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(54) **METHOD AND APPARATUS FOR PROVIDING A UNIFIED CLOUD-BASED PLATFORM FOR COMMERCIAL TRANSACTIONS AND ANALYSIS**

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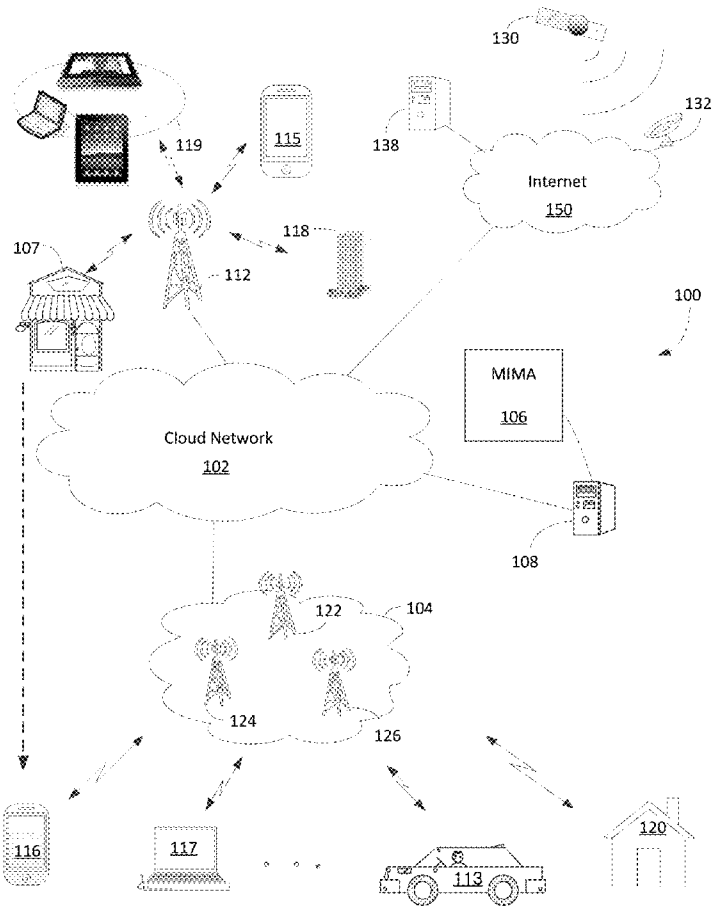
(57) **ABSTRACT**

A process, operated by a smart phone connected to a cloud networking, facilitates web-based e-commerce transactions between users. The process is able to initiate a transaction by clicking one of multiple transactional selections managed by a mobile application ("app") displayed on a screen of a smart phone. In one aspect, the cloud networking provides an option or recommendation to the user based on user's browsing pattern and categorization codes stored in the storage. After sending a packet representing the transaction together with a phone number associated to the smart phone to an app server, a user account associated with the smart phone is identified based on the phone number. Upon generating an order in response to the packet and retrieved information from the user account, the order is placed from the app server to an ordering system associated to a registered vendor for facilitating the transaction.



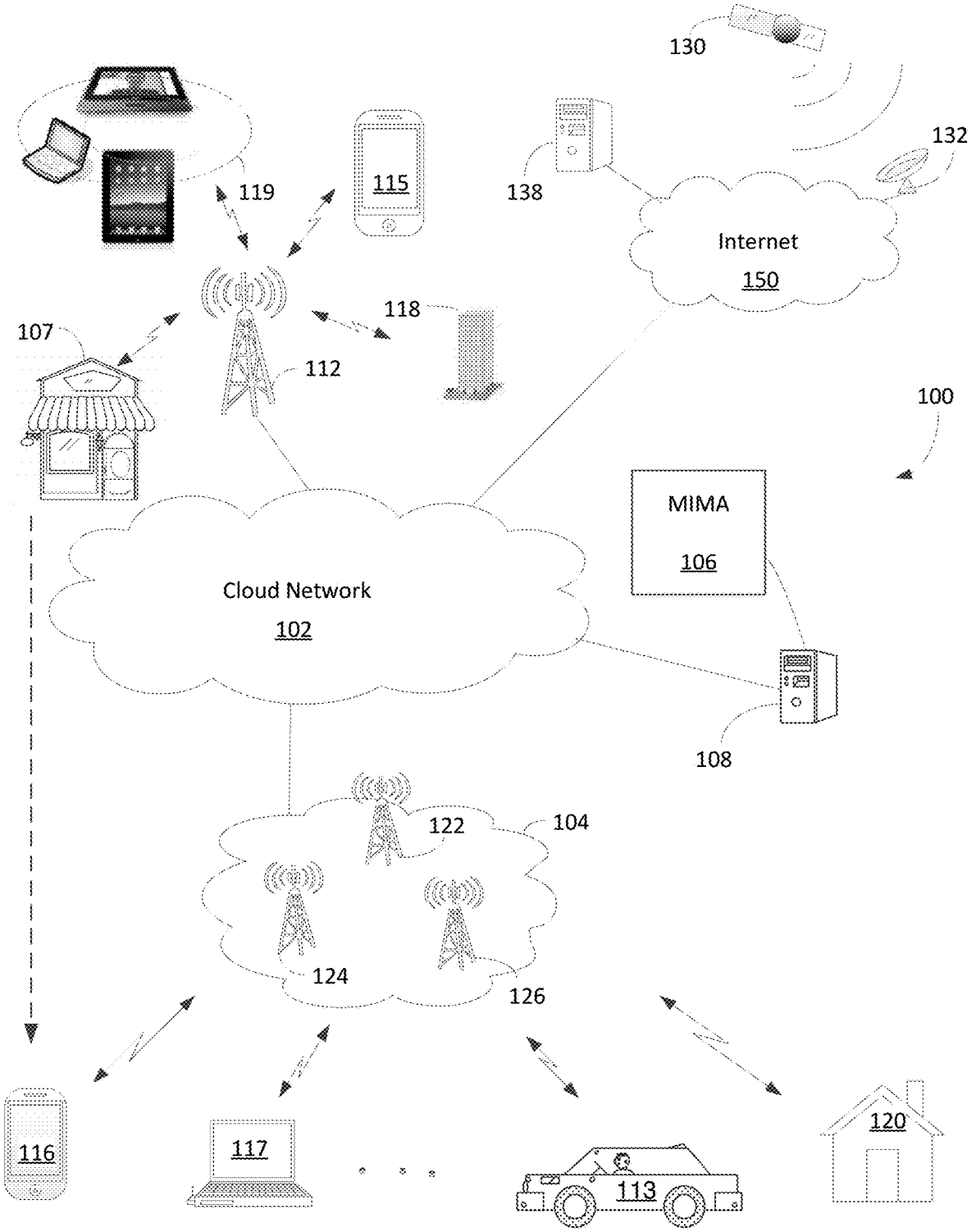

130
132
138
Internet
150
115
119
118
112
107
100
MIMA
106
Cloud Network
102
108
122
104
124
126
116
117
113
120

FIG. 1

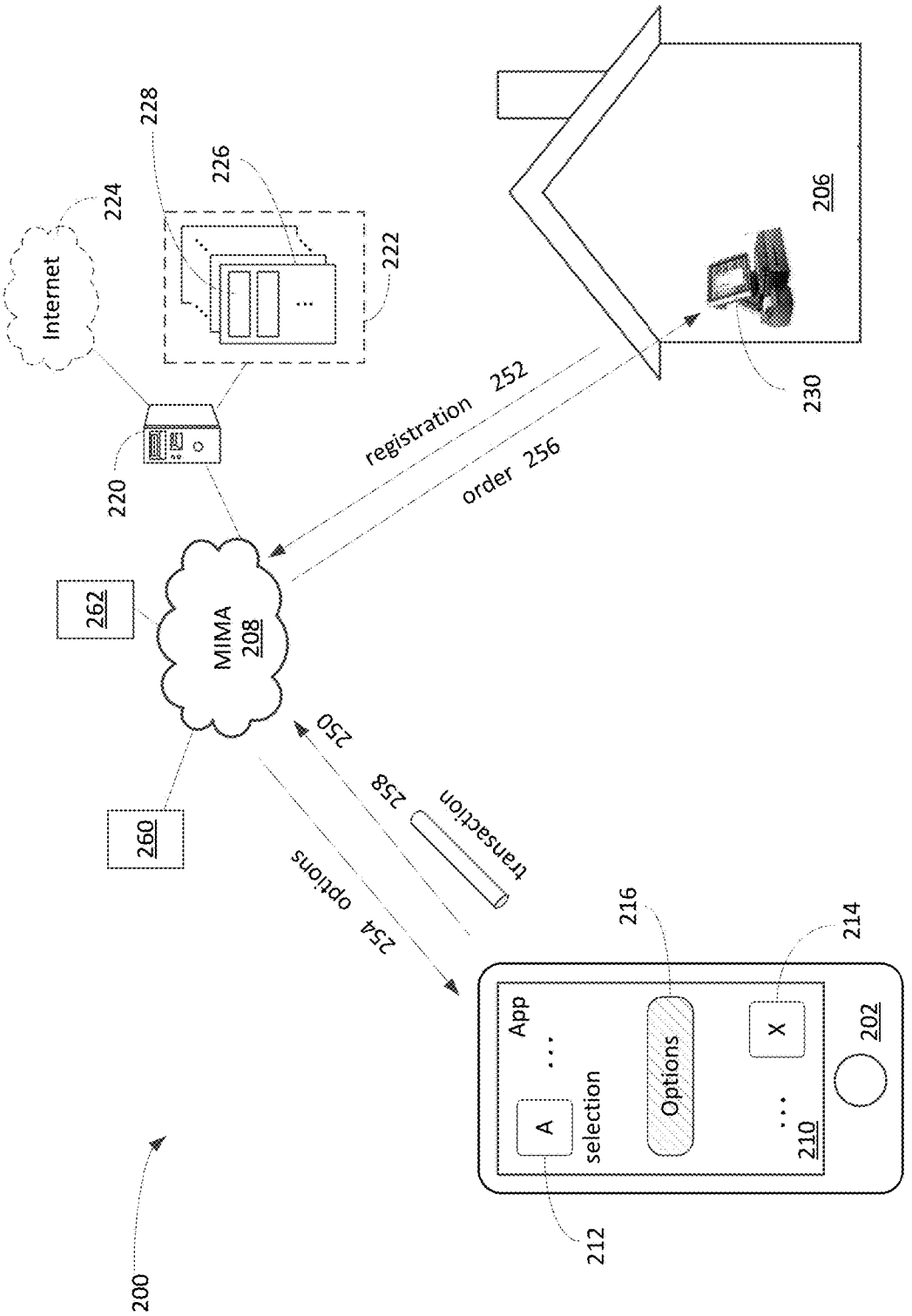

200
Internet
224
228
226
222
206
230
220
registration 252
order 256
262
MIMA
208
260
transaction
258
250
254 options
216
214
App
A
selection
Options
X
210
202
212

FIG. 2

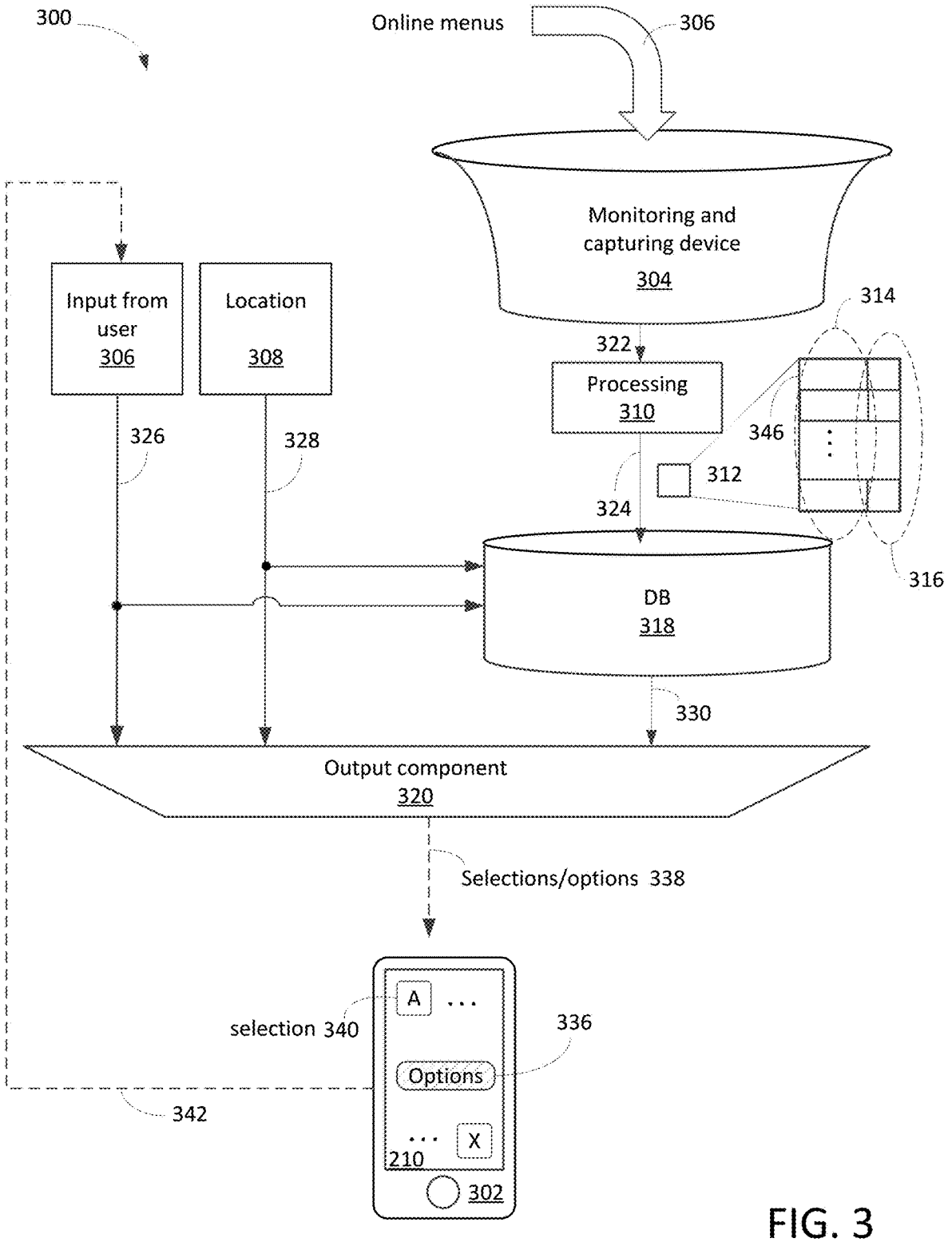

300
Online menus
306
Monitoring and capturing device
304
Input from user
306
Location
308
322
Processing
310
314
346
312
326
328
324
316
DB
318
330
Output component
320
Selections/options 338
A
selection 340
336
Options
342
X
210
302

FIG. 3

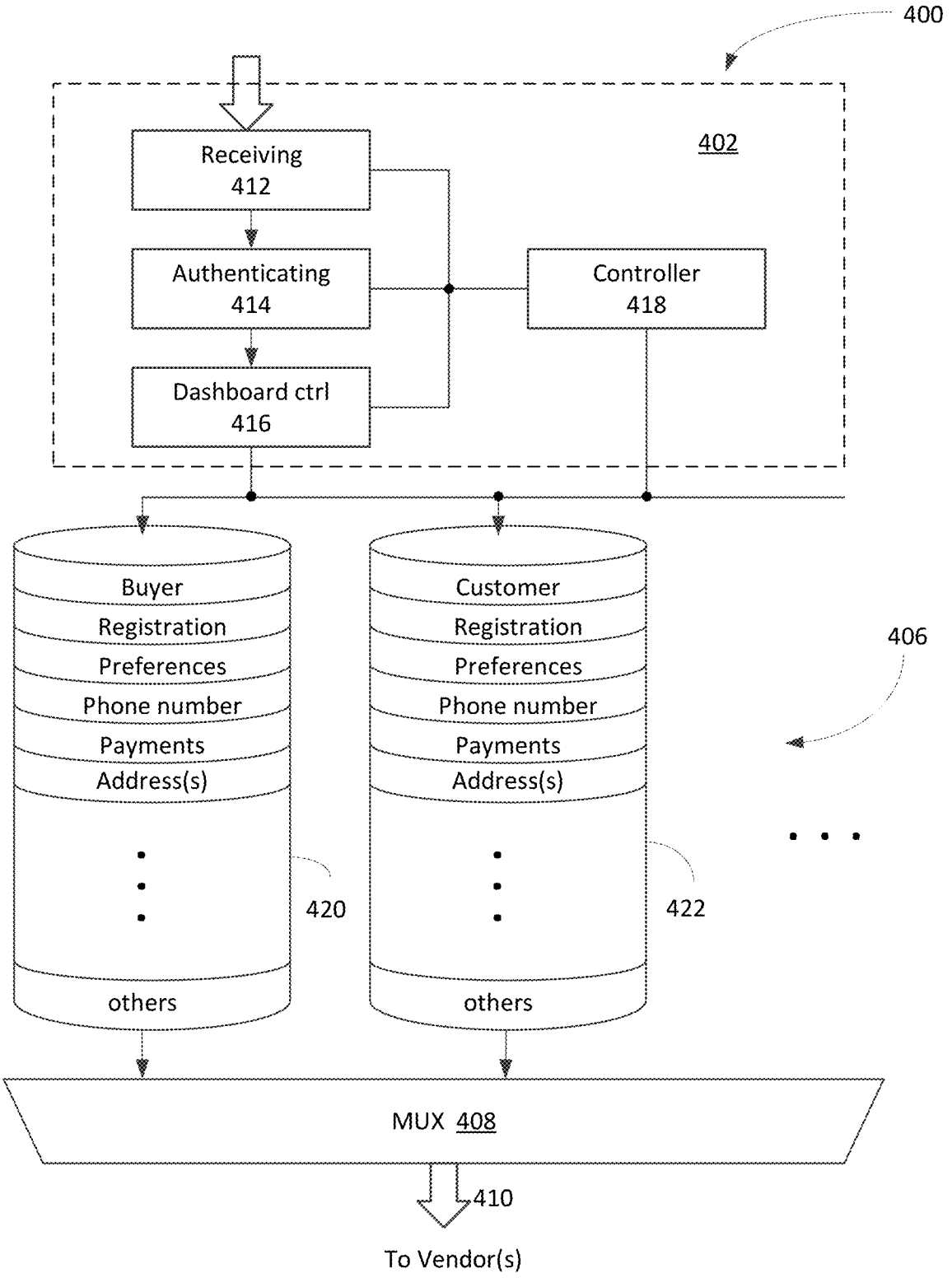

400
402
Receiving
412
Authenticating
414
Dashboard ctrl
416
Controller
418
Buyer
Registration
Preferences
Phone number
Payments
Address(s)
others
420
Customer
Registration
Preferences
Phone number
Payments
Address(s)
others
422
406
MUX 408
410
To Vendor(s)

FIG. 4

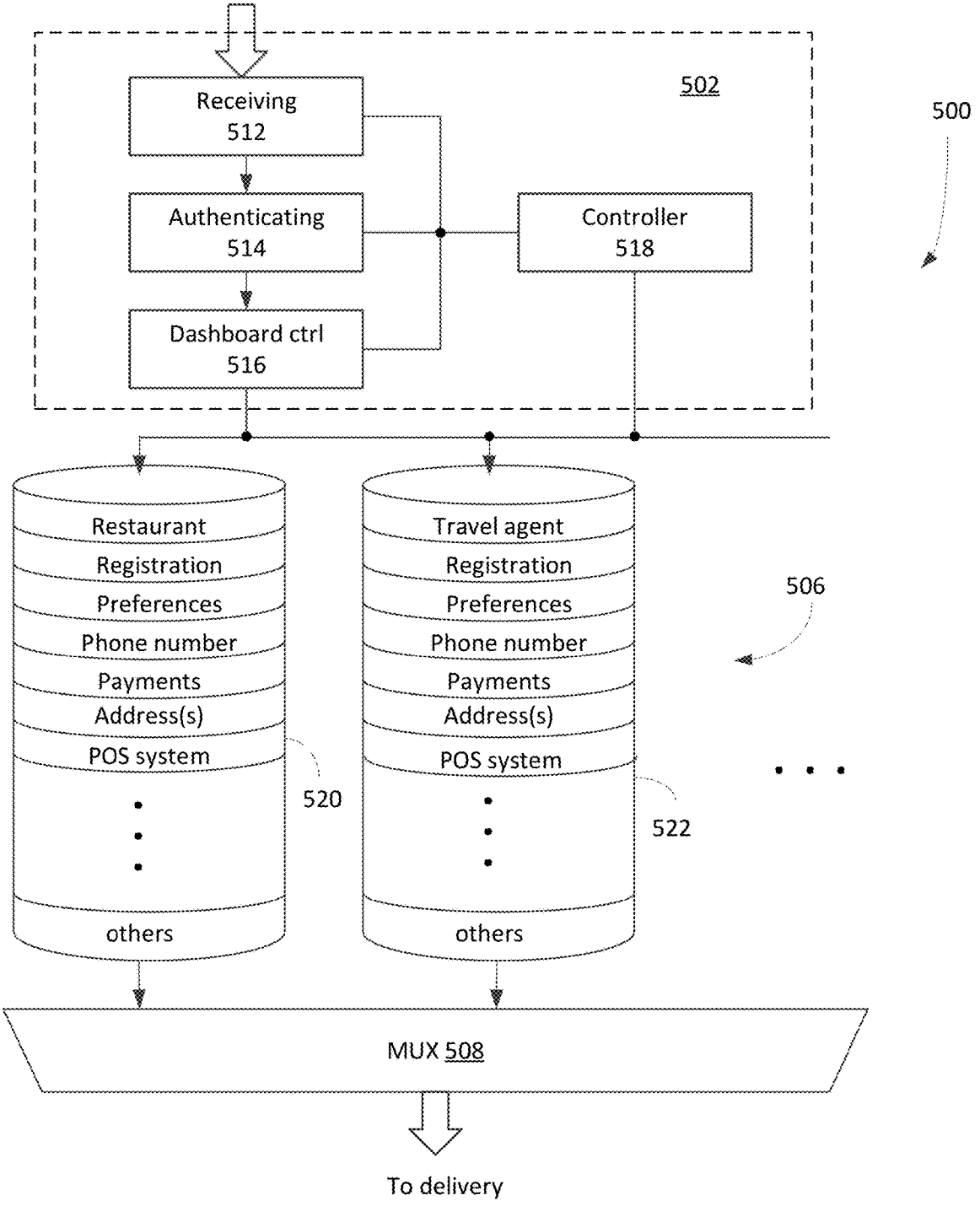

502
500
Receiving
512
Authenticating
514
Dashboard ctrl
516
Controller
518
Restaurant
Registration
Preferences
Phone number
Payments
Address(s)
POS system
others
520
Travel agent
Registration
Preferences
Phone number
Payments
Address(s)
POS system
others
522
506
MUX 508
To delivery

FIG. 5

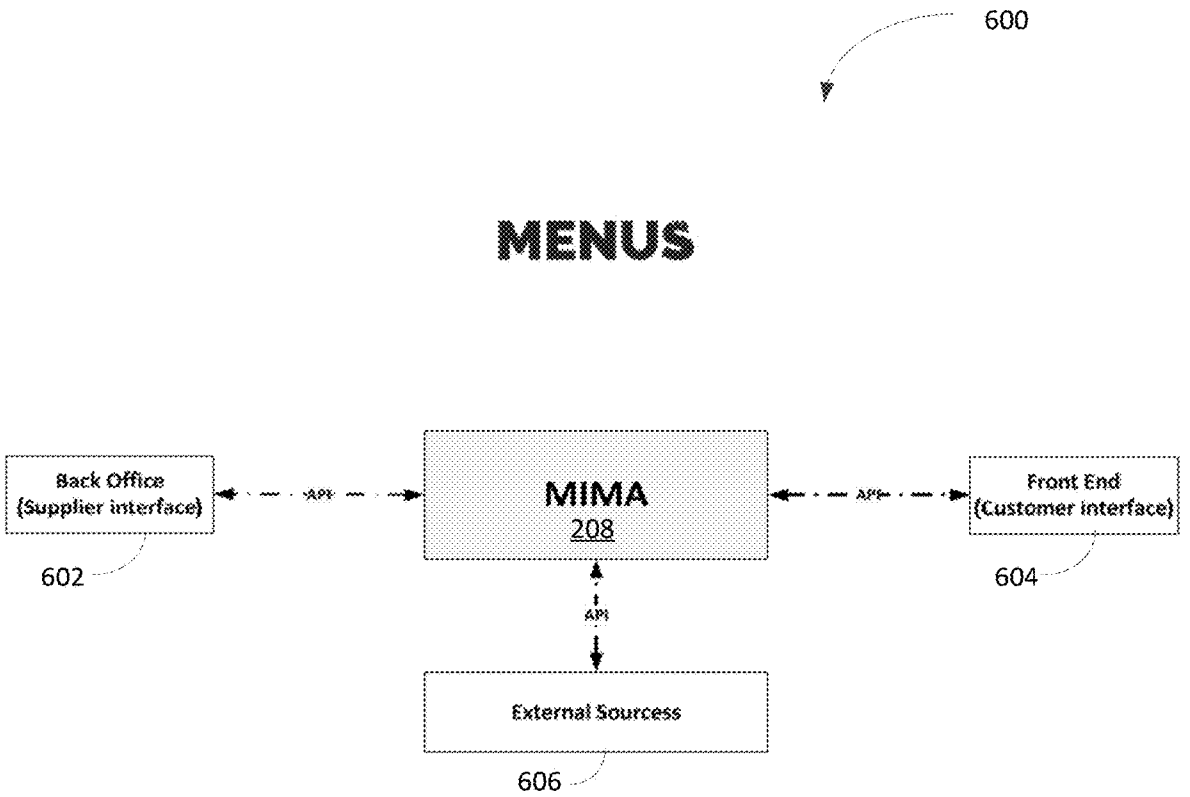

600
MENUS
Back Office
(Supplier interface)
API
MIMA
208
API
Front End
(Customer interface)
602
604
API
External Sourcess
606

FIG 6

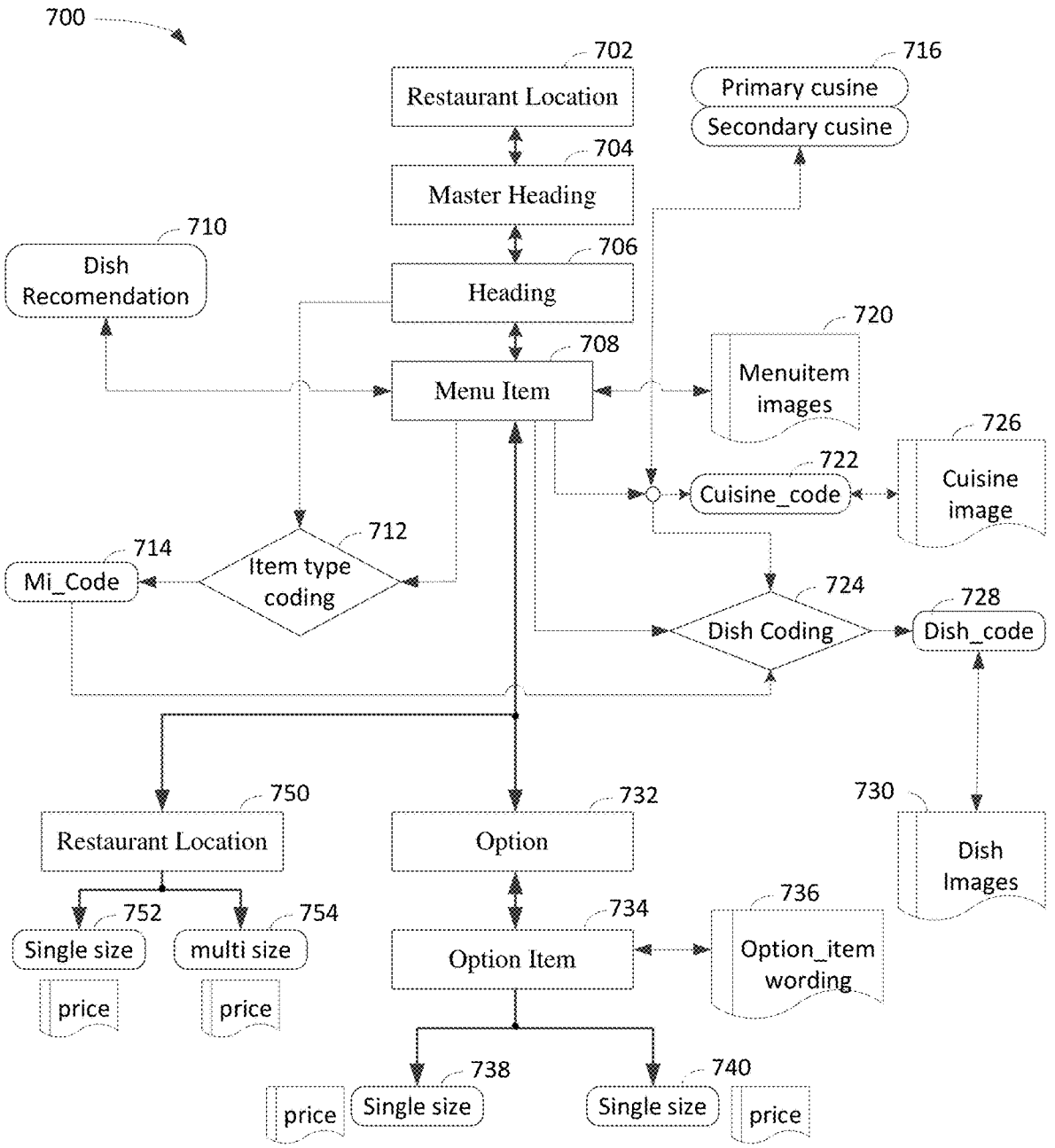

700
702
Restaurant Location
704
Master Heading
706
Heading
708
Menu Item
710
Dish Recomendation
712
Item type coding
714
Mi_Code
716
Primary cusine
Secondary cusine
720
Menuitem images
722
Cuisine_code
726
Cuisine image
724
Dish Coding
728
Dish_code
730
Dish Images
732
Option
734
Option Item
736
Option_item wording
738
Single size
price
740
Single size
price
750
Restaurant Location
752
Single size
price
754
multi size
price

FIG 7

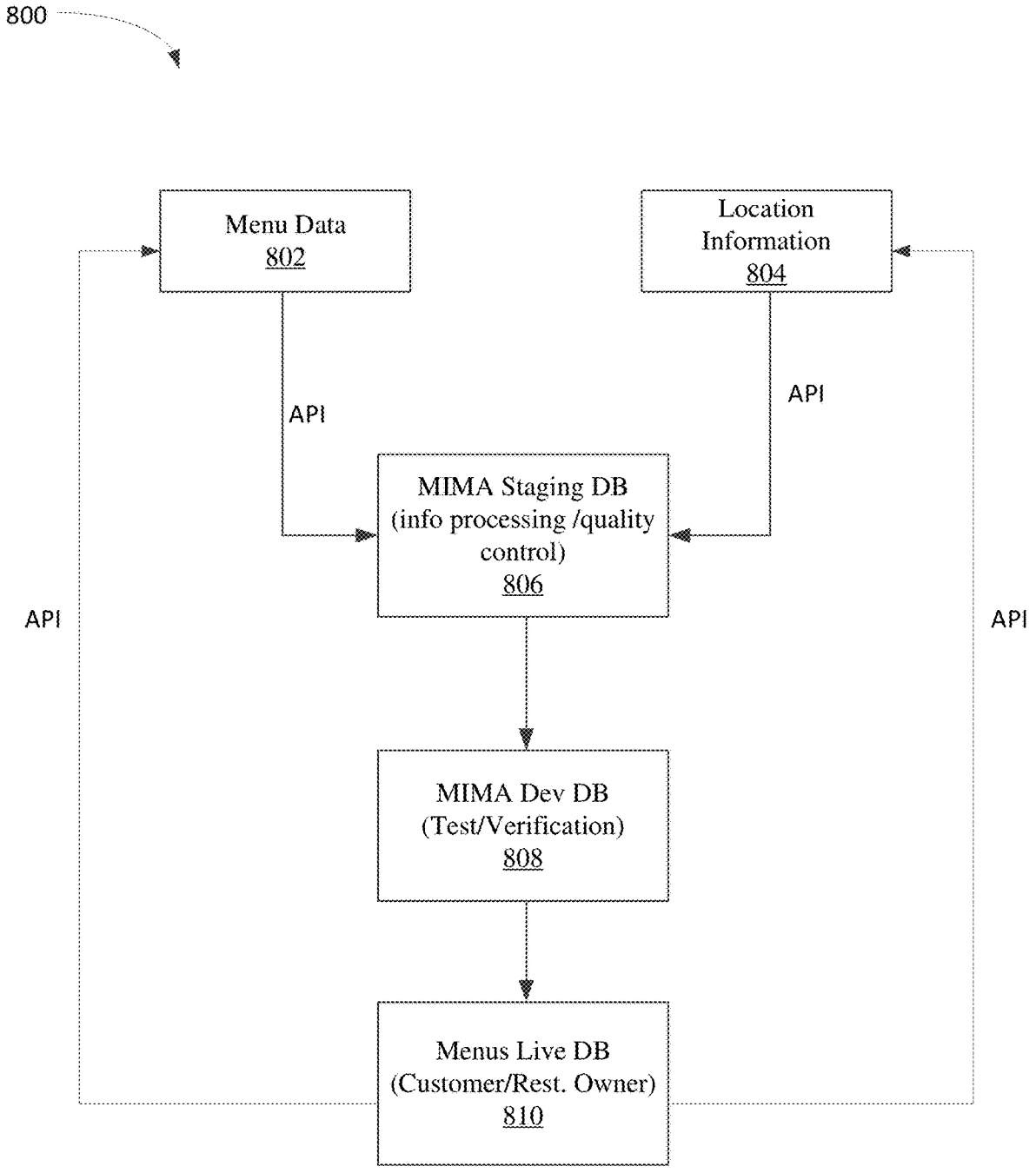

800
Menu Data
802
Location Information
804
API
API
MIMA Staging DB
(info processing /quality control)
806
API
API
MIMA Dev DB
(Test/Verification)
808
Menus Live DB
(Customer/Rest. Owner)
810

FIG 8

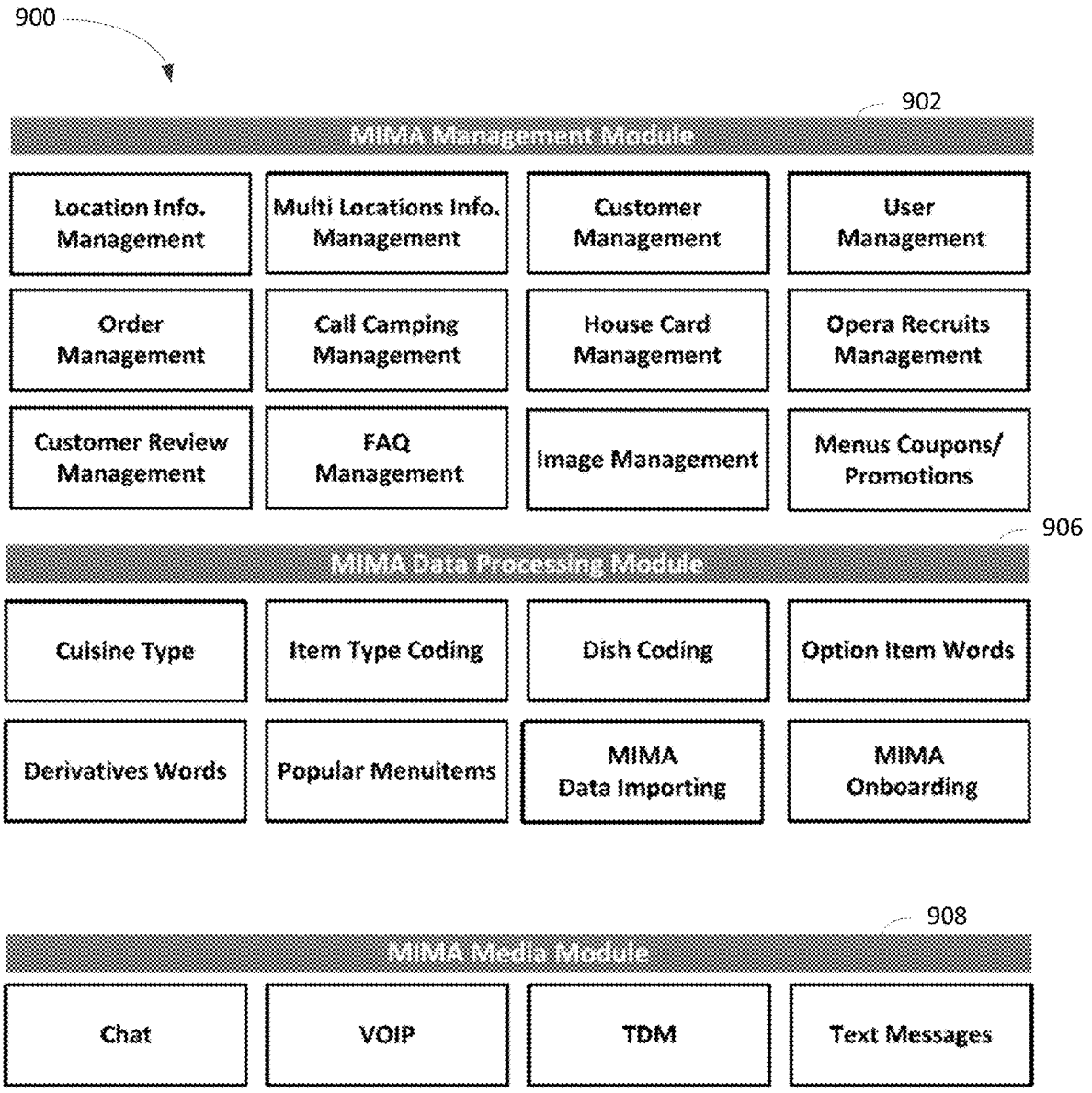

900
902
MIMA Management Module
Location Info. Management
Multi Locations Info. Management
Customer Management
User Management
Order Management
Call Camping Management
House Card Management
Opera Recruits Management
Customer Review Management
FAQ Management
Image Management
Menus Coupons/ Promotions
906
MIMA Data Processing Module
Cuisine Type
Item Type Coding
Dish Coding
Option Item Words
Derivatives Words
Popular Menuitems
MIMA Data Importing
MIMA Onboarding
908
MIMA Media Module
Chat
VOIP
TDM
Text Messages

FIG 9

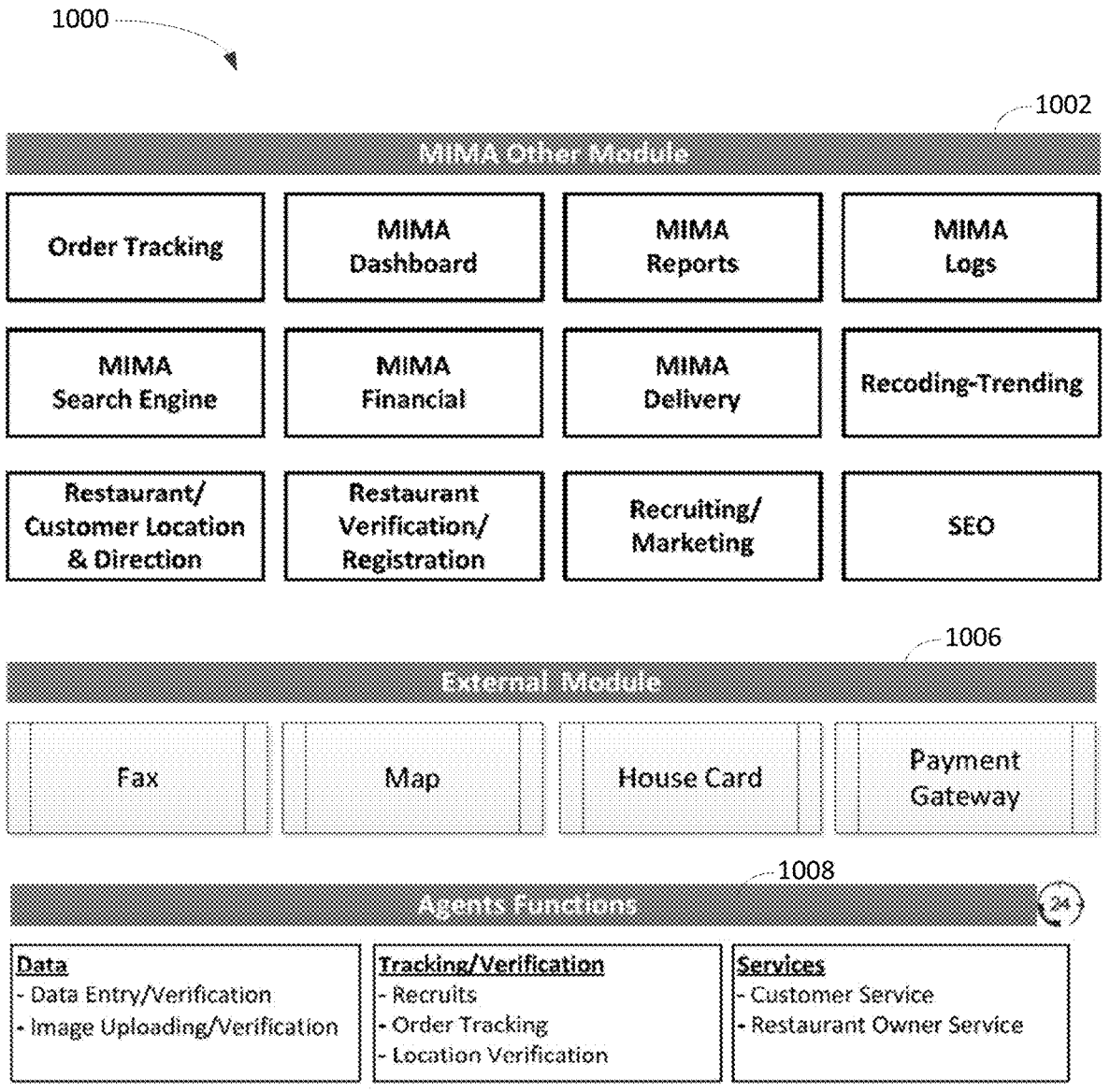

1000
1002
MIMA Other Module
Order Tracking
MIMA Dashboard
MIMA Reports
MIMA Logs
MIMA Search Engine
MIMA Financial
MIMA Delivery
Recoding-Trending
Restaurant/ Customer Location & Direction
Restaurant Verification/ Registration
Recruiting/ Marketing
SEO
1006
External Module
Fax
Map
House Card
Payment Gateway
1008
Agents Functions
24
Data
- Data Entry/Verification
- Image Uploading/Verification
Tracking/Verification
- Recruits
- Order Tracking
- Location Verification
Services
- Customer Service
- Restaurant Owner Service

FIG 10

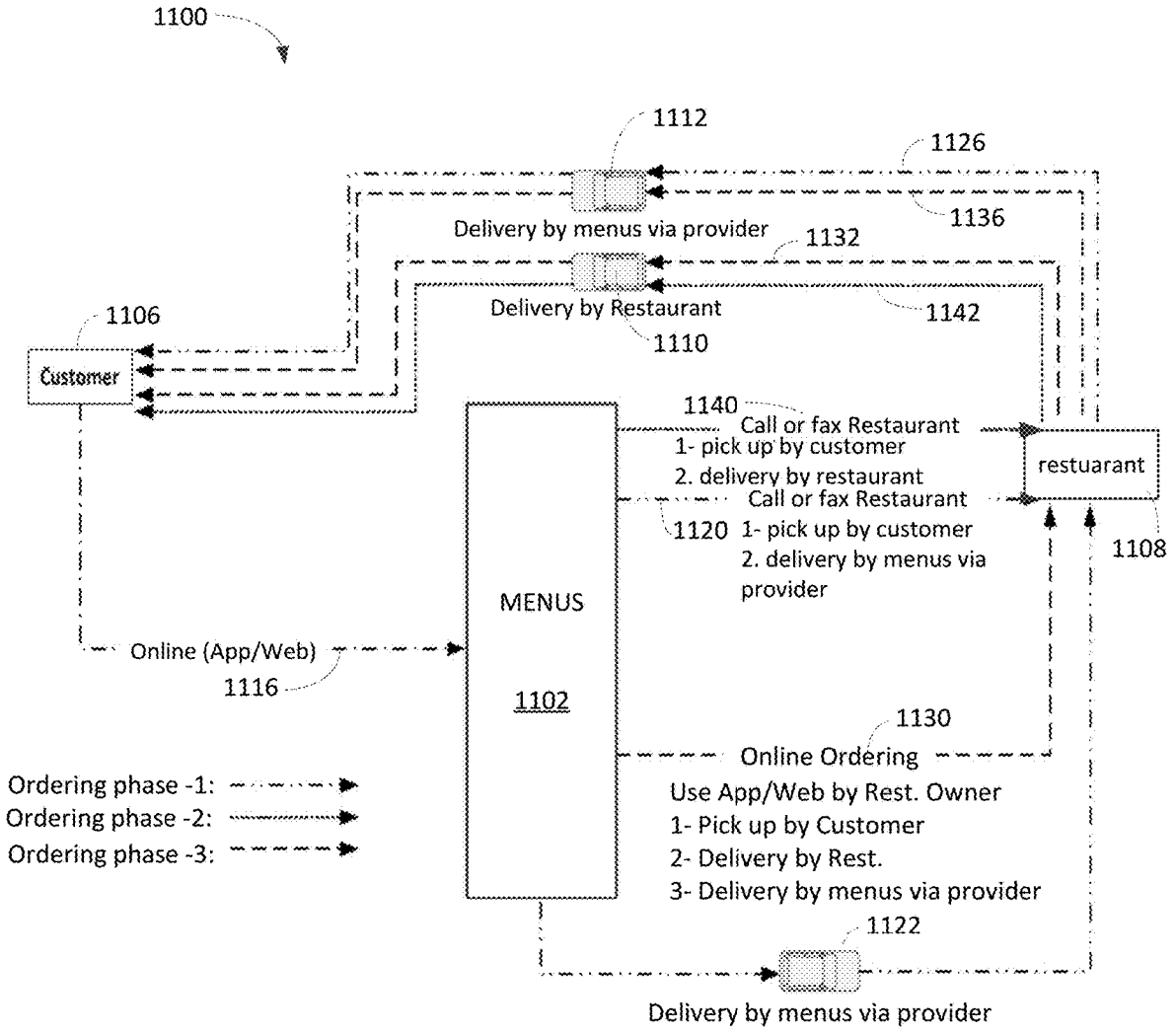

1100
1112
1126
1136
Delivery by menus via provider
1132
Delivery by Restaurant
1142
1110
1106
Customer
1140
Call or fax Restaurant
1- pick up by customer
2. delivery by restaurant
restuarant
Call or fax Restaurant
1120
1- pick up by customer
2. delivery by menus via provider
1108
MENUS
1102
Online (App/Web)
1116
1130
Online Ordering
Use App/Web by Rest. Owner
1- Pick up by Customer
2- Delivery by Rest.
3- Delivery by menus via provider
Ordering phase -1:
Ordering phase -2:
Ordering phase -3:
1122
Delivery by menus via provider

FIG 11

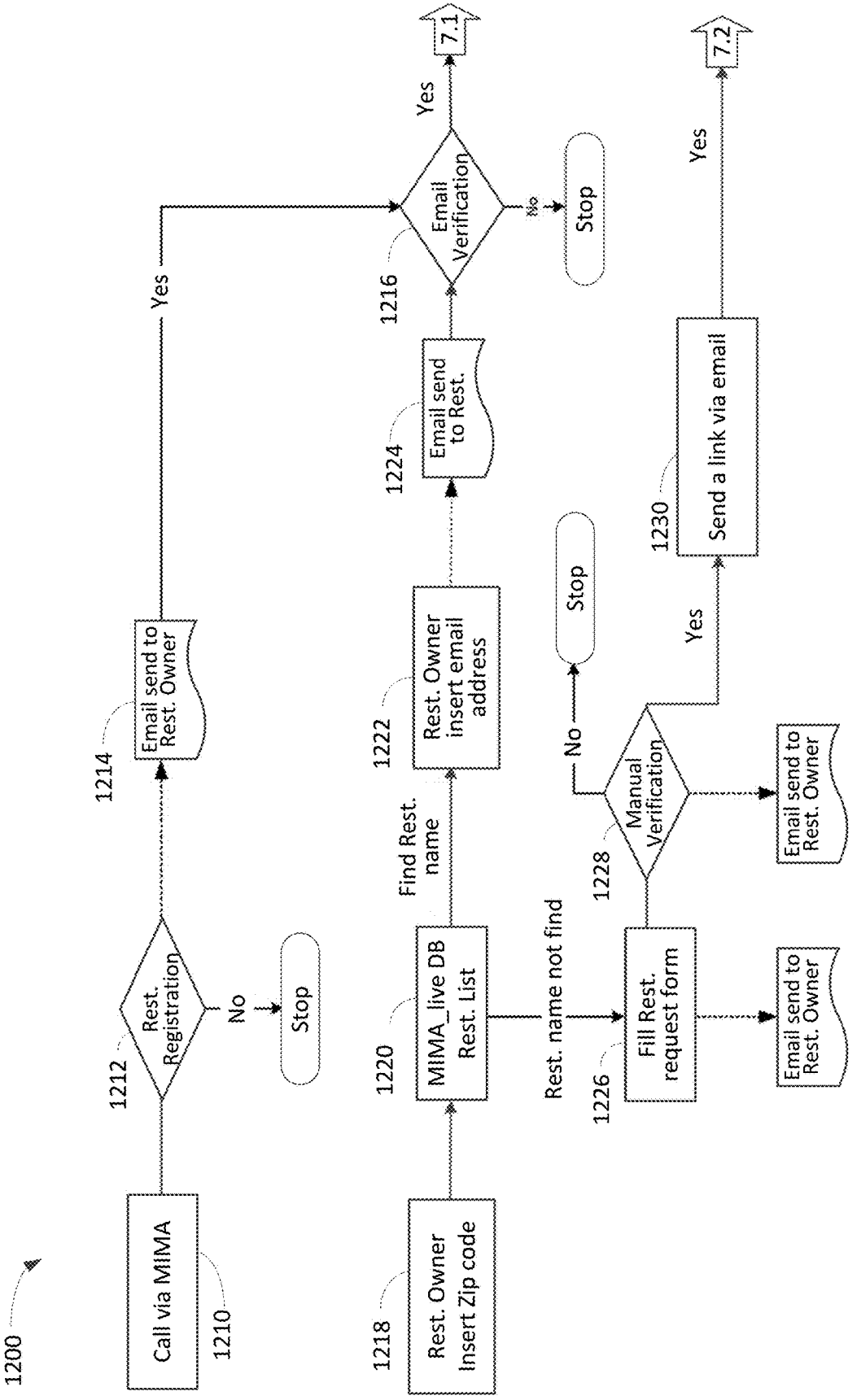

1200
Call via MIMA
1210
Rest. Registration
1212
No
Stop
Yes
Email send to Rest. Owner
1214
Rest. Owner Insert Zip code
1218
MIMA_live DB Rest. List
1220
Find Rest. name
Rest. Owner insert email address
1222
Email send to Rest.
1224
Email Verification
1216
No
Stop
Yes
7.1
Rest. name not find
Fill Rest. request form
1226
Email send to Rest. Owner
Manual Verification
1228
No
Stop
Yes
Send a link via email
1230
Yes
7.2

FIG. 12A

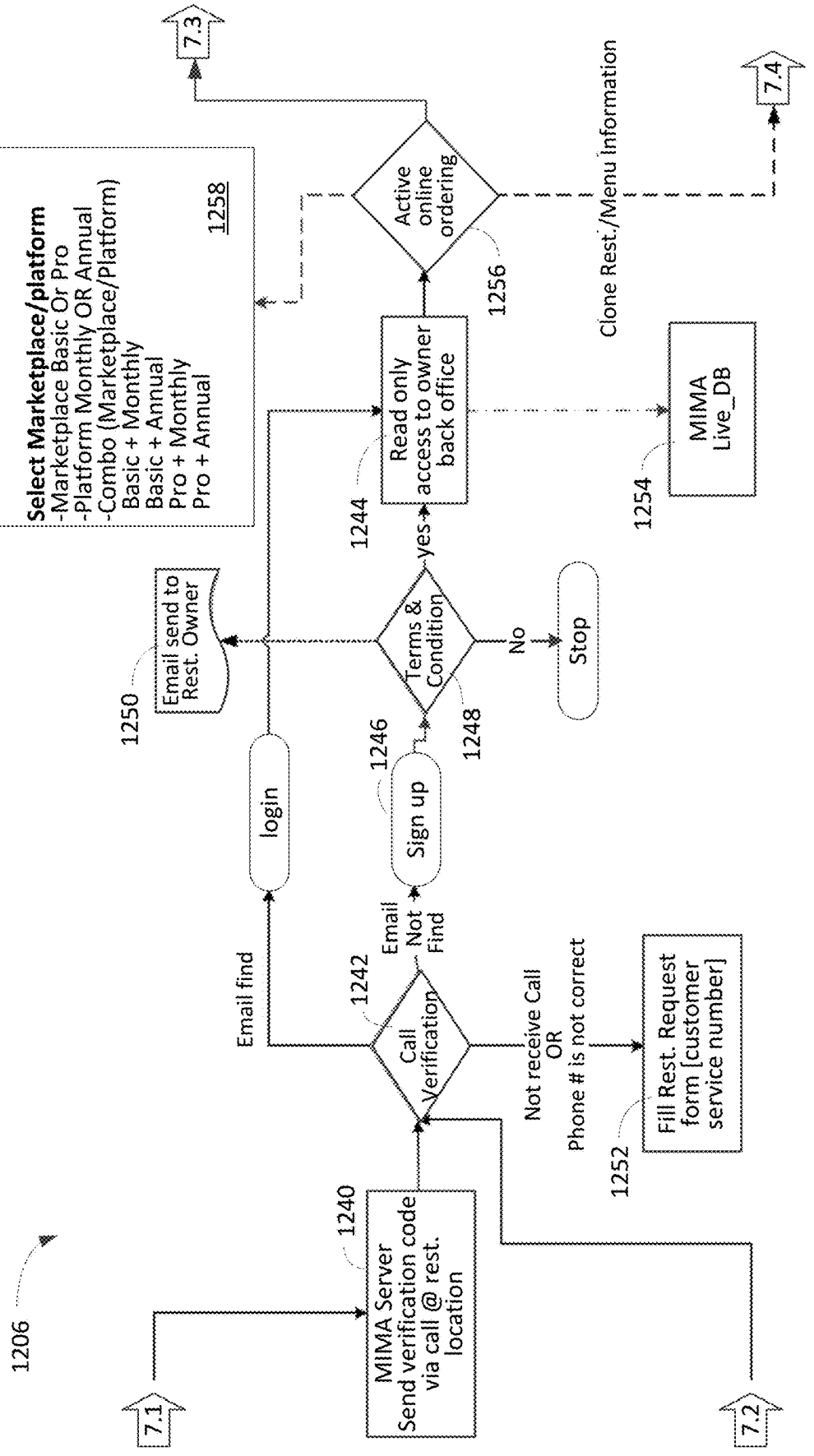

1206
7.1
MIMA Server
Send verification code via call @ rest. location
1240
Call Verification
1242
Email find
Email Not Find
Not receive Call OR Phone # is not correct
Fill Rest. Request form [customer service number]
1252
login
Sign up
1246
Email send to Rest. Owner
1250
Terms & Condition
1248
No
Stop
yes
Read only access to owner back office
1244
MIMA Live_DB
1254
Active online ordering
1256
Clone Rest./Menu information
7.2
7.3
7.4
Select Marketplace/platform
-Marketplace Basic Or Pro
-Platform Monthly OR Annual
-Combo (Marketplace/Platform)
Basic + Monthly
Basic + Annual
Pro + Monthly
Pro + Annual
1258

FIG. 12B

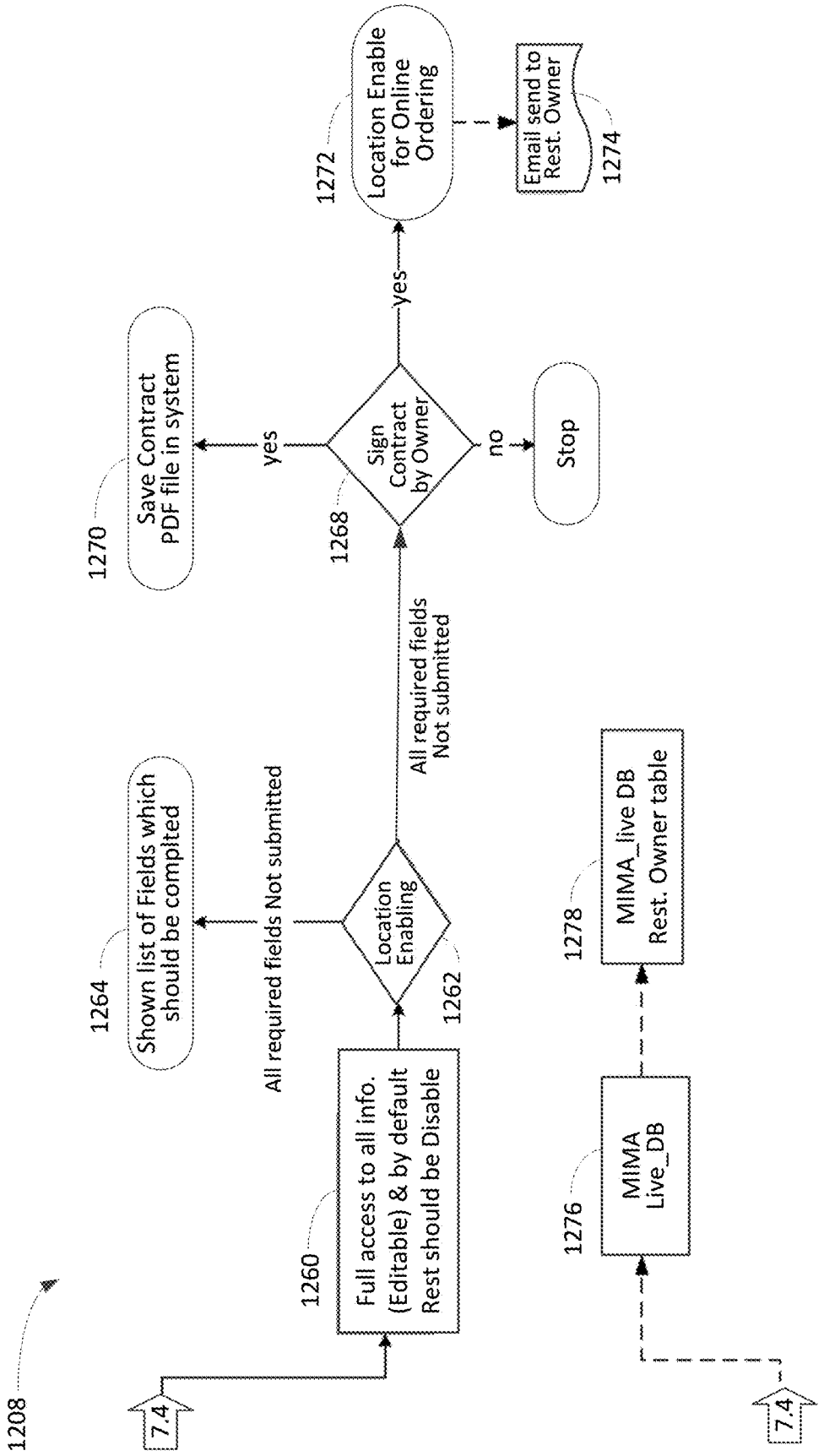

1208
7.4
1260
Full access to all info. (Editable) & by default Rest should be Disable
1262
Location Enabling
All required fields Not submitted
1264
Shown list of Fields which should be compited
All required fields Not submitted
1276
MIMA Live_DB
1278
MIMA_live DB Rest. Owner table
1268
Sign Contract by Owner
yes
1270
Save Contract PDF file in system
no
Stop
yes
1272
Location Enable for Online Ordering
1274
Email send to Rest. Owner
7.4

FIG. 12C

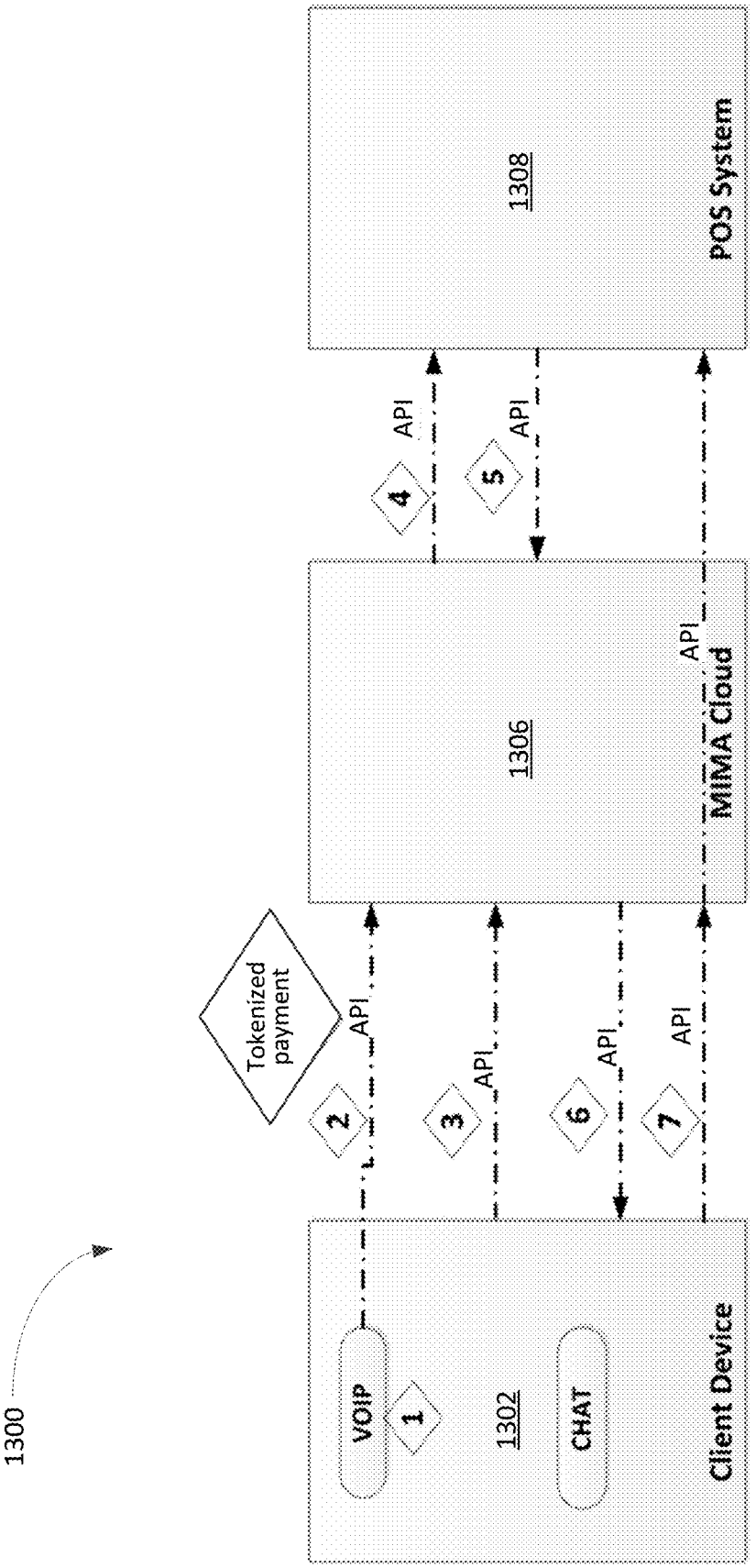

1300
Client Device
1302
VOIP
CHAT
1
2
3
4
5
6
7
API
Tokenized payment
1306
MIMA Cloud
1308
POS System

FIG. 13

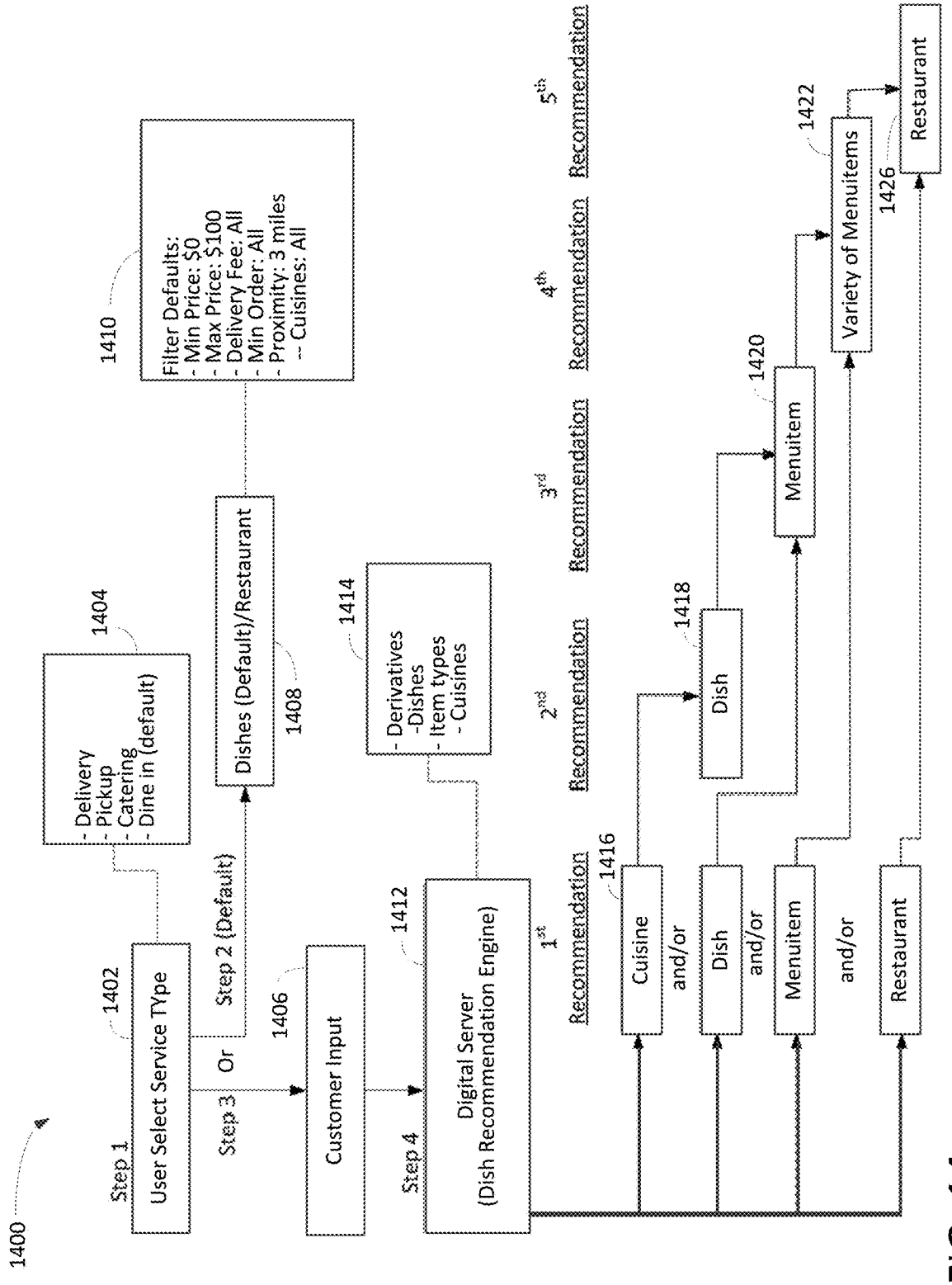

1400
Step 1
User Select Service TYpe
1402
- Delivery
- Pickup
- Catering
- Dine in (default)
1404
Step 3
Or
Step 2 (Default)
Dishes (Default)/Restaurant
1408
Filter Defaults:
- Min Price: $0
- Max Price: $100
- Delivery Fee: All
- Min Order: All
- Proximity: 3 miles
-- Cuisines: All
1410
1406
Customer Input
Step 4
Digital Server
(Dish Recommendation Engine)
1412
- Derivatives
-Dishes
- Item types
- Cuisines
1414
1st Recommendation
2nd Recommendation
3rd Recommendation
4th Recommendation
5th Recommendation
Cuisine
and/or
Dish
and/or
Menuitem
and/or
Restaurant
1416
Dish
1418
Menuitem
1420
Variety of Menuitems
1422
Restaurant
1426

FIG. 14

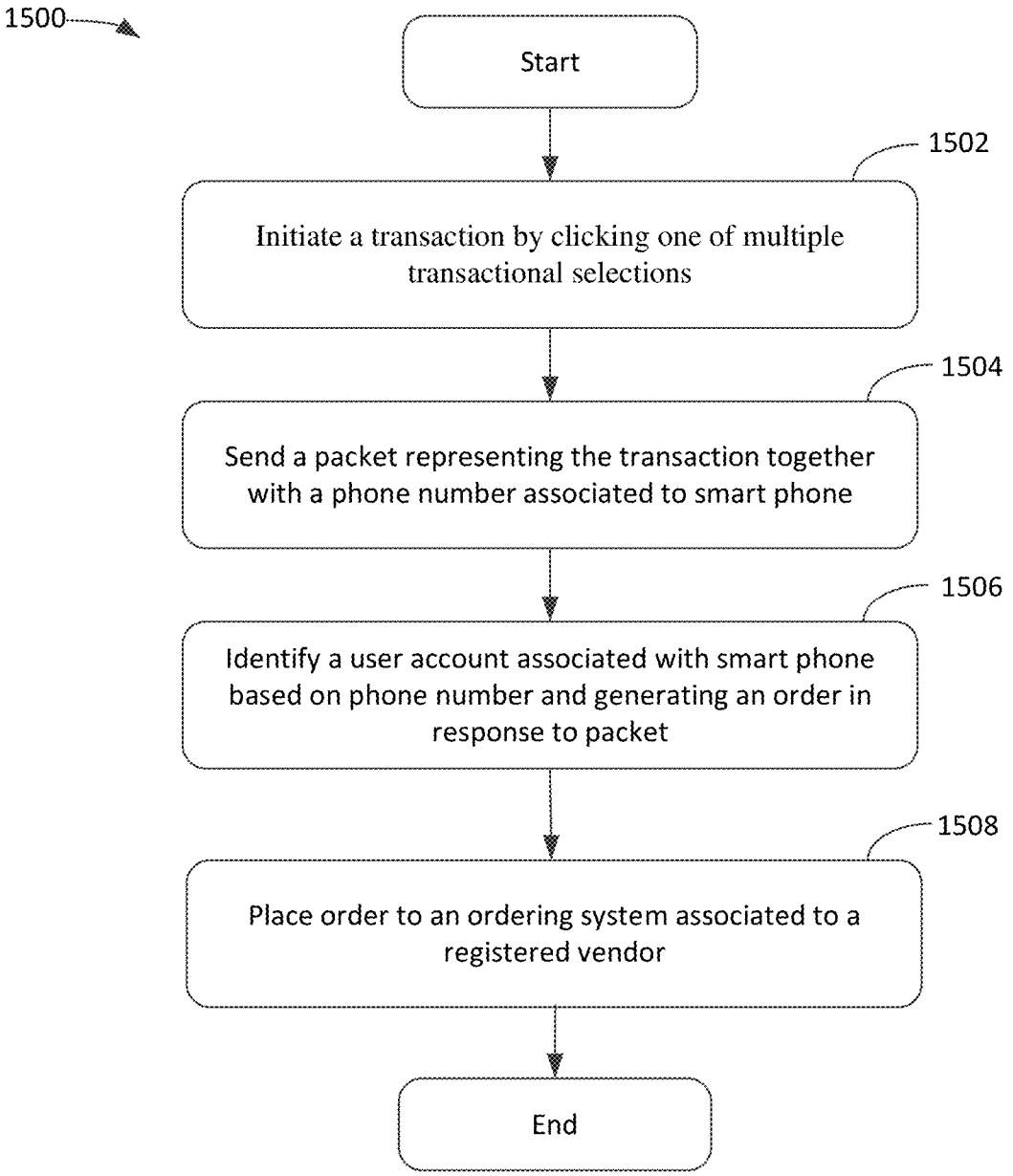

1500
Start
1502
Initiate a transaction by clicking one of multiple transactional selections
1504
Send a packet representing the transaction together with a phone number associated to smart phone
1506
Identify a user account associated with smart phone based on phone number and generating an order in response to packet
1508
Place order to an ordering system associated to a registered vendor
End

FIG 15

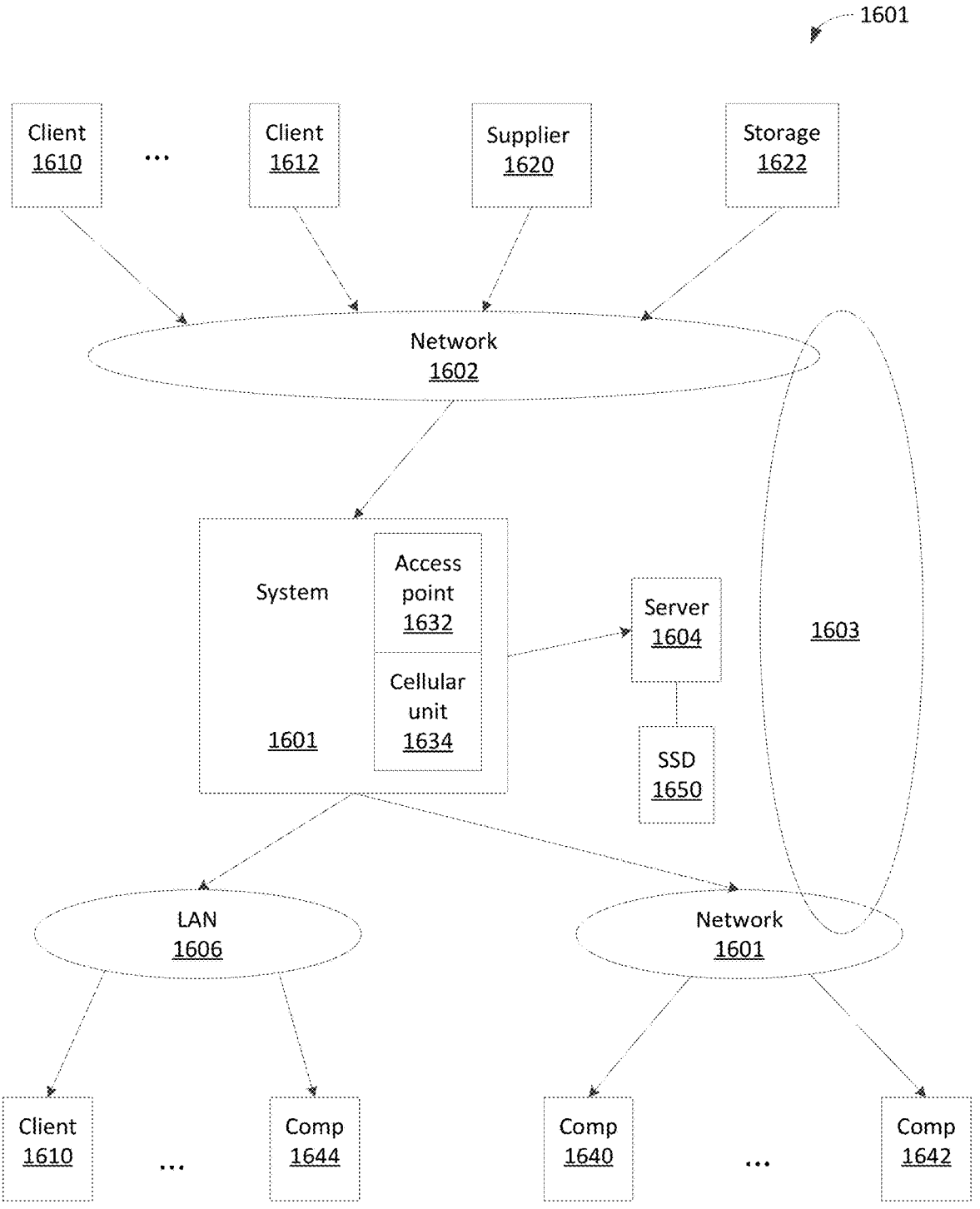

1601
Client
1610
...
Client
1612
Supplier
1620
Storage
1622
Network
1602
System
Access
point
1632
Cellular
unit
1634
1601
Server
1604
SSD
1650
1603
LAN
1606
Network
1601
Client
1610
...
Comp
1644
Comp
1640
...
Comp
1642

FIG 16

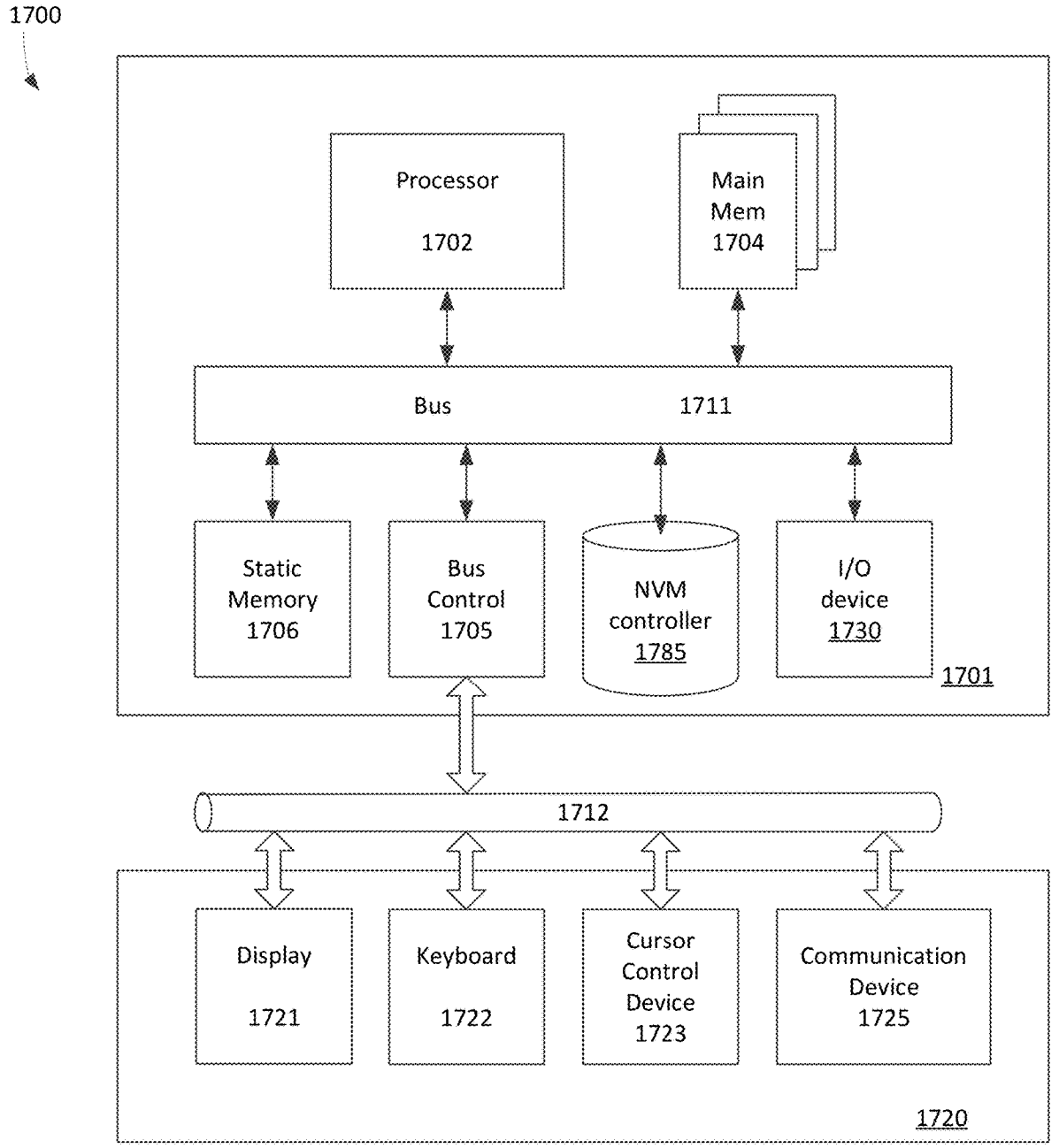

1700
Processor
1702
Main
Mem
1704
Bus
1711
Static
Memory
1706
Bus
Control
1705
NVM
controller
1785
I/O
device
1730
1701
1712
Display
1721
Keyboard
1722
Cursor
Control
Device
1723
Communication
Device
1725
1720

FIG 17

METHOD AND APPARATUS FOR PROVIDING A UNIFIED CLOUD-BASED PLATFORM FOR COMMERCIAL TRANSACTIONS AND ANALYSIS

PRIORITY

[0001] This application claims the benefit of priority based upon U.S. Provisional Patent Application having an application Ser. No. 62/565,781, filed on Sep. 29, 2017, and having a title of "Unified Cloud Base Ordering and Menu Analytic Platform," which is hereby incorporated by reference in its entirety.

FIELD

[0002] The exemplary embodiment(s) of the present invention relates to the field of communication networks. More specifically, the exemplary embodiment(s) of the present invention relates to e-commerce via big data and cloud-based networking.

BACKGROUND

[0003] With increasing popularity of automation, online shopping, and intelligent electronic devices, such as computerized machines, IoT (the Internet of Things), smart vehicles, smart phones, drones, mobile devices, airplanes, artificial intelligence ("AI"), the demand of intelligent machine and faster real-time response are increasing. For machine learning to become mainstream, a significant number of pieces, such as data management, model training, machine learning, and data collection need to be constantly improved.

[0004] One popular online shopping or e-commerce is food related transactions. A problem, however, associated with the conventional way of online food ordering and/or delivery is that it is segmented and one vendor at a given time. The e-commence shop also takes time to login restaurant website or uses their proprietary applications ("Apps"). In addition, making online payment is often problematic and time consuming. For example, when it comes to placing an order over the phone, time can be wasted between the customer stating his location and payment information and restaurant operator inputting and verifying this information. What is more alarming is that in most cases the credit card information is that the information passed over the phone may be written down or recorded on a loose paper which creates security risk.

SUMMARY

[0005] A process, which is operated by a smart phone connected to a cloud networking, is capable of facilitating web-based e-commerce transactions between two remote users. The process is able to initiate a transaction by clicking one of multiple transactional selections managed by a mobile application ("app") displayed on a screen of a smart phone. In one aspect, the cloud networking provides an option or recommendation to the user based on user's browsing pattern and categorization codes stored in the storage. After sending a packet representing the transaction together with a phone number associated to the smart phone from the smart phone to an app server via a first communication network, a user account associated with the smart phone is identified based on the phone number. Upon generating an order in response to the packet and retrieved information from the user account, the order is placed from the app server to an ordering system associated to a registered vendor via a second communication network for facilitating the transaction.

[0006] For example, a network system capable of facilitating food distribution as such a restaurant includes a menus module, a group of customer web user interfaces ("UIs"), a group of customer mobile applications ("APPs"), and a group of distributors or vendors. The menus module is configured to provide procedures in creating general rules and dish code based on user geographic locations, preferences, and selections. The customer web UIs facilitates web-based user communication and the customer mobile Apps facilitate mobile based user communication. The distributors are configured to facilitate communication between the menus module and the distributors.

[0007] Additional features and benefits of the exemplary embodiment(s) of the present invention will become apparent from the detailed description, figures and claims set forth below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The exemplary embodiment(s) of the present invention will be understood more fully from the detailed description given below and from the accompanying drawings of various embodiments of the invention, which, however, should not be taken to limit the invention to the specific embodiments, but are for explanation and understanding only.

[0009] FIG. **1** is a block diagram illustrating a unified cloud-based computing ("UCC") platform capable of facilitating commercial transactions via mobile devices in accordance with one embodiment of the present invention;

[0010] FIG. **2** is a block diagram illustrating a food related e-commerce or transaction using the UCC platform via an identity of smart phone in accordance with one embodiment of the present invention;

[0011] FIG. **3** is a block diagram illustrating an MCS or MIMA system for a restaurant transaction using the UCC platform via a smart phone in accordance with one embodiment of the present invention;

[0012] FIG. **4** is a block diagram illustrating a user or customer module in MIMA system capable of handling user or customer related information in accordance with one embodiment of the present invention;

[0013] FIG. **5** is a block diagram illustrating a vendor or restaurant module in MIMA system capable of handling vendor or restaurant related information in accordance with one embodiment of the present invention;

[0014] FIG. **6** is a block diagram illustrating a MIMA system coupled to the UCC platform using application programming interfaces ("APIs") in accordance with one embodiment of the present invention;

[0015] FIG. **7** is a logic flow diagram illustrating a process of menus information flow capable of facilitating food categorization and distribution in accordance with one embodiment of the present invention;

[0016] FIG. **8** is a data flow diagram illustrating a logical process of MIMA system used in a restaurant application for providing food ordering and delivery services in accordance with one embodiment of the present invention;

[0017] FIG. **9** is a block diagram illustrating functional modules used by MIMA system in accordance with one embodiment of the present invention;

[0018] FIG. **10** is a block diagram illustrating additional modules used by MIMA system in accordance with one embodiment of the present invention;

[0019] FIG. **11** is a logic block diagram illustrating an ordering and delivery process facilitated by Menus within the MIMA system in accordance with one embodiment of the present invention;

[0020] FIGS. **12**A-**12**C are a set of flow diagrams illustrating a process of restaurant registration and verification operated by the MIMA system in accordance with one embodiment of the present invention;

[0021] FIG. **13** is a block diagram illustrating a payment process facilitated by the MIMA system in accordance with one embodiment of the present invention;

[0022] FIG. **14** is a logic flow diagram illustrating a process of providing recommendations or alternatives facilitated by the MIMA system in accordance with one embodiment of the present invention;

[0023] FIG. **15** is a flow chart illustrating a process of facilitating a real-time commercial transaction in accordance with one embodiment of the present invention;

[0024] FIG. **16** is a diagram illustrating a computer network capable of facilitating UCC platform in accordance with one embodiment of the present invention; and

[0025] FIG. **17** is a block diagram illustrating a digital processing system capable of being used and/or implementing the MIMA system and/or various modules for food distribution in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION

[0026] Embodiments of the present invention are described herein with context of a method and/or apparatus for facilitating e-commerce using a unified cloud-based computing ("UCC") platform.

[0027] The purpose of the following detailed description is to provide an understanding of one or more embodiments of the present invention. Those of ordinary skills in the art will realize that the following detailed description is illustrative only and is not intended to be in any way limiting. Other embodiments will readily suggest themselves to such skilled persons having the benefit of this disclosure and/or description.

[0028] In the interest of clarity, not all of the routine features of the implementations described herein are shown and described. It will, of course, be understood that in the development of any such actual implementation, numerous implementation-specific decisions may be made in order to achieve the developer's specific goals, such as compliance with application- and business-related constraints, and that these specific goals will vary from one implementation to another and from one developer to another. Moreover, it will be understood that such a development effort might be complex and time-consuming, but would nevertheless be a routine undertaking of engineering for those of ordinary skills in the art having the benefit of embodiment(s) of this disclosure.

[0029] Various embodiments of the present invention illustrated in the drawings may not be drawn to scale. Rather, the dimensions of the various features may be expanded or reduced for clarity. In addition, some of the drawings may be simplified for clarity. Thus, the drawings may not depict all of the components of a given apparatus (e.g., device) or method. The same reference indicators will be used throughout the drawings and the following detailed description to refer to the same or like parts.

[0030] In accordance with the embodiment(s) of present invention, the components, process steps, and/or data structures described herein may be implemented using various types of operating systems, computing platforms, computer programs, and/or general-purpose machines. In addition, those of ordinary skills in the art will recognize that devices of a less general-purpose nature, such as hardware devices, field programmable gate arrays (FPGAs), application specific integrated circuits (ASICs), or the like, may also be used without departing from the scope and spirit of the inventive concepts disclosed herein. Where a method comprising a series of process steps is implemented by a computer or a machine and those process steps can be stored as a series of instructions readable by the machine, they may be stored on a tangible medium such as a computer memory device (e.g., ROM (Read Only Memory), PROM (Programmable Read Only Memory), EEPROM (Electrically Erasable Programmable Read Only Memory), FLASH Memory, Jump Drive, and the like), magnetic storage medium (e.g., tape, magnetic disk drive, and the like), optical storage medium (e.g., CD-ROM, DVD-ROM, paper card and paper tape, and the like) and other known types of program memory.

[0031] The term "system" or "device" is used generically herein to describe any number of components, elements, sub-systems, devices, packet switch elements, packet switches, access switches, routers, networks, computer and/or communication devices or mechanisms, or combinations of components thereof. The term "computer" includes a processor, memory, and buses capable of executing instruction wherein the computer refers to one or a cluster of computers, personal computers, workstations, mainframes, or combinations of computers thereof.

[0032] A process, which is operated by a smart phone connected to a cloud networking, is capable of facilitating web-based e-commerce transactions between two remote users. The process is able to initiate a transaction by clicking one of multiple transactional selections managed by a mobile application ("app") displayed on a screen of a smart phone. In one aspect, the cloud networking provides an option or recommendation to the user based on user's browsing pattern and categorization codes stored in the storage. After sending a packet representing the transaction together with a phone number associated to the smart phone from the smart phone to an app server via a first communication network, a user account associated with the smart phone is identified based on the phone number. Upon generating an order in response to the packet and retrieved information from the user account, the order is placed from the app server to an ordering system associated to a registered vendor via a second communication network for facilitating the transaction.

[0033] In one aspect, a network system capable of facilitating food distribution using cloud networking includes a menus module, a group of customer web user interfaces ("UIs"), a group of customer mobile applications ("APPs"), and a group of distributors such as restaurants. The menus module is configured to provide procedures in creating general rules and dish code based on user geographic locations, preferences, and selections. The customer web UIs facilitates web-based user communication and the customer mobile Apps facilitate mobile based user communi-

cation. The distributors are configured to facilitate communication between the menus module and the distributors.

[0034] FIG. **1** is a block diagram illustrating a unified cloud-based computing ("UCC") platform capable of facilitating food related e-commerce or transactions via mobile devices in accordance with one embodiment of the present invention. Diagram **100** illustrates MIMA **106**, communication network **102**, switching network **104**, Internet **150**, and portable electric devices **113-119**. Network or cloud network **102** can be wide area network ("WAN"), metropolitan area network ("MAN"), local area network ("LAN"), satellite/terrestrial network, or a combination of WAN, MAN, and LAN. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **100**.

[0035] Network **102** includes multiple network nodes, not shown in FIG. **1**, wherein each node may include mobility management entity ("MME"), radio network controller ("RNC"), serving gateway ("S-GW"), packet data network gateway ("P-GW"), or HomeAgent to provide various network functions. Network **102** is coupled to Internet **150**, UCC server **108**, base station **112**, and switching network **104**. Server **108**, in one embodiment, is a dedicated network machine capable of providing MIMA and/or MIMA management. MIMA can be software, hardware, or combination of software and hardware component. A function of MIMA is to provide commercial transaction such as food ordering and delivery using a smart phone with a phone number.

[0036] Switching network **104**, which can be referred to as packet core network, includes cell sites **122-126** capable of providing radio access communication, such as 3G (3^{rd} generation), 4G, or 5G cellular networks. Switching network **104**, in one example, includes IP and/or Multiprotocol Label Switching ("MPLS") based network capable of operating at a layer of Open Systems Interconnection Basic Reference Model ("OSI model") for information transfer between clients and network servers. In one embodiment, switching network **104** is logically coupling multiple users and/or mobiles **116-120** across a geographic area via cellular and/or wireless networks. It should be noted that the geographic area may refer to a campus, city, metropolitan area, country, continent, or the like.

[0037] Base station **112**, also known as cell site, node B, or eNodeB, includes a radio tower capable of coupling to various user equipments ("UEs") and/or electrical user equipments ("EUEs"). The term UEs and EUEs are referring to the similar portable devices and they can be used interchangeably. For example, UEs or PEDs can be cellular phone **115**, laptop computer **117**, iPhone® **116**, tablets and/or iPad® **119** via wireless communications. Handheld device **116** can also be a smartphone, such as iPhone®, BlackBerry®, Android®, and so on. Base station **112**, in one example, facilitates network communication between mobile devices such as portable handheld device **113-119** via wired and wireless communications networks. It should be noted that base station **112** may include additional radio towers as well as other land switching circuitry.

[0038] Internet **150** is a computing network using Transmission Control Protocol/Internet Protocol ("TCP/IP") to provide linkage between geographically separated devices for communication. Internet **150**, in one example, couples to supplier server **138** and satellite network **130** via satellite receiver **132**. Satellite network **130**, in one example, can provide many functions as wireless communication as well as global positioning system ("GPS"). For example, menu information management administration ("MIMA") **106** can communicate with various smartphones **113-119** via satellite network **130**, Internet **150**, network **102**, and/or switching network **104**.

[0039] MIMA **106**, which can be software, firmware, hardware, or a combination of software, hardware, and firmware, facilitates online commercial transaction(s) using smart phones with their phone numbers as partial authentication. For example, after a customer is registered with MIMA, the customer can order a dish or food with one click on its smart phone which will initiate an automatic ordering process authenticated by the phone number and placing the order directly to the point of sale ("POS") terminal or system at the restaurant.

[0040] An advantage of employing MIMA is to facilitate a food related e-commerce for easier food ordering and delivery. In addition, MIMA can also generate transactional or e-commerce reports to subscribers for up-to-date marketing report.

[0041] FIG. **2** is a block diagram **200** illustrating a food related e-commerce or transaction using the UCC platform via an identity of smart phone in accordance with one embodiment of the present invention. Diagram **200**, in one aspect, includes a smart phone **202**, vendor **206**, and MIMA cloud server ("MCS") **208**. In one example, vendor **206** is a restaurant capable of preparing and delivering food. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **200**.

[0042] MCS **208**, in one embodiment, includes MIMA server **220** which includes database **222** containing customer and vendor information. Server **220** can further couple to other devices and/or networks such as Internet **224**. MCS **208**, in one example, can be a hardware system(s), software, firmware, and/or a combination of hardware, firmware, and/or software. Alternatively, MCS **208** can be a cluster of computers and/or servers situated across a communication network. MCS **208** can include other functions and/or modules **260-262** for generating reports as well as categorizing online menus.

[0043] A function of MCS **208** is to provide food selections within a geographic area to registered users based on extracted and categorized menus selections through a mobile App. In one embodiment, MCS **208** includes a menu generator containing a menu monitor and a menu processing device wherein menu monitor is responsible to capture relevant online menus while the menu processing device processes captured menus for categorization. Once the menus are identified and categorized, the processed data, also known as food selections are stored in a local storage such as database **222**.

[0044] After obtaining location information and user, a set of food selections, for example, is pushed or transmitted from MCS **208** to display **210** of smart phone **202**. MCS **208** is capable of generating a customer's order based on received transaction order such as transaction **258** and customer information via connection **250**. The order is subsequently placed directly to an POS system such as point of sale ("POS") **230** at restaurant **206** via connection **252**. In one aspect, MCS **208** is also capable of providing alternatives or options to the user before or during the transaction

is initiated. For example, the alternatives or options can be optional restaurants, dishes, prices, delivery time, and the like.

[0045] Database **222** stores user information **226** and vendor information wherein user information **226** includes user's or customer's information **228**, such as, but not limited to, customer name, phone number, phone type, registration data, food preferences, payment methods, and the like. The vendor information includes vendor's name, merchandise, point of sale ("POS") system, registration data, prices, and the like. In one example, the vendor can be a restaurant. Alternatively, the vendor can be a travel agency. In one embodiment, database **22** also includes a menu database which can be continuously updated in real-time or substantially real-time. Database **222**, in one aspect, includes menu database containing food selections.

[0046] Smart phone **202**, in one aspect, can be an iPhone containing a screen **210** capable of displaying icons or tiles **212-214** wherein each icon represents a food selection. During the process of selecting and ordering food, MCS **208**, in one example, can provide option(s) or alternative selections **216** based on user's browsing activities, patterns, as well as vendor's promotion. For example, a user is browsing a list of coffee selections within a geographic area, a coffee shop could advertise its coffee with promotions interactively to the user via MCS **208**. Smart phone **202** is coupled to one or more vendors such as vendor **206** via communication channels **250-256**.

[0047] Vendor **206** can be a restaurant, retailer shop, financial service, travel agency, and the like. To provide goods or services through MCS **208**, vendor **206** is required to register with MCS **208**. A benefit of registering with MCS **208** is that vendor **206** can receive orders automatically without providing details and/or logistics of online ordering and/or delivery services. In one aspect, MCS **208** can automatically capture vendor's posted online menu and arrange third party delivery system(s) to handling food delivery.

[0048] The UCC platform containing MCS **208** for facilitating web-based commercial transactions between customers and vendors includes a group of vendors such as vendors **206**, portable devices used by users such as smart phones **202**, and MIMA module such as MCS **208**. In one embodiment, the vendors are registered with the UCC platform for offering goods and services in accordance with their online menus posted via their own websites. The users or customers are registered with the UCC platform and able to view various menus and advertisements on their smart phones via the UCC App. The MIMA module which is coupled to the UCC platform is configured to continuously update MIMA vendor database ("DB") such as DB **222** via an online self-learning or machine learning monitoring device. The MIMA module, in one aspect, is able to provide an alternative option based on information stored in MIMA DB when a customer is in a process of placing an order. The MIMA module, in one example, is able to generate a real-time market competitive report to a restaurant subscriber or a government agency.

[0049] An advantage of employing MCS **208** is that it is able to selectively provide merchandise, services, and/or food to various users via their smart phones for facilitating e-commerce using captured and processed online information.

[0050] FIG. **3** is a logic block diagram **300** illustrating an MCS or MIMA system for a restaurant transaction using the UCC platform via a smart phone in accordance with one embodiment of the present invention. Diagram **300** includes a monitoring and capturing device ("MCD") **304**, DB **318**, processing device **310**, and smart phone **302**. In one aspect, smart phone **302** is coupled to MIMA system via a wireless network connection as indicated by numerals **342** and **338**. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **300**.

[0051] MCD **304**, in one embodiment, is configured to continuously monitor new online menus over the network based on one or more geographic locations. For example, MCD **304** scans restaurant online menus to determine whether such menu(s) is new or existing one which is already in DB **318**. When MCD **304** determines that a menu is new, the new menus such as indicated by numeral **306** is captured. After capturing, the new menu is forwarded to processing device **310** via connection **322**.

[0052] Processing device **310**, in one embodiment, parses the new menu into multiple headings, such as breakfast, lunch, and dinner. Based on the headings, the menu items ("MIs") are further separated and categorized. In one aspect, a self-learning or machine learning module is used to identify the nature of the food. For example, omelet is a type of food or MI under the heading of breakfast. Processing device **310** is further configured to determine the dish type based on the learned MI. For example, dish type being omelet under breakfast can be categorized as egg with cheese under MI. After processing, a searchable table or searchable menu **312** containing MI **314** and dish type **316** is forwarded from processing device **310** to DB **318** via connection **324**.

[0053] DB **318**, in one embodiment, stores searchable tables such as table **312** containing multiple entries **346** wherein each entry contains at least one menu item ("MI") **314** and one dish type **316**. DB **318** is further configured to store information relating to vendors as well as customers. For example, the registration information for both customers and vendors are stored in DB **318**. It should be noted that the terms "customer", "user", and "buyer" can be referred to the same party and they can be used interchangeably. Also, the terms "vendor", "restaurant", "agent", and "shop" can be referred to the same party and they can be used interchangeably.

[0054] Output or selection output component **320**, in one aspect, receives user information from user input module **306** and GPS (global positioning system) locator **308**. Based on the user information, output component **320** is able to generate a selection or selections and sends the selections to smart phone **302** for display as indicated by numeral **340**. Alternatively, output component **320** is also capable of providing options **338** to smart phone **302** for display as indicated by numeral **336**.

[0055] User input module **306** and locator **308** are configured to provide user related information. For example, module **306** is capable of capturing what user is currently browsing. Locator **308**, in one embodiment, uses GPS to locate current location of user whereby a delivery could be achieved based on the location of user. It should be noted that user information and user current location are also

forwarded to DB **318** whereby a proper option(s) can be identified based on the location(s).

[0056] Smart phone **302**, in one embodiment, is a portable system capable of continuously communicating with MIMA system so that MIMA system can push selections and options to user(s) by displaying the selection(s) on users' smart phones. When a user clicks or pushes one icon as the selection, a food ordering transaction is immediately transmitted to the MIMA system. The MIMA system will place the order directly to the POS at the vendor. If the vendor does not have the capability to deliver the food or goods, the MIMA system will make arrangement to have a carrier to deliver the food or goods based on user's stored preference as well as specific instruction.

[0057] An advantage of organizing DB **318** with MI and dish type is that it allows the system to search the DB more efficiently.

[0058] FIG. **4** is a logic block diagram **400** illustrating a user or customer module in MIMA system capable of handling user or customer related information in accordance with one embodiment of the present invention. Diagram **400** includes a user module **402**, user database **406**, and multiplexer ("Mux") **408**. In one aspect, user module **402** includes a receiving unit **412**, authenticating unit **414**, dashboard controller **416**, and controller **418** wherein controller **418** is configured to manage and coordinate receiving unit **412**, authenticating unit **414**, and dashboard controller **416**. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **400**.

[0059] Database **406** includes multiple storage containers or sections **420-422** for storing different users' information. For example, container **420** stores information relating to a user who may be a buyer purchasing merchandise and/or services via the UCC App. Container **420** includes buyer's name, registration information, preferences, phone number (s), preferred payment methods, address, and the like. Container **422**, on the other hand, can store information relating to a customer who regularly orders food or meals via the UCC App. Container **422** may include customer's name, registration information, preferences, phone number(s), preferred payment methods, address, and the like.

[0060] User module **402** which, in one aspect, can be a part of MIMA system, is configured to store information from users and post or push information or selections to users' equipment ("UE"). For example, upon receiving data or input information from user or UE, receiving unit **412** forwards received information to authenticating unit **414**. After authenticating and/or verifying, the authenticated information is transmitted to dashboard controller **416** for posting. Dashboard controller **416**, in one embodiment, uses Mux **408** to post or push selections as well as options as indicated by numeral **410** to the UE interactively. For example, if user is looking at various pizza parlors, dashboard controller **416** is able to push pizza restaurants in the vicinity to the user onto user's UE screen including options and/or promotions.

[0061] An advantage of using MIMA DB with categorization is that the DB is able to produce or output searchable results so that a price or quality comparison between similar dish becomes possible. For instance, before a user places his/her order, MIMA is able to suggest or recommend an alternative restaurant which provides similar dish with lower price.

[0062] FIG. **5** is a block diagram **500** illustrating a vendor or restaurant module in the MIMA system capable of handling vendor or restaurant related information and e-commerce in accordance with one embodiment of the present invention. Diagram **500** includes a vendor module **502**, vendor database **506**, and multiplexer ("Mux") **508**. In one aspect, vendor module **502** includes a receiving unit **512**, authenticating unit **514**, dashboard controller **516**, and controller **518** wherein controller **518** manages and/or coordinates units **512-516**. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **500**.

[0063] Database **506** includes multiple storage sections **520-522** containing different vendor information. For example, container **520** stores information relating to a restaurant that offers food. Container **520** includes restaurant's name, registration information, preferences, phone number(s), preferred payment methods, delivery, POS, address, and the like. Container **522**, on the other hand, can store information relating to a travel agent who provides travel plans using the MIMA system. Container **522** may include agent's name, registration information, preferences, phone number(s), preferred payment methods, address, POS system, and the like.

[0064] Vendor module **502** which is a part of MIMA system is configured to store information from vendors. A function of vendor module **502** is to register vendors and fulfill orders and/or transactions based on orders placed by various users via their UEs. For example, upon receiving an order as the input information from user or UE, receiving unit **512** forwards received order (or registration information) to authenticating unit **514**. After authentication, the order is transmitted to dashboard controller **516** for order or transaction fulfillment. Dashboard controller **516**, in one embodiment, uses Mux **508** to fulfill the order. For example, if the vendor is a pizza parlor, dashboard controller **516** will inform the pizza parlor to make the ordered pizza and subsequently deliver the pizza to the ordered customer. In the event that the restaurant does not offer delivery, a third-party delivery company will be arranged by the MIMA system for the food delivery.

[0065] FIG. **6** is a block diagram **600** illustrating a MIMA system coupled to the UCC platform using application programming interfaces ("APIs") in accordance with one embodiment of the present invention. Diagram **600** illustrates a MENUS process operable under the MIMA system capable of providing a software platform which facilitates a process of supplying, ordering, and delivery of goods (between suppliers and customers) using mobile/web base applications. Menus or MENUS, in one aspect, can be a system similar to the MIMA system under the UCC platform. Alternatively, Menus includes the MIMA system. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **600**.

[0066] MENUS can include MIMA **208**, Frond End **604**, Back Office **602**, and External sources **606** connected by APIs. In one aspect, MIMA **208** uses an API based infrastructure platform which contains various modules like

Location/Chain management, Zone management, Data processing, Financial, Reporting, Media, Delivery, Order tracking/customer care and internal/external communicate between Supplier and Customer via MENUS. In one example, Front End (Customer Interface) uses mobile/web application which tolls for customer and MIMA connection to filter, find/select, order and receive goods. Back Office (Supplier Interface) is a mobile/web application that tolls for Supplier/MIMA connection to supply, sell and delivery goods.

[0067] MENUS, in one embodiment, is relates to the field of communication cloud base networks which consider a complete process of supply, order and delivery of goods (between supplier and customer). For example, MENUS is multi-functional cloud base networking platform to sell any goods and services while has capability to communicate via API with internal User Interfaces and external sources. MENUS communicates with a group of customer and supplier via Mobile/Web user interfaces "UI". It should be noted that supply, ordering & delivery from a supplier to a customer can be a passive process. Related process and methods can vary by number of parameters like geographic location of customer and supplier, kind of good, method of payment, way to deliver and tolls for communication with supplier & customer. For example, MENUS can be used in an environment of "Restaurants/Chains" as location ("Locations") and "Food/Menu" ("Menu Item" or "MI") as merchandise (or good or food) to sell.

[0068] Back office, also referred to as supplier interface, includes locations registering in MENUS, getting access to MENUS Back Office to manage location and menu data, receive order directly and some other Function and modules listed as below. Back office, one example, is a tool which an owner of Chain or group of Locations could manage all location in one place in terms of location/Menu Data, Ordering, Coupon and Financial. It could assign access of required user to any locations independently. User level access could be Waiter (staff) and Admin. Service types, pricing, zone management and customer review will happen within this module.

[0069] Front End, also referred to as customer interface, is a restful API, MIMA can interface with Mobile application (iOS and Android) WEB application. Front end could be inserted via a widget that gets encapsulated within a http//: or https//: protocol insuring flexibility and ease of use for all data access level. Main key points and steps which consider for ordering a dish by customer include, but not limited to, (1) Find Customer location via GPS or user insert address; (2) Service type could select (default set for Delivery); (3) Select A dish and find Menu item (List view a Map view); (4) Select Menu items; (5) Place order.

[0070] FIG. **7** is a logic flow diagram **700** illustrating a process of menus information flow capable of facilitating food categorization and distribution in accordance with one embodiment of the present invention. Upon identifying restaurant location at block **702**, a master heading is obtained at block **704**. For example, master heading can be headings between breakfast and lunch. After identifying heading at **706**, the process proceeds to block **708** for menu items. Note that headings can be appetizer, entree, and/or dessert. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **700**.

[0071] At block **714**, a MI-code is generated based on item type coding at block **712** which receives input from menu item **708** and heading **706**. Menu item **708** receives inputs from heading block **706**, dish recommendation **710**, and menu item images **720**. Menu item **708** provides cuisine code **722** and dish coding **724** wherein cuisine code **722** associates with cuisine images **726**. Dish coding **724** is used to facilitate discode **728** and dish images **730**. Menu item **708**, in one embodiment, provides option **732** and menu items size **750** wherein option **732** can generate option item **734** with single size or multiple size selections **738-740**. In one aspect, price tags are associated with size blocks such as blocks **752-754** and **738-740**.

[0072] Menu process illustrated in flowchart **700** shows a menus information structure which is based on Menu item. Each Menu Item has prices or bulk prices. Menu item has a cuisine type, segment type, day part, availability and service type based on Locations Information an item type based on type of menu item and dish type based on kind of menu item. Food menu item categorization and coding are performed by MENUS wherein the entire Food/Menu items are categorized and processed by machine coding and machine learning.

[0073] FIG. **8** is a data flow diagram **800** illustrating a logical process of MIMA system used in a restaurant application for providing food ordering and delivery services in accordance with one embodiment of the present invention. Diagram **800** includes an MIMA staging DB **806**, menu data **802**, location information **804**, MIMA development DB block **808**, and menus live DB **810**. In one aspect, MIMA staging DB **806** receives information or data from menu data **802** and location information **804** via API connections. After the information is processed and quality control is applied, the information is forwarded to MIMA development DB **808** which tests and verifies the information. When the information reaches to Menus live DB, the information such as selections is launched or posted whereby both customer and restaurant can view it. Note that combination of location and menu information of independent restaurants and chain locations involve processing, coding, verifying, and ascertaining quality control on different databases before applying to actual live website. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **800**.

[0074] FIG. **9** is a block diagram **900** illustrating functional modules used by MIMA system in accordance with one embodiment of the present invention. Diagram **900** includes MIMA management module **902**, MIMA data processing module **906**, and MIMA media module **908**. MIMA, in one embodiment, is an all-encompassing cloud based modular infrastructure platform for performing at least a portion of MENUS. MIMA platform is built on a restful API interface for multipurpose functions. Main Modules/Functions categories include Security, Management, Data processing, Financial, Reporting, Media, Delivery, Ordering and internal/external Communicate via API.

[0075] In one aspect, MIMA management module **902** includes various functional units or circuitry elements, such as, but not limited to, location information management, multi locations information management, customer management, user management, order management, call camping management, house card management, opera recruits management, customer review management, FAQ management,

image management, menus coupons, promotions, and the like. MIMA data processing module **906** includes multiple functional units including, but not limited to, cuisine type, item type coding, dish coding, option item words, derivatives words, popular menu items, MIMA data importing, MIMA onboarding, and the like. MIMA media module **908**, in one aspect, is responsible for multiple methods of communication, such as, but not limited to, chat, VOIP, TDM, text messages, and the like. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or functions) were added to or removed from diagram **900**.

[0076] FIG. **10** is a block diagram **1000** illustrating additional modules used by MIMA system in accordance with one embodiment of the present invention. Diagram **1000** includes MIMA other module **1002**, external module **1006**, and agent's module **1008**. In one aspect, MIMA other module **1002** includes various functional units or circuitry elements, such as, but not limited to, order tracking, MIMA dashboard, MIMA reports, MIMA logs, MIMA search engine, MIMA financial, MIMA delivery, recording-trending unit, restaurant location/direction, verification/registration, recruiting/marketing, SEO (search engine optimization), and the like. External module **1006** includes multiple functional units including, but not limited to, fax, map, house card, payment gateway, and the like. Agents functions **1008**, in one aspect, includes data collector, tracking/verification, and services and is responsible for multiple methods of facilitate agents' data and service management. For example, data collector facilitates data entry/verification as well as image uploading and verification. The tracking/verification element may be responsible for recruiting, order tracking, and location verification. The service unit, in one embodiment, relates to customer service as well as restaurant owner services. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or functions) were added to or removed from diagram **1000**.

[0077] FIG. **11** is a logic block diagram **1100** illustrating an ordering and delivery process facilitated by Menus within the MIMA system in accordance with one embodiment of the present invention. Diagram **1100** includes a customer or user **1106**, Menus **1102**, and restaurant **1108** showing a process of food ordering and delivery. In one aspect, the delivery system includes delivery by restaurant **1110** or delivery by provider **1112**. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **1100**.

[0078] Menus **1102**, in one embodiment, provides two primary method of delivery system in which the first delivery system is food delivery by location owner while the second delivery system is delivery food by third party or delivery provider also referred to as delivery by Menus. Delivery by MENUS, in one example, is to deliver food by a delivery company partner. MENUS can use multiple delivery company. In one example, the delivery service selection is based on the variety of dynamic variables set within MIMA based on data received from each delivery company such as price per mile, minimal order fee, estimated time or arrival, number of left and right turns made between delivery, and pickup location. Delivery request, cancellation, and feedback (Confirmation, delivery notices & cancellation) are quickly communicated to third party delivery partners via API connections.

[0079] Depending on the modules selected of MIMA, an administrator could enable MIMA to work as a standalone platform without the HTTP or HTTPS external posting (SEO) for internal or external (marketplace) online ordering managed by MENUS or Location Owner. Menus, in one example, offers the two types of subscriptions to restaurant owner and/or restaurant chains. The first type of subscription is restaurant managed by MENUS, such as fee arrangement and delivery method. For example, while subscription may be free, customer service charge applies with restaurant delivery. The second type subscription is that while it is free, the delivery by third party partner is used. In one aspect, delivery by restaurant, the restaurant owners may have the capability to waive a percentage of delivery charge based on the dynamic parameters which, for example, may offset some of the cost based on distance and the orders.

[0080] In one embodiment, MENUS Platform is a media for Restaurant owner to manage one to multi location via MENUS cloud base system. Menus allows users or vendors to customize mobile/Web applications and POS system. Depend on location subscription and delivery method, Menus is able to execute ordering phases depending on the applications, user, and restaurant(s). For example, ordering phase-1 includes ordering by menus via call or fax to restaurant & delivery by MENUS via provider. After a customer orders online, a payment option such as customer payment online to restaurant via restaurant's "House Card" or other electronic payment means. The option for the food delivery can either be pickup, delivery by restaurant or third-party delivery.

[0081] In operation, when customer **1106** places an online order **1116** via App, menus **1102** places an order **1120** at restaurant POS after authentication using various authentication parameters including customer's phone number. Order **1120** can either be placed by a call or fax indicating whether the food will be picked up by customer or delivered by menus via provider **1122**. After receiving and prepared the order, restaurant **1108** delivers the food to customer **1106** via delivery channel **1126**. Alternatively, order **1130** can be placed via user App to the website of restaurant indicating the food will be either picked up or delivered by either restaurant or menus. After receiving and prepared the order, restaurant **1108** delivers the food to customer **1106** via delivery channels **1132** or **1136** depending on the who delivers. Order **1140** can either be placed by a call or fax indicating whether the food will be picked up by customer or delivered by restaurant. After receiving and prepared the order, restaurant **1108** delivers the food to customer **1106** via delivery channel **1142**.

[0082] FIGS. **12**A-**12**C are a set of flow diagrams **1200**-**1208** illustrating a process of restaurant registration and verification operated by the MIMA system in accordance with one embodiment of the present invention. Diagrams **1200**-**1208** illustrate a unique function of MENUS which is capable of self-servicing for registration/verification using MENUS via the Internet. It should be noted that as long as the information is imported via different modes such as SQL replication, ASCII file importing, native API, or the like, any Location could sign up for free for using MENUS to get access to the Location/Menus information with the categorization and MenuSense™. For example, location or restaurant could register for online ordering as basic or pro (market

place) membership to enable Menus' functionalities without SEO or HTTP or HTTPS functionalities. Menus also provide a function of e-signing for subscriptions and/or contracts. In one aspect, the important information relating to the registration and payments can be stored into block chain for reliability and ease of access.

[0083] In case a Location is not able to find its record set in the MENUS database, fail-safe measure is put in place by displaying a generic form to the user and forwarding it to an agent via various form of communication (VOIP, TDM, EMAIL or AUTO ring functionality within the system for a menus agent to assist the registration as a new customer. For example, Menus or MIMA system provides a default in which it is set to transfer calls internally via VOIP to the next available agent utilizing Asterix open source technology. Because of if modular development, this process could be easily changed to accommodate the desired work flow requirements. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagrams **1200-1208**.

[0084] Flow diagram **1200** illustrates a process of verifying restaurant email whether the registration is initiated by MIMA at block **1210** or restaurant owner **1218**. At block **1210**, MIMA calls, checks, and obtains a restaurant registration at block **1212**. If the restaurant information is found, the process proceeds to block **1214**. At block **1214**, an email is sent to restaurant owner and then proceeds to block **1216**. At block **1218**, the process receives a zip code entered by the restaurant owner and proceeds to block **1220** to exam restaurant list stored in MIMA live DB. If the restaurant name is found the process proceeds to block **1222**, otherwise the process proceeds to block **1226**. At block **1222**, the process inserts or records email address supplied by restaurant owner and proceeds to send an email to restaurant owner at block **1224**. At block **1216**, at verifying the email, the process proceeds to diagram **12**B following numeral **7.1**. At block **1226**, a restaurant request form is filled and the completed restaurant request form is emailed to the restaurant owner. After manually verified request form at block **1228**, the process proceeds to send a link via email at block **1230**.

[0085] Flow diagram **1206** illustrates a continuing process of flow diagram **1200** in which it verifies an order using MIMA system in accordance with one embodiment of the present invention. When MIMA server receives a call at block **1240**, the call verification begins at block **1242**. When an email associated with the call is found at block **1242**, the process proceeds to access owner back office at block **1244** after login process. When the email associated with the call is not found at block **1242**, the process proceeds to post terms & conditions at block **1248** after requesting for signing up at block **1246**. After acknowledging the terms & conditions, an email is sent to restaurant owner at block **1250** while accessing owner back office at block **1244**. access owner back office at block **1244**. At block **1252**, a restaurant request form is filled if the call is not received or the phone number does not match with stored number. After accessing and/or updating the MIMA live-DB at block **1254**, the process proceeds to activate online ordering at block **1256**. MIMA provides and selects marketplace and platform at block **1258** before proceeds to the next.

[0086] Flow diagram **1208** illustrates the continuing process of flow diagram **1206**. The process at block **1260** makes full accessible to restaurant information and proceeds to block **1262** for enabling location. If all required fields are not submitted, the process shows missing fields at block **1264**. If all required fields are submitted, the process exams signed contract at **1268**. If the contract is signed, the contract is saved in PDF file and proceeds to block **1272** for location enabling for online ordering. The restaurant owner is emailed to notifying online activation at block **1274**. Note that MIMA live DB at block **1276** is activated and accessible include restaurant's table in block **1278**.

[0087] FIG. **13** is a block diagram **1300** illustrating a payment process facilitated by the MIMA system in accordance with one embodiment of the present invention. Diagram **1300** includes a client device **1302**, MIMA cloud **1306**, and POS system **1308** wherein client device **1302** can be a UE or customer and POS system **1308** resides at vendor block. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or networks) were added to or removed from diagram **1300**.

[0088] At step **1** as indicated by numeral **1**, a VOIP client is in capsulated by a client device **1302** which can be in any form that allows VOIP connection. Client device **1302** has a direct chat connection to MIMA cloud **1306** which can be enabled under the MIMA management platform that enables the VOIP gateway for communication via client device **1302**.

[0089] At step **2** as indicated by numeral **2**, upon activating this feature the system engages the communication protocol with a payment gateway creating a secure socket layer and payment tokenization outside MIMA cloud **1306** for additional security purposes.

[0090] At step **3** as indicated by numeral **3**, the VOIP signaling is paired with the metadata from client device **1303** and is passed to MIMA Cloud **1306** restful API.

[0091] At step **4** as indicated by numeral **4**, a signaling session is passed through the VOIP interface within MIMA cloud **1306** to either another VOIP connection to POS system **1308** or through a regular TDM signaling. MIMA Cloud Restful API passes the tokenized payment information and required client metadata to POS system **1308**. At this point POS system **1308** and client device **1306** are connected through either VOIP to VOIP networking inside MIMA cloud or VOIP to TDM signaling.

[0092] At step **5** as indicated by numeral **5**, POS system **1308** selects the requested menu items and option modifiers within the system. Upon pressing confirmation button, the POS system **1308** passes back the Tokenized payment key and relevant meta data back to MIMA restful API.

[0093] At step **6** as indicated by numeral **6**, the payment processing module gets activated within the system using the chat client on the mobile device. The metadata on POS system **1308** is now residing on client device **1302** through the connection of MIMA server **1306** and the CHAT hook client. An advantage of using this payment process is that the customer can process the payment without stating its location or payment information over the phone for security and confidentiality purposes if required. In one aspect, this system is also capable to auto calculate the distance between the two nodes pickup and delivery based on the rate table, delivery flat rate and time of day when it applies

[0094] At step **7** as indicated by numeral **7**, upon successful settlement and approval of the payment a settlement approval is communicated via MIMA restful API server and

POS and all required additional modules (i.e. preparation, dispatching) could be activated for work flow processing i.e. delivery by restaurant or delivery company.

[0095] FIG. **14** is a logic flow diagram **1400** illustrating a process of providing recommendations or alternatives facilitated by the MIMA system in accordance with one embodiment of the present invention. The process, at block **1402**, allows a user to select a service type based on selection list **1404**. After selection, user selects a dish or dishes at block **1408** based on filter defaults **1410**. Upon receiving customer input at block **1406**, the process at block **1412** provides dish recommendation based on a predefined list **1414**. Upon recommending a cuisine at block **1416**, a dish is referred at block **1418**. Once a menu item is selected at block **1420**, variety of menu items may be recommended at block **1422**. The recommendation process ends when a restaurant **1426** is selected. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (or steps) were added to or removed from diagram **1400**.

[0096] The exemplary embodiment of the present invention includes various processing steps, which will be described below. The steps of the embodiment may be embodied in machine or computer executable instructions. The instructions can be used to cause a general purpose or special purpose system, which is programmed with the instructions, to perform the steps of the exemplary embodiment of the present invention. Alternatively, the steps of the exemplary embodiment of the present invention may be performed by specific hardware components that contain hard-wired logic for performing the steps, or by any combination of programmed computer components and custom hardware components.

[0097] FIG. **15** is a flow chart **1500** illustrating a process of facilitating a real-time e-commerce in accordance with one embodiment of the present invention. At block **1502**, a process operable by the MIMA system coupled to a cloud networking such as the UCC platform through wireless connections via a smart phone initiates a transaction by clicking one of multiple transactional selections managed by a mobile application displayed on a screen of a smart phone. In one aspect, after browsing displayed selections facilitated by the app, a displayed selection is touched or pushed on the screen of the smart phone. In one example, the process is capable of launching a food order by clicking a dish icon displayed on the screen of a smart phone. Alternatively, a travel package can be launched by clicking a trip icon displayed on the screen of a smart phone. In one embodiment, the app is able to provide an alternative option with similar goods with different prices. For example, when a customer wants to order a coffee, the app supported by the MIMA system can push a coupon with different coffer shop to the customer before the customer places the order.

[0098] At block **1504**, a packet representing the transaction together with a phone number associated to the smart phone is sent from the smart phone to an app server via a first communication network. In one embodiment, after identifying the geographic location of the smart phone when the transaction is initiated, the geographic location is inserted into the packet.

[0099] At block **1506**, a user account associated with the smart phone is identified based on the phone number and generating an order in response to the packet and retrieved information from the user account. For example, after searching the user account through a local storage device containing a plurality of accounts in response to the phone number, the user's identifier ("ID"), user's preference, user's default address, and user's payment preferences is obtained or retrieved. from the user account. The process is also capable of composing the order to including payment information and the phone number.

[0100] At block **1508**, the order is placed from the app server to an ordering system associated to a registered vendor via a second communication network for facilitating the transaction. For example, the process is able to queue the order to an order processing queue of a point of sale ("POS") system physically located at a restaurant via a network channel. In one embodiment, the process is capable of providing an alternative transactional option based on a user's inquiry and a price comparison within a geographic area based on a user's inquiry. The process can also provide a vendor comparison within a geographic area based on a user's inquiry. A vendor report containing search frequency, missing items, and price analysis can be generated in accordance with a predefined period of time. Note that the vendor report includes item suggestions and demographic updates. For example, a user report contains item suggestions, selection habit, and demographic updates.

[0101] FIG. **16** is a diagram **1600** illustrating a computer network capable of facilitating UCC platform in accordance with one embodiment of the present invention. In this network environment, a system **1601** is coupled to a wide-area network **1602**, LAN **1606**, system **1601**, and server **1604**. Wide-area network **1602** includes the Internet, or other proprietary networks including America On-Line™, SBC™, Microsoft Network™, and Prodigy™. Wide-area network **1602** may further include network backbones, long-haul telephone lines, Internet service providers, various levels of network routers, and other means for routing data between computers.

[0102] Server **1604** is coupled to wide-area network **1602** and is, in one aspect, used to route data to clients **1610-1612** through a local-area network ("LAN") **1606**. Server **1604** is coupled to storage device **1650** to enhance overall memory efficiency and e-commerce.

[0103] The LAN connection allows client systems such as client **1610** to communicate with each other through LAN **1606**. Using conventional network protocols, the system may communicate through wide-area network **1602** to client computer systems **1610-1612**, supplier system **1620** and storage device **1650**. For example, client system **1610** is connected directly to wide-area network **1602** through direct or dial-up telephone or other network transmission lines. Alternatively, clients **1610-1612** may be connected through wide-area network **1602** using a modem.

[0104] Having briefly described one embodiment of the computer network in which the embodiment(s) of the present invention operates, FIG. **17** illustrates an example of a computer system **1700**, which can be a machine capable of providing e-commerce including food ordering and delivery.

[0105] FIG. **17** is a block diagram illustrating a digital processing system **1700** capable of being used and/or implementing the MIMA system and/or various modules for food related e-commerce in accordance with one embodiment of the present invention. Computer system or a signal separation system **1700** includes a processing unit **1701**, an interface bus **1712**, and an input/output ("TO") unit **1720**. Processing unit **1701** includes a processor **1702**, a main

memory **1704**, a system bus **1711**, a static memory device **1706**, a bus control unit **1705**, an I/O element **1730**, and an NVM controller **1785**. It should be noted that the underlying concept of the exemplary embodiment(s) of the present invention would not change if one or more blocks (circuit or elements) were added to or removed from FIG. **17**.

[0106] Bus **1711** is used to transmit information between various components and processor **1702** for data processing. Processor **1702** may be any of a wide variety of general-purpose processors, embedded processors, or microprocessors such as ARM® embedded processors, Intel® Core™ Duo, Core™ Quad, Xeon®, Pentium™ microprocessor, Motorola™ 68040, AMD® family processors, or Power PC™ microprocessor.

[0107] Main memory **1704**, which may include multiple levels of cache memories, stores frequently used data and instructions. Main memory **1704** may be RAM (random access memory), MRAM (magnetic RAM), or flash memory. Static memory **1706** may be a ROM (read-only memory), which is coupled to bus **1711**, for storing static information and/or instructions. Bus control unit **1705** is coupled to buses **1711**-**1712** and controls which component, such as main memory **1704** or processor **1702**, can use the bus. Bus control unit **1705** manages the communications between bus **1711** and bus **1712**. Mass storage memory or SSD **1706**, which may be a magnetic disk, an optical disk, hard disk drive, floppy disk, CD-ROM, and/or flash memories are used for storing large amounts of data.

[0108] I/O unit **1720**, in one embodiment, includes a display **1721**, keyboard **1722**, cursor control device **1723**, and communication device **1725**. Display device **1721** may be a liquid crystal device, cathode ray tube ("CRT"), touch-screen display, or other suitable display device. Display **1721** projects or displays images of a graphical planning board. Keyboard **1722** may be a conventional alphanumeric input device for communicating information between computer system **1700** and computer operator(s). Another type of user input device is cursor control device **1723**, such as a conventional mouse, touch mouse, trackball, or other type of cursor for communicating information between system **1700** and user(s).

[0109] Communication device **1725** is coupled to bus **1711** for accessing information from remote computers or servers, such as server **1704** or other computers, through wide-area network **1602**. Communication device **1725** may include a modem or a network interface device, or other similar devices that facilitate communication between computer **1700** and the network. Computer system **1700** may be coupled to a number of servers **1704** via a network infrastructure such as the infrastructure illustrated in FIG. **16**.

[0110] While particular embodiments of the present invention have been shown and described, it will be obvious to those of ordinary skills in the art that based upon the teachings herein, changes and modifications may be made without departing from this exemplary embodiment(s) of the present invention and its broader aspects. Therefore, the appended claims are intended to encompass within their scope all such changes and modifications as are within the true spirit and scope of this exemplary embodiment(s) of the present invention.

What is claimed is:

1. A method, operable by a smart phone coupled to a cloud networking through wireless connections, for facilitating web-based e-commerce transaction between two remote users connected via a communication network, comprising:

initiating a transaction by clicking one of multiple transactional selections managed by a mobile application ("app") displayed on a screen of a smart phone;

sending a packet representing the transaction together with a phone number associated to the smart phone from the smart phone to an app server via a first communication network;

identifying a user account associated with the smart phone based on the phone number and generating an order in response to the packet and information retrieved from the user account; and

placing the order from the app server to an ordering system associated to a registered vendor via a second communication network for facilitating the transaction.

2. The method of claim **1**, further comprising providing an alternative transactional option based on a user's inquiry.

3. The method of claim **1**, further comprising providing a price comparison within a geographic area based on a user's inquiry.

4. The method of claim **1**, further comprising providing a vendor comparison within a geographic area based on a user's inquiry.

5. The method of claim **1**, further comprising generating a vendor report containing search frequency, missing items, and price analysis in accordance with a predefined period of time.

6. The method of claim **5**, wherein the vendor report includes item suggestions and demographic updates.

7. The method of claim **1**, further comprising generating a user report containing item suggestions, selection habit, and demographic updates.

8. The method of claim **1**, wherein initiating a transaction includes:

browsing displayed selections facilitated by the app; and

touching a displayed selection on the screen of the smart phone.

9. The method of claim **1**, wherein initiating a transaction includes launching a food order by clicking a dish icon displayed on the screen of a smart phone.

10. The method of claim **1**, wherein initiating a transaction includes launching a travel package by clicking a trip icon displayed on the screen of a smart phone.

11. The method of claim **1**, wherein sending a packet representing the transaction includes

identifying a geographic location of the smart phone when the transaction is initiated; and

inserting the geographic location into the packet.

12. The method of claim **1**, wherein identifying a user account associated with the smart phone based on the phone number includes:

searching the user account through a local storage device containing a plurality of accounts in response to the phone number; and

obtaining user's identifier ("ID"), user's preference, user's default address, and user's payment preferences from the user account.

13. The method of claim **1**, wherein generating an order in response to the packet includes composing the order to including payment information and the phone number.

14. The method of claim **1**, wherein placing the order includes queuing the order to an order processing queue of

a point of sale ("POS") system physically located at a restaurant via a network channel.

15. A method of menu information management administration ("MIMA"), operable by a unified cloud-based computing ("UCC") platform coupled to a cloud networking, for facilitating web-based e-commerce transactions between users, the method comprising:

identifying and obtaining an online menu posted by a restaurant for offering a list of food selections;

recording a geographic location of the restaurant and name of the restaurant;

parsing the online menu in accordance with headings to differentiate dinner selections from lunch selections;

determining whether a first menu item listed under dinner selections has a menu item code ("MI_code") or a dish code based on a set of predefined categorizing rules, wherein the MI_code categorizes at least a portion of the dish code; and

storing the geographic location, the name, Mi-code, and cuisine image in a local storage memory.

16. The method of claim **15**, further comprising:

extracting menu-item size, price, and option item(s) from the first menu item based on a self-learning module for recognizing size option and price listed on a menu; and

storing the menu-item size, price, and option item(s) in the local storage memory.

17. The method of claim **15**, further comprising:

determining whether a second menu item listed under dinner selections is a menu item code ("MI_code") or a dish code based on the set of predefined categorizing rules; and

storing MI_code and cuisine image in the local storage memory.

18. A unified cloud-based computing ("UCC") platform containing menu information management administration ("MIMA") for facilitating web-based commercial transactions between customers and vendors, the UCC platform comprising:

a plurality of vendors coupled and registered with the UCC platform for offering goods and services in accordance with their online menus posted via their own websites;

a plurality of customers coupled and registered with the UCC platform and able to view various advertisements on their smart phones via a UCC application ("App"); and

an MIMA module coupled to the UCC platform and configured to continuously update MIMA vendor database ("DB") via an online self-learning monitoring device, wherein the MIMA module is able to provide an alternative option based on information stored in MIMA DB when a customer is in a process of placing an order.

19. The system of claim **18**, wherein the plurality of vendors is a group of restaurants.

20. The system of claim **18**, wherein the MIMA module is able to generate a real-time market competitive report to a restaurant subscriber.

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