of a result 94 received by the billing device 12b is illustrated in FIG. 4F).

Therefore it would have been obvious to one of ordinary skill in the art of mobile commerce at the time of the invention to modify the system of Gallagher, Brendall and Florek to include the ability to provide a merchant with notification regarding the completion of payment transaction as taught by Shank et al. to provide a system and method where a gateway uses an authorization code to authorize a transaction and to determine an account for each device. The gateway then instructs an account manager to withdraw the payment amount from the account of the first device and to deposit it into the account of the second device (Abstract).

**Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHFORD S HAYLES whose telephone number is (571)270-5106. The examiner can normally be reached on M-F 6AM-4PM with Flex.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahd Obeid can be reached on 5712703324. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ASHFORD S HAYLES/  
Primary Examiner, Art Unit 3687

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*	L	US-20090164330-A1	06-2009	Bishop; Fred A.	G06Q20/02	705/19
*	M	US-20110087610-A1	04-2011	Batada; Asif	G06F21/72	705/318

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
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	S					
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**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**Notice of References Cited**

Application/Control No. 14/728,349	Applicant(s)/Patent Under Reexamination Xie et al.	
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**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20130060618-A1	03-2013	Barton; Loren	G06Q20/3223	705/14.23
*	B	US-20130144731-A1	06-2013	Baldwin; Christopher F.	G06Q20/20	705/17
*	C	US-20120078792-A1	03-2012	Bacastow; Steven V.	G06Q20/3223	705/44
*	D	US-8172135-B1	05-2012	Aidasani; Dilip	G06Q20/4012	235/379
*	E	US-20130171929-A1	07-2013	ADAMS; NEIL PATRICK	H04W4/80	455/41.1
*	F	US-8601266-B2	12-2013	Aabye; Christian	G06F21/445	713/168
*	G	US-20100211504-A1	08-2010	Aabye; Christian	G06Q20/10	705/44
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**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
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	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b><i>Index of Claims</i></b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687


✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

CLAIMS										
<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47										
CLAIM		DATE								
Final	Original	09/21/2017	04/06/2018	09/11/2018	03/19/2019					
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	2	✓	✓	✓	✓					
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	19	✓	✓	✓	✓					
	20	✓	✓	✓	✓					

<b>Search Notes</b> 	<b>Application/Control No.</b> 14/728,349	<b>Applicant(s)/Patent Under Reexamination</b> Xie et al.
	<b>Examiner</b> ASHFORD S HAYLES	<b>Art Unit</b> 3687

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	21	09/21/2017	ASH

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST (SEE ATTACHMENTS)	09/21/2017	ASH
UPDATED EAST (SEE ATTACHMENTS)	04/06/2018	ASH
COMMON CITATION ( <a href="http://ccd.fiveipoffices.org">http://ccd.fiveipoffices.org</a> ) (SEE ATTACHMENTS )	04/06/2018	ASH
UPDATED EAST (SEE ATTACHMENTS)	09/11/2018	ASH
UPDATED EAST (SEE ATTACHED)	03/19/2019	ASH

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	
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## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	0	(13/215,111).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:14
L4	8	13/215111	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:14
L5	2	((13/215111) or (13/168072)).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:47
L6	0	(12/343178).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
L7	6	12/343,178	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
L12	2	"20110173060"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 21:48
L19	5	"20110112968"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 22:28
S1	758	(electronic near (purse or wallet)) and	US-PGPUB;	OR	ON	2014/04/13

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		NFC	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			06:44
S2	138	S1 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S3	137	S2 and (app or application or applet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S4	86	S3 and PIN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S5	43	S4 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/13 06:45
S6	3	((("20130124351") or ("20080011833") or ("20130132219")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2014/04/22 17:49
S7	156	(mobile or portable or wireless) near (POS) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 16:54
S8	34	(mobile or portable or wireless) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 16:54
S9	0	(smartcard) near (POS) with NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:00
S10	2	(smartcard) near (POS) and NFC	US-PGPUB; USPAT; USOCR;	OR	ON	2014/04/23 17:00

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S11	0	(smartcard) near ("transaction terminal") and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S12	76	(smartcard) near NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:05
S13	40	S12 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:06
S14	98	("smart card" or "chip card" or EMV) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:11
S15	38	(contactless) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/23 17:17
S16	217	(contactless) near (POS or payment or transaction) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S17	217	((contactless) near (POS or payment or transaction)) and (electronic or digital) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S18	165	S17 and (provision\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:18
S19	124	S18 and NFC	US-PGPUB;	OR	ON	2014/04/24

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:18
S20	58	S17 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:30
S21	139	((contactless or NFC) near (POS or payment or transaction)) and (send\$4 or transmit\$4) near (receipt or bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S22	59	S21 and (restaurant)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/24 10:46
S23	64	(wireless or mobile) near POS and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 21:46
S24	4	POS near (contactless near (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:10
S25	1838	POS near ( (card))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S26	100	S25 and (contactless near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/25 22:11
S27	16	(portable) near POS and ((nfc or contactless) near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/04/26 20:39

			IBM_TDB			
S28	17	folio and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:33
S29	0	(restaurant near folio) and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:37
S30	273	(restaurant or table) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S31	165	S30 and provision\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:38
S32	55	S31 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:39
S33	32	proximity near mobile near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:46
S34	403	(mobile near (transaction or payment)) and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:58
S35	29	(mobile near (transaction or payment)) with (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 21:59
S36	0	(smartcard-smartcard) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/04/26 22:14

			EPO; JPO; DERWENT; IBM_TDB			
S37	9	(mobile near phone) with (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:14
S38	2	(mobile near phone) near (transaction or payment) and (smartcard)near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:27
S39	0	(mobile near phone) near (transaction or payment) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:28
S40	9	(mobile near phone) and (smartcard)near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:29
S41	67	(person-person) or (peer-peer) and (smartcard near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:35
S42	4	(smartcard or chipcard) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:48
S43	9	(nfc) and (POS near emulat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:49
S44	0	proximity near smartcard near payment	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/26 22:59
S45	3	"20130124351"	US-PGPUB; USPAT;	OR	ON	2014/04/29 06:04

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S46	54	(portable or mobile or slim or wireless) near (POS or "transaction terminal") and (nfc or emv or smartcard) near (reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:14
S47	67	(portable or mobile or slim or wireless) near (nfc or emv or smartcard) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:17
S48	123	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (POS or "transaction terminal" or reader)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 06:25
S49	0	(portable or mobile or slim or wireless) near (rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 07:22
S50	99	(rfid) near (POS or "transaction terminal")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:18
S51	598	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:19
S52	104	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (mobile or wireless or cellular) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:21
S53	11	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal) and (digital or electronic) near (bill or invoice or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:28

S54	6	(portable or mobile or wireless) near (contactless) near (transaction or payment) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:32
S55	0	S51 and (person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S56	5	(person-person or peer-peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S57	0	("peer to peer") near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:42
S58	1128	(peer) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S59	133	S58 and (nfc or emv or smartcard or contactless) near (device or terminal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:43
S60	10	S59 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 09:49
S61	550	(portable or mobile or slim or wireless) near (nfc or emv or smartcard or contactless) near (device or terminal or scanner)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 10:05
S62	1	S61 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/04/29 10:05

			DERWENT; IBM_TDB			
S63	0	("2013/0221092").URPN.	USPAT	OR	ON	2014/04/29 11:16
S64	229	(mobile or cellular near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S65	180	((mobile or cellular) near phone) and (smartcard)near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:27
S66	1	S65 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:28
S67	46	S65 and emulat\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:29
S68	1776	(electronic near (transaction or payment) near card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S69	397	S68 and (nfc or emv or smartcard or contactless)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S70	49	S69 and (send\$4 or transmit\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/04/29 11:32
S71	3	"20130024383"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 07:06



S72	3	"20130132219"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:14
S73	258	TSM with (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S74	161	S73 and (nfc or emv or smartcard or chipcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:32
S75	14	S74 and SAM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S76	147	S74 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 09:33
S77	2	"20130218766"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 11:58
S78	41	(TSM or "trusted service") and (transaction or payment) near sett\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:56
S79	3	13/245498	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 13:59
S80	531	provision\$4 near (POS or merchant or vendor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2014/05/02 14:07

			DERWENT; IBM_TDB			
S81	3	S80 and (TSM or "trusted service") and (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 14:08
S82	2	12/563444	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:16
S83	27	(TSM or "trusted service") and (transaction or payment) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 18:45
S84	5	(TSM or "trusted service") and (purchase) near settl\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:55
S85	88	(TSM or "trusted service") and (verif\$4 or confirm\$4) near (purchase or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:56
S86	34	S85 and "secure element"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/02 19:58
S87	393	(TSM or "trusted service") and (purchase or transaction) near (process\$4 or settl\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:17
S88	152	S87 and (smartcard or chipcard or nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:19
S89	131	S88 and (secure near element)	US-PGPUB; USPAT; USOCR;	OR	ON	2014/05/04 12:19

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S90	58	S89 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S91	19	S89 and (SAM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 12:20
S92	2230	(electronic near (purse or wallet)) and (payment or transaction) near (settl\$4 or process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:42
S93	41	S92 and (TSM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/04 14:43
S94	59	(mobile near nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/10 17:20
S95	415	(smartcard or chipcard ) and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:04
S96	54	S95 and (secure near element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:05
S97	53	S96 and (provisioning or personal\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/11 15:24
S98	25	S96 and (provisioning or personaliz\$3)	US-PGPUB;	OR	ON	2014/05/11

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:24
S99	78	(smartcard or chipcard ) and (nfc near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S100	42	S99 and (payment near process\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 15:16
S101	248	(nfc with (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:13
S102	78	S101 and (mobile near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:14
S103	25	(nfc with mobile near (invoic\$4 or bill\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:49
S104	0	(secure near element) and (mobile near (billing or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S105	549	(secure near element) and ((billing or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/13 22:52
S106	83	S105 and (mobile near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2014/05/13 22:53

			IBM_TDB			
S107	41	(smartcard or chipcard ) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:07
S108	0	(nfc near (transaction or payment)) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S109	175	(nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:08
S110	0	(secure adj element) and ((storing or saving) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S111	107	(secure adj element) and ((transmit\$4 or receiv\$4) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:09
S112	2	S111 and (nfc near (transaction or payment)) and ( (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S113	2	S111 and (nfc near (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S114	106	(nfc near (transaction or payment)) and ( (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:10
S115	15	S114 and TSM	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2014/05/14 23:10

			EPO; JPO; DERWENT; IBM_TDB			
S116	589	(smartcard or chipcard or emv) and (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S117	0	S116 and TSM	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S118	246	S116 and trusted	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S119	27	S116 and trusted near service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:12
S120	55	(smartcard or chipcard or emv) with (bill or invoice) near (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/14 23:14
S121	15	"security authentication module" and (electronic or virtual) near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/15 14:36
S122	10	"security authentication module" and (mobile near (purchase or payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/05/15 14:47
S123	66	(personal\$4) near (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 14:59
S124	21	S123 and (identif\$4 near issuer)	US-PGPUB; USPAT;	OR	ON	2014/10/02 15:00

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S125	2	"20120290376"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/02 16:15
S126	1	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (device or element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:16
S127	0	((identif\$4 or match\$4 or locat\$4) near issuer) same ((match\$4 or compar\$4) near (secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:17
S128	4	((identif\$4 or match\$4 or locat\$4) near issuer) same ((secure adj element) near (ID or identif\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:18
S129	1	(mobile-mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S130	30	(mobile adj mobile) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:40
S131	1	S130 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/03 14:41
S132	1102	(smartcard or chipcard ) and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55

S133	1	S132 and (personal\$4 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S134	97	S132 and (personal\$6near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S135	1	S132 and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:55
S136	11	(Fund adj transfer) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:56
S137	137	( "20010011250"   "20010021927"   "20010027441"   "20010039657"   "20020004783"   "20020042776"   "20020068554"   "20020194138"   "20030023954"   "20030074579"   "20030140176"   "20040029569"   "20040030601"   "20040123152"   "20040128259"   "20040140351"   "20050001711"   "20050071418"   "20050091659"   "20050102679"   "20050149926"   "20050184163"   "20050184164"   "20050184165"   "20050188360"   "20050193218"   "20050222961"   "20060036570"   "20060041507"   "20060126831"   "20060165060"   "20060219774"   "20070067325"   "20070090195"   "20070135164"   "20070169043"   "20070226786"   "20080056501"   "20080073426"   "20080130902"   "20080162834"   "20080167988"   "20080208681"   "20080208762"   "20080270253"   "20090158028"   "20090239512"   "20090261172"   "20090307142"   "20090312011"   "20100012732"   "20100042824"   "20100050271"   "20100058463"   "20100063893"   "20100088237"   "20100114731"   "20100131413"   "20100138518"   "20100203870"   "20100205432"   "20100207742"   "20100211507"   "20100250956"   "20100291896"   "20100291904"   "20100306076"   "20100306107"   "20100306531"   "20100323681"   )	US-PGPUB; USPAT; USOCR	OR	ON	2014/10/09 15:57



		"20100330958"   "20110016275"   "20110029671"   "20110072425"   "20110078081"   "20110087610"   "20110113473"   "20110131421"   "20120009873"   "20120129452"   "4851653"   "5221838"   "5991399"   "6005942"   "6092201"   "6101477"   "6141752"   "6151657"   "6230267"   "6233683"   "6402028"   "6434238"   "6484174"   "6601761"   "6609113"   "6633984"   "6647260"   "6792536").PN. OR ("6823520"   "6907608"   "6922835"   "6963270"   "7093122"   "7140549"   "7152782"   "7159180"   "7165727"   "7191288"   "7206769"   "7232073"   "7243853"   "7275685"   "7346170"   "7349885"   "7353396"   "7360691"   "7374099"   "7382762"   "7395535"   "7469151"   "7478389"   "7502946"   "7607175"   "7631346"   "7631810"   "7708198"   "7712658"   "7739731"   "7860486"   "7967215"   "8120460"   "8126806"   "8150767"   "8171137").PN. OR ("8429409").URPN.				
S138	0	contactless near (Fund adj transfer) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S139	0	contactless near (Fund adj transfer\$4) and ((secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 15:59
S140	11	(Fund adj transfer\$4) and (personal\$6 near (secure adj element))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:00
S141	9	S132 and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:02
S142	8	(contactless near (transaction or payment)) and (updat\$4 or modify\$4 or edit\$4 or chang\$4) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:03
S143	580	(contactless near (transaction or payment)) and (fund\$1 near	US-PGPUB; USPAT;	OR	ON	2014/10/09 16:04

		transfer\$4)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S144	9	mobile adj (contactless near (transaction or payment)) and (fund\$1 near transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:04
S145	5	(contactless) near (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:06
S146	1	(contactless near (transaction or payment)) and (virtual near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:08
S147	0	(contactless near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:09
S148	0	(EMV near (transaction or payment)) and (digital near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:12
S149	1	(EMV near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S150	41	(EMV near (transaction or payment)) and ((bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13
S151	56	((EMV or chipcard or smartcard) near (transaction or payment)) and ((digital or electronic or mobile or wireless)near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:13

S152	64	((contactless) near (transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:17
S153	62	((contactless) near (transaction or payment)) and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:53
S154	6410	((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 16:54
S155	2	"20130151400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:03
S156	0	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment)) and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S157	73	((mobile or wireless or cellular) adj (contactless) near (purchase or transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S158	0	S157 and ((digital or electronic or mobile or wireless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S159	0	S157 and ((digital or electronic or paperless) near (bill or invoice))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/10/09 17:05
S181	215	(contactless or NFC or wireless or proximity) adj (billing or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/18 15:36

			DERWENT; IBM_TDB			
S182	8	S181 and (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:39
S183	52	(contactless or NFC or wireless or proximity) adj (payment or transaction or purchase) and (electronic adj (invoic\$4 or billing))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 15:41
S184	886	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 18:00
S185	32	S184 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:01
S186	648	POS adj card	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S187	7	S186 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:29
S188	1	cashless adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:31
S189	2	cashless near POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:32
S190	283	cashless same POS	US-PGPUB; USPAT; USOCR;	OR	ON	2017/09/18 18:32

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S191	2	S190 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 18:35
S192	17804	(SIM) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S193	564	(SIM adj card) same (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S194	9	(SIM adj card) near (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:12
S195	11	("20010056398"   "20020097715"   "20020120537"   "20030060246"   "20070295803"   "20100030634"   "20100161478"   "6598028"   "7540408"   "7603312"   "8281991").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:15
S196	2	(card-to-card) near payment	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 20:17
S197	48	POS and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:18
S198	3936	(mobile or m) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S199	4	S198 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2017/09/18 20:49

			IBM_TDB			
S200	16	S198 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:49
S201	114	S198 and (contactless or NFC or wireless or proximity) adj (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 20:54
S202	109	S198 and (SIM adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S203	114	S198 and ((nfc or contactless or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:55
S204	8	S203 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:56
S205	234	merchant adj wallet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:58
S206	51	merchant adj (mobile adj wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 20:58
S207	222	((mobile or m) adj POS) and ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:05
S208	69	((mobile or m) adj POS) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2017/09/18 21:05

			EPO; JPO; DERWENT; IBM_TDB			
S209	1545	((payment or transaction) adj terminal) same ((contactless or smart or chip) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S210	0	S209 and generat\$4 near (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S211	21	S209 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:16
S212	91	((peer-to-peer) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:20
S213	58	S212 and (electronic or digital) near (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/18 21:21
S214	0	((peer-to-peer) adj (POS)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:22
S215	1	((peer-to-peer) adj (POS))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/18 21:22
S216	4	("20070233554"   "20100227553"   "20120092137"   "8229354").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/09/18 21:23
S217	1	(POS near emulat\$4) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/09/18 21:24

			IBM_TDB			
S218	56	(POS near application) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:08
S219	11745	POS and SOC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:09
S220	2680	POS and (system near chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S221	366	POS and (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S222	12	POS same (system-on-chip)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:10
S223	47	((touch or tap) adj (payment or transaction)) and (contactless or NFC or wireless or proximity) adj (card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:13
S224	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:21
S225	174	S224 and (electronic or digital) adj (bill\$4 or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 09:22
S227	11	S224 and (e-bill)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/19 09:23



			EPO; JPO; DERWENT; IBM_TDB			
S228	8566	(contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S229	5	S228 and (electronic or digital) adj (statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:15
S230	887	(contactless or NFC or wireless or proximity) adj (POS)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:17
S231	31	S230 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:18
S232	3518	(POS) and ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S233	282	S232 and (electronic or digital) adj (bill\$4 or invoic\$4 or statement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S234	92	S233 and (contactless or NFC or wireless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:23
S235	25	(POS) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 12:25
S236	189	(merchant) near ((digital or electronic or e) adj (wallet or purse))	US-PGPUB; USPAT;	OR	OFF	2017/09/19 12:53

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S237	4	"20070131780"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 16:42
S238	15	("2007/0131780").URPN.	USPAT	OR	OFF	2017/09/19 16:43
S239	184	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) and ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:33
S240	59	(nfc or emv or smartcard or contactless or proximity or chip) near (payment or purchase or transaction) same ((electronic or e or digital) adj (bill\$4 or invoic\$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/19 17:34
S241	4	("2003023080").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:17
S242	2	("20040127256").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:20
S243	1	(mobile or portable) adj POS and ((contactless or nfc or proximity) adj (adapter))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/19 18:21
S244	294	("2004/0127256").URPN.	USPAT	OR	OFF	2017/09/19 18:22
S245	0	(10/625823).APP.	USPAT; USOCR	OR	OFF	2017/09/19 18:25
S246	95	POS near (purse or wallet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 07:00

S247	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 08:39
S248	1145	POS same (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:05
S249	44	S248 and (fund adj transfer\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:23
S250	76	S248 and ((merchant or vendor) near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S251	67	S248 and ((merchant or vendor) adj (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 11:26
S252	256	virtual adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06
S253	14	S252 and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:06
S254	7	S252 and (emv) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 12:37
S255	3	emv adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/25 12:38

			DERWENT; IBM_TDB			
S256	0	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S257	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 13:04
S258	203	(contactless or proximity or RFID) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S259	0	(NFC) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S260	7	S258 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S261	16	(NFC) near (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:08
S262	0	(smartcard) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:10
S263	0	S258 and (transaction or payment) adj terminal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 17:12
S264	6563	((customer or client) adj side) and ((payment or transaction) adj process\$4)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/09/25 21:07

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S265	87	S264 and (electronic near (purse or wallet)) and NFC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:07
S266	34	(merchant-to-person)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:17
S267	3	(person-to-merchant) and (contactless or proximity or RFID) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S268	0	(person-to-merchant) and (nfc) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S269	23	(person-to-merchant) and (nfc)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:19
S270	618	(contactless or proximity or RFID) adj (payment or transaction) same (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S271	1	S270 and (security adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S272	243	S270 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:22
S273	4	S272 and (electronic or digital or e) adj	US-PGPUB;	OR	OFF	2017/09/25

		(invoic\$4 or bill\$4)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:23
S274	0	S272 and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S275	5	(contactless or proximity or RFID or nfc) adj (payment or transaction) and (wireless or paperless or nfc ) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:24
S276	78	(contactless or proximity or RFID or nfc) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:25
S277	11	(person-to-merchant) and ((smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S278	12	(person-to-merchant) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S279	930	(person-to-person) and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S280	443	S279 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:27
S281	121	S280 and (transmit\$4 or send\$4) adj (payment or transaction) near request	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/09/25 21:28

S282	15	(person-to-person) same ((contactless or smart or chip or RFID or IC) adj card)	IBM_TDB US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:28
S283	82	S281 and (electronic near (purse or wallet))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S284	41	S281 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:28
S285	72	business-to-consumer and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:32
S286	12	S285 and ((contactless or smart or chip or RFID or IC) adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 21:32
S287	5	card-to-card and (nfc or contactless or RFID or proximity or wireless) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:34
S288	7	card-to-card and (nfc or contactless or RFID or proximity or wireless) near (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 21:34
S289	203	(contactless or proximity or RFID or nfc) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S290	0	(card-to-card) adj (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/09/25 22:06

			EPO; JPO; DERWENT; IBM_TDB			
S291	45	(card-to-card) same (invoic\$4 or bill\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/25 22:06
S292	0	S289 and mobile adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/09/25 22:09
S293	148	(client-side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S294	1	S293 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S295	0	S293 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S296	212	(client adj side) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:35
S297	6	S296 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S298	2	S296 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:36
S299	358	(closed-loop adj (payment or transaction))	US-PGPUB; USPAT;	OR	OFF	2017/10/04 23:37



			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S300	1	S299 and (nfc adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S301	0	S300 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/04 23:37
S302	6	"20100114773"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 08:56
S303	459	(proximity or contactless or smartcard) adj POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:06
S304	91	S303 and (mobile adj (payment or transaction))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 10:07
S305	535	(mobile or virtual) adj (wallet or purse) near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:54
S306	339	S305 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:55
S307	179	S306 and (secure adj element)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57

S308	83	S307 and (smart adj card)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:57
S309	4	"20140187153"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 13:12
S310	271	(smartcard) and (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:37
S311	53	(smartcard) with (electronic or digital) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S312	182	S310 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:38
S313	51	S311 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:39
S314	1265	(electronic or digital) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S315	1267	(electronic or digital or virtual) adj (bill or invoice) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:40
S316	99209	nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/10/05 20:41

			DERWENT; IBM_TDB			
S317	66	S315 and nfc	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 20:41
S318	90	S315 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 21:04
S319	1372	(electronic or virtual or digital) adj (bill or invoice) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:06
S320	50	S319 and (wireless or contactless or nfc or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:12
S321	376	(electronic or virtual or digital) adj (check) and (nfc or wireless or contactless or proximity) adj (transaction or payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S322	376	(electronic or virtual or digital) adj (check) and ((nfc or wireless or contactless or proximity) adj (transaction or payment))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S323	207	S322 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S324	79	S323 and (smartcard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/06 06:16
S325	6	"20140143104"	US-PGPUB; USPAT; USOCR;	OR	ON	2017/10/09 07:10

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S326	3	"20100274677"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 08:38
S327	4	((("20090170559") or ("20120191612")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:46
S328	0	5748737/pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S329	4	"5748737".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:48
S330	13595	(electronic or digital or virtual) adj (wallet or purse)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S331	1082	S330 and (nfc or contactless or proximity) adj (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:49
S332	732	S331 and POS	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S333	87	S332 and (electronic or digital or virtual) adj (bill or invoic\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/09 11:50
S334	25	(electronic or digital or virtual) adj (bill	US-PGPUB;	OR	OFF	2017/10/09

		or invoic\$4) adj (payment) and (nfc or contactless or proximity) adj (payment or transaction)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			11:54
S335	0	(nfc or contactless or proximity) adj (bill or invoic\$4) adj (payment)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 06:09
S336	139452	restaurant brands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S337	0	restaurantbrands.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/10 13:01
S338	7	"20140006205"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 08:50
S339	6	"20130138517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 08:52
S340	18375	(electronic or digital) near (bill\$4 or invoic\$4 or check)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:19
S341	5793	POS near (payment or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S342	533	S340 and S341	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 09:20

			IBM_TDB			
S343	405	S342 and 705/\$	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:20
S344	5	"20110066550"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 09:39
S345	6	((("20070253187") or ("20090309748") or ("20120323676")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:37
S346	17	nfc near (invoice or bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:40
S347	3	"20080167017"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:43
S348	4	"20120078701"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:45
S349	98	(bar or QR or 2D) adj (invoice or bill)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 14:49
S350	61	("2013/0339253").URPN.	USPAT	OR	OFF	2018/09/11 14:55
S351	8	((("7152230") or ("6367011") or ("20130159710")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/11 17:34
S352	0	(13/594914).APP.	USPAT;	OR	OFF	2018/09/12

			USOCR			05:53
S353	0	"20120290472"	USPAT; USOCR	OR	OFF	2018/09/12 11:36
S354	2	"20120290472"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 11:36
S355	119582	(rfid or NFC) adj tag	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/02/28 08:54
S356	963	S355 same (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/02/28 08:54
S357	138	(rfid or NFC) adj (bill or invoice)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/02/28 08:55
S358	9	((("20090248579") or ("20110258120") or ("20130138518") or ("20120253974")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 17:16

## EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S160	1647	705/21	USPAT	OR	ON	2015/03/26 16:56
S161	75	S160 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:57
S162	25	S161 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:57
S163	0	S162 and TSM	USPAT	OR	ON	2015/03/26 16:58
S164	16	S162 and S161 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S165	16	S162 and provision\$4	USPAT	OR	ON	2015/03/26 16:58
S166	0	S165 and TSM	USPAT	OR	ON	2015/03/26 16:58
S167	483	705/14.23	USPAT	OR	ON	2015/03/26

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						16:58
S168	10	S167 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:58
S169	0	S168 and TSM	USPAT	OR	ON	2015/03/26 16:58
S170	3229	705/41	USPAT	OR	ON	2015/03/26 16:58
S171	259	S170 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 16:59
S172	114	S171 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 16:59
S173	75	S172 and provision\$4	USPAT	OR	ON	2015/03/26 16:59
S174	0	S173 and TSM	USPAT	OR	ON	2015/03/26 16:59
S175	0	S173 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S176	0	S171 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00
S177	8994	705/39	USPAT	OR	ON	2015/03/26 17:00
S178	743	S177 and (electronic or digital) near (invoice or check)	USPAT	OR	ON	2015/03/26 17:00
S179	206	S178 and (smart or IC or RFID or EMV) adj card	USPAT	OR	ON	2015/03/26 17:00
S180	1	S179 and (trusted near service near manag\$5)	USPAT	OR	ON	2015/03/26 17:00

3/ 19/ 2019 10:44:23 PM

C:\Users\ahayles\Documents\EAST\Workspaces\14728349\_CONTACTLESSpos.wsp



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000,  
provides for continued examination of an utility or plant application  
filed on or after June 8, 1995.

See The American Inventors Protection Act of 1999 (AIPA).

Application Number	14/728,349
Filing Date	06/02/2015
First Named Inventor	Xiangzhen Xie
Group Art Unit	3687
Examiner Name	HAYLES, ASHFORD S
Attorney Docket Number	RFID-085C1

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

**NOTE:** 37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53 (d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Final Rule, 65 Fed. Reg. 50092 (Aug. 16, 2000); Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

## 1. Submission required under 37 C.F.R. § 1.114

- a.  Previously submitted
- i.  Consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on \_\_\_\_\_  
(Any unentered amendment(s) referred to above will be entered).
- ii.  Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
- iii.  Other \_\_\_\_\_
- b.  Enclosed
- i.  Amendment/Reply
- ii.  Affidavit(s)/Declaration(s)
- iii.  Information Disclosure Statement (IDS)
- iv.  Other \_\_\_\_\_

## 2. Miscellaneous

- a.  Suspension of action on the above-identified application is requested under 37 C.F.R. § 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required)
- b.  Other \_\_\_\_\_

## 3. Fees

The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.

- a.  The Director is hereby authorized to charge the following fees, or credit any overpayments, to  
Deposit Account No. \_\_\_\_\_
- i.  RCE fee required under 37 C.F.R. § 1.17(e) **Small Entity**
- ii.  Extension of time fee (37 C.F.R. §§ 1.136 and 1.17)
- iii.  Other \_\_\_\_\_
- b.  Check in the amount of \$ \_\_\_\_\_ enclosed
- c.  Payment by credit card (Form PTO-2038 enclosed) paid via PAIR

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Joe Zheng	Registration No. (Attorney/Agent)	39,450
Signature	/ joe zheng /	Date	07/24/2019

### CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner For Patents, Box RCE, Washington, DC 20231, or facsimile transmitted to the U.S. Patent and Trademark Office on:

Name (Print/Type)	Joe Zheng
Signature	/ joe zheng /
Date	07/24/2019

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND Fees and Completed Forms to the following address: Assistant Commissioner for Patents, Box RCE, Washington, DC 20231.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	14728349
<b>Filing Date:</b>	02-Jun-2015
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Filer:</b>	Joe Zheng
<b>Attorney Docket Number:</b>	RFID-085C1

Filed as Small Entity

### Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	2251	1	100	100
<b>Miscellaneous:</b>				
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
<b>Total in USD (\$)</b>				<b>1050</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	36682906
<b>Application Number:</b>	14728349
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	5346
<b>Title of Invention:</b>	Method and apparatus for mobile payments
<b>First Named Inventor/Applicant Name:</b>	Xiangzhen Xie
<b>Customer Number:</b>	26797
<b>Filer:</b>	Joe Zheng
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	RFID-085C1
<b>Receipt Date:</b>	24-JUL-2019
<b>Filing Date:</b>	02-JUN-2015
<b>Time Stamp:</b>	19:08:29
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1050
RAM confirmation Number	072519INTEFSW19090800
Deposit Account	502436
Authorized User	Joe Zheng

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

IPR2022-01239

37 CFR 1.19 (Document supply fees)  
 37 CFR 1.20 (Post Issuance fees)  
 37 CFR 1.21 (Miscellaneous fees and charges)

**File Listing:**

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCEReqTrns.pdf	124825	no	1
			0962a323e3f4c213acba97534bc6d127c250e908		

**Warnings:**

This is not a USPTO supplied RCE SB30 form.

**Information:**

2	Amendment Submitted/Entered with Filing of CPA/RCE	ResponseToFinalOARCE.pdf	156589	no	12
			c02c0256f5c9111925402bdc498a5ee5d1a628b4		

**Warnings:**

**Information:**

3	Fee Worksheet (SB06)	fee-info.pdf	32280	no	2
			7b85e9633cc2c346b08edd5555ec9a76f0f70384		

**Warnings:**

**Information:**

**Total Files Size (in bytes):** 313694

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant(s):** Xiangzhen Xie et al  
**Title:** Trusted Service Management Process  
**Serial No.:** 14/728,349  
**Filing Date:** 06/02/2015  
**Confirmation:** 5346  
**Examiner:** Ashford Hayles  
**Group Art Unit:** 3687  
**Docket No.:** RFID-085C1

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July 25, 2019

Mail Stop: No-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Response to Final OA (RCE)**

Dear Sir:

In response to Office Action dated 03/25/2019, the Applicant respectfully requests the Examiner to enter the following amendments:

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 2 of this Response.

**REMARKS/ARGUMENTS** begin on page 8 of this Response.

## AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 12 and 18 as follows:

1. (*Currently amended*) A method for mobile payment, the method comprising:
  - causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom, the data embedded in the tag including an electronic invoice and settlement information with a merchant associated with the POS device;
  - extracting the electronic invoice from the captured data in the mobile device;
  - displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the tagmedium;
  - receiving an entry by the mobile device, the entry including an additional amount from the user;
  - calculating a total amount by adding the additional amount to the amount in the electronic invoice;
  - generating a payment request in the mobile device in response to the electronic invoice after the user has chosen a paying instrument, wherein the payment request includes the total amount and the settlement information;
  - displaying the electronic invoice on the display of the mobile device for the user to verify the payment request along with the chosen paying instrument;
  - sending the payment request from the mobile device to a payment gateway, wherein the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user; and

recording a confirmation in the mobile device that the monetary transaction per the payment request has been successfully completed with respect to the electronic invoice.

2. *(Previously amended)* The method as recited in claim 1, wherein said causing a mobile device to capture data directly from a tag physically presented thereto includes placing the mobile device near the tag.
3. *(Previously amended)* The method as recited in claim 2, wherein the POS device provides security and authentication to generate the electronic bill and transfer the data to the tag.
4. *(Previously amended)* The method as recited in claim 1, wherein said displaying the electronic invoice on a display of the mobile device comprises:
  - allowing the user to verify the amount in the electronic invoice and make a change to the amount when needed; and
  - paying the total amount with the chosen paying instrument, wherein the chosen paying instrument is selected from a group consisting of an electronic wallet already created in the mobile device, a traditional credit or debit card, and an electronic transfer.
5. *(Previously amended)* The method as recited in claim 1 further comprising: causing the mobile device to execute an installed module upon detecting the POS device in a near field of the mobile device, wherein the installed module is executed to receive the data directly from the tag carrying the electronic invoice and the settlement information.
6. *(Previously amended)* The method as recited in claim 5, wherein the data further includes security information about the merchant associated with the POS device, the security information includes an account and bank information of the registered merchant, an identifier of the tag or the POS device.



7. (*Previously amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to a payment gateway comprises:
  - transporting the payment request over a secured channel to the payment gateway, wherein the payment gateway is configured to perform the monetary transaction per the payment request by deducting an amount from an account owned by the user and generates an electronic notification for sending to the POS device.
8. (*Previously amended*) The method as recited in claim 7, wherein said displaying the electronic invoice on the display of the mobile device comprises:
  - allowing the user to modify the amount in the electronic invoice when needed;
  - paying the total amount with an electronic payment provided by an installed module in the mobile device, wherein the installed module in the mobile device is configured to generate the payment request including the data pertaining to the electronic invoice to the payment gateway for processing.
9. (*Previously amended*) The method as recited in claim 8, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established therebetween.
10. (*Previously amended*) The method as recited in claim 9, wherein the mobile device includes a secure element providing security and confidentiality required to support secure data communication between the mobile device and the payment gateway.
11. (*Previously amended*) The method as recited in claim 9, wherein said notifying the user in the mobile device that then monetary transaction per the payment request has been successfully completed with the POS device comprising: sending a notification of successful payment to the merchant of the POS device.
12. (*Currently amended*) A method for mobile payment, the method comprising:

generating a set of data in a point of sale (POS) device, the data including an electronic invoice and settlement information with a merchant associated with the POS device;

~~transporting~~ embedding the data directly to a tag;

presenting the tag to the mobile device;

causing the mobile device to capture the data from the tag, wherein the mobile device executes an installed application therein to retrieve an amount in the electronic invoice from the data and generate a payment request in response to the captured data, the payment request being sent to a payment gateway includes a total amount combining an additional amount added by a user of the mobile device and ~~an~~the amount expressed in the electronic invoice; and

receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled but for the total amount more than the amount expressed in the electronic invoice, wherein the payment gateway is configured to send the message directly to the POS device when an amount equivalent to the total amount is deducted from an account associated with the user of the mobile devices.

13. *(Previously amended)* The method as recited in claim 12, wherein the tag is presented near the mobile device to allow the user to use the mobile device to capture the data.
14. *(Previously amended)* The method as recited in claim 13, wherein the POS device is provided with security and authentication to generate the electronic invoice.
15. *(Previously amended)* The method as recited in claim 14, wherein the data includes security information of the merchant associated with the POS device, the security information includes an account and bank information, an identifier of the tag or the POS device.

16. (*Previously amended*) The method as recited in claim 15, wherein the message received in the POS device shows how much has been received from the user of the mobile device.

17. (*Previously amended*) The method as recited in claim 12, wherein data exchange between the mobile device and the payment gateway is conducted in a secured channel established between the mobile device and the payment gateway.

18. (*Currently amended*) A system for mobile payment, the system comprising:  
a point of sale (POS) device provided to generate a set of ~~data~~ data including an electronic invoice upon receiving an entry, wherein the data including the electronic invoice and settlement information is transferred to a tag, ~~the a~~ mobile device is executing a module configured to capture the data directly from the tag physically presented thereto, extract an amount expressed in the electronic invoice and display ~~on the amount in the mobile device~~ expressed in the electronic invoice; and wherein  
the POS device receives an electronic notification directly from a payment gateway that the electronic invoice has been settled for a total amount including an additional amount and the amount expressed in the electronic invoice, the additional amount is added by the user, after the user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice, the mobile device is configured to generate a payment request to be sent to the payment gateway to proceed with a payment according to the payment request.

19. (*Previously amended*) The system as recited in claim 18, wherein the data from the POS device includes an account and bank information of the merchant of the POS device.

20. (*Previously amended*) The system as recited in claim 19, wherein the payment gateway acts to deduct an amount equivalent to the total amount from an account

associated with the user of the mobile devices and generates the electronic notification for the POS device.

## REMARKS

Claims 1 - 20 were examined again. In the Office Action dated 03/25/2019, Claims 1, 2, 4, 5, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher U.S. Patent Application Publication 2011/0173060 (hereinafter "Gallagher") in view of Brendell et al. U.S. Patent Application Publication 2013/0048717 (hereinafter "Brendell"), Claims 3, 6-11, 14-15 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher in view of Brendell further in view of Florek et al. 2011/0112968 (hereinafter "Florek"), and Claim 16 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher in view of Brendell in view of Florek further in view of Shank et al. U.S. Patent Application Publication 2011/0066550 (hereinafter "Shank").

The Applicant appreciates the Examiner for providing detailed comments in the Office Action. In the foregoing amendments, Claims 1, 12 and 18 have been amended. No new matters have been introduced. Reconsideration of pending claims is respectfully requested.

### ***Claim Rejections - 35 USC § 103***

On Page 4 of this Office Action, Claims 1, 2, 4, 5, 12 and 17-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Gallagher in view of Brendell.

As amended, Claim 1 now recites:

causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data therefrom, the data embedded in the tag including an electronic invoice and settlement information with a merchant associated with the POS device;  
extracting the electronic invoice from the captured data in the mobile device;  
displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the tag;

...

*(emphasis added)*

As shown in FIG. 1, the mobile device 110 is getting the data directly from a tag (e.g., the contactless card 108), where the tag includes data generated and transferred onto the tag by the POS 106. In other words, the tag itself or data thereon is illegible visually, namely embedded in the tag. As explicitly shown in blocks 126 and 128 of FIG. 1B, an amount being charged is not visually available to a user (aka, customer) when being presented to the user with the tag. The invoice must be retrieved from the captured data. Claim 1 is now amended to explicitly recite “extracting the electronic invoice from the captured data in the mobile device” and “displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device”.

In contrast, Gallagher teaches using a check presenter 2 that includes a wireless communication device 44 and a transparent window 48. As described in Para [0026], a physical guest check is presented to the user, where the check contains all the details of the meal and the total amount due. The window enlarges a logo 46 when the check is removed to alert the guest that the check can be settled by the guest's wireless mobile device. The subtle difference between Gallagher and Claim 1 as amended is that the user knows exactly how much to pay before using his/her mobile device to settle the transaction in Gallagher while the user would not see exactly how much to pay before using his/her mobile device in Claim 1 of the instant application. Another important distinction from Gallagher is that the user must use his/her mobile device to capture the data from the tag, where the invoice or the amount due is retrieved from the captured data. Accordingly, the Applicant submits Gallagher neither teaches nor suggests but teaches away from “*the data embedded in the tag including an electronic invoice and settlement information*” and “*extracting the electronic invoice from the captured data in the mobile device*”. Claim 1 as amended shall be allowable over Gallagher.

On Page 7 of the Office Action, the Examiner admits Gallagher fails to explicitly state wherein the payment gateway sends a message directly to the POS device that a

monetary transaction per the payment request sent from the mobile device has been successfully completed in the payment gateway with the POS device when an amount equivalent to the total amount is deducted from an account associated with the user, and then cites Brendell to show the teaching in combination.

The Applicant respectfully contests the combination of Gallagher and Brendell as it is believed that there is no motivation to combine these two references in the manner proposed by the Examiner. In order to establish a *prima facie* case of obviousness under 35 USC 103, *Graham v. John Deer Co. of Kansas City*, 383 US 1 (1966) requires determining, respectively, the scope and content of the prior art, the difference between the prior art and the claims at issue, and the level of ordinary skilled in the art. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning, to support the legal conclusion of obviousness. *KSR v. Teleflex*, No. 04-1350 (US Apr. 30, 2007) (citing *In re Kahn*, 441 F. 3d 977, 988 (Canada Fed. 2006)). The suggestion to make the claim combination must be found in the prior art, not in the Applicant's disclosure. *In re Vaek*, 20 USPQ2d 1438 (Fed. Cir. 1991). Moreover, in accordance with MPEP 2142.02, each prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates Inc. v. Garlock, Inc.* 220 USPQ 303 (Fed. Cir. 1993). A third essential requirement for establishing a *prima facie* case, set forth in MPEP 2143.01 is that the proposed modification cannot render the prior art unsatisfactory for its intended purpose.

Brendell teaches contactless payments in a retail environment in which an invoice is generated on a merchant's server (merchant system 202) once a transaction is about to occur. As explicitly shown in FIG. 3 or 4, a user (consumer) uses his/her mobile device to scan a RFID tag 110 to access the invoice based on the tag's ID or a link. A payment can be made directly to the merchant system 202, hence a notification is sent to the merchant. It is believed that the Examiner has viewed that the merchant system 202 and the merchant POS terminal are two different entities. In view of Claim 1 of the instant application, there is a payment gateway which is a third party to the user

and merchant. The payment notification from the merchant system 202 to a POS terminal is not equivalent to a payment notification from the payment gateway to a merchant as the merchant system 202 still needs a payment gateway to settle a payment. Nevertheless, the modification of Gallagher with Brendell would not cure the deficiencies in Gallagher as discussed above. Accordingly, Claim 1 as amended shall be allowable over Gallagher and Brendell, viewed alone or in combination. Reconsideration of Claims 1-11 is kindly requested.

Claim 12 and Claim 18 have been amended similarly to Claim 1. Without repeating the same, the Applicant wishes to rely upon the above arguments/reasons supporting Claim 1 to support Claim 12 and 18 and submits the combination of Gallagher and Brendell fails to suggest "*to retrieve an amount in the electronic invoice from the data*" and "*extract an amount expressed in the electronic invoice*". Accordingly, the Applicant submits Claim 12 and 18 as amended shall be allowable over Gallagher and Brendell, viewed alone or in combination. Reconsideration of Claims 12-20 is kindly requested.

The patentability of the independent claims has been argued specifically as set forth above and thus Applicant will not take this opportunity to argue further the merits of the rejection with regard to each dependent claim. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

In view of the above amendments and remark, the Applicant believes that Claims 1-20 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to " Mail Stop: No-fee Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450", July 24, 2019. e-filed.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng  
Reg.: No. 39,450

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<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number 14/728,349	Filing Date 06/02/2015	<input type="checkbox"/> To be Mailed
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ENTITY:  LARGE  SMALL  MICRO

**APPLICATION AS FILED - PART I**

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$210 =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED - PART II**

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	07/24/2019		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$50 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$230 = 0
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0
<b>AMENDMENT</b>			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))						
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/TARA A WASHINGTON/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".						
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### DETAILED ACTION

Amendment received on July 24, 2019 has been acknowledged. Claims 1 and 12 have been amended and entered. Therefore, claims 1-20 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 24, 2019 has been entered.

#### ***Response to Arguments***

Applicant's arguments filed July 24, 2019 have been fully considered but they are not persuasive.

Applicant argues: ***“ The subtle difference between Gallagher and Claim 1 as amended is that the user knows exactly how much to pay before using his/her mobile device to settle the transaction in Gallagher while the user would not see exactly how much to pay before using his/her mobile device in Claim 1 of the instant application. Another important”***

Examiner respectfully disagrees. In response to applicant's argument that the user ***knows exactly how much to pay before using his/her mobile device to settle the transaction***, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

For example the prior art discloses the restaurant management module writes several payment facilitating information to the memory of the wireless communication device 44 attached to the check presenter 2 through the wireless reader/writer 54 (pg.3, ¶ [0034]).