

# Technical Disclosure Commons

---

Defensive Publications Series

---

January 2023

## iRewards

MRUDUL UCHIL  
VISA

SHAKTI NILESH  
VISA

Follow this and additional works at: [https://www.tdcommons.org/dpubs\\_series](https://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

UCHIL, MRUDUL and NILESH, SHAKTI, "iRewards", Technical Disclosure Commons, (January 31, 2023)  
[https://www.tdcommons.org/dpubs\\_series/5657](https://www.tdcommons.org/dpubs_series/5657)



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

**iREWARDS**

**VISA**

**INVENTORS:**

- **MRUDUL UCHIL**
- **SHAKTI NILESH**

## **TECHNICAL FIELD**

[0001] The present subject matter is, in general, related to providing offers and/or promotions to customers, and particularly, to techniques for providing a single central platform to communicate offers and/or promotions to the customers.

## **BACKGROUND**

[0002] Generally, all issuers, financial institutions, and banks compete with each other to increase their customer base or user base so as to achieve high rankings in their respective geographical areas. For any bank or financial institution, currently there is no single platform or central platform to communicate their promotions or offers (e.g., discounts, benefits, perks, etc.) to their customers or end users. Due to this, the banks or financial institutions are unable to attract their customer base and grow their business. Therefore, real customers or the end users of the banks or financial institutions are unaware of certain offers/promotions and as a result, the end users may not be able to select best offers and hence, they end up paying more and losing good financial discounts or savings.

[0003] An end user may wish to shop at his/her favorite merchant outlets at a given location and may want to avail best offers given by all payment cards that he/she is holding as well as by all his/her favorite merchants. But the end user is not aware of any such offers attached to his/her payment card or given by the merchants at that particular location. Hence, the end users do not have any option of choosing the card/merchant which maximize their benefits and end up losing out on the benefits being provided.

[0004] The information disclosed in the background section of the disclosure is only for enhancement of understanding of the general background of the invention and should not be taken as an acknowledgement or any form of suggestion that this information forms the prior art already known to a person skilled in the art.

## **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 like 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** shows a schematic representation **100** of an exemplary environment comprising a single platform or central portal **107** to communicate offers or promotions to customers, in accordance with some embodiments consistent with the present disclosure.

[0007] **Fig. 2A** shows a schematic representation **200** of an exemplary machine learning (ML) model (ML) with Strong Customer Authentication (SCA), in accordance with some embodiments consistent with the present disclosure.

[0008] **Fig. 2B** shows a use case for communicating rewards or promotions to customers using a single platform or central platform **107**, in accordance with some embodiments consistent with the present disclosure.

[0009] **Fig. 3** shows a flowchart illustrating a method **300** for communicating offers or promotions to customers, in accordance with some embodiments consistent with the present disclosure.

[0010] **Fig. 4** illustrates a block diagram of an exemplary computer system **400** for implementing embodiments consistent with the present disclosure.

[0011] 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**

[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 “comprises”, “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 preceded 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. The terms “user” and “customer” have been used interchangeably throughout the disclosure. In the present disclosure, the term “offers” “promotions” and “promotional offers” have been used interchangeably throughout the disclosure. The offers/promotions may include discounts, incentives, rewards, rebates, gifts, cashbacks, coupons, reward points, or any such benefit which can be availed/redeemed upon satisfaction of certain conditions.

[0017] The present disclosure relates to techniques of providing a single platform to communicate promotions/offers to customers. The proposed single platform makes end users or customers aware of promotional offers (also referred to as “promotions” or “offers”) so that the promotions/offers from the merchants and respective issuers are efficiently utilized by the customers. The proposed single platform empowers the customers or end users with better decision making while opting for cards from different issuers. According to the techniques of the present disclosure, the issuers may track utilization of the cards by the customers and hence, the issuers may analyze their offers or promotions and figure out what is working for customers and where they need to improve. The proposed single platform curates and continuously updates merchant offers in vicinity/geo location of the customer. Further, the proposed single

platform learns and always keeps a lists of cards and merchants up-to-date with a priority based on best offers given. The techniques of the present disclosure provide better data security and faster or speedy transaction and enhance user experience.

[0018] **Fig. 1** shows a schematic representation **100** of an exemplary environment comprising a single platform or central portal **107** to communicate offers or promotions to customers, in accordance with some embodiments consistent with the present disclosure.

[0019] In an embodiment, a user **101** may possess multiple bank accounts associated with same or different issuers **103** and own multiple payment cards issued by the same or different issuers **103**. As an example, the issuers **103** may include, without limitation, a bank, a financial institution, and the like. As an example, as shown in **Fig. 1**, the user may have multiple bank accounts associated with three issuers **103**, namely, 'Issuer 1', 'Issuer 2', and 'Issuer 3'. The issuers **103** may provide/issue multiple payment cards to the user **101**. For example, the user **101** may own two payment cards, namely 'Card 1' and 'Card 2' issued by the first issuer i.e., 'Issuer 1'. Further, the user **101** may own two payment cards, namely, 'Card 3' and 'Card 4' issued by the second issuer i.e., 'Issuer 2', and the user **101** may own two payment cards, namely, 'Card 5' and 'Card 6' issued by the third issuer i.e., 'Issuer 3'. The user **101** may use these payment cards for purchasing one or more items (e.g., goods, products, and/or services) from various merchants/ merchant outlets **105** located at same or different geolocations. The merchants/ merchant outlets **105** may accept the payment cards (i.e., Card 1- Card 6) for making payment of the purchased one or more items.

[0020] The user **101** may purchase or shop at different favourite merchant outlets **105** located at same or different geolocations. For example, as shown in **Fig. 1**, the user **101** may wish to purchase one or more items from three merchant outlets **105** namely, 'Merchant 1', 'Merchant 2', and 'Merchant 3'. As an example, the merchant outlets **105** may be located at different locations and may provide different offers to the end user **101**.

[0021] Conventionally, in such situations (i.e., when there are multiple merchants and multiple payment cards available), the user may find it difficult to select a particular payment card and a particular merchant for purchasing an item. Since there is no platform to communicate offers or promotions to the end user **101**, the end user **101** is unaware of all offers or promotions associated with different payment cards available with the user and hence, the end user ends up paying more. Similarly, the end user may not be aware of various card specific offers or

promotions provided by the different merchant outlets **105**. Hence, it is difficult for the user **101** to effectively utilize the offers provided by the different card issuers and merchant outlets.

[0022] To overcome these and other associated problems, the present disclosure proposes providing a single central portal/platform **107** that can aggregate offers or promotions from different card issuers **103** and merchant outlets **105**. As an example, the proposed central portal/platform **107** may be provided as a software application which may be installed on a user device (not shown in **Fig. 1**) associated with the user **101** and/or may be installed on a remote server and accessed through the user device via a network. The network may include one or more private and/or public networks such as the Internet, a local area network (LAN), a wide area network (WAN), Metropolitan Area Network (MAN), a cellular voice/data network, and/or other such types of wireless/wired communication network. As an example, the user device may include, without limitation, a smart phone, a laptop, a desktop, a computer and the like. The user device may include at least one memory communicatively coupled with at least one processor to implement various functionalities of the platform **107**.

[0023] In an embodiment, information related to various payment cards associated with a user **101**, issuer details of the various cards, and lists of favourite merchant outlets/brands may be onboarded into the central portal/platform **107** using Multi-Factor Authentication (MFA). The MFA is an authentication method that requires the user **101** to provide two or more verification factors to gain access to a resource such as an application, and/or online account. In an implementation, for onboarding the aforementioned information, the user **101** may register with the central portal/platform **107** by signing up or creating an account. The central portal/platform **107** may ask the user **101** to create username and create a strong password for step 1 authentication. Further, the central portal/platform **107** may ask the user **101** to record fingerprints, voice, scanning a retina, or a facial recognition in step 2 authentication. Similarly, the central platform **107** may ask the user **101** to answer personal security questions as step 3 authentication. The aforementioned MFA is not limited to the above features.

[0024] In one non-limiting embodiment, an Application Programming Interface (API) level integration may be implemented to provision the central portal/platform **107** with all listed issuers **103** and with all merchants **105**. For instance, the API may be a set of definitions and protocols for building and integrating application software. Specifically, the API level integration is used to integrate the central portal/platform **107** with all listed issuers **103** for their specific payment cards to regularly fetch real-time card offers and the merchants **105**

associated with these offers. Further, the API level integration is also used to integrate central platform **107** with the merchants **105** to locate them based on their current Global Positioning System (GPS) location and to get real-time offers based on their current offerings.

[0025] In an implementation, at the issuers **103** side (or at server side of the issuers **103**), an “event listener” (which may be a computer program) may be registered which can listen/track offers from issuers in real time and immediately communicate these offers to the end users **101** as and when the offers are live. Similarly, at a server side of the merchants **105**, an “event listener” may be implemented which can listen/track offers from the merchants **105** in real time and immediately communicate these offers to the relevant end users **101** (e.g., depending on location of end users) as and when the offers are live. The offers may be communicated to the end user in the form of notifications (e.g., in the form of push notifications). Because of the API level integration, the central portal/platform **107** shows (e.g., via a user interface) real-time and current trending data of all applicable offers or promotions.

[0026] In one non-limiting embodiment, various data patterns may be generated and/or Machine Learning (ML) model(s) may be trained based on the various data elements (for example, issuer details, payment card details, promotion/offer details, merchant details) used for data aggregation and integration with issuers **103** and merchants **105**. The data patterns and/or the ML models may be continuously updated/trained to improve current search algorithms for fetching real-time offers/promotions from issuers **103** and merchants **105** and providing the real-time offers/promotions to the end users.

[0027] In an embodiment, the central portal or platform **107** may use location-based search algorithm which is a self-learning or self-curating algorithm to fetch and display best offers or promotions to the end users **101** depending on location of users and merchants. For example, the self-curating algorithm of the central portal/platform **107** may fetch and display best offers or promotions along with the locations of the merchant outlets after-mining data elements received from the issuers **103** and the merchants **105**.

[0028] In an embodiment, the central platform **107** may enhance the user experience. For instance, the central portal/platform **107** may provide a dynamic user interface where the payment cards of the end users **101** or customers may keep updating in real-time with the best offers and merchant promotions in descending order. Additionally, the central platform **107**



may notify and/or alert the end user **101** (e.g., via push notifications) without even opening the application.

[0029] In an embodiment, the central portal/platform **107** may generate special triggers. For example, the central portal/platform **107**, based on special event of the year, such as X'Mas, Diwali, Thanksgiving, etc., and based on the offer amount and the preferred goods, may generate special triggers as “New shopping provocation alerts” to all the end users or customers **101**. Further, based on special lifecycle events (for example, opening and/or closing of the merchant outlets, etc.) associated with favorite merchants, the central platform **107** may trigger “promotion one time offers or notifications” to all the end users or customers **101**.

[0030] **Fig. 2A** shows a schematic representation of an exemplary machine learning (ML) model with Strong Customer Authentication (SCA), in accordance with some embodiments consistent with the present disclosure.

[0031] As illustrated in **Fig. 2A**, one or more card data row models may be generated based on detailed information related to the payment cards. Similarly, one or more merchant data row models may be generated based on detailed information related to the merchants. For the sake of illustration, only two merchants and two issuers have been shown in **Fig. 2A**, however the present disclosure is not limited thereto. As shown in the exemplary illustration of **Fig. 2A**, the issuer 1 may issue “Card 1” to the user **101** and issuer 2 may issue “Card 2” to the user **101**. Each of the cards (i.e., Card 1 and Card 2) may have offers/promotions from the merchants (i.e., the merchant 1 and merchant 2). For instance, Card 1 may have offers 1 and 2 from the merchant 1 and merchant 2, respectively. Similarly, the issuer 2 may issue “Card 2” to the user **101** having offers 1 and 2 from the merchant 1 and merchant 2, respectively. Subsequently, one or more card data row models may be generated based on the detailed card information, the detailed card information for each payment card may comprise card identity, issuer identity, associated offers, and associated merchants. Similarly, one or more merchant data row models may be generated based on the detailed merchant information, the detailed merchant information for each merchant may comprise merchant identity, merchant location, associated offers, and supported/associated cards.

[0032] Further, the generated card data row models and merchant data row models may be provided as feedback to a Machine Learning (ML) processing unit for further processing. The ML processing unit may perform pre-processing and/or scaling on the received data. Further,

the scaled and processed data may be divided into two sets- training set which may be used for building/training an ML model and a validation set which may be used to optimize the trained ML model for providing best offers/promotions/rewards to the user **101**. The new raw data models will always be in self-learning mode by matching the new shopping patterns (based on but not limited to Issuer, Card possessed by end users, list of Merchants, close proximity of geolocation within defined radius/distance parameter) with existing models and if those are not available, keep adding them to learn from it.

Rewards generation patterns per transaction:

(1). General:  $[N[(\text{parameter}) * \text{Weightage}] / \text{False positive rate}] > \text{Average success threshold}$   
 (Rewards Score/Transaction) => Feed to Model]

(2). Rewards alert: [Special event of the year (N) [TOS] \* [Offer amount % + Preferred goods] ] (Special Event trigger) => Feed to model]

(3). Rewards promotion: [Special Lifecycle Event (N) [Preferred Merchant] \* [Offer amount % location]] (Merchant Lifecycle Event Trigger) => Feed to Model].

Model Curation:

(1) OR (2) OR (3)



(Rewards score OR Special event trigger OR Merchant lifecycle event trigger/ transaction) [N Txn] => [Transactional Rewards].



Repetitions to curate models

[0033] This will keep feeding the best calculated offer based on optimum algorithm to the training model to record and learn from it which will help the matching consecutive shopping transaction to get the best offer faster.

[0034] **Fig. 2B** shows a use case for communicating rewards and promotions to customers using a single platform or central platform **107**, in accordance with some embodiments consistent with the present disclosure.

[0035] As shown in **Fig. 2B**, an end user **101** may install an application in his/her user device **201** and subsequently, sign up by creating an account with the application. The user **101** may

onboard the payment cards issued by the issuers **103** and his/her favourite merchant outlets **105** and/or favourite brands of items which the user wishes to purchase. As explained above, the user **101** may use Multi-Factor Authentication (MFA) for onboarding the payment card details and merchant outlets details into the application or central platform **107**.

[0036] Due to the API level integration, the central portal/platform **107** may fetch real-time offers available on the cards from different merchants or brands based on their location and offerings.

[0037] As an example, the user **101** may have at least one payment card issued by an issuer **103**. For example, the payment card may include, without limitation, a debit card, a credit card, and the like. According to **Fig. 2B**, the user **101** may own 2 payment cards, for example, “XXXX XXXX XXXX 1234” (referred to as “Card 1”) and “XXXX XXXX XXXX 7766” (referred to as “Card 2”). Subsequently, the user **101** may wish to purchase items from his/her favorite brands (e.g., Brand 1 and Brand 2). The Brand 1 and Brand 2 may have their brand outlets at different locations e.g., “Mall 1” and “Mall 2”. The platform **107** may display (e.g., on a display of the user device) all offers or promotions associated with the two cards. As an example, the platform **107** may display that the payment cards may have a total of 23 offers, where the “Card 1” may have 3 offers in “Mall 1” and 6 offers in “Mall 2”. Similarly, the Card 2 may have 9 offers from “Mall 1” and 5 offers from “Mall 2”.

[0038] Further, the platform **107** may display the best offers or promotions to the end user **101** based on his/her favorite brands or merchants **105**. As an example, the platform **107** may display that based on the current location, the favorite brand and/or merchant outlets (e.g., Brand 1 and Brand 2) where the user may purchase have 33 offers. The platform **107** may display that for Brand 1, “Card 1” may have 3 offers from “Mall 1”, “Card 2” may have 6 offers from “Mall 2”, and 4 discounts offers may be available from the merchant outlet of Brand 1. Similarly, the platform **107** may display that for Brand 2, “Card 1” may have 9 offers from “Mall 1”, “Card 2” may have 5 offers from “Mall 2”, and 6 discounts offers may be available from the merchant outlet of Brand 2. The user **101** may purchase an item of Brand 1 or Brand 2 by analyzing the offers provided on the platform **107**.

[0039] **Fig. 3** shows a flowchart illustrating a method **300** for communicating offers or promotions to customers **101**, in accordance with some embodiments consistent with the present disclosure.

[0040] As illustrated in **Fig. 3**, the method **300** includes one or more blocks illustrating a method for communicating rewards/promotions to customers. The order in which the method **300** is described is not intended to be construed as a limitation, and any number of the described method blocks can be combined in any order to implement the method. Additionally, individual blocks may be deleted from the methods without departing from the scope of the subject matter described herein. Furthermore, the method can be implemented in any suitable hardware, software, firmware, or combination thereof.

[0041] At block **302**, the method **300** includes receiving payment cards details and associated issuer information from a user **101**. In an implementation, the user **101** may provide the details of the payment cards and associated issuer **103** information to the central portal/platform **107** by logging into the central portal/platform **107**.

[0042] At block **304**, the method **300** includes receiving information related to at least one merchant **105** and favorite brand of the user **101**. In an implementation, the information related to the merchant or brand may be a name or an identity number.

[0043] At block **306**, the method **300** includes dynamically fetching current offers/promotions associated with the cards that can be availed at the at least one merchant **105** and favorite brand of the user **101**.

[0044] At block **308**, the method **300** includes displaying the fetched offers/promotions associated with the cards on a display of the user device. In an embodiment, the fetched offers may be continuously updated and the best offers may be displayed always on top. In an implementation, the offers or promotions may be kept on the top by performing data mining on all accumulated information or data elements.

[0045] The offers/promotions associated with the cards, merchant and favorite brands will always prompt with best offers on top based on past transaction data; co-relating it with the Merchant details, geo location, offers utilized and so on. For any reason, if the end user deviates from prompted offer/promotion and choose to select other option which may not have the best offers, the best new pattern used will be fed back in the ML model to self-curate and learn the process.

General computer system:

[0046] **Fig. 4** illustrates a block diagram of an exemplary computer system for implementing embodiments consistent with the present disclosure.

[0047] In an embodiment, the computer system **400** may be used to implement the system. The computer system **400** may include a central processing unit (“CPU” or “processor”) **402**. The processor **402** may include at least one data processor developing a common transaction database based on inputs received via a network interface **403** and communication network **409**. The processor **402** may include specialized processing units such as integrated system (bus) controllers, memory management control units, floating point units, graphics processing units, digital signal processing units, etc.

[0048] The processor **402** may be disposed in communication with one or more Input/Output (I/O) devices (**410** and **411**) via I/O interface **401**. The I/O interface **401** employ communication protocols/methods such as, without limitation, audio, analog, digital, monoaural, Radio Corporation of America (RCA) connector, stereo, IEEE-1394 high speed serial bus, serial bus, Universal Serial Bus (USB), infrared, Personal System/2 (PS/2) port, Bbayonet Neill-Concelman (BNC) connector, coaxial, component, composite, Digital Visual Interface (DVI), High-Definition Multimedia Interface (HDMI), Radio Frequency (RF) antennas, S-Video, Video Graphics Array (VGA), IEEE 802.11b/g/n/x, Bluetooth, cellular e.g., Code-Division Multiple Access (CDMA), High-Speed Packet Access (HSPA+), Global System for Mobile communications (GSM), Long-Term Evolution (LTE), Worldwide Interoperability for Microwave access (WiMax), or the like, etc.

[0049] Using the I/O interface **401**, the computer system **400** may communicate with one or more I/O devices such as input devices **412** and output devices **413**. For example, the input devices **412** may be an antenna, keyboard, mouse, joystick, (infrared) remote control, camera, card reader, fax machine, dongle, biometric reader, microphone, touch screen, touchpad, trackball, stylus, scanner, storage device, transceiver, video device/source, etc. The output devices **413** may be a printer, fax machine, video display (e.g., Cathode Ray Tube (CRT), Liquid Crystal Display (LCD), Light-Emitting Diode (LED), plasma, Plasma Display Panel (PDP), Organic Light-Emitting Diode display (OLED) or the like), audio speaker, etc.

[0050] In some embodiments, the processor **402** may be disposed in communication with a communication network **409** via a network interface **403**. The network interface **403** may communicate with the communication network **409**. The network interface **403** may employ

connection protocols including, without limitation, direct connect, ethernet (e.g., twisted pair 10/100/1000 Base T), Transmission Control Protocol/Internet Protocol (TCP/IP), token ring, IEEE 802.11a/b/g/n/x, etc. The communication network **409** may include, without limitation, a direct interconnection, Local Area Network (LAN), Wide Area Network (WAN), wireless network (e.g., using Wireless Application Protocol), the Internet, etc. Using the network interface **403** and the communication network **409**, the computer system **400** may communicate with inputs and provides output. The network interface **403** may employ connection protocols include, but not limited to, direct connect, ethernet (e.g., twisted pair 10/100/1000 Base T), Transmission Control Protocol/Internet Protocol (TCP/IP), token ring, IEEE 802.11a/b/g/n/x, etc.

[0051] The communication network **409** includes, but is not limited to, a direct interconnection, a Peer-to-Peer (P2P) network, Local Area Network (LAN), Wide Area Network (WAN), wireless network (e.g., using Wireless Application Protocol), the Internet, Wi-Fi and such. The communication network **409** may either be a dedicated network or a shared network, which represents an association of the different types of networks that use a variety of protocols, for example, Hypertext Transfer Protocol (HTTP), Transmission Control Protocol/Internet Protocol (TCP/IP), Wireless Application Protocol (WAP), etc., to communicate with each other. Further, the communication network **409** may include a variety of network devices, including routers, bridges, servers, computing devices, storage devices, etc.

[0052] In some embodiments, the processor **402** may be disposed in communication with a memory **405** (e.g., RAM, ROM, etc. not shown in **Fig. 4**) via a storage interface **404**. The storage interface **404** may connect to memory **405** including, without limitation, memory drives, removable disc drives, etc., employing connection protocols such as, Serial Advanced Technology Attachment (SATA), Integrated Drive Electronics (IDE), IEEE-1394, Universal Serial Bus (USB), fiber channel, Small Computer Systems Interface (SCSI), etc. The memory drives may further include a drum, magnetic disc drive, magneto-optical drive, optical drive, Redundant Array of Independent Discs (RAID), solid-state memory devices, solid-state drives, etc.

[0053] The memory **405** may store a collection of program or database components, including, without limitation, user interface **406**, an operating system **407**, etc. In some embodiments, computer system **400** may store user/application data, such as, the data, variables, records, etc.,

as described in this disclosure. Such databases may be implemented as fault-tolerant, relational, scalable, secure databases such as Oracle or Sybase.

[0054] The operating system **407** may facilitate resource management and operation of the computer system 400. Examples of operating systems include, without limitation, Apple™ Macintosh™ OS X™, UNIX™, Unix-like system distributions (e.g., Berkeley Software Distribution (BSD), FreeBSD™, Net BSD™, Open BSD™, etc.), Linux distributions (e.g., Red Hat™, Ubuntu™, K-Ubuntu™, etc.), International Business Machines (IBM™) OS/2™, Microsoft Windows™ (XP™, Vista/7/8, etc.), Apple iOS™, Google Android™, Blackberry™ operating system (OS), or the like.

[0055] In some embodiments, the computer system **400** may implement web browser **408** stored program components. Web browser 408 may be a hypertext viewing application, such as Microsoft™ Internet Explorer™, Google Chrome™, Mozilla Firefox™, Apple™ Safari™, etc. Secure web browsing may be provided using secure hypertext transport protocol (HTTPS), Secure Sockets Layer (SSL), Transport Layer Security (TLS), etc. Web browsers 408 may utilize facilities such as AJAX, DHTML, Adobe™ Flash, Javascript, Application Programming Interfaces (APIs), etc. In some embodiments, the computer system 400 may implement a mail server stored program component. The mail server may be an Internet mail server such as Microsoft Exchange, or the like. The mail server may utilize facilities such as ASP, ActiveX, ANSI C++/C#, Microsoft .NET, Common Gateway Interface (CGI) scripts, Java, JavaScript, PERL, PHP, Python, WebObjects, etc. The mail server may utilize communication protocols such as Internet Message Access Protocol (IMAP), Messaging Application Programming Interface (MAPI), Microsoft Exchange, Post Office Protocol (POP), Simple Mail Transfer Protocol (SMTP), or the like.

[0056] In some embodiments, the computer system **400** may implement a mail client stored program component. The mail client may be a mail viewing application, such as Apple Mail, Microsoft Entourage, Microsoft Outlook, Mozilla Thunderbird, etc.

[0057] Furthermore, 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. The term “computer-readable medium” should be understood to include tangible items and exclude carrier waves and transient signals, i.e., be non-transitory. Examples include Random Access Memory (RAM), Read-Only Memory (ROM), volatile memory, non-volatile memory, hard drives, Compact Disc (CD) ROMs, DVDs, flash drives, disks, and any other known physical storage media.

[0058] 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. A non-transitory computer readable medium may include media such as magnetic storage medium (e.g., hard disk drives, floppy disks, tape, etc.), optical storage (CD-ROMs, DVDs, optical disks, etc.), volatile and non-volatile memory devices (e.g., EEPROMs, ROMs, PROMs, RAMs, DRAMs, SRAMs, Flash Memory, firmware, programmable logic, etc.), 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.).

[0059] 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 blocks 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. 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.



[0060] Furthermore, 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. The term “computer readable medium” should be understood to include tangible items and exclude carrier waves and transient signals, i.e., are non-transitory. Examples include Random Access Memory (RAM), Read-Only Memory (ROM), volatile memory, non-volatile memory, hard drives, CD ROMs, DVDs, flash drives, disks, and any other known physical storage media.

[0061] 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.

[0062] 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.

**iREWARDS****ABSTRACT**

[0063] The present disclosure relates to providing a single platform (107) to communicate offers/promotions to users (101). The platform receives payment cards details and associated issuer information from a user (101). The platform further receives information related to at least one merchant (105) and favorite brand of the user (101). The information related to the merchant or brand may be a name or an identity number. The platform (107) uses machine learning and/or data analytics and dynamically fetches current offers/promotions associated with the cards that can be availed at the at least one merchant (105) and favorite brand of the user (101). Finally, the platform (107) displays the fetched offers/promotions associated with the cards on a display of a user device.

**Fig. 1**

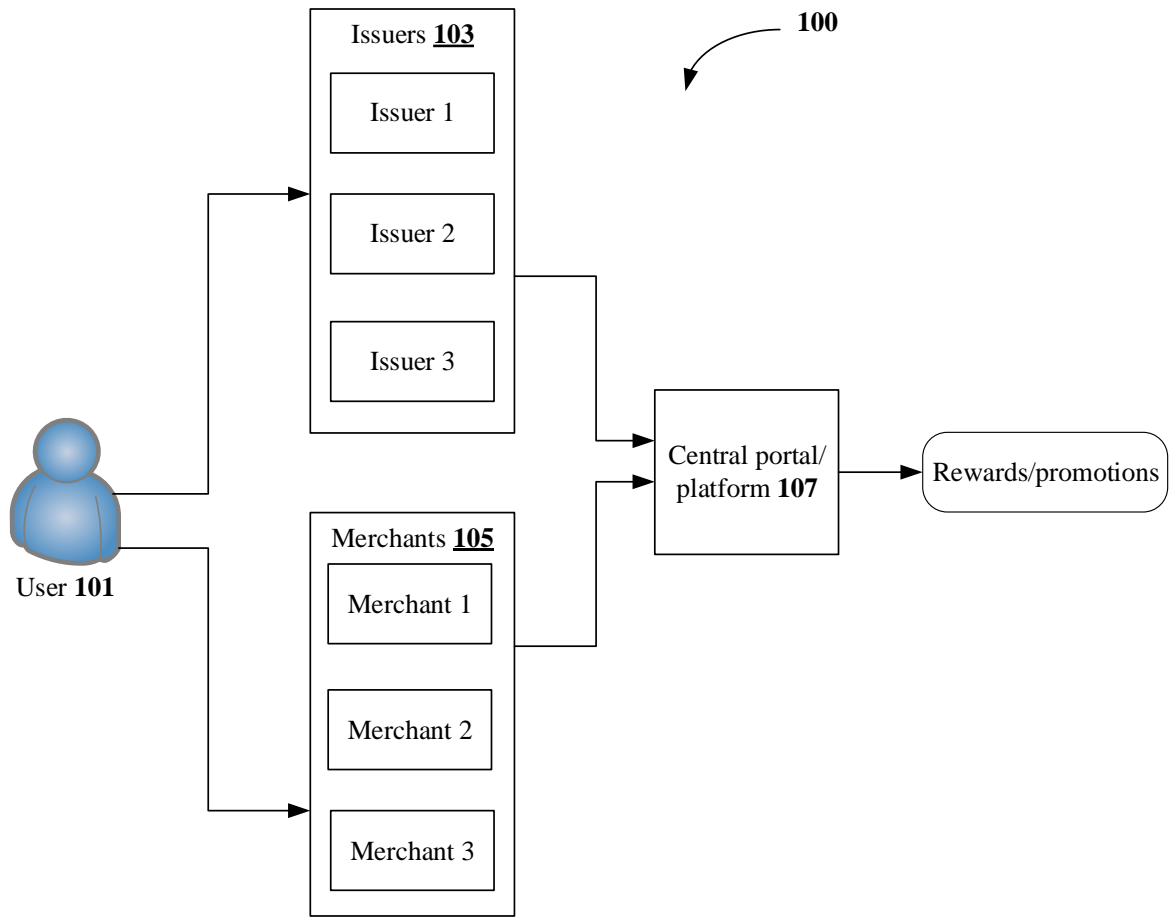


Fig. 1

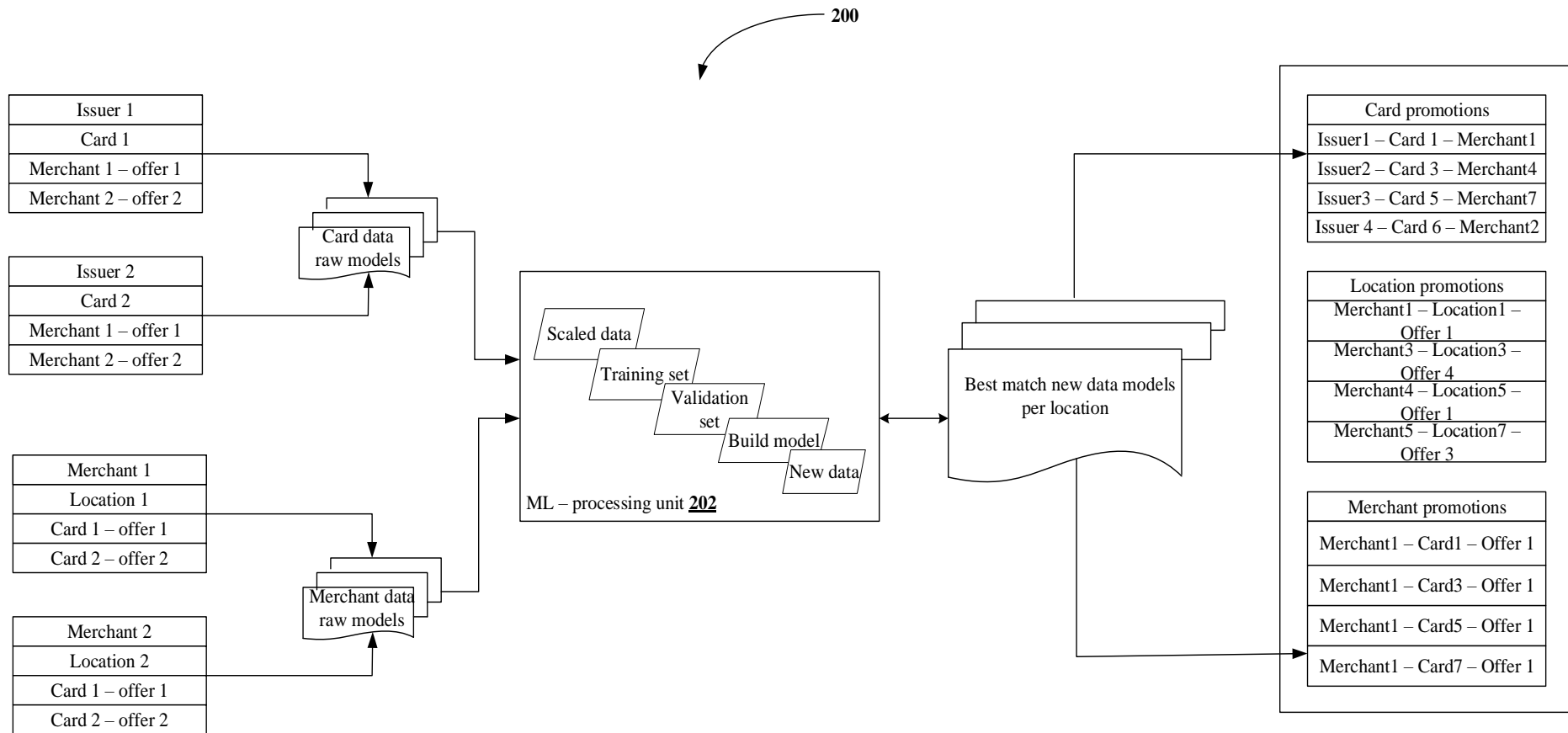


Fig. 2A

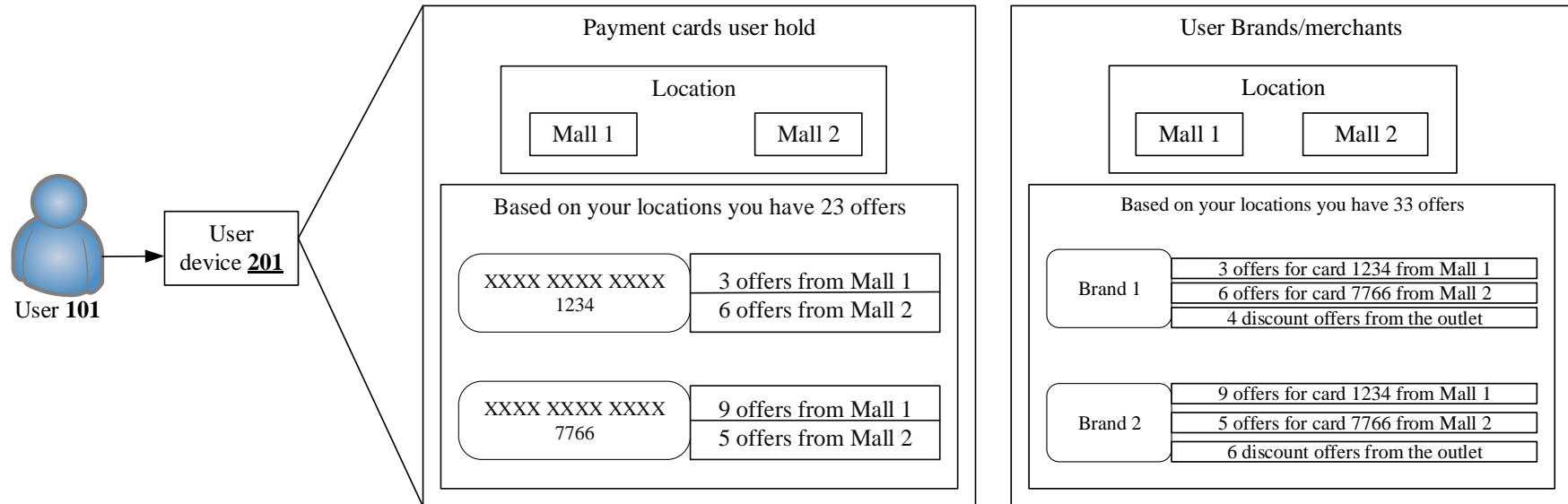
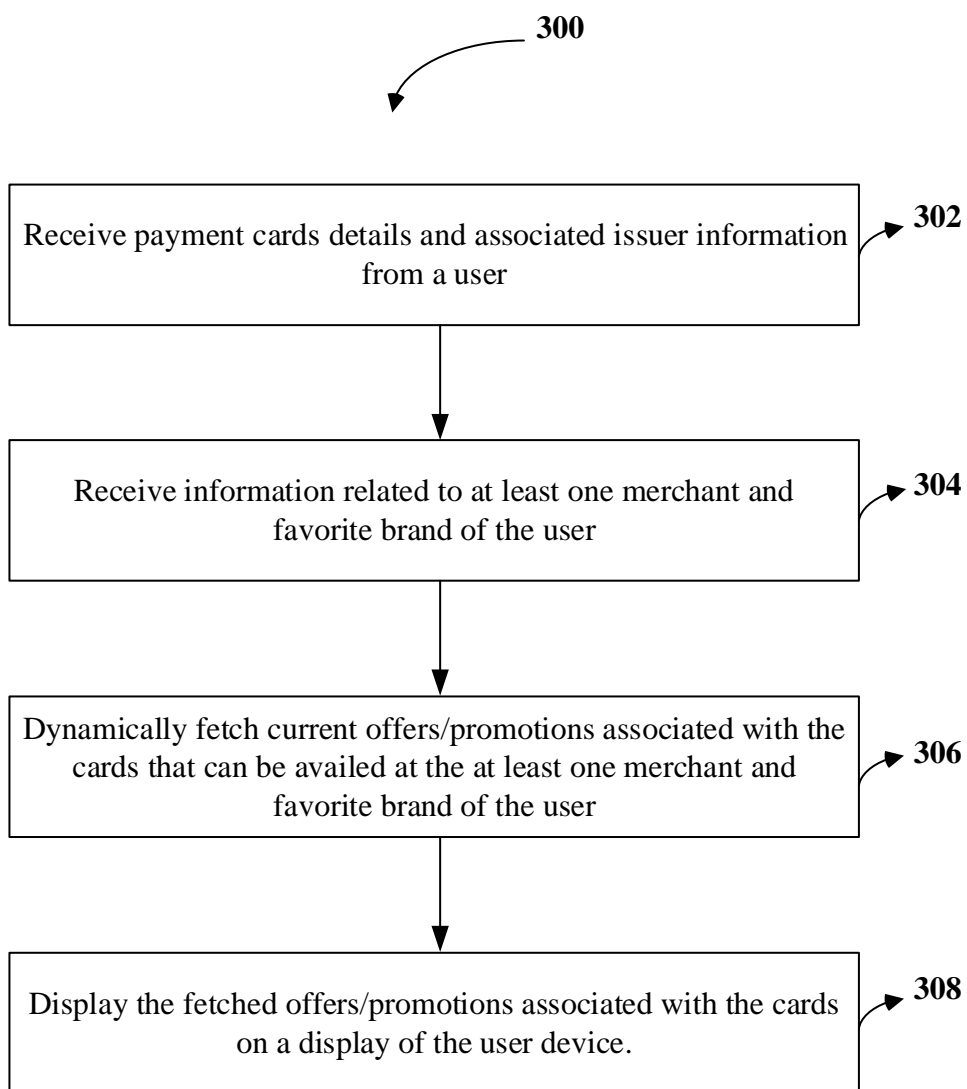


Fig. 2B



**Fig. 3**

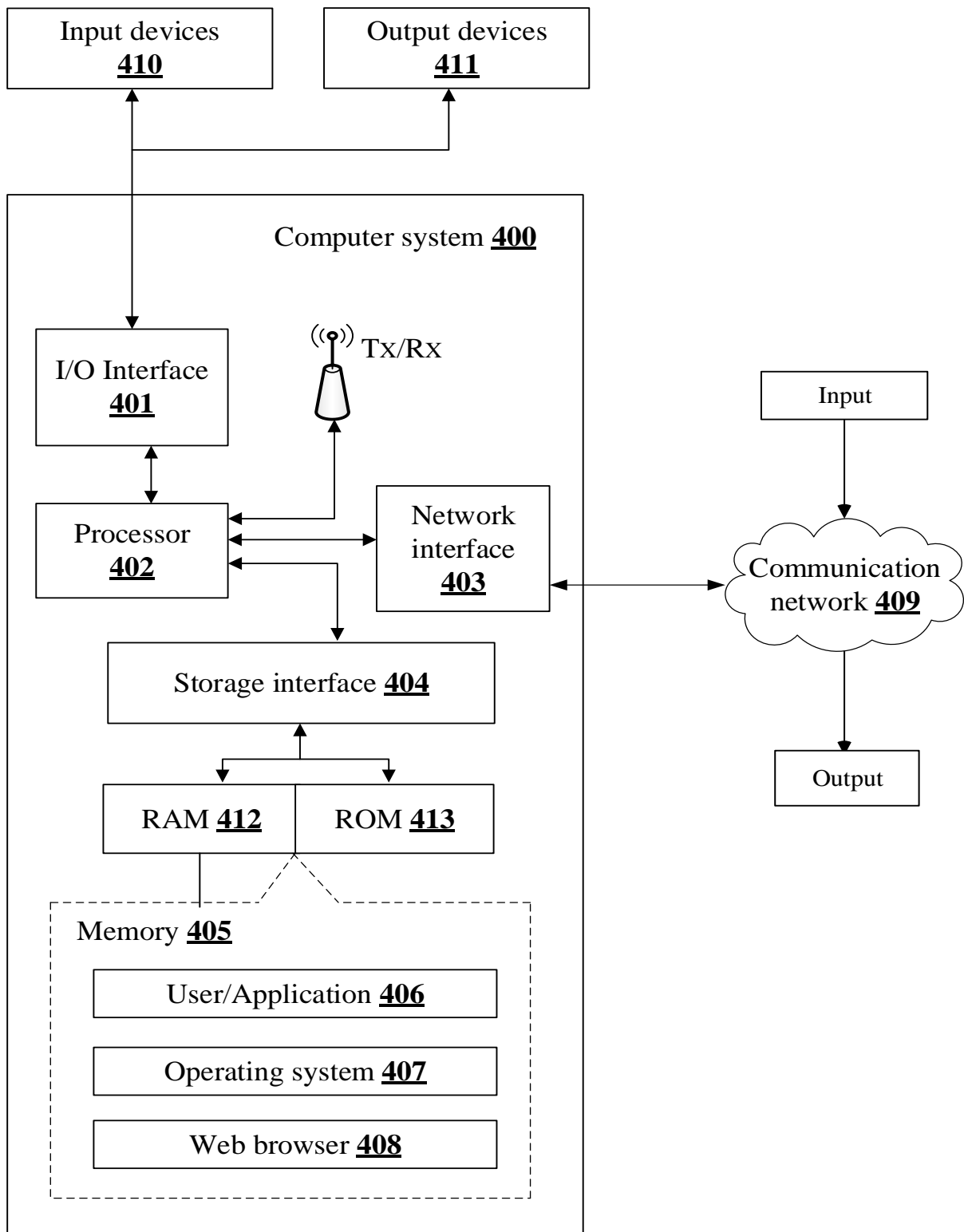


Fig. 4