Gallaher further teaches that 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 4 (¶ [0034].

Therefore Gallaher's system and method writes and embeds data, in particular the transaction amount and information to settle the transaction, which is illegible visually within the memory of the wireless communication device.

Gallagher teaches that the guest check presenter 2 typically includes guest check information such as a physical printout of the check *because at this point the waiter has no way of knowing how the guest intends to complete the transaction* (pg.3, ¶ [0036]). The ability to additional supply a customer a physical receipt is an obvious design choice and does not change the structural ability for the data to be embedded within the memory of the wireless communication device which is still visually illegible to the customer.

Therefore Gallagher teaches the claimed limitation of "*the data embedded in the tag including an electronic invoice and settlement information*".

Applicant argues: ***"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."***

Examiner respectfully disagrees. There is no distinction between the claimed invention and the prior art reference. The claimed invention requires a mobile device to capture data directly from a tag physically presented and extracting the electronic invoice from the captured data in the mobile device.

Gallagher's system and method discloses that wireless mobile device 62 establishes communication with the wireless communication device 44 and reads the stored payment facilitating information (pg.3, ¶ [0037]), any subsequent steps done by the wireless mobile device 62 are under the control of the restaurant application (¶ [0038]) where 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 (¶ [0040]).

Applicant's argument seems to contradict the claim language as the claims clearly state that the mobile device captures the data stored on the tag and the captured data is extracted in the mobile device.

Examiner notes, the Applicant Specifications ¶ [0032] state:

> 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.

Applicant argues: ***"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"***

Examiner respectfully disagrees. Gallagher and Brendell both teach a system and method in which an invoice is presented electronically to a user via a guest presenter. Both references are within the same field of endeavor and both a focused on contactless payment within the restaurant industry.

Further, motivation was provided in all present and previous combinations of references. Although a specific motivation may not have been explicitly stated within one of the references, the motivation was not improper, and provided in accordance with the Teaching-Suggestion-Motivation

Test (TSM). As such, Examiner's use of these facts as a motivation statement is in compliance with the requirements of the TSM test, since the Teaching-Suggestion-Motivation (TSM) test should be flexibly applied and the teaching, suggestion, or motivation need not be written within the reference.

Applicant argues: ***"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".***

Examiner respectfully disagrees. Examiner has met all requirements establishing a prima facie case: all factual findings required by Graham were supplied in the previous and present Actions; the references are related art, and Applicant has supplied no evidence that there is no reasonable expectation of success; all claim limitations were met in the previous and present Actions, and Applicant has merely made the allegation that the limitations are not met or to how the identified elements are otherwise distinguishable from the claimed limitations. Neither has Applicant supplied any evidence or argument addressing any failure of Examiner's application of the TSM test, pursuant to current governing law.

Applicant's arguments are not directed toward the cited portion of the Brendell. For example, Gallagher already discloses the steps of settling a payment transaction between a customer and merchant and explicitly states where an approval message is sent to the restaurant POS *See* pg.4, ¶ [0042] and ¶ [0043].

The cited portion of Brendell (pg.3, ¶ [0033]) teaches 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.

In other words, Brendell teaches where the personal bank, of the customer acts as the payment gateway that controls the transaction between the customer and merchant and sends the approval to the merchant. Therefore meeting the claimed limitation of independent claims 1, 12 and 18.

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 negatived 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 embedded in the tag including an electronic invoice and settlement information with a merchant associated with the POS device (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….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);

extracting the electronic invoice from the captured data in the mobile device (pg.3, ¶ [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);

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 tag (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 Brendell 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 Brendell 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),

embedding 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 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 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…¶ [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 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 Brendell 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 Brendell 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),

a 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);

extract an amount expressed in the electronic invoice and display the amount in the mobile device (pg.3, ¶ [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…¶ [0041] discusses the guest reviews the guest check information either on the wireless mobile device 62 or physical check)

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 Brendell 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[1]).

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 Brendell 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.

[1] 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.

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 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 Brendell 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[2]).

[2] 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 Brendell 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™[3],

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).

[3] 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 Brendell 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, Brendell and Florek disclose the method as recited in claim 15. However, Gallagher, Brendell 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, Brendell 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

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

Kaminski et al. U.S. Patent Application Publication US 2009/0248579 discusses Method and System for Accepting and Processing Financial Transactions over a Mobile Computing Device.

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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U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20120317628-A1	12-2012	Yeager; C. Douglas	G06Q20/204	726/5
*	B	US-20100213253-A1	08-2010	Wollbrand; Karin	G06K19/07769	235/380
*	C	US-20130138518-A1	05-2013	White; Spencer Neil	G06Q20/204	705/16
*	D	US-20080167017-A1	07-2008	Wentker; Dave	G06Q20/10	455/414.1
*	E	US-20110258120-A1	10-2011	Weiss; Kenneth P.	G06F21/32	705/44
*	F	US-20130334318-A1	12-2013	Wakerly; Michael John	G06Q20/352	235/492
*	G	US-20120166333-A1	06-2012	von Behren; Rob	G06Q20/10	705/41
*	H	US-8646059-B1	02-2014	von Behren; Rob	G06Q20/367	719/311
*	I	US-8196131-B1	06-2012	von Behren; Rob	G06Q20/367	705/64
*	J	US-20130151292-A1	06-2013	Van Deloo; Lori	G06Q10/02	705/5
*	K	US-20140013406-A1	01-2014	Tremlet; Christophe	G06F21/32	726/5
*	L	US-20100306076-A1	12-2010	Taveau; Sebastien	G06Q20/02	705/26.8
*	M	US-20130200999-A1	08-2013	Spodak; Douglas A.	G05B1/01	340/5.65

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
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NON-PATENT DOCUMENTS

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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-20130097080-A1	04-2013	Smets; Patrik	G06T1/20	705/44
*	B	US-20100114773-A1	05-2010	Skowronek; Daniel P.	G06Q20/40	705/44
*	C	US-20130152185-A1	06-2013	Singh; Ravi	G06F21/35	726/9
*	D	US-20130339253-A1	12-2013	Sincai; Dan Moshe	G06Q20/3227	705/71
*	E	US-20110066550-A1	03-2011	Shank; Clinton L.	G06Q20/1085	705/43
*	F	US-20130097031-A1	04-2013	Royyuru; Vijay Kumar	G06Q20/20	705/16
*	G	US-20130254102-A1	09-2013	Royyuru; Vijay Kumar	G06Q20/382	705/39
*	H	US-7962369-B2	06-2011	Rosenberg; Einar	G06Q20/20	705/26.1
*	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-20110117839-A1	05-2011	Rhelimi; Alain	G06K19/0719	455/41.1
*	L	US-20110078081-A1	03-2011	Pirzadeh; Kiushan	G06Q20/20	705/44
*	M	US-20130138959-A1	05-2013	PELLY; Nicholas Julian	H04L9/083	713/168

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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	R					
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NON-PATENT DOCUMENTS

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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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-20120118952-A1	05-2012	Norair; John Peter	G06K7/0008	235/380
*	B	US-20110180610-A1	07-2011	Narendra; Siva G.	G06K19/0701	235/492
*	C	US-20120178433-A1	07-2012	Narendra; Siva G.	G06K19/06187	455/420
*	D	US-20080093467-A1	04-2008	Narendra; Siva G.	G06Q20/341	235/492
*	E	US-20120290472-A1	11-2012	MULLEN; Jeffrey D.	G06Q10/00	705/39
*	F	US-20130218766-A1	08-2013	Mueller; Michael	G06Q20/32	705/42
*	G	US-20130346305-A1	12-2013	Mendes; Rui	G06Q20/351	705/41
*	H	US-20110155800-A1	06-2011	Mastrangelo; Edward L.F.	G06Q20/352	235/379
*	I	US-20110042456-A1	02-2011	Masaryk; Michal	G06Q20/20	235/380
*	J	US-20130198086-A1	08-2013	Mardikar; Upendra	G06Q20/1085	705/71
*	K	US-20090307140-A1	12-2009	Mardikar; Upendra	G06Q20/1085	705/71
*	L	US-20130160134-A1	06-2013	MARCOVECCHIO; Vincenzo Kazimierz	G06Q20/3563	726/26
*	M	US-20130151400-A1	06-2013	Makhotin; Oleg	G06Q20/3227	705/39

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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	P					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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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-20130132219-A1	05-2013	Liberty; Michael A.	G06Q20/202	705/21
*	B	US-20130226812-A1	08-2013	Landrok; Mads	G06Q20/32	705/67
*	C	US-20130221092-A1	08-2013	Kushevsky; Mikhail	G06Q20/3672	235/379
*	D	US-20140012751-A1	01-2014	Kuhn; Stephen	G06Q20/36	705/41
*	E	US-20130173736-A1	07-2013	KRZEMINSKI; Marek	H04W12/10	709/213
*	F	US-20120116963-A1	05-2012	Klein; Charmaine	G06Q20/102	705/40
*	G	US-20130138517-A1	05-2013	Khan; Sameer Mohamed	G06Q30/00	705/16
*	H	US-20130124349-A1	05-2013	Khan; Mohammad	G06Q20/36	705/21
*	I	US-20110251952-A1	10-2011	Kelly; Mary L.	G06Q20/14	705/40
*	J	US-20130024383-A1	01-2013	Kannappan; Sasikumar	G06Q20/40	705/71
*	K	US-20090248579-A1	10-2009	Kaminski; Ronald	G06Q20/0855	705/67
*	L	US-8341083-B1	12-2012	Jain; Deepak	G06K19/07739	705/41
*	M	US-20120072309-A1	03-2012	Hultberg; Stefan	G06Q20/32	705/26.41

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
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NON-PATENT DOCUMENTS

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20120143702-A1	06-2012	Ho; Yu-Ping	G06Q20/10	705/16
*	B	US-20070131780-A1	06-2007	Ho; Chun-Hsin	G06K19/07	235/492
*	C	US-20120253974-A1	10-2012	Haikonen; Mikko Sakari	G06Q20/29	705/26.41
*	D	US-20130140360-A1	06-2013	GRAYLIN; WILL W.	G06Q20/322	235/380
*	E	US-8565676-B2	10-2013	Gormley; Georgiana	H04M1/274516	455/41.1
*	F	US-20040127256-A1	07-2004	Goldthwaite, Scott	G06K7/0004	455/558
*	G	US-20110173060-A1	07-2011	Gallagher; Kevin N.	G06Q20/0425	705/14.27
*	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-20130203345-A1	08-2013	Fisher; Michelle	H04B11/00	455/41.1
*	L	US-20120239566-A1	09-2012	Everett; David	G06Q20/10	705/41
*	M	US-20120290376-A1	11-2012	Dryer; Trevor D.	G06Q20/3278	705/14.23

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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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).)
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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20130246258-A1	09-2013	Dessert; Robert	G06Q20/40	705/41
*	B	US-20140095382-A1	04-2014	Desai; Mehul	G06Q20/322	705/41
*	C	US-20080126260-A1	05-2008	Cox; Mark A.	G06Q20/20	705/67
*	D	US-20110113473-A1	05-2011	Corda; Alexandre	G06Q20/32	726/3
*	E	US-8577731-B1	11-2013	Cope; Warren B.	G06Q20/3224	705/17
*	F	US-20130103574-A1	04-2013	Conrad; Abbe Elizabeth	G06Q20/36	705/39
*	G	US-20120304255-A1	11-2012	Carnes; Daniel Wilson	H04L9/3234	726/3
*	H	US-20130054413-A1	02-2013	Brendell; Brian	G06Q20/3276	705/26.41
*	I	US-20130054412-A1	02-2013	Brendell; Brian	G06Q20/12	705/26.41
*	J	US-20130048717-A1	02-2013	Brendell; Brian	G06Q20/325	235/380
*	K	US-20090289106-A1	11-2009	Bishop; Fred	G06Q20/02	235/379
*	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					
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NON-PATENT DOCUMENTS

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*		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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✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
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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	03/19/2019	08/22/2019				
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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

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Search Notes		
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UPDATED EAST (SEE ATTACHMENTS)	04/06/2018	ASH
COMMON CITATION (http://ccd.fiveipoffices.org) (SEE ATTACHMENTS)	04/06/2018	ASH
UPDATED EAST (SEE ATTACHMENTS)	09/11/2018	ASH
UPDATED EAST (SEE ATTACHED)	03/19/2019	ASH
UPDATED EAST (SEE ATTACHED)	08/22/2019	ASH

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

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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

			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

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file:///C/Users/ahayles/Documents/e-Red%20Folder/14728349/EASTSearchHistory.14728349_AccessibleVersion.htm [8/23/2019 6:45:24 AM]

		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 proxmity 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 proxmity 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

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			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

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			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

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			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
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;	OR	OFF	2018/09/11 14:49

			IBM_TDB			
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
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
S359	0	(13/215,111).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:14
S360	8	13/215111	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/03/19 20:14

			EPO; JPO; DERWENT; IBM_TDB			
S361	2	((13/215111) or (13/168072)).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:47
S362	0	(12/343178).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
S363	6	12/343,178	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
S364	2	"20110173060"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 21:48
S365	5	"20110112968"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 22:28
S366	25	13/168,072	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/22 15:44

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

8/ 23/ 2019 6:45:23 AM
C:\ Users\ ahayles\ Documents\ EAST\ Workspaces\ 14728349_CONTACTLESSpos.wsp

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/ (Examiner's Signature) | ASH (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
RULE			

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 01/16/2012ABN

13350832 is a CIP of 11534653 09/24/2006 PAT 8118218

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

06/10/2015

** SMALL ENTITY **

STATE OR COUNTRY

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ADDRESS

LogicPatents, LLC

21701 Stevens Creek Boulevard, #284

CUPERTINO, CA 95015

UNITED STATES

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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: 08/28/2019

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.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:
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If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.

Electronic Acknowledgement Receipt

EFS ID:	37889331
Application Number:	14728349
International Application Number:	
Confirmation Number:	5346
Title of Invention:	Method and apparatus for mobile payments
First Named Inventor/Applicant Name:	Xiangzhen Xie
Customer Number:	26797
Filer:	Joe Zheng
Filer Authorized By:	
Attorney Docket Number:	RFID-085C1
Receipt Date:	29-NOV-2019
Filing Date:	02-JUN-2015
Time Stamp:	14:23:43
Application Type:	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	Amendment/Req. Reconsideration-After Non-Final Reject	ResponseTo1stOA2ndRCE.pdf	156242 8b8fe712e26727e04cf41a118a0158f131754e66	no	12

Warnings:

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Apple EX1002 Page 629

Information:	
Total Files Size (in bytes):	156242

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

November 28, 2019

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

Response to First OA (2nd RCE)

Dear Sir:

In response to Office Action dated 08/28/2019, 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.

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AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 4, 7, 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 includsing 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;

receiving an entry by the mobile device, the entry including the amount for the invoice and an additional amount from the user when needed;

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 an electronic purse (e-purse) maintained locally in the mobile device; ~~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;~~

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to ~~a~~ the payment gateway, wherein the balance is sufficient to honor the payment request, 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~~ displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount ~~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. (*Currently amended*) The method as recited in claim 1, wherein said displaying the electronic invoice on ~~a~~ the 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

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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. (*Currently amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to ~~a~~ the 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~~ the total amount from ~~an~~ the e-purse ~~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.

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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;

embedding the data directly to a tag;

presenting the tag to ~~the~~ a 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 is denied in the mobile device when the amount is more than a balance of an electronic purse (e-purse) maintained locally in the mobile device, the payment request is ~~being~~ sent to a payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device ~~includes a total amount combining an additional amount added by a user of the mobile device and 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 cause the balance in the e-purse reduced by the amount ~~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 device~~.

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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 including an electronic invoice upon receiving an entry, wherein the data including the electronic invoice and settlement information is transferred to a tag, 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 the amount in the mobile device~~voice~~; 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

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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, wherein the payment request is denied within the mobile device without sending the payment request to the payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; the payment request is~~to be~~ sent to the payment gateway to proceed with a payment according to the payment request when the amount is more than the balance of the e-purse.

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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REMARKS

Claims 1 - 20 were examined again. In the Office Action dated 08/28/2019, 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, 4, 7, 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 7 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:

…

generating a payment request in the mobile device in response to the electronic invoice after the user has chosen an electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

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displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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; and

displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

(*emphasis added*)

As described in Para [0033] and [0037], a customer may choose to settle the charge with an electronic wallet or purse (a.k.a., e-purse) already created in the mobile device. As further shown in FIG. 2F and FIG. 6C, and described in Para [0064 and [0131], the e-purse is a local application but managed remotely by a server. When the e-purse is used to settle a charge, the balance of the e-purse can be used to determine if the e-purse is sufficient to perform the transaction without verifying with the server. When the e-purse is sufficient to perform the transaction, the server is responsible for the settlement.

In contrast, Gallagher teaches using a check presenter 2 that includes a wireless communication device 44 and a transparent window 48. The process taught by Gallagher is clearly meant for credit or debit payment that is all handled by a remote payment server (e.g., operated by a credit company or a bank), there is no any indication in Gallagher that the payment could be made by a local instrument (*see* 114 of FIG. 4 in Gallagher). Gallagher neither teaches nor suggests the verification of a charge against the balance of a local e-purse. In one embodiment of the instant application, the balance of the e-purse is essentially used as a first step to determine if the payment request is to be sent to a payment server. In the case of the e-purse being insufficient, the user is allowed to top up (add more money to) the e-purse before the transaction happens. Accordingly, the Applicant submits Gallagher neither teaches nor suggests but teaches away from "*verifying the total amount with a balance in the e-*

purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway" and "*displaying a denial of the payment request when the balance is less than the total amount*" and "*displaying a denial of the payment request when the balance is less than the total amount*". It should be noted that the *denial* allows the user to top up the e-purse. Thus Claim 1 as amended shall be allowable over Gallagher.

On Page 10 of the Office Action, the Examiner admits Gallagher fails to explicitly state 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.

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 in Brendell, 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 only one 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

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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 "*the payment request is denied in the mobile device when the amount is more than a balance of an electronic purse (e-purse) maintained locally in the mobile device, the payment request is sent to a payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device"* recited in Claim 12 and *"the payment request is denied within the mobile device without sending the payment request to the payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; the payment request is sent to the payment gateway to proceed with a payment according to the payment request when the amount is more than the balance of the e-purse*" recited in Claim 18. Accordingly, the Applicant submits Claim 12 and 18 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.

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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", Nov. 29, 2019. e-filed.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng
Reg.: No. 39,450

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Apple EX1002 Page 642

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/728,349	Filing Date 06/02/2015	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ 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 =	
☐ 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.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	11/29/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	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
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ 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".	/LORENDA M HOOD/
*** 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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NOTICE OF ALLOWANCE AND FEE(S) DUE

26797 7590 02/03/2020

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

EXAMINER
HAYLES, ASHFORD S

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 02/03/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/728,349	06/02/2015	Xiangzhen Xie	RFID-085C1	5346

TITLE OF INVENTION: Method and apparatus for mobile payments

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	05/04/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
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By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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CUPERTINO, CA 95015

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

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14/728,349	06/02/2015	Xiangzhen Xie	RFID-085C1	5346

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nonprovisional	SMALL	$500	$0.00	$0.00	$500	05/04/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HAYLES, ASHFORD S	3687	705-021000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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UNITED STATES PATENT AND TRADEMARK OFFICE

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 30 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

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 disclosure of these records is required by the Freedom of Information Act.
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 inspection 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.

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Notice of Allowability	Application No. 14/728,349	Applicant(s) Xie et al.	
	Examiner ASHFORD S HAYLES	Art Unit 3687	AIA (FITF) Status No

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 1/7/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ 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.

3. ☑ The allowed claim(s) is/are 1-20 . As a result of the allowed claim(s), 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** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ 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)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☑ Interview Summary (PTO-413), Paper No./Mail Date. 1/7/2020.
5. ☑ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☑ Other See Continuation Sheet.

/ASHFORD S HAYLES/
Primary Examiner, Art Unit 3687

Continuation of Attachment(s) 7. Other: E-MAIL CORRESPONDANCE, PROPOSED AMENDMENTS

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with Joe Zheng on January 7, 2020.

The application has been amended as follows:

As per Claim 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 includes 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;

receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user ~~when needed~~;

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 an electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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; and

displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

As per Claim 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.

As per Claim 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.

As per Claim 4, (*Currently amended*) The method as recited in claim 1, wherein said displaying the electronic invoice on the 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 e-purse ~~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~~.

As per Claim 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.

As per Claim 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.

As per Claim 7, (*Currently amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to the 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 the total amount from the e-purse and generates the confirmation ~~an electronic notification~~ for ~~sending to~~ the POS device.

As per Claim 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.

As per Claim 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.

As per Claim 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.

As per Claim 11, (*Currently amended*) The method as recited in claim 9, wherein said displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount comprises ~~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.

As per Claim 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;

embedding the data directly to a tag;

presenting the tag to a 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 is denied in the mobile device when the amount is more than a balance of an electronic purse (e-purse) maintained locally in the mobile device, the payment request is sent to a payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; and

receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled, wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount.

As per Claim 13, (*Previously amended*) The method as recited in claim 12, wherein the tag is presented near the mobile device to allow ~~the~~ a user of the mobile device to use the mobile device to capture the data.

As per Claim 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.

As per Claim 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.

As per Claim 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.

As per Claim 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.

As per Claim 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 tag, 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 the amount in the mobile device; 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 optionally 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, wherein the payment request is denied within the mobile device without sending the payment request to the payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; the payment request is sent to the payment gateway to proceed with a payment according to the payment request when the amount is more than the balance of the e-purse.

As per Claim 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.

As per Claim 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.

Drawings

Drawings submitted on June 23, 2015 are sufficient.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The most remarkable prior arts on record are to Gallagher U.S. Patent Application Publication 2011/01736060, Brendell et al. U.S. Patent Application Publication 2013/0048717 and Lu et al. WO 2012000438.

Gallagher is directed to a guest check presenter for a food establishment is provided. The guest check presenter includes a holder for holding a guest check information and a wireless communication device attached to the holder and adapted to communicate with a wireless mobile device of the guest. The wireless communication device contains a guest check identifier that identifies the guest check. The guest check identifier is adapted to be retrieved by the wireless mobile device of the guest for use in providing various useful mobile services that are associated with the food establishment or the food consumed by the guest. Thus, the check presenter is used as a platform for providing such mobile services as mobile payment of the guest check and loyalty coupons. Gallagher. *Abstract*.

Brendall et al. is directed to a coordination server of a contactless payment system may receive a total bill of purchases for a customer from a merchant POS terminal, associate the total bill of purchases with a unique identifier of an RFID tag of a check presenter, and receive notification that payment of the total bill of purchases is authorized. The coordination server may receive the unique identifier and payment information from a contactless-enabled device, and transmit the payment information and the total bill to the merchant POS terminal for transmittal to a merchant acquirer for completion of the transaction under business as usual standards. In one embodiment, the coordination server transmits the payment information and the total bill to a merchant acquirer, which then routes the payment request to an appropriate payment network. In another embodiment, the coordination

server transmits the payment information and the total bill directly to the appropriate payment network. Brendell et al., *Abstract*.

Lu et al. is directed to a (mobile payment) transaction process more secure, and prevents illegal means from being used to modify the compound application special file in the CPU card, and further simplifies the implementation of the discount operation. The compound application-specific file can be preset, and easily managed, thereby saving management costs. *Objective*

Gallagher, Brendell et al. nor Lu et al. teach the limitations of the claimed invention, sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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. Moreover, none of the prior art of record remedies the deficiencies found in Gallagher, Brendell et al. and Lu et al. or could be combined with any other reference to produce the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

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

Florek et al. U.S. Patent Application Publication 2011/0112968 discusses a POS payment terminal and a method of direct debit payment transaction using a mobile communication device such as a mobile phone.

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

Applicant-Initiated Interview Summary	**Application No.** 14/728,349	**Applicant(s)** Xie et al.	
	Examiner ASHFORD S HAYLES	**Art Unit** 3687	**AIA (FITF) Status** No

All participants (applicant, applicants representative, PTO personnel):

(1) ASHFORD S. HAYLES. (3) _____.

(2) JOE ZHENG. (4) _____.

Date of Interview: 07 January 2020.

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: WO 2012000438.

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 allowable subject matter and prior art reference and amendments that would overcome prior art references. Attorney planned to review references and provide amendments. Upon follow-up agreement was reached and Examiner Amendments have been entered..

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	

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.

Notice of References Cited	Application/Control No. 14/728,349	Applicant(s)/Patent Under Reexamination Xie et al.	
	Examiner ASHFORD S HAYLES	Art Unit 3687	Page 1 of 7

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-8601266-B2	12-2013	Aabye; Christian	G06F21/445	713/168
*	B	US-20100211504-A1	08-2010	Aabye; Christian	G06Q20/10	705/44
*	C	US-20130171929-A1	07-2013	ADAMS; NEIL PATRICK	H04W4/80	455/41.1
*	D	US-8172135-B1	05-2012	Aidasani; Dilip	G06Q20/4012	235/379
*	E	US-20120078792-A1	03-2012	Bacastow; Steven V.	G06Q20/3223	705/44
*	F	US-20130144731-A1	06-2013	Baldwin; Christopher F.	G06Q20/20	705/17
*	G	US-20130060618-A1	03-2013	Barton; Loren	G06Q20/3223	705/14.23
*	H	US-20110087610-A1	04-2011	Batada; Asif	G06F21/72	705/318
*	I	US-20090164330-A1	06-2009	Bishop; Fred A.	G06Q20/02	705/19
*	J	US-20090289106-A1	11-2009	Bishop; Fred	G06Q20/02	235/379
*	K	US-20130054413-A1	02-2013	Brendell; Brian	G06Q20/3276	705/26.41
*	L	US-20130054412-A1	02-2013	Brendell; Brian	G06Q20/12	705/26.41
*	M	US-20130048717-A1	02-2013	Brendell; Brian	G06Q20/325	235/380

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N	WO-2012000438-A1	01-2012	WO	YU HUAZHANG	G07F7/0866
	O	JP-11073542-A	03-1999	JP	NAKAYA, MITSURU	
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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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-20100325048-A1	12-2010	Carlson; Mark	G06Q20/20	705/44
*	B	US-20120304255-A1	11-2012	Carnes; Daniel Wilson	H04L9/3234	726/3
*	C	US-20130103574-A1	04-2013	Conrad; Abbe Elizabeth	G06Q20/36	705/39
*	D	US-8577731-B1	11-2013	Cope; Warren B.	G06Q20/3224	705/17
*	E	US-20110113473-A1	05-2011	Corda; Alexandre	G06Q20/32	726/3
*	F	US-20080126260-A1	05-2008	Cox; Mark A.	G06Q20/20	705/67
*	G	US-20140095382-A1	04-2014	Desai; Mehul	G06Q20/322	705/41
*	H	US-20130246258-A1	09-2013	Dessert; Robert	G06Q20/40	705/41
*	I	US-20120290376-A1	11-2012	Dryer; Trevor D.	G06Q20/3278	705/14.23
*	J	US-20120239566-A1	09-2012	Everett; David	G06Q20/10	705/41
*	K	US-20130203345-A1	08-2013	Fisher; Michelle	H04B11/00	455/41.1
*	L	US-20110112968-A1	05-2011	FLOREK; Miroslav	G06Q20/20	705/50
*	M	US-20100274726-A1	10-2010	Florek; Miroslav	G06Q20/20	705/72

FOREIGN PATENT DOCUMENTS

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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-20100274677-A1	10-2010	Florek; Miroslav	G06Q20/10	705/16
*	B	US-20110173060-A1	07-2011	Gallagher; Kevin N.	G06Q20/0425	705/14.27
*	C	US-20040127256-A1	07-2004	Goldthwaite, Scott	G06K7/0004	455/558
*	D	US-8565676-B2	10-2013	Gormley; Georgiana	H04M1/274516	455/41.1
*	E	US-20130140360-A1	06-2013	GRAYLIN; WILL W.	G06Q20/322	235/380
*	F	US-20120253974-A1	10-2012	Haikonen; Mikko Sakari	G06Q20/29	705/26.41
*	G	US-20070131780-A1	06-2007	Ho; Chun-Hsin	G06K19/07	235/492
*	H	US-20120143702-A1	06-2012	Ho; Yu-Ping	G06Q20/10	705/16
*	I	US-20120072309-A1	03-2012	Hultberg; Stefan	G06Q20/32	705/26.41
*	J	US-8341083-B1	12-2012	Jain; Deepak	H04L63/083	705/41
*	K	US-20090248579-A1	10-2009	Kaminski; Ronald	G06Q20/0855	705/67
*	L	US-20130024383-A1	01-2013	Kannappan; Sasikumar	G06Q20/40	705/71
*	M	US-20110251952-A1	10-2011	Kelly; Mary L.	G06Q20/14	705/40

FOREIGN PATENT DOCUMENTS

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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-20130124349-A1	05-2013	Khan; Mohammad	G06Q20/36	705/21
*	B	US-20130138517-A1	05-2013	Khan; Sameer Mohamed	G06Q30/00	705/16
*	C	US-20120116963-A1	05-2012	Klein; Charmaine	G06Q20/102	705/40
*	D	US-20130173736-A1	07-2013	KRZEMINSKI; Marek	H04W12/10	709/213
*	E	US-20140012751-A1	01-2014	Kuhn; Stephen	G06Q20/36	705/41
*	F	US-20130221092-A1	08-2013	Kushevsky; Mikhail	G06Q20/3672	235/379
*	G	US-20130226812-A1	08-2013	Landrok; Mads	G06Q20/32	705/67
*	H	US-20130132219-A1	05-2013	Liberty; Michael A.	G06Q20/202	705/21
*	I	US-20120296819-A1	11-2012	Lu; Zhou	G06Q20/352	705/41
*	J	US-20130151400-A1	06-2013	Makhotin; Oleg	H04W12/08	705/39
*	K	US-20130160134-A1	06-2013	MARCOVECCHIO; Vincenzo Kazimierz	G06Q20/3563	726/26
*	L	US-20090307140-A1	12-2009	Mardikar; Upendra	G06Q20/1085	705/71
*	M	US-20110042456-A1	02-2011	Masaryk; Michal	G06Q20/20	235/380

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
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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-20110155800-A1	06-2011	Mastrangelo; Edward L.F.	G06Q20/352	235/379
*	B	US-20130346305-A1	12-2013	Mendes; Rui	G06Q20/351	705/41
*	C	US-20130218766-A1	08-2013	Mueller; Michael	G06Q20/32	705/42
*	D	US-20120290472-A1	11-2012	MULLEN; Jeffrey D.	G06Q10/00	705/39
*	E	US-20110180610-A1	07-2011	Narendra; Siva G.	G06K19/0701	235/492
*	F	US-20120178433-A1	07-2012	Narendra; Siva G.	G06K19/06187	455/420
*	G	US-20080093467-A1	04-2008	Narendra; Siva G.	G06Q20/341	235/492
*	H	US-20120118952-A1	05-2012	Norair; John Peter	G06K7/0008	235/380
*	I	US-20130138959-A1	05-2013	PELLY; Nicholas Julian	H04L9/083	713/168
*	J	US-20110078081-A1	03-2011	Pirzadeh; Kiushan	G06Q20/32	705/44
*	K	US-8270578-B2	09-2012	Poniatowski; Paul	G06Q30/06	235/462.45
*	L	US-20110117839-A1	05-2011	Rhelimi; Alain	G06K19/0719	455/41.1
*	M	US-20120136786-A1	05-2012	Romagnoli; Amy Sobocinski	G06Q20/10	705/44

FOREIGN PATENT DOCUMENTS

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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-7962369-B2	06-2011	Rosenberg; Einar	G06Q20/20	705/26.1
*	B	US-20130254102-A1	09-2013	Royyuru; Vijay Kumar	G06Q20/382	705/39
*	C	US-20130097031-A1	04-2013	Royyuru; Vijay Kumar	G06Q20/20	705/16
*	D	US-20110066550-A1	03-2011	Shank; Clinton L.	G06Q20/1085	705/43
*	E	US-20130339253-A1	12-2013	Sincai; Dan Moshe	G06Q20/3227	705/71
*	F	US-20130152185-A1	06-2013	Singh; Ravi	G06F21/35	726/9
*	G	US-20100114773-A1	05-2010	Skowronek; Daniel P.	G06Q20/40	705/44
*	H	US-20130097080-A1	04-2013	Smets; Patrik	G06T1/20	705/44
*	I	US-20130200999-A1	08-2013	Spodak; Douglas A.	G05B1/01	340/5.65
*	J	US-20100306076-A1	12-2010	Taveau; Sebastien	G06Q20/02	705/26.8
*	K	US-20140013406-A1	01-2014	Tremlet; Christophe	G06F21/32	726/5
*	L	US-20130151292-A1	06-2013	Van Deloo; Lori	G06Q10/02	705/5
*	M	US-20120166333-A1	06-2012	von Behren; Rob	G06Q20/10	705/41

FOREIGN PATENT DOCUMENTS

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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-8196131-B1	06-2012	von Behren; Rob	G06Q20/367	705/64
*	B	US-20130334318-A1	12-2013	Wakerly; Michael John	G06Q20/3576	235/492
*	C	US-20060085266-A1	04-2006	Wei; Chang	G06Q50/12	705/15
*	D	US-20110258120-A1	10-2011	Weiss; Kenneth P.	G06F21/32	705/44
*	E	US-20080167017-A1	07-2008	Wentker; Dave	G06Q20/32	455/414.1
*	F	US-20130138518-A1	05-2013	White; Spencer Neil	G06Q20/204	705/16
*	G	US-20100213253-A1	08-2010	Wollbrand; Karin	G06K19/07769	235/380
*	H	US-20120317628-A1	12-2012	Yeager; C. Douglas	G06Q20/204	726/5
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FOREIGN PATENT DOCUMENTS

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

CPC - Searched*		
Symbol	**Date**	**Examiner**
(G06Q20/3278 or G06Q20/204 or G06Q20/3223 or G06Q20/20 or G06Q30/04 or G06Q20/102 or G06Q20/352 or G06Q20/3552 or G06Q20/3672 or G06Q20/40 or G06Q30/0601 or G06Q20/3227)	01/08/2020	ASH

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 (http://ccd.fiveipoffices.org) (SEE ATTACHMENTS)	04/06/2018	ASH
UPDATED EAST (SEE ATTACHMENTS)	09/11/2018	ASH
UPDATED EAST (SEE ATTACHED)	03/19/2019	ASH
UPDATED EAST (SEE ATTACHED)	08/22/2019	ASH
UPDATED EAST (SEE ATTACHED)	01/08/2020	ASH

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	

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	14/728,349	Xie et al.
	Examiner	Art Unit
	ASHFORD S HAYLES	3687

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G06Q	20/3278, 20/204, 20/3223, 20/20, 30/04, 20/102, 20/352, 20/3552, 20/3672, 20/40, 30/0601, 20/3227	01/08/2020	ASH

/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/728,349	Xie et al.
	Examiner	**Art Unit**
	ASHFORD S HAYLES	3687

CPC								
Symbol							**Type**	**Version**
G06Q	/	20	/	3278			F	2013-01-01
G06Q	/	20	/	3227			I	2013-01-01
G06Q	/	20	/	102			I	2013-01-01
G06Q	/	20	/	352			I	2013-01-01
G06Q	/	20	/	3552			I	2013-01-01
G06Q	/	20	/	3672			I	2013-01-01
G06Q	/	20	/	40			I	2013-01-01
G06Q	/	30	/	0601			I	2013-01-01
G06Q	/	20	/	20			I	2013-01-01
G06Q	/	30	/	04			I	2013-01-01
G06Q	/	20	/	204			I	2013-01-01
G06Q	/	20	/	3223			I	2013-01-01

CPC Combination Sets									
Symbol							**Type**	**Set**	**Ranking**	**Version**
	/		/							

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	08 January 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20200108

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	14/728,349	Xie et al.
	Examiner	Art Unit
	ASHFORD S HAYLES	3687

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06Q20/32	/	20	/	32

NON-CLAIMED				
G06Q20/10	/	20	/	10
G06Q20/34	/	20	/	34
G06Q20/36	/	20	/	36
G06Q20/40	/	20	/	40
G06Q30/06	/	30	/	06
G06Q20/20	/	20	/	20
G06Q30/04	/	30	/	04

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	08 January 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

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	14/728,349	Xie et al.
	Examiner	**Art Unit**
	ASHFORD S HAYLES	3687

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	19										
2	2	11	11	20	20										
3	3	12	12												
4	4	13	13												
5	5	14	14												
6	6	15	15												
7	7	16	16												
8	8	17	17												
9	9	18	18												

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/ASHFORD S HAYLES/ Primary Examiner, Art Unit 3687	08 January 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20200108

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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/ (Examiner's Signature) | ASH (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
RULE			

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 01/16/2012ABN

13350832 is a CIP of 11534653 09/24/2006 PAT 8118218

FOREIGN APPLICATIONS

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06/10/2015

** SMALL ENTITY **

STATE OR COUNTRY

CHINA

ADDRESS

LogicPatents, LLC

21701 Stevens Creek Boulevard, #284

CUPERTINO, CA 95015

UNITED STATES

FILING FEE RECEIVED

$730

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

			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 proxmity 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 proxmity 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
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;	OR	OFF	2018/09/11 14:49

			IBM_TDB			
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
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
S359	0	(13/215,111).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:14
S360	8	13/215111	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/03/19 20:14

			EPO; JPO; DERWENT; IBM_TDB			
S361	2	((13/215111) or (13/168072)).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:47
S362	0	(12/343178).APP.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
S363	6	12/343,178	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 20:51
S364	2	"20110173060"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 21:48
S365	5	"20110112968"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/19 22:28
S366	25	13/168,072	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/08/22 15:44
S367	85	(US-20100211504-$ or US-20130171929-$ or US-20120078792-$ or US-20130144731-$ or US-20130060618-$ or US-20110087610-$ or US-20090164330-$ or US-20090289106-$ or US-20130054413-$ or US-20130054412-$ or US-20130048717-$ or US-20120304255-$ or US-20130103574-$ or US-20110113473-$ or US-20080126260-$ or US-20140095382-$ or US-20130246258-$ or US-20120290376-$ or US-20120239566-$ or US-20130203345-$ or US-20110112968-$ or US-20100274726-$ or US-20100274677-$ or US-20110173060-$ or US-20040127256-$ or US-	US-PGPUB; USPAT	OR	OFF	2019/09/06 10:01

		20130140360-$).did. or (US-20120253974-$ or US-20070131780-$ or US-20120143702-$ or US-20120072309-$ or US-20090248579-$ or US-20130024383-$ or US-20110251952-$ or US-20130124349-$ or US-20130138517-$ or US-20120116963-$ or US-20130173736-$ or US-20140012751-$ or US-20130221092-$ or US-20130226812-$ or US-20130132219-$ or US-20130151400-$ or US-20130160134-$ or US-20130198086-$ or US-20090307140-$ or US-20110042456-$ or US-20110155800-$ or US-20130346305-$ or US-20130218766-$ or US-20120290472-$ or US-20110180610-$ or US-20120178433-$ or US-20080093467-$).did. or (US-20120118952-$ or US-20130138959-$ or US-20110078081-$ or US-20110117839-$ or US-20130060699-$ or US-20120136786-$ or US-20130254102-$ or US-20130097031-$ or US-20110066550-$ or US-20130339253-$ or US-20130152185-$ or US-20100114773-$ or US-20130097080-$ or US-20130200999-$ or US-20100306076-$ or US-20140013406-$ or US-20130151292-$ or US-20120166333-$ or US-20130334318-$ or US-20110258120-$ or US-20080167017-$ or US-20130138518-$ or US-20100213253-$ or US-20120317628-$).did. or (US-8601266-$ or US-8172135-$ or US-8577731-$ or US-8565676-$ or US-8341083-$ or US-7962369-$ or US-8646059-$ or US-8196131-$).did.				
S368	6	S367 and (location-based)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 10:02
S369	6	S367 and (location near (user or customer))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 10:03
S370	176	(location-based) near (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 10:30
S371	32567	(wireless or contactless or mobile) near (payment or purchase or transaction)	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/09/06 10:37

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S372	57	S370 and S371	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 10:37
S373	34	(geo-fenc$4) near (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:24
S374	851	(geo-fenc$4) same (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:29
S375	231	S374 and S371	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:32
S376	2466	(payment or transaction or purchase) near threshold	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:33
S377	4	S374 and S371 and S376	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:33
S378	758	(location-based) near (verif$8 or authoriz$6 or authenticat$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:35
S379	9	S374 and S371 and S378	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:36
S380	1	S376 and S371 and S378	US-PGPUB;	OR	OFF	2019/09/06

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			12:37
S381	1228	(geo-fence or geofenc$4) same (payment or transaction or purchase)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:40
S382	4	S381 and S371 and S378	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:41
S383	286	S381 and S371	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:41
S384	4	S381 and S371 and S378	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:41
S385	55	S371 and S378	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:41
S386	1065	(peer-to-peer) near (payment or purchase or transaction)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:43
S387	1	S386 and S378	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/09/06 12:44
S388	82	(US-20100211504-$ or US-20130171929-$ or US-20120078792-$ or US-20130144731-$ or US-20130060618-$ or US-20110087610-$ or US-20090164330-$ or US-20090289106-$ or US-20130054413-$	US-PGPUB; USPAT	OR	OFF	2020/01/07 00:08

		or US-20130054412-$ or US-20130048717-$ or US-20120304255-$ or US-20130103574-$ or US-20110113473-$ or US-20080126260-$ or US-20140095382-$ or US-20130246258-$ or US-20120290376-$ or US-20120239566-$ or US-20130203345-$ or US-20110112968-$ or US-20100274726-$ or US-20100274677-$ or US-20110173060-$ or US-20040127256-$ or US-20130140360-$).did. or (US-20120253974-$ or US-20070131780-$ or US-20120143702-$ or US-20120072309-$ or US-20090248579-$ or US-20130024383-$ or US-20110251952-$ or US-20130124349-$ or US-20130138517-$ or US-20120116963-$ or US-20130173736-$ or US-20140012751-$ or US-20130221092-$ or US-20130226812-$ or US-20130132219-$ or US-20130151400-$ or US-20130160134-$ or US-20090307140-$ or US-20110042456-$ or US-20110155800-$ or US-20130346305-$ or US-20130218766-$ or US-20120290472-$ or US-20110180610-$ or US-20120178433-$ or US-20080093467-$ or US-20120118952-$).did. or (US-20130138959-$ or US-20110078081-$ or US-20110117839-$ or US-20120136786-$ or US-20130254102-$ or US-20130097031-$ or US-20110066550-$ or US-20130339253-$ or US-20130152185-$ or US-20100114773-$ or US-20130097080-$ or US-20130200999-$ or US-20100306076-$ or US-20140013406-$ or US-20130151292-$ or US-20120166333-$ or US-20130334318-$ or US-20110258120-$ or US-20080167017-$ or US-20130138518-$ or US-20100213253-$ or US-20120317628-$).did. or (US-8601266-$ or US-8172135-$ or US-8577731-$ or US-8565676-$ or US-8341083-$ or US-7962369-$ or US-8196131-$).did.				
S389	23032	"82" and (purse or wallet or "stored value")	US-PGPUB; USPAT	OR	OFF	2020/01/07 00:09
S390	59	S388 and (purse or wallet or "stored value")	US-PGPUB; USPAT	OR	OFF	2020/01/07 00:09
S391	82	(US-20100211504-$ or US-20130171929-$ or US-20120078792-$ or US-20130144731-$ or US-20130060618-$ or US-20110087610-$ or US-20090164330-$ or US-20090289106-$ or US-20130054413-$ or US-20130054412-$ or US-20130048717-$ or US-20120304255-$ or US-20130103574-$ or US-20110113473-$ or US-20080126260-$ or US-20140095382-$ or US-	US-PGPUB; USPAT	OR	OFF	2020/01/07 07:59

		20130246258-$ or US-20120290376-$ or US-20120239566-$ or US-20130203345-$ or US-20110112968-$ or US-20100274726-$ or US-20100274677-$ or US-20110173060-$ or US-20040127256-$ or US-20130140360-$).did. or (US-20120253974-$ or US-20070131780-$ or US-20120143702-$ or US-20120072309-$ or US-20090248579-$ or US-20130024383-$ or US-20110251952-$ or US-20130124349-$ or US-20130138517-$ or US-20120116963-$ or US-20130173736-$ or US-20140012751-$ or US-20130221092-$ or US-20130226812-$ or US-20130132219-$ or US-20130151400-$ or US-20130160134-$ or US-20090307140-$ or US-20110042456-$ or US-20110155800-$ or US-20130346305-$ or US-20130218766-$ or US-20120290472-$ or US-20110180610-$ or US-20120178433-$ or US-20080093467-$ or US-20120118952-$).did. or (US-20130138959-$ or US-20110078081-$ or US-20110117839-$ or US-20120136786-$ or US-20130254102-$ or US-20130097031-$ or US-20110066550-$ or US-20130339253-$ or US-20130152185-$ or US-20100114773-$ or US-20130097080-$ or US-20130200999-$ or US-20100306076-$ or US-20140013406-$ or US-20130151292-$ or US-20120166333-$ or US-20130334318-$ or US-20110258120-$ or US-20080167017-$ or US-20130138518-$ or US-20100213253-$ or US-20120317628-$).did. or (US-8601266-$ or US-8172135-$ or US-8577731-$ or US-8565676-$ or US-8341083-$ or US-7962369-$ or US-8196131-$).did.				
S392	59	S391 and (purse or wallet or "stored value")	US-PGPUB; USPAT	OR	OFF	2020/01/07 07:59
S393	33	S392 and (balance or remainder)	US-PGPUB; USPAT	OR	OFF	2020/01/07 07:59
S394	364	(purse or e-purse) and (bill near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:14
S395	14	(purse or e-purse) same (bill near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:14
S396	366	(purse or e-purse) same (restaurant)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:16
S397	1	S396 and (bill near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:16
S398	75	S396 and (payment)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:32
S399	39	(purse or e-purse) same ((contactless or wireless or nfc or rfid) near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/07 09:40
S400	7630	((contactless or wireless or nfc or rfid	US-PGPUB;	OR	OFF	2020/01/07

		or "stored value") near payment)	USPAT			15:20
S401	426	S400 and (gratuit$4 or tip)	US-PGPUB; USPAT	OR	OFF	2020/01/07 15:22
S402	226	S401 and (purse or wallet or e-purse)	US-PGPUB; USPAT	OR	OFF	2020/01/07 15:22
S403	128	S402 and restaurant	US-PGPUB; USPAT	OR	OFF	2020/01/07 15:23
S404	1843	(H01P1/207 or H01P7/10 or H01P7/06).cpc.	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:15
S405	39	(purse or e-purse) same ((contactless or wireless or nfc or rfid) near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:17
S406	0	S404 and S405	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:17
S407	39	(purse or e-purse) same ((contactless or wireless or nfc or rfid) near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:18
S408	7630	((contactless or wireless or nfc or rfid or "stored value") near payment)	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:18
S409	0	S404 and S408	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:19
S410	1104828	(gratuit$4 or tip)	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:21
S411	72148	(purse or wallet or e-purse)	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:21
S412	60428	(G06Q20/3278 or G06Q20/204 or G06Q20/3223 or G06Q20/20 or G06Q30/04 or G06Q20/102 or G06Q20/352 or G06Q20/3552 or G06Q20/3672 or G06Q20/40 or G06Q30/0601 or G06Q20/3227).cpc.	US-PGPUB; USPAT	OR	OFF	2020/01/08 06:26
S413	7314373	"21" and "14" and "16" and "18"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/01/08 06:26

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
S414	1230	(H01P1/207 or H01P7/10 or H01P7/06).cpc.	USPAT	OR	OFF	2020/01/08 06:17
S415	2875	((contactless or wireless or nfc or rfid or "stored value") near payment)	USPAT	OR	OFF	2020/01/08 06:20
S416	583418	(gratuit$4 or tip)	USPAT	OR	OFF	2020/01/08 06:21
S417	31467	(purse or wallet or e-purse)	USPAT	OR	OFF	2020/01/08 06:21
S418	0	S414 and S415 and S416 and S417	USPAT	OR	OFF	2020/01/08 06:21
S419	0	S414 and S415 and S416	USPAT	OR	OFF	2020/01/08 06:25
S420	22696	(G06Q20/3278 or G06Q20/204 or G06Q20/3223 or G06Q20/20 or G06Q30/04 or G06Q20/102 or G06Q20/352 or G06Q20/3552 or G06Q20/3672 or G06Q20/40 or G06Q30/0601 or G06Q20/3227).cpc.	USPAT	OR	OFF	2020/01/08 06:25
S421	43	S420 and S415 and S416 and S417	USPAT	OR	OFF	2020/01/08 06:26
S422	23	S421 and (balance or remainder)	USPAT	OR	OFF	2020/01/08 06:30

1/8/2020 8:59:35 AM
C:\Users\ahayles\Documents\EAST\Workspaces\14728349_CONTACTLESSpos.wsp

(12) 按照专利合作条约所公布的国际申请

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(25) 申请语言: 中文

(26) 公布语言: 中文

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201010213920.3 2010 年 6 月 29 日 (29.06.2010) CN
201010214132.6 2010 年 6 月 29 日 (29.06.2010) CN

(71) 申请人 (对除美国外的所有指定国): **飞天诚信科技股份有限公司 (FEITIAN TECHNOLOGIES CO., LTD.)** [CN/CN]; 中国北京市海淀区学清路 9 号汇智大厦 B 座 17 层, Beijing 100085 (CN)。

(72) 发明人; 及

(75) 发明人/申请人 (仅对美国): **陆舟 (LU, Zhou)** [CN/CN]; 中国北京市海淀区学清路 9 号汇智大厦 B 座 17 层, Beijing 100085 (CN)。 **于华章 (YU, Huazhang)** [CN/CN]; 中国北京市海淀区学清路 9 号汇智大厦 B 座 17 层, Beijing 100085 (CN)。

(74) 代理人: **北京康信知识产权代理有限责任公司 (KANGXIN PARTNERS, P.C.)**; 中国北京市海淀区知春路甲 48 号盈都大厦 A 座 16 层, Beijing 100098 (CN)。

(81) 指定国 (除另有指明，要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

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(54) **Title**: METHOD FOR OPERATING ELECTRONIC PURSE

(54) **发明名称** : 一种对电子钱包进行操作的方法

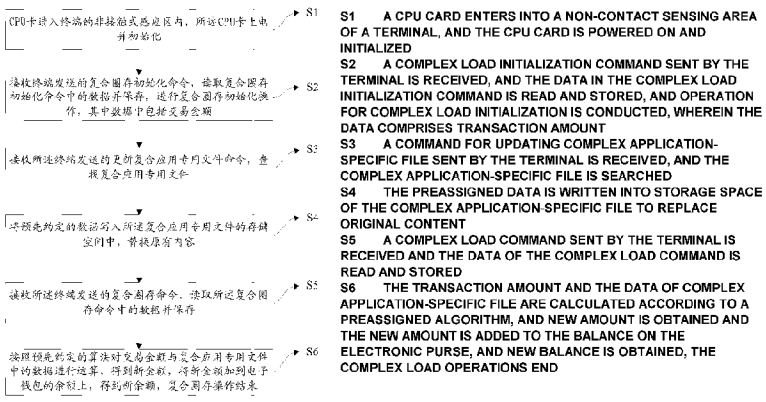

图 1 / Fig. 1

S1 A CPU CARD ENTERS INTO A NON-CONTACT SENSING AREA OF A TERMINAL, AND THE CPU CARD IS POWERED ON AND INITIALIZED

S2 A COMPLEX LOAD INITIALIZATION COMMAND SENT BY THE TERMINAL IS RECEIVED, AND THE DATA IN THE COMPLEX LOAD INITIALIZATION COMMAND IS READ AND STORED, AND OPERATION FOR COMPLEX LOAD INITIALIZATION IS CONDUCTED, WHEREIN THE DATA COMPRISES TRANSACTION AMOUNT

S3 A COMMAND FOR UPDATING COMPLEX APPLICATION-SPECIFIC FILE SENT BY THE TERMINAL IS RECEIVED, AND THE COMPLEX APPLICATION-SPECIFIC FILE IS SEARCHED

S4 THE PREASSIGNED DATA IS WRITTEN INTO STORAGE SPACE OF THE COMPLEX APPLICATION-SPECIFIC FILE TO REPLACE ORIGINAL CONTENT

S5 A COMPLEX LOAD COMMAND SENT BY THE TERMINAL IS RECEIVED AND THE DATA OF THE COMPLEX LOAD COMMAND IS READ AND STORED

S6 THE TRANSACTION AMOUNT AND THE DATA OF COMPLEX APPLICATION-SPECIFIC FILE ARE CALCULATED ACCORDING TO A PREASSIGNED ALGORITHM, AND NEW AMOUNT IS OBTAINED AND THE NEW AMOUNT IS ADDED TO THE BALANCE ON THE ELECTRONIC PURSE, AND NEW BALANCE IS OBTAINED, THE COMPLEX LOAD OPERATIONS END

(57) **Abstract**: A method for operating an electronic purse is disclosed, which belongs to the field of information security. The method includes: a CPU card enters into a non-contact sensing area of a terminal, and is powered on and initialized; an operation initialization command sent by the terminal is received, and the data in the operation initialization command is read out and stored, and the data comprises transaction amount, and the operation initialization command is specifically a complex load initialization command or a consumption initialization command; and corresponding operations are conducted.

[见续页]

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(57) 摘要:

公开了一种对电子钱包进行操作的方法，属于信息安全领域。所述方法包括：CPU 卡进入终端的非接触式感应区内，上电并初始化；接收终端发送的操作初始化命令，读取操作初始化命令中的数据并保存，上述数据包括交易金额，操作初始化命令具体为复合圈存初始化命令或消费初始化命令；并进行相应的操作。

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一种对电子钱包进行操作的方法

技术领域

本发明涉及信息安全领域，特别涉及一种对 CPU 卡内的电子钱包进行操作的方法。

背景技术

CPU 卡的芯片内含有一个微处理器，它的功能相当于一台微型计算机，并且 CPU 卡内包括中央处理器（CPU）、只读存储器（ROM）、随机存取存储器(RAM)、电可擦除可编程只读存储器（EEPROM）等，具有信息量大、防伪安全性高、可脱机作业，可多功能开发等优点。CPU 卡采用强大而稳定的安全控制器，增强了卡片的安全性，并且 CPU 卡所特有的内外部认证机制以及以金融 IC 卡规范为代表的专用认证机制，能够完全保证交易的合法性和安全性，然后 CPU 卡的应用防火墙功能可以保障同一张卡中不同应用的安全独立性，同时，CPU 卡的大容量存储空间又可以满足预期的大金额消费应用所要求的更多客户信息的存储。

在现有技术中，CPU 卡中的电子钱包可以实现普通的圈存、消费/取现、圈提、更新透支限额等基本交易功能，但是在遇到特殊的应用时，如在需要对不同的充值金额进行分级打折优惠的促销性应用时，如商场、超市、餐馆、健身会所等机构的会员卡，则现有的电子钱包的普通的圈存操作和消费操作不能满足这种应用。

发明内容

为了解决现有技术中的不足，本发明提供了一种对电子钱包进行操作的方法。

一种对电子钱包进行操作的方法，包括:

CPU 卡进入终端的非接触式感应区内，所述 CPU 卡上电并初始化;

接收所述终端发送的操作初始化命令，读取所述操作初始化命令中的数据并保存，所述数据包括交易金额，所述操作初始化命令为复合圈存初始化命令或消费初始化命令;

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如果所述操作初始化命令为复合圈存初始化命令，则进行复合圈存初始化操作；接收所述终端发送的更新复合应用专用文件命令，查找复合应用专用文件；将预先约定的数据写入所述复合应用专用文件的存储空间中，替换原有内容；接收所述终端发送的复合圈存命令，读取所述复合圈存命令中的数据并保存；按照预先约定的算法对所述交易金额与所述复合应用专用文件中的数据进行运算，得到新金额，将所述得到新金额加到电子钱包的余额上，得到新余额；

如果所述操作初始化命令为消费初始化命令，按照预先约定的算法对所述交易金额和复合应用专用文件中的相应记录中的值进行计算，得到新金额；读取所述电子钱包的余额，判断所述新金额是否超过所述电子钱包的余额与透支限额的和；若是，则向所述终端返回所述电子钱包余额不足的信息，终止操作；若否，则生成一个伪随机数和一个过程密钥，将所述消费初始化命令的响应报文返回给所述终端；接收所述终端发送的消费命令，读取所述消费命令终的数据并保存；从所述电子钱包的余额中扣减所述新金额，得到新的金额，并将所述消费命令的响应报文返回给所述终端。

本发明的有益效果在于：本发明提供了一种对电子钱包进行操作的方法，通过本发明提供的方法使整个交易过程更安全，且防止了采取非法的手段去修改 CPU 卡中的复合应用专用文件，进一步地简化了分级打折优惠操作的实现，只需要在圈存时对复合应用专用文件进行设定即可，并且方便管理，从而节省了管理的成本。

附图说明

图 1 为本实施例 1 提供的一种对电子钱包进行复合圈存的方法的流程图；

图 2 为本实施例 1 提供的一种对电子钱包进行复合圈存的方法的详细流程图；

图 3 为本实施例 1 提供的一种对电子钱包进行消费的方法的详细流程图；

图 4 为本实施例 2 提供的一种对电子钱包进行消费的方法的流程图；以及

图 5 为本实施例 2 提供的一种对电子钱包进行消费的方法的详细流程图。

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具体实施方式

为使本发明的目的、技术方案和优点更加清楚，下面将结合附图对本发明实施方式做进一步地详细描述。

实施例 1

为了简化分级打折优惠操作，在复合圈存时对复合应用专用文件进行设定，本发明实施例提供了一种对电子钱包进行复合圈存的方法，参见图 1，该方法内容包括:

S1:CPU 卡进入终端的非接触式感应区内，所述 CPU 卡上电并初始化;

S2:接收所述终端发送的复合圈存初始化命令，读取所述复合圈存初始化命令中的数据并保存，进行复合圈存初始化操作，其中所述数据中包括交易金额;

S3:接收所述终端发送的更新复合应用专用文件命令，查找复合应用专用文件;

S4:将预先约定的数据写入所述复合应用专用文件的存储空间中，替换原有内容;

S5:接收所述终端发送的复合圈存命令，读取所述复合圈存命令中的数据并保存;

S6:按照预先约定的算法对所述交易金额与所述复合应用专用文件中的数据进行运算，得到新金额，将所述得到的新金额加到电子钱包的余额上，得到新余额，复合圈存操作结束。

为了对本发明实施例提供的方法进行详细说明，请参见如下实施例:

实施例

本发明实施例提供了一种对电子钱包进行复合圈存的方法，在本实施例中，以 CPU 卡内的电子钱包为例进行说明，CPU 卡内的电子钱包除了具有普通电子钱包的基本交易功能外，还具有支持复合应用的钱包的所有交易功能，相应地也支持复合圈存的功能，并且对 CPU 卡内电子钱包的复合圈存操作是在 CPU 终端进行的，其中进行复合圈存操作时，按照预先约定的规则对交易金额与复合专用文件中规定的值进行运算，得到新金额，并将得到的新金额加

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到电子钱包的余额上，完成复合圈存操作，相应地，在消费时，则按照该余额进行消费。

参见图 2，一种对 CPU 卡内的电子钱包进行复合圈存的方法，具体实现步骤如下：

步骤 101：CPU 卡进入终端的非接触式感应区内，CPU 卡上电并初始化；

步骤 102：接收终端发送的复合圈存初始化命令 INITIALIZE FOR CAPP LOAD，读取命令中包含的数据并保存；

在本实施例中，复合圈存初始化命令 INITIALIZE FOR CAPP LOAD 用于初始化复合圈存交易，其中 INITIALIZE FOR CAPP LOAD 命令报文分成：命令头 + 命令体，即为：(CLA + INS + P1 + P2) + (Lc + Data + Le)；

其中，CLA + INS + P1 + P2 为命令头，Lc + Data + Le 为命令体，命令头为命令的编码，命令头中的 CLA 为指令类别，INS 为指令代码，P1 和 P2 为指令参数；命令体中的 Lc 为命令体内 Data 中数据的长度，Data 为 INITIALIZE FOR CAPP LOAD 命令中的数据，Le 是期望的应答 APDU 数据字段的最大字节数；

本实施例中 INITIALIZE FOR CAPP LOAD 命令 Data 中包含的数据具体为密钥索引号、交易金额和终端机编号；

具体地，在本实施例中，接收到的 INITIALIZE FOR CAPP LOAD 命令具体为：80 50 06 02 0B 02 00 00 03 E8 00 00 00 00 00 01 10，其中 80 为 CLA，50 为 INS，06 为 P1，定义为复合圈存初始化的标识，02 为 P2，定义为电子钱包的标识，0B 为 Lc，02 为 Data 中的密钥索引号，00 00 03 E8 为 Data 中的交易金额，00 00 00 00 00 01 为 Data 中的终端机编号，10 为 Le。

步骤 103：检查自身是否支持 INITIALIZE FOR CAPP LOAD 命令中包含的密钥索引号，若不支持，则执行步骤 104，若支持，则执行步骤 105；

步骤 104：向终端返回状态码 0x9403，同时终止执行复合圈存初始化操作；

步骤 105：生成一个四字节的伪随机数和一个过程密钥；

在本实施例中，生成过程密钥的方法具体为：

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将上述伪随机数、电子钱包联机交易序号和'8000'顺序链接，再利用圈存子密钥 DLK 对链接后得到的数据进行加密，得到的加密后的数据即为过程密钥。

步骤 106：利用上述过程密钥计算得到第一报文鉴别码 MAC1;

在本实施例中，利用过程密钥计算得到第一报文鉴别码 MAC1 的方法具体为：

将交易前的电子钱包的余额、交易金额、交易类型标识和终端机编号顺序链接，再利用过程密钥对链接后的数据进行加密，得到的加密后的数据的前四个字节即为第一报文鉴别码 MAC1。

步骤 107：将 INITIALIZE FOR CAPP LOAD 命令的响应报文返回给终端;

其中，INITIALIZE FOR CAPP LOAD 命令的响应报文由 Data + sw1 + sw2 组成，当 INITIALIZE FOR CAPP LOAD 命令执行成功时，则响应报文中的状态码 sw1 和 sw2 为'9000'，相应地，响应报文数据域 Data 中包含的数据具体为交易前的 CPU 电子钱包的余额、CPU 钱包的联机交易序号、密钥版本号、算法标识、伪随机数和 MAC1，当 INITIALIZE FOR CAPP LOAD 命令执行不成功时，则响应报文中的状态码 sw1 和 sw2 不为'9000'，并且也不存在数据域 Data;

具体地，在本实施例中，INITIALIZE FOR CAPP LOAD 命令的响应报文具体为：00 00 00 00 00 01 02 03 01 02 03 04 00 01 B1 0A 90 00。

步骤 108：接收终端发送的更新复合应用专用文件的命令 UPDATE CAPP DATA CACHE;

在本实施例中，更新复合应用专用文件的命令 UPDATE CAPP DATA CACHE 用于更新复合应用专利文件中的数据;

复合应用专用文件由文件头和文件体组成，文件头具体包括：2 个字节的 **FILE_ID**、1 个字节的 **FILE TYPE**、2 个字节的 **FILE SIZE**、1 个字节的 **AC1**、1 个字节的 **AC2** 和 2 个字节的 RFU，其中当 **FILE TYPE** 为 00 时，表示该文件为二进制文件，当 **FILE TYPE** 为 01 时，表示该文件为定长记录文件，当 **FILE TYPE** 为 02 时，表示该文件为变长记录文件，当 **FILE TYPE** 为 03 时，表示该文件为循环文件，当 **FILE TYPE** 为 05 时，表示该文件为密钥文件，相

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应地，二进制文件对应的 **FILE SIZE** 为文件大小，定长记录文件对应的 **FILE SIZE** 为记录条数和记录长度，变长记录文件对应的 **FILE SIZE** 为记录条数和记录最大长度，循环文件对应的 **FILE SIZE** 为记录条数和记录长度，密钥文件对应的 **FILE SIZE** 为记录条数和记录长度，并且 AC1 为读文件权限，AC2 为写文件权限；文件体中为复合应用专用文件的数据；

具体地，在本实施例中，复合应用专用文件具体为二进制文件，则 **FILE TYPE** 为 00，且 **FILE SIZE** 为文件大小，具体为 00 0B，文件体中的内容为空；

进一步地，UPDATE CAPP DATA CACHE 命令报文由 CLA + INS + P1 + P2 + Lc + Data 组成，本实施例中，UPDATE CAPP DATA CACHE 命令具体为：80 D6 92 B1 04 00 01 20 00，其中，80 为 CLA，D6 为 INS，92 为 P1，B1 为 P2，04 为 Lc，00 01 20 00 为 Data；

并且 UPDATE CAPP DATA CACHE 命令的数据域 Data 中的数据为要写入复合应用专用文件的新数据，其中，由于复合应用专用文件的具体应用可以由发卡方自定义，因此数据域中的数据也可以是自定义的，如在本实施例中复合应用专用文件可以自定义为费率文件，则相应地，数据域中的数据具体为费率值，在本实施例中具体定义费率值为 120％；

相应地，当定义费率值为 120%时，UPDATE CAPP DATA CACHE 命令中的数据可以不是 120％，可以是 83.3％，还可以是 20％，或者，UPDATE CAPP DATA CACHE 命令的数据中可以不包括费率值，而由 CPU 卡对复合圈存初始化命令中包含的交易金额进行判断，根据交易金额生成一个费率值，将这个生成的费率值写入复合应用专用文件中，如当复合圈存初始化命令中的交易金额为 800 元时，即小于预先约定的下限时，具体如为 2000 时，则生成一个费率值 90％，或者 111.1％，或者 11.1％，或者 100 元，当复合圈存初始化命令中的交易金额为 5000 元时，即在预先约定的下限与上限之间时，具体如为 2000 到 6000 时，则生成一个数据 80％，或者 125％，或者 25％，或者 600 元，当复合圈存初始化命令中的交易金额为 8000 元时，即大于预先约定的下限时，具体如为 6000 时，则生成一个数据 75％，或者 133％，或者 33％，或者 2000 元等等。

步骤 109：判断接收到的 UPDATE CAPP DATA CACHE 命令中是否存在 SFI 域，若存在，则执行步骤 110，若不存在，则执行步骤 111；

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在本实施例中，判断 UPDATE CAPP DATA CACHE 命令中是否存在 SFI 域具体为：判断 UPDATE CAPP DATA CACHE 命令中的 P1 的高三位是否为 100，若是，则表示命令中存在 SFI 域，PI 的低 5 位即为 SFI 域的值，否则，表示命令中不存在 SFI 域；

具体地，本实施例中 UPDATE CAPP DATA CACHE 命令中的 P1 为 92，表示 P1 的高三位为 100，存在 SFI 域。

步骤 110：查找 CPU 卡当前应用下是否存在一个文件的 SFI 值与 UPDATE CAPP DATA CACHE 命令中的 SFI 值相同，若不存在，则执行步骤 111，若存在，则执行步骤 112；

步骤 111：向终端返回状态码 0x6A82，同时终止操作；

步骤 112：将步骤 110 中查找得到的文件作为复合应用专用文件，并检查 UPDATE CAPP DATA CACHE 命令中的数据域的长度是否大于复合应用专用文件的长度，若大于，则执行步骤 113，若不大于，则执行步骤 114；

在本实施例中，由于复合应用专用文件是二进制文件，所以复合应用专用文件的长度具体为 **FILE SIZE** 的值，具体即为判断 UPDATE CAPP DATA CACHE 命令中 Lc 的值是否大于复合应用专用文件 **FILE SIZE** 的值，由于本实施例中 UPDATE CAPP DATA CACHE 命令中 Lc 的值为 04，**FILE SIZE** 的值为 00 0B，所以命令中的数据域的长度不大于复合应用专用文件的长度。

步骤 113：向终端返回状态码 0x6A84，同时终止操作；

步骤 114：将 UPDATE CAPP DATA CACHE 命令中的数据域中的数据写入复合应用专用文件中，替换该复合应用专用文件中的原有内容；

在本实施例中，具体将费率值 120％写入该复合应用专用文件中，替换其原有内容；

由于本实施例中复合应用专用文件中的原有内容为空，因此直接将 UPDATE CAPP DATA CACHE 命令中的数据域中的 00 01 20 00 写入复合应用专用文件中即可；

相应地，当 UPDATE CAPP DATA CACHE 命令中的费率值为 83.3％时，则写入复合应用专用文件中的数据具体为 83.3％，当 UPDATE CAPP DATA

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CACHE 命令中的费率值为 20％时，则写入复合应用专用文件中的数据具体为 20％；

或者，当 UPDATE CAPP DATA CACHE 命令的数据中可以不包括费率值，而由 CPU 卡对复合圈存初始化命令中包含的交易金额进行判断，按照预先约定的规则根据交易金额生成一个费率值，再将这个生成的费率值写入复合应用专用文件中，并且在写入复合应用专用文件之前还要判断生成的费率值的长度是否大于复合应用专用文件的长度，例如，当复合圈存初始化命令中的交易金额为 800 元时，即小于预先约定的下限时，具体如为 2000 时，则将生成的 90％，或者 111.1％，或者 11.1％，或者 100 元写入复合应用专用文件中，而当复合圈存初始化命令中的交易金额为 5000 元时，即在预先约定的下限与上限之间时，具体如为 2000 到 6000 时，则将生成的 80％，或者 125％，或者 25％，或者 600 元写入复合应用专用文件中，或者当复合圈存初始化命令中的交易金额为 8000 元时，即大于预先约定的下限时，具体如为 6000 时，则将生成的 75％，或者 133％，或者 33％，或者 2000 元写入复合应用专用文件中。

步骤 115：将 UPDATE CAPP DATA CACHE 命令的响应报文返回给终端；

其中，UPDATE CAPP DATA CACHE 命令的响应报文由 sw1 + sw2 组成，不存在数据域 data，当 UPDATE CAPP DATA CACHE 命令执行成功时，则响应报文为‘9000’，当 UPDATE CAPP DATA CACHE 命令执行不成功时，则响应报文不为‘9000’。

步骤 116：接收终端发送的复合圈存命令 CREDIT FOR CAPP LOAD，读取命令数据域中的数据并保存；

在本实施例中，复合圈存命令 CREDIT FOR CAPP LOAD 用于复合圈存交易；

CREDIT FOR CAPP LOAD 命令报文由 CLA + INS + P1 + P2 + Lc + Data + Le 组成，其中数据域 Data 中的数据具体包括：交易日期、交易时间和第二报文鉴别码 MAC2；

具体地，本实施例中接收到的 CREDIT FOR CAPP LOAD 命令具体为：80 52 00 00 0B 07 DA 06 08 0A 14 2D 00 01 A1 0B 08，其中，80 为 CLA，52 为 INS，00 为 P1，00 为 P2，0B 为 Lc，07 DA 06 08 为 Data 中的交易日期，0A 14 2D 为 Data 中的交易时间，00 01 A1 0B 为 Data 中的 MAC2，08 为 Le。

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步骤 117：验证数据中的第二报文鉴别码 MAC2 是否有效，若无效，则执行步骤 118，若有效，则执行步骤 119;

在本实施例中，验证 MAC2 是否有效的方法，具体为：

将交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接，然后使用步骤 105 中生成的过程密钥对链接得到的数据进行加密，再比较加密后得到的数据的前四个字节与 CREDIT FOR CAPP LOAD 命令数据域中的 MAC2 是否相同，若不相同，则 MAC2 无效，若相同，则 MAC2 有效。

步骤 118：向终端返回状态码 0x9302，提示 MAC2 无效;

步骤 119：将电子钱包的联机交易序号加 1，按照预先约定的算法对交易金额与复合应用专用文件中的值进行运算，得到新金额，并将得到的新金额加到电子钱包的余额上;

在本实施例中，预先约定的算法包括乘法、除法、加法和减法，以及所述四种算法的各种组合;

进一步地，复合应用专用文件中的值为费率值，具体为 120％，因此若当交易金额为 1000 元，电子钱包中的余额为 0 元时，则将交易金额 1000 元乘上复合专用文件中的费率值 120％之后，得到的新金额为 1200 元，因此将这 1200 元加到电子钱包的余额 0 元上，得到新的余额为 1200 元，这样电子钱包中的新余额 1200 元就比将交易金额 1000 元直接加到电子钱包的余额上得到的余额 1000 元要多;

当写入复合应用专用文件中的费率值具体为 83.3％时，若交易金额为 1000 元，电子钱包中的余额为 0 元，则将交易金额 1000 元除以费率值 83.3％之后，得到的新金额为 1200 元，因此将这 1200 元加到电子钱包的余额 0 元上，得到新的余额为 1200 元，这样电子钱包中的新余额 1200 元就比将交易金额 1000 元直接加到电子钱包的余额上得到的余额 1000 元要多;

当写入复合应用专用文件中的费率值具体为 20％时，若交易金额为 1000 元，电子钱包中的余额为 0 元，则将交易金额 1000 元乘上费率值 20％后，再加上交易金额 1000 元，最后得到的新金额为 1200 元，因此将这 1200 元加到电子钱包的余额 0 元上，得到新的余额为 1200 元，这样电子钱包中的新余额

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1200 元就比将交易金额 1000 元直接加到电子钱包的余额上得到的余额 1000 元要多;

或者当复合圈存初始化命令中的交易金额为 8000 元时，则将生成的费率值 75%，或者 133%，或者 33%，或者 2000 元写入复合应用专用文件中，此时当写入复合应用专用文件中的费率值为 75%时，交易金额 8000 元除以 75%之后得到的新金额为 10060 元，因此将这 10060 元加到电子钱包的余额 0 元上，得到新的余额为 10060 元，这样电子钱包中的新余额 10060 元就比将交易金额 8000 元直接加到电子钱包的余额上得到的余额 8000 元要多；当写入复合应用专用文件中的费率值为 133%时，交易金额 8000 元乘上 133%之后得到的新金额为 10060 元，因此将这 10060 元加到电子钱包的余额 0 元上，得到新的余额为 10060 元，这样电子钱包中的新余额 10060 元就比将交易金额 8000 元直接加到电子钱包的余额上得到的余额 8000 元要多；当写入复合应用专用文件中的费率值为 33%时，交易金额 8000 元乘上 33%之后，再加上交易金额 8000 元，得到的新金额为 10060 元，因此将这 10060 元加到电子钱包的余额 0 元上，得到新的余额为 10060 元，这样电子钱包中的新余额 10060 元就比将交易金额 8000 元直接加到电子钱包的余额上得到的余额 8000 元要多；当写入复合应用专用文件中的费率值为 2000 元时，交易金额 8000 元加上 2000 元后得到的新余额为 10000 元，因此将这 10000 元加到电子钱包的余额 0 元上，得到新的余额为 10000 元，这样电子钱包中的新余额 10000 元就比将交易金额 8000 元直接加到电子钱包的余额上得到的余额 8000 元要多。

步骤 120：更新电子钱包的交易明细;

具体地为：将电子钱包的联机交易序号、交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接组成一个记录来更新标准交易明细。

步骤 121：计算交易验证码 TAC;

在本实施例步骤 121 中，计算交易验证码 TAC 码，具体为:

用 DTK 左右 8 个字节进行异或运算，并将交易后的电子钱包的余额、加 1 前的电子钱包的联机交易序号、交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接，再利用异或运算得到的结果对链接得到的数据进行加密，得到的加密后的数据即为 TAC 码。

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步骤 122：将 CREDIT FOR CAPP LOAD 命令的响应报文返回给终端，复合圈存操作结束。

其中，CREDIT FOR CAPP LOAD 命令的响应报文由 data + sw1 + sw2 组成，当 CREDIT FOR CAPP LOAD 命令执行成功时，则响应报文中的状态码 sw1 和 sw2 为‘9000’，相应地，数据域 data 具体为 TAC 码，当 CREDIT FOR CAPP LOAD 命令执行不成功时，则响应报文中的状态码 sw1 和 sw2 不为‘9000’，并且不包含数据域；

具体地，在本实施例中返回的 CREDIT FOR CAPP LOAD 命令的响应报文为 00 05 D2 BC 90 00。

进一步地，在本实施例中，当复合应用专用文件为记录型文件时，则复合应用专用文件中的每一条记录对应着一个应用，具体地，本实施例中复合应用专用文件中的 **FILE TYPE** 为 01，表示该复合应用专用文件为定长记录文件，相应地，定长记录文件对应的 **FILE SIZE** 为记录条数和记录长度；

相应地，对复合应用专用文件进行更新的步骤 108 至步骤 116 还可以替换为：

步骤 108’：接收终端发送的更新记录命令 UPDATE RECORD；

其中，更新记录命令 UPDATE RECORD 用于更新命令中指定的记录，并且该 UPDATE RECORD 命令适用于定长记录文件和变长记录文件；

具体地，UPDATE RECORD 命令报文由 CLA + INS + P1 + P2 + Lc + Data 组成，其中 P1 和 P2 用于指定将哪个文件的第几条记录作为复合应用专用文件的记录，Lc 为 Data 中的数据的长度加上 4 个字节，本实施例中，UPDATE RECORD 命令具体为：00 DC 03 04 08 00 01 20 00，其中，00 为 CLA，DC 为 INS，03 为 P1，04 为 P2，08 为 Lc，00 01 20 00 为 Data；

并且 UPDATE RECORD 命令的数据域中即为要写入复合应用专用文件的新数据，其中，由于复合应用专用文件的具体应用可以由发卡方自定义，因此数据域中的数据也可以是自定义的，如在本实施例中复合应用专用文件可以自定义为费率文件，则相应地，数据域中的数据具体为费率值，在本实施例中具体定义费率值为 120％。

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步骤 109’: 判断接收到的更新记录命令 UPDATE RECORD 中是否存在 SFI 域，若存在，则执行步骤 110’，若不存在，则执行步骤 111’;

其中，判断更新记录命令 UPDATE RECORD 中是否存在 SFI 域的方法具体为：判断 UPDATE RECORD 命令中的 P2 的高 5 位是否全为 0，若是，则表示命令中存在 SFI 域，即 P2 的高 5 位即是 SFI 域的值，否则，表示命令中不存在 SFI 域。

步骤 110’: 查找 CPU 卡当前应用下是否存在一个文件的 SFI 值与 UPDATE RECORD 命令中的 SFI 值相同，若不存在，则执行步骤 111’，若存在，则执行步骤 112’;

步骤 111’：向终端返回状态码 0x6A82，同时终止执行此次复合圈存交易;

步骤 112’：将步骤 110’中查找得到的文件作为复合应用专用文件，并根据 UPDATE RECORD 命令中指定的记录号在该复合应用专用文件中查找相应的记录，若没有找到相应的记录，则执行步骤 113’，若找到相应的记录，则执行步骤 114’;

步骤 113’：向终端返回状态码 0x6A83，同时终止执行此次复合圈存交易;

步骤 114’：检查 UPDATE RECORD 命令中的数据域的长度是否大于步骤 112’中查找得到的记录的指定长度，若大于，则执行步骤 115’，若不大于，则执行步骤 116’;

步骤 115’：向终端返回状态码 0x6A84，同时终止执行此次复合圈存交易;

步骤 116’：将 UPDATE RECORD 命令中的数据域中的数据写入查找得到的记录中，替换该记录中的原有内容;

在本实施例中，具体将费率值 120％写入该记录中，替换该记录中的原有内容。

步骤 117’：将 UPDATE RECORD 命令的响应报文返回给终端;

其中，UPDATE RECORD 命令的响应报文由 sw1 + sw2 组成，不存在数据域 data，当 UPDATE RECORD 命令执行成功时，则响应报文为‘9000’，当 UPDATE RECORD 命令执行不成功时，则响应报文不为‘9000’。

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进一步地，在本实施例中，通过上述方法进行复合圈存操作之后，则可以利用该 CPU 卡中的电子钱包进行消费，参见图 3，消费操作的流程具体如下：

步骤 201：接收终端发送的消费初始化命令 INITIALIZE FOR PURCHASE，读取命令中的数据并保存；

在本实施例中，消费初始化命令 INITIALIZE FOR PURCHASE 用于初始化消费交易；

INITIALIZE FOR PURCHASE 命令报文分成：命令头 + 命令体

即为：(CLA + INS + P1 + P2) + (Lc + Data + Le)；

其中， CLA + INS + P1 + P2 为命令头，Lc + Data + Le 为命令体，命令头为命令的编码，命令头中的 CLA 为指令类别，INS 为指令代码，P1 和 P2 为指令参数；命令体中的 Lc 为命令体内 Data 中数据的长度，Data 为 INITIALIZE FOR PURCHASE 命令中的数据，Le 是期望的应答 APDU 数据字段的最大字节数；

并且 INITIALIZE FOR PURCHASE 命令中的数据具体为密钥索引号、交易金额和终端机编号；

具体地，在本实施例中，接收到的 INITIALIZE FOR PURCHASE 命令具体为：80 50 01 02 0B 02 00 00 00 C8 00 00 00 00 00 01 0F，其中 80 为 CLA，50 为 INS，01 为 P1， 02 为 P2，定义为电子钱包的标识，0B 为 Lc，02 为 Data 中的密钥索引号，00 00 00 C8 为 Data 中的交易金额，00 00 00 00 00 01 为 Data 中的终端机编号，0F 为 Le。

步骤 202：检查自身是否支持上述 INITIALIZE FOR PURCHASE 命令中包含的密钥索引号，若不支持，则执行步骤 203，若支持，则执行步骤 204；

步骤 203：返回状态码 0x9403 给终端，并终止执行消费初始化操作；

步骤 204：读取电子钱包的余额，判断 INITIALIZE FOR PURCHASE 命令中包含的交易金额是否超过电子钱包的余额与透支限额的和，若是，则执行步骤 205，若否，则执行步骤 206；

步骤 205：返回状态码 0x9401 给终端，并终止执行消费初始化操作；

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步骤 206：生成一个伪随机数和一个过程密钥；

在本实施例中，过程密钥用于 CPU 电子钱包或 M1 电子钱包的消费交易，过程密钥是用密钥 DPK 分散得到的。

步骤 207：发送 INITIALIZE FOR PURCHASE 命令的响应报文给终端；

其中，INITIALIZE FOR PURCHASE 响应报文由 Data + sw1 + sw2 组成，当 INITIALIZE FOR PURCHASE 命令执行成功时，则返回的响应报文中的状态码 sw1 和 sw2 为‘9000’，且响应报文数据域 Data 中包含的数据具体为电子钱包的余额、CPU 电子钱包的脱机交易序号、透支限额、密钥版本号、算法标识和伪随机数，若命令执行不成功，则返回的响应报文中只含有状态码 sw1 和 sw2，且状态码 sw1 和 sw2 不为‘9000’；

具体地，本实施例中返回给终端的 INITIALIZE FOR PURCHASE 响应报文为：00 00 4B 00 00 01 00 00 64 02 03 01 02 03 04 90 00 。

步骤 208：接收终端发送的消费命令 DEBIT FOR PURCHASE，读取命令中的数据并保存；

在本实施例中，DEBIT FOR PURCHASE 命令用于进行消费操作；

其中，DEBIT FOR PURCHASE 命令报文也由 CLA + INS + P1 + P2 + Lc + Data + Le 组成，DEBIT FOR PURCHASE 命令中的数据具体为：终端交易序号、交易日期、交易时间和第三鉴别码 MAC3；

具体地，在本实施例中，接收到的 DEBIT FOR PURCHASE 命令具体为：80 54 01 00 0F 00 00 00 01 7D A0 06 09 0F 27 13 01 0A D1 0C 08，其中 80 为 CLA，54 为 INS，01 为 P1， 00 为 P2，0F 为 Lc，00 00 00 01 为 Data 中的终端交易序号，7D A0 06 09 为 Data 中的交易日期，0F 27 13 为 Data 中的交易时间，01 0A D1 0C 为 Data 中的 MAC3，08 为 Le。

步骤 209：使用步骤 205 中生成的过程密钥来验证 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否有效，若无效，则执行步骤 210，若有效，则执行步骤 211；

在本实施例中，验证 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否有效的方法，具体为：

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将交易金额、交易类型标识、终端机编号、终端的交易日期和终端的交易时间顺序链接，用步骤 206 中生成的过程密钥对链接得到的数据进行加密，再比较得到的加密后的数据的前四个字节与 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否相同，若不相同，则 MAC3 无效，若相同，则 MAC3 有效。

步骤 210：返回状态码 0x9302 给终端，终止操作；

步骤 211：将电子钱包的脱机交易序号加 1，从电子钱包的余额中扣减计算得到的金额；

在本实施例中，若当交易金额为 200 元，电子钱包中的余额为 1200 元时，则从电子钱包的余额 1200 中扣减掉金额 200 元后，得到新的余额为 1000 元。

步骤 212：更新电子钱包的交易明细；

在本实施例中，需要更新的电子钱包的相关交易明细具体为：交易金额、交易类型标识、终端编号、交易日期和交易时间，具体地，CPU 卡将交易金额、交易类型标识、终端编号、交易日期和交易时间顺序链接组成一个记录以便更新。

步骤 213：生成第四报文鉴别码 MAC4，然后计算交易验证码 TAC 码；

在本实施例中，生成第四报文鉴别码 MAC4 方法具体为：

用步骤 206 中生成的过程密钥对交易金额进行加密，得到的加密后的数据的前四个字节即为第四报文鉴别码 MAC4。

其中，利用异或运算得到的结果来计算 TAC 码的方法具体为：

用 DTK 左右 8 个字节进行异或运算，并将交易金额、交易类型标识、终端机编号、终端交易序号、终端的交易日期和终端的交易时间顺序链接，并用异或运算得到的结果对链接得到的数据进行加密，得到的加密后的数据的前四个字节即为 TAC 码。

步骤 214：返回 DEBIT FOR PURCHASE 命令的响应报文给终端，交易结束。

其中，DEBIT FOR PURCHASE 命令的响应报文由 data + sw1 + sw2 组成，当 DEBIT FOR PURCHASE 命令执行成功时，则响应报文中的状态码 sw1 和

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sw2 为‘9000’，相应地，数据域 data 具体为 TAC 码和 MAC4，当 DEBIT FOR PURCHASE 命令执行不成功时，则响应报文中的状态码 sw1 和 sw2 不为‘9000’，且不包含数据域；

具体地，本实施例中 DEBIT FOR PURCHASE 命令的响应报文为：01 0D B1 09 00 02 EA B1 90 00。

本实施例提供了一种对 CPU 卡内的电子钱包进行复合圈存的方法，该方法可以使整个复合圈存的过程更安全，防止采取非法的手段去修改 CPU 卡中特定的复合应用专用文件，并且该方法中通过对复合应用专用文件中写入新的数据，简化了分级打折优惠业务的实现,只需充值时设定充值金额对应的费率即可，更方便管理，会员享受的优惠只跟充值金额挂钩，多充多优惠,从而节省了管理的成本。

实施例 2

为了简化了分级打折优惠操作，便于对消费金额自动进行处理，本发明实施例提供了一种对电子钱包进行消费的方法，参见图 4，该方法内容包括：

401: CPU 卡进入终端的非接触式感应区内，所述 CPU 卡上电并初始化；

402:等待接收所述终端发送的命令；

403:当接收所述终端发送的消费初始化命令时，读取所述消费初始化命令中的数据并保存，其中所述数据中包括交易金额；

404:按照预先约定的算法对所述交易金额和复合应用专用文件中的相应记录中的值进行运算，得到新金额；

405:读取所述电子钱包的余额，判断所述新金额是否超过所述电子钱包的余额与透支限额的和；

若是，则向所述终端返回所述电子钱包余额不足的信息，终止操作；

若否，则生成一个伪随机数和一个过程密钥，将所述消费初始化命令的响应报文返回给所述终端；

406:接收所述终端发送的消费命令，读取所述消费命令中的数据并保存；

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407:从所述电子钱包的余额中扣减所述新金额，得到新的余额，并将所述消费命令的响应报文返回给所述终端。

为了对本发明实施例提供的方法进行详细说明，请参见如下实施例：

实施例

本发明实施例提供了一种对电子钱包进行消费的方法，在本实施例中，CPU 卡内的电子钱包除了具有支持复合应用的钱包的所有交易功能外，还支持复合圈存和消费的功能，并且对 CPU 卡内电子钱包的复合圈存操作是在 CPU 终端进行的，本实施例中进行复合圈存操作时，将交易金额直接加到电子钱包的余额上，相应地，在消费时，则按照预先约定的算法对交易金额和复合专用文件的相应记录中的值进行运算，得到新金额，再从电子钱包的余额中扣减得到的新金额，得到电子钱包的新余额，完成消费操作。

参见图 5，一种对电子钱包进行消费的方法，具体实现步骤如下：

步骤 501：CPU 卡进入终端的非接触式感应区内，CPU 卡上电并初始化；

步骤 502：等待接收终端发送的应用命令，当接收到复合圈存初始化命令 INITIALIZE FOR CAPP LOAD 时，执行步骤 503，当接收到消费初始化命令 INITIALIZE FOR PURCHASE，执行步骤 526；

步骤 503：读取复合圈存初始化命令 INITIALIZE FOR CAPP LOAD 中包含的数据并保存；

在本实施例中，复合圈存初始化命令 INITIALIZE FOR CAPP LOAD 用于初始化复合圈存交易，并且 INITIALIZE FOR CAPP LOAD 命令的报文分成：命令头 + 命令体，即为：(CLA + INS + P1 + P2) + (Lc + Data + Le)，其中，CLA + INS + P1 + P2 为命令头，Lc + Data + Le 为命令体，命令头为命令的编码，命令头中的 CLA 为指令类别，INS 为指令代码，P1 和 P2 为指令参数；命令体中的 Lc 为命令体内 Data 中数据的长度，Data 为 INITIALIZE FOR CAPP LOAD 命令中的数据，Le 是期望的应答 APDU 数据字段的最大字节数；

并且 INITIALIZE FOR CAPP LOAD 命令的 Data 中保存的数据具体为密钥索引号、交易金额和终端机编号；

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具体地，在本实施例中，接收到的 INITIALIZE FOR CAPP LOAD 命令具体为：80 50 06 02 0B 02 00 00 03 E8 00 00 00 00 00 01 10，其中 80 为 CLA，50 为 INS，06 为 P1，定义为复合圈存初始化的标识，02 为 P2，定义为电子钱包的标识，0B 为 Lc，02 为 Data 中的密钥索引号，00 00 03 E8 为 Data 中的交易金额，00 00 00 00 00 01 为 Data 中的终端机编号，10 为 Le。

步骤 504：检查自身是否支持 INITIALIZE FOR CAPP LOAD 命令中包含的密钥索引号，若不支持，则执行步骤 505，若支持，则执行步骤 506；

步骤 505：向终端返回状态码 0x9403，同时终止执行复合圈存初始化操作；

步骤 506：生成一个四字节的伪随机数和一个过程密钥；

在本实施例中，生成过程密钥的方法具体为：

将上述伪随机数、电子钱包联机交易序号和'8000'顺序链接，再利用圈存子密钥 DLK 对链接后得到的数据进行加密，得到的加密后的数据即为过程密钥。

步骤 507：利用上述过程密钥计算得到第一报文鉴别码 MAC1；

在本实施例中，利用过程密钥计算得到第一报文鉴别码 MAC1 的方法具体为：

将交易前的电子钱包的余额、交易金额、交易类型标识和终端机编号顺序链接，再利用过程密钥对链接后的数据进行加密，得到的加密后的数据的前四个字节即为第一报文鉴别码 MAC1。

步骤 508：将 INITIALIZE FOR CAPP LOAD 命令的响应报文返回给终端；

其中，INITIALIZE FOR CAPP LOAD 命令的响应报文由 Data + sw1 + sw2 组成，当命令执行成功时，则响应报文中的状态码 sw1 和 sw2 为'9000'，相应地，数据域 Data 中包含的数据有：交易前的 CPU 电子钱包的余额、CPU 钱包的联机交易序号、密钥版本号、算法标识、伪随机数和 MAC1，当命令执行不成功时，则响应报文中的状态码 sw1 和 sw2 不为'9000'，并且也不存在数据域 Data；

具体地，在本实施例中，INITIALIZE FOR CAPP LOAD 命令的响应报文具体为：00 00 00 00 00 01 02 01 01 02 03 04 00 01 B1 0A 90 00。

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步骤 509：接收终端发送的更新记录命令 UPDATE RECORD;

在本实施例中，更新记录命令 UPDATE RECORD 用于更新复合应用专用文件中的相应记录中的数据;

复合应用专用文件由文件头和文件体组成，文件头具体包括：2 个字节的 **FILE_ID**、1 个字节的 **FILE TYPE**、2 个字节的 **FILE SIZE**、1 个字节的 **AC1**、1 个字节的 **AC2** 和 2 个字节的 RFU，其中当 **FILE TYPE** 为 00 时，表示该文件为二进制文件，当 **FILE TYPE** 为 01 时，表示该文件为定长记录文件，当 **FILE TYPE** 为 02 时，表示该文件为变长记录文件，当 **FILE TYPE** 为 03 时，表示该文件为循环文件，当 **FILE TYPE** 为 05 时，表示该文件为密钥文件，相应地，二进制文件对应的 **FILE SIZE** 为文件大小，定长记录文件对应的 **FILE SIZE** 为记录条数和记录长度，变长记录文件对应的 **FILE SIZE** 为记录条数和记录最大长度，循环文件对应的 **FILE SIZE** 为记录条数和记录长度，密钥文件对应的 **FILE SIZE** 为记录条数和记录长度，并且 AC1 为读文件权限，AC2 为写文件权限；文件体中为复合应用专用文件的数据;

具体地，在本实施例中，复合应用专用文件具体为定长记录文件，则 **FILE TYPE** 为 01，且 **FILE SIZE** 为记录条数和记录长度，具体为 0A 10，文件体中的内容为空;

进一步地，UPDATE RECORD 命令报文由 CLA + INS + P1 + P2 + Lc + Data 组成，其中 P1 和 P2 用于指定将哪个文件的第几条记录作为复合应用专用文件的记录，Lc 为 Data 中的数据的长度加上 4 个字节，本实施例中，UPDATE RECORD 命令具体为：80 DC 03 68 08 00 00 80 00，其中，00 为 CLA，DC 为 INS，03 为 P1，04 为 P2，08 为 Lc，00 00 80 00 为 Data;

并且 UPDATE RECORD 命令的数据域中即为要写入复合应用专用文件的相应记录中的新数据，其中，由于复合应用专用文件中的每条记录对应的具体应用可以由发卡方自定义，数据域中的数据也可以是自定义的，如在本实施例中自定义数据域中的数据具体为费率值，则将该费率值写入复合应用专用文件中用于写费率值的记录中，具体地，在本实施例中具体定义费率值为 80％;

相应地，当定义费率值为 80%时，更新记录命令中的数据可以不是 80％，可以是 125％，还可以是 20％，或者，更新记录命令的数据中可以不包括费率值，而由 CPU 卡对复合圈存初始化命令中包含的交易金额进行判断，根据交易金额生成一个费率值，将这个生成的费率值写入复合应用专用文件的相应记

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录中，或者，更新记录命令的数据中包含一个费率值和该费率值的前提条件，由于本实施例中的复合应用专用文件具体为定长记录文件，则预先约定该复合应用专用文件中的每一条记录具体包含一种前提条件下的费率值，如当消费时的交易金额大于 200 元，小于 300 元时，费率值为负 20 元或者费率值为 90%，表示消费时满 200 减 20 或者满 200 打 9 折，或当消费时的交易金额大于 500 元，小于 600 元时，则费率值为负 100 元或者费率值为 80%，表示消费时满 500 减 100 或者满 500 打 8 折等等，具体复合应用专用文件中的每一条记录对应的前提条件可以由发卡方预先定义的，并且在该种前提条件下的费率值也是由发卡方自定义的。

步骤 510：判断 UPDATE RECORD 命令中是否存在短文件标识符 SFI 域，若存在，则执行步骤 511，若不存在，则执行步骤 512；

其中，判断更新记录命令 UPDATE RECORD 中是否存在 SFI 域的方法具体为：判断 UPDATE RECORD 命令中的 P2 的高 5 位是否全为 0，若是，则表示命令中存在 SFI 域，即 P2 的高 5 位即是 SFI 值，否则，表示命令中不存在 SFI 域；

具体地，本实施例中 UPDATE RECORD 命令中的 P2 为 68，表示 P2 的高 5 位为 01101，存在 SFI 域。

步骤 511：查找 CPU 卡当前应用下是否存在一个文件的 SFI 值与 UPDATE RECORD 命令中的 SFI 值相同，若不存在，则执行步骤 512，若存在，则执行步骤 513；

步骤 512：向终端返回状态码 0x6A82，同时终止执行此次复合圈存交易；

步骤 513：将步骤 511 中查找得到的文件作为复合应用专用文件，并根据 UPDATE RECORD 命令中指定的记录号在该复合应用专用文件中查找相应的记录，若没有找到相应的记录，则执行步骤 514，若找到，则执行步骤 515；

具体地，在本实施例中，UPDATE RECORD 命令中的 P1 为 03，因此上述复合应用专用文件中记录号为 03 的记录即为需要查找的记录。

步骤 514：向终端返回状态码 0x6A83，同时终止执行此次复合圈存交易；

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步骤 515：检查 UPDATE RECORD 命令中的数据域的长度是否大于步骤 513 中查找得到的记录的指定长度，若大于，则执行步骤 516，若不大于，则执行步骤 517；

在本实施例中，由于复合应用专用文件是定长记录文件，且复合应用专用文件中的 **FILE SIZE** 为记录条数和记录长度，所以复合应用专用文件中的记录长度由 **FILE SIZE** 的值决定，由于本实施例中 UPDATE RECORD 命令中 Lc 的值为 08，**FILE SIZE** 的值为 0A 10，所以命令中的数据域的长度不大于复合应用专用文件的长度。

步骤 516：向终端返回状态码 0x6A84，同时终止执行此次复合圈存交易；

步骤 517：将 UPDATE RECORD 命令中的数据域中的数据写入查找得到的记录中，替换该记录中的原有内容；

在本实施例中，具体将费率值 80％写入该记录中，替换该记录中的原有内容；由于本实施例中复合应用专用文件中的记录中的原有内容为空，因此直接将 UPDATE RECORD 命令中的数据域中的 00 00 80 00 写入复合应用专用文件中的记录号为 03 的记录中即可；

相应地，当更新记录命令中的费率值为 125％时，则写入复合应用专用文件的相应记录中的数据具体为 125％，当更新记录命令中的费率值为 20％时，则写入复合应用专用文件的相应记录中的数据具体为 20％；

或者，当更新记录命令的数据中可以不包括费率值，而由 CPU 卡对复合圈存初始化命令中包含的交易金额进行判断，按照预先约定的规则根据交易金额生成一个费率值，再将这个生成的费率值写入复合应用专用文件的相应记录中，例如，当复合圈存初始化命令中的交易金额为 800 元时，即小于预先约定的下限时，具体如为 2000 时，则生成一个数据 95％，或者 105％，或者 5％，因此将 95％或者 105％或者 5％写入复合应用专用文件的相应记录中，而当复合圈存初始化命令中的交易金额为 5000 元时，即在预先约定的下限与上限之间时，具体如为 2000 到 6000 时，则生成一个数据 80％或者 125％或者 20％，因此将 80％或者 125％或者 20％写入复合应用专用文件的相应记录中，或者当复合圈存初始化命令中的交易金额为 8000 元时，则生成一个数据 75％或者 133％或者 25％，即大于预先约定的下限时，具体如为 6000 时，因此将 75％或者 133％或者 25％写入复合应用专用文件的相应记录中；

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或者，当复合应用专用文件中的每条记录对应的是不同前提下的费率值时，则将更新记录命令的数据中包含的费率值和该费率值的前提条件写入相应的记录中，如将费率值负 20 元或者 90％以及该费率值的前提条件消费时的交易金额大于 200 元，小于 300 元写入相应的记录中，或者将费率值负 100 元或者 80％以及该费率值的前提条件消费时的交易金额大于 500 元，小于 600 元写入相应的记录中等等。

步骤 518：将 UPDATE RECORD 命令的响应报文返回给终端；

其中，UPDATE RECORD 命令的响应报文由 sw1 + sw2 组成，不存在数据域 data，当命令执行成功时，则返回的响应报文为‘9000’，当命令执行不成功时，则返回的响应报文不为‘9000’，具体本实施例中返回的响应报文为 90 00。

步骤 519：接收终端发送的复合圈存命令 CREDIT FOR CAPP LOAD，读取命令数据域中的数据并保存；

在本实施例中，复合圈存命令 CREDIT FOR CAPP LOAD 用于复合圈存交易；

CREDIT FOR CAPP LOAD 命令报文由 CLA + INS + P1 + P2 + Lc + Data + Le 组成，其中 Data 中的数据具体包括：交易日期、交易时间和第二报文鉴别码 MAC2；

具体地，本实施例中接收到的 CREDIT FOR CAPP LOAD 命令具体为：80 52 00 00 0B 07 DA 06 08 0A 14 2D 00 01 A1 0B 08，其中，80 为 CLA，52 为 INS，00 为 P1，00 为 P2，0B 为 Lc，07 DA 06 08 为 Data 中的交易日期，0A 14 2D 为 Data 中的交易时间，00 01 A1 0B 为 Data 中的 MAC2，08 为 Le。

步骤 520：验证数据中的第二报文鉴别码 MAC2 是否有效，若无效，则执行步骤 521，若有效，则执行步骤 522；

在本实施例中，验证 MAC2 是否有效的方法，具体为：

将交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接，然后使用步骤 506 中生成的过程密钥对链接得到的数据进行加密，再比较加密后得到的数据的前四个字节与 CREDIT FOR CAPP LOAD 命令数据域中的 MAC2 是否相同，若不相同，则 MAC2 无效，若相同，则 MAC2 有效。

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步骤 521：向终端返回状态码 0x9302，提示 MAC2 无效；

步骤 522：将电子钱包的联机交易序号加 1，将交易金额直接加到电子钱包的余额上；

在本实施例中，当交易金额为 1000 元，电子钱包的余额为 0 元时，则将交易金额 1000 元加到电子钱包的余额上，得到新的余额 1000 元。

步骤 523：更新电子钱包的交易明细；

具体地为：将电子钱包的联机交易序号、交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接组成一个记录来更新标准交易明细；

步骤 524：计算交易验证码 TAC；

在本实施例中，计算交易验证码 TAC 码，具体为：

用内部密钥 DTK 左右 8 个字节进行异或运算，并将交易后的电子钱包的余额、加 1 前的电子钱包的联机交易序号、交易金额、交易类型标识、终端机编号、交易日期和交易时间顺序链接，再利用异或运算得到的结果对链接得到的数据进行加密，得到的加密后的数据即为 TAC 码。

步骤 525：将 CREDIT FOR CAPP LOAD 命令的响应报文返回给终端；

其中，CREDIT FOR CAPP LOAD 命令的响应报文由 data + sw1 + sw2 组成，当命令执行成功时，则返回的响应报文中的状态码 sw1 和 sw2 为‘9000’，相应地，响应报文的数据域中的数据具体为 TAC 码，当命令执行不成功时，则返回的响应报文中的状态码 sw1 和 sw2 不为‘9000’，响应报文中不存在数据域；

具体地，在本实施例中返回的 CREDIT FOR CAPP LOAD 命令的响应报文为 00 05 D2 BC 90 00。

步骤 526：读取消费初始化命令 INITIALIZE FOR PURCHASE 中的数据并保存；

在本实施例中，消费初始化命令 INITIALIZE FOR PURCHASE 用于初始化消费交易，INITIALIZE FOR PURCHASE 命令报文由 CLA + INS + P1 + P2

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+Lc + Data + Le 组成，其中 Data 中的数据具体为密钥索引号、交易金额和终端机编号；

具体地，在本实施例中，接收到的 INITIALIZE FOR PURCHASE 命令具体为：80 50 01 02 0B 02 00 00 00 C8 00 00 00 00 00 01 0F，其中 80 为 CLA，50 为 INS，01 为 P1， 02 为 P2，定义为电子钱包的标识，0B 为 Lc，02 为 Data 中的密钥索引号，00 00 00 C8 为 Data 中的交易金额，00 00 00 00 00 01 为 Data 中的终端机编号，0F 为 Le。

步骤 527: 检查自身是否支持上述 INITIALIZE FOR PURCHASE 命令中包含的密钥索引号，若不支持，则执行步骤 528，若支持，则执行步骤 529;

步骤 528: 返回状态码 0x9403 给终端，并终止操作;

步骤 529: 按照预先约定的算法对 INITIALIZE FOR PURCHASE 命令中包含的交易金额和复合应用专用文件的相应记录中的值进行运算，得到新金额;

在本实施例中，预先约定的算法包括乘法、除法、加法和减法，以及所述四种算法的各种组合;

进一步地，复合应用专用文件的记录中的值为费率值，具体为 80%，因此若当消费时的交易金额为 200 元时，则对交易金额 200 元与复合专用文件中的费率值 80% 进行乘法运算，得到的新金额为 160 元;

而当复合应用专用文件的记录中的费率值为 125% 时，则对交易金额 200 元与复合专用文件中的费率值 125% 进行除法运算，得到的新金额为 160 元;

而当复合应用专用文件的记录中的费率值为 20% 时，则对交易金额 200 元与复合专用文件中的费率值 20% 进行乘法运算，得到 40 元，再对交易金额 200 元与 40 元进行减法运算，得到的新金额为 160 元;

或者，当消费时的交易金额为 550 元时，则该交易金额 550 元满足的前提条件是交易金额大于 500 元小于 600 元，因此根据该前提条件在相应的记录中就可以找到相应的费率值，具体的在相应的记录中自定义费率值为负 100 元，则在消费时，自动对交易金额 550 元与相应记录中的费率值负 100 元进行加法运算，得到新金额为 450 元。

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步骤 530：读取电子钱包的余额，判断上述新金额是否超过电子钱包的余额与透支限额的和，若是，则执行步骤 531，若否，则执行步骤 532；

步骤 531：返回状态码 0x9401 给终端，并终止操作；

步骤 532：生成一个伪随机数和一个过程密钥；

在本实施例中，过程密钥用于 CPU 电子钱包或 M1 电子钱包的消费交易，过程密钥是用密钥 DPK 分散得到的。

步骤 533：发送 INITIALIZE FOR PURCHASE 命令的响应报文给终端；

其中，INITIALIZE FOR PURCHASE 响应报文由 Data + sw1 + sw2 组成，当命令执行成功时，则返回给终端的响应报文中的状态码 sw1 和 sw2 为‘9000’，且响应报文 Data 中包含的数据具体为电子钱包的余额、CPU 电子钱包的脱机交易序号、透支限额、密钥版本号、算法标识和伪随机数，若命令执行不成功，则返回给终端的响应报文中只含有状态码 sw1 和 sw2，且状态码 sw1 和 sw2 不为‘9000’；

具体地，本实施例中返回给终端的 INITIALIZE FOR PURCHASE 响应报文为：00 00 4B 00 00 01 00 00 64 02 03 01 02 03 04 90 00。

步骤 534：接收终端发送的消费命令 DEBIT FOR PURCHASE，读取命令中的数据并保存；

在本实施例中，DEBIT FOR PURCHASE 命令用于进行消费操作；

其中，DEBIT FOR PURCHASE 命令报文也由 CLA + INS + P1 + P2 + Lc + Data + Le 组成，Data 中的数据具体为：终端交易序号、交易日期、交易时间和第三鉴别码 MAC3；

具体地，在本实施例中，接收到的 DEBIT FOR PURCHASE 命令具体为：80 54 01 00 0F 00 00 00 01 7D A0 06 09 0F 27 13 01 0A D1 0C 08，其中 80 为 CLA，54 为 INS，01 为 P1， 00 为 P2，0F 为 Lc，00 00 00 01 为 Data 中的终端交易序号，7D A0 06 09 为 Data 中的交易日期，0F 27 13 为 Data 中的交易时间，01 0A D1 0C 为 Data 中的 MAC3，08 为 Le。

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步骤 535: 使用步骤 532 中生成的过程密钥来验证 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否有效，若无效，则执行步骤 536，若有效，则执行步骤 537;

在本实施例中，验证 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否有效的方法，具体为:

将交易金额、交易类型标识、终端机编号、终端的交易日期和终端的交易时间顺序链接，用步骤 532 中生成的过程密钥对链接得到的数据进行加密，再比较得到的加密后的数据的前四个字节与 DEBIT FOR PURCHASE 命令中包含的 MAC3 是否相同，若不相同，则 MAC3 无效，若相同，则 MAC3 有效。

步骤 536: 返回状态码 0x9302 给终端，终止操作;

步骤 537: 将电子钱包的脱机交易序号加 1，并从电子钱包的余额中扣减步骤 529 中得到的新金额;

步骤 538: 更新电子钱包的交易明细;

在本实施例中，需要更新的电子钱包的相关交易明细具体为: 交易金额、交易类型标识、终端编号、交易日期和交易时间，具体地，CPU 卡将交易金额、交易类型标识、终端编号、交易日期和交易时间顺序链接组成一个记录以便更新。

步骤 539: 生成第四报文鉴别码 MAC4，然后计算交易验证码 TAC 码;

在本实施例中，生成第四报文鉴别码 MAC4 方法具体为:

用步骤 532 中生成的过程密钥对交易金额进行加密，得到的加密后的数据的前四个字节即为第四报文鉴别码 MAC4。

其中，利用异或运算得到的结果来计算 TAC 码的方法具体为:

用 DTK 左右 8 个字节进行异或运算，并将交易金额、交易类型标识、终端机编号、终端交易序号、终端的交易日期和终端的交易时间顺序链接，并用异或运算得到的结果对链接得到的数据进行加密，得到的加密后的数据的前四个字节即为 TAC 码。

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步骤 540：返回 DEBIT FOR PURCHASE 命令的响应报文给终端，交易结束。

其中，DEBIT FOR PURCHASE 命令的响应报文由 data + sw1 + sw2 组成，当命令执行成功时，则响应报文中的状态码 sw1 和 sw2 为‘9000’，相应地，数据域 data 具体为 TAC 码和 MAC4，当命令执行不成功时，则响应报文中的状态码 sw1 和 sw2 不为‘9000’，且不包含数据域；

具体地，本实施例中 DEBIT FOR PURCHASE 命令的响应报文为：01 0D B1 09 00 02 EA B1 90 00。

进一步地，在本实施例中，当复合应用专用文件为二进制文件时，因此 CPU 卡接收到的对复合应用专用文件进行更新的命令就不是更新记录命令 UPDATE RECORD，而是 UPDATE CAPP DATA CACHE 命令，其中 CPU 卡接收到 UPDATE CAPP DATA CACHE 命令之后的具体操作如下：

步骤 509’：接收终端发送的更新复合应用专用文件的命令 UPDATE CAPP DATA CACHE；

在本实施例中，更新复合应用专用文件的命令 UPDATE CAPP DATA CACHE 用于更新复合应用专利文件中的数据；

具体地，UPDATE CAPP DATA CACHE 命令报文由 CLA + INS + P1 + P2 + Lc + Data 组成，本实施例中，UPDATE CAPP DATA CACHE 命令具体为：80 D6 92 B1 04 00 01 20 00，其中，80 为 CLA，D6 为 INS，92 为 P1，B1 为 P2，04 为 Lc，00 01 20 00 为 Data；

并且 UPDATE CAPP DATA CACHE 命令的数据域 Data 中的数据为要写入复合应用专用文件的新数据，其中，由于复合应用专用文件的具体应用可以由发卡方自定义，因此数据域中的数据也可以是自定义的，如在本实施例中复合应用专用文件可以自定义为费率文件，则相应地，数据域中的数据具体为费率值，在本实施例中具体定义费率值为 120％；

具体地，在本实施例中，复合应用专用文件具体为二进制文件，则 **FILE TYPE** 为 00，且 **FILE SIZE** 为文件大小，具体为 00 0B，文件体中的内容为空。

步骤 510’：判断接收到的 UPDATE CAPP DATA CACHE 命令中是否存在 SFI 域，若存在，则执行步骤 511’，若不存在，则执行步骤 512’；

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在本实施例中，判断 UPDATE CAPP DATA CACHE 命令中是否存在 SFI 域具体为：判断 UPDATE CAPP DATA CACHE 命令中的 P1 的高三位是否为 100，若是，则表示命令中存在 SFI 域，PI 的低 5 位即为 SFI 域，否则，表示命令中不存在 SFI 域；

具体地，本实施例中 UPDATE CAPP DATA CACHE 命令中的 P1 为 92，表示 P1 的高三位为 100，存在 SFI 域。

步骤 511'：查找 CPU 卡当前应用下是否存在一个文件的 SFI 值与 UPDATE CAPP DATA CACHE 命令中的 SFI 值相同，若不存在，则执行步骤 512'，若存在，则执行步骤 513'；

步骤 512'：向终端返回状态码 0x6A82，同时终止执行此次复合圈存交易；

步骤 513'：将步骤 511'中查找得到的文件作为复合应用专用文件，并检查 UPDATE CAPP DATA CACHE 命令中的数据域的长度是否大于复合应用专用文件的长度，若大于，则执行步骤 514'，若不大于，则执行步骤 515'；

在本实施例中，由于复合应用专用文件是二进制文件，所以复合应用专用文件的长度具体为 **FILE SIZE** 的值，具体即为判断 UPDATE CAPP DATA CACHE 命令中 Lc 的值是否大于复合应用专用文件 **FILE SIZE** 的值，由于本实施例中 UPDATE CAPP DATA CACHE 命令中 Lc 的值为 04，**FILE SIZE** 的值为 00 0B，所以命令中的数据域的长度不大于复合应用专用文件的长度。

步骤 514'：向终端返回状态码 0x6A84，同时终止执行此次复合圈存交易；

步骤 515'：将 UPDATE CAPP DATA CACHE 命令中的数据域中的数据写入复合应用专用文件中，替换该复合应用专用文件中的原有内容；

在本实施例中，具体将费率值 120％写入该复合应用专用文件中，替换其原有内容；

由于本实施例中复合应用专用文件中的原有内容为空，因此直接将 UPDATE CAPP DATA CACHE 命令中的数据域中的 00 01 20 00 写入复合应用专用文件中即可。

步骤 516'：将 UPDATE CAPP DATA CACHE 命令的响应报文返回给终端；

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其中，UPDATE CAPP DATA CACHE 命令的响应报文由 sw1 + sw2 组成，不存在数据域 data，当 UPDATE CAPP DATA CACHE 命令执行成功时，则响应报文为‘9000’，当 UPDATE CAPP DATA CACHE 命令执行不成功时，则响应报文不为‘9000’。

本实施例提供了一种对 CPU 卡内的电子钱包进行消费的方法，该方法可以使整个复合圈存的过程更安全，防止采取非法的手段去修改 CPU 卡中特定的复合应用专用文件，并且该方法中通过对复合应用专用文件中写入新的数据，简化了分级打折优惠业务的实现,在消费时自动对消费的金额进行处理，更方便管理，从而节省了管理的成本。

以上所述，仅为本发明的具体实施方式，但本发明的保护范围并不局限于此，任何熟悉本技术领域的技术人员在本发明揭露的技术范围内，可轻易想到变化或替换，都应涵盖在本发明的保护范围之内。因此，本发明的保护范围应所述以权利要求的保护范围为准。

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权 利 要 求 书

1. 一种对电子钱包进行操作的方法，其特征在于，所述方法包括:

CPU 卡进入终端的非接触式感应区内，所述 CPU 卡上电并初始化;

接收所述终端发送的操作初始化命令，读取所述操作初始化命令中的数据并保存，所述数据包括交易金额，所述操作初始化命令为复合圈存初始化命令或消费初始化命令;

如果所述操作初始化命令为复合圈存初始化命令，则进行复合圈存初始化操作；接收所述终端发送的更新复合应用专用文件命令，查找复合应用专用文件；将预先约定的数据写入所述复合应用专用文件的存储空间中，替换原有内容；接收所述终端发送的复合圈存命令，读取所述复合圈存命令中的数据并保存；按照预先约定的算法对所述交易金额与所述复合应用专用文件中的数据进行运算，得到新金额，将所述得到新金额加到电子钱包的余额上，得到新余额;

如果所述操作初始化命令为消费初始化命令，按照预先约定的算法对所述交易金额和复合应用专用文件中的相应记录中的值进行计算，得到新金额；读取所述电子钱包的余额，判断所述新金额是否超过所述电子钱包的余额与透支限额的和；若是，则向所述终端返回所述电子钱包余额不足的信息，终止操作；若否，则生成一个伪随机数和一个过程密钥，将所述消费初始化命令的响应报文返回给所述终端；接收所述终端发送的消费命令，读取所述消费命令终的数据并保存；从所述电子钱包的余额中扣减所述新金额，得到新的金额，并将所述消费命令的响应报文返回给所述终端。

2. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令中的数据还包括：密钥索引号和终端机编号。

3. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述预先约定的算法包括乘法、除法、加法和减法，以及所述四种算法的各种组合。

4. 如权利要求 2 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述按照预先约定的算法对所述交

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易金额和复合应用专用文件中的相应记录中的值进行运算之前，所述方法还包括：

所述 CPU 卡检查自身是否支持所述密钥索引号；

若不支持，则向终端返回 CPU 卡不支持所述密钥索引号的信息，终止操作；

若支持，则按照预先约定的算法对所述交易金额和复合应用专用文件中的相应记录中的值进行运算。

5. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述消费命令中的数据包括：终端交易号，交易日期，交易时间和第三鉴别码。

6. 如权利要求 5 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述从所述电子钱包的余额中扣减所述新金额之前，所述方法还包括：

验证所述第三鉴别码是否有效；

若无效，则向终端返回第三鉴别码无效 的信息，终 止操作；

若有效，则将所述电子钱包的脱机交易序号加 1，从所述电子钱包的余额中扣减所述新金额。

7. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述从电子钱包的余额中扣减所述新金额，得到新的余额之后，所述方法还包括：

更新所述电子钱包的交易明细；

生成第四报文鉴别码和验证码。

8. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述等待接收终端发送的命令的同时，所述方法还包括：

接收所述终端发送的复合圈存初始化命令时，读取所述复合圈存初始化命令中的数据并保存，进行复合圈存初始化操作；

接收所述终端发送的更新记录命令，更新复合应用专用文件中的相应记录中的数据；

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接收所述终端发送的复合圈存命令，进行复合圈存操作。

9. 如权利要求 8 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述更新复合应用专用文件中的相应记录中的数据的步骤为：

查找所述复合应用专用文件中的相应记录；

判断所述更新记录命令中的数据的长度是否大于所述查找得到的记录的长度；

若是，则向所述终端返回所述记录存储空间不够的信息，终止操作；

若否，则更新所述查找得到的记录中的数据。

10. 如权利要求 9 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述查找复合应用专用文件中的相应记录的操作为：

判断所述更新记录命令中是否存在短文件标识符；

若不存在所述短文件标识符，则向所述终端返回未找到复合应用专用文件的信息，终止操作；

若存在所述短文件标识符，则检查是否存在一个文件的短文件标识符的值与所述短文件标识符的值相同，若不存在，则向所述终端返回未找到复合应用专用文件的信息，终止操作，若存在，则将所述检查到的文件作为复合应用专用文件，并根据所述更新记录命令中指定的记录号在所述复合应用专用文件中查找相应的记录；

若没有查找到，则向终端返回未找到相应记录的信息，终止操作；

若查找到，则将查找到的记录作为需要更新的记录。

11. 如权利要求 9 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为消费初始化命令时，所述更新查找得到的记录中的数据的方法包括：

将所述更新记录命令中的数据写入所述查找得到的记录中，替换原有内容；

或者，

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根据预先约定的规则对所述复合圈存初始化命令中包含的交易金额进行判断，并根据判断结果生成一个数据，将所述生成的数据写入所述查找得到的记录中，替换原有内容。

12. 如权利要求 2 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述复合圈存初始化操作为：

所述 CPU 卡检查自身是否支持所述密钥索引号；

若不支持，则向所述终端返回所述 CPU 卡不支持所述密钥索引号的信息，终止操作；

若支持，则生成一个伪随机数和一个过程密钥，并用所述过程密钥计算得到第一报文鉴别码；

将复合圈存初始化命令的响应报文返回给所述终端。

13. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述查找复合应用专用文件的操作为：

判断所述更新复合应用专用文件命令中是否存在短文件标识符；

若不存在，则将当前文件作为复合应用专用文件；

若存在，则检查当前应用下的文件中是否存在一个文件的短文件标识符的值与所述短文件标识符相同；

若否，则向终端返回未找到复合应用专用文件的信息，终止操作；

若是，则将得到的文件作为复合应用专用文件。

14. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述将预先约定的数据包括：

所述更新复合应用专用文件命令中包含的数据，或者，根据所述复合圈存初始化命令中包含的交易金额生成的数据。

15. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述将预先约定的数据写入所述复合应用专用文件的存储空间中之前，所述方法还包括：

判断所述预先约定的数据的长度是否大于所述复合应用专用文件的存储空间的大小；

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若是，向所述终端返回所述复合应用专用文件的存储空间不够的信息，终止操作；

若否，将将预先约定的数据写入所述复合应用专用文件的存储空间中。

16. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述将预先约定的数据写入所述复合应用专用文件的存储空间中，替换原有内容之后，所述方法还包括：

将更新复合应用专用文件命令的响应报文返回给所述终端。

17. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述复合圈存命令中的数据包括：交易日期、交易时间和第二报文鉴别码；

所述按照预先约定的算法对所述交易金额与所述复合应用专用文件中的数据进行运算之前，所述方法还包括：

验证所述第二报文鉴别码是否有效；

若无效，则向所述终端返回第二报文鉴别码无效的信息，终止操作；

若有效，则将所述电子钱包的联机交易序号加 1，并按照预先约定的算法对所述交易金额与所述复合应用专用文件中的数据进行运算。

18. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述将得到的新金额加到电子钱包的余额上，得到新余额之后，所述方法还包括：

更新所述电子钱包的交易明细；

计算交易验证码；

将所述复合圈存命令的响应报文返回给所述终端。

19. 如权利要求 1 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述更新复合应用专用文件命令还为：更新记录命令；

所述查找复合应用专用文件的操作还具体为：查找复合应用专用文件，并查找所述复合应用专用文件中的相应记录。

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20. 如权利要求 19 所述的对电子钱包进行操作的方法，其特征在于，所述操作初始化命令为复合圈存初始化命令时，所述查找复合应用专用文件，并查找所述复合应用专用文件中的相应记录的方法为：

判断所述更新记录命令中是否存在短文件标识符；

若不存在，则向所述终端返回未找到复合应用专用文件的信息，终止操作；

若存在，则检查当前应用下的文件中是否存在一个文件的短文件标识符的值与所述短文件标识符相同；

若否，则向终端返回未找到复合应用专用文件的信息，终止操作；

若是，则将得到的文件作为复合应用专用文件，并根据所述更新记录命令中指定的记录号在所述复合应用专用文件中查找相应的记录；

若没有查找到，则向终端返回未找到需要更新的记录的信息，终止操作；

若查找到，则将查找得到的记录作为需要更新的记录。

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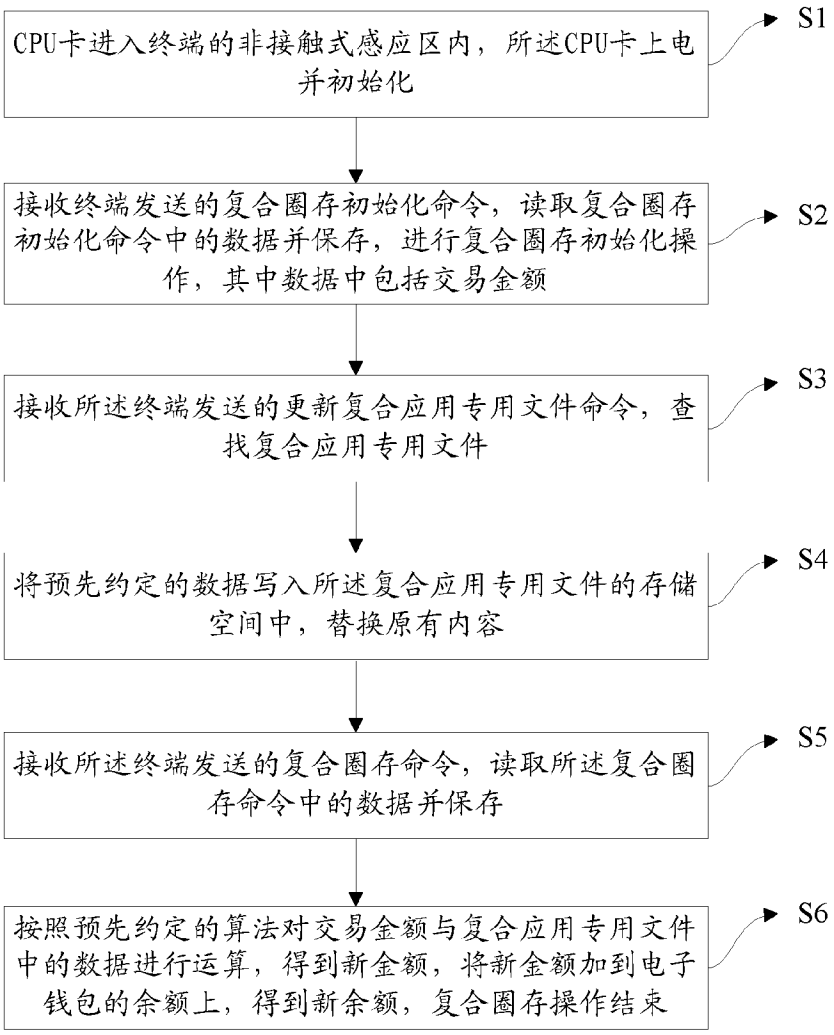

图 1

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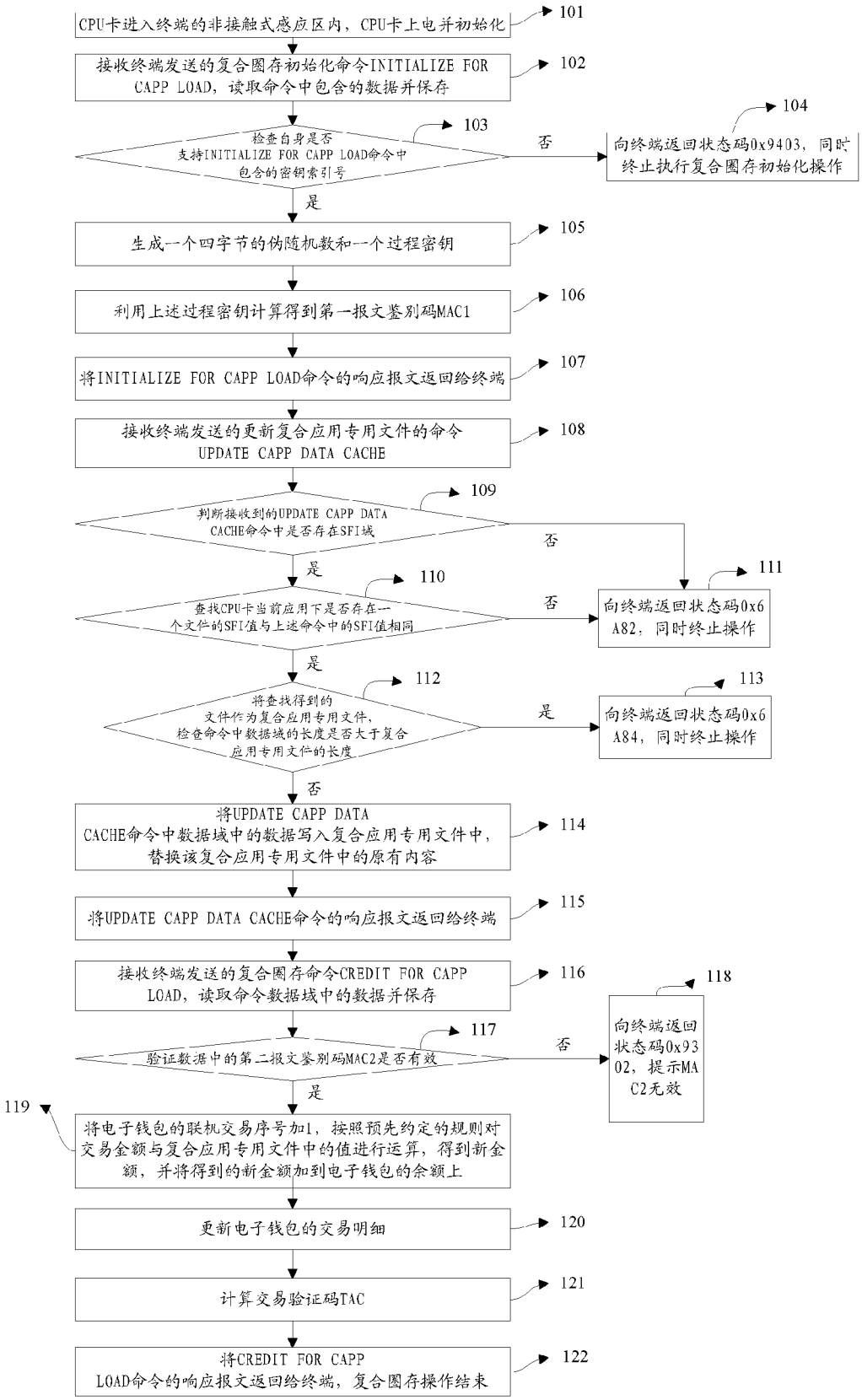

图 2

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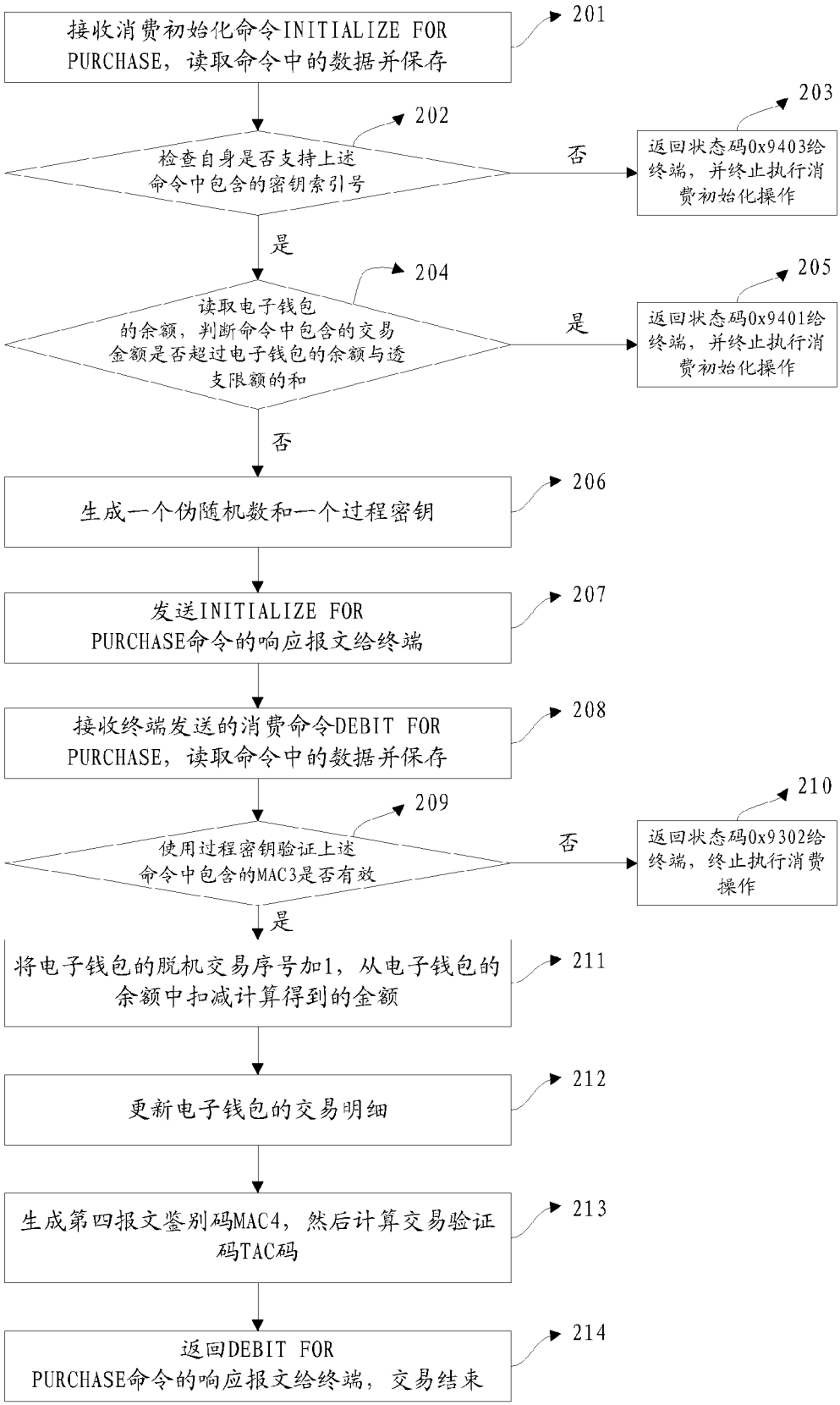

图 3

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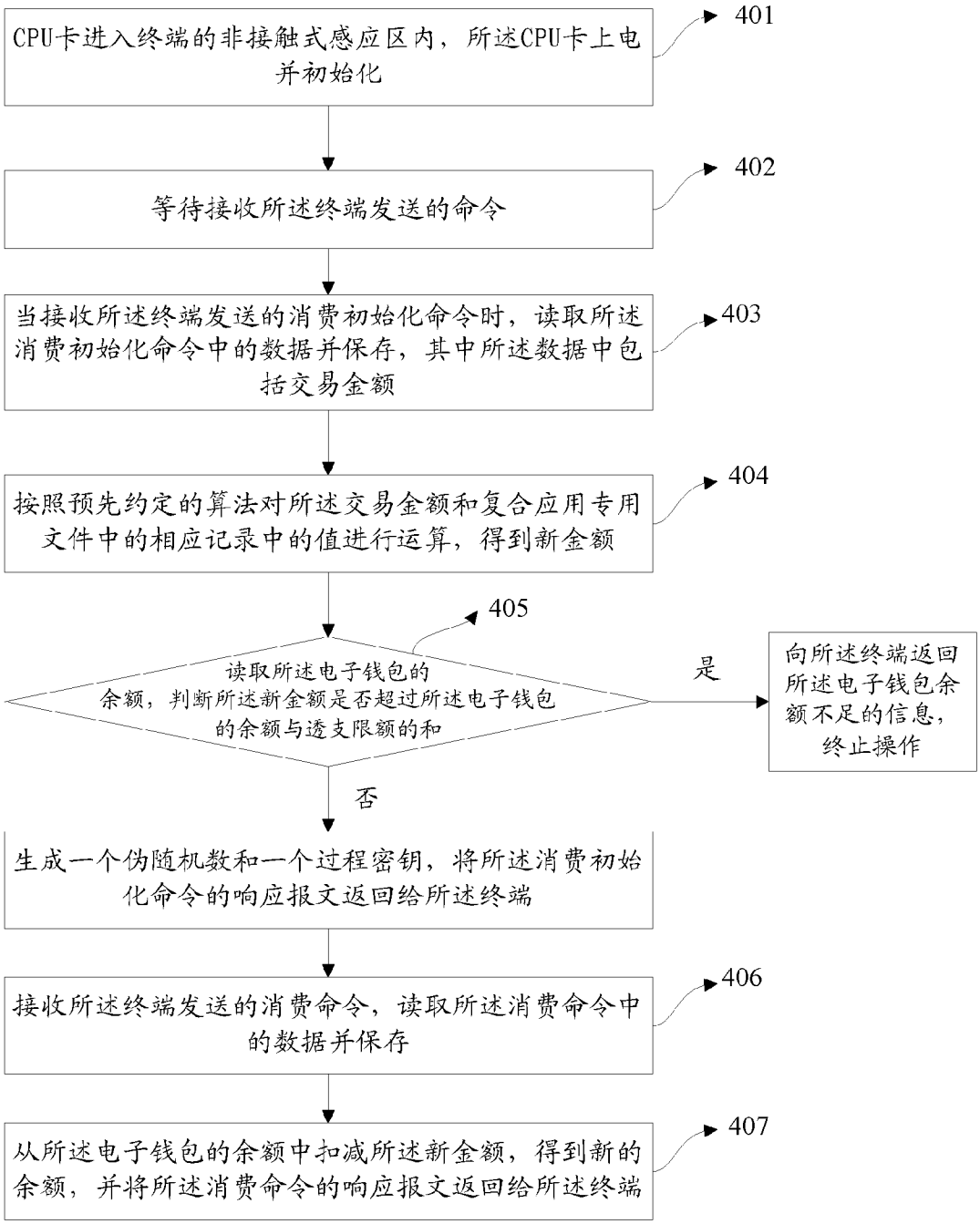

图 4

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Apple EX1002 Page 762

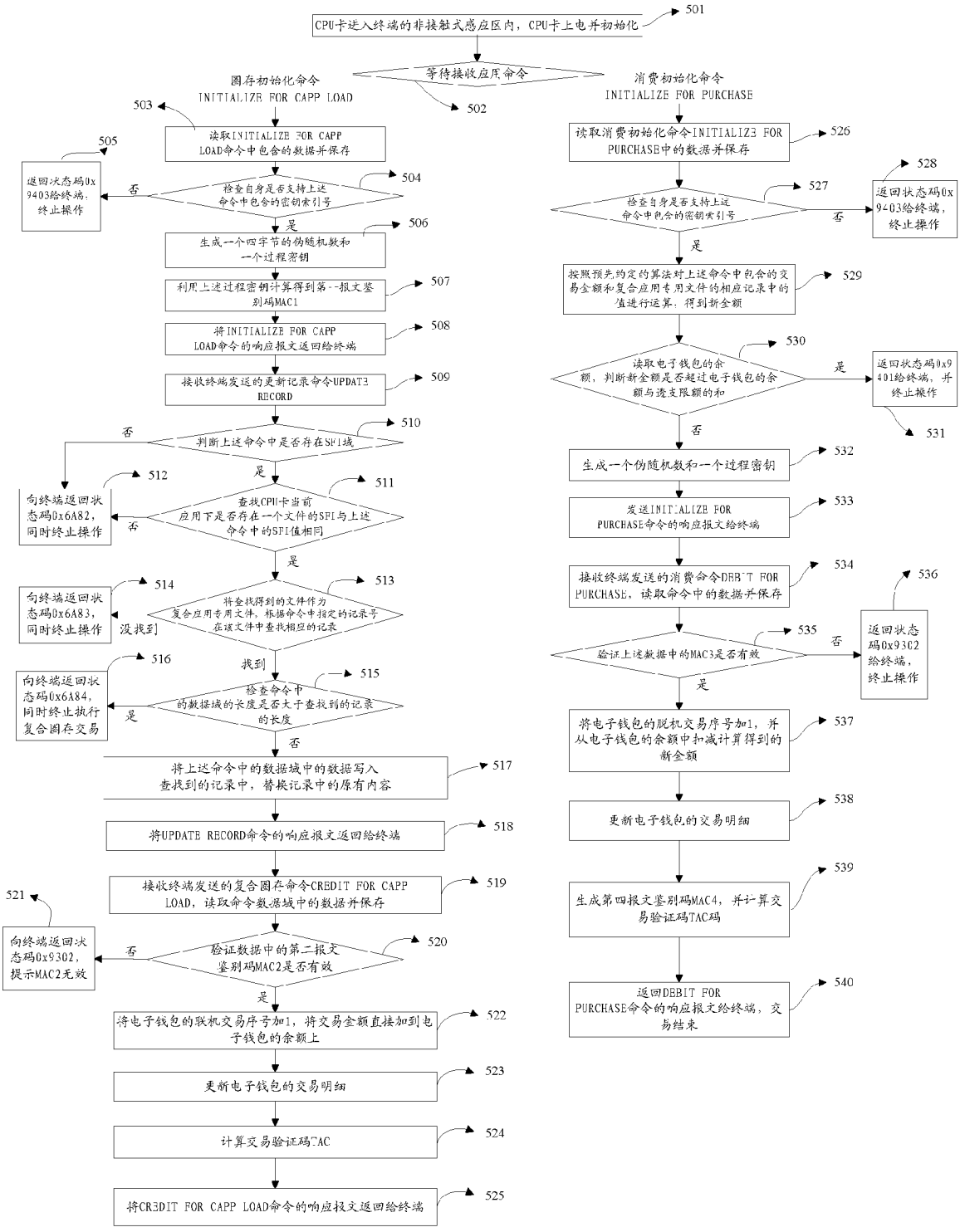

图 5

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2011/076590

A. CLASSIFICATION OF SUBJECT MATTER

G07F 7/08 (2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: G07F 7/-,G06Q 20/-,G06Q 30/-,G06F 17/-,G06K 19/-

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT; CNKI; WPI; EPODOC; PAJ

cpu, ic, pos, electronic, purse, card, smart, smart?card, initializ+, transaction, financial, purchas+, discount+, reward+, rebate+, terminal, command

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	CN102013132A (BEIJING FEITIAN TECHNOLOGIES CO LTD) 13 Apr. 2011(13.04.2011) see the claims 1-13, the figures 1-3	1-20
P,X	CN102044114A (BEIJING FEITIAN TECHNOLOGIES CO LTD) 04 May 2011(04.05.2011) see the claims 1-11, the figures 1-2	1-20
P,A	CN101799954A (BEIJING FEITIAN TECHNOLOGIES CO LTD) 11 Aug.2010(11.08.2010) see the claims 1-19, the figures 1-4	1-20

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

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

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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 Aug.2011(26.08.2011)	**22 Sep. 2011 (22.09.2011)**
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer WANG,Yue Telephone No. (86-10)62411848

Form PCT/ISA /210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2011/076590

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	CN101799955A (BEIJING FEITIAN TECHNOLOGIES CO LTD) 11 Aug.2010(11.08.2010) see the claims 1-26, the figure 1	1-20
A	CN1700222A (CHEN,Shu) 23 Nov.2005(23.11.2005) see the whole document	1-20
A	CN1277399A (CITICORP DEV CENT INC) 20 Dec.2000(20.12.2000) see the whole document	1-20
A	CN101645184A (BEIJING WATCH DATA SYSTEM CO LTD) 10 Feb.2010(10.02.2010) see the whole document	1-20
A	CN101281666A (BEIJING WATCH DATA SYSTEM CO LTD) 08 Oct.2008(08.10.2008) see the whole document	1-20

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2011/076590

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN102013132A	13.04.2011	none	
CN102044114A	04.05.2011	none	
CN101799954A	11.08.2010	WO2011060662A1	26.05.2011
		US2011196788A1	11.08.2011
CN101799955A	11.08.2010	WO2011060662A1	26.05.2011
		US2011196788A1	11.08.2011
CN1700222A	23.11.2005	none	
CN1277399A	20.12.2000	SG97867A1	20.08.2003
		EP1039403A2	27.09.2000
		EP1039403A3	24.09.2003
		JP2000331096A	30.11.2000
		AU2242600A	05.10.2000
CN101645184A	10.02.2010	none	
CN101281666A	08.10.2008	CN100589131C	10.02.2010

Form PCT/ISA /210 (patent family annex) (July 2009)

国际检索报告

国际申请号
PCT/CN2011/076590

A. 主题的分类

G07F 7/08 (2006.01)i

按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

IPC: G07F 7/-,G06Q 20/-,G06Q 30/-,G06F 17/-,G06K 19/-

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称，和使用的检索词（如使用）)

CNPAT；CNKI；WPI；EPODOC；PAJ

CPU 卡,智能卡,IC,卡,电子钱包,初始化,圈存,充值,消费,购买,交易,算,金额,北京飞天诚信科技有限公司, 北京握奇, pos,终端,命令, 折扣,打折,费率,优惠,促销, electronic, purse, cpu, card, smart, smart?card, initializ+, transaction, financial, purchas+, discount+, reward+, rebate+, terminal, command

C. 相关文件

类　型*	引用文件，必要时，指明相关段落	相关的权利要求
P,X	CN102013132A (北京飞天诚信科技有限公司) 13.4 月 2011(13.04.2011) 参见权利要求 1-13、图 1-3	1-20
P,X	CN102044114A (北京飞天诚信科技有限公司) 04.5 月 2011(04.05.2011) 参见权利要求 1-11、图 1-2	1-20
P,A	CN101799954A (北京飞天诚信科技有限公司)11.8 月 2010(11.08.2010) 参见权利要求 1-19、图 1-4	1-20
P,A	CN101799955A (北京飞天诚信科技有限公司)11.8 月 2010(11.08.2010) 参见权利要求 1-26、图 1	1-20

☒ 其余文件在 C 栏的续页中列出。　　☒ 见同族专利附件。

* 引用文件的具体类型：

"A" 认为不特别相关的表示了现有技术一般状态的文件

"E" 在国际申请日的当天或之后公布的在先申请或专利

"L" 可能对优先权要求构成怀疑的文件，或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件（如具体说明的）

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"P" 公布日先于国际申请日但迟于所要求的优先权日的文件

"T" 在申请日或优先权日之后公布，与申请不相抵触，但为了理解发明之理论或原理的在后文件

"X" 特别相关的文件，单独考虑该文件，认定要求保护的发明不是新颖的或不具有创造性

"Y" 特别相关的文件，当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时，要求保护的发明不具有创造性

"&" 同族专利的文件

国际检索实际完成的日期	国际检索报告邮寄日期
26.8 月 2011(26.08.2011)	**22.9 月 2011 (22.09.2011)**
ISA/CN 的名称和邮寄地址： 中华人民共和国国家知识产权局 中国北京市海淀区蓟门桥西土城路 6 号 100088 传真号：　(86-10)62019451	受权官员 王越 电话号码：(86-10) **62411848**

PCT/ISA/210 表(第 2 页) (2009 年 7 月)

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C(续). 相关文件

类 型	引用文件，必要时，指明相关段落	相关的权利要求
A	CN1700222A (陈澍) 23.11 月 2005(23.11.2005) 参见全文	1-20
A	CN1277399A (城市集团发展中心有限公司) 20.12 月 2000(20.12.2000) 参见全文	1-20
A	CN101645184A (北京握奇数据系统有限公司) 10.2 月 2010(10.02.2010) 参见全文	1-20
A	CN101281666A (北京握奇数据系统有限公司) 08.10 月 2008(08.10.2008) 参见全文	1-20

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国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2011/076590

检索报告中引用的专利文件	公布日期	同族专利	公布日期
CN102013132A	13.04.2011	无	
CN102044114A	04.05.2011	无	
CN101799954A	11.08.2010	WO2011060662A1	26.05.2011
		US2011196788A1	11.08.2011
CN101799955A	11.08.2010	WO2011060662A1	26.05.2011
		US2011196788A1	11.08.2011
CN1700222A	23.11.2005	无	
CN1277399A	20.12.2000	SG97867A1	20.08.2003
		EP1039403A2	27.09.2000
		EP1039403A3	24.09.2003
		JP2000331096A	30.11.2000
		AU2242600A	05.10.2000
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CN101281666A	08.10.2008	CN100589131C	10.02.2010

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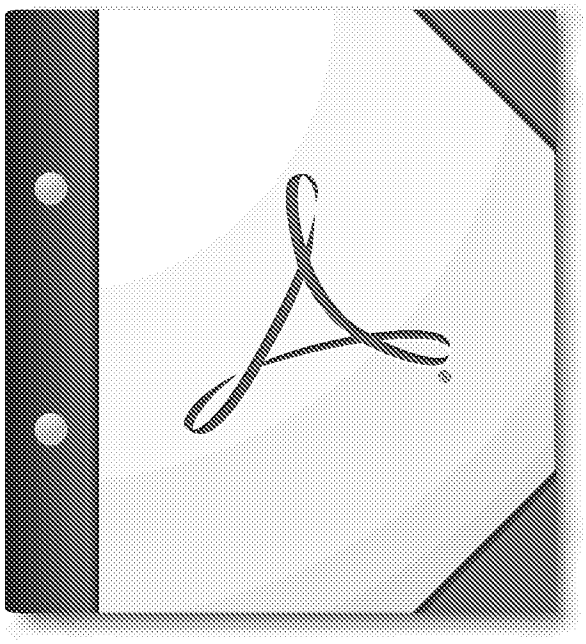

For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

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(19)日本国特許庁（ＪＰ）　(12) **公開特許公報（Ａ）**　(11)特許出願公開番号

特開平11－73542

(43)公開日　平成11年(1999)３月16日

(51)Int.Cl.[6]	識別記号	ＦＩ	
Ｇ０７Ｄ　9/00	４７１	Ｇ０７Ｄ　9/00	４７１
Ｇ０６Ｆ　19/00		Ｇ０６Ｆ　15/30	３１０

審査請求　未請求　請求項の数５　ＯＬ　（全　７　頁）

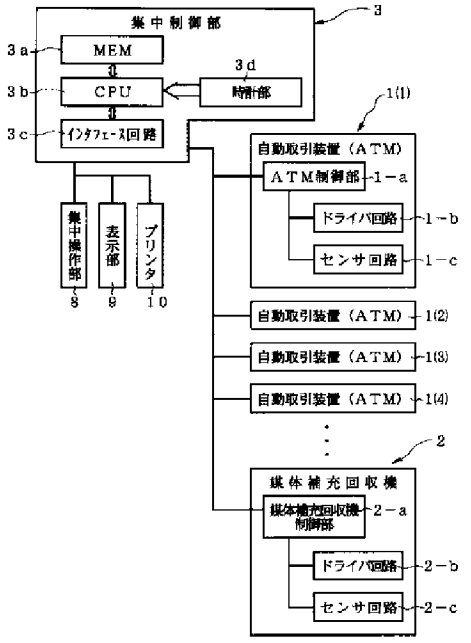
(21)出願番号　特願平9－231549

(22)出願日　平成９年(1997)８月27日

(71)出願人　000000295
沖電気工業株式会社
東京都港区虎ノ門１丁目７番12号
(72)発明者　中屋　満
東京都港区虎ノ門１丁目７番12号　沖電気工業株式会社内
(74)代理人　弁理士　金倉　喬二

(54)【発明の名称】　自動取引装置群管理システム

(57)【要約】　（修正有）
【課題】　係員に負担をかけないで媒体補充回収処理を行う自動取引装置群管理システムを提供する。
【解決手段】　現在日時を認識する日時認識手段と、所望の日時に更新させる補充開始枚数と回収開始枚数を予め記憶しておく記憶手段と、日時が記憶されている日時に一致するか否かを判断する日時比較判断手段と、そのときの日時に対応する補充開始枚数と回収開始枚数に更新させる更新手段と、有高をそれぞれ認識する有高認識手段と、更新された補充開始枚数と有高とをそれぞれ比較し、補充の判断をする有高比較判断手段と、更新前の補充回収枚数と更新後の補充開始枚数を比較してその旨を強制補充情報として記憶しておく増減判断手段とを有する自動取引装置群管理システムを、集中制御部３で順次実行する。



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【特許請求の範囲】

【請求項１】　媒体補充回収機が複数の自動取引装置に沿って移動し、所望の自動取引装置と接続して、自動取引装置との間で取引媒体の補充・回収を行う自動取引装置群管理システムにおいて、

時計による現在日時を認識する日時認識手段と、

所望の日時に更新させる補充開始枚数と回収開始枚数を予め記憶しておく記憶手段と、

前記日時認識手段で認識した日時が前記記憶手段に記憶されている日時に一致するか否かを比較して判断する日時比較判断手段と、

前記日時比較判断手段で一致していると判断された場合に、そのときの日時に対応する補充開始枚数と回収開始枚数に更新させる更新手段と、

各自動取引装置の有高をそれぞれ認識する有高認識手段と、

前記更新手段で更新された補充開始枚数と前記有高認識手段で認識した有高とをそれぞれ比較し、補充開始枚数の方よりも有高が大きいと判断した場合には補充を行わず、小さいと判断した場合には補充を行うものと判断する有高比較判断手段と、

前記更新手段による更新前の補充回収枚数と更新後の補充開始枚数を比較して増加か減少方向かを判断し、増加した場合には各自動取引装置の媒体補充を有高の有無に係わらず行うものと判断し、その旨を強制補充情報として記憶しておく増減判断手段とを備えたことを特徴とする自動取引装置群管理システム。

【請求項２】　請求項１において、スケジュールされている日時が一致した時に補充優先情報をセットし回収条件が成立している自動取引装置に対しての回収動作を行わないようにし補充動作を優先することを特徴とする自動取引装置群管理システム。

【請求項３】　請求項１において、スケジュールされている日時が一致した時に回収停止情報をセットし、回収開始枚数より多く補充し回収動作を停止させることを特徴とする自動取引装置群管理システム。

【請求項４】　請求項１において、スケジュールされている日時が一致した時に回収遅延情報をセットし、補充要求が無くなったことを確認後に回収動作することを特徴とする自動取引装置群管理システム。

【請求項５】　請求項１において、スケジュールされている日時が一致した時に優先順位コードで示される自動取引装置順に目標枚数を変化させるように算出し、それぞれ算出値迄に有高することを特徴とする自動取引装置群管理システム。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は、銀行等の金融機関に設置され、複数台の自動取引装置の群管理を行う自動取引装置群管理方法及びその装置に関する。

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【０００２】

【従来の技術】従来の自動取引装置群管理システムとしては、特公平６－３６２２９号公報や特願平６－１５２３７４号公報等に記載のものが知られている。この種のシステムでは、自動取引装置の動作停止や係員による処置を自動化するために、補充回収用の金庫を搭載し、複数の自動取引装置の間を走行して任意の自動取引装置に紙幣の補充をしたり、別の任意の自動取引装置から紙幣を回収する機能を持つ媒体補充回収機を備えたシステムが開発されている。そして、このシステムでは、週末等の支払業務が増えた時の為に回収／補充の開始枚数をスケジューラにより変えることで自動取引装置に紙幣を多量に保持させるようにしたものが知られている。

【０００３】

【発明が解決しようとする課題】従来の自動取引装置群管理システムでは、例えば、休み明けの月曜日等の平日には平日の取引量に合わせた補充／回収枚数にスケジューラで変えるようになっているため、月曜日等には自動取引装置に入っている紙幣の有高が回収開始枚数以上残っていた場合、予め設定された順に各自動取引装置から媒体補充回収機側への回収動作を行う。

【０００４】しかしながら、従来の自動取引装置群管理システムでは、自動取引装置内の媒体の残量が多いと、媒体補充回収機内のカセットがすぐにＦＵＬＬになって交換指示を出し、行員によるカセット交換が行われるまで、媒体の補充／回収処理を中断するため、全ての自動取引装置に対して媒体の補充／回収処理を施すことができない場合がある。かかる場合、補充／回収処理を施していない自動取引装置の内で、媒体の残量がＦＵＬＬのものが存在するときには、その自動取引装置の稼働を停止したり、入金取引を停止したりしなければならない。このため、自動取引装置の稼働効率が悪くなり、営業店および顧客に迷惑をかける問題がある。また、週末等の休日の前には、自動取引装置内に多めに媒体を補充する必要があるが、補充開始枚数が自動取引装置の有高を越えて設定しないと補充動作しないため、行員等の係員が強制的に補充したり、カセット内紙幣除去を行わなければならず、係員に負担がかかる問題がある。

【０００５】

【課題を解決するための手段】そこで本発明は、媒体補充回収機が複数の自動取引装置に沿って移動し、所望の自動取引装置と接続して、自動取引装置との間で取引媒体の補充・回収を行う自動取引装置群管理システムにおいて、時計による現在日時を認識する日時認識手段と、所望の日時に更新させる補充開始枚数と回収開始枚数を予め記憶しておく記憶手段と、前記日時認識手段で認識した日時が前記記憶手段に記憶されている日時に一致するか否かを比較して判断する日時比較判断手段と、前記日時比較判断手段で一致していると判断された場合に、そのときの日時に対応する補充開始枚数と回収開始枚数

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に更新させる更新手段と、各自動取引装置の有高をそれぞれ認識する有高認識手段と、前記更新手段で更新された補充開始枚数と前記有高認識手段で認識した有高とをそれぞれ比較し、補充開始枚数の方よりも有高が大きいと判断した場合には補充を行わず、小さいと判断した場合には補充を行うものと判断する有高比較判断手段と、前記更新手段による更新前の補充回収枚数と更新後の補充開始枚数を比較して増加か減少方向かを判断し、増加した場合には各自動取引装置の媒体補充を有高の有無に係わらず行うものと判断し、その旨を強制補充情報として記憶しておく増減判断手段とを備えた自動取引装置群管理システムを提供する。

【０００６】なお、スケジュールされている日時が一致した時に補充優先情報をセットし回収条件が成立している自動取引装置に対しての回収動作を行わないようにし補充動作を優先するのが好ましい。また、スケジュールされている日時が一致した時に回収停止情報をセットし、回収開始枚数より多く補充し回収動作を停止させるのが好ましい。

【０００７】さらに、スケジュールされている日時が一致した時に回収遅延情報をセットし、補充要求が無くなったことを確認後に回収動作するのが好ましい。さらにまた、スケジュールされている日時が一致した時に優先順位コードで示される自動取引装置順に目標枚数を変化させるように算出し、それぞれ算出値迄に変化させるのが好ましい。

【０００８】

【発明の実施の形態】以下に、図面を参照して、本発明の実施の形態を説明する。

第１の実施の形態

図１は、外観斜視図である。なお、以下の説明では、自動取引装置をＡＴＭと呼ぶ。図に示すように、ＡＴＭ１(1) ～１(4) が並べて金融機関等の店舗に設置してある。これらＡＴＭ１(1) ～１(4) の後ろ側には、媒体補充回収機２がレール５，６を移動可能に設けてある。媒体補充回収機２には媒体挿入出口がＡＴＭ１側に設けてあり、各ＡＴＭ１の後部に設けられる媒体挿入出口と接続して媒体のやりとりができるようになっている。また、集中制御装置３が、操作部８、表示部９、プリンタ１０を接続して係員用のデスク上に設置されている。

【０００９】図２はシステムの制御ブロック図、図３は、補充／回収処理を実行するデータ列の概念図である。図２において、ＡＴＭ１(1) ，１(2) ，１(3) ，１(4) ，…には、装置内の各部および全体を制御するＡＴＭ制御部１－ａ、各種駆動部を駆動するドライバ回路１－ｂ、装置内の状態を検出するためにセンサ出力を読み取るセンサ回路１－ｃなどが設けられている。また、ＡＴＭ制御部１－ａは、図示せぬＣＰＵ、メモリ、インタフェース回路等で構成されている。

【００１０】媒体補充回収機２には、機内の各部および全体を制御する媒体補充回収機制御部２－ａ、各種駆動部を駆動するドライバ回路２－ｂ、機内の状態を検出するためにセンサ出力を読み取るセンサ回路２－ｃなどが設けられている。また、媒体補充回収機制御部２－ａは、図示せぬＣＰＵ、メモリ、インタフェース回路等で構成されている。

【００１１】集中制御部３には、操作部８、表示部９、プリンタ１０が接続されている。集中制御部３は、操作部８を操作してあるいは集中制御部３が自動的に、任意の媒体補充回収機２を任意のＡＴＭ１に位置決めし、ＡＴＭ１および媒体補充回収機２間での紙幣の補充や回収を行い、また、これら動作の結果や媒体補充回収機２が収納している有高を計数させた結果を表示部９に表示し、プリンタ１０に出力できるようになっている。集中制御部３の内部には、ＭＥＭ３ａ、ＣＰＵ３ｂ、インターフェース回路３ｃ、時計部３ｄが設けてある。

【００１２】前記ＭＥＭ３ａにはＡＴＭ１および媒体補充回収機２の媒体残量値、補充動作を開始させる補充開始枚数及び補充動作を終了させる補充終了値がデータとして記憶してあり、補充回収枚数及び補充終了値がデータとして記憶してある。補充開始枚数および補充終了値としては、それぞれ、例えば一取引で出金できる出金最高枚数値、装置立ち上げ時にＡＴＭ１に補充される補充規定量値が設定されている。そして、本発明では、図３に示すように、各ＡＴＭ１情報として、優先順位コード部、回収遅延情報、補充優先情報、強制補充情報が、各ＡＴＭ１情報として記憶してある。また、現時点で設定されている現補充開始枚数、現回収開始枚数は、後述するように、スケジュールポインタに基づいて、補充開始枚数、回収開始枚数が切り替えられるごとに書き換えられる。なお、ここでは、Ｘ月Ｙ日１５：００（金曜日）をスケジュールポインタａａａとし、このとき、補充回収枚数を５００枚、回収開始枚数を１０００枚を想定する。また、Ｘ月Ｚ日９：００（月曜日）をスケジュールポインタｂｂｂとし、このとき、補充回収枚数を３００枚、回収開始枚数を６００枚を想定する。したがって、補充／回収開始枚数が、ウイークデーとウイークエンドに区分けされていることになる。

【００１３】一方、前記ＣＰＵ３ｂは制御プログラムによって、ＡＴＭ１および媒体補充回収機２の制御メモリやＭＥＭ３ａの内容の更新などを行うとともに、後述するように、本発明では予め設定したスケジュールに基づいて補充／回収開始枚数を変化させる等の処理を行う。すなわち、本実施の形態では、ＣＰＵ３ｂが、時計部３ｄにより現在日時を認識し、ＭＥＭ３ａに記憶してあるスケジュールポインタと比較して、一致した場合には補充／回収開始枚数を更新するとともに、ＡＴＭ内の媒体の有高を認識し、更新された開始枚数と有高を比較し、有高が開始枚数より多いか少ないかを判断し、開始枚数より多い場合であっても補充終了値まで補充するように

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したものである。

【００１４】また、スケジューラで指定された日時が一致した場合に、補充／回収開始枚数を更新すると同時に、開始枚数が増加したと判断した場合にＡＴＭ情報の強制補充情報をセットするようにしたことで、補充／回収開始枚数を大きい値になっても、ＡＴＭの有高によっては、補充を開始しない値であっても、強制補充情報を判断して補充動作を行うようにしたものである。

【００１５】以下に、上記処理を具体的に説明する。なお、集中制御部３は、ＡＴＭ１(1)～(4) の順に、補充／回収処理を行うものとし、以下では、ＡＴＭ１(1) に対する処理を想定するが、他の場合も同様であるので説明を省略する。また、現補充開始枚数を３００枚、現回収開始枚数を６００枚として説明する。集中制御部３は、まず、ＡＴＭ１(1) の紙幣の有高を認識してＭＥＭ３ａに記憶している補充開始枚数と比較する。その補充開始枚数より少ない場合は、例えば、該ＡＴＭ１に回収開始枚数との中間値（例えば、回収開始枚数＝６００、補充開始枚数＝３００の場合、「中間値＝〔（６００－３００）／２〕＋３００＝４５０となる」）を目標にし媒体補充回収機２を接続して補充動作を行う。また、集中制御部３が、ＡＴＭ１の有高がＭＥＭ３ａに記憶している回収開始枚数を越えていた場合は、逆に該ＡＴＭ１から媒体補充回収機２を接続して回収動作を有高が中間値４５０になるように実施する。

【００１６】さらに、集中制御装置３は、時計部４から現在日時を読み出し、スケジュールポインタで示される日時と一致した場合は、ＭＥＭ３ａに記憶している補充及び回収枚数を更新し、ポインタを次のアドレスに更新する。ここで、ＭＥＭ３ａのａａａアドレスに記憶されているスケジュールと日時が一致した場合、集中制御部３は、ＭＥＭ３ａに記憶し保持している補充開始枚数を５００枚に回収開始枚数を１０００枚に更新する。なお、ＡＴＭ１(2) ～１(4) も上述の処理と同様に処理を行う。

【００１７】そして、集中制御部３は、Ｘ月Ｙ日１５：００以降は、補充開始枚数を５００枚、回収開始枚数を１０００枚とし、ＡＴＭ１(1) の有高と比較する値とすると同時に、補充開始枚数が大きくなったか否かを判断し、ＭＥＭ３ａのＡＴＭ１(1) ～(4) 情報に強制補充情報として”１”を接続されているＡＴＭ分セットする。

【００１８】ところで、集中制御部３は、ＡＴＭ１(1) から有高を読み、その値が例えば４８０枚であれば補充開始枚数５００と比較すると少ないと判断する。少ないと判断すると、補充を行う、補充終了後、ＡＴＭ１情報の強制補充情報を’０’にリセットする。次いで、集中制御部３は、ＡＴＭ１(2) の有高を読み、その値が例えば５３０枚のときに補充開始枚数５００と比較すると多いと判断するため、補充は不要であると判断する。この判断に次いで、集中制御部３は、ＡＴＭ１(2)情報の強制補充情報をみる。すると、ＭＥＭ３ａの強制補充情報が”１”にセットされているので補充必要と判断し、媒体補充回収機２を接続し、中間値７５０枚を目標に補充動作を実施する。補充終了でＡＴＭ２情報の強制補充情報を”０”にリセットする。以下同様に、ＡＴＭ１(3)，１(4) について処理を実施していく。

【００１９】これにより、補充／回収枚数が大きい値に変わった時であっても、補充開始枚数より多い有高のＡＴＭにも補充することが可能となる。このため、週末等の休日の前にも、行員等の係員が強制的に補充したり、カセット内紙幣除去を行わなくても、自動取引装置内に多めに媒体を補充することができるようになる。このため、係員にかかる負担を軽減することができる効果が得られる。

【００２０】上記第１の実施の形態によると、強制補充情報をスケジューラによる開始枚数更新時にセットするようにしたことにより、ＡＴＭの有高に左右されずに希望する値までの補充を全てのＡＴＭに実施することができ、媒体補充回収機の紙幣を早く少なくすることで、紙幣の追加が容易になり、長い連休の為の紙幣を早く群管理システムに確保するという効果が得られる。また、紙幣の回収を速やかに行うことができるため、自動取引装置がダウンすることが少なくなるため、自動取引装置の稼働効率が良くなり、営業店および顧客に迷惑をかけるようなこともなくなる効果が得られる。

【００２１】第２の実施の形態

なお、以下では、上記第１の実施の形態と相違する点を主に説明するものとする。図１～図３に基づいて説明した構成は、同様であるので説明を省略する。集中制御部３が、時計部４から現在日時を読み出しスケジュールポインタで示される日時と一致した場合、ＭＥＭ３ａに記憶している補充／回収開始枚数をスケジュールポインタで示される開始枚数に更新する。この時に開始枚数が現在迄の値に対して増加しているか減少しているか判断し減少していると判断した場合にＡＴＭ情報の補充優先に”１”を全てのＡＴＭ分にセットする。

【００２２】例えば、スケジュールポインタがｂｂｂを示していた時、日時が一致した場合、集中制御部３は、ＭＥＭ３ａに記憶している補充／回収開始枚数を３００、６００に更新するとともに、現在値であった５００、１０００と比較し減少していることを判断し、接続されているＡＴＭ分だけＡＴＭ情報の補充優先情報を”１”にセットする。通常この場合は前日までの連休で、媒体補充回収機２には紙幣が残っていない状態になっている。この為９：００以降に紙幣を媒体補充回収機２に補充する必要がある。

【００２３】集中制御部３は、媒体補充回収機２に紙幣が有ることを確認して補充可としているが、無い場合は紙幣の装填迄待つようになっている。集中制御部３は、ＡＴＭ１(1) の有高を読み、その値が例えば２００枚で

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あれば補充回収開始枚数３００より少ないことで、補充要と判断し、媒体補充回収機２に紙幣が有れば補充動作を行い、補充終了で補充優先情報を”０”にリセットする。紙幣が無ければ動作せず、ＡＴＭ２の有高を読みに行く。その値が例えば７００枚であれば、回収開始枚数６００より多いことで回収要と判断するがＡＴＭ情報の補充優先情報が”１”になっていることにより、回収動作より補充動作が優先状態になっているので回収要を不要と判断し回収動作を行わず次のＡＴＭ３の有高を読みに行く。以下同様にＡＴＭ１(2) ～１(4) 迄で行う。

【００２４】スケジューラで指定された日時が一致した場合に、補充／回収開始枚数を更新すると同時に開始枚数が減少したと判断したときに、ＡＴＭ情報の補充優先情報をセットするようにした。これにより、回収開始枚数が少なくなったことで、ＡＴＭの有高によっては、回収動作要となる値であっても、補充優先情報を判断して回収動作を行わないようにして補充動作で優先させることができる。

【００２５】上記第２の実施の形態によると、補充優先情報をスケジューラによる開始枚数更新時にセットするようにしたことにより、ＡＴＭの有高に左右されず、支払不可状態になっているＡＴＭ、不可状態になりそうなＡＴＭ等を優先して補充することで、取引不可のＡＴＭを早く復旧させるという効果が得られる。

第３の実施の形態

なお、以下では、上記第１の実施の形態と相違する点を主に説明するものとする。図１～図３に基づいて説明した構成は、同様であるので説明を省略する。

【００２６】まず、上記第１の実施の形態と同様に、補充／回収開始枚数が増加したと判断した場合、集中制御部３は、開始枚数を更新すると同時にＡＴＭ情報の回収停止情報に”１”をセットする。例えば、集中制御部３は、ＭＥＭ３ａに記憶している補充／回収枚数を５００、１０００に更新すると共に現在値３００、６００と比較し増加していることを判断し、接続されているＡＴＭ分だけＡＴＭ情報の回収停止情報を”１”にセットする。集中制御部３は、ＡＴＭ１０有高を読み、その値が例えば４８０枚であれば補充回収値５００と比較して少ないと判断し補充を開始する。ここで、この時の補充動作は、回収開始値１０００枚を越える値、例えば、１１００枚迄補充するようにする。

【００２７】また同様に、全ＡＴＭを１１００枚迄補充を実施する。再度、集中制御部３は、ＡＴＭ１の有高を読み、１１００枚であれば、回収開始値より多いと判断し、回収要とするが、ＡＴＭ情報の回収停止情報がセットされ、回収停止状態と判断し回収不要とする。回収停止情報は、その後、該ＡＴＭの取引を実施することにより補充開始枚数より有高が少なくなり補充動作を実施した時に”０”にリセットするようにしておく。

【００２８】したがって、スケジューラで指定された日時が一致した場合に、補充／回収開始枚数を更新すると同時に、開始枚数が増加したと判断した場合にＡＴＭ情報の回収停止情報をセットするようにしたことで、回収開始枚数より多く補充動作を行い、回収動作を停止させることができるようになる。上記第３の実施の形態によると、回収停止情報をスケジューラによる開始枚数更新時にセットするようにしたことにより、回収開始枚数より多めに補充することが可能となり、群管理システム全体での紙幣を多く確保し、紙幣切れ等の少なくするという効果が得られる。

【００２９】第４の実施の形態

なお、以下では、上記第１の実施の形態と相違する点を主に説明するものとする。図１～図３に基づいて説明した構成は、同様であるので説明を省略する。まず、上記第２の実施の形態と同様に、補充／回収開始枚数が減少したと判断した場合、集中制御部３は、開始枚数を更新すると同時にＡＴＭ情報の回収遅延情報に”１”をセットする。

【００３０】例えば、スケジュールポインタがｂｂｂを示していた時、日時が一致した場合、集中制御装置３は、ＭＥＭ３ａに記憶している補充／回収枚数を３００、６００に更新すると共に、現在値５００、１０００と比較し、減少していることを判断し接続されているＡＴＭ分だけＡＴＭ情報の回収遅延情報を”１”にリセットする。集中制御部３は、ＡＴＭ１の有高を読み、その値が例えば、２００枚であれば、補充開始値３００と比較して少ないと判断し補充を開始する。補充終了すると、ＡＴＭ１の情報の回収遅延情報を”０”にリセットする。次に、ＡＴＭ２の有高を読み、その値が例えば、７００枚であれば、回収開始値６００と比較して多いと判断し回収要とするが、ＡＴＭ情報の回収遅延情報がセットされて回収は遅らせる状態と判断し、回収不要とする。

【００３１】次に、ＡＴＭ３と同様にＡＴＭ８迄を処理していく。ＡＴＭ８の処理を終了した時点で、回収遅延情報がセットされているＡＴＭ番号を見つけ、回収動作を開始していく。以上のように、補充動作要のＡＴＭの補充が終了した時点で回収要のＡＴＭから回収動作を実施するようにした。したがって、スケジューラで指定された日時が一致した場合に、補充／回収開始枚数を更新すると同時に開始枚数が減少したと判断した場合にＡＴＭ情報の回収遅延情報をセットするようにしたことで、補充動作を優先させた後、すみやかに回収動作を開始させることができる。

【００３２】上記第４の実施の形態によると、回収遅延情報をスケジューラによる開始枚数更新時にセットするようにしたことにより、補充動作を優先して行った後、すぐ回収動作に入るようにし、ＡＴＭの有高を同じ程度にそろえることができ、回収紙幣を再利用できるという効果が得られる。

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第５の実施の形態

なお、以下では、上記第１の実施の形態と相違する点を主に説明するものとする。図１～図３に基づいて説明した構成は、同様であるので説明を省略する。

【００３３】スケジューラで開始枚数が変更した場合に、ＡＴＭの有高を中間値になるように補充または回収動作を行いそろえていくようになっている。ＡＴＭによっては、コーナーの入口に近い遠いにより取り引きが多い装置がある為、開始枚数が変更になった場合、回収開始枚数と補充開始枚数の間で多めに有高を設定できるように、優先順位コードを設定しておく。例えば、ＡＴＭ１が１番を示すコード１、ＡＴＭ２は２番を示すコード２のように設定しておく。

【００３４】集中制御部３が開始枚数の変更をスケジューラで検知した場合、優先順位コードが何番まで区別されているか見る。その値が例えば８番迄区別されていて開始枚数が５００、１０００に変更になった場合は、それぞれの順位毎の増加分を算出する。例えば、次のように算出する。

増加分＝（１０００－５００）÷２÷８≒３０

各ＡＴＭ毎の補充目標枚数を計算する。

【００３５】ＡＴＭ８＝７５０ＡＴＭ７＝７８０＝７５０＋３０

ＡＴＭ６＝８１０＝７５０＋３０×２

ＡＴＭ５＝８４０＝７５０＋３０×３

ＡＴＭ４＝８７０＝７５０＋３０×４

ＡＴＭ３＝９００＝７５０＋３０×５

ＡＴＭ２＝９３０＝７５０＋３０×６

ＡＴＭ１＝９６０＝７５０＋３０×７

以上の目標枚数になるように補充をそれぞれおこなっていく。

【００３６】したがって、スケジューラで指定された日時が一致した場合に補充／回収開始枚数を更新すると同時に、各ＡＴＭ情報の優先順位コード部を読み出し、その順位別に目標枚数を算出して補充又は回収動作を行えるようになる。上記第５の実施の形態によると、開始枚数更新時に優先順位コードにより目標枚数を個別に算出し、ＡＴＭの有高を取引量の多い順に多めにセットするようにしたことで、取引量の多いＡＴＭの紙幣切れを少なくするという効果が得られる。

【００３７】なお、上記各実施の形態における各制御は、集中制御部３のＭＥＭ３ａに格納しておくプログラムと、これに基づきＣＰＵ３ｂが順次実行するようにして提供する。

【００３８】

【発明の効果】以上説明したように本発明の自動取引装置群管理システムによると、強制補充情報をスケジューラによる開始枚数更新時にセットするようにしたことにより、ＡＴＭの有高に左右されずに希望する値までの補充を全てのＡＴＭに実施することができ、媒体補充回収機の紙幣を早く少なくすることで、紙幣の追加が容易になり、長い連休の為の紙幣を早く群管理システムに確保するという効果が得られる。また、紙幣の回収を速やかに行うことができるため、自動取引装置がダウンすることが少なくなるため、自動取引装置の稼働効率が良くなり、営業店および顧客に迷惑をかけるようなこともなくなる効果が得られる。

【図面の簡単な説明】

【図１】実施の形態を示す外観斜視図

【図２】システムの制御ブロック図

【図３】補充／回収処理を実行するデータ列の概念図

【符号の説明】

１　自動取引装置（ＡＴＭ）

２　媒体補充回収機

３　集中制御部

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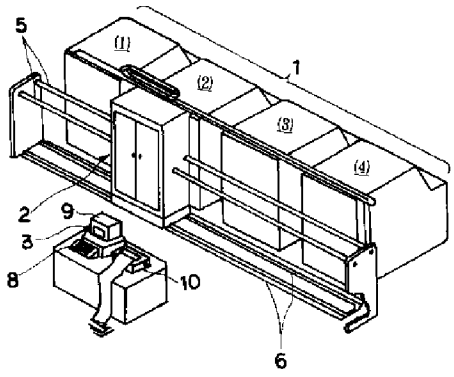
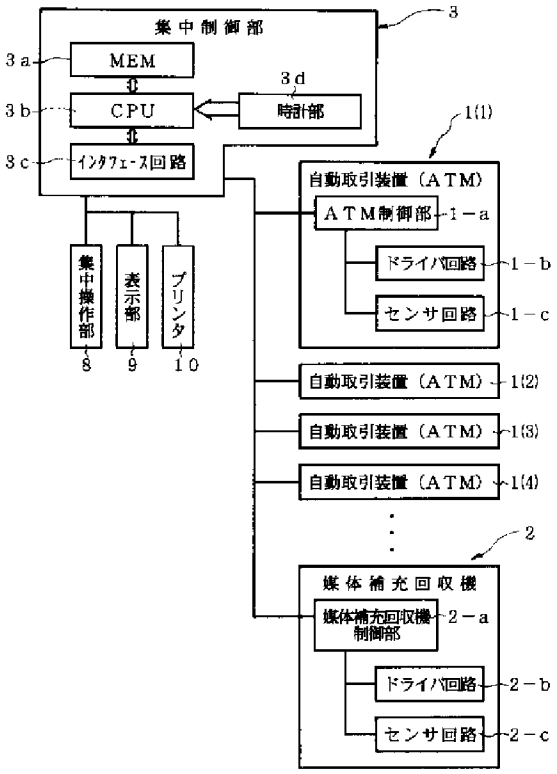
【図１】



１：ＡＴＭ
２：媒体補充回収機
３：集中制御部

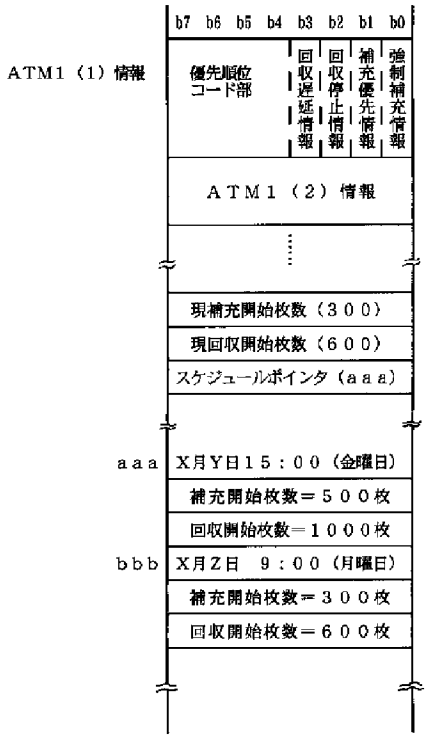
実施の形態を示す外観斜視図

【図２】



システムの制御ブロック図

【図３】



補充／回収処理を実行するデータ列の概念図

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PAT-NO: JP411073542A

DOCUMENT-IDENTIFIER: JP 11073542 A

TITLE: MANAGEMENT SYSTEM FOR AUTOMATIC TELLER MACHINE GROUP

PUBN-DATE: March 16, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
NAKAYA, MITSURU	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
OKI ELECTRIC IND CO LTD	N/A

APPL-NO: JP09231549

APPL-DATE: August 27, 1997

INT-CL (IPC): G07D009/00 , G06F019/00

ABSTRACT:

PROBLEM TO BE SOLVED: To easily add bills and to speedily secure bills for long holidays by comparing a replenishment start quantity after update with a replenishment recovery quantity before update and performing replenishment with media irrelevantly to the amount on hand in the case of an increase.

SOLUTION: A CPU 3b recognizes the current day and time by a timer part 3d and compares it with a schedule pointer stored in MEM 3a. When they match each other, the replenishment/recovery start quantity is updated and the amount of media left in an ATM is recognized and compared with the updated start quantity. It is judged whether the remaining amount is larger or smaller than the start quantity, replenishment is carried out up to a replenishment end value even if the remaining amount is larger than the start quantity. Further, when the day and time specified by the scheduler are reached, the

replenishment/recovery start quantity is updated and at the same time, when the start quantity is judged to have increased, forcible replenishment information of ATM information is set. Therefore, the replenishing operation is performed by judging forcible replenishment information even at a value where replenishment is not started according to the remaining amount of the ATM.

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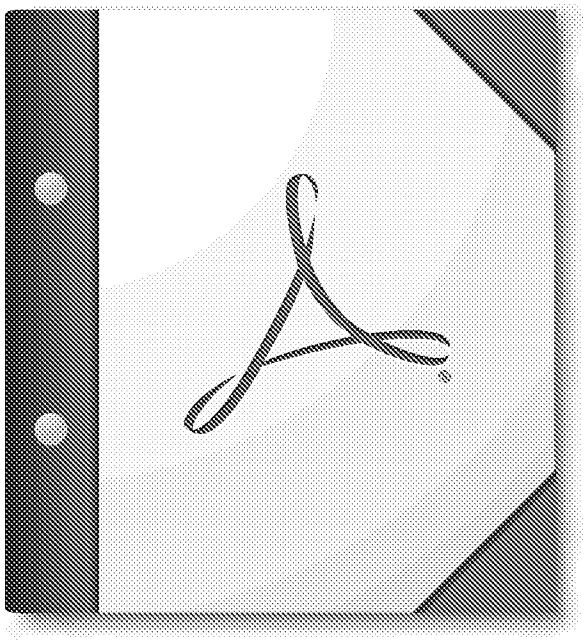

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1. (*Currently amended*) A method for mobile payment, the method comprising:

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 includes 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;

receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user ~~when needed~~;

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 an electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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; and

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displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

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. (*Currently amended*) The method as recited in claim 1, wherein said displaying the electronic invoice on the 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 e-purse~~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.

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7. (*Currently amended*) The method as recited in claim 6, wherein said sending the payment request from the mobile device to the 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 the total amount from the e-purse and generates the confirmation ~~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. (*Currently amended*) The method as recited in claim 9, wherein said displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount comprises ~~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.

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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;

embedding the data directly to a tag;

presenting the tag to a 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 is denied in the mobile device when the amount is more than a balance of an electronic purse (e-purse) maintained locally in the mobile device, the payment request is sent to a payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; and

receiving a message in the POS device directly from the payment gateway that the electronic invoice has been settled, wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount.

13. (*Previously amended*) The method as recited in claim 12, wherein the tag is presented near the mobile device to allow ~~the~~ a user of the mobile device 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.

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Apple EX1002 Page 784

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 tag, 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 the amount in the mobile device; 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 optionally 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, wherein the payment request is denied within the mobile device without sending the payment request to the payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device; the payment request is sent to the payment gateway to proceed with a payment according to the payment request when the amount is more than the balance of the e-purse.

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.

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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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Apple EX1002 Page 786

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26797 7590 02/03/2020
LogicPatents, LLC
21701 Stevens Creek Boulevard, #284
CUPERTINO, CA 95015

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Joe Zheng	(Typed or printed name)
/ joe zheng /	(Signature)
02/04/2020	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/728,349	06/02/2015	Xiangzhen Xie	RFID-085C1	5346

TITLE OF INVENTION: Method and apparatus for mobile payments

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	05/04/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HAYLES, ASHFORD S	3687	705-021000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Joe Zheng
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

RFCyber Corporation, Frement, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No.

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature / joe zheng / Date 02/04/2020

Typed or printed name Joe Zheng Registration No. 39,450

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
IPR2022-01239
Apple EX1002 Page 787

Electronic Patent Application Fee Transmittal

Application Number:	14728349
Filing Date:	02-Jun-2015
Title of Invention:	Method and apparatus for mobile payments
First Named Inventor/Applicant Name:	Xiangzhen Xie
Filer:	Joe Zheng
Attorney Docket Number:	RFID-085C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**500**

Electronic Acknowledgement Receipt

EFS ID:	38481727
Application Number:	14728349
International Application Number:	
Confirmation Number:	5346
Title of Invention:	Method and apparatus for mobile payments
First Named Inventor/Applicant Name:	Xiangzhen Xie
Customer Number:	26797
Filer:	Joe Zheng
Filer Authorized By:	
Attorney Docket Number:	RFID-085C1
Receipt Date:	04-FEB-2020
Filing Date:	02-JUN-2015
Time Stamp:	02:16:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	E202024317282427
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)

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	Issue Fee Payment (PTO-85B)	FeeTransmittal.pdf	322317 43820ceffc8d439120138c6d8f2ce2db178f6f64	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30213 98c731c1c0e3e0e8694a611f0c264383081b5d40	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	352530		

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/728,349	03/24/2020	10600046	RFID-085C1	5346

26797 7590 03/04/2020

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

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 438 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

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

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 USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Eastern District of Texas, Marshall Division on the following

☐ Trademarks or ☐ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:20-cv-00274	August 24, 2020	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	Google LLC and Google Payment Corp.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,118,218	February 21, 2012	RFCyber Corp.
2	8,448,855	May 28, 2013	RFCyber Corp.
3	9,189,787	November 17, 2015	RFCyber Corp.
4	9,240,009	January 19, 2016	RFCyber Corp.
5	10,600,046	March 24, 2020	RFCyber Corp.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Eastern District of Texas, Marshall Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:20-cv-00335	10/16/2020	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	SAMSUNG ELECTRONICS CO. LTD., and SAMSUNG ELECTRONICS AMERICA, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,118,218	2/21/2012	RFCyber Corp.
2	8,448,855	5/28/2013	RFCyber Corp.
3	9,189,787	11/17/2015	RFCyber Corp.
4	9,240,009	1/19/2016	RFCyber Corp.
5	10,600,046	3/24/2020	RFCyber Corp.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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AO 120 (Rev. 08/10)

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Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

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☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:20-cv-00336	10/16/2020	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	LG ELECTRONICS, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,118,218	2/21/2012	RFCyber Corp.
2	8,448,855	5/28/2013	RFCyber Corp.
3	9,189,787	11/17/2015	RFCyber Corp.
4	9,240,009	1/19/2016	RFCyber Corp.
5	10,600,046	3/24/2020	RFCyber Corp.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

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Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Eastern District of Texas, Marshall Division on the following

☐ Trademarks or ☐ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:20-cv-00274	August 24, 2020	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	Google LLC and Google Payment Corp.

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4	9,240,009	January 19, 2016	RFCyber Corp.
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DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

PTO/SB/43 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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.

DISCLAIMER IN PATENT UNDER 37 CFR 1.321(a)

Name of Patentee	Docket Number (Optional)
Xie, et al.	
Patent Number	**Date Patent Issued**
10,600,046	March 24, 2020

Title of Invention

Method and apparatus for mobile payments

I hereby disclaim the following complete claims in the above identified patent: 6 - 11, 15-16 and 19-20

The extent of my interest in said patent is (if assignee of record, state liber and page, or reel and frame, where assignment is recorded): Recorded at 053424/0463 by RFCyber Corp. with all interests

The fee for this disclaimer is set forth in 37 CFR 1.20(d).

- [ ] Patentee claims small entity status. See 37 CFR 1.27.
- [x] Small entity status has already been established in this case, and is still proper.
- [ ] A check in the amount of the fee is enclosed.
- [x] Payment by credit card. Form PTO-2038 is attached.
- [ ] The Director is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account No. _____

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Signed at Los Angeles, State of CA, this 23rd day of April 20 21

/ joe zheng /	39,450
Signature	Registration Number, if applicable
Joe Zheng	(408)891-9381
Typed or printed name of patentee/ attorney or agent of record	Telephone Number

21701 Stevens Creek Blvd., Unit 284
Address

Cupertino, CA 95015
City, State, Zip Code or Foreign Country as applicable

This collection of information is required by 37 CFR 1.321. 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.**

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

Electronic Patent Application Fee Transmittal

Application Number:	14728349
Filing Date:	02-Jun-2015
Title of Invention:	Method and apparatus for mobile payments
First Named Inventor/Applicant Name:	Xiangzhen Xie
Filer:	Joe Zheng
Attorney Docket Number:	RFID-085C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	170	170
		Total in USD ($)		**170**

Electronic Acknowledgement Receipt

EFS ID:	42543495
Application Number:	14728349
International Application Number:	
Confirmation Number:	5346
Title of Invention:	Method and apparatus for mobile payments
First Named Inventor/Applicant Name:	Xiangzhen Xie
Customer Number:	26797
Filer:	Joe Zheng
Filer Authorized By:	
Attorney Docket Number:	RFID-085C1
Receipt Date:	24-APR-2021
Filing Date:	02-JUN-2015
Time Stamp:	03:00:29
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$170
RAM confirmation Number	E20214N402030881
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 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Statutory disclaimers per MPEP 1490	ClaimDisclaimerAsFiled.pdf	1074025 41799f3b753c35e3e47a64b5d325041933d51d4b	no	1
Warnings:					
Information:					
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Trials@uspto.gov
571-272-7822

Paper 10
Date: July 23, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

RFCYBER CORP.,
Patent Owner.

PGR2021-00029
Patent 10,600,046 B2

Before PATRICK R. SCANLON, KEVIN W. CHERRY, and JAMES A. WORTH, *Administrative Patent Judges*.

SCANLON, *Administrative Patent Judge*.

DECISION
Granting Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

Google LLC ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting post-grant review of claims 1–17 of U.S. Patent No. 10,600,046 B2 (Ex. 1001, "the '046 patent"). RFCyber Corp. ("Patent Owner") filed a Preliminary Response (Paper 7, "Prelim. Resp."). With our authorization, Petitioner filed a Reply to Patent Owner's Preliminary Response (Paper 8, "Prelim. Reply"), and Patent Owner filed a Sur-reply (Paper 9, "Prelim. Sur-reply"). Patent Owner also filed a statutory disclaimer of claims 6–11, 15, 16, 19, and 20 of the '046 patent. Ex. 2002.

Under 35 U.S.C. § 324(a), a post-grant review may not be instituted "unless . . . the information presented in the petition . . . , if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable." After considering the Petition, Patent Owner's Preliminary Response, Petitioner's Reply, and Patent Owner's Sur-reply, as well as all supporting evidence, we determine that Petitioner has satisfied the burden under 35 U.S.C. § 324(a) to show that it is more likely than not that at least one of the challenged claims is unpatentable.

II. BACKGROUND

A. Related Matters

The parties identify the following proceedings as related matters involving the '046 patent: *RFCyber Corp. v. Google LLC*, Case No. 2:20-cv-00274 (E.D. Tex.); *RFCyber Corp. v. Samsung Electronics Co. Ltd.*, Case No. 2:20-cv-00335 (E.D. Tex.); and *RFCyber Corp. v. LG Electronics, Inc.*, Case No. 2:20-cv-00336 (E.D. Tex.). Pet. 1; Paper 5, 1. In addition, Petitioner indicates it has filed another petition for post-grant review challenging the '046 patent (i.e., PGR2021-00028). Pet. 2.

B. Real Parties in Interest

Petitioner identifies itself and Google Payment Corp. as the real parties in interest. Pet. 1. Petitioner indicates that Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc., but states that XXVI Holdings Inc. and Alphabet Inc. are not real parties in interest to this proceeding. *Id.* n.1. Patent Owner identifies itself as the real party in interest. Paper 5, 1.

C. The '046 Patent

The '046 patent relates to electronic commerce and, more particularly, to settling payments "using a mobile device reading electronic bills or invoices off from another mobile device in a near field communication range." Ex. 1001, 1:16–21. In general, the invention includes a first mobile device that generates an electronic invoice and can be part of a point of sale ("POS") machine. *Id.* at 1:56–58, 2:1–3. The first mobile device is embedded with a secure element and executes a software module. *Id.* at 1:57–58, 2:55–59. When the first mobile device is brought to a consumer using a second mobile device, the electronic invoice is read wirelessly into the second mobile device. *Id.* at 1:59–63. The second mobile device is a near field communication ("NFC") device "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." *Id.* at 2:28–30, 2:65–3:1.

The user is then able to verify the amount charged and authorize payment, after which the second 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." *Id.* at 1:63–67, 2:61–64. That is, the gateway receives the payment request from the second

mobile device, verifies the payment request, and sends a payment response to the user of the first mobile device after the payment request is processed. *Id.* at 3:17–31.

Figure 1A of the '046 patent is reproduced below.

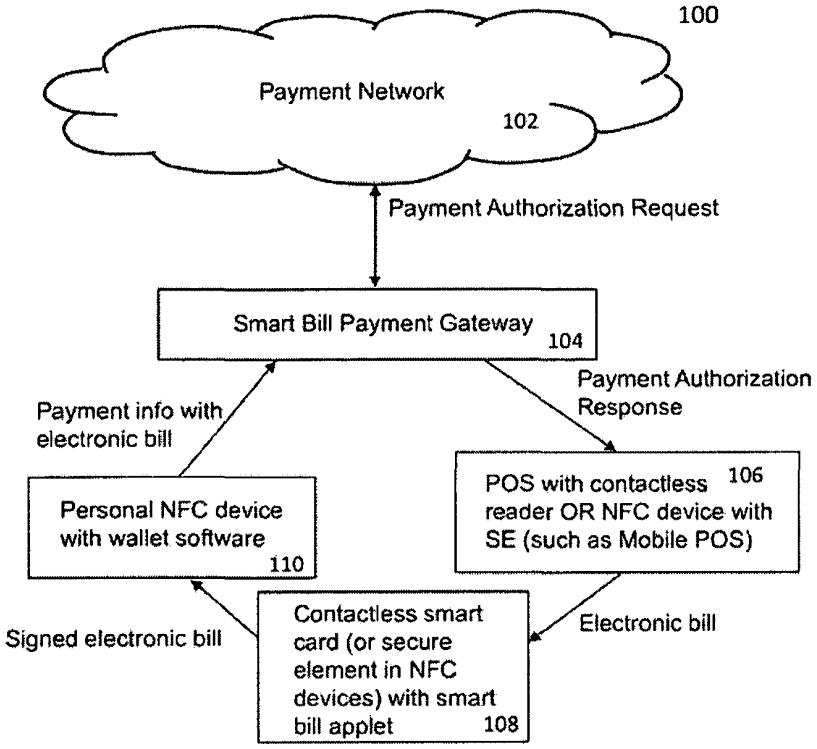

FIG. 1A

Fig. 1A shows system configuration 100, which is one embodiment of the invention. Ex. 1001, 5:29–30. System configuration 100 includes network 102, which provides services by a financial institution to electronically transfer money or settle payments. *Id.* at 5:30–34. Payment gateway 104 comprises one or more servers configured to provide an application that may be installed on a user's mobile device. *Id.* at 5:52–56. The application allows a user to authorize payment of an electronic invoice. *Id.* at 5:60–62.

System configuration 100 also includes POS device 106 at a point of sale. *Id.* at 6:6–7. POS device 106 generates an electronic bill or invoice that is loaded onto portable device 108, such as a contactless card or an NFC device, which contacts a user's NFC device. *Id.* at 6:10–14. In 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." *Id.* at 6:15–18. This device is brought to the customer for authorization and payment. *Id.* at 6:22–23. Alternatively, "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." *Id.* at 6:23–26. In this case, "[t]he stationary device is used by the casher 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." *Id.* at 6:26–30.

Device 110 is a personal NFC device with wallet software. *Id.* at Fig. 1A. Specifically, device 110 "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." *Id.* at 8:25–28.

To settle a payment, the merchant, such as a waiter or cashier at a restaurant, causes POS device 106 to generate an electronic bill that is transported to a contactless card. *Id.* at 7:19–22. The contactless card is then presented to the customer who uses his or her mobile device to read the contactless card. *Id.* at 7:24–26. Upon detecting the contactless card in the near field, the application on the user's mobile device reads data pertaining to the electronic bill from the contactless card and subsequently displays the electronic bill on a screen of the mobile device for the customer to verify. *Id.* at 7:28–33. The customer then chooses a method for settling the bill,

such as an e-purse already created in the mobile device, cash, traditional credit or debit card, and electronic transfer. *Id.* at 7:46–53.

When selecting to pay the bill via the e-purse, the customer enters the amount to be paid against the bill; the customer may enter more than what is being charged in the bill as a tip or gratuity. *Id.* at 7:57–61. Once the customer has entered the total amount to be paid, the application on the user's mobile device sends a payment request to gateway or server 104 for processing. *Id.* at 7:57–61. "[T]he server 104 receives the payment request authorized by the consumer and proceeds with the payment request in conjunction with the payment network 102," and "[o]nce the transaction is complete or denied, the server 104 sends a notice to the merchant." *Id.* at 8:17–24.

Figure 6A of the '046 patent is reproduced below.

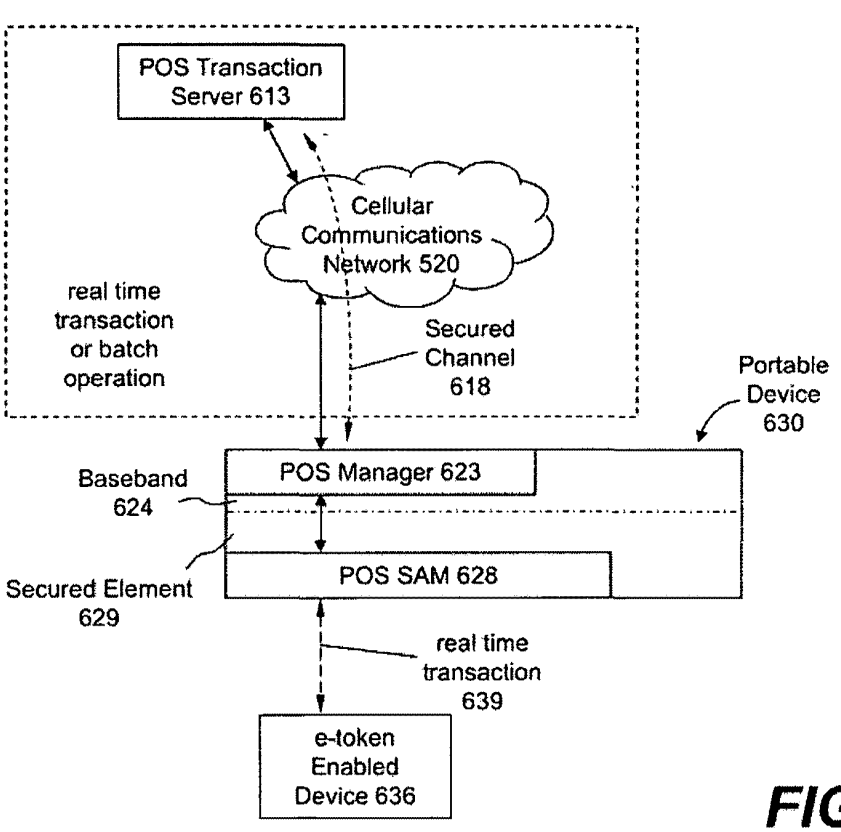

FIG. 6A

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." Ex. 1001, 4:32–35. Specifically, exemplary architecture 600 includes portable device 630 that includes baseband 624 and secured element 629. *Id.* at 18:65–19:3. POS manager 623 is installed in baseband 623, and POS SAM[1] 628 is installed in secured element 629 to enable portable device 630 to act as a mobile POS. *Id.* at 19:3–6. This configuration allows real time transaction 639 to be conducted between portable device 630 and e-token enabled device 636, which can be a single functional card or a portable device enabled with an e-purse. *Id.* at 19:7–10.

Real time transaction 639 can be conducted without the portable device connecting to POS transaction server 613, in which case records of accumulated offline transactions are uploaded via secured channel 618 to POS transaction server 613 for settlement. *Id.* at 19:14–16, 9:23–27. However, portable device 630 may connect to POS transaction servers 613 over cellular network 520 in certain instances. *Id.* at 19:16–18.

D. Challenged Claims

Petitioner challenges claims 1–17, of which claims 1 and 12 are independent. Claim 1, reproduced below, is illustrative.

> 1. 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, the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device;

[1] A "POS SAM" refers to a mobile POS application applet. Ex. 1001, 18:13–14. Although the acronym "SAM" is not defined in the '046 patent, it appears to refer to a Security Authentication Module. *See* Ex. 1030, 16.

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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;

receiving an entry by the mobile device, the entry including the amount for the invoice and optionally 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 an electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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; and

displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

Ex. 1001, 25:20–63.

E. Asserted Grounds

Petitioner contends that the challenged claims are unpatentable based on the following grounds:

Claims Challenged	35 U.S.C. §	Reference/Basis
1–5, 12–14	103	Moshal,[2] Jogu,[3] Dessert[4]
6, 15, 16	103	Moshal, Jogu, Dessert, Ohlhausen[5]
7–11, 17	103	Moshal, Jogu, Dessert, Ohlhausen, Aabye[6]

Pet. 23. Petitioner relies on the Declaration of Stephen Gray (Ex. 1003) to support its challenges.

Following Patent Owner's statutory disclaimer, claims 1–5, 12–14, and 17 are the only remaining claims in the '046 patent. Ground 2, which does not challenge any of claims 1–5, 12–14, and 17, is moot. With respect to the remaining grounds, we limit our consideration to whether Petitioner has satisfied its burden to show that it is more likely than not that at least one of claims 1–5, 12–14, and 17 is unpatentable.

III. ANALYSIS

A. Eligibility for Post-Grant Review

As a threshold matter, we must determine whether the '046 patent is eligible for post-grant review. The post-grant review provisions set forth in section 6(d) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (September 16, 2011) ("AIA"), apply only to patents subject to

[2] US 2014/0310117 A1, published Oct. 16, 2014 (Ex. 1005).
[3] JP 4901053 B2, published Mar. 21, 2012 (certified English translation) (Ex. 1006).
[4] US 9,027,827 B2, issued May 12, 2015 (Ex. 1007).
[5] US 2014/0365371 A1, published Dec. 11, 2014 (Ex. 1008).
[6] US 2010/0211507 A1, published Aug. 19, 2010 (Ex. 1009).

the first-inventor-to-file provisions of the AIA. *See* AIA § 6(f)(2)(A) (stating that the provisions of Section 6(d) "shall apply only to patents described in section 3(n)(1)"). Patents subject to the first-inventor-to-file provisions are those that issue from applications "that contain[] or contained at any time . . . a claim to a claimed invention that has an effective filing date as defined in section 100(i) of title 35, United States Code, that is on or after" March 16, 2013. AIA § 3(n)(1).

Our rules require that each petitioner for post-grant review certify that the challenged patent is available for post-grant review. 37 C.F.R. § 42.204(a) (2019) ("The petitioner must certify that the patent for which review is sought is available for post-grant review . . . ."). In addition, "[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be)." 35 U.S.C. § 321(c). Petitioner has the burden of demonstrating eligibility for post-grant review. *See Mylan Pharms. Inc. v. Yeda Res. & Dev. Co.*, PGR2016-00010, Paper 9 at 10 (PTAB Aug. 15, 2016).

The '046 patent issued from U.S. Application No. 14/728,349, filed on June 2, 2015 ("the '349 application"). Ex. 1001, codes (21), (22). The '349 application was filed as a continuation of U.S. Application No. 13/853,937, filed on March 29, 2013 ("the '937 application") and now U.S. Patent No. 9,047,601 B2. *Id.* code (63). The '937 application was a continuation-in-part of U.S. Application No. 13/350,832, filed on January 16, 2012 ("the '832 application") and now abandoned. *Id.* The '832 application was a continuation-in-part of U.S. Application No. 11/534,653, filed on September 24, 2006 ("the '653 application") and now U.S. Patent No. 8,118,218 B2. *Id.* The '046 patent also lists U.S. Provisional

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Application No. 61/618,802, filed on April 1, 2012 ("the '802 provisional application").[7,8] *Id.* code (60).

Petitioner contends that the '046 patent is eligible for post-grant review because it contains at least one claim with an effective filing date after March 16, 2013. Pet. 6. According to Petitioner, the challenged claims "contain limitations that were either (i) not disclosed in the pre-AIA patent applications due to a broken priority chain or (ii) not disclosed in *any* application due to unsupported amendments made during prosecution of the '046 Patent." *Id.* at 7. In particular, Petitioner argues that claims 1, 6, and 15 recite subject matter that is supported only by description first filed with the '937 application after March 16, 2013. *Id.* at 9.

1. "displaying a denial"

Petitioner argues that the limitation "displaying a denial" of claim 1 has an effective filing date after March 16, 2013. Pet. 9–13. The full limitation is "displaying a denial of the payment request when the balance [in the e-purse] is less than the total amount." Ex. 1001, 25:52–53. Petitioner argues that the '653 application lacks any disclosure of a display step. Pet. 10 (citing Ex. 1028; Ex. 1003 ¶¶ 55–56). Petitioner also argues that the '832 application "generally describes comparing the balance of an e-token with a purchase amount in association with Figures 6C and 6D, but it fails to describe displaying a denial within the mobile device when the balance is insufficient." *Id.* (citing Ex. 1029 ¶¶ 173–177, Figs. 6C, 6D;

[7] The specification of the '046 patent does not appear to contain a specific reference to the '802 provisional application pursuant to 35 U.S.C. § 119(e)(1). Ex. 1001.

[8] Petitioner refers to the '832 application, the '653 application, and the '802 provisional application collectively as "the pre-AIA applications." Pet. 7.

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Ex. 1003 ¶ 56). More specifically, Petitioner argues that "in the embodiment of Figure 6C, . . . when the balance is insufficient at step 656, the process displays an option to 'top-up' the balance, but does not display a denial." *Id.* (citing Ex. 1029 ¶ 174, Fig. 6C). Petitioner also argues that the process of Figure 6D "simply ends after a 'return message' denying the purchase is received by POS manager 623," and "[n]o denial is displayed in the mobile device." *Id.* at 11 (citing Ex. 1029 ¶ 177, Fig. 6D).

In response, Patent Owner argues that Figures 6C and 6D from the '802 provisional application (which was filed prior to March 13, 2013) support the "displaying a denial" step of claim 1.[9] Prelim. Resp. 12–17 (citing Ex. 1030 ¶¶ 136, 139, 174, 177, Figs. 6C, 6D). First, Patent Owner contends that Figure 6C illustrates a process that verifies whether there is enough balance in an e-token to cover the amount to be paid at step 656. *Id.* at 13 (citing Ex. 1030 ¶ 136, Fig. 6C). Patent Owner adds that if there is an insufficient balance, the process offers the holder[10] the option to "top-up" the e-token at step 657. *Id.* (citing Ex. 1030 ¶ 136, Fig. 6C).

According to Patent Owner, one of ordinary skill in the art would recognize that offering a top-up option is "displaying a denial" because "the process only offers the top-up option if the balance is too low to cover the amount and will not proceed absent the top-up," and "[o]ne of skill in the art would understand that the top-up option is thus a denial, because the transaction will not proceed without the top-up." *Id.* at 14. Patent Owner

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[9] Patent Owner asserts that these disclosures from the '802 provisional application are also found in the '832 application and the '046 patent. Prelim. Resp. 14 (citing Ex. 1029 ¶ 174, Fig. 6C; Ex. 1001, 20:4–51, Fig. 6C), 16 (citing Ex. 1029 ¶ 177, Fig. 6D; Ex. 1001, 21:15–22:2, Fig. 6D).

[10] The "holder" refers to the holder of an e-token enabled device, i.e., a person desiring to make a purchase. Ex. 1030 ¶ 136.

also argues that "the option must necessarily be displayed because the holder must provide a selection (yes or no)" and Petitioner admits that the option is displayed. *Id.* (citing Pet. 18).

Second, Patent Owner contends that, although Figure 6D does not depict the top-up offer, the written description of the process of Figure 6D states that a top-up operation may be performed when there is not enough balance in the e-token enables device. *Id.* at 15–16 (citing Ex. 1030 ¶ 139, Fig. 6D).

We are not persuaded by Patent Owner's arguments. Both the '802 provisional application and the '832 application disclose process 650 in which, at step 656 of Figure 6C, "it is determined whether there is enough balance in the retrieved e-token to cover the cost of the current transaction." Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. If the balance is insufficient, the process "may optionally offer the holder to top-up (i.e., load, fund, finance) the e-token at [step] 657." Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. The process ends only if the top-up option is not taken; if the top-up option is taken, then the process proceeds with the transaction. Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. Process 670, which is depicted in Figure 6D in both the '802 provisional application and the'832 application, describes that "when there is not enough balance in the e-token enabled device, a top-up or funding operation may be performed." Ex. 1030 ¶ 139; Ex. 1029 ¶ 177.

Based on these disclosures, the top-up option is not equivalent to "a denial of the payment request" because the payment request is not denied at that point in the process. Instead, the payment request is accepted and the transaction is completed if the customer elects to top-up the e-token. The purpose of the top-up option is to provide the customer with an opportunity to go forward with the payment request despite an insufficient balance.

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Thus, even assuming that Patent Owner is correct that the top-up option must be displayed, we are not persuaded that "a denial of the payment request" is displayed when the balance is insufficient. The payment request is effectively denied (i.e., the process is terminated) *only* if the customer does not elect to top-up the e-token, which necessarily occurs *after* the top-up option is displayed. Displaying the top-up option cannot be equivalent to displaying a denial because any denial results from an event that occurs after the top-up option is displayed.

For the above reasons, we are not persuaded that the "displaying a denial" limitation of claim 1 finds written description support in any of the pre-AIA applications. Although contending that the limitation is supported by the '802 provisional application, Patent Owner does not dispute explicitly Petitioner's assertion that the "displaying a denial" step of claim 1 is supported by description that was first filed with the '937 application after March 16, 2013. *See* Pet. 10. Thus, we agree with Petitioner that claim 1 has an effective filing date after March 16, 2013. Accordingly, claim 1 renders the '046 patent eligible for post-grant review under AIA § 6(f)(2)(A).

2. "account and bank information of the registered merchant"

Petitioner argues that the limitation "account and bank information of the registered merchant" of claims 6 and 15 has an effective filing date after March 16, 2013. Pet. 13–15. In response, Patent Owner argues that claims 6 and 15 have been disclaimed, and disclaimed claims cannot be used to confer PGR eligibility. Prelim. Resp. 18–22; Prelim. Sur-reply 6–7. Patent Owner also argues that this limitation is supported in the '802 provisional application. Prelim. Resp. 22–23. Petitioner argues that disclaimed claims can be used to confer PGR eligibility. Prelim. Reply 5–7. We decline to

reach this issue in view of our determination that claim 1 has an effective filing date after March 16, 2013 and thus renders the '046 patent eligible for post-grant review.

3. Other Limitations

Petitioner asserts that certain limitations added to claim 12 during prosecution of the '046 patent lack written description support in any of the applications, pre-AIA or otherwise and, thus, create PGR eligibility. Pet. 16–20. Patent Owner disputes these assertions. Prelim. Resp. 23–33. We decline to address these other limitations for purposes of PGR eligibility in view of our determination that claim 1 has an effective filing date after March 16, 2013 and thus renders the '046 patent eligible for post-grant review. *See* AIA § 3(n)(1) (the first-inventor-to-file provisions apply to any patent that issues from an application that contains or contained at any time *a claim* to a claimed invention that has an effective filing date on or after March 16, 2013).

4. Conclusion

For the above reasons, we determine that at least claim 1 has an effective filing date after March 16, 2013. We further determine that Petitioner filed the Petition within the 9-month statutory period for requesting post-grant review in accordance with 35 U.S.C. § 321(c). The '046 patent issued on March 24, 2020 (*see* Ex. 1001, code (45)), and the Petition in this proceeding was accorded a filing date of December 23, 2020 (*see* Paper 6). Thus, the Petition was filed less than 9 months after the date of issuance of the '046 patent.

Accordingly, we determine that the '046 patent is eligible for post-grant review.

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B. Discretion under 35 U.S.C. § 324(a)

Patent Owner urges the Board to exercise discretion to deny institution of post-grant review under 35 U.S.C. § 324(a) "because institution of this proceeding would not be consistent with the objective of the AIA to 'provide an effective and efficient alternative to District Court litigation,'" in view of the ongoing parallel proceeding between the parties in the U.S. District Court for the Eastern District of Texas. Prelim. Resp. 34–36 (citing *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential)); *see also id.* at 36–41; Prelim. Sur-reply 1–5. Petitioner disagrees. Prelim. Reply 1–5.

Section 324(a) of 35 U.S.C. states that

> [t]he Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

The portion of the statute reading "[t]he Director may not authorize . . . unless" mirrors the language of 35 U.S.C. § 314(a), which concerns *inter partes* review. This language of sections 314(a) and 324(a) provides the Director with discretion to deny institution of a petition. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); Consolidated Trial Practice Guide November 2019 ("TPG")[11] at 55.

In exercising the Director's discretion under 35 U.S.C. §§ 314(a) and 324(a), the Board may consider "events in other proceedings related to the same patent, either at the Office, in district courts, or the ITC." TPG at 58.

[11] *Available at* https://www.uspto.gov/TrialPracticeGuideConsolidated.

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The Board's precedential *NHK Spring* decision explains that the Board may consider the advanced state of a related district court proceeding, among other considerations, as a "factor that weighs in favor of denying the Petition under § 314(a)." *NHK Spring*, Paper 8 at 20.

Additionally, the Board's precedential *Fintiv* Order identifies several factors to be considered when analyzing issues related to the Director's discretion to deny institution, with the goal of balancing efficiency, fairness, and patent quality. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv* Order"). These factors include: 1) whether a stay exists or is likely to be granted if a proceeding is instituted; 2) proximity of the court's trial date to the Board's projected statutory deadline; 3) investment in the parallel proceeding by the court and parties; 4) overlap between issues raised in the petition and in the parallel proceeding; 5) whether the petitioner and the defendant in the parallel proceeding are the same party; and 6) other circumstances and considerations that impact the Board's exercise of discretion, including the merits. *Id.*

We recognize that *NHK Spring* and the *Fintiv* Order apply the Director's discretion pursuant to 35 U.S.C. § 314(a), and do not specifically extend their application to 35 U.S.C. § 324(a), which is the relevant statute that applies to this PGR proceeding. As noted above, however, the pertinent statutory language is the same in both section 314(a) and section 324(a). Moreover, the overall policy justifications associated with the exercise of discretion—inefficiency, duplication of effort, and the risk of inconsistent results—apply to post-grant review proceedings under 35 U.S.C. § 324(a). Accordingly, we weigh the factors set forth in the *Fintiv* Order to the facts here. *See, e.g.*, *Teva Pharms. USA, Inc. v. Corcept Therapeutics, Inc.*,

PGR2019-00048, Paper 19 at 11 (Nov. 20, 2019) (analyzing *NHK Spring* and instituting trial); *Supercell Oy v. GREE, Inc.*, PGR2020-00034, Paper 13 (Sept. 3, 2020) (analyzing the *Fintiv* Order and denying institution).

We, however, recognize that there are differences between *inter partes* review and post-grant review that, when relevant to specific *Fintiv* factors, must be considered. Those differences include the fact that the window for filing a petition for post-grant review is open only for nine months from the date of issuance. *See* 35 U.S.C. § 321(c). Furthermore, "[t]he intent of the post-grant review process is to enable early challenges to patents, while still protecting the rights of inventors and patent owners against new patent challenges unbounded in time and scope." H.R. Rep. No. 112-98, pt. 1, 47–48 (2011).

In determining whether to exercise discretion to deny institution under 35 U.S.C. § 324(a), we consider each of the factors set forth in the precedential *Fintiv* Order.

Factor 1: whether the court granted a stay or evidence exists that one may be granted if this proceeding is instituted

Patent Owner asserts that there is no stay in the parallel district court proceeding, nor has Petitioner sought a stay. Prelim. Resp. 40. Patent Owner also asserts that "the long-standing practice in the Eastern District of Texas is not to stay unless all asserted claims in the case are subject to instituted proceedings in the PTAB." *Id.* (citing *AGIS Software Dev. LLC v. Google LLC*, No. 2:2019-cv-00361-JRG, 2021 WL 465424, at *2 (E.D. Tex. Feb. 9, 2021)); *see also* Prelim. Sur-reply 2. According to Patent Owner, a stay is unlikely to issue because there is no instituted reviews on any of the other patents asserted in the parallel district court proceeding. Prelim. Resp. 40; Prelim. Sur-reply 2.

Petitioner argues that a stay would be appropriate in view of the early stage of the parallel district court proceeding. Pet. 26. Petitioner also argues that, because a motion to stay has not yet been filed in the parallel district court proceeding, the Board should not infer the outcome of a motion to stay. *Id.* (citing *Intel Corp. v. VLSI Tech. LLC*, IPR2020-00158, Paper 16 at 7 (PTAB May 20, 2020); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) ("*Fintiv*"); Prelim. Reply 1 (citing *DISH Network L.L.C. v. Broadband iTV, Inc.*, IPR2020-01359, Paper 15 at 11 (PTAB Feb. 12, 2021)).

In view of the above, we decline to speculate as to the likelihood of a stay of the district court proceeding. Accordingly, this factor is neutral.

Factor 2: proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

Patent Owner states that a jury trial is scheduled to begin in the parallel proceeding on March 21, 2022, which is approximately four months before a final written decision would issue in this proceeding. Prelim. Sur-reply 1. Thus, according to Patent Owner, this factor weighs strongly in favor of denial. *Id.*

Petitioner argues that "the short time period between the trial and the issuance of the final written decision does not warrant a discretionary denial." Prelim. Reply 1–2. Petitioner cites *Hulu, LLC v. SITO Mobile R&D IP*, IPR2021-00206, Paper 11 at 10–11 (PTAB May 10, 2021) for determining that a trial date three months before final written decision weighs only "marginally in favor of" discretionary denial. *Id.* at 2. In *Hulu*, however, the Board determined that the district court trial was scheduled to begin *less* than three months before the projected deadline for a final written decision. *Hulu*, Paper 11 at 11. Here, the approximately four months

between the scheduled trial date and the projected deadline for a final written decision is a slightly more significant period.

Overall, we determine that this factor weighs in favor of invoking our discretion to deny institution.

Factor 3: investment in the parallel proceeding by the court and the parties

Factor 3 relates to "the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision." *Fintiv* Order, Paper 11 at 9. Petitioner argues that the parallel proceeding is in its early stages, and the investment in the proceeding has been relatively minimal. Pet. 28. More specifically, Petitioner argues that claim construction, Petitioner's final invalidity contentions, Petitioner's expert invalidity report, and Patent Owner's expert validity report will not have occurred at the time of this Decision. Prelim. Reply 3 (citing Ex. 1046, 3; Ex. 1049, 58–59). Petitioner also argues that invalidity discovery does not close until December 6, 2021, and dispositive motions on the invalidity of the '046 patent have not been filed, such that there will be no district court orders related to the validity of the '046 patent at the time of this Decision. *Id.* (citing Ex. 1046, 3).

Patent Owner argues that the parties will "complete all claim construction proceedings, fact and expert discovery, and dispositive motions, and trial itself, all long before a Final Written Decision." Prelim. Resp. 39. This argument, however, does not address the investment by the court and the parties *at the time of the institution decision*, as required by the *Fintiv* Order. In its Sur-reply, Patent Owner argues it served infringement contentions on May 12, 2021, and Petitioner will serve its invalidity contentions on July 14, 2021. Prelim. Sur-reply 4. Patent Owner also

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argues that "[c]laim construction briefs will be filed with the Court in September and October, with a claim construction hearing on October 28, 2021," such that "substantial resources will have been expended by the parties by the time of the institution decision and shortly after." *Id.* at 4. The claim construction briefing, however, will occur a significant amount of time after this Decision, with the claim construction hearing occurring more than three months after this Decision.

In view of the above, we determine that the investment in the parallel proceeding at this time is minimal. Accordingly, this factor weighs strongly against exercising our discretion to deny institution.

Factor 4: overlap between issues raised in the petition and in the parallel proceeding

At the time the parties completed the additional briefing on our discretion to deny institution under 35 U.S.C. § 324(a), Petitioner's preliminary invalidity contentions had not been filed. As such, the parties' briefs do not address any overlap between Petitioner's preliminary invalidity contentions and the grounds asserted in the Petition, and, consequently, we do not have the benefit of the parties' positions on how the preliminary invalidity contentions may inform this factor. Although the preliminary invalidity contentions are scheduled to be served on July 14, 2021, we have not had an adequate opportunity to assess the invalidity contentions fully in view of the statutory deadline for this Decision.[12] Accordingly, on the record before us, we are unable to determine that there is any overlap between the issues raised in the Petition and in the parallel proceeding.

[12] We also note that these contentions are not Petitioner's *final* invalidity contentions, which are not scheduled to be served until after this Decision. *See* Ex. 1046, 3.

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Patent Owner argues that Petitioner "presented its strongest § 103 prior art in its Petition" "due to the 'breadth of estoppel under 35 U.S.C. § 325(e)(2),'" and concludes that Petitioner's "arguments, and evidence, in its Petition will thus necessarily overlap with those presented to the District Court." Prelim. Resp. 37 (citing Paper 3, 3–4). We are not persuaded by this argument, which we find speculative.

Patent Owner also argues that it has asserted claims 1, 2, and 5 in the parallel proceeding, and Petitioner has challenged those claims in this proceeding. Prelim. Sur-reply 3 (citing Pet. 23). Thus, Patent Owner contends that the same claims are at issue in both proceedings. *Id.* This contention is not entirely accurate, however, because the Petition also challenges claims 3, 4, 12–14, and 17, which Patent Owner does not identify as being asserted in the parallel proceeding.

In addition, Petitioner states "if the Board institutes trial, Petitioner stipulates that it will not assert in the district court litigation invalidity grounds relying on the prior art contained in the obviousness grounds raised in the Petition, for the claims on which trial is instituted, while trial is instituted." Prelim. Reply 4. In response, Patent Owner argues that Petitioner's proposed stipulation would not prevent Petitioner from raising substantially similar prior art in the parallel proceeding, nor would it subject Petitioner to the full estoppel provisions of 35 U.S.C. § 325(e)(2). Prelim. Sur-reply 4. Patent Owner also points out that the stipulation is limited to "the claims on which trial is instituted, while trial is instituted." *Id.* (citing Prelim. Reply 4).

We agree with Patent Owner that Petitioner's stipulation is not exceptionally strong. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential) (finding that

"a stipulation that, if IPR is instituted, they will not pursue in the District Court Litigation any ground raised or that could have been reasonably raised in an IPR," weighed strongly in favor of not exercising discretion to deny institution). In any case, Petitioner's stipulation allays at least some concerns regarding overlapping issues. *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 11–12 (PTAB June 16, 2020) (informative) (A stipulation that "if the IPR is instituted, Petitioner will not pursue the same grounds in the district court litigation" "mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions.").

In view of the above, we find that the record lacks specific, non-speculative evidence to suggest that there is any overlap between the issues raised in the Petition and in the parallel proceeding. And to the extent that Petitioner's preliminary invalidity contentions suggest overlap, Petitioner's stipulation mitigates to some degree any concerns raised by such overlap. Accordingly, this factor weighs against exercising our discretion to deny institution.

Factor 5: whether Petitioner and the defendant in the parallel proceeding are the same party

If Petitioner was unrelated to the defendant in the parallel proceeding, that might weigh against discretionary denial. *See Fintiv*, Paper 11 at 13–14. Here, however, Petitioner is the defendant in the parallel proceeding. This fact could weigh either in favor of, or against, exercising discretion to deny institution, depending on which tribunal was likely to address the challenged patent first. Because trial in the parallel proceeding is scheduled to occur

before the issuance of a Final Written Decision in this proceeding, this factor weighs in favor of exercising discretion to deny institution.

Factor 6: other circumstances that impact the Board's exercise of discretion, including the merits

The factors considered in the exercise of discretion are part of a balanced assessment of all the relevant circumstances in the case, including the merits. *Fintiv* Order, Paper 11 at 14. For example, if the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution. *Id.* at 14–15. By contrast, if the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present. *Id.* at 15. Here, Patent Owner argues that the asserted grounds are not strong and should be denied on the merits. Prelim. Resp. 41; Prelim. Sur-reply 5. Petitioner, on the other hand, argues that the merits of its arguments are strong. Pet. 29; Prelim. Reply 5.

Upon our initial review of the merits based on a preliminary record, we determine that Petitioner's challenges based on § 103 have merit. Accordingly, this factor weighs against exercising discretion to deny institution.

Conclusion

We consider the above factors and take "a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Fintiv* Order, Paper 11 at 6. In view of our analysis of the factors, we find that, on balance, the factors weigh against discretionary denial. Thus, we decline to exercise our discretion to deny institution under 35 U.S.C. § 324(a).

C. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the effective filing date of the claimed invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

Relying on the testimony of Mr. Gray, Petitioner submits that a person of ordinary skill in the art "would have had a working knowledge of mobile payment techniques pertinent to the '046 Patent, including art describing mobile payment techniques" and "would have had a bachelor's degree in computer science, computer engineering, or an equivalent, and one year of professional experience relating to mobile payment." Pet. 22 (citing Ex. 1003 ¶¶ 16–20). Patent Owner indicates it uses Petitioner's proposed level of ordinary skill in the art for purposes of its Preliminary Response. Prelim. Resp. 5.

We find, based on our review of the record before us, that Petitioner's stated level of ordinary skill in the art is reasonable because it appears consistent with the evidence at this stage of the proceeding, including the '046 patent. Accordingly, we adopt Petitioner's definition of the level of ordinary skill in the art for the purposes of the analysis below.

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D. Claim Construction

We construe the claims using the same claim construction standard that is applied in civil actions under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2020); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In so doing, we construe a claim "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b) (2020).

After noting that the claims should be construed "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent," Petitioner argues that "[a]ll terms should have their plain and ordinary meaning." Pet. 20. More specifically, Petitioner asserts that the claim language of claims 1 and 12 sufficiently describes the scope of the term "e-purse," and this term does not have a special meaning other than what is required by the claims. *Id.* at 21.

Patent Owner argues that the claims must be construed to determine whether they have written description support. Prelim. Resp. 5–6 (citing *In re Katz Interactive Call Processing Pat. Litig.*, 639 F.3d 1303, 1319 (Fed. Cir. 2011); *Uniloc USA, Inc. v. Sega of Am., Inc.*, 711 F. App'x 986, 990 (Fed. Cir. 2017)). According to Patent Owner, we should deny institution because Petitioner's failure to offer any claim construction is fatal to the Petition. *Id.* at 6 (citing *X2Y Attenuators, LLC v. Int'l Trade Comm'n*, 757 F.3d 1358, 1365 (Fed. Cir. 2014)). Patent Owner also argues that the Board has previously denied institution where a petitioner failed to provide a claim construction for a key term. *Id.* (citing *Orthopediatrics Corp. v. K2M, Inc.*, IPR2018-01548, Paper 9 at 10 (PTAB Mar. 1, 2019)).

The *Orthopediatrics* case involved interpreting means-plus-function limitations under 35 U.S.C. § 112 ¶ 6, and did not pertain to the adequacy of the written description. *Orthopediatrics*, Paper 9 at 6–11. Specifically, the Board noted that, in a related district court proceeding, the petitioner advocated that certain claim limitations were subject to means-plus-function claim construction, a position that conflicted with the petitioner's position before the Board. *Id.* at 10. In view of "the unique circumstances" created by the petitioner advocating for a different claim construction in the related district court proceeding, the Board determined that the petition failed to comply with 37 C.F.R. § 42.104(b)(3) because of the petitioner's failure to provide an explicit claim construction. *Id.* at 10–11.

Thus, the present case can be distinguished from *Orthopediatrics* because the record before us does not indicate that Petitioner has taken an inconsistent claim construction position in any related district court proceedings. Furthermore, we understand Petitioner's position, as supported by Mr. Gray's testimony (*see* Ex. 1003 ¶ 65), to be that the ordinary and customary meaning of the claim terms can be understood by one of ordinary skill in the art without explicit claims constructions. For purposes of this Decision, we determine that this position complies with 37 C.F.R. § 42.204(b)(3).

Patent Owner proposes a claim construction for the term "payment gateway" recited in claims 1 and 12 and the term "displaying a denial" in claim 1. Prelim. Resp. 7–9. We address each of these terms below.

1. "payment gateway"

Patent Owner asserts that the '046 patent explicitly defines "payment gateway" as "a gateway provided for settling a payment, the gateway may include a server or collection of servers." Prelim. Resp. 8 (citing Ex. 1001,

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3:8–10). Thus, Patent Owner contends that "payment gateway" should be construed as "a server or collection of servers for settling a payment." *Id.*

As noted by Patent Owner, the '046 patent discloses that "the present invention is a gateway provided for settling a payment, the gateway may include a server or a collection of servers." Ex. 1001, 3:8–10. Furthermore, the '046 patent discloses that "[t]he gateway further comprises a server that . . . perform[s] operations of: receiving a payment request from a second 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." *Id.* at 3:17–31. The '046 patent also discloses "a payment gateway . . . for payment that is configured to proceed with the payment in accordance with a chosen payment method," and "a payment gateway 104 [that] 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." *Id.* at 1:65–67; 5:52–56.

In view of these disclosures, we agree with Patent Owner and construe "payment gateway" as "a server or collection of servers for settling a payment."

2. "displaying a denial"

Patent Owner asserts that the plain meaning of "denial" is a "refusal to satisfy a request." Prelim. Resp. 8 (citing Ex. 2001). Patent Owner also asserts that the specification of the '046 patent discloses that a rejection (which Patent owner equates to a denial) indicates that the transaction cannot proceed without user input. *Id.* (citing Ex. 1001, 8:9–13). According to Patent Owner, this denial must be displayed, meaning that is must be a displayable message. *Id.* at 9. Patent Owner concludes that "displaying a

denial" should be construed as "displaying a message indicating that the transaction cannot proceed." *Id.*

As noted above, the term "displaying a denial" is part of a limitation that recites in its entirety: "displaying a denial of the payment request when the balance is less than the total amount." Ex. 1001, 25:52–53. Patent Owner's proposed construction does not take into account that claim 1 already recites that *the payment request* is denied. Denying the payment request may be tantamount to indicating that the transaction cannot proceed, but Patent Owner's proposed construction for "displaying a denial" would result in redundant language. Furthermore, the '046 patent's disclosure of a rejection relied on by Patent Owner does not pertain to a rejection or denial that results from the e-purse balance being less than the total amount of the bill. Instead, this portion of the specification relates to rejecting the payment request if the payment amount entered by the user is less than the amount of the bill. *Id.* at 8:3–9.

In view of the above, we decline to adopt Patent Owner's proposed construction. Rather, we determine that an express construction of this limitation is not necessary.

E. Asserted Obviousness Based on Moshal, Jogu, and Dessert

Petitioner contends the challenged claims are obvious over Moshal, Jogu, and Dessert. Pet. 30–135. Patent Owner argues that Moshal does not qualify as prior art, but otherwise does not dispute Petitioner's contentions. Prelim. Resp. 33–34. We first summarize the references and then address the parties' contentions.

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1. Moshal

Moshal relates to a bill payment system and method in which a code scanner scans quick response ("QR") codes encoded with a bill from a merchant. Ex. 1005, code (57). Figure 1 is reproduced below.

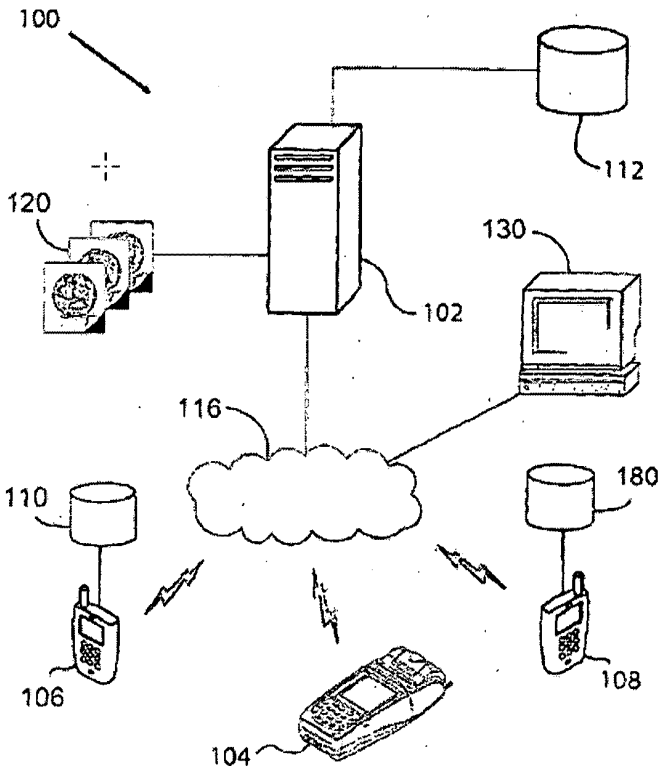

FIGURE 1

Figure 1 is a schematic representation of a system for the payment of bills. Ex. 1005 ¶ 15. System 100 includes application server 102, POS terminal 104, code scanner 106, and merchant terminal 108. *Id.* ¶ 38. Code scanner 106 is configured to scan and decode QR codes, and can be a conventional smartphone provisioned with QR software, a web browser, and an Internet connection. *Id.* Application server 102, POS terminal 104, code scanner 106, and merchant terminal 108 can communicate through communication network 116. *Id.* ¶ 40. Communication is facilitated with a server-hosted

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program, a scanner application program ("scanner app") that is installed and executed on code scanner 106, and a merchant application program ("merchant app") that is installed and executed on merchant terminal 108. *Id.* ¶ 41.

Figure 7 is reproduced below.

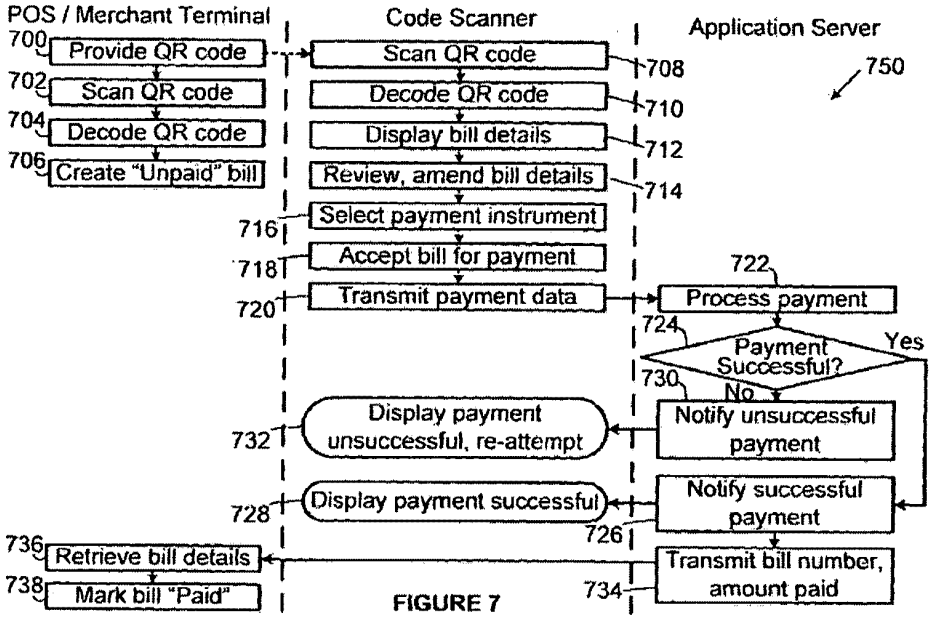

FIGURE 7

Figure 7 is a flow chart of functions to carry out payment of a bill at a merchant establishment with the system of Figure 1. Ex. 1005 ¶ 21. At block 700, POS terminal 104 provides a payment QR code that encodes the merchant identification code, a bill identification code or number, and all the details contained in the bill. *Id.* ¶ 54. At block 708, the user scans the payment QR code, and scanner app 164 decodes the scanned payment QR code to recover the encoded data at block 710. *Id.* ¶ 55.

At block 712, scanner app 164 displays a page on the user interface 154 with all the bill details, and at block 714, the user able to review the bill details. *Id.* After reviewing and amending the bill data, the user can select a payment instrument at block 716 and accept the bill for payment at block

718. *Id.* The merchant identification code, the bill identification number, the amount due, and the details of the selected payment instrument are transmitted to application server 102 at block 720. *Id.* The payment is processed at block 722.

Application server 102 determines whether the payment was successful at block 724. *Id.* ¶ 56. If the payment was successful, application server 102 notifies scanner app 164, at block 726, and the displayed page refreshes to indicate that bill has been paid at block 728. *Id.* If the payment status was unsuccessful, application server 102 notifies scanner app 164, at block 730, and the page displayed by scanner app 164 refreshes to request the user to select a different payment instrument and re-attempt payment at block 732. *Id.*

2. Jogu

Jogu relates to a payment method using a mobile phone. Ex. 1006, 3. For instance, a user can use mobile phone 13 to connect to POS terminal 27 to make a payment. *Id.* at 6, Fig. 6. A clerk enters the payment amount into POS terminal 27, and the payment amount is transmitted from POS terminal 27 to mobile phone 13. *Id.* "The mobile phone 3 compares the balance stored inside with the payment amount, and if payment is not possible, sends an error message to the POS terminal 27," but "if payment is possible, the mobile phone 13 transmits the mobile phone number and the key code to the POS terminal 27." *Id.* Upon receiving the mobile phone number and the key code, POS terminal 27 completes the payment and notifies mobile phone 13 to that effect. *Id.*

3. Dessert

Dessert relates to a system and method for providing a personalized shopping experience with a portable computing device. Ex. 1007, code (57).

The system includes machine-readable tag 124 that may comprise machine-readable code 222. *Id.* at 6:20–21. Machine-readable code 222 may comprise either a one dimensional or two-dimensional barcode or other contactless technologies, such as near-field communications, WiFi, acoustic, and RFID cards. *Id.* at 6:25–30.

4. Moshal as Prior Art

Petitioner argues that Moshal was published on October 16, 2014 and filed on November 12, 2012, and is thus prior art under 35 U.S.C. § 102(a)(2). Pet. 23; *see also id.* at 20 (arguing that claims 1–17 each have a post-AIA effective filing date). Patent Owner argues that, because all remaining claims of the '046 patent properly claim priority to the '802 provisional application, which was filed on April 1, 2012, before Moshal's earliest possible priority date, Moshal does not qualify as prior art to the '046 patent. Prelim. Resp. 33.

For the reasons discussed above, we determine that the "displaying a denial" step of claim 1 is supported only by description first filed with the '937 application on March 29, 2013. *See supra* § III.A.1. As such, independent claim 1, and the claims depending therefrom, are not entitled to the benefit of the earlier provisional filing date. Thus, at this stage of the proceeding, we determine that Moshal qualifies as prior art with respect to claims 1–5.

Regarding claim 12, Petitioner asserts that the limitation "wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount" lacks written description support in any of the applications, pre-AIA or otherwise. Pet. 16–20. Patent Owner, however, contends that Petitioner incorrectly interprets this limitation to mean that the payment gateway *directly* reduces balance, but claim 12 is not so limited. Prelim.

Resp. 23–24. In view of this contention, Patent Owner argues that the pre-AIA applications provide several descriptions of the payment gateway causing the balance in the e-purse to be reduced by the amount. *Id.* at 24.

For instance, Patent Owner argues that the figure on page 3 of the '802 provisional application depicts two-way communication between the customer's personal device and the payment gateway in which the customer's device sends transaction information to the gateway and the gateway rejects the bill if the payment amount is less than the billed amount. *Id.* at 26. According to Patent Owner, the payment gateway causes the balance to be reduced because one of ordinary skill in the art "would recognize that the transaction only proceeds (and results in the balance being reduced) after the payment gateway allows it to do so." *Id.*

Although the '802 provisional application does not state explicitly that the balance is reduced, Patent Owner relies on the assumption that if the transaction proceeds, the balance will be reduced. Based on the current record before us, we determine that this is a reasonable assumption. We also note that the '802 provisional application discloses that the gateway uses payment methods "to complete [the] transaction." Ex. 1030, 9. Accordingly, we are persuaded that the '802 provisional application discloses that the payment gateway is configured to cause the e-purse balance to be reduced by the transaction amount, at least indirectly. However, we invite the parties to brief the proper construction of this limitation during trial, if desired, and we will address the claim language on the complete trial record, including any claim construction analysis, to the extent included in the record.

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For the above reasons, at this stage of the proceeding, we determine that Moshal does not qualify as prior art with respect to independent claim 12 and claims 13, 14, and 17 depending therefrom.

5. Independent Claim 1

a) A method for mobile payment

Petitioner argues that Moshal discloses a method "to carry out payment of a bill at a merchant establishment," in which a user utilizes a "mobile smartphone handset" (e.g., a code scanner) to make a payment. Pet. 62 (citing Ex. 1005 ¶¶ 21, 38, 52–57; Ex. 1003 ¶ 222).

b) causing a mobile device to capture data directly from a tag physically presented thereto

Petitioner argues that this limitation is disclosed by Moshal and Dessert. Pet. 63. Specifically, Petitioner contends that Moshal discloses that mobile device 106 includes scanner 156 and scanner app 164 for scanning QR codes 999, which are "encoded as a payment QR code." *Id.* (citing Ex. 1005 ¶¶ 41–42, 47–48, Figs. 3, 4; Ex. 1003 ¶ 225). According to Petitioner, the QR code is a "tag." *Id.* at 63–64. Petitioner thus concludes that Moshal discloses a mobile device that captures data directly from a tag. *Id.* at 65 (citing Ex. 1003 ¶ 227).

In addition, Petitioner contends that Dessert teaches using mobile dives to capture data directly from conventional tags, such as QR codes, RFID tags, and NFC tags. *Id.* at 63 (citing Ex. 1003 ¶ 224). Thus, Petitioner argues that, to the extent claim 1 is interpreted as requiring RFID or NFC tags, one of ordinary skill in the art "would have been motivated to modify Moshal so that the mobile device, utilizing the modified scanner, would be configured to read any conventional tags such as QR tags, RFID tags or NFC tags, in view of the interchangeability of these conventional types of

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tags, as taught by Dessert." *Id.* at 65 (citing Ex. 1007, 6:20–34, 7:17–20, 9:60–66; Ex. 1003 ¶ 228); *see also id.* at 57–61 (presenting reasons why one of ordinary skill in the art would have been motivated to modify Moshal to use different tags).

c) wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data

Petitioner argues that Moshal discloses that POS terminal 104 prepares and presents the tag at step 700 of Figure 7. Pet. 66 (citing Ex. 1005 ¶¶ 54–55). Petitioner also argues that Moshal discloses using the mobile device to scan (i.e., capture data from) the payment QR code at step 708. *Id.* (citing Ex. 1005 ¶ 55; Ex. 1003 ¶ 233). Thus, according to Petitioner, Moshal and Dessert disclose this limitation. *Id.* at 67.

d) the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device

Petitioner argues that this limitation is disclosed by Moshal and Dessert because "Moshal teaches that the data embedded in the modified tag includes (1) an electronic invoice ('bill identification number and the bill details') and (2) settlement information with a merchant (unique merchant identification code) associated with the POS device." Pet. 67 (Ex. 1003 ¶ 237).

e) extracting the electronic invoice from the captured data in the mobile device

Petitioner argues that "Moshal discloses that '[a]t block 710, the scanner app 164 decodes the scanned payment QR code to recover the encoded data that it contains namely, the merchant identification code, the bill identification number and the bill details.'" Pet. 68 (citing Ex. 1005

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¶ 55; Ex. 1003 ¶ 238) (alteration in original). Accordingly, Petitioner asserts that Moshal teaches this limitation. *Id.* (citing Ex. 1003 ¶ 239).

f) 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

Petitioner argues that Moshal discloses displaying the electronic invoice, including the amount to be paid, on the mobile device. Pet. 69–70 (citing Ex. 1003 ¶¶ 240–243; Ex. 1005 ¶¶ 55, 58, Figs. 7, 8).

g) wherein the mobile device is configured to execute an installed application therein to capture the data from the tag

Petitioner argues that this limitation is disclosed by Moshal and Dessert because Moshal discloses that scanner app 164 is installed on the mobile device, and the mobile device uses scanner app 164 to capture data from the tag. Pet. 71–72 (citing Ex. 1003 ¶¶ 244–246; Ex. 1005 ¶¶ 48, 55, Figs. 4, 7).

h) receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user

Petitioner argues that "Moshal discloses that its 'user interface' receives 'data pertaining to the amount due on the bill,' including 'data adding a tip to the bill.'" Pet. 72 (citing Ex. 1005 ¶¶ 175–180; Ex. 1003 ¶ 247). More specifically, Petitioner contends that scanner app 164 allows the user to review the details of the displayed bill, amend the bill details as appropriate, and add an optional tip at step 714 of Figure 7. *Id.* at 72–73 (citing Ex. 1005 ¶ 55; Ex. 1003 ¶ 248). Petitioner asserts that the displayed invoice includes several options for the user to add an optional tip. *Id.* at 73 (citing Ex. 1005 ¶ 58). Petitioner thus concludes that Moshal teaches this limitation. *Id.* at 75 (citing Ex. 1003 ¶ 251).

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

Petitioner argues that Moshal discloses the user may add an optional tip or service charge. Pet. 75 (Citing Ex. 1005 ¶¶ 55, 58, Fig. 8; Ex. 1003 ¶ 253). Petitioner argues that "Moshal discloses that after the user has added a tip (step 714), selected a payment instrument (716), and accepted the bill for payment (including the added tip amount) (step 718), the mobile device then transmits payment data including the total amount to be paid (step 720) . . . ." *Id.* at 76 (citing Ex. 1005 ¶ 55). Because the total amount is transmitted, Petitioner asserts that Moshal teaches calculating the total amount. *Id.* at 77 (citing Ex. 1003 ¶ 255).

In addition, Petitioner argues that, to the extent Moshal does not explicitly disclose calculating the total amount, this feature is taught by Dessert. *Id.* at 77–78 (citing Ex. 1007, 39:29–54, Figs. 10C, 10D; Ex. 1003 ¶ 256). According to Petitioner, one of ordinary skill in the art "would have been motivated to modify Moshal to, as taught by Dessert, provide confirmation to the mobile device user that the total amount to be paid reflects the original invoice amount plus the added gratuity." *Id.* at 78 (citing Ex. 1003 ¶ 257).

j) generating a payment request in the mobile device in response to the electronic invoice after the user has chosen an electronic purse (e-purse) maintained locally in the mobile device

Petitioner argues that Moshal discloses: (1) a user setting up local payment options (including an e-wallet or e-purse) on the mobile device; (2) the user being able to select the e-wallet as a payment option; and (3) the mobile device generating and submitting a payment request to a payment gateway. Pet. 79–83 (citing Ex. 1005 ¶¶ 42, 55, 59, Figs. 1, 4, 7, 8; Ex. 1003 ¶¶ 259–265).

k) displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

Petitioner argues that "Moshal discloses that the mobile device displays the invoice 800 (step 712 in Fig. 7), and the invoice 800 includes 'all the bill details' for the user to verify." Pet. 84 (citing Ex. 1005 ¶ 55, Fig. 8; Ex. 1003 ¶ 267). Petitioner also argues that Moshal discloses that the user can review the bill details and select a payment instrument. *Id.* at 84–85 (citing Ex. 1005 ¶ 55). Thus, according to Petitioner, "before the user causes the mobile device to transmit a payment request at [step] 720, the user first verifies the payment request at step 718 by accepting the bill for payment." *Id.* at 85 (citing Ex. 1005 ¶ 55; Ex. 1003 ¶ 268).

l) verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway

Petitioner argues that this limitation is disclosed by Moshal and Jogu. Pet. 86 (citing Ex. 1003 ¶ 271). Specifically, Petitioner asserts that Moshal teaches that the user selects an appropriate payment instrument at step 716 and then accepts the bill for payment at step 718. *Id.* (citing Ex. 1005 ¶ 55, Fig. 7; Ex. 1003 ¶ 272). Petitioner also asserts that Jogu discloses a mobile device that determines whether its balance is sufficient for a transaction at step S718 of Figure 22. *Id.* at 87–88 (citing Ex. 1006, 14, Figs. 22, 23; Ex. 1003 ¶ 274). Thus, according to Petitioner, one of ordinary skill in the art "would have been motivated to modify Moshal to verify whether the balance of the e-wallet is sufficient to cover the total amount (bill + gratuity) before the payment request is transmitted (step 720) to the payment gateway." *Id.* at 87 (citing Ex. 1003 ¶ 273); *see also id.* at 43–47 (presenting reasons why

one of ordinary skill in the art would have been motivated to modify Moshal to include balance verification as taught by Jogu).

m) displaying a denial of the payment request when the balance is less than the total amount

Petitioner argues that this limitation is disclosed by Moshal and Jogu. Pet. 90 (citing Ex. 1003 ¶ 277). In particular, Petitioner argues that Jogu discloses that when it determines there is an insufficient balance to conduct the transaction at step S718 in Figure 22, mobile device 13 displays a notification that there are insufficient funds to conduct the transaction, thereby indicating that the transaction is denied, as shown at step S719 and screen D19 in Figure 23. *Id.* at 90–91 (citing Ex. 1006, 14). Petitioner then contends that when Moshal and Jogu are combined as discussed above, "a denial of a payment request based on an insufficient balance would be displayed on Moshal's mobile device, based on the teachings of Jogu." *Id.* at 91 (citing Ex. 1003 ¶ 279).

n) sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request

Petitioner argues that this limitation is disclosed by Moshal and Jogu because Moshal discloses transmitting a payment request from the mobile device to payment gateway 102, and by transmitting "the amount due," Moshal teaches that the mobile device has sufficient funds to pay the bill. Pet. 93 (citing Ex. 1005 ¶ 55, Fig. 7). Petitioner also asserts that "Jogu discloses that the mobile device transmits a payment request (S720) following positive verification in step S718 that the balance is sufficient." *Id.* at 94 (citing Ex. 1006, 14; Ex. 1003 ¶ 282).

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o) 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

Petitioner argues that this limitation is disclosed by Moshal and Jogu. Pet. 95 (citing Ex. 1003 ¶ 284). First, Petitioner argues that "Moshal discloses that in step 734, the payment gateway sends a message (successful payment notification including 'the bill identification number and the amount paid') directly to the POS/merchant terminal." *Id.* at 96 (citing Ex. 1005 ¶ 57, Fig. 7; Ex. 1003 ¶ 285). Next, Petitioner argues that Jogu discloses that payment gateway 10 sends a payment confirmation message (i.e., "Settlement complete") directly to POS terminal 27. *Id.* (citing Ex. 1006, 6, Fig. 6; Ex. 1003 ¶ 286). Petitioner also argues that Jogu discloses that "payment gateway 10 'transmits the payment completion information to the POS terminal 27 (S907).'" *Id.* at 98 (citing Ex. 1006, 15, Fig. 22; Ex. 1003 ¶ 287).

Petitioner then concludes that one of ordinary skill in the art "would have been motivated to modify Moshal to send a message from Moshal's payment gateway directly to the POS device 104 indicating that a monetary transaction per the payment request sent from the mobile device has been successfully completed." *Id.* at 100 (citing Ex. 1003 ¶ 292).

p) displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

Petitioner argues that this limitation is disclosed by Moshal and Jogu. Pet. 103 (citing Ex. 1003 ¶ 297). Specifically, Petitioner asserts that Moshal discloses that its mobile device displays confirmation of a successful payment at step 728, and it would have been obvious to display the reduced balance with this successful payment confirmation because doing so was a

conventional e-wallet technique. *Id.* at 103–04 (citing Ex. 1005 ¶ 56, Fig. 7; Ex. 1003 ¶¶ 298–299).

Petitioner also argues that "Jogu discloses that the payment gateway 10 sends the updated balance to the mobile device 13 (step S913), and the mobile device 13 updates the balance stored on the mobile device 13 (step S729)." *Id.* at 104 (citing Ex. 1006, 14–15, Fig. 22; Ex. 1003 ¶¶ 300–301). According to Petitioner, Jogu discloses displaying the updated balance on the mobile device as part of the confirmation that payment was successful at step S432 in Figure 73. *Id.* at 105–06 (citing Ex. 1006, 34, Fig. 73; Ex. 1003 ¶ 302).

Petitioner asserts that one of ordinary skill in the art "would have been motivated to modify Moshal so that the payment gateway reduces the balance upon a successful payment, as taught by Jogu, and the mobile device displays the updated (reduced) balance, as part of the notification of a successful payment, as also taught by Jogu." *Id.* at 48 (citing Ex. 1003 ¶ 202). According to Petitioner, this modification would have provided several advantages including "providing an accurate balance on the mobile device provides more information to the user of the mobile device to conduct transactions within the user's desired spending limits." *Id.* at 50.

q) Conclusion

We have reviewed Petitioner's contentions with respect to the limitations of claim 1, which Patent Owner has not disputed in its Preliminary Response. At this stage of the proceeding, we agree with Petitioner's analysis and adopt it as our own for purposes of this Decision.

6. Claims 2–5

For claims 2–5, which depend from independent claim 1, Petitioner contends that the proposed combination of Moshal, Jogu, and Dessert

discloses each of the limitations. Pet. 108–15, 132–35. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Petitioner also provides several reasons for why one of ordinary skill in the art would have combined the teachings of Moshal, Jogu, and Dessert. *Id.* at 42–61. We have reviewed Petitioner's contentions with respect to the limitations of claim 1 and, at this stage of the proceeding, we agree with Petitioner's analysis and adopt it as our own for purposes of this Decision.

7. Claims 12–14

As discussed above, we determine at this stage of the proceeding that Moshal does not qualify as prior art with respect to claims 12–14. *See supra* § III.E.4. Nevertheless, because Petitioner has shown that it is more likely than not that claims 1–5 are unpatentable (*see supra* § III.E.5), we include these claims in the instituted post-grant review. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition"); Consolidated Trial Practice Guide November 2019 ("TPG")[13] at 64.

F. Asserted Obviousness Based on Moshal, Jogu, Dessert, Ohlhausen, and Aabye

Petitioner contends claim 17 (together with disclaimed claims 7–11) is obvious over Moshal, Jogu, Dessert, Ohlhausen, and Aabye. Pet. 140–58. We determine, however, at this stage of the proceeding that Moshal does not

[13] *Available at* https://www.uspto.gov/TrialPracticeGuideConsolidated.

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qualify as prior art with respect to claim 17. *See supra* § III.E.4. Nevertheless, we include this ground in the instituted post-grant review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *see also PGS Geophysical*, 891 F.3d at 1360; TPG at 64.

IV. CONCLUSION

For the foregoing reasons, we conclude that the information presented in the Petition demonstrates that it is more likely than not that at least one of the claims challenged in the Petition is unpatentable.

At this stage of the proceeding, the Board has not made a final determination as to the construction of any claim term or the patentability of any challenged claim.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 324, a post-grant review of claims 1–5, 12–14, and 17 of the '046 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324 and 37 C.F.R. § 42.4(b), post-grant review of the '046 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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FOR PETITIONER:

Andrew S. Ehmke
Andy.ehmke.ipr@haynesboone.com

Scott T. Jarratt
Scott.jarratt.ipr@haynesboone.com

Jonathan R. Bowser
Jon.bowser.ipr@haynesboone.com

Angela M. Oliver
Angela.oliver.ipr@haynesboone.com

FOR PATENT OWNER:

Vincent Rubino
vrubino@fabricantllp.com

Peter Lambrianakos
plambrianakos@fabricantllp.com

Enrique Iturralde
eiturralde@fabricantllp.com

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Trials@uspto.gov
571-272-7822

Paper 10
Date: July 23, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

RFCYBER CORP.,
Patent Owner.

PGR2021-00028
Patent 10,600,046 B2

Before PATRICK R. SCANLON, KEVIN W. CHERRY, and JAMES A. WORTH, *Administrative Patent Judges*.

SCANLON, *Administrative Patent Judge*.

DECISION
Granting Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

Google LLC ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting post-grant review of claims 1–17 of U.S. Patent No. 10,600,046 B2 (Ex. 1001, "the '046 patent"). RFCyber Corp. ("Patent Owner") filed a Preliminary Response (Paper 7, "Prelim. Resp."). With our authorization, Petitioner filed a Reply to Patent Owner's Preliminary Response (Paper 8, "Prelim. Reply"), and Patent Owner filed a Sur-reply (Paper 9, "Prelim. Sur-reply"). Patent Owner also filed a statutory disclaimer of claims 6–11, 15, 16, 19, and 20 of the '046 patent. Ex. 2002.

Under 35 U.S.C. § 324(a), a post-grant review may not be instituted "unless . . . the information presented in the petition . . . , if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable." After considering the Petition, Patent Owner's Preliminary Response, Petitioner's Reply, and Patent Owner's Sur-reply, as well as all supporting evidence, we determine that Petitioner has satisfied the burden under 35 U.S.C. § 324(a) to show that it is more likely than not that at least one of the challenged claims is unpatentable.

II. BACKGROUND

A. Related Matters

The parties identify the following proceedings as related matters involving the '046 patent: *RFCyber Corp. v. Google LLC*, Case No. 2:20-cv-00274 (E.D. Tex.); *RFCyber Corp. v. Samsung Electronics Co. Ltd.*, Case No. 2:20-cv-00335 (E.D. Tex.); and *RFCyber Corp. v. LG Electronics, Inc.*, Case No. 2:20-cv-00336 (E.D. Tex.). Pet. 2–3; Paper 5, 1. In addition, Petitioner indicates it has filed another petition for post-grant review challenging the '046 patent (i.e., PGR2021-00029). Pet. 3.

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B. Real Parties in Interest

Petitioner identifies itself and Google Payment Corp. as the real parties in interest. Pet. 2. Petitioner indicates that Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc., but states that XXVI Holdings Inc. and Alphabet Inc. are not real parties in interest to this proceeding. *Id.* n.1. Patent Owner identifies itself as the real party in interest. Paper 5, 1.

C. The '046 Patent

The '046 patent relates to electronic commerce and, more particularly, to settling payments "using a mobile device reading electronic bills or invoices off from another mobile device in a near field communication range." Ex. 1001, 1:16–21. In general, the invention includes a first mobile device that generates an electronic invoice and can be part of a point of sale ("POS") machine. *Id.* at 1:56–58, 2:1–3. The first mobile device is embedded with a secure element and executes a software module. *Id.* at 1:57–58, 2:55–59. When the first mobile device is brought to a consumer using a second mobile device, the electronic invoice is read wirelessly into the second mobile device. *Id.* at 1:59–63. The second mobile device is a near field communication ("NFC") device "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." *Id.* at 2:28–30, 2:65–3:1.

The user is then able to verify the amount charged and authorize payment, after which the second 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." *Id.* at 1:63–67, 2:61–64. That is, the gateway receives the payment request from the second

mobile device, verifies the payment request, and sends a payment response to the user of the first mobile device after the payment request is processed. *Id.* at 3:17–31.

Figure 1A of the '046 patent is reproduced below.

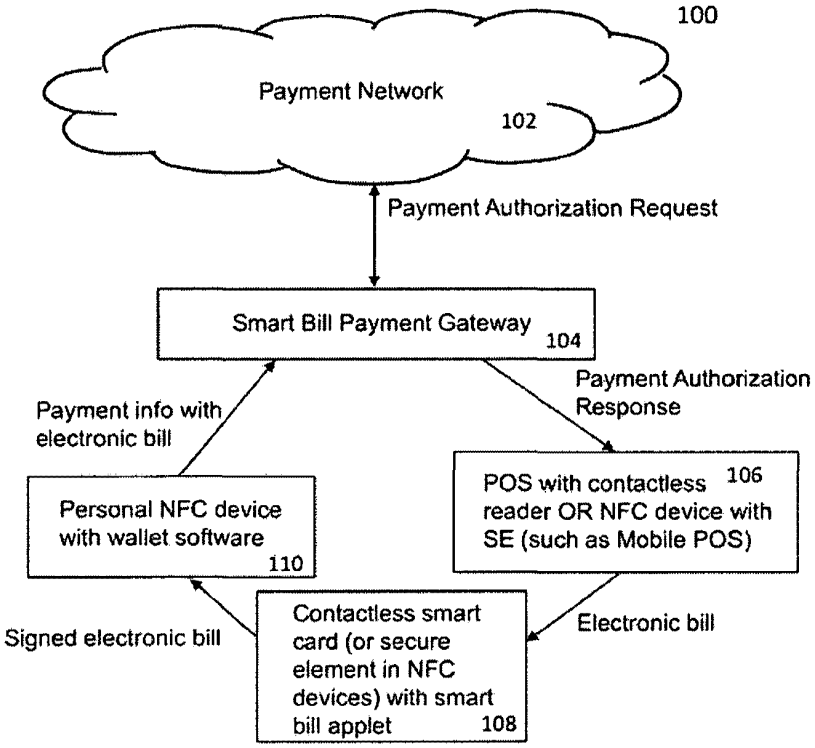

FIG. 1A

Fig. 1A shows system configuration 100, which is one embodiment of the invention. Ex. 1001, 5:29–30. System configuration 100 includes network 102, which provides services by a financial institution to electronically transfer money or settle payments. *Id.* at 5:30–34. Payment gateway 104 comprises one or more servers configured to provide an application that may be installed on a user's mobile device. *Id.* at 5:52–56. The application allows a user to authorize payment of an electronic invoice. *Id.* at 5:60–62.

System configuration 100 also includes POS device 106 at a point of sale. *Id.* at 6:6–7. POS device 106 generates an electronic bill or invoice that is loaded onto portable device 108, such as a contactless card or an NFC device, which contacts a user's NFC device. *Id.* at 6:10–14. In 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." *Id.* at 6:15–18. This device is brought to the customer for authorization and payment. *Id.* at 6:22–23. Alternatively, "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." *Id.* at 6:23–26. In this case, "[t]he stationary device is used by the casher 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." *Id.* at 6:26–30.

Device 110 is a personal NFC device with wallet software. *Id.* at Fig. 1A. Specifically, device 110 "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." *Id.* at 8:25–28.

To settle a payment, the merchant, such as a waiter or cashier at a restaurant, causes POS device 106 to generate an electronic bill that is transported to a contactless card. *Id.* at 7:19–22. The contactless card is then presented to the customer who uses his or her mobile device to read the contactless card. *Id.* at 7:24–26. Upon detecting the contactless card in the near field, the application on the user's mobile device reads data pertaining to the electronic bill from the contactless card and subsequently displays the electronic bill on a screen of the mobile device for the customer to verify. *Id.* at 7:28–33. The customer then chooses a method for settling the bill,

such as an e-purse already created in the mobile device, cash, traditional credit or debit card, and electronic transfer. *Id.* at 7:46–53.

When selecting to pay the bill via the e-purse, the customer enters the amount to be paid against the bill; the customer may enter more than what is being charged in the bill as a tip or gratuity. *Id.* at 7:57–61. Once the customer has entered the total amount to be paid, the application on the user's mobile device sends a payment request to gateway or server 104 for processing. *Id.* at 7:57–61. "[T]he server 104 receives the payment request authorized by the consumer and proceeds with the payment request in conjunction with the payment network 102," and "[o]nce the transaction is complete or denied, the server 104 sends a notice to the merchant." *Id.* at 8:17–24.

Figure 6A of the '046 patent is reproduced below.

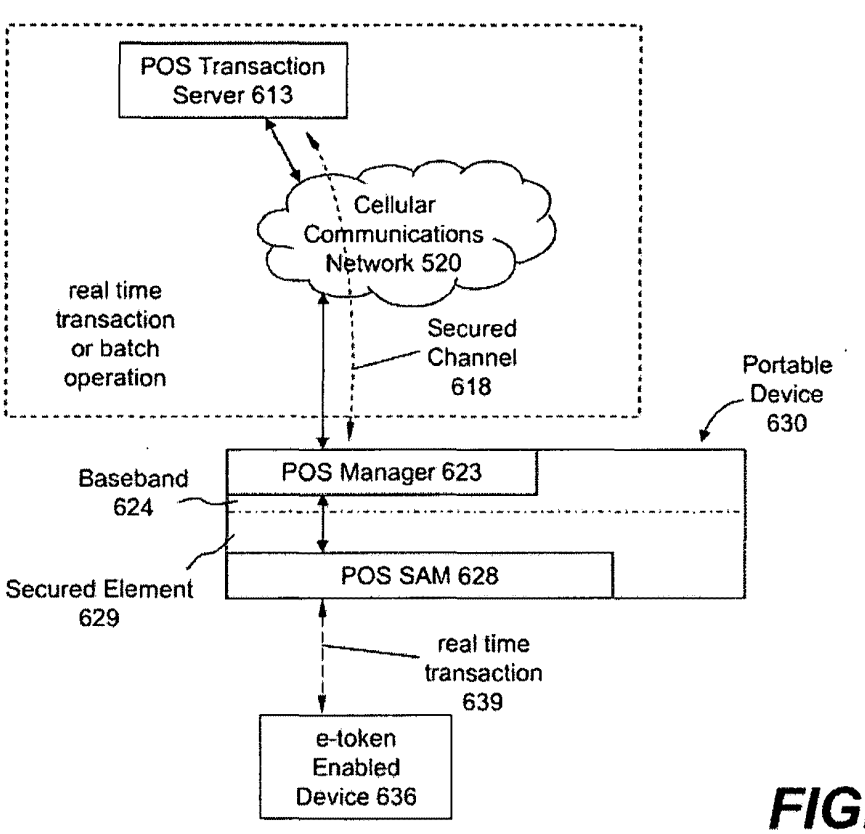

FIG. 6A

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." Ex. 1001, 4:32–35. Specifically, exemplary architecture 600 includes portable device 630 that includes baseband 624 and secured element 629. *Id.* at 18:65–19:3. POS manager 623 is installed in baseband 623, and POS SAM[1] 628 is installed in secured element 629 to enable portable device 630 to act as a mobile POS. *Id.* at 19:3–6. This configuration allows real time transaction 639 to be conducted between portable device 630 and e-token enabled device 636, which can be a single functional card or a portable device enabled with an e-purse. *Id.* at 19:7–10.

Real time transaction 639 can be conducted without the portable device connecting to POS transaction server 613, in which case records of accumulated offline transactions are uploaded via secured channel 618 to POS transaction server 613 for settlement. *Id.* at 19:14–16, 9:23–27. However, portable device 630 may connect to POS transaction servers 613 over cellular network 520 in certain instances. *Id.* at 19:16–18.

D. Challenged Claims

Petitioner challenges claims 1–17, of which claims 1 and 12 are independent. Claim 1, reproduced below, is illustrative.

> 1. 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, the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device;

[1] A "POS SAM" refers to a mobile POS application applet. Ex. 1001, 18:13–14. Although the acronym "SAM" is not defined in the '046 patent, it appears to refer to a Security Authentication Module. *See* Ex. 1030, 16.

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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;

receiving an entry by the mobile device, the entry including the amount for the invoice and optionally 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 an electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, 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; and

displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

Ex. 1001, 25:20–63.

E. Asserted Grounds

Petitioner contends that the challenged claims are unpatentable based on the following grounds:

Claims Challenged	35 U.S.C. §	Reference/Basis
1–17	112(a)	Lack of Written Description
1–17	101	Patent Ineligible Subject Matter

Pet. 27. Petitioner relies on the Declaration of Stephen Gray (Ex. 1003) to support its challenges.

Following Patent Owner's statutory disclaimer, claims 1–5, 12–14, and 17 are the only remaining claims in the '046 patent. Accordingly, we limit our consideration of the challenges to whether Petitioner has satisfied its burden to show that it is more likely than not that at least one of claims 1–5, 12–14, and 17 is unpatentable.

III. ANALYSIS

A. Eligibility for Post-Grant Review

As a threshold matter, we must determine whether the '046 patent is eligible for post-grant review. The post-grant review provisions set forth in section 6(d) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (September 16, 2011) ("AIA"), apply only to patents subject to the first-inventor-to-file provisions of the AIA. *See* AIA § 6(f)(2)(A) (stating that the provisions of Section 6(d) "shall apply only to patents described in section 3(n)(1)"). Patents subject to the first-inventor-to-file provisions are those that issue from applications "that contain[] or contained at any time . . . a claim to a claimed invention that has an effective filing date as defined in section 100(i) of title 35, United States Code, that is on or after" March 16, 2013. AIA § 3(n)(1).

Our rules require that each petitioner for post-grant review certify that the challenged patent is available for post-grant review. 37 C.F.R. § 42.204(a) (2019) ("The petitioner must certify that the patent for which review is sought is available for post-grant review . . . ."). In addition, "[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be)." 35 U.S.C. § 321(c). Petitioner has the burden of demonstrating eligibility for post-grant review. *See Mylan Pharms. Inc. v. Yeda Res. & Dev. Co.*, PGR2016-00010, Paper 9 at 10 (PTAB Aug. 15, 2016).

The '046 patent issued from U.S. Application No. 14/728,349, filed on June 2, 2015 ("the '349 application"). Ex. 1001, codes (21), (22). The '349 application was filed as a continuation of U.S. Application No. 13/853,937, filed on March 29, 2013 ("the '937 application") and now U.S. Patent No. 9,047,601 B2. *Id.* code (63). The '937 application was a continuation-in-part of U.S. Application No. 13/350,832, filed on January 16, 2012 ("the '832 application") and now abandoned. *Id.* The '832 application was a continuation-in-part of U.S. Application No. 11/534,653, filed on September 24, 2006 ("the '653 application") and now U.S. Patent No. 8,118,218 B2. *Id.* The '046 patent also lists U.S. Provisional Application No. 61/618,802, filed on April 1, 2012 ("the '802 provisional application").[2,3] *Id.* code (60).

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[2] The specification of the '046 patent does not appear to contain a specific reference to the '802 provisional application pursuant to 35 U.S.C. § 119(e)(1). Ex. 1001.

[3] Petitioner refers to the '832 application, the '653 application, and the '802 provisional application collectively as "the pre-AIA applications." Pet. 14.

Petitioner contends that the '046 patent is eligible for post-grant review because it contains at least one claim with an effective filing date after March 16, 2013. Pet. 13. According to Petitioner, the challenged claims "contain limitations that were either (i) not disclosed in the pre-AIA patent applications due to a broken priority chain or (ii) not disclosed in *any* application due to unsupported amendments made during prosecution of the '046 Patent." *Id.* at 13–14. In particular, Petitioner argues that the limitations "displaying a denial" in claim 1 and the "account and bank information of the registered merchant" of claims 6 and 15 are supported only by description first filed with the '937 application after March 16, 2013.[4] *Id.* at 16–17.

We first address the "displaying a denial" step. The full limitation is "displaying a denial of the payment request when the balance [in the e-purse] is less than the total amount." Ex. 1001, 25:52–53. Petitioner argues that the '653 application lacks any disclosure of a display step. Pet. 17 (citing Ex. 1028; Ex. 1003 ¶¶ 55–56). Petitioner also argues that the '832 application "generally describes comparing the balance of an e-token with a purchase amount in association with Figures 6C and 6D, but it fails to describe displaying a denial within the mobile device when the balance is insufficient." *Id.* at 17–18 (citing Ex. 1029 ¶¶ 173–177, Figs. 6C, 6D; Ex. 1003 ¶ 56). More specifically, Petitioner argues that "in the embodiment of Figure 6C, . . . when the balance is insufficient at step 656, the process displays an option to 'top-up' the balance, but does not display a

[4] Petitioner also argues that certain limitations added to claims 1 and 12 during prosecution of the '046 patent lack written description support in any of the applications, pre-AIA or otherwise and, thus, create PGR eligibility. Pet. 25. We address these arguments in Section III.D below.

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denial." *Id.* at 18 (citing Ex. 1029 ¶ 174, Fig. 6C). Petitioner also argues that the process of Figure 6D "simply ends after a 'return message' denying the purchase is received by POS manager 623," and "[n]o denial is displayed in the mobile device." *Id.* at 18–19 (citing Ex. 1029 ¶ 177, Fig. 6D).

In response, Patent Owner argues that Figures 6C and 6D from the '802 provisional application (which was filed prior to March 13, 2013) support the "displaying a denial" step of claim 1.[5] Prelim. Resp. 12–17 (citing Ex. 1030 ¶¶ 136, 139, 174, 177, Figs. 6C, 6D). First, Patent Owner contends that Figure 6C illustrates a process that verifies whether there is enough balance in an e-token to cover the amount to be paid at step 656. *Id.* at 13 (citing Ex. 1030 ¶ 136, Fig. 6C). Patent Owner adds that if there is an insufficient balance, the process offers the holder[6] the option to "top-up" the e-token at step 657. *Id.* (citing Ex. 1030 ¶ 136, Fig. 6C).

According to Patent Owner, one of ordinary skill in the art would recognize that offering a top-up option is "displaying a denial" because "the process only offers the top-up option if the balance is too low to cover the amount and will not proceed absent the top-up," and "[o]ne of skill in the art would understand that the top-up option is thus a denial, because the transaction will not proceed without the top-up." *Id.* at 14. Patent Owner also argues that "the option must necessarily be displayed because the holder must provide a selection (yes or no)" and Petitioner admits that the option is displayed. *Id.* (citing Pet. 18).

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[5] Patent Owner asserts that these disclosures from the '802 provisional application are also found in the'832 application and the '046 patent. Prelim. Resp. 14 (citing Ex. 1029 ¶ 174, Fig. 6C; Ex. 1001, 20:4–51, Fig. 6C), 16 (citing Ex. 1029 ¶ 177, Fig. 6D; Ex. 1001, 21:15–22:2, Fig. 6D).

[6] The "holder" refers to the holder of an e-token enabled device, i.e., a person desiring to make a purchase. Ex. 1030 ¶ 136.

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Second, Patent Owner contends that, although Figure 6D does not depict the top-up offer, the written description of the process of Figure 6D states that a top-up operation may be performed when there is not enough balance in the e-token enables device. *Id.* at 15–16 (citing Ex. 1030 ¶ 139, Fig. 6D).

We are not persuaded by Patent Owner's arguments. Both the '802 provisional application and the '832 application disclose process 650 in which, at step 656 of Figure 6C, "it is determined whether there is enough balance in the retrieved e-token to cover the cost of the current transaction." Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. If the balance is insufficient, the process "may optionally offer the holder to top-up (i.e., load, fund, finance) the e-token at [step] 657." Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. The process ends only if the top-up option is not taken; if the top-up option is taken, then the process proceeds with the transaction. Ex. 1030 ¶ 136; Ex. 1029 ¶ 174. Process 670, which is depicted in Figure 6D in both the '802 provisional application and the'832 application, describes that "when there is not enough balance in the e-token enabled device, a top-up or funding operation may be performed." Ex. 1030 ¶ 139; Ex. 1029 ¶ 177.

Based on these disclosures, the top-up option is not equivalent to "a denial of the payment request" because the payment request is not denied at that point in the process. Instead, the payment request is accepted and the transaction is completed if the customer elects to top-up the e-token. The purpose of the top-up option is to provide the customer with an opportunity to go forward with the payment request despite an insufficient balance. Thus, even assuming that Patent Owner is correct that the top-up option must be displayed, we are not persuaded that "a denial of the payment request" is displayed when the balance is insufficient. The payment request

is effectively denied (i.e., the process is terminated) *only* if the customer does not elect to top-up the e-token, which necessarily occurs *after* the top-up option is displayed. Displaying the top-up option cannot be equivalent to displaying a denial because any denial results from an event that occurs after the top-up option is displayed.

For the above reasons, we are not persuaded that the "displaying a denial" limitation of claim 1 finds written description support in any of the pre-AIA applications. Although contending that the limitation is supported by the '802 provisional application, Patent Owner does not dispute explicitly Petitioner's assertion that the "displaying a denial" step of claim 1 is supported by description that was first filed with the '937 application after March 16, 2013. *See* Pet. 16–17, 20–21. Thus, we agree with Petitioner that claim 1 has an effective filing date after March 16, 2013. Accordingly, claim 1 renders the '046 patent eligible for post-grant review under AIA § 6(f)(2)(A).

Regarding Petitioner's argument that the limitation "account and bank information of the registered merchant" of claims 6 and 15 have an effective filing date after March 16, 2013, Patent Owner argues that claims 6 and 15 have been disclaimed, and disclaimed claims cannot be used to confer PGR eligibility. Prelim. Resp. 18–22; Prelim. Sur-reply 6–7. Patent Owner also argues that this limitation is supported in the '802 provisional application. Prelim. Resp. 22–23. Petitioner argues that disclaimed claims can be used to confer PGR eligibility. Prelim. Reply 5–7. We decline to reach this issue in view of our determination that claim 1 has an effective filing date after March 16, 2013 and thus renders the '046 patent eligible for post-grant review. *See* AIA § 3(n)(1) (the first-inventor-to-file provisions apply to any patent that issues from an application that contains or contained at any time

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a claim to a claimed invention that has an effective filing date on or after March 16, 2013).

We further determine that Petitioner filed the Petition within the 9-month statutory period for requesting post-grant review in accordance with 35 U.S.C. § 321(c). The '046 patent issued on March 24, 2020 (*see* Ex. 1001, code (45)), and the Petition in this proceeding was accorded a filing date of December 23, 2020 (*see* Paper 6). Thus, the Petition was filed less than 9 months after the date of issuance of the '046 patent.

Accordingly, we determine that the '046 patent is eligible for post-grant review.

B. Discretion under 35 U.S.C. § 324(a)

Patent Owner urges the Board to exercise discretion to deny institution of post-grant review under 35 U.S.C. § 324(a) "because institution of this proceeding would not be consistent with the objective of the AIA to 'provide an effective and efficient alternative to District Court litigation,'" in view of the ongoing parallel proceeding between the parties in the U.S. District Court for the Eastern District of Texas. Prelim. Resp. 56–57 (citing *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential)); *see also id.* at 58–63; Prelim. Sur-reply 1–6. Petitioner disagrees. Prelim. Reply 1–6.

Section 324(a) of 35 U.S.C. states that

> [t]he Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

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The portion of the statute reading "[t]he Director may not authorize . . . unless" mirrors the language of 35 U.S.C. § 314(a), which concerns *inter partes* review. This language of sections 314(a) and 324(a) provides the Director with discretion to deny institution of a petition. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); Consolidated Trial Practice Guide November 2019 ("TPG")[7] at 55.

In exercising the Director's discretion under 35 U.S.C. §§ 314(a) and 324(a), the Board may consider "events in other proceedings related to the same patent, either at the Office, in district courts, or the ITC." TPG at 58. The Board's precedential *NHK Spring* decision explains that the Board may consider the advanced state of a related district court proceeding, among other considerations, as a "factor that weighs in favor of denying the Petition under § 314(a)." *NHK Spring*, Paper 8 at 20.

Additionally, the Board's precedential *Fintiv* Order identifies several factors to be considered when analyzing issues related to the Director's discretion to deny institution, with the goal of balancing efficiency, fairness, and patent quality. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv* Order"). These factors include: 1) whether a stay exists or is likely to be granted if a proceeding is instituted; 2) proximity of the court's trial date to the Board's projected statutory deadline; 3) investment in the parallel proceeding by the court and parties; 4) overlap between issues raised in the petition and in the parallel proceeding; 5) whether the petitioner and the defendant in the parallel proceeding are the same party; and 6) other circumstances and

[7] *Available at* https://www.uspto.gov/TrialPracticeGuideConsolidated.

considerations that impact the Board's exercise of discretion, including the merits. *Id.*

We recognize that *NHK Spring* and the *Fintiv* Order apply the Director's discretion pursuant to 35 U.S.C. § 314(a), and do not specifically extend their application to 35 U.S.C. § 324(a), which is the relevant statute that applies to this PGR proceeding. As noted above, however, the pertinent statutory language is the same in both section 314(a) and section 324(a). Moreover, the overall policy justifications associated with the exercise of discretion—inefficiency, duplication of effort, and the risk of inconsistent results—apply to post-grant review proceedings under 35 U.S.C. § 324(a). Accordingly, we weigh the factors set forth in the *Fintiv* Order to the facts here. *See, e.g.*, *Teva Pharms. USA, Inc. v. Corcept Therapeutics, Inc.*, PGR2019-00048, Paper 19 at 11 (Nov. 20, 2019) (analyzing *NHK Spring* and instituting trial); *Supercell Oy v. GREE, Inc.*, PGR2020-00034, Paper 13 (Sept. 3, 2020) (analyzing the *Fintiv* Order and denying institution).

We, however, recognize that there are differences between *inter partes* review and post-grant review that, when relevant to specific *Fintiv* factors, must be considered. Those differences include the fact that the window for filing a petition for post-grant review is open only for nine months from the date of issuance. *See* 35 U.S.C. § 321(c). Furthermore, "[t]he intent of the post-grant review process is to enable early challenges to patents, while still protecting the rights of inventors and patent owners against new patent challenges unbounded in time and scope." H.R. Rep. No. 112-98, pt. 1, 47–48 (2011).

In determining whether to exercise discretion to deny institution under 35 U.S.C. § 324(a), we consider each of the factors set forth in the precedential *Fintiv* Order.

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Factor 1: whether the court granted a stay or evidence exists that one may be granted if this proceeding is instituted

Patent Owner asserts that there is no stay in the parallel district court proceeding, nor has Petitioner sought a stay. Prelim. Resp. 62. Patent Owner also asserts that "the long-standing practice in the Eastern District of Texas is not to stay unless all asserted claims in the case are subject to instituted proceedings in the PTAB." *Id.* (citing *AGIS Software Dev. LLC v. Google LLC*, No. 2:2019-cv-00361-JRG, 2021 WL 465424, at *2 (E.D. Tex. Feb. 9, 2021)); *see also* Prelim. Sur-reply 2. According to Patent Owner, a stay is unlikely to issue because there is no instituted reviews on any of the other patents asserted in the parallel district court proceeding. Prelim. Resp. 62; Prelim. Sur-reply 2.

Petitioner argues that a stay would be appropriate in view of the early stage of the parallel district court proceeding. Pet. 29. Petitioner also argues that, because a motion to stay has not yet been filed in the parallel district court proceeding, the Board should not infer the outcome of a motion to stay. *Id.* (citing *Intel Corp. v. VLSI Tech. LLC*, IPR2020-00158, Paper 16 at 7 (PTAB May 20, 2020); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) ("*Fintiv*"); Prelim. Reply 1 (citing *DISH Network L.L.C. v. Broadband iTV, Inc.*, IPR2020-01359, Paper 15 at 11 (PTAB Feb. 12, 2021)).

In view of the above, we decline to speculate as to the likelihood of a stay of the district court proceeding. Accordingly, this factor is neutral.

Factor 2: proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

Patent Owner states that a jury trial is scheduled to begin in the parallel proceeding on March 21, 2022, which is approximately four months

before a final written decision would issue in this proceeding. Prelim. Sur-reply 1. Thus, according to Patent Owner, this factor weighs strongly in favor of denial. *Id.*

Petitioner argues that "the short time period between the trial and the issuance of the final written decision does not warrant a discretionary denial." Prelim. Reply 2. Petitioner cites *Hulu, LLC v. SITO Mobile R&D IP*, IPR2021-00206, Paper 11 at 10–11 (PTAB May 10, 2021) for determining that a trial date three months before final written decision weighs only "marginally in favor of" discretionary denial. *Id.* In *Hulu*, however, the Board determined that the district court trial was scheduled to begin *less* than three months before the projected deadline for a final written decision. *Hulu*, Paper 11 at 11. Here, the approximately four months between the scheduled trial date and the projected deadline for a final written decision is a slightly more significant period.

Overall, we determine that this factor weighs in favor of invoking our discretion to deny institution.

Factor 3: investment in the parallel proceeding by the court and the parties

Factor 3 relates to "the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision." *Fintiv* Order, Paper 11 at 9. Petitioner argues that the parallel proceeding is in its early stages, and the investment in the proceeding has been relatively minimal. Pet. 30. More specifically, Petitioner argues that claim construction, Petitioner's final invalidity contentions, Petitioner's expert invalidity report, and Patent Owner's expert validity report will not have occurred at the time of this Decision. Prelim. Reply 3 (citing Ex. 1046, 3; Ex. 1049, 58–59). Petitioner also argues that invalidity discovery does

not close until December 6, 2021, and dispositive motions on the invalidity of the '046 patent have not been filed, such that there will be no district court orders related to the validity of the '046 patent at the time of this Decision. *Id.* (citing Ex. 1046, 3).

Patent Owner argues that the parties will "complete all claim construction proceedings, fact and expert discovery, and dispositive motions, and trial itself, all long before a Final Written Decision." Prelim. Resp. 61. This argument, however, does not address the investment by the court and the parties *at the time of the institution decision*, as required by the *Fintiv* Order. In its Sur-reply, Patent Owner argues it served infringement contentions on May 12, 2021, and Petitioner will serve its invalidity contentions on July 14, 2021. Prelim. Sur-reply 4. Patent Owner also argues that "[c]laim construction briefs will be filed with the Court in September and October, with a claim construction hearing on October 28, 2021," such that "substantial resources will have been expended by the parties by the time of the institution decision and shortly after." *Id.* at 4–5. The claim construction briefing, however, will occur a significant amount of time after this Decision, with the claim construction hearing occurring more than three months after this Decision.

In view of the above, we determine that the investment in the parallel proceeding at this time is minimal. Accordingly, this factor weighs strongly against exercising our discretion to deny institution.

Factor 4: overlap between issues raised in the petition and in the parallel proceeding

At the time the parties completed the additional briefing on our discretion to deny institution under 35 U.S.C. § 324(a), Petitioner's preliminary invalidity contentions had not been filed. As such, the parties'

briefs do not address any overlap between Petitioner's preliminary invalidity contentions and the grounds asserted in the Petition, and, consequently, we do not have the benefit of the parties' positions on how the preliminary invalidity contentions may inform this factor. Although the preliminary invalidity contentions are scheduled to be served on July 14, 2021, we have not had an adequate opportunity to assess the invalidity contentions fully in view of the statutory deadline for this Decision.[8] Accordingly, on the record before us, we are unable to determine that there is any overlap between the issues raised in the Petition and in the parallel proceeding.

Patent Owner argues that Petitioner "stated that it presented every argument regarding § 101 and § 112 in its Petition due to the 'breadth of estoppel under 35 U.S.C. § 325(e)(2),'" and concludes that Petitioner's "arguments, and evidence, in its Petition will thus necessarily overlap with those presented to the District Court." Prelim. Resp. 58–59 (citing Paper 3, 3–4). We are not persuaded by this argument, which we find speculative.

Patent Owner also argues that it has asserted claims 1, 2, and 5 in the parallel proceeding, and Petitioner has challenged those claims in this proceeding. Prelim. Sur-reply 3 (citing Pet. 27). Thus, Patent Owner contends that the same claims are at issue in both proceedings. *Id.* This contention is not entirely accurate, however, because the Petition also challenges claims 3, 4, 12–14, and 17, which Patent Owner does not identify as being asserted in the parallel proceeding.

In addition, Petitioner states

[8] We also note that these contentions are not Petitioner's *final* invalidity contentions, which are not scheduled to be served until after this Decision. *See* Ex. 1046, 3.

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> if the Board institutes trial, Petitioner stipulates that it will not assert in the district court litigation any invalidity grounds under 35 U.S.C. § 101 and will not assert the written description invalidity grounds under 35 U.S.C. § 112 that were raised in the Petition, for the claims on which trial is instituted, while trial is instituted.

Prelim. Reply 4. In response, Patent Owner argues that Petitioner's proposed stipulation would not prevent Petitioner from raising substantially similar written description grounds in the parallel proceeding. Prelim. Sur-reply 4. Patent Owner also points out that the stipulation is limited to "the claims on which trial is instituted, while trial is instituted." *Id.* (citing Prelim. Reply 4).

We agree with Patent Owner that Petitioner's stipulation is not exceptionally strong, particularly with respect to § 112. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential) (finding that "a stipulation that, if IPR is instituted, they will not pursue in the District Court Litigation any ground raised or that could have been reasonably raised in an IPR," weighed strongly in favor of not exercising discretion to deny institution). In any case, Petitioner's stipulation allays at least some concerns regarding overlapping issues. *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 11–12 (PTAB June 16, 2020) (informative) (A stipulation that "if the IPR is instituted, Petitioner will not pursue the same grounds in the district court litigation" "mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions.").

In view of the above, we find that the record lacks specific, non-speculative evidence to suggest that there is any overlap between the

issues raised in the Petition and in the parallel proceeding. And to the extent that Petitioner's preliminary invalidity contentions suggest overlap, Petitioner's stipulation mitigates to some degree any concerns raised by such overlap. Accordingly, this factor weighs against exercising our discretion to deny institution.

Factor 5: whether Petitioner and the defendant in the parallel proceeding are the same party

If Petitioner was unrelated to the defendant in the parallel proceeding, that might weigh against discretionary denial. *See Fintiv*, Paper 11 at 13–14. Here, however, Petitioner is the defendant in the parallel proceeding. This fact could weigh either in favor of, or against, exercising discretion to deny institution, depending on which tribunal was likely to address the challenged patent first. Because trial in the parallel proceeding is scheduled to occur before the issuance of a Final Written Decision in this proceeding, this factor weighs in favor of exercising discretion to deny institution.

Factor 6: other circumstances that impact the Board's exercise of discretion, including the merits

The factors considered in the exercise of discretion are part of a balanced assessment of all the relevant circumstances in the case, including the merits. *Fintiv* Order, Paper 11 at 14. For example, if the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution. *Id.* at 14–15. By contrast, if the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present. *Id.* at 15. Here, Patent Owner argues that the asserted grounds are not strong and should be denied on the merits. Prelim. Resp. 63; Prelim. Sur-reply 5–6.

Petitioner, on the other hand, argues that the merits of its arguments are strong. Pet. 32; Prelim. Reply 5.

Upon our initial review of the merits based on a preliminary record, we determine that Petitioner's challenge based on § 112(a) has merit, and that Petitioner's challenge based on § 101 is a closer call. Accordingly, the facts underlying this factor are neutral.

Conclusion

We consider the above factors and take "a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Fintiv* Order, Paper 11 at 6. In view of our analysis of the factors, we find that, on balance, the factors weigh against discretionary denial. Thus, we decline to exercise our discretion to deny institution under 35 U.S.C. § 324(a).

C. Claim Construction

We construe the claims using the same claim construction standard that is applied in civil actions under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2020); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In so doing, we construe a claim "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b) (2020).

After noting that the claims should be construed "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent," Petitioner argues that "[n]o terms require construction to determine that claims 1–17 are invalid under §§ 112(a) and 101." Pet. 25–26 (citing Ex. 1003 ¶¶ 63–67). Mr. Gray opines that none "of the claim terms require a

specific construction beyond the plain and ordinary meaning as would be understood by a [person having ordinary skill in the art]." Ex. 1003 ¶ 65.

Patent Owner argues that the claims must be construed to determine whether the claims have written description support. Prelim. Resp. 5–6 (citing *In re Katz Interactive Call Processing Pat. Litig.*, 639 F.3d 1303, 1319 (Fed. Cir. 2011); *Uniloc USA, Inc. v. Sega of Am., Inc.*, 711 F. App'x 986, 990 (Fed. Cir. 2017)). According to Patent Owner, we should deny institution because Petitioner's failure to offer any claim construction is fatal to the Petition. *Id.* at 6 (citing *X2Y Attenuators, LLC v. Int'l Trade Comm'n*, 757 F.3d 1358, 1365 (Fed. Cir. 2014)). Patent Owner also argues that the Board has previously denied institution where a petitioner failed to provide a claim construction for a key term. *Id.* (citing *Orthopediatrics Corp. v. K2M, Inc.*, IPR2018-01548, Paper 9 at 10 (PTAB Mar. 1, 2019)).

The *Orthopediatrics* case involved interpreting means-plus-function limitations under 35 U.S.C. § 112 ¶ 6, and did not pertain to the adequacy of the written description. *Orthopediatrics*, Paper 9 at 6–11. Specifically, the Board noted that, in a related district court proceeding, the petitioner advocated that certain claim limitations were subject to means-plus-function claim construction, a position that conflicted with the petitioner's position before the Board. *Id.* at 10. In view of "the unique circumstances" created by the petitioner advocating for a different claim construction in the related district court proceeding, the Board determined that the petition failed to comply with 37 C.F.R. § 42.104(b)(3) because of the petitioner's failure to provide an explicit claim construction. *Id.* at 10–11.

Thus, the present case can be distinguished from *Orthopediatrics* because the record before us does not indicate that Petitioner has taken an inconsistent claim construction position in any related district court

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proceedings. Furthermore, we understand Petitioner's position, as supported by Mr. Gray's testimony, to be that the ordinary and customary meaning of the claim terms can be understood by one of ordinary skill in the art without explicit claims constructions. For purposes of this Decision, we determine that this position complies with 37 C.F.R. § 42.204(b)(3).

Patent Owner proposes a claim construction for the term "payment gateway" recited in claims 1 and 12 and the term "displaying a denial" in claim 1. Prelim. Resp. 7–9. We address each of these terms below.

1. "payment gateway"

Patent Owner asserts that the '046 patent explicitly defines "payment gateway" as "a gateway provided for settling a payment, the gateway may include a server or collection of servers." Prelim. Resp. 8 (citing Ex. 1001, 3:8–10). Thus, Patent Owner contends that "payment gateway" should be construed as "a server or collection of servers for settling a payment." *Id.*

As noted by Patent Owner, the '046 patent discloses that "the present invention is a gateway provided for settling a payment, the gateway may include a server or a collection of servers." Ex. 1001, 3:8–10. Furthermore, the '046 patent discloses that "[t]he gateway further comprises a server that . . . perform[s] operations of: receiving a payment request from a second 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." *Id.* at 3:17–31. The '046 patent also discloses "a payment gateway . . . for payment that is configured to proceed with the payment in accordance with a chosen payment method," and "a payment gateway 104 [that] 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." *Id.* at 1:65–67; 5:52–56.

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In view of these disclosures, we agree with Patent Owner and construe "payment gateway" as "a server or collection of servers for settling a payment."

2. "displaying a denial"

Patent Owner asserts that the plain meaning of "denial" is a "refusal to satisfy a request." Prelim. Resp. 8 (citing Ex. 2001). Patent Owner also asserts that the specification of the '046 patent discloses that a rejection (which Patent owner equates to a denial) indicates that the transaction cannot proceed without user input. *Id.* (citing Ex. 1001, 8:9–13). According to Patent Owner, this denial must be displayed, meaning that is must be a displayable message. *Id.* at 9. Patent Owner concludes that "displaying a denial" should be construed as "displaying a message indicating that the transaction cannot proceed." *Id.*

As noted above, the term "displaying a denial" is part of a limitation that recites in its entirety: "displaying a denial of the payment request when the balance is less than the total amount." Ex. 1001, 25:52–53. Patent Owner's proposed construction does not take into account that claim 1 already recites that *the payment request* is denied. Denying the payment request may be tantamount to indicating that the transaction cannot proceed, but Patent Owner's proposed construction for "displaying a denial" would result in redundant language. Furthermore, the '046 patent's disclosure of a rejection relied on by Patent Owner does not pertain to a rejection or denial that results from the e-purse balance being less than the total amount of the bill. Instead, this portion of the specification relates to rejecting the payment request if the payment amount entered by the user is less than the amount of the bill. *Id.* at 8:3–9.

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In view of the above, we decline to adopt Patent Owner's proposed construction. Rather, we determine that an express construction of this limitation is not necessary.

D. Asserted Unpatentabilty Under 35 U.S.C. § 112(a)

Section 112(a) of Title 35, United States Code, provides that a patent "specification shall contain a written description of the invention." To satisfy the written description requirement, the specification "must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (internal quotation marks and alterations omitted). A patent applicant must "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention," and "[t]he invention is, for purposes of the 'written description' inquiry, whatever is now claimed." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991).

Petitioner argues that the challenged claims are invalid because they contain limitations that are not supported by the written description. Pet. 32 (citing Ex. 1003 ¶ 149). Specifically, Petitioner contends that the written description does not support (1) sending the payment request to the payment gateway only when an e-purse balance is sufficient, as required by claims 1 and 12; (2) "displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount," as recited in claim 1; and (3) "wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount," as recited in claim 12. *Id.* at 33–57. We address each of these limitations below.

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1. sending the payment request to the payment gateway only when an e-purse balance is sufficient

> Petitioner argues that claim 1 was amended during prosecution to add the steps of "verifying the total amount with a balance in the e-purse," and either (i) "displaying a denial of the payment request when the balance is less than the total amount" or (ii) sending the payment request from the mobile device to the payment gateway when "the balance is sufficient to honor the payment request."

Pet. 34 (citing Ex. 1002, 153–54). According to Petitioner, claim 1 did not recite sending the payment request to the payment gateway only when the e-purse balance was sufficient to pay the total amount. *Id.* (citing Ex. 1002, 153; Ex. 1003 ¶ 150).

Petitioner argues that this limitation is not disclosed in the specification of the '046 patent. *Id.* at 37. In particular, Petitioner argues that none of the portions of the specification cited by the applicants as supporting the amended claim language actually disclose this limitation. *Id.* at 37–38 (citing Ex. 1002, 160; Ex. 1003 ¶ 153). For example, Petitioner argues that Paragraphs 33 and 37 of the '349 application (which correspond to lines 46–53 in column 7 and lines 25–30 in column 8, respectively, of the '046 patent) merely describe the ability of a customer to select an "e-purse" as the method of payment on the mobile device. *Id.* at 38.

Petitioner also argues that the applicants' reliance on Paragraph 131 (which corresponds to lines 13–51 in column 20 of the '046 patent) and Figure 6C of the '349 application also fails to support the limitation. *Id.* at 41. First, Petitioner asserts that the embodiment described in connection with Figure 6C does not include a payment gateway. *Id.* (citing Ex. 1003 ¶ 156). Instead, Petitioner contends that Paragraph 131 and Figure 6C describe a payment process utilizing the system of Figure 6A—a system in

which e-token enabled device 636 communicates *only* with POS portable device 630—not a payment gateway. *Id.* at 41–42 (citing Ex. 1001, Fig. 6A; Ex. 1003 ¶ 156). Second, Petitioner admits that Figure 6C depicts determining whether this is a sufficient balance in the e-token, but argues that this determination is made by POS manager 623—not the consumer's e-purse device as required by claim 1. *Id.* at 42–43 (citing Ex. 1002, 738–39).

Next, even though not cited by the applicants' in the amendment, Petitioner argues that process 670 of Figure 6D is similarly deficient because it also relies on the system of Figure 6A. *Id.* at 44 (citing Ex. 1001, 21:20–26; Ex. 1003 ¶ 157).

Lastly, Petitioner argues that the applicants' reliance on Paragraph 64 (which corresponds to lines 6–31 in column 13 of the '046 patent) and Figure 2F of the '349 application is insufficient to support the limitation. *Id.* at 45 (citing Ex. 1003 ¶ 158). According to Petitioner, Paragraph 64 and Figure 2F merely describe system 260 for e-commerce and m-commerce transactions and do not disclose specific steps for conducting the transactions. *Id.* at 45–46 (citing Ex. 1001, Fig. 2F; Ex. 1002, 727).

Regarding claim 12, Petitioner argues that the applicants amended claim 12 in a manner similar to claim 1, such that claim 12 also recites sending the payment request to the payment gateway only when the amount of the invoice is less than the e-purse balance. *Id.* at 52–53 (citing Ex. 1002, 156; Ex. 1003 ¶ 166). Petitioner then asserts that this limitation of claim 12 lacks written description support for the same reasons argued in connection with claim 1. *Id.* at 53 (citing Ex. 1003 ¶¶ 150–160, 166–167).

In response, Patent Owner argues that Figure 6C of the '802 provisional application[9] discloses "verifying the total amount with a balance in the e-purse" because it "shows that the mobile device verifies that the balance in the e-token is sufficient to honor the payment request" at step 656. Prelim. Resp. 24–25. Then, according to Patent Owner, Figure 6C shows that "the mobile device deducts the purchased amount from the e-token (step 660) and uploads the transaction to the backend server (step 662)" only if the balance is sufficient. *Id.* at 25. Patent Owner also argues that the backend server (i.e., POS transaction server 613) is a payment gateway as that term is properly construed. *Id.* (citing Ex. 1030 ¶ 136); *see also id.* at 27–28. Thus, in Patent Owner's view, the '802 provisional application fully describes the limitation "sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request." *Id.* at 25.

First, based on our construction of "payment gateway" (*see supra* § III.C.1), we agree with Patent Owner that POS transaction server 613 is a payment gateway in a general sense because it is a server used in connection with settling payments (*see* Ex. 1001, 20:46–48). Claim 1, however, also recites that 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." Ex. 1001, 25:56–60. We are not persuaded on the record before us that POS transaction server 613 sends such a message directly to POS manager 623. Accordingly, we

[9] Although Patent Owner cites to the '802 provisional application, it indicates that the '046 patent includes the same Figure 6C and the accompanying description. Prelim. Resp. 25–26 (citing Ex. 1001, 20:4–51, Fig. 6C).

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determine that POS transaction server 613 is not a payment gateway as recited in claim 1.

Second, we are not persuaded by Patent Owner's assertion that "the mobile device" verifies the balance and uploads the transaction (i.e., sends the payment request to the payment gateway). It is not clear what structure of the invention as disclosed corresponds to the "mobile device." Perhaps the "mobile device" refers to e-token enabled device 636 of Figure 6A, but that is just speculation in view of Patent Owner's failure to identify the specific structure it is referencing.

In any event, the '802 provisional application (and the '046 patent as well) refers to process 650 of Figure 6C as a process performed by POS manager 623. Ex. 1030 ¶ 136; Ex. 1001, 20:13–14. This disclosure strongly suggests that POS manager 623—not a mobile device—sends the payment request to the payment gateway. Patent Owner argues that POS manager 623 is referenced as only an example and the disclosure does not restrict process 650 to being performed by POS manager 623. Prelim Resp. 28. Patent Owner, however, but does not direct us to any disclosure to suggest that a mobile device, or any other structure other than POS manager 623, would perform the steps of verifying the balance and sending the payment request to the payment gateway.

Next, Patent Owner argues that Figure 6D shows a process that is similar to the process of Figure 6C, again relying on POS transaction server 613 as corresponding to the claimed payment gateway. Prelim Resp. 26–27 (citing Ex. 1030 ¶ 139). We find these arguments unpersuasive for the same reasons discussed above.

For the above reasons, we are not persuaded that the limitation "sending the payment request from the mobile device to the payment

gateway, wherein the balance is sufficient to honor the payment request" has adequate written description support under 35 U.S.C. § 112(a).

Regarding claim 12, Patent Owner argues that the '046 patent and the pre-AIA applications fully describe the limitation "the payment request is sent to a payment gateway when the amount is less than a balance of an electronic purse (e-purse) maintained locally in the mobile device" as discussed in connection with the similar limitation of claim 1. Prelim Resp. 31. We find these arguments unpersuasive for the same reasons discussed above in connection with claim 1. Accordingly, we are not persuaded that this claim 12 limitation has adequate written description support under 35 U.S.C. § 112(a).

2. "displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount"

Petitioner argues that this claim 1 limitation is not disclosed in the original specification of the '046 patent as filed. Pet. 47–48. In particular, Petitioner argues "[n]either embodiment in which an e-purse is used to make a payment (Figures 1A-B and Figures 6A-D) discloses displaying a confirmation that the balance in the e-purse has been reduced." *Id.* at 48. According to Petitioner, the description of Figures 1A–1B does not disclose displaying anything on the mobile device after payment is completed. *Id.* (citing Ex. 1003 ¶ 162). Petitioner further asserts that the description of Figures 6A–6D also fails to disclose displaying anything on the mobile device after payment is completed, and process 650 of Figure 6C does not include a display step at all. *Id.* at 49 (citing Ex. 1003 ¶ 163). As for process 670 of Figure 6D, Petitioner argues that, although this process includes display step 686, "the specification is clear that it is the 'POS

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Manager' that performs the steps of process 670—not the mobile device." *Id.* at 49–50 (citing Ex. 1001, 21:25–26; Ex. 1003 ¶ 163).

In response, Patent Owner argues that the pre-AIA applications disclose this limitation. Prelim. Resp. 29. First, Patent Owner argues that the '802 provisional application discloses that "the e-purse manager 'is configured to provide administrative functions such as . . . viewing an e-purse balance and a transaction history log.'" *Id.* at 29–30 (citing Ex. 1030 ¶ 101). This portion of the disclosure, however, describes a software component performing various "administrative functions" including viewing an e-purse balance. Ex. 1030 ¶ 101. There is no mention of displaying a confirmation that the balance has been reduced by a specific amount. Accordingly, we do not this argument persuasive.

Next, Patent Owner argues that "Figure 6D explains that the device 'display[s] transaction after POS SAM has recorded the transaction,'" and "[t]he application further states 'the recorded transaction is displayed at 686 before the process 670 ends.'" Prelim. Resp. 30 (first alteration in original). Patent Owner also argues that "[o]ne of skill in the art reading the specification would recognize that displaying the transaction requires displaying the balance in the e-purse, and thus displaying that the balance has been reduced by the total amount." *Id.*

We do not find this argument persuasive because we agree with Petitioner that process 670 is disclosed as being performed by POS manager 623 and, thus, there is no suggestion that display step 686 is displayed on a mobile device. *See* Pet. 49–50. Regarding Patent Owner's argument that the disclosure of process 670 being carried out by POS manager 623 is only an example (Prelim. Resp. 30), we are not persuaded by this arguments for the same reasons discussed above (*see supra* § III.D.1).

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For the above reasons, we are not persuaded that the limitation "displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount" has adequate written description support under 35 U.S.C. § 112(a).

3. "wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount"

According to Petitioner, "[t]he idea that the *payment gateway*—rather than some other element—causes the e-purse balance to be reduced is not disclosed in the as-filed specification." Pet. 54 (citing Ex. 1003 ¶ 168). Petitioner asserts that neither of the embodiments that describe e-purse payments (i.e., the embodiments of Figures 1A–B and Figures 6A–D) discloses using a payment gateway to reduce the e-purse balance. *Id.*

Patent Owner argues that Petitioner incorrectly interprets this limitation to mean that the payment gateway *directly* reduces balance, but claim 12 is not so limited. Prelim. Resp. 32; *see also id.* at 34 ("One of skill in the art would recognize that the transaction only proceeds (and results in the balance being reduced) after the payment gateway allows it to do so. Accordingly, the payment gateway causes the balance to be reduced.").

Based on the current record, we agree with Patent Owner that claim 12 does not require the payment gateway to directly reduce the e-purse balance. Accordingly, at this stage of the proceeding, we are not persuaded that the limitation "wherein the payment gateway is configured to cause the balance in the e-purse reduced by the amount" of claim 12 lacks written description. However, we invite the parties to brief the proper construction of this limitation during trial, if desired, and we will address the claim language on the complete trial record, including any claim construction analysis, to the extent included in the record.

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4. Conclusion

For the above reasons, we determine that Petitioner has shown that it is more likely than not that independent claims 1 and 12, and thus claims 2–5, 13, 14, and 17 depending therefrom, are unpatentable under 35 U.S.C. § 112(a).

E. Subject Matter Eligibility under 35 U.S.C. § 101

Petitioner asserts that the challenged claims are unpatentable under 35 U.S.C. § 101 because they are directed to ineligible subject matter. Pet. 58–107. Specifically, Petitioner asserts that the challenged claims are directed to presenting and settling an invoice, which, Petitioner contends, is a fundamental economic practice and therefore an abstract idea. *Id.* at 58, 61–65. Petitioner also contends that the claims do not contain an inventive concept sufficient to transform the claimed abstract idea into a practical application. *Id.* at 65–93.

Petitioner contends that "claim 1 is representative of both challenged independent claims (claims 1 and 12) because both claims are directed to the same abstract idea—presenting and settling an invoice—and have substantially similar limitations." *Id.* at 60. Accordingly, for purposes of this Decision, we focus our analysis on independent claim 1.

1. Principles of Law

a) Section 101

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

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In determining whether a claim falls within an excluded category, we are guided by the Court's two-part framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Court

also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g.*, *id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second part of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

b) USPTO § 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101.[10] The Manual of

[10] 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance"). In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update"). "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." 84 Fed. Reg. at 51; *see also* October 2019 Update at 1.

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Patent Examining Procedure ("MPEP") now incorporates this revised guidance and subsequent updates at § 2106 (9th ed. Rev. 10.2019, rev. June 2020).[11]

> Under MPEP § 2106, we first look to whether the claim recites:
>
> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) ("Step 2A, Prong One"); and
>
> (2) additional elements that integrate the judicial exception into a practical application ("Step 2A, Prong Two").[12]

MPEP § 2106.04(a), (d).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application,[13] do we then look, under Step 2B, to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional activity" in the field; or

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[11] All references to the MPEP are to the Ninth Edition, Revision 10.2019 (Last Revised June 2020), unless otherwise indicated.

[12] "Examiners evaluate integration into a practical application by: (1) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (2) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application." MPEP § 2106.04(d)(II).

[13] This corresponds to *Alice* part one where it is determined whether the claim is "directed to" an abstract idea. *See Alice*, 573 U.S. at 219. If a claim is "not directed to an abstract idea under step one of the *Alice* analysis, we do not need to proceed to step two." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

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> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.[14]

MPEP § 2106.05(d). Our reviewing court has warned that "the Office Guidance is not, itself, the law of patent eligibility" and "does not carry the force of law." *In re Rudy*, 956 F.3d 1379, 1382 (Fed. Cir. 2020); *see also cxLoyalty, Inc. v. Maritz Holdings Inc.*, No. 2021-1307, 2021 WL 416719, *6 n.1 (Fed. Cir. Feb. 8, 2021); *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 760 F. App'x 1013, 1020 (Fed. Cir. 2019). Rather, "it is our [reviewing court's] caselaw, and the Supreme Court precedent it is based upon, that must control." *Rudy*, 956 F.3d at 1383 (citation omitted). Thus, although our analysis may be framed in terms of the 2019 Revised Guidance, our decision is based upon governing precedent of the United States Supreme Court and our reviewing court's interpretation and application thereof.

2. Analysis

> Under Step 2A, Prong 1 of the Guidance, Petitioner asserts that:
>
> Representative claim 1 is a "method for mobile payment" comprising steps generally required in any retail transaction (electronic or otherwise): (i) receiving an invoice, (ii) displaying the amount to be paid, (iii) adjusting the to-be-paid amount, (iv) calculating a total amount, (v) displaying the total amount, (vi) determining the sufficiency of a balance to pay the total amount, (vii) making the payment or denying the payment based on whether the balance is sufficient.

Pet. 61 (citing Ex. 1001, claim 1; Ex. 1003 ¶ 71). Based on this assertion, Petitioner argues that claim 1 as a whole describes only the process of

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[14] This corresponds to *Alice* part two where it is determined whether the claim "contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221.

presenting and settling an invoice, which Petitioner contends is a fundamental economic practice. *Id.* at 62.

In response, Patent Owner argues that Petitioner's analysis of claim 1 "oversimplifies" the claim in asserting that it is directed solely to presenting and settling an invoice. Prelim. Resp. 45. Patent Owner argues that the Federal Circuit has cautioned against oversimplifying the claims when determining whether the claim is directed to an abstract idea under the first part of the *Mayo/Alice* framework. *Id.* at 45–46 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016)).

Patent Owner's argument has merit. Petitioner's analysis of claim 1 described above only loosely corresponds to the actual limitations recited in the claim. As noted by Patent Owner, the Federal Circuit has "cautioned that courts 'must be careful to avoid oversimplifying the claims' by looking at them generally and failing to account for the specific requirements of the claims." *McRO*, 837 F.3d at 1313 (quoting *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)). But "failing to account for the specific requirements of the claims" is what Petitioner's limited analysis of the claim limitations appears to do.

Accordingly, based on the current record, we question whether Petitioner establishes sufficiently that claim 1 recites an abstract idea.[15] Nevertheless, because Petitioner has shown that it is more likely than not that claims 1–5, 12–14, and 17 are unpatentable under 35 U.S.C. § 112(a) (*see supra* § III.D), we include this ground in the instituted post-grant review. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018);

[15] In view of this apparent deficiency under Step 2A, Prong 1, we do not address Step 2A, Prong 2 or Step 2B of the Guidance at this stage of the proceeding.

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see also PGS Geophysical AS v. Iancu, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition"); TPG at 64.

IV. CONCLUSION

For the foregoing reasons, we conclude that the information presented in the Petition demonstrates that it is more likely than not that at least one of the claims challenged in the Petition is unpatentable.

At this stage of the proceeding, the Board has not made a final determination as to the construction of any claim term or the patentability of any challenged claim.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 324, a post-grant review of claims 1–5, 12–14, and 17 of the '046 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324 and 37 C.F.R. § 42.4(b), post-grant review of the '046 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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FOR PETITIONER:

Andrew S. Ehmke
Andy.ehmke.ipr@haynesboone.com

Scott T. Jarratt
Scott.jarratt.ipr@haynesboone.com

Jonathan R. Bowser
Jon.bowser.ipr@haynesboone.com

Angela M. Oliver
Angela.oliver.ipr@haynesboone.com

FOR PATENT OWNER:

Vincent Rubino
vrubino@fabricantllp.com

Peter Lambrianakos
plambrianakos@fabricantllp.com

Enrique Iturralde
eiturralde@fabricantllp.com

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AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:21-cv-00916	September 7, 2021	Western District of Texas - Waco Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	Apple, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,118,218	February 21, 2012	RFCyber Corp.
2	9,189,787	November 17, 2015	RFCyber Corp.
3	9,240,009	January 19, 2016	RFCyber Corp.
4	10,600,046	March 24, 2020	RFCyber Corp.
5	11,018,724	May 25, 2021	RFCyber Corp.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Eastern District of Texas, Marshall Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:20-cv-00336	10/16/2020	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
RFCyber Corp.	LG ELECTRONICS, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,118,218	2/21/2012	RFCyber Corp.
2	8,448,855	5/28/2013	RFCyber Corp.
3	9,189,787	11/17/2015	RFCyber Corp.
4	9,240,009	1/19/2016	RFCyber Corp.
5	10,600,046	3/24/2020	RFCyber Corp.

In the above---entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
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In the above---entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

Accordingly, all pending claims and causes of action in Case No. 2:20-cv-00336-JRG-RSP by and between the parties are DISMISSED WITH PREJUDICE

CLERK	(BY) DEPUTY CLERK	DATE
David A. O'Toole	CH	9/15/21

Copy 1---Upon initiation of action, mail this copy to Director Copy 3---Upon termination of action, mail this copy to Director
Copy 2---Upon filing document adding patent(s), mail this copy to Director Copy 4---Case file copy