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(54) **SYSTEMS AND METHODS FOR ORDERING AND PAYMENT**

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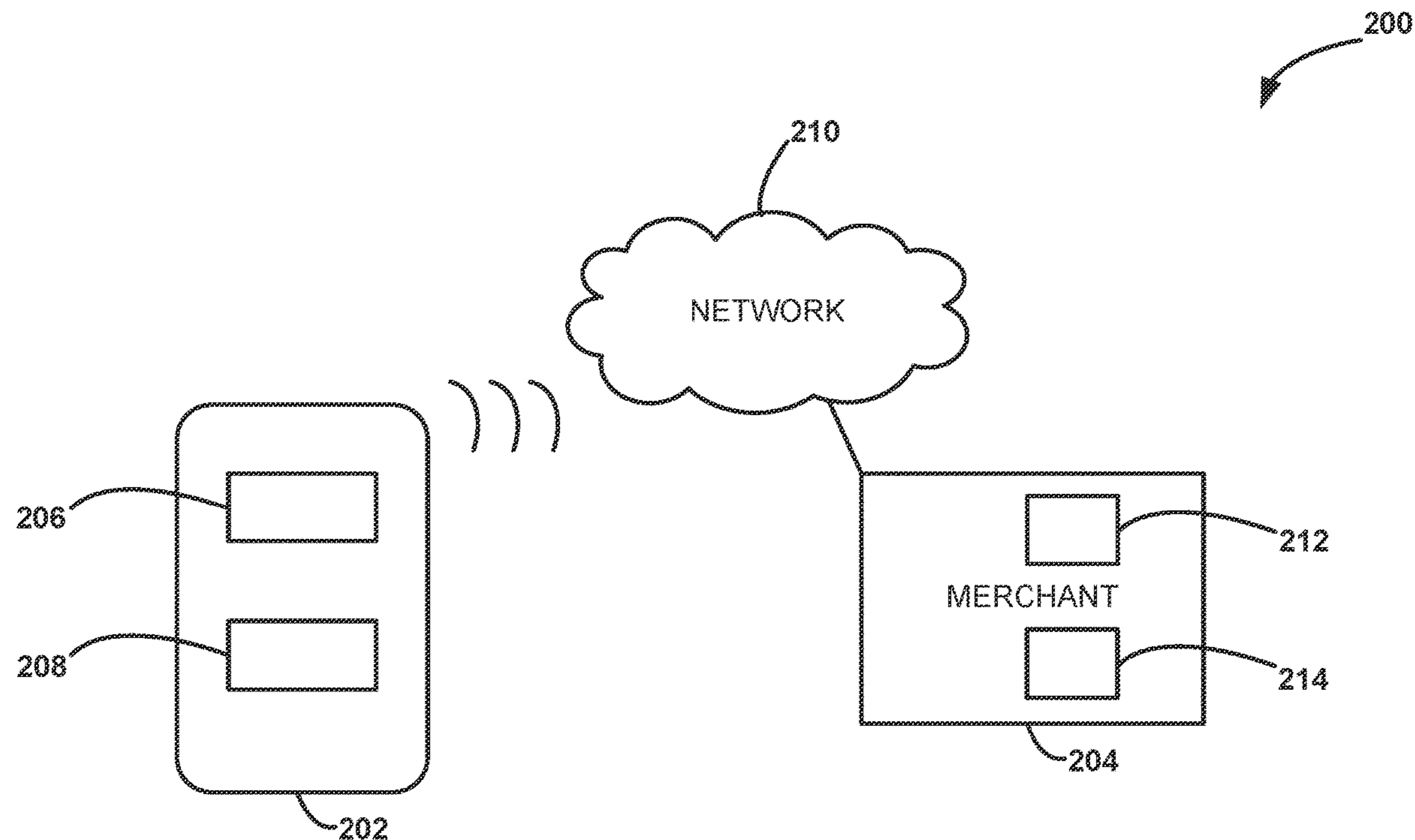
Related U.S. Application Data

(63) Continuation of application No. 17/886,437, filed on Aug. 11, 2022, now abandoned, which is a continuation of application No. 17/006,494, filed on Aug. 28, 2020, now abandoned, which is a continuation of application No. 15/188,740, filed on Jun. 21, 2016, now abandoned, which is a continuation of application No. 15/174,632, filed on Jun. 6, 2016, now abandoned.

(57)

ABSTRACT

Systems and methods for product ordering and payment are disclosed. Via use of the system, ordering and payment for items and services is simplified, secured, and made more convenient. Exemplary systems suggest orders, for example based on the location of the user, health information, and the like, and may automatically place orders with merchants. Payment may be made directly to the merchant from a user device, or indirectly through a payment issuer.



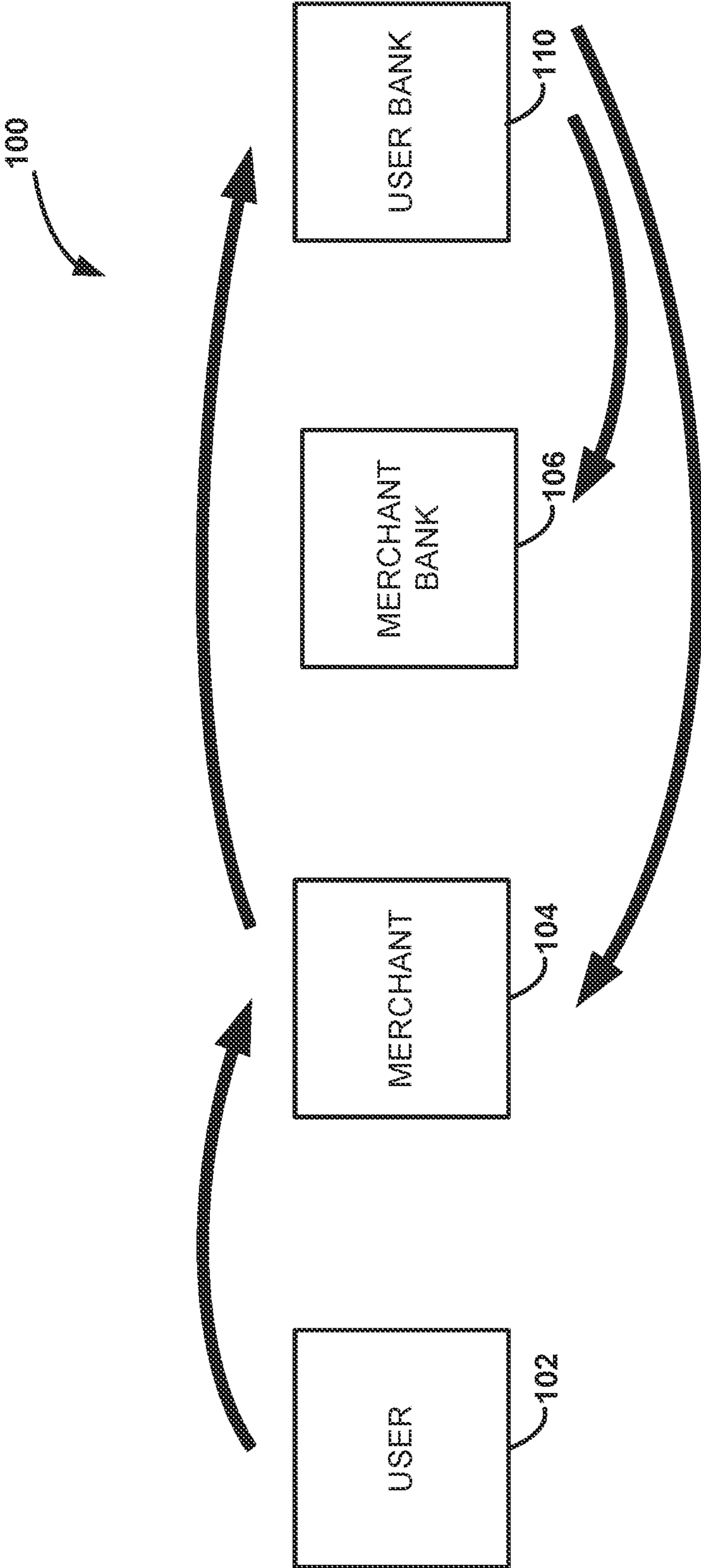


FIG. 1
(PRIOR ART)

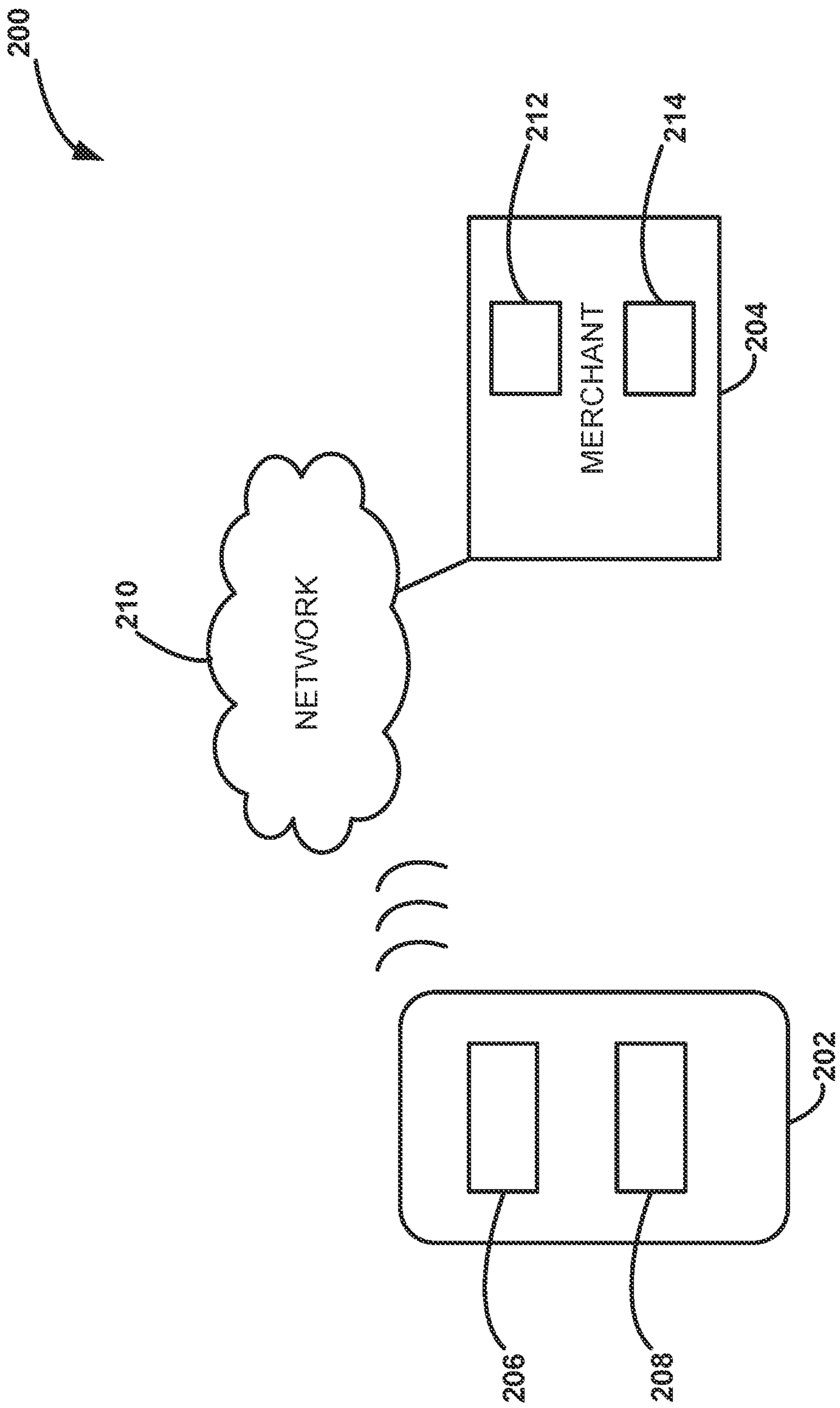


FIG. 2

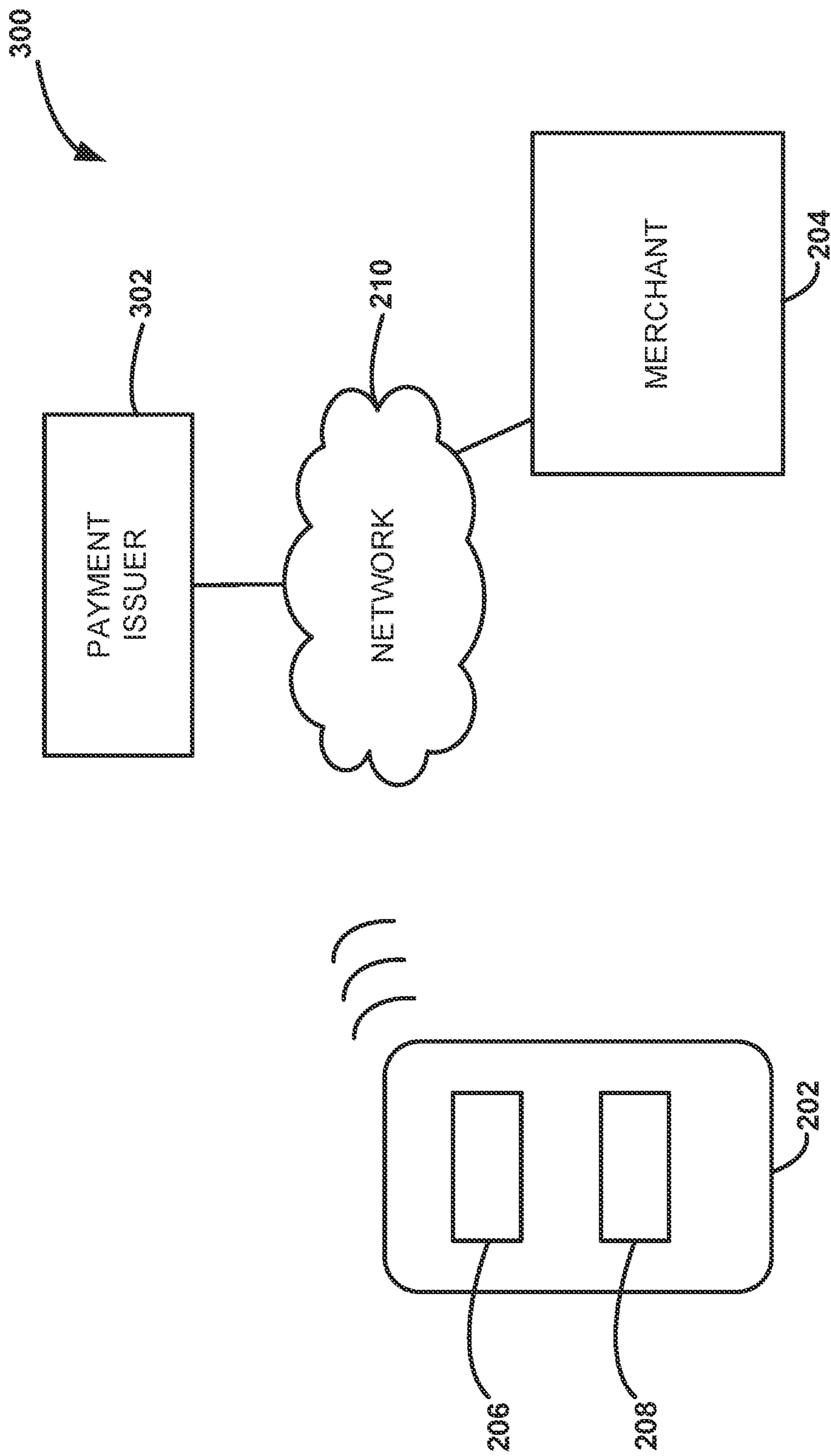


FIG. 3

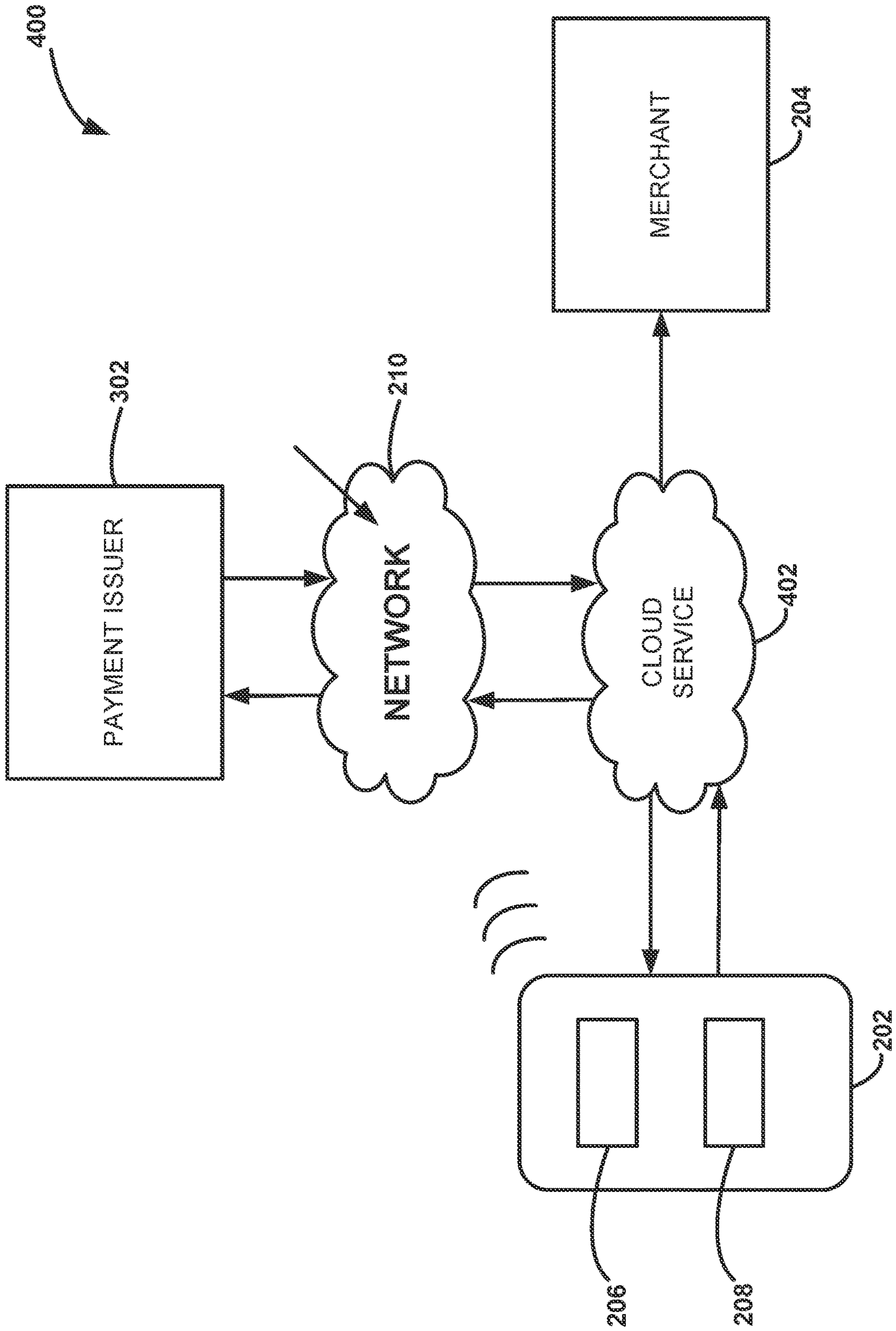


FIG. 4

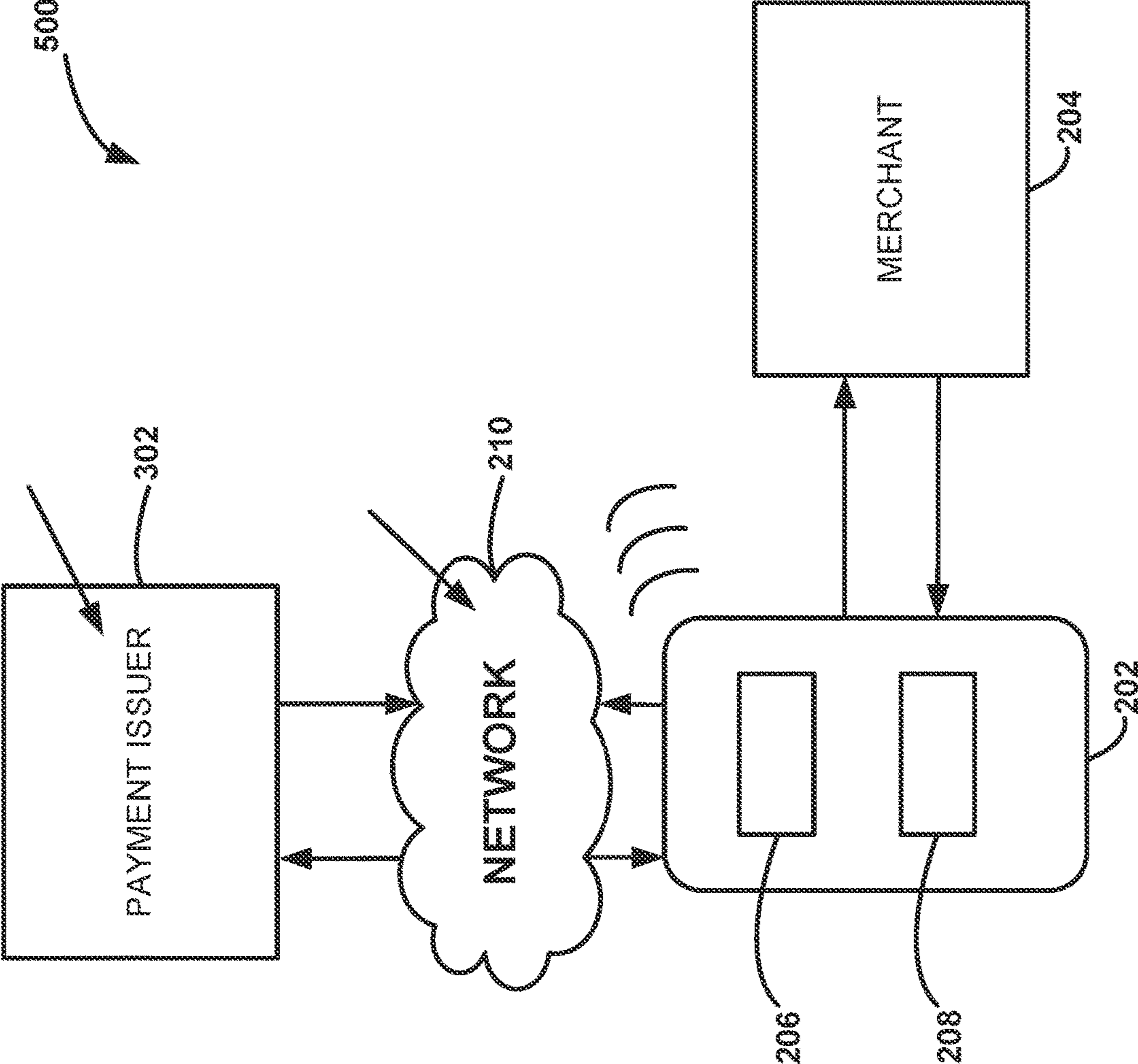


FIG. 5

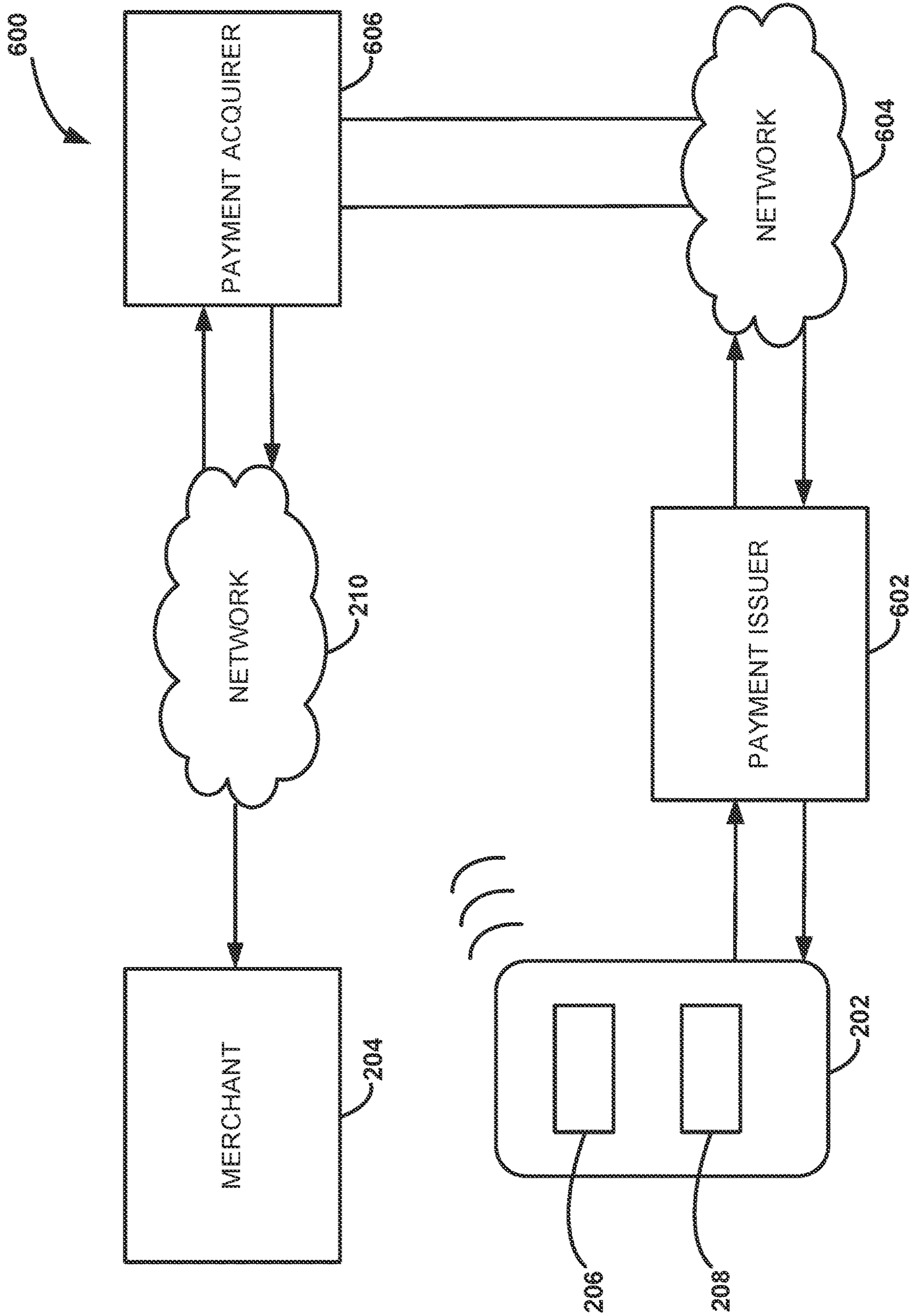


FIG. 6

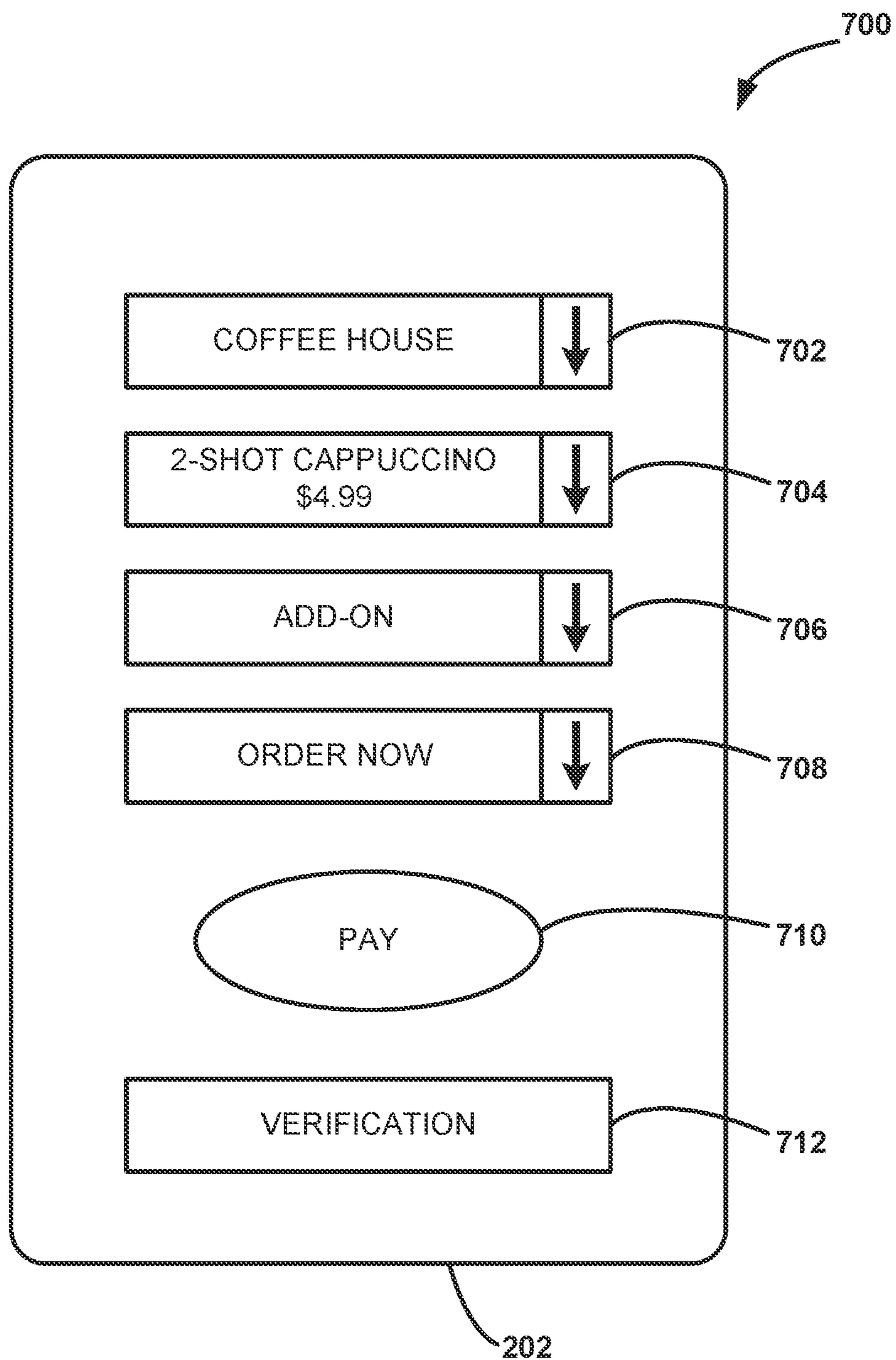


FIG. 7

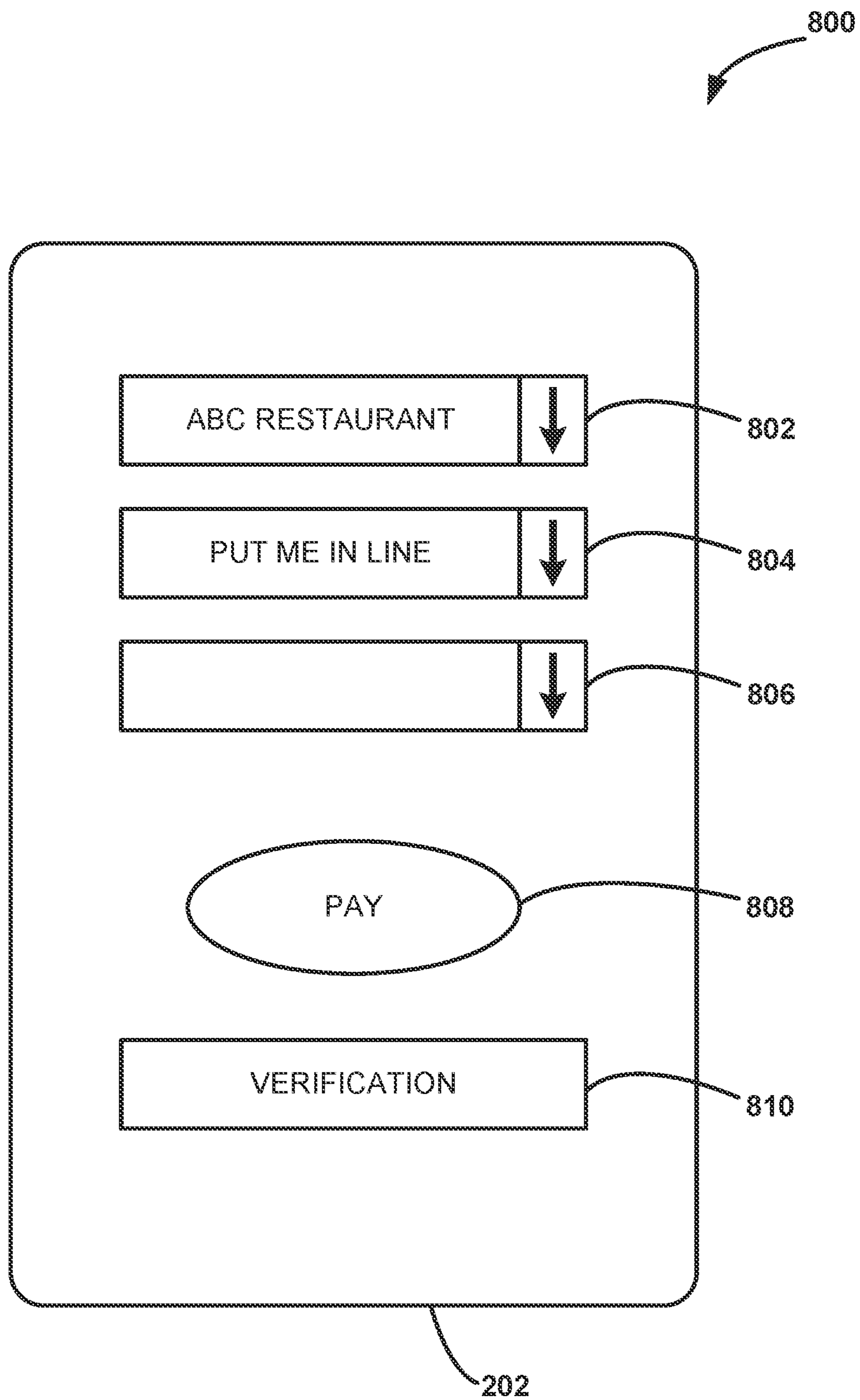


FIG. 8

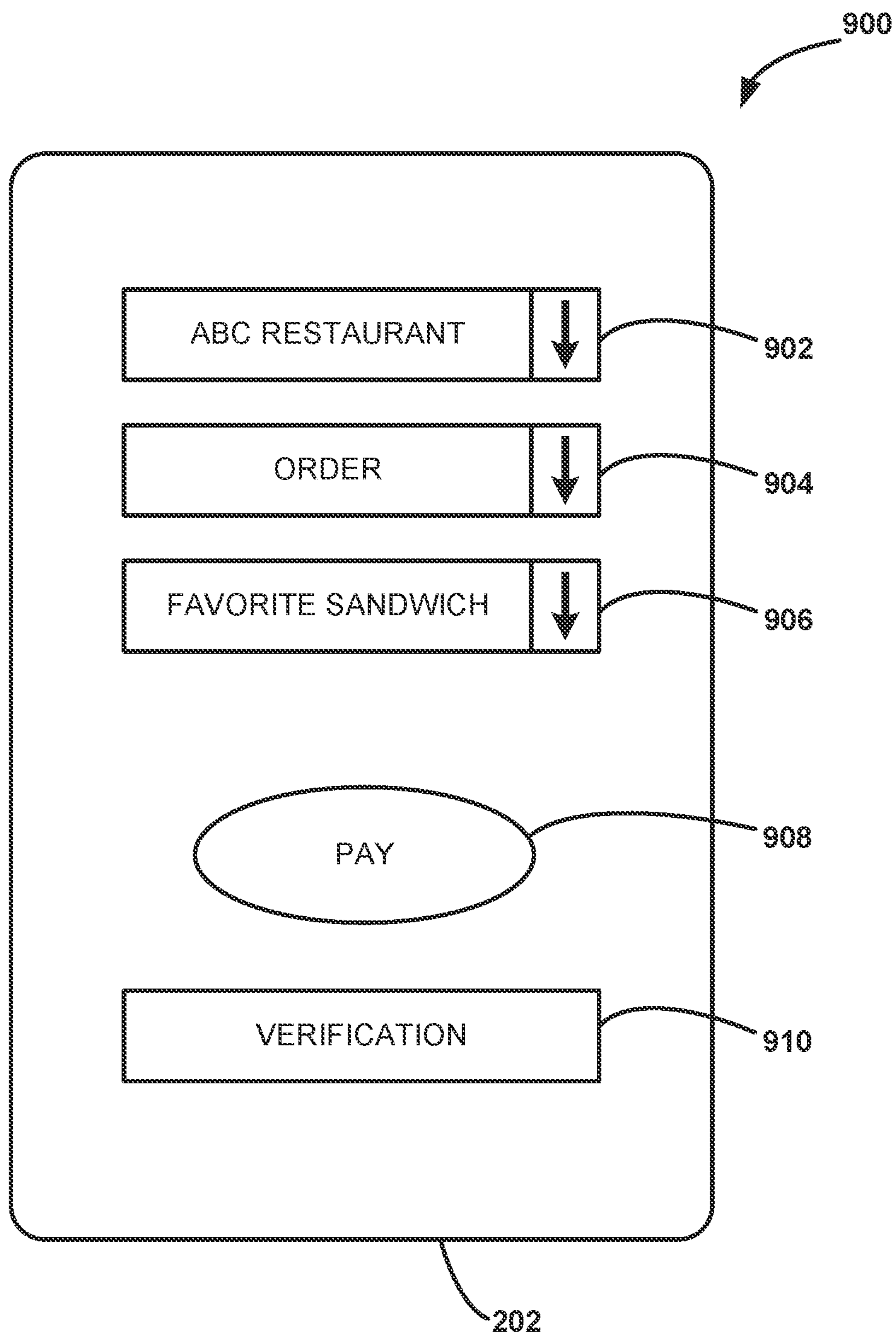


FIG. 9

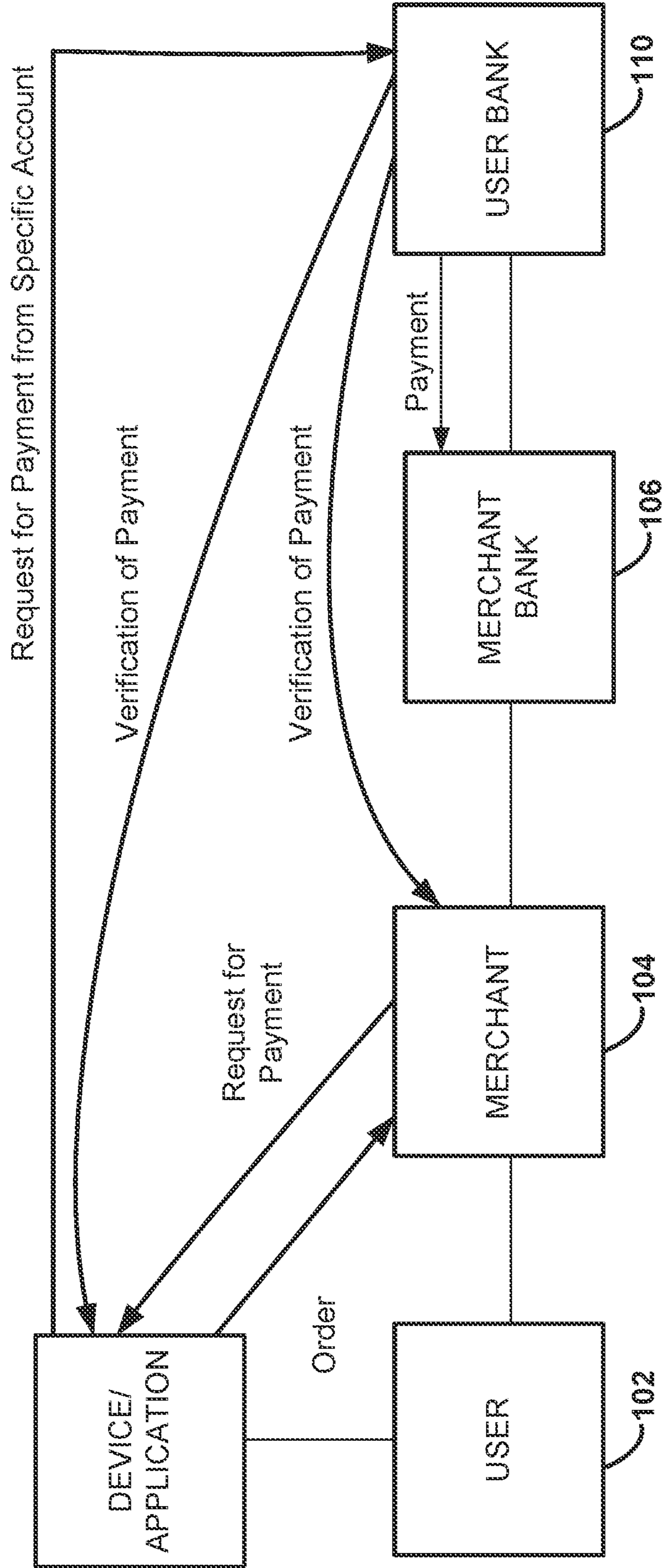


FIG. 10

SYSTEMS AND METHODS FOR ORDERING AND PAYMENT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 17/886,437 filed on Aug. 11, 2022 and entitled “SYSTEMS AND METHODS FOR ORDERING AND PAYMENT,” which is a continuation of U.S. patent application Ser. No. 17/006,494 filed on Aug. 28, 2020, and entitled “SYSTEMS AND METHODS FOR PRODUCT ORDERING AND PAYMENT,” which is a continuation of U.S. patent application Ser. No. 15/188,740 filed Jun. 21, 2016 and entitled “SYSTEMS AND METHODS FOR PRODUCT ORDERING AND PAYMENT.” U.S. Ser. No. 15/188,740 is a continuation of U.S. patent application Ser. No. 15/174,632 filed on Jun. 6, 2016 and entitled “SYSTEMS AND METHODS FOR PRODUCT ORDERING AND PAYMENT.” U.S. Ser. No. 15/174,632 claims the benefit of U.S. Provisional Application Ser. No. 62/171,944 filed on Jun. 5, 2015 and entitled “SYSTEM FOR PRODUCT ORDERING AND PAYMENT.” The contents of each of the foregoing applications are hereby incorporated herein by reference.

FIELD OF INVENTION

[0002] The present disclosure generally relates to product ordering and payment systems. More particularly, exemplary embodiments of the disclosure relate to systems and methods that can be used for remote ordering and payment of goods or services.

BACKGROUND OF THE DISCLOSURE

[0003] Many consumers enjoy buying products and services from various merchants, such as restaurants, coffee shops, retailers, wholesalers, manufacturers and other vendors. As used herein, a “consumer” is any person or entity that purchases or otherwise acquires goods or services. A “merchant” or “establishment” is any entity that sells or otherwise provides goods and services. When ordering some items, consumers may arrive at the establishment, select their item or wait to place an order for the item, pay for the item, and then (sometimes) wait to receive the item(s) ordered. Each step in this process is time-consuming and may diminish the experience associated with purchasing the item.

[0004] In some cases, consumers order items by telephone or on-line and pay for the item at the establishment or when the item is delivered. In an on-line purchase, a consumer typically goes to a merchant’s website, reviews the items that can be purchased, and then places an order. For telephone purchases, the consumer calls and places an order. The consumer then pays for the item over the telephone via credit card or when the item is delivered. These steps can be undesirably time consuming. Additionally, the establishment may produce an order and never receive payment, or payment may be made and the order not received, or not received on time.

[0005] Additionally, payment over the internet, by telephone, or at a point of sale terminal at a merchant’s location typically requires disclosing confidential information such as the payment card number, owners’ name, CVV number, card expiration date, and often the card billing address. The

information needed to authenticate a charge makes future fraudulent charges possible. As used herein, “payment card” or “card” means a credit card, debit card, or the like.

[0006] Accordingly, improved systems and methods for ordering and paying for item(s) that mitigate wait times at a merchant’s establishment and/or that increase a user’s satisfaction with a purchasing experience are desired.

SUMMARY OF THE DISCLOSURE

[0007] Various embodiments of the present disclosure relate to systems and methods for purchasing one or more items using a user device (also called a “device” herein), which can be a mobile cellular device, such as a cell phone, tablet, personal computer, or the like. A user software application (also called a “user application” or “application” herein) may be loaded on the device or accessible at a remote location by the device. The user application has, or has access to, a memory or database that stores two or more of the date an item(s) was purchased, item(s) purchased or ordered, merchant, merchant location, price paid, current price, other items offered by the merchant, delivery time for the item, time of day, month and/or year prior orders were placed, health information of the user, and information related to an item of food, such as calories, fat content, sugar content, carbohydrate content, whether or not gluten free, and/or other information.

[0008] When accessed by the user, the application can determine items previously purchased from one or more merchants, and display merchant(s) and most-frequently, or most recently purchased, items to a user, plus other items offered for sale by the merchant(s). The merchants can be selected as desired, for example from a group of previously-used merchants, from a group of nearby merchants—i.e., merchants that are within a determined distance from the user device, or a group of merchants that belong to a program. The device may display other items that the merchant may be attempting to sell, such as discounted items or holiday specialty items.

[0009] Exemplary systems and methods can also be used to easily and/or automatically purchase items. The purchase can be made without the need for a user to order and/or pay at the merchant location.

[0010] The user device enables a user to select one or more items to purchase and can facilitate payment to the merchant. The payment can be direct, such as bypassing credit card or other payment information to the merchant through a computer or point of sale device. Or, the payment can be indirect through an intermediate system to avoid exposing the user’s personal information to the merchant.

[0011] By way of example, an exemplary system includes the user device, a merchant payment device, and a payment issuer. As used herein, a payment issuer is a source of funds, such as a bank, associated with the user’s card (e.g., a debit card, credit card, or the like) or bank account. The payment issuer can communicate with the user device and/or the user application. After an order has been placed by the user, the merchant payment device sends a request for payment to the user device or application, which forwards the request to the payment issuer including the card or bank account designated by the user. Systems at the payment issuer verify the transaction, for example by checking the user account number, expiration date, source of the payment request, and available funds, and send a payment verification notification to the merchant system and to the user device. The monetary

amount of the transaction is transferred into the merchant's account at the merchant's bank (which is defined as any account designated by the merchant for the receipt of funds). In this manner, the merchant system never has access to the user's confidential card or bank account information, but still receives payment, and the transaction for the sale of the item is consummated. The user and merchant can each verify the transaction was complete by using the verification notification, which may be a number or any other suitable indicia.

[0012] In accordance with yet further exemplary embodiments of the disclosure, the user device can be used to place an order ahead of time when a user is expected to arrive at a merchant location. The user device or application communicates directly with a merchant network or server. Payment can be made at the merchant location, or made indirectly as described above.

[0013] Exemplary systems and methods can additionally or alternatively perform other functions. For example, exemplary applications can calculate a time and/or distance between a user and a merchant. The system can know or calculate a time to fulfill an order based on historical data or based on a communication sent from merchant after the order is received.

[0014] Systems and methods according to the invention may also, once a merchant is selected, prompt the user to either order the same item as previously purchased, or as purchased most frequently, or both, and/or prompt the user to modify the order or select another item.

[0015] Additionally, any system or method according to aspects of the invention may include a database, or access one or more databases, for example associated with the user's health. Available information associated with the user's health may include weight, age, medical conditions (such as diabetes, high blood pressure, heart condition, and/or the like), and/or a diet program. The system may communicate with databases such as the individual's electronic health records, EMR (electronic medical record) and/or PHR (personal health record). The application can match this information with information related to food items, such as the sugar amount, salt amount, vitamin amount, contents, cholesterol amount, fat amount or starch amount available from a merchant and suggest items based on the user's medical condition and other factors, such as time of day.

[0016] The system is smart and updates over time depending upon the new information it receives, for example based on system updates, new and/or additional data regarding a user or a merchant, and/or the like. The contents of this summary section are provided as a simplified introduction to the disclosure, and are not intended to be used to limit the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0017] FIG. 1 illustrates a financial transaction system as known in the art.

[0018] FIG. 2 illustrates an electronic communication and payment system in accordance with exemplary embodiments of the disclosure.

[0019] FIG. 3 illustrates another exemplary electronic communication and payment system in accordance with embodiments of the disclosure.

[0020] FIG. 4 illustrates another exemplary electronic communication and payment system in accordance with various embodiments of the disclosure.

[0021] FIG. 5 illustrates another exemplary electronic communication and payment system in accordance with various embodiments of the disclosure.

[0022] FIG. 6 illustrates a further exemplary electronic communication and payment system in accordance with various embodiments of the disclosure.

[0023] FIG. 7 illustrates an exemplary user interface on a user device in accordance with exemplary embodiments of the disclosure.

[0024] FIG. 8 illustrates another exemplary user interface on a user device in accordance with exemplary embodiments of the disclosure.

[0025] FIG. 9 illustrates another exemplary user interface on a user device in accordance with exemplary embodiments of the disclosure.

[0026] FIG. 10 illustrates a device and method for indirect payment to a merchant.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE DISCLOSURE

[0027] The detailed description of exemplary embodiments herein makes reference to the accompanying drawing figures, which illustrate various embodiments by way of illustration. While various embodiments are described in sufficient detail to enable those skilled in the art to practice the disclosure, it should be understood that other embodiments may be realized and that logical and functional changes may be made without departing from the spirit and scope of the disclosure. Thus, the detailed description herein is presented for purposes of illustration only and not of limitation. For example, steps recited in a method or process may be executed in any order unless otherwise noted. Moreover, unless otherwise noted, functions or steps may be performed by one or more third parties.

[0028] Exemplary embodiments of the disclosure relate to electronic communication systems and methods to facilitate a transaction between a user and a merchant. As set forth in more detail below, various systems and methods employ a user device having an application thereon to perform various functions. For example, the application can retrieve information relating to a merchant, such as most-frequent purchases made by the user at that merchant. The merchant may be part of a franchise, in which case the information may include most-frequent purchase at the franchise, as opposed to at a single merchant of the franchise.

[0029] In accordance with some embodiments of the disclosure, a user and/or a merchant can participate in a program which confers certain privileges to its members. In these cases, various functions described below can be provided by a program manager—e.g., via cloud services described below. Such features can eliminate or reduce wait times for a consumer, reduce or eliminate incorrect orders, and eliminate a need to pay for items at a merchant location. Basic functions of the program can be offered to users for free, with additional functions added for a premium. Similarly, basic functions can be provided to merchants, with premium features provided to merchants for a fee. Or, merchants can be required to pay a fee (e.g., monthly or annually) to join the program.

[0030] Additionally or alternatively, exemplary systems and methods can provide a process for using a user device

to place an order with a merchant and to pay for the order prior to arriving at a merchant location.

[0031] During a typical user/merchant transaction, such as a transaction at a restaurant, coffee shop, or similar merchant, a consumer (user) arrives at a merchant location, orders an item, pays for the item, and then waits to receive the item. FIG. 1 illustrates the typical process. In this case, a user **102** presents payment information (e.g., a credit card or debit card) to a merchant. A merchant device **104** then transmits a request for payment to an acquiring bank **106** (e.g. the merchant's bank). Then, e.g., using a financial network **108**, acquiring bank **106** requests payment on behalf of the merchant from an issuing financial institution (e.g., the user's bank). While such systems work relatively well, they require the presence of the user at the merchant site prior to or when paying for the item. Such systems also require the user to spend additional time at the merchant site. In addition, user financial information is generally provided by a user directly to merchant device **104**. Providing such financial information may be undesirable, because such information can be misused by a third party. In addition, if the user is paying with a credit or debit card, the user and/or merchant may be susceptible to fraud.

[0032] In contrast to these prior approaches, exemplary systems and methods allow for more convenient and/or automated ordering, reduce wait times, provide suggestions for orders, and/or the like. FIG. 2 illustrates an electronic communication and payment system **200** in accordance with various exemplary embodiments of the disclosure. Electronic communication and payment system includes a user device **202** and a merchant device **204**. As set forth in more detail below, in accordance with exemplary embodiments of the disclosure, user device **202** can be used to place an order for one or more items—e.g., for later pickup by a user/consumer and can transmit payment (e.g., by way of a credit card payment, debit card payment, token, credit, or the like) to merchant device **204**. Communication between user device and merchant device can be direct or be transmitted through a network **210**. Additionally, or alternatively, the payment can proceed without involvement of other financial institutions, as illustrated in FIG. 2, or may go through one or more intermediary financial institutions, as discussed in more detail below in connection with other figures.

[0033] User device **202** can comprise any suitable device with wireless communication features or that can communicate over a network. In the illustrated examples, user device **202** is illustrated using mobile, cellular, satellite, and/or wireless communication. However, the disclosure is not so limited. By way of examples, user device **202** can include a computing unit or system. The computing units or systems may take the form of a computer, a set of computers, a smartphone, a laptop (for example, a MacBook), a notebook, a tablet (for example, an iPad), a hand held computer, a personal digital assistant, a set-top box, a workstation, a computer-server, a main frame computer, a mini-computer, a PC server, a pervasive computer, a network set of computers, a personal computer, a kiosk, a point of sale (POS) device and/or a terminal, a television, or any other device capable of receiving and/or sending data over a network. User device **202** may run Microsoft Internet Explorer®, Mozilla Firefox®, Google® Chrome, Apple® Safari, Apple® IOS, Android, or any other suitable software package(s). In accordance with various embodiments of the disclosure, device **202** is global positioning system (GPS)

enabled in order to provide and/or utilize location information associated with device **202**. For example, device **202** may be configured to support geo-location and/or location-based services.

[0034] In accordance with various embodiments of the disclosure, user device **202** includes an application **206** to perform one or more functions as described herein. In accordance with various aspects of these embodiments, application **206** uses GPS-enabled features of device **202** to allow device **202** to perform certain functions based on, for example, a distance between a user (with user device **202**) and a merchant (with merchant device **204**), an expected amount of time it will take a user to reach the merchant (which can depend on one or more modes of transportation, such as walking, driving, public transportation, or combinations thereof). For example, as discussed in more detail below, a user can use user device **202** and application **206** to place an order, wherein the order will be transmitted to a merchant (either directly or through various networks) based on a user proximity to the merchant, an expected time for a user to reach a merchant, or the like.

[0035] A consumer can use user device **202** and application **206** to cause various functions to be performed. As used herein, the terms “consumer,” “user,” “end user,” and “customer” may be used interchangeably with each other, and each may include any person, entity, government organization, business, machine, hardware, and/or software. Application **206** can be a stand-alone application, part of an operating system, or a web plug-in. In any of these cases, user device **202** can act as a web client that communicates via a network (e.g., network **210**). Web clients may include a browser application which interfaces with a network. Such browser applications typically include internet browsing software installed within a computing unit or a system to conduct online transactions and/or communications.

[0036] During a transaction, a user can use user device **202** to review nearby merchants (e.g., based on GPS coordinates) and review recent orders placed with such nearby merchants. The recent order(s) can be displayed as a default (or only) order option. A default option can be, for example, the most recent order, a most-frequent order (e.g., the most frequent from the last 2 or more orders), a most popular order based on transaction data for a merchant, and/or the like. A price can be displayed proximate the item, and an option to buy one or more items can be displayed to the user.

[0037] In accordance with some exemplary embodiments of the disclosure, application **206** can be enabled to be continuously running in the background, so that when a user is within a predetermined distance (e.g., 5 miles, 2 miles, 1 mile, 0.5 mile, or the like) from a predefined merchant (e.g., a merchant participating in a program), application **206** automatically displays a user interface, such as one or more user interfaces discussed in more detail below in connections with FIGS. 7-9. The amount of distance or time can be user selected or merchant selected and can be based on, for example, a mode of transportation used by the user and/or an average speed that the user is traveling.

[0038] By way of one example, application **206** can be used to calculate where the customer is located relative to a drive-through restaurant or facilities thereof, so as to engage the user at the appropriate time. At the start of the drive-through (i.e., as the user approaches and/or enters the drive-through area of a restaurant) the user is prompted by application **206** as to whether the user wants the same order

as a previous order, a most-frequent order item, or the like. At the speaker the user is asked to pull forward, because the order is already in the system. Prior to or at a payment window, the application 206 provides a display requesting payment prior to or after receiving the user's order.

[0039] Another example is just-in-time ordering as noted above. In this case, device 202 or 204 or another device, such as a device provided by a cloud service, discussed in more detail below, calculates how far (or how much time) a customer is away from a given location after ordering, and places the order with merchant device 204 after calculating the preparation and any additional time, before the customer arrives at the merchant site. In accordance with some embodiments, a customer can have an option presented on user device 202 to "prepare now," in which case the order is placed in the merchant queue and is processed in order (or with preference to those in the program).

[0040] Application 206 can optionally include an option to "pay it forward" and/or "pay it backward." Something trending in coffee lines is the concept of paying for the car ahead of you (e.g., when you are at the speaker) or the car behind you when you are at the pickup window. A user can push a button using application 206 on user device 202 to do either and this can be based on, for example, user device's communications to merchant device 204—either directly or via a cloud service. For privacy reasons, the order of the other person may not be shown to the user paying for such items.

[0041] In accordance with additional exemplary embodiments of the disclosure, application 206 can be used to review (e.g., real-time) wait times associated with particular merchants. For example, in the case of restaurants, application 206 can be used to look at restaurants (e.g., restaurants enlisted in a program) in the area to see how long their wait list is. The restaurants can be displayed to a user in certain areas by, for example, choice of food, location, and/or wait times. After receiving such information, users can use the ability to push up on the line with the put me in line feature, for example, as discussed below.

[0042] In accordance with yet further additional or alternative embodiments, application 206 and user device 202 can be used in connection with pull-up services. In these cases, a merchant can dedicate an area and/or parking spots to users participating in a program. In these cases, a user does not need to go through a drive through or wait in line. Rather, application 206 and/or a cloud service can send an alert to the merchant (e.g., merchant device 204) when a user is near or at the merchant location. A user may come in to get the order or to have it brought to their car. The establishment setup may record the location of the reserved parking spots.

[0043] User device 202 can also include a database 208. Database 208 can store information relating to various merchants and can store user order information associated with the merchants. Although illustrated as part of user device 202, database 208 or portions thereof can suitably form part of (and/or be accessed or accessible via) network 210 or another network. Database 208, in accordance with exemplary embodiments of the present disclosure can be implemented as a database management system (DBMS), a relational database management system (e.g., DB2, Oracle, SQL Server, My SQL, ACCESS, etc.), an object-oriented database management system (ODBMS), a file system, or in any another suitable manner. Database 208 can be accessed

by a server via a Structure Query Language (SQL) or in any other desired manner. Database 208 may be organized in any suitable manner, including as data tables or lookup tables. Association of certain data may be accomplished through any desired data association technique and data association may be accomplished manually and/or automatically. In one embodiment, database 208 is configured to store information related to a service performed for a customer. Information from database 208 can be used by application 206 to, for example, facilitate performance of various functions described herein.

[0044] Database 208 can also store user account information. Phrases and terms similar to "account," "account number," "account code" or "consumer account" as used herein, can include any device, code (e.g., one or more of an authorization/access code, personal identification number ("PIN"), internet code, other identification code, and/or the like), number, letter, symbol, digital certificate, smart chip, digital signal, analog signal, biometric or other identifier/indicia suitably configured to allow the consumer to access, interact with or communicate with the system. In various embodiments, an account number can refer to a fifteen or sixteen digit number on a transaction instrument and a card security code on the transaction instrument. The account number may optionally be located on or associated with a rewards account, charge account, credit account, debit account, prepaid account, telephone card, embossed card, smart card, magnetic stripe card, bar code card, transponder, radio frequency card or an associated account.

[0045] Merchant device 204 can include any suitable system, software, and/or hardware, such as devices noted above in connection with user device 202. A merchant can be a provider, broker and/or any other entity in the distribution chain of items. A merchant can be, for example, a coffee shop, a restaurant, a bookstore, a grocery store, a retail store, a travel agency, a service provider, a social media operator, an on-line merchant, a digital wallet provider, or the like. Phrases and terms similar to "business" or "merchant" may be used herein interchangeably with each other.

[0046] Merchant device 204 can include a merchant application 212. Merchant application 212 can facilitate communication between merchant device 204 and user device 202 and/or can facilitate setup of merchant device 204 to be used in accordance with exemplary embodiments of the disclosure. For example, merchant application can be used to receive an order and/or indication of a payment from a customer and, in some cases, can transmit a verification of receipt of payment to user device 202 or to another entity. Merchant application 212 can also allow a merchant to input information regarding the merchant, such as merchant account information, location of merchant, and/or GPS coordinates for locations associated with the merchant (e.g., GPS coordinates of a drive-up window, a pickup window, a payment window, a pickup location, and the like). Additionally or alternatively, merchant application 212 can allow a merchant to enter expected wait times associated with various items. The expected wait times can include preparation time and additional time, which can be entered or calculated using, e.g., one or more of the devices described herein. The additional time can include, for example, additional time associated with a user traveling to the merchant site, additional time associated with additional customers at a merchant site, a time of day, a time of year, and the like.

[0047] By way of example, merchant application 212 can prompt a merchant to mark a start of their drive-through where the GPS location will be recorded, stepping at a suitable interval (for example, approximately every 10 feet), then marking the GPS location for a speaker, and then marking a GPS location for a serving window. This allows quick setup of merchant application 212 to get a merchant online quickly. Such information can be used to calculate where in line the user is at in order to pop up the appropriate user interface when the user is close to the merchant. Such information can be stored on merchant device 204 and/or on part of a network or cloud service discussed below.

[0048] Merchant device 204 can also include a database 214. Database 214 can be used to store payment information, such as customer name, order, and indication of payment received. Database 214 can include the same system and/or software described above in connection with database 208, or may differ from database 208, as desired.

[0049] Network 210 can include a local area network (LAN), a wide area network, a personal area network, a campus area network, a metropolitan area network, a global area network, a financial network, the internet, or the like. Network 210 can be coupled to one or more user devices 202, merchant devices 204, and/or other devices using an Ethernet connection, other wired connections, wireless interfaces, such as Bluetooth, Wifi, or mobile communication protocols, such as wireless application protocol (WAP), or the like. Network 210 can be coupled to other networks and/or to other devices.

[0050] Network 210 may comprise any suitable electronic communications systems or methods which incorporate software and/or hardware components. Communication may be accomplished through any suitable communication channels, such as, for example, a telephone network, an extranet, an intranet, the internet, point of interaction device (point of sale device, personal digital assistant, smart phone, cellular phone (e.g., iPhone®, Windows Phone®, Android, or BlackBerry®), kiosk, etc.), online communications, satellite communications, off-line communications, wireless communications, transponder communications, local area network (LAN), wide area network (WAN), virtual private network (VPN), networked or linked devices, keyboard, mouse and/or any suitable communication, data input modality, and any combinations thereof. Network 210 may be implemented with TCP/IP communications protocols and/or using IPX, Appletalk, IP-6, NetBIOS, OSI, any tunneling protocol (e.g., IPsec, SSH), or any number of suitable existing or future protocols. If network 210 is in the nature of a public network, such as the internet, it may be advantageous to presume the network 210 to be insecure and open to eavesdroppers. Specific information related to the protocols, standards, and application software utilized in connection with the internet is generally known and, as such, need not be detailed herein.

[0051] The various system components described herein can be independently, separately or collectively coupled to network 210 via one or more data links including, for example, a connection to an Internet Service Provider (ISP) over a local loop as is typically used in connection with standard modem communication, cable modem, Dish networks, ISDN, Digital Subscriber Line (DSL), or various wireless communication methods. The systems and methods disclosed herein contemplate the use, sale and/or distribu-

tion of any goods, services or information over any network having functionality similar to that described above with reference to network 210.

[0052] FIG. 3 illustrates another exemplary electronic communication and payment system in accordance with additional exemplary embodiments of the disclosure. System 300 is similar to system 200, except system 300 includes a payment issuer 302.

[0053] Payment issuer 302 can be any entity that offers transaction account services, such as a financial institution. The financial institution can represent any type of bank, lender or other type of account-issuing institution, such as credit card companies, card-sponsoring companies, or third-party issuers under contract with financial institutions. It is further noted that other participants may be involved in some phases of the transaction, such as an intermediary settlement institution.

[0054] Payment issuer 302 can include a company (e.g., a third party) appointed (e.g., by a merchant) to handle transactions for merchant banks. In accordance with some exemplary embodiments of the disclosure, payment issuer 302 can be broken down into two types: front-end and back-end. A front-end payment issuer 302 can have connections to various transaction accounts and supply authorization and settlement services to the merchant banks' merchants. A back-end payment issuer 302 accepts settlements from front-end processors and, via the Federal Reserve bank, move money from an issuing bank to the merchant bank. In an operation that will usually take a few seconds, the payment issuer can both check the details received by forwarding the details to the respective account's issuing bank or card association for verification, and may carry out a series of anti-fraud measures against the transaction. Additional parameters, including the account's country of issue and its previous payment history, may be used to gauge the probability of the transaction being approved. In response to the payment issuer receiving confirmation that the transaction account details have been verified, the information may be relayed back to the merchant and/or the user. In response to the verification being denied, the payment issuer can relay corresponding information to the merchant and/or the user.

[0055] As used herein, "transmit" may include sending electronic data from one system component to another over a network connection. Additionally, as used herein, "data" may include encompassing information such as commands, queries, files, data for storage, and the like in digital or any other form.

[0056] To conduct a transaction using electronic communication and payment system 300, a user can select a merchant and item(s) using application 206 and database 208. A user can then select to pay for the items using application 206. The payment information for the transaction can be stored in database 208 and can include one or more payment options. Once the user selects payment, the payment request is transmitted to payment issuer 302—e.g., using network 210. Once payment issuer 302 receives the payment request, payment issuer 302 can send indication of payment, payment, or a token to merchant device 204. Payment issuer 302 and/or merchant device 204 can send user device 202 verification of payment, which a user can present to a merchant upon pickup of the ordered item(s).

[0057] FIG. 4 illustrates another electronic communication and payment system 400 in accordance with further exemplary embodiments of the disclosure. Electronic com-

munication and payment system **400** is similar to electronic communication and payment system **300**, except electronic communication and payment system **400** includes a cloud service **402**.

[0058] Cloud service **402** can include one or more servers or other device capable of performing exemplary cloud service functions. In various exemplary embodiments, cloud service **402** can include any of the network components described above in connection with network **210**. Further, although illustrated separately, cloud service **402** may form part of network **210**.

[0059] In accordance with exemplary embodiments of the disclosure, cloud service **402** can facilitate user and merchant account setup and/or can store information, such as account information, associated with merchants and/or users. In accordance with further examples, cloud service **402** can additionally or alternatively act as a payment intermediary, such that user account information is not passed to merchant device **204**.

[0060] For example, cloud service **402** can receive and store merchant information received from merchant device **204**. A merchant can enter merchant information, such as location (e.g., address and/or GPS location), menu items, specials, and prices. The merchant information can include specific information, such as GPS locations of drive-up windows, payment windows, and the like.

[0061] Similarly, cloud service **402** can receive and store user information, such as one or more of: a user device identifier, merchants, related items (e.g., for each of one or more merchants), payment information (e.g., credit card, debit card, third-party service such as PayPal, or the like). Alternatively, some, including any combination, of such information can be stored on user device **202**—e.g., in database **208**.

[0062] In the illustrated example, when a user places an order using user device **202**, cloud service **402** receives the order, and passes a payment request to payment issuer **302**—e.g., through network **210**. Payment issuer **302** then issues a payment to cloud service **402**. The payment can reside with cloud service **402** for a prescribed period of time or until a merchant requests such information. Alternatively, the payment or a corresponding credit can be pushed to merchant device **204**. In accordance with some embodiments of the disclosure, the payment information provided by cloud service **402** to merchant device **204** can be in the form of a token or credit, such that user account information and/or payment issuer account information is never passed to merchant device **204**. Once merchant device **204** or cloud service **402** receives payment, verification of the payment to user device **202** can be transmitted either directly from merchant device **204**, via cloud service **402** (which can then store such verification), or via another network.

[0063] FIG. 5 illustrates another electronic communication and payment system **500** in accordance with yet further exemplary embodiments of the disclosure. Electronic communication and payment system **500** is similar to electronic communication and payment system **400**, except in the illustrated example of electronic communication and payment system **500**, payment information from payment issuer **302** is passed through one or more networks **210** (which may include a cloud service **402** as described above) to user device **202**. In this case, merchant information and/or user information can be stored in a cloud service, such as cloud service **402**. When an order is placed using user device **202**,

a payment request is transmitted using network **210** to payment issuer **302**. Payment issuer **302** then transmits a form of payment to user device **202** via network **210**. User device **202** then transmits a payment (e.g., token, or credit) to merchant device **204**. Although illustrated as a direct payment, the payment from user device **202** to merchant **204** can go through a suitable network. In accordance with some examples, merchant device **204** can send to user device **202** a verification of payment, which a user can then present to a merchant when picking up the ordered items.

[0064] Turning now to FIG. 6, another electronic communication and payment system **600**, in accordance with additional exemplary embodiments of the disclosure, is illustrated. Electronic communication and payment system **600** is similar to electronic communication and payment system **400**, except electronic communication and payment system **600** utilizes a payment issuer **602**, a network **604**, and a payment acquirer **606**.

[0065] Payment issuer **602** can be the same as or similar to payment issuer **302**. Network **604** can include any of the network components described above in connection with network **210**. By way of example, network **604** can include a bank or financial network.

[0066] Payment acquirer **606** can include any suitable financial institution, such as those described herein. In the illustrated example, a merchant using merchant device **204** can have a merchant account with payment acquirer **606**.

[0067] In an illustrated example, when a user places an order to a merchant using user device **202**, the order can be received via network **210** (which can be or include cloud service **402**, as described above). Information regarding the order, such as a payment request, can then be transmitted to payment acquirer **606** and to payment issuer **602**—e.g., via network **604**. Order information can then be transmitted to merchant device **204** using network **210**. Payment issuer **602** then transmits payment to payment acquirer **606** via network **604**. Once payment is received by payment acquirer **606**, a notification of receipt of payment can be sent to merchant device **204**, so that the merchant receives an indication of the payment. Similar to other embodiments described above, in accordance with some examples of the disclosure, the indication of payment from payment acquirer **606** and/or network **210** to merchant device **204** does not include user account information, so that the merchant does not receive such information. Thus, any fraud on the user that originates at a merchant site or with merchant device **204** can be mitigated or eliminated.

[0068] In accordance with some exemplary embodiments of the disclosure, network **210** (e.g., a cloud service) can send verification of payment to user device **202**. Additionally or alternatively, merchant device **204** can transmit a verification of payment to user device **202**. Such verification can be displayed on user device **202** (e.g., using application **206**) when picking up the ordered item(s) from the merchant.

[0069] Turning now to FIGS. 7-9, various functions of user device **202** and user application **206** are described in connection with exemplary user interfaces. The illustrated user interfaces can be used in accordance with any of the exemplary electronic communication and payment systems described above.

[0070] FIG. 7 illustrates a user interface **700** in accordance with various examples of the disclosure. In the illustrated example, user interface **700** includes a display **702** to display

information associated with a merchant. Display 702 can be configured to display information associated with only a particular merchant, to display a default merchant and have a drop-down or other selection box (as illustrated), or display information associated with multiple merchants. In accordance with various aspects of these embodiments, display 702 and/or user application 206 allows a user to enter or select a merchant.

[0071] Display 704 allows a user to select one or more items associated with a selected (or default or only) merchant. As noted above, to provide an improved user experience, application 206 can be configured to automatically display a most-frequently purchased item by a user on display 704. If a user desires to order another item, a user can use selection box 704 to order an alternative item from the merchant.

[0072] Display 706 allows a user to select one or more additional items to add to an order. Application 206 can cause to be displayed additional displays 706 if a user selects one or more add-on items.

[0073] Application 206 can allow a user to select from various ordering options, such as ordering now, ordering when within a distance or time from a merchant, ordering when within a distance or time of the merchant that is about the same as an estimated time to prepare the item(s) for pickup, or the like. For example, a predetermined amount of time to prepare an item, which can be based on, for example, an average amount of time to prepare the item, can be used to estimate an amount of time to prepare an ordered/selected item. In addition to a preparation time, an estimated time can be based on, for example, a time of day, a number of people in line, an additional amount of time supplied by a merchant, a time of year, an additional amount of time based on, for example, a special event, or the like. Application 206 can be configured to place the order (e.g., as a selected option) when a time for user device 202 to arrive at the merchant is about the same as an estimated time to prepare the item.

[0074] A user can select pay option 710 to pay for the ordered item(s). When payment option 710 is selected, payment information previously stored in database 208 can be used to pay for the selected items. If no prior payment information is stored in database 208, then a user can be prompted to enter payment information and such information can be stored in database 208. The user can be prompted whether or not to store the payment information.

[0075] Display 712 can pop up once payment verification is received by a merchant device (e.g., merchant device 204), a payment issuer (e.g., payment issuer 302), and/or a cloud service (e.g., cloud service 402). A user can show a merchant the verification as evidence that a payment for one or more items was made.

[0076] FIG. 8 illustrates another user interface 800 for additional or alternative functions of user device 202 and/or exemplary electronic communication and payment systems, such as those described herein. User interface 800 is similar to user interface 700, but user interface 800 does not include an option for add-on items. In addition, interface 800 includes a window 804 that allows a user to select a function, such as order, get in line, pay it forward, pay it backward, pay now, or the like. Displays 802, 806, 808, and 810 can be the same as or similar to displays 702, 704, 710, and 712. Display 806 options can depend on the function selected with display 804.

[0077] In the example illustrated in FIG. 8, device 202 can be used to place a customer in a queue by selecting “put me in line.” For example, if a merchant typically has a long waiting line, a user can use user device 202 and application 206 to communicate with the merchant—e.g., using merchant device 204 to indicate that the user desires to be in a queue.

[0078] By way of example, a user can be put on a wait list from a remote location using user device 202. The list can be adjusted (the user moving down the list) if the user’s arrival time (e.g., based on the user’s device’s GPS location) is less than X (e.g., 30, 20, 10, 5, or the like) minutes away from the merchant or moved up on a list if the user is more than x minutes away from the merchant.

[0079] In accordance with some exemplary embodiments, a user’s device (e.g. user device 202) can be used in a manner similar to a pager. Many restaurants use a pager that is given to patrons to signal the customers when their tables are ready. In accordance with some embodiments of the disclosure, merchant device 204 can transmit a signal to user device 202—either directly or indirectly—to notify the user that the table (or item) is ready. A pop-up, message, vibration, or other suitable technique may be utilized to inform the user, as desired.

[0080] FIG. 9 illustrates another user interface 900 that can be used for, for example, a pull-up service. User interface 900 is similar to user interface 700, but user interface 900 is simplified and does not include an option for add-ons (but in other examples a user interface may include such a display) or alternative payment options. In addition, user interface 900 includes a window 904 that allows a user to select a function, such as order now, get in line, pay it forward, or the like. Displays 902, 906, 908, and 910 can be the same as or similar to displays 702, 704, 710, and 712. The user interfaces illustrated herein are merely for presenting various examples; the invention is not limited to the specific examples shown. For example, various combinations of exemplary displays are considered to be within the scope of this disclosure.

[0081] Systems and methods according to the invention may also, once a merchant is selected, prompt the user to either order the same item as previously purchased, or as purchased most frequently, or both, and/or prompt the user to modify the order or select another item.

[0082] Additionally, any system or method according to aspects of the invention may include a database, or access one or more databases associated with the user’s health. Available information associated with the user’s health may include weight, age, medical conditions (such as diabetes, high blood pressure, or heart condition), and/or a diet program. The system may communicate with databases such as the individual’s electronic health records, EMR (electronic medical record) and/or PHR (personal health record). The application can match this information with information related to food items, such as blood sugar level, diabetes, high blood pressure, heart condition), and information, such as the sugar amount, salt amount, vitamin amount, contents, cholesterol amount, fat amount or starch amount available from a merchant and suggest items based on the user’s medical condition and other factors, such as time of day.

[0083] The system is smart and updates over time depending upon the new information it receives, for example based on system updates, new and/or additional data regarding a user or a merchant, and/or the like. In some exemplary

embodiments, for example when application 206 is utilized to order a beverage, application 206 may monitor and/or note when the user actually picked up the beverage order. Future order placed with that merchant may take into account lead times for order pickup based on historical lead time information.

[0084] For example, user device 202 and/or application 206 may contact a merchant which supplies food items. Based on the information available to the application or device (for example, a user location), and an analysis of the available food items from the merchant and the user's health condition, the device may display a message such as "I see that you are at (or are ordering from) restaurant X. May I suggest meal Y, which has 500 calories and costs \$5.75 plus tax?" The user then has the option to select that item or request to review different items from the merchant's menu.

[0085] In certain exemplary embodiments, via operation of application 206, user device 202 may be operative to automatically make a location-based payment, for example an access payment for a toll-road. As user device 202 approaches and/or passes an electronic toll sensor, application 206 may prompt the user to confirm that they would like to pay the toll. In some embodiments, application 206 may be configured to automatically pay a toll on behalf of the user, for example via utilizing one or more of the networks and/or techniques disclosed above.

[0086] As will be appreciated by one of ordinary skill in the art, the system may be embodied as a customization of an existing system, an add-on product, a processing apparatus executing upgraded software, a standalone system, a distributed system, a method, a data processing system, a device for data processing, and/or a computer program product. Accordingly, any portion of the system or a module may take the form of a processing apparatus executing code, an internet-based embodiment, an entirely hardware embodiment, or an embodiment combining aspects of the internet, software and hardware. Furthermore, the system may take the form of a computer program product on a computer-readable storage medium having computer-readable program code means embodied in the storage medium. Any suitable computer-readable storage medium may be utilized, including hard disks, CD-ROM, optical storage devices, magnetic storage devices, and/or the like.

[0087] Exemplary systems and methods are described herein with reference to screen shots, block diagrams and flowchart illustrations of methods, apparatus (e.g., systems), and computer program products according to various embodiments. It will be understood that each functional block of the block diagrams and the flowchart illustrations, and combinations of functional blocks in the block diagrams and flowchart illustrations, respectively, may be implemented by computer program instructions operative on computer hardware.

[0088] Via application of principles of the present disclosure, operation of user device 202 may be improved. For example, via operation of application 206, a user may spend less time utilizing user device 202 searching for directions, searching for suitable restaurants, reviewing electronic menus, and/or the like, thus saving battery life on user device 202 and allowing user device 202 to operate for a longer period of time between charges. Additionally, via operation of application 206, electricity use in network 210 and/or at merchant device 204 may be reduced, for example due to streamlining of order processes and/or elimination of

redundant and/or inefficient steps. Yet further, the security of operation of user device 202, merchant device 204, and/or network 210 is improved, for example by eliminating the communication to a merchant device 204 of payment card information associated with a user of user device 202. In this manner, fraud and abuse may be reduced.

[0089] Functional blocks of the block diagrams and flowchart illustrations support combinations of means for performing the specified functions, combinations of steps for performing the specified functions, and program instruction means for performing the specified functions. It will also be understood that each functional block of the block diagrams and flowchart illustrations, and combinations of functional blocks in the block diagrams and flowchart illustrations, can be implemented by either special purpose hardware-based computer systems which perform the specified functions or steps, or suitable combinations of special purpose hardware and computer instructions. Further, illustrations of the process flows and the descriptions thereof may make reference to user windows, webpages, websites, web forms, prompts, etc. Practitioners will appreciate that the illustrated steps described herein may comprise any number of configurations including the use of windows, webpages, web forms, popup windows, prompts and the like. It should be further appreciated that the multiple steps as illustrated and described may be combined into single webpages and/or windows but have been expanded for the sake of simplicity. In other cases, steps illustrated and described as single process steps may be separated into multiple webpages and/or windows but have been combined for simplicity.

[0090] The term "non-transitory" is to be understood to remove only propagating transitory signals per se from the claim scope and does not relinquish rights to all standard computer-readable media that are not only propagating transitory signals per se. Stated another way, the meaning of the term "non-transitory computer-readable medium" and "non-transitory computer-readable storage medium" should be construed to exclude only those types of transitory computer-readable media which were found in *In Re Nuijten* to fall outside the scope of patentable subject matter under 35 U.S.C. § 101.

[0091] Systems, methods and computer program products are provided. In the detailed description herein, references to "various embodiments," "one embodiment," "an embodiment," "an example embodiment," etc., indicate that the embodiment described may include a particular feature, structure, or characteristic, but every embodiment may not necessarily include the particular feature, structure, or characteristic. Moreover, such phrases are not necessarily referring to the same embodiment. Further, when a particular feature, structure, or characteristic is described in connection with an embodiment, it is submitted that it is within the knowledge of one skilled in the art to affect such feature, structure, or characteristic in connection with other embodiments whether or not explicitly described. After reading the description, it will be apparent how to implement the disclosure in alternative embodiments.

[0092] Benefits, other advantages, and solutions to problems have been described herein with regard to specific embodiments. However, the benefits, advantages, solutions to problems, and any elements that may cause any benefit, advantage, or solution to occur or become more pronounced are not to be construed as critical, required, or essential features or elements of the disclosure. The scope of the

disclosure is accordingly to be limited by nothing other than the appended claims, in which reference to an element in the singular is not intended to mean “one and only one,” unless explicitly so stated, but rather “one or more.” Moreover, where a phrase similar to ‘at least one of A, B, and C’ or ‘at least one of A, B, or C’ is used in the claims or specification, it is intended that the phrase be interpreted to mean that A alone may be present in an embodiment, B alone may be present in an embodiment, C alone may be present in an embodiment, or that any combination of the elements A, B and C may be present in a single embodiment; for example, A and B, A and C, B and C, or A and B and C. The disclosure includes a system and method, and it is contemplated that it may be embodied as computer program instructions on a tangible computer-readable carrier, such as a magnetic or optical memory or a magnetic or optical disk. All structural, and functional equivalents to the elements of the above-described exemplary embodiments that are known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the present claims. Moreover, it is not necessary for a device or method to address each and every problem sought to be solved by the present disclosure for it to be encompassed by the present claims.

What is claimed is:

1. A computer system configured for ordering of store items and electronic payment without disclosing a user’s monetary account number, the system comprising:

a user device comprising a processor, a memory, a display, a graphical user interface (GUI) configured to permit input by a user, a transmitter, a user application, and a global positioning system (GPS);

a payment issuer server in communication with the monetary account and with the user device;

a merchant server in communication the user device and in communication with a products database that contains information, including price, about one or more products provided by a merchant, wherein the merchant server is configured to receive an order for the one or more products from the user device;

a merchant payment device in communication with the merchant server;

a merchant bank server in communication with a merchant account, the merchant payment device, and the payment issuer server;

wherein (a) the user device is configured to communicate with the payment issuer server after receiving the price from the merchant server in response to the merchant server receiving the order, (b) the payment issuer server verifies that the monetary account has sufficient funds to pay the price, (c) a payment is transferred to the merchant bank server by the payment issuer server without revealing an account number of the user.

2. The computer system of claim 1, wherein the merchant server does not communicate with the payment issuer server.

3. The computer system of claim 1, wherein the user device is configured to determine by the GPS and user application, a proximity of the user device to a physical location of the merchant.

4. The computer system of claim 1, wherein the products database includes nutritional information of one or more food items and the nutritional information is transmitted by

the merchant server to the user device, and the display of the user device is configured to display the nutritional information.

5. The computer system of claim 4, wherein the memory includes dietary restrictions of the user, and the application selects the one or more food items based on the dietary restrictions.

6. The computer system of claim 1, wherein the user device is further configured to transmit to the payment issuer server a user account number.

7. The computer system of claim 1, wherein the merchant bank server is configured to transmit the payment to the merchant bank account.

8. The computer system of claim 1, further comprising the memory being configured to store at least two of (a) the merchant’s name, (b) one or more products previously ordered from the merchant, (c) price information for the one or more products previously ordered, (d) the location of the merchant, and (e) current offers by the merchant for the sale of each of the one or more products.

9. The computer system of claim 1, wherein the memory is configured to store information regarding one or more previous visits by the user to the merchant and the products purchased during the one or more previous visits.

10. The computer system of claim 1, wherein the merchant server is configured to transmit an order number to the user device, which is configured to transmit the order number to the payment issuer server, which is configured to transmit the order number to the merchant bank server and to the monetary account.

11. The computer system of claim 10, wherein the merchant bank server is further configured to transmit the order number to the merchant account, and to transmit verification of payment of the order to the merchant server.

12. The computer system of claim 1, wherein the merchant server is further configured to transmit to the user device, a signal with the time at which the order will be ready; and the application is configured to cause the time at which the order will be ready on the display.

13. The computer system of claim 1, wherein the processor is configured to determine, utilizing the GPS, merchants within a given distance from the user device that have products desired by the user.

14. The computer system of claim 1, wherein the user device is configured to transmit to the payment issuer server, responsive to the user selecting a function of the application using the GUI, authorization for payment for a second order at the merchant belonging to someone other than the user.

15. The computer system of claim 5, wherein the memory includes at least one of the user’s health factors of: weight, age, measured blood sugar level, measured blood pressure, heart condition, diabetic status, and pregnancy status, and the user application is configured to determine one or more products appropriate for the user by comparing the nutritional information to the at least one of the user’s health factors.

16. The computer system of claim 4, wherein the nutrition information of the one or more food items comprises at least one of: an ingredient list, amount by weight of an ingredient, calorie information, carbohydrate information, vitamin information, fat information, or sugar information.

17. The computer system of claim 1, wherein the user device is further configured to transmit to the merchant

server an instruction to place one or more orders in a queue maintained on the merchant server.

18. The computer system of claim **15**, wherein the user application is configured to place an alert on the display if a selected food item is deemed incompatible with dietary constraints of the user.

19. The computer system of claim **1**, wherein the merchant server is configured to suggest at least one of the one or more products to the user device based on one or more of (a) sales items, (b) the user's past purchases, and (c) the location of the user device.

20. The computer system of claim **1**, wherein the monetary account is one of a credit account, a debit account, and a bank account.

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