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OPTIMIZATION OF CARD REISSUE PROCESS FOR EXPIRY DATE CHANGE

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“OPTIMIZATION OF CARD REISSUE PROCESS FOR EXPIRY DATE CHANGE”

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TECHNICAL FIELD

[0001] The present subject matter is, in general, related to payment cards. Specifically, the subject matter relates to optimizing the reissuance process of payment cards.

BACKGROUND

[0002] A payment card enables a user to perform various tasks such as cash withdrawal, cashless purchase at a physical point of sale (POS) by mere swiping of the payment card through a card reader or online transactions for various activities. However, almost every payment card issued by service provider(s) include an expiry date. The expiry date defines the time on which the card will expire. On expiry of the payment card, the service provider either themselves or on request of card holder(s) issues a new payment card with a new expiry date. On the new payment card, other than the expiry date, all details remain intact.

[0003] Thus, only for change of the expiry date, the service provider has to make large amount of expense like printing cost and delivery cost. Similarly, a card holder may also have to bear some cost to get the new payment card. Further, during the delivery of the new payment cards, the payment card supplier may face operational challenges e.g., tracking a card holder if there is a change in current address of the payment card holder or resending the card when the card holder is not available at home etc. Additionally, discarding the expired payment card leads to generation of e-waste, and also generates hazardous plastic, which is not good for the environment.

[0004] Thus, there is a need for a method and a system to optimize reissuance process of payment cards so as to overcome the above-mentioned problems related to the payment cards.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The accompanying drawings, which are incorporated in and constitute a part of this disclosure, illustrate exemplary embodiments and, together with the description, explain the disclosed principles. In the figures, the left-most digit(s) of a reference number identifies the figure in which the reference number first appears. The same numbers are used throughout the figures to reference features and components. Some embodiments of device or system and/or methods in accordance with embodiments of the present subject matter are now described, by way of example only, and with reference to the accompanying figures, in which:

[0006] **Fig. 1** illustrates an environment architecture for a system, in accordance with an embodiment of the present disclosure.

[0007] **Fig. 2** illustrates by way of a block diagram of a system for optimizing reissue of payment card process to update the expiry date of the payment cards, in accordance with an embodiment of the present disclosure.

[0008] **Fig. 3** illustrates an exemplary embodiment of the payment card, in accordance with an embodiment of the present disclosure.

[0009] **Fig. 4** illustrates a flow diagram illustrating a method of optimizing reissuance of payment card process to update expiry date for payment cards, in accordance with an embodiment of the present disclosure.

[0010] The figures depict embodiments of the disclosure for purposes of illustration only. One skilled in the art will readily recognize from the following description that alternative embodiments of the structures and methods illustrated herein may be employed without departing from the principles of the disclosure described herein.

DESCRIPTION OF THE DISCLOSURE

[0011] It is to be understood that the present disclosure may assume various alternative variations and step sequences, except where expressly specified to the contrary. It is also to be understood that the specific devices and processes illustrated in the attached drawings and described in the following specification are simply exemplary and non-limiting embodiments or aspects. Hence, specific dimensions and other physical characteristics related to the embodiments or aspects disclosed herein are not to be considered as limiting.

[0012] In the present document, the word “exemplary” is used herein to mean “serving as an example, instance, or illustration.” Any embodiment or implementation of the present subject matter described herein as “exemplary” is not necessarily to be construed as preferred or advantageous over other embodiments.

[0013] While the disclosure is susceptible to various modifications and alternative forms, specific embodiment thereof has been shown by way of example in the drawings and will be described in detail below. It should be understood, however that it is not intended to limit the

disclosure to the particular forms disclosed, but on the contrary, the disclosure is to cover all modifications, equivalents, and alternative falling within the spirit and the scope of the disclosure.

[0014] The terms “comprise”, “comprising”, or any other variations thereof, are intended to cover a non-exclusive inclusion, such that a setup, device, or method that comprises a list of components or steps does not include only those components or steps but may include other components or steps not expressly listed or inherent to such setup or device or method. In other words, one or more elements in a device or system or apparatus proceeded by “comprises… a” does not, without more constraints, preclude the existence of other elements or additional elements in the device or system or apparatus.

[0015] The terms “an embodiment”, “embodiment”, “embodiments”, “the embodiment”, “the embodiments”, “one or more embodiments”, “some embodiments”, and “one embodiment” mean “one or more (but not all) embodiments of the invention(s)” unless expressly specified otherwise.

[0016] The terms “including”, “comprising”, “having” and variations thereof mean “including but not limited to” unless expressly specified otherwise.

[0017] **Fig. 1** illustrates an environment architecture 100 for implementing a system of optimizing card reissue process for updating the expiry date on the payment card(s), in accordance with an embodiment of the present disclosure. The environment architecture 100 may constitute a system 102, an issuer 104, and a server 106. The system 102 may communicate with all the constituent elements of the environment architecture 100. It must be understood to a person skilled in art that architecture may also be implemented in various environments, other than as shown in FIG. 1.

[0018] In an embodiment, the system 102 may design a payment card and provide the design information of the payment card to the issuer 104. The issuer 104 may issue a physical payment card to customers. The issuer 104 may be, not limited to, a bank, financial institution, and so forth. The issuer 104 may have a database (not shown) in the which the information related to the payment card of the customers may be stored. In an exemplary embodiment, the information may be the personal details of the customer along with the transaction details, account balance details, card details etc. In an embodiment, the system 102 and the database

of the issuer 104 may be a single entity or may be a different entity. The system 102 may keep track of the expiry date of the payment card and accordingly update the expiry date of the payment card and provide the updated expiry date to the database of the issuer 104. The database of the issuer 104 may store the updated expiry date for all the customers that are linked with the issuer and who have opted the service of payment cards.

[0019] The issuer 104 may use the payment card information to authorize the transaction. For example, when person may swipe the payment card for the transaction, the merchant's acquiring bank may send a request to the issuer 104 to authorize the transaction. The issuer 104 may check their database to ensure that the payment card is valid and that there are sufficient funds available to cover the transaction. If the payment card is valid and has not expired, the issuer 104 may send an authorization code back to the acquiring bank of the merchant. By receiving the authorization code, the merchant may receive payment for the transaction. If the card has expired, the issuer 104 may decline the authorization request, and in such scenario, the transaction may not be completed or it may be considered as invalid. However, if the issuer 104 has updated their database with the new expiry date for the payment card, then the payment card may be considered valid, and accordingly, the authorization request gets approved, allowing the transaction to be completed.

[0020] Further, the system 102 may provide the updated expiry date of the payment card to the server 106 of a visa or a server of network provider that provides routing operation (as an intermediate) during transaction of payment. The server 106 may update the expiry date of the payment card in its database. The server 106 may perform the automated recurring process by using the updated expiry date of the payment card. The automated recurring payment services may be features that allow merchants (businesses that sell goods or services) to automatically charge a customer's payment card on a recurring basis, such as for a subscription or membership fee. With automated recurring payments, customers authorize the merchant to charge their payment card at predetermined intervals, such as monthly, quarterly, or annually. This allows customers to receive goods or services without having to manually make payments each time, and it allows merchants to maintain a consistent revenue stream. Therefore, the automated recurring payment services may include features such as automatic updates to payment information (such as payment card expiration dates) to prevent declined payments and subscription cancellations.

[0021] In the below paragraphs, Fig. 2 that illustrates a system 200 (same as the system 102 of Fig. 1) for optimizing reissue of payment card process to update expiry date for the payment card(s) is explained with Fig. 3, in accordance with an embodiment of present disclosure.

[0022] According to an embodiment of the present disclosure, the system 200 may comprise a generation unit 202, a memory module/database 204, a monitoring unit 206, and a communication unit 208. All the elements of the system 200 illustrated in FIG. 2 are essential elements, but the system 200 may also be implemented by more elements than the elements illustrated in FIG. 2, however the same are not explained for the sake of brevity. All the elements of the system 200 may communicate with each other via wireless/wired communication network.

[0023] The generation unit 202 may be configured to design payment cards for the plurality of payment card holders. In particular, the generation unit 202 may receive information about the payment card holders from a database of the issuer 104. The information may include the name of the payment card holder, account details, transaction network provider details, and so forth. After receiving the information of the payment card holders, the generation unit 202 may generate design of the payment card for the payment card holders.

[0024] Fig. 3 illustrates an exemplary embodiment of the payment card 300 generated by the generation unit 202. The payment card 300 may include, not limited to, an issuer name 302, a payment card number 304, a cardholder name 306, a first date 308, a second date 310, and a payment company name 312. The issuer name 302 may be a bank name or financial institution name which issues a card to a cardholder. The payment company name 312 corresponds to the name of the network provider company that may provide a network to be used during the transaction of the payment. Further, the first date 308 may be a date from which the payment card is valid for transactions. Further, the second date may be an expiry date at which the payment card may get expired. As stated above, the second date may include a month and a year in multiple of n from the first date. Where n is an integer number. In an exemplary embodiment, n may be selected based on issuer's policy for payment cards. For example, if the first date for the payment card may be April 2023, then the month of second date for the payment card may be march and the year of the second date for the payment card may be multiple of 3 of the 2023. The payment card may not include the expiry date. The payment card may include the expiry month and expiry year may not be present in the payment card.

The payment card further includes only multiple term related to expiry year. The multiple term may represent that the payment card may expire after each multiple term and the system 200 may update the expiry year after each multiple term. For example, if the first date may be 2023 and multiple of n may be 3, then the first expiry date may be 2026. After reaching the expiry date, the system 200 may update the expiry date in the database. After updating the expiry date, the second expiry date may be 2029. The system 200 may continuously perform the update process after reaching the expiry date.

[0025] Moving again on Fig. 2, the generation unit 202, after generating the design card, may provide the payment card information to memory module 204. The memory module 204 may store the generated payment card 300 along with the information of the payment card holder. After storing the information in the memory module 204, the generation unit 202 may provide the design of the payment card to the issuer 104 by using the communication unit 208. The issuer 104, after receiving the design of the payment card, may provide the details to a manufacturer to generate physical payment cards and may deliver the same to the payment card holders for first time.

[0026] Once the payment card gets activated, the monitoring unit 206 in association with the database (where card details of various customers are stored), keeps on monitoring the expiry date of the payment cards. Whenever it encounters that the expiry date of the payment card is about to reach a predefined time, it communicates this information through the communication unit 208 to the issuer. In an exemplary embodiment, the predefined time may be fifteen days' time or a week's time, 3-days, or 2-days etc. before the expiry period of the payment card. The predefined time may be fixed by the issuer 104 itself or it may be set based on the request provided by the customer. In an exemplary embodiment, while sharing the payment card 300 with the customer for the first time, the information about the predefined time may be provided to the card holder to avoid the chaos, at later stage when the expiry period reaches the predefined time. Whenever the predefined time is reached, the monitoring unit 206 may update information of the payment card 300 in the memory module 204 by changing the expiry date of the designed payment card. The changing of the expiry date may include changing the first expiry date with the second expiry date. By performing the process mentioned in the description of the Fig. 2, the system 200 may eliminate the need for issuing a new physical card and all the associated expenses. This may also reduce the amount of waste i.e., e-waste and plastic.

[0027] In an embodiment, the above mentioned process of monitoring and updating of the expiry date may continue till the payment card holder continues to retain the payment card.

[0028] The memory module 204 may be, for example, conventional magnetic disks, optical disks such as magnetic tape storage, magneto-optical (MO) storage media, solid state disks, flash memory-based devices, or any other type of non-volatile storage devices suitable for storing large volumes of data. The memory module 204 may also be combinations of such devices. In the case of disk storage media, the memory module 204 may be organized into one or more volumes of redundant array of inexpensive disks (RAID).

[0029] After updating the expiry date, the system 200 provides the updated expiry date to issuer 104 via the communication unit 208. The issuer may store the updated expiry date in the database in order to authorize the transaction.

[0030] Simultaneously, the system 200 may provide the updated expiry date to the server 106. The network provider, to which the server 106 is associated, may perform the automated recurring process based on the reception of the updated expiry date. The network provider further stores the updated expiry date in the server.

[0031] **Fig. 4** is a flowchart showing steps of a method for providing optimization of card reissue process to update expiry date of the payment card performed by a system 200 of Fig. 2. The method starts at step 402, at a step 402 the method may include generating a payment card for each of the payment card holders by using personal details of the payment card holder and account details of the payment card holder, and information of network provider for the payment card transaction. In an exemplary aspect, a generation unit 202 of Fig. 2 of the system 200 may be configured to carry out the process steps disclosed in step 402.

[0032] At step 404, the method 400 may include providing the payment card to the issuer 104. In particular, the issuer, after receiving the design of the payment card may provide the physical payment card to the payment card holder. In an exemplary aspect, a communication unit 206 of Fig. 2 of the system 200 may be configured to carry out the process steps disclosed in step 404.

[0033] At step 406, the method 400 may include monitoring the expiry date of the payment card. The monitoring of the expiry date of the payment card includes detecting whether the payment card will expire within a predefined time. In an exemplary aspect, a monitoring unit 206 of Fig. 2 of the system 200 may be configured to carry out the process steps disclosed in step 406.

[0034] At step 408, the method 400 may include updating the expiry date of the payment card based on the monitored expiry date. The updating of the expiry date includes if the payment card is about to expire within the predefined days, updating the expiry date of the payment card by changing the current expiry date with new expiry date. In an exemplary aspect, the monitoring unit 206 may be configured to carry out the process steps disclosed in step 408.

[0035] At step 410, the method 400 may include providing the updated expiry date of the payment card to the issuer 104 and the server 106. In an exemplary aspect, the communication unit 206 of the system 200 may be configured to carry out the process steps disclosed in step 410.

[0036] The method 400 for providing optimization of card reissue process may eliminate the need for issuing multiple physical cards based on the expire periods and all the associated expenses, as well as reduce the amount of e-waste and plastic generated by the payment cards.

[0037] In an embodiment, one or more computer-readable storage media may be utilized in implementing embodiments consistent with the present disclosure. A computer-readable storage medium refers to any type of physical memory on which information or data readable by a processor may be stored. Thus, a computer-readable storage medium may store instructions for execution by one or more processors, including instructions for causing the processor(s) to perform steps or stages consistent with the embodiments described herein. A non-transitory computer readable medium may include media such as magnetic storage medium, optical storage, volatile and non-volatile memory devices etc. Further, non-transitory computer-readable media may include all computer-readable media except for a transitory. The code implementing the described operations may further be implemented in hardware logic (e.g., an integrated circuit chip, Programmable Gate Array (PGA), Application Specific Integrated Circuit (ASIC), etc.).

[0038] The described operations may be implemented as a method, system or article of manufacture using standard programming and/or engineering techniques to produce software, firmware, hardware, or any combination thereof. The described operations may be implemented as code maintained in a “non-transitory computer readable medium”, where a processor may read and execute the code from the computer readable medium. The processor is at least one of a microprocessor and a processor capable of processing and executing the queries.

[0039] The illustrated steps are set out to explain the exemplary embodiments shown, and it should be anticipated that ongoing technological development will change the manner in which particular functions are performed. These examples are presented herein for purposes of illustration, and not limitation. Further, the boundaries of the functional building steps have been arbitrarily defined herein for the convenience of the description. Alternative boundaries can be defined so long as the specified functions and relationships thereof are appropriately performed. Alternatives (including equivalents, extensions, variations, deviations, etc., of those described herein) will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein. Such alternatives fall within the scope and spirit of the disclosed embodiments. Also, the words "comprising," "having," "containing," and "including," and other similar forms are intended to be equivalent in meaning and be open ended in that an item or items following any one of these words is not meant to be an exhaustive listing of such item or items or meant to be limited to only the listed item or items. It must also be noted that as used herein, the singular forms “a,” “an,” and “the” include plural references unless the context clearly dictates otherwise.

[0040] Finally, the language used in the specification has been principally selected for readability and instructional purposes, and it may not have been selected to delineate or circumscribe the inventive subject matter. Accordingly, the disclosure of the embodiments of the disclosure is intended to be illustrative, but not limiting, of the scope of the disclosure.

[0041] With respect to the use of substantially any plural and/or singular terms herein, those having skill in the art can translate from the plural to the singular and/or from the singular to the plural as is appropriate to the context and/or application. The various singular/plural permutations may be expressly set forth herein for sake of clarity.

“OPTIMIZATION OF CARD REISSUE PROCESS FOR EXPIRY DATE CHANGE”

ABSTRACT

The present disclosure relates to a technique for providing optimization of payment card reissue process to update an expiry date of the payment card. The technique recites generating a payment card for each of the payment card holders by using personal details of the payment card holder and account details of the payment card holder, and information of network provider for the payment card transaction. The technique involves providing the payment card to the issuer, where the payment card includes a month and a year in multiple of n. The technique involves monitoring the expiry date of the payment card and updating the expiry date of the payment card in the database of the issuer, based on the monitored expiry date.

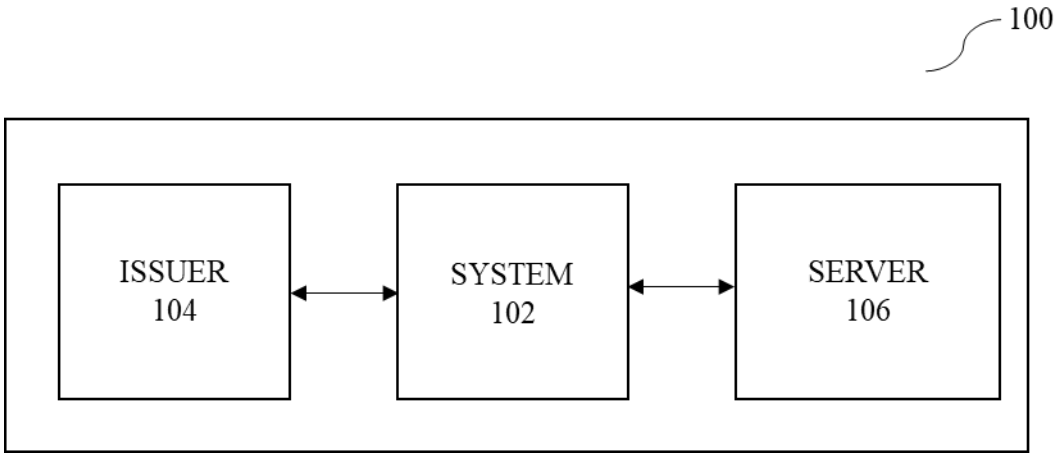

FIG. 1

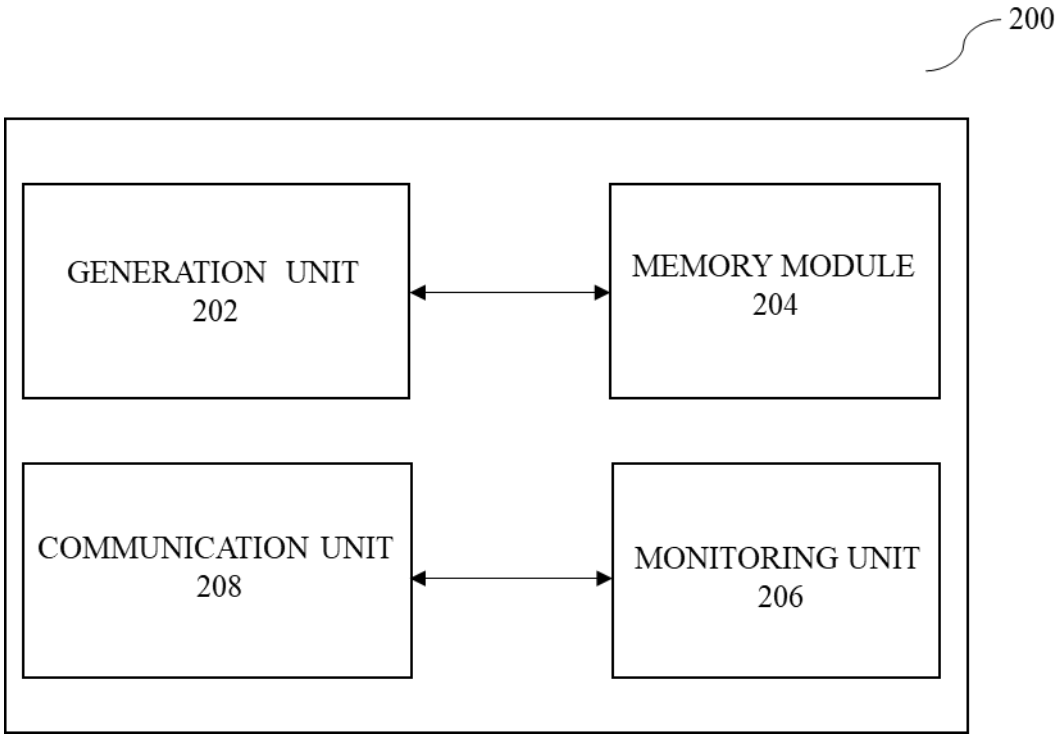
200
GENERATION UNIT
202
MEMORY MODULE
204
COMMUNICATION UNIT
208
MONITORING UNIT
206

FIG. 2

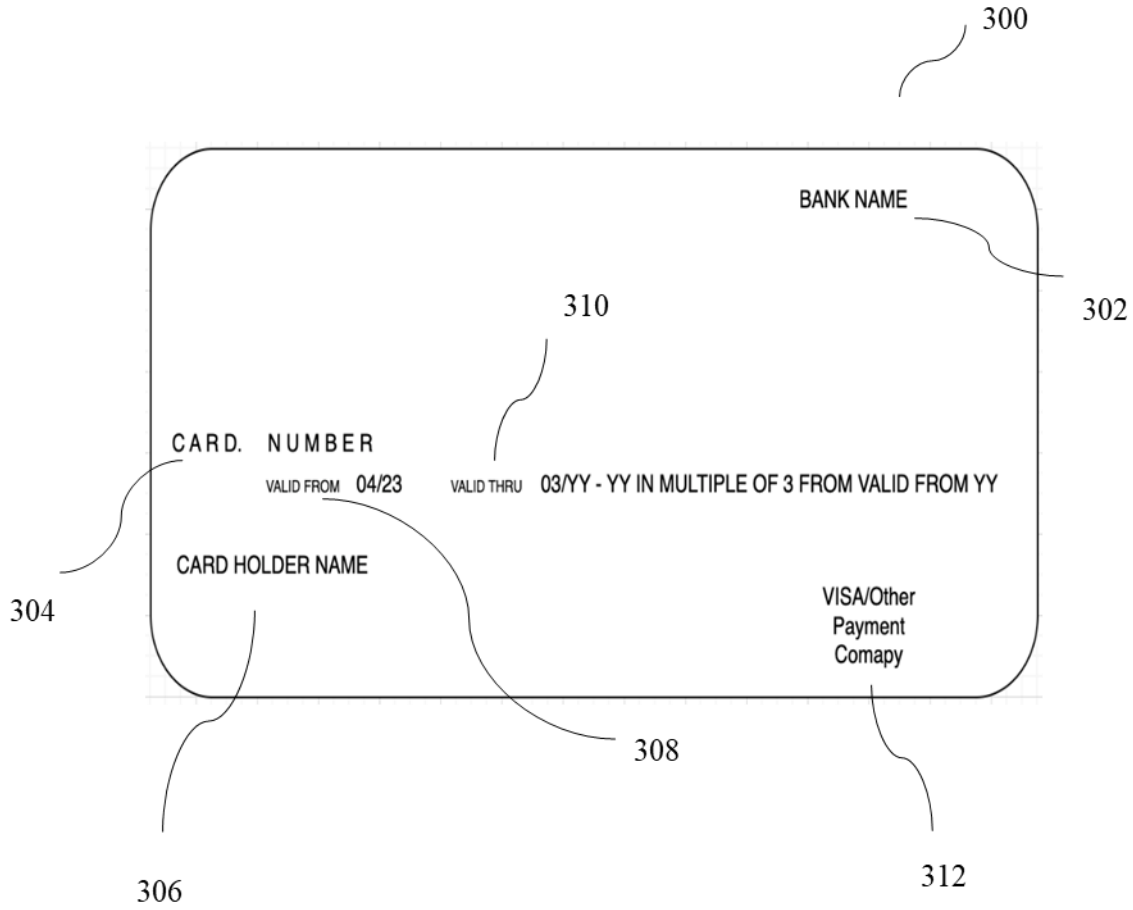
300
BANK NAME
302
310
CARD. NUMBER
VALID FROM 04/23
VALID THRU 03/YY - YY IN MULTIPLE OF 3 FROM VALID FROM YY
304
CARD HOLDER NAME
VISA/Other
Payment
Comapy
308
306
312

FIG. 3

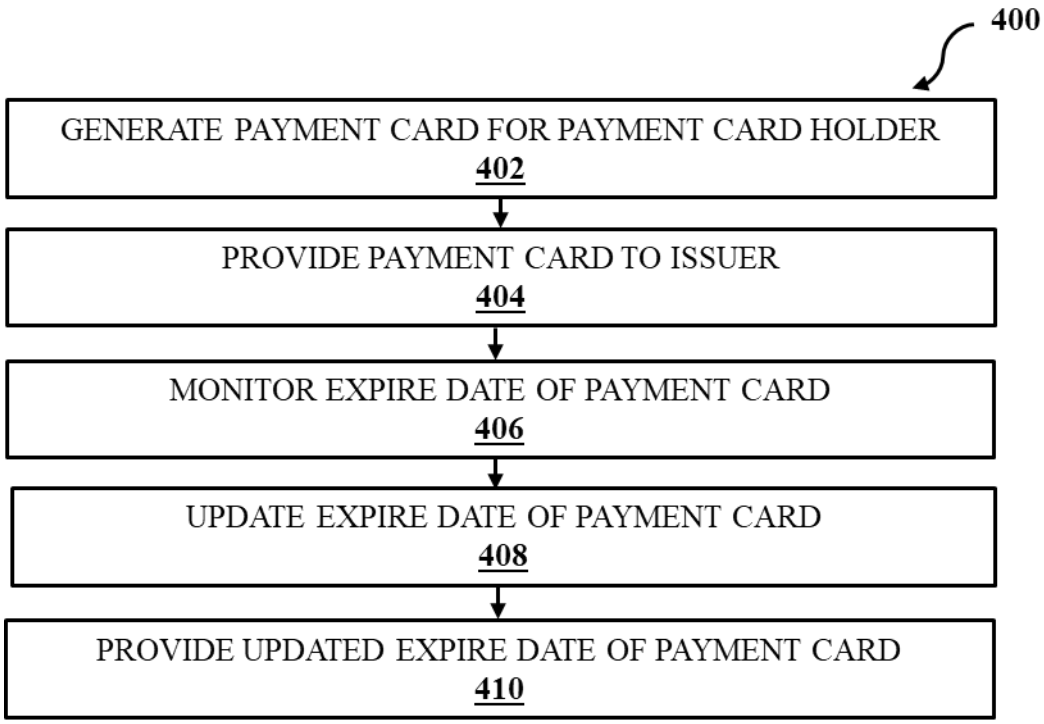
400
GENERATE PAYMENT CARD FOR PAYMENT CARD HOLDER
402
PROVIDE PAYMENT CARD TO ISSUER
404
MONITOR EXPIRE DATE OF PAYMENT CARD
406
UPDATE EXPIRE DATE OF PAYMENT CARD
408
PROVIDE UPDATED EXPIRE DATE OF PAYMENT CARD
410

FIG. 4