APPLICATION AND PLATFORM TO BUILD ENHANCED DATA REPOSITORIES FOR FACILITATING A MERCHANT/SERVICE PROVIDER ELECTRONIC EXCHANGE

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ABSTRACT

A platform may include resources configured to receive information representing a phone call from a caller (e.g., a traveler) to a callee (e.g., a proprietor) and instead of immediately connecting the phone call may communicate a message to the caller telling the caller the call is being connected. Prior to connecting the phone call with the callee, the platform may connect with a proprietor device (e.g., a landline telephone or a smartphone) and communicate a message to the callee that an incoming phone call is from a potential customer and is being provided courtesy of a merchant electronic exchange. The message may further encourage the callee to join the merchant electronic exchange as a member and/or inform the callee of the number of leads it has provided to the callee. After communicating the message to the proprietor, the platform may connect the call between the caller and the callee.
FIG. 2
This call from a potential customer is being provided by an Electronic Exchange – please consider joining the Electronic Exchange!"
“Electronic Exchange members may receive merchant ratings on customers who call them!”

“Join now and the Electronic Exchange will generate access credentials for you!”

“This is the 15º Lead the Electronic Exchange has brought to you. Be sure to check out the Electronic Exchange and consider joining today!”

“The Electronic Exchange has generated 115+ plus leads for businesses in your area!”

“The Electronic Exchange has useful information on the customer calling you and other potential customers!”

Please install this APP or visit Web Site to learn more about the Electronic Exchange!”
600 Receive from a Caller Computing Device, Data Representing a Phone Call to a Callee Device

602 Transmit to the Caller Computing Device, Data Representing a Message stating the Phone Call to the Callee Device is Being Connected

604 Establish a Communications Link with the Callee Device using the Data Representing the Phone Call

606 Transmit over the Communications Link, Data Representing another Message stating a call from a potential customer is being provided by an Electronic Exchange and extending an Offer to Join the Electronic Exchange

608 Establish a Communications Link between the Callee Device and the Caller Computing Device to Connect the Phone Call from the Caller Computing Device with the Callee Device

610 Transmit over the Communications Link between the Callee Device and the Caller Computing Device, the Data Representing a Conversation

FIG. 6
700 Receive, from a Computing Device, Data Representing a Phone Number to be Called

702 Establish a Communications Link with a Platform, using a Communications Interface Circuit of the Computing Device

704 Transmit the Data Representing the Phone Number to be Called to the Platform using the Communications Link

706 Receive, using the Communications Link, Data Transmitted by the Platform, the Data Representing a Message to a Caller, the Message Stating the Phone Call is Being Connected

708 Format the Message for Presentation on a Hardware System of the Computing Device

710 Present the Formatted Message on the Hardware System of the Computing Device

712 Receive, using the Communications Link, Data Transmitted by the Platform, the Data Representing a Conversation between the Caller and a Callee

714 Format the Conversation for Presentation on a Hardware System of the Computing Device

716 Present the Formatted Conversation on the Hardware System of the Computing Device

FIG. 7
Establish a Communications Link between a Device and a Platform

Is Device a Caller Device? NO

Is Information Compatible with a Caller Device? YES

Format Caller Information Received at the Platform to be Compatible with the Caller Device Information Format

Detect Sequence Connection Type for Caller Device

Select Telephony System of Platform Based on Detected Sequence Connection Type

Connect Caller and Callee Devices?

Communicate Information Between the Platform and the Callee Device

Format Callee Information Received at the Platform to be Compatible with the Caller Device Information Format

Detect Sequence Connection Type for Callee Device

Select Telephony System of Platform Based on Detected Sequence Connection Type

Communicate Information Between the Platform and the Callee Device

Connect, using Selected Telephony Systems, the Caller and Callee Devices and Communicate Information Between the Caller and Callee Devices via the Communications Interface, using the Appropriate Information Formats for Caller and Callee Devices
APPLICATION AND PLATFORM TO BUILD ENHANCED DATA REPOSITORIES FOR FACILITATING A MERCHANT/SERVICE PROVIDER ELECTRONIC EXCHANGE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is related to U.S. patent application Ser. No. 14/562,629, filed on Dec. 5, 2014, having Attorney Docket No. HOM-156, and titled “Adaptive Advisory Engine And Methods To Predict Preferential Activities Available At A Region Associated With Lodging” which is hereby incorporated by reference in its entirety for all purposes.

FIELD

[0002] The present application relates generally to systems, software, electronic messaging, mobile computing and communication devices. More specifically, systems, applications, telephony systems, computing devices, and methods to facilitate an electronic exchange are described.

BACKGROUND

[0003] Travelers who have booked a stay at a property, such as vacation rental or a consumer (e.g., a user, a customer, a client), may require information on trusted sources for goods and/or services in a geographic region or location they may be located in, such as a geographic region or location in an area around the vacation rental or a geographic region or location a consumer may be visiting for shopping or other activities or events.

[0004] Experiences from other travelers and/or consumers with goods and services in a particular geographic region may be helpful to the traveler or consumer. However, conventional approaches have failed to effectively connect travelers and/or consumers with providers of goods and/or services that have been vetted by trusted sources.

[0005] Thus, there is a need for devices, systems and methods that facilitate connecting providers of goods and/or services with consumers in need of those goods and/or services.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Various embodiments or examples (“examples”) of the present application are disclosed in the following detailed description and the accompanying drawings. The drawings are not necessarily to scale:

[0007] FIG. 1 depicts one example of a platform configured to invite a proprietor to join an electronic exchange prior to connecting communications between a traveler and the proprietor;

[0008] FIG. 2 depicts one example of a computer system;

[0009] FIG. 3 depicts an example of a sequence performed by a platform to connect a call from a traveler device to a proprietor device;

[0010] FIG. 4 depicts another example of a sequence performed by a platform to connect a call from a traveler device to a proprietor device;

[0011] FIG. 5 depicts examples of information associated with a message that may include an invitation communicated to a proprietor device;

[0012] FIG. 6 depicts one example of a flow diagram for connection a phone call from a caller computing device with a callee device using a platform;

[0013] FIG. 7 depicts one example of a flow diagram for an application on a caller computing device that connects a phone call from the caller computing device with a callee device using a platform;

[0014] FIG. 8 depicts one example of a block diagram for a telephony function of a platform;

[0015] FIG. 9 depicts one example of a flow diagram for a telephony function of a platform; and

[0016] FIG. 10 depicts one example of a block diagram for a platform.

DETAILED DESCRIPTION

[0017] Various embodiments or examples may be implemented in numerous ways, including as a system, a process, a method, an apparatus, a user interface, or a series of program instructions on a non-transitory computer readable medium such as a computer readable storage medium or a computer network where the program instructions are sent over optical, electronic, or wireless communication links. In general, operations of disclosed processes may be performed in an arbitrary order, unless otherwise provided in the claims.

[0018] A detailed description of one or more examples is provided below along with accompanying figures. The detailed description is provided in connection with such examples, but is not limited to any particular example. The scope is limited only by the claims and numerous alternatives, modifications, and equivalents are encompassed. Numerous specific details are set forth in the following description in order to provide a thorough understanding. These details are provided for the purpose of example and the described techniques may be practiced according to the claims without some or all of these specific details. For clarity, technical material that is known in the technical fields related to the examples has not been described in detail to avoid unnecessarily obscuring the description.

[0019] Reference is now made to FIG. 1 where one example 100 of a platform 150 configured to invite a proprietor 103 to join an electronic exchange prior to connecting communications between a traveler 101 and the proprietor 103 is depicted. Traveler 101 may be in a geographic region or location where a rental unit is located and the traveler 101 may have booked a stay at the rental unit. For example, the rental may be one unit in a group of condo unit, where the traveler 101 is staying at rental 120, which may be adjacent to other condo units such as unit 121. An owner of unit 120 may provide wired 193 and/or wireless 191 access to a guest (e.g., for a computing device 110 of traveler 101), such as traveler 101 via a wireless access point denoted as 130. During the traveler’s 101 stay at rental 120 the traveler may wish to participate in other events (e.g., activities) in the geographic region or location of rental 120 (e.g., in the same city, town, vacation resort, etc.). Example events may include but are not limited to dining, exercise, shopping, hiking, entertainment, sporting events, etc., just to name a few. A vacation rental agency or business acting on behalf of property owners or rental units and travelers, or an owner of a rental may have access to a platform 150 (e.g., a backend system) configured to match traveler 101 event selections with merchants, proprietors, businesses, and other economic interest in the geographic region.

[0020] Platform 150 may have internal and/or external access to resources including but not limited to one or more networked computer resources or processor(s) (PROC), networked data storage systems (DIS), networked communica-
tions resources (COMS), executable code (e.g., applications programming interface—API), search engine optimization terms (SEO), for example. Platform 150 may communicate with external computing devices and/or systems via COMS using wired 193 and/or wireless 191 communications links. For example, traveler device 110, a proprietor device 113 or other devices may communicate (191, 193) with platform 150 via an external resource 199 (e.g., the Internet and/or Cloud). One or more other communications resources may be used as a portal computing devices, such as a wireless access point 130, a cellular network 177 and a communications satellite 187 (e.g., a GPS satellite).

As one example, traveler 101 may wish to dine at a restaurant that specializes in Tapas. To that end, traveler 101 may interact 101i with device 110 via a user interface UI presented on a display 111 of traveler device 110 may include a search field 111s in which a search key for “Tapas” may be entered using a keyboard 111k presented on display 111. Other input devices such as a voice based search may be used and example 100 is not limited to the scenario depicted. The search string “Tapas” may yield several hits for the geographic region or location around rental 120 (e.g., as determined by location data from device 110 or other geo-location data). For example, the search key “Tapas” may return several results denoted as r1–r5, although there may be more or fewer search results as denoted by 159. Traveler 101 may select 101s (e.g., using a finger of traveler’s 101 hand 101k to activate a touch screen selection), search result r4 which may expand to reveal additional information on a restaurant named “TapeOlé”. The additional information may include an address, a star rating (e.g., one to five stars) for the restaurant, a distance (e.g., 1.3 miles) from traveler’s 101 current location to the restaurant, and may further include icons or other selectable images configured to contact and/or communicate a message to the restaurant (e.g., to the proprietor, hostess, etc.).

Selecting 101s the icon 119p for the phone call, circuitry and/or an application (APP) 126 on traveler device 110 may communicate (191, 193) with platform 150. Platform 150 may receive data representing the phone call and temporarily Delay connection of the phone call to its destination number (e.g., the phone number for “TapasOlé”) as denoted by dashed line A from device 110 to function MSG/Delay in platform 150. While delaying connection of the phone call to its intended destination, platform 150 may communicate a message (MSG) to the traveler 101 stating that the phone call is being connected. For example, a speaker in device 110 may audibly present the MSG to traveler 101. In other examples, visual presentation of the MSG on display 111 may be used, such as an icon, graphic, animation, text message, or the like. Therefore, the content of the MSG need not be an audio form of media and may be presented as another form of media, such as video, images, text, etc.

Moreover, while the phone call is being delayed, platform 150 may communicate with the proprietor 103 of “TapeOlé” by calling the phone number for “TapeOlé” or via another form of communications, such as an electronic message. For purposes of explanation, a phone call denoted by dashed line B is made to the phone number for the proprietor 103 of “TapeOlé” and the phone call may be received on a communications and/or computing device of proprietor 103 (e.g., device 113). The phone call may communicate a message that a phone call from a potential customer is being provided by an electronic exchange and may further communicate an invitation for the proprietor to join the electronic exchange as denoted by INV/MSG in platform 150. The MSG may further communicate information the proprietor 103 may use to join the electronic exchange, such as a phone number to call, an email address, a twitter handle or a URL for a website, for example. As one non-limiting example, the electronic exchange may be a merchant electronic exchange or merchant electronic cooperative (COOP) where a variety of merchants, business owners, proprietors, service providers, shop owners and the like may join as members. Members may rate customers they have done business with (e.g., using a user rating system), may have access to demographic, personal preferences, spending habits, financial status, and other information on customers (e.g., travelers).

As one example, “TapeOlé” may be a restaurant 140 which may be located in the vicinity of rental 120. Proprietor 103 may be the actual owner, but need not be. For example, a hostess, receptionist or other employee or agent of “TapeOlé” may receive the INV/MSG and subsequent phone call from traveler 101 as described above in reference to dashed lines A–C. Device 110 may be a smartphone, cellphone, tablet, pad, computer, laptop, or a hard line telephone (e.g., plugged into a phone jack), for example.

Incentives for proprietors to join the electronic exchange may include but are not limited to, gaining access to qualified customers (e.g., travelers 101) that have been previously vouched for or vetted by other proprietors who have had previous experiences in doing business with the customer via the platform 150, access to leads for new customers who may become returning customers and/or promote the business to friends and/or associates (e.g., a submitted customer reviews and/or word of mouth), access to a pool of travelers 101, access to reviews from travelers 101 that may be used by other customers and travelers 101 to decide whether or not to patronize the business, push messaging or other forms of communications from the platform 150 that promote the proprietor’s 103 business, optimizing SEO terms to include the proprietor’s 103 business in searches by travelers 101 (e.g., when travelers 101 search for restaurants and/or Tapas), etc., just to name a few. The pool of travelers may be presently visiting the locale of a proprietor’s business (e.g., 103), may have visited the locale of the proprietor’s business in the past, or may visit the locale of the proprietor’s business at some future time. Information associated with the pool of travelers, such as demographic information, personal preferences, travel history, activity history of events partaken in by travelers during past or present travels, submitted reviews on events partaken in, spending patterns, prior searches by travelers,
click-through data from prior searches by travelers, may be used to optimize SEO terms for searches by traveler 101, to filter search results based on experiences from the pool of travelers who were in the same locale, for example. As one example, data representing past searches for restaurants by those travelers in the pool of travelers (e.g., a subset of travelers in the pool) that visited the same locale as traveler 101 may be used to filter search results for a similar search (e.g., r1-s5) made by traveler 101. The search results may be further filtered by presenting search results that were selected via a click-through (e.g., via phone call or sending of an electronic message). In another example, restaurants having a star rating of four or five stars as rated by travelers in the pool may be suggested to traveler 101 with greater prominence in search results presented to the traveler 101 (e.g., at the top of the list of search results).

[0028] The Connect and Telephony functions of platform 150 may communicate and exchange data proactive to determine one or more communication channels to use in order to receive and relay the phone call (e.g., MSG/Delay) from traveler 101 as denoted by A, to communicate the message and invitation to join the electronic exchange (e.g., INV/MSG) as denoted by B, and to Connect the traveler’s 101 phone call with the proprietor 103 as denoted by lines C. Platform 150 may use one or more combinations of telephony/communications protocols, hardware or software to implement the actions associated with dashed lines A-C as described above, including but not limited to voice over IP (VoIP), plain old telephone service (POTS), directed inward dial (DID), private branch exchange (PBX), cellular networks (e.g., 2G, 3G, 4G, one or more cellular towers/networks 177, etc.), public switched telephone network (PSTN), WiFi (e.g., IEEE 802.x), WiMAX, LAN, WAN, etc., just to name a few. VoIP networks may include but are not limited to Cloud-based VoIP providers, Internet-based VoIP providers, Skype®, Viber®, RingCentral®, or others, for example. Communications associated with dashed lines A-C may include voice, images, video, audio, text, or other content and is not limited to voice data (e.g., the MSG’s and/or conversation between 101 and 103). Communications associated with dashed lines A-C may include a server call to a server or other computer engine in platform 150 or an external resource in communication with platform 150 (e.g., 199).

[0029] As one example, the application 126 (APP) may receive data representing the phone number associated with selected 101’s icon 119p and transmit (191, 193) that data (e.g., 777-777-7777 to platform 150). APP 126 may be configured to prevent the phone number from being connected through another communications network (e.g., cellular network 177) so that the call is not connected to the proprietor’s 103 business 140 before the platform 150 has communicated the message and invitation (INV/MSG) denoted by dashed line B. Platform 150 may receive (e.g., via COMS) the data representing the phone number (e.g., 777-777-7777) and communicate the MSG associated with line A to traveler device 110 (e.g., “...your call is being connected...”) and communicating the message and invitation associated with line B to proprietor device 113 during the Delay in connecting the traveler 101 with the proprietor 103. Platform may communicate the INV/MSG via POTS (e.g., if the phone number 777-777-7777 is for a land line phone), VoIP, PBX, PSTN, Cellular network, WiFi or other network, for example.

[0030] Subsequent to the platform completing the INV/MSG, the platform 150 may Connect the devices (110, 113) of the traveler 101 and proprietor 103 using one or more of the above mentioned communications technologies, such as POTS, PBX, PSTN, VoIP, Cellular, WiFi or other. As one example, VoIP may be used to Connect the devices (110, 113) using cellular network 177 to communicate the data for the VoIP call. As another example, communications between traveler device 110 and platform 150 for lines A and C may be via VoIP using WiFi 130 or cellular 177 to communicate data for the VoIP and platform may use POTS for communication with proprietor device 113 for lines B and C, such that the traveler 101 and proprietor 103 after being connected are able to communicate (e.g., make and/or confirm a dinner reservation) without necessarily perceiving that different communications technologies are being used (e.g., POTS and VoIP).

[0031] As another example, an actual phone number may not be used for the data representing the phone number, such that selection of an icon on screen 111 activates APP 126 to initiate a server call or a VoIP call to platform 150. The selection of the icon does not dial an actual phone number; instead, the platform 150 may intercept or otherwise prevent a direct connection from device 110 to device 113. Platform 150 may have access to data indicating an actual phone number for the icon selected by the traveler 110, and may use that phone number to initiate sequence B and C. From a perspective of the traveler 101, the selection of the icon has had the effect of connecting the traveler 101 with proprietor 103 after some period of delay (e.g., from about 3 seconds to about 10 seconds), without the traveler 101 knowing the phone call was intercepted by platform 150 or that platform 150 after notifying traveler 101 of the phone call being connected during sequence A is contacting the proprietor during sequence B.

[0032] A traveler device 110 may be a wireless computing device (e.g., a smartphone, tablet, pad, laptop, PDA, gaming device, etc.) that may be in communication with other systems and/or resources, such as the wireless 191 and/or the wired 193 communications links or networks, external resource 199 (e.g., Internet, Cloud, etc.), platform 150, wireless access point(s) 130, cellular communications networks 177, communication satellite 187 (e.g., a GPS satellite), just to name a few. There may be more wireless computing devices 110 and travelers 101 as denoted by 128. Wireless computing device 110 will be referred hereinafter as a traveler device 110. There may be more or fewer wireless access points 130, cellular communications networks 177, and satellites 187 than depicted in FIG. 1 as denoted by 135, 175 and 180 respectively. Data communications between the traveler device 110 and the platform 150 may be direct (e.g., via 191 and/or 193) or may be routed through one or more other portal computing devices, such as wireless access points 130 and/or cellular communications networks 140, for example. Other computing devices, such as the computing device 113 of proprietor 103 (e.g., an owner of a rental property, a business owner, a merchant, etc.) may communicate (191, 193) with the platform 150 and/or one or more other networks (e.g., 130, 177), for example. As one example, proprietor 103 may be associated with the business 140 in a geographic region or location that coincides with a vacation stay of traveler 101 at a vacation rental property 120. As another example, vacation rental property 120 may be a condo unit rented to traveler 101 by an owner or agent representing an owner of rental property 120. Condo 120 may be adjacent to other condo units, such as 121, for example. There may be more or fewer devices 113, proprietors 103, and business 140 than depicted as denoted by
143. A location of traveler 101 and/or a proprietor 103 need not be associated with a geographic region or location for a vacation stay (e.g., not restricted to longitudes and latitudes at or around a stay) and may be global in range. For example, a larger region such as a country (e.g., India) or continent (e.g., Asia) may be a location where a proprietor 103 and customer (e.g., traveler 101) may be located.

[0033] Traveler device 110 and proprietor device 113 may transmit output data and may receive input data. Output data may include location data and/or temporal data generated by or stored in device 110. Temporal data may be generated by an electronic system such as a clock included in device 110. Location data may be generated by radio frequency (RF) systems and/or sensors in device 110. Location data may be received from other communications resources such as from access points 130, cellular networks 177, and satellite 187, for example. RF signals (e.g., 191) communicated between devices 110, 130, 177 may include location data and access points 130 and cellular networks 177 may include a data store that logs or otherwise tracks location data 177i associated with one or more devices 110 in a geographic region or location. An application (e.g., APP 126) on device 110 may access from device 110 and/or external systems (e.g., external resource 199, access points 130, cellular network 177, or others), location data (e.g., GPS, geolocation or other location based services) associated with device 110. Location data 177i from computing devices (e.g., 130, 177) may be used in addition to or instead of location data from device 110 to determine a location of traveler 101 via the traveler device 110 in the geographic region or location. In some examples, location data may include information on radio frequency (RF) signals emitted by device 110, such as received signal strength indicator (RSSI), RF signal strength, or data included in packets or other data structures included in a RF transmission 191 from device 110 (e.g., MAC Address, IP address, Bluetooth address, etc.).

[0034] Wireless communications may include but is not limited to WiFi, WiMAX, Bluetooth, near filed communications (NFC), and cellular (e.g., 2G, 3G, 4G), for example. Wired communications may include but is not limited to local area network (LAN), universal serial bus (USB), FireWire, and Lightning, for example. An external resource 199 may include and/or have access to computing resources and data storage resources. Platform 150 may also include and/or have access to networking resources, such as computing (PR/OC) resources, data storage resources (DS), communications interface (COMS), and an applications programming interface (API).

[0035] FIG. 2 illustrates an exemplary computer system 200 suitable for use in one or more systems, devices, computer engines, apparatus, traveler devices, owner devices, wireless devices, wireless systems, backend systems, front end systems, networked systems, platforms, data storage devices, data storage systems, external resources, host devices or others described in reference to FIGS. 1, and 3-6. In some examples, computer system 200 may be used to implement computer programs, algorithms, an application (APP), an application programming interface (API), telephony, configurations, methods, processes, or other software to perform the above-described techniques. Computer system 200 may include circuitry, hardware, and other electronic systems to perform the above-described techniques. Computer system 200 may include a bus 202 or other communication mechanism for communicating information, which interconnects subsystems and devices, such as one or more processors 204 (e.g., µC, µP, DSP, ASIC, FPGA, Baseband, etc.), system memory 206 (e.g., RAM, SRAM, DRAM, Flash,), storage device 208 (e.g., Flash, ROM), disk drive 210 (e.g., magnetic, optical, solid state), communication interface 212 (e.g., modem, Ethernet, WiFi, Cellular), display 214 (e.g., CRT, LCD, LED, OLED, touch screen), input device 216 (e.g., keyboard, stylus, touch screen, mouse, track pad), and cursor control 218 (e.g., mouse, trackball, stylus). Some of the elements depicted in computer system 200 may be optional, such as elements 214-218, and one or more clocks 240 which may provide temporal data, for example, one or more sensors 230 which may provide location data, motion data (e.g., rate of motion) and other data associated with movement (e.g., of traveler 101), and computer system 200 need not include all of the elements depicted. Display 214 may present a user interface (UI), such as a graphical user interface (GUI) 214a. Memory 206 may include computer executable programs and/or data embodied in a non-transitory computer readable medium, such as an operating system (OS) 206a, an application (APP) 206b, and executable code (Ex-Code) 206c, for example. APP 206b may be an application installed (e.g., from an APP store) or otherwise present in a computing device, such as APP 126 in device 110 or APP 137 in device 113, for example. APP 137 may be installed in device 113 after proprietor 103 has opted to join the electronic exchange. APP 137 and/or APP 126 may be configured to use VoIP calls for future communications between callers and callee (e.g., traveler 101 and proprietor 103).

[0036] According to some examples, computer system 200 performs specific operations by one or more processors 204 executing one or more sequences of one or more instructions stored in system memory 206. Such instructions may be read into system memory 206 from another non-transitory computer readable medium, such as storage device 208 or disk drive 210 (e.g., a HDD or SSD). In some examples, circuitry may be used in place of or in combination with software instructions for implementation. The term “non-transitory computer readable medium” refers to any tangible medium that participates in providing instructions and/or data to processor(s) 204 for execution. Such a medium may take many forms, including but not limited to, non-volatile media and volatile media. Non-volatile media includes, for example, optical, magnetic, or solid state disks, such as disk drive 210. Volatile media includes dynamic memory, such as system memory 206. Common forms of non-transitory computer readable media includes, for example, floppy disk, flexible disk, hard disk, SSD, magnetic tape, any other magnetic medium, CD-ROM, DVD-ROM, Blu-Ray ROM, USB thumb drive, SD Card, any other optical medium, punch cards, paper tape, any other physical medium with patterns of holes, RAM, PROM, EPROM, FLASH-EPROM, any other memory chip or cartridge, or any other medium from which a computer may read.

[0037] Sensor(s) 230 may include but are not limited to one or more inertial sensors (e.g., an accelerometer, a multi-axis accelerometer, a gyroscope, a magnetometer, etc.), an altimeter, and a barometer, for example. One or more sensors in sensor(s) 230 may be used to determine location data for a device that includes computer system 200 and/or is in communication with computer system 200 (e.g., a client device, a traveler device, a proprietor device, a smartphone, a merchant device, an owner device, a tablet, a pad, a laptop, PC, a wireless device, a portal computing device, a computing
device, a networked computing device, a platform, a backend service, etc.). One or more of the memory 206, storage device 208, or disk drive 210 may be accessed as a data store for location data from sensor(s) 230 or other systems in communication (e.g., via communications interface 212) the computer system 200. Location data may be communicated to/from the computer system 200 via one or more of the wireless transceivers 213. Sensors 230 may include a GPS integrated circuit (IC) 233 configured to communicate with one or more GPS satellites and/or other sources of geolocation data that may be used to calculate position of a computing device (e.g., 110 and/or 113) and to calculate other metrics such as distance traveled, ETA, etc., for example.

For example, radio frequency signal sources including but not limited to GPS satellite signals (e.g., signals 191 from one or more GPS satellites 187), terrestrial location transmitters (e.g., one or more cellular towers), WiFi signals, WiMAX signals, WiFi routers, WiFi access points, Bluetooth signals (e.g., Bluetooth beacons), near field communication signals, iBeacons, data from external resource 199, and platform 150. Other signal and/or data sources for location data may include but are not limited to audio signals (e.g., ultrasonic signals) and signals and/or data generated by location tracking software (e.g., internal to and/or external to computer system 200), for example. In some examples, location data and/or signals may be communicated wirelessly with any computer system 200, for example. In some examples, location data and/or signals may be generated by location tracking software (e.g., internal to and/or external to computer system 200), for example. In some examples, execution of the sequence of instructions may be performed by a single computer system 200. According to some examples, two or more computer systems 200 coupled by communication link 220 (e.g., LAN, Ethernet, PSTN, USB, or wireless network) may perform the sequence of instructions in coordination with one another. Computer system 200 may transmit and receive messages, data, and instructions, including programs, (i.e., application code), through communication link 220 and communication interface 212. Received program code may be executed by processor 204 as it is received, and/or stored in disk drive 210, or other non-volatile storage for later execution. Computer system 200 may optionally include a wireless transceiver 213 coupled with the communication interface 212 and coupled 215 with an antenna 217 for receiving and generating RF signals (191, 221), such as from a WiFi network, WiMAX network, BT radio, Cellular network, networked computing resources, external resource 199, client devices (e.g., 110); owner devices (e.g., 113); near field communication (NFC); satellite network, data storage network, or other wireless network and/or wireless devices, for example. Examples of wireless devices (e.g., client devices) may include but is not limited to those depicted in FIGS. 1, and 3-6. Communications interface 212 may be coupled 222 with data storage external to computer system 200. Communications interface 212 may be coupled 193 with external resources and/or systems, such as those depicted in FIGS. 1, and 3-6, for example. Computer system 200 may be used to implement a computing device (e.g., 110, 113), a portable computing device (e.g., 130, 177); a networked computing device (e.g., 105, 1055, 1059, 1080), the platform 150, and external resource (e.g., 199), for example.

Processor(s) 204 may be coupled 202 with signals from circuitry or other hardware systems of computer system 200. For example, signals from clock 240, sensors 230, GPS IC 233, and communications interface (e.g., via wireless transceivers 213) may be processed by processor 204 and/or other circuitry to calculate an estimated time of arrival of the device 110 (e.g., due to motion of traveler 101 carrying device 110) at an event in geographic region or location associated with a stay at a vacation rental, rental unit, or other events or activities. The ETA may be calculated based on time data from clock 240 and one or more of location data from GPS IC 233 or terrestrial sources such as cellular networks 177 and/or wireless access points 130, speed data (e.g., scalar data), or velocity data (e.g., vector data). Speed or velocity data may be calculated from signals from sensors 230 and changes in location data (e.g., from 130, 177, 233) as traveler 101 and their device 110 move relative to some event (e.g., a restaurant or other reference point. Rate of travel (e.g., distance traveled per unit of time) may be calculated using signals from clock 240, sensors 230 and/or location data and/or signals from one or more of GPS IC 233, cellular networks 177, or wireless access points 130.

Moving now to FIG. 3 where an example 300 of a sequence performed by a platform 150 to connect a call from a traveler device 110 to a proprietor device 113 is depicted. In FIG. 3, upon selection 101's of icon 119p, traveler device 110 may communicate the phone number associated with "TapeOlé" to platform 150 (e.g., via A/P 126). Upon receiving data representing the phone call to "TapeOlé", platform 150 may perform a sequence denoted as 301A, where sequence 301A communicates a message to the traveler 101 via traveler device 110 that notifies the traveler 101 that the call to "TapeOlé" is being connected (e.g., the phone call to "TapeOlé" has been placed but not yet received by proprietor device 113) as described above in reference to dashed line A in FIG. 1. Prior to connecting the phone call, platform 150 may perform a sequence denoted as 303B, where sequence 303B notifies the proprietor (or an agent for proprietor 103) via proprietor device 113 that an incoming call is from a potential customer, the call is being provided by an electronic exchange, and invites the proprietor 103 to consider joining the electronic exchange as described above in reference to dashed line B in FIG. 1.

Subsequent to communicating the message and invitation to join, platform 150 may Connect the traveler 101 as caller with the proprietor 103 as callee as described above in reference to dashed line C in FIG. 1. For example, upon connection of the call, proprietor 103 may answer the call (e.g., pick-up the call) as denoted by 305C, traveler 101 may request a reservation as denoted by 307C, proprietor 103 may confirm the reservation as denoted by 309C, and traveler 101 may conclude the conversation as denoted by 311C. The
conversations, messages, and invitations depicted are non-limiting examples and different conversations, messages, and invitations may be used.

[0043] A delay (e.g., in units of time) between the traveler 101 placing the call (e.g., dashed line A) by activating 101s the icon 119p and the proprietor 103 being connected (e.g., dashed line C) with the traveler’s 101 call may be in a range from about 3 seconds to about 15 seconds, for example. Therefore, function MSG/Delay in platform 150 may delay connection of caller and callee by some finite amount of time that may be dependent on the circumstances of each phone call, such as network latency, network availability, network traffic, time it takes for the callee to answer or pick-up the call on the telephone or other device 113, or other factors. One or more telephony functions may be implemented internal to platform 150 as depicted in FIG. 1, may be implemented by an external system (e.g., external resource 199 in FIG. 3) or both. As one example, platform 150 may implement one or more of A-C using VoIP functions provided by external system 199.

[0044] Turning now to FIG. 4 where another example 400 of a sequence performed by a platform 150 to connect a call from a traveler device 110 to a proprietor device 113 is depicted. In FIG. 4, a search key (e.g., a search string) entered in search field 111s may yield several hits for activities that match the search key. One of the activities of interest to traveler 101 may be selected 101s to expand the search result rN. Subsequent selection 101s by the traveler 101 of icon 119p may activate APP 126 to communicate data representing the phone number associated with the selected icon 119p and a phone number and/or other address associated with traveler device 110 to platform 150. For example, platform 150 may be configured to execute a telephony function 450 operative to: (a) use the data representing the phone number and/or address of traveler device 110 to establish a connection between platform 150 and traveler device 110 (e.g., dashed line A) to communicate a message 401A “your call to . . . is being connected!” to traveler 101 via device 110; (b) to use the data representing the phone number associated with the selected icon 119p to establish a connection between platform 150 and the proprietor device 113 (e.g., dashed line B) to communicate a message 403B “This call from a potential customer is being provided by an Electronic Exchange—please consider joining the Electronic Exchange!” to proprietor 103 via proprietor device 113; and (c) use the data representing the phone number associated with the selected icon 119p and the data representing the phone number and/or address of traveler device 110 to establish a connection between platform 150 and the traveler and proprietor devices 110, 113 (e.g., dashed line C) where conversation 405C and 407C between the traveler 101 and proprietor 103 may proceed (e.g., to make a reservation, appointment, order goods or services, etc.). In the example 400, the telephony function 450 may be a VoIP communication between platform 150 and devices 110 and 113. The telephony function 450 may be internal to platform 150, external to platform 150 or both. In addition to a unique phone number associated with the traveler device 110 and/or proprietor device 113, a unique address or ID, if any, for the traveler device 110, the proprietor device 113 or both, may include but is not limited to a wireless device address or ID, a MAC address, Bluetooth address, IP address, SSID or other types of addresses assigned to a computing device, for example. Other telephony functions or combinations of telephony functions may be used to establish connections and communications between the platform 150 and the devices 110 and 113, and the present application is not limited to a VoIP implementation.

[0045] Referring now to FIG. 5 where examples 500 of information associated with a message that may include an invitation communicated to a proprietor device 113 are depicted. After receiving the message and invitation 403B associated dashed line B, traveler 103 may receive other messages and/or information from platform 150 in connection with dashed line B or at some later time after the traveler 110 and proprietor 103 have communicated with each other (e.g., dashed line C). Communication 503B may provide (e.g., via audio or images) an application (e.g., APP 137) that may be installed on device 113 to learn more about the electronic exchange and/or a web site (e.g., a URL) where the proprietor 103 may learn more about the electronic exchange. Communication 505B may inform the proprietor 103 that the electronic exchange has generated leads for businesses like that of the proprietor 103. Communication 507B may inform the proprietor 103 that the electronic exchange has generated leads for businesses in the proprietor’s 103 location (e.g., in vicinity of the geographic region or location of the stay of traveler 101). Communication 509B may inform the proprietor 103 that electronic exchange has generated leads for businesses for example. Location data from traveler devices (e.g., like device 110), location data from a location data base (e.g., 1771) or other sources of geo-location data may be accessed and processed by platform 150 to determine the number and/or concentration of other travelers located in the geographic region or location of the proprietor’s business. Communication 511B may inform the proprietor 103 that electronic exchange members may receive merchant ratings on customers (e.g., traveler 101) that call (e.g., dashed line A) the proprietor 103. Platform 150 may maintain and/or have access to a data store that may include customer ratings by merchants who conducted business with the customers being rated. The merchant ratings may be used to vet, vouch for or otherwise inform the proprietor 103 of the advantages or disadvantages of doing business with the customer. Communication 511B may include data representing the merchant ratings on one or more customers and that data may be used by the proprietor 103 to determine what action to take in regards to a customer (e.g., refusing to accept a customer’s call if the merchant ratings are low—two stars or less). Communication 511B may include data representing the merchant ratings on one or more customers that are present in the region and/or location around a proprietors business or who will be present at a future time in the region and/or location around a proprietors business (e.g., based on data representing stay data for a customer or traveler, such as check-in and checkout times/dates). Information on customers included in communications 511B may be used to give electronic exchange members advance notice on potential customers and/or merchant ratings on those potential customers. Advanced notice may be used by a proprietor to pre-screen customers (e.g., based on merchant ratings, demographic data, etc.) the proprietor is willing to conduct business with and/or to send electronic messages (e.g., push messages, email, text, tweet, IM, SMS) to in order to solicite their patronage.
Communication 513B may offer to generate access credentials (e.g., user name and password) to the proprietor 103 in return for joining the electronic exchange. The access credentials may be generated by the platform 150 and may be temporary access credentials that may later be changed by the proprietor 103. A biometric device, such as a biometric finger print scanner 518 of device 113 may be used as an access credential or as part of an access credential that is accepted by platform 150 (e.g., to allow data communications between platform 150 and its resources and device 113). Communications 503A-513B may be communicated via audio 511 on a speaker 533 of device 113 or may be presented visually on a screen 515 of device 113 or on a screen of another computing device (e.g., a laptop computer).

APP 137, if installed by the proprietor 103 on a suitable computing device (e.g., device 113) may present icons or other images on a display 115 of the device 113. Initially, prior to the proprietor 103 joining the electronic exchange, some of the icons (e.g., 522-528) may be altered in appearance (e.g., grayed out) to indicate they may not be selected or otherwise activated until the proprietor 103 has taken action to become a member of the electronic exchange, by selecting a “Join Electronic Exchange” icon 520, for example, and performing additional steps, if any, to establish membership. In FIG. 5, the “Join Electronic Exchange” icon 520 is depicted a in black outline, as opposed to the gray outline of icons 522-528 to indicate icon 520 is selectable by the proprietor 103 and may be activated by the proprietor 103 to join the electronic exchange.

Subsequent to the proprietor 103 joining the electronic exchange, icons 522-528 may become active for selection (e.g., via a finger of a hand 103a of proprietor 103) by the proprietor 103. As one example, selection of icon 526 may present information on merchant ratings (e.g., based on a one-star to five-star rating system) on a customer (e.g., a traveler) who is calling the proprietor 103 (e.g., dashed line A). Selection of icon 524 may provide the proprietor 103 with customer profile data (e.g., demographic data, spending pattern data, preferences for activities, family members or others who typically travel with the customer, preferences for food and drink, preferences for rental accommodations, etc.). Proprietor 103 may interact 103 with device 113 (e.g., via display 115) to select one or more of the icons and APP 137 may present information on display 115 in response to selections by the proprietor 103. As another example, information presented to the proprietor 103 may include an indication that a customer is a past customer (e.g., from last summer) or a traveler returning to the area for another vacation. That information may be used by the proprietor in determining whether or not to accept a call from the customer/traveler or to reach out in a proactive manner to solicit the patronage of the customer/traveler via a phone call, electronic message, or push notification, for example.

One or more of APP 137, device 113 or platform 150 may include a voice interface configured to convert speech by proprietor 103 into text or other data. The voice interface may be configured to provide the information described above for 503A-513B, for example. The voice interface may be configured to convert speech by proprietor 103 into an action or actions, such as selecting one of the icons presented on display 115 (e.g., a verbal command or sentence by proprietor 103 to join the electronic exchange).

Platform 150 may include a function “Lead Tally+” (e.g., a counter implemented in circuitry) to count or otherwise tally the number of leads generated by the platform 150 in regards to activities in the geographic region or location of the stay for traveler 101, other travelers (e.g., in the same geographic region or location of traveler 101) or both. The lead tally may be categorized in any number of ways, including but not limited to a tally of leads for businesses like those of proprietor 103, a tally of leads specifically for the proprietor’s business 140, leads for other businesses in the same geographic region or location as the proprietor’s 103 business 140, etc. just to name a few.

Attention is now directed to FIG. 6 where one example of a flow diagram 600 for connection a phone call from a caller computing device with a callee device using a platform is depicted. At a stage 602, data representing a phone call to a callee device (e.g., device 113) may be received from a caller computing device (e.g., device 110). The data representing the phone call may be processed by one or more processors that execute the APP 126 on the traveler computing device 110, for example. APP 126 may format the data representing the phone call into a format configured to be received by platform 150, such as one or more data packets and associated fields, for example. Circuitry in device 110 may convert analog speech signals from traveler 101 (e.g., the traveler’s voice) into a digital format that is accessed by APP 126 for communication to platform 150 (e.g., via a wireless system of device 110). Selection 101a of icon 119p on display 111 of device 110 may activate transmission of the data representing the phone call from the device 110 to platform 150 (e.g., via 191 or 193). APP 126 may communicate the data representing the phone call (e.g., data for phone number 777-777-7777) with one or more systems of device 110 (e.g., a communication interface and/or processor) to cause transmission of the data representing the phone call to the platform 150 via one of the communications links (191, 193) of device 110 (e.g., using WiFi or Cellular communications). APP 126 may communicate with platform 150 via the communications links (191, 193) to determine that the data representing the phone call from the device 110 has been received by the platform 150. APP 126 may access data representing the sequence 301A of FIG. 3 (e.g., a digital audio recording) and use that data to playback the message stating the call is being connected using one or more systems of device 110, such as a speaker of device 110. A DSP and/or digital-to-analog converter in device 110 may be accessed by APP 126 to convert the message from a digital domain to an analog domain for playback on the speaker. Similarly, APP 126 may access the DSP and/or analog-to-digital converter in device 110 to convert analog speech signals (e.g., captured by a microphone of device 110) into digital signals (e.g., for VoIP communications) that are communicated to platform 150. As one example, the message for the sequence 301A may be stored in memory (e.g., non-volatile memory) in device 110.

At a stage 604, data representing a message stating the phone call to the callee is being connected may be transmitted to the caller computing device (e.g., sequence A of FIGS. 1, 3 and 4). The data representing the message may be an audio recording (e.g., a digital audio file) played back in the analog domain over a speaker or other transducer on the caller computing device 110, for example. In another example, the data representing the message may be an image presented on a display 111 of device 110, such as an icon, a text-based message, or the like. In yet another example, the data representing the message may include one or more of audio, video, and images. A communications interface of
device 110 may receive the data representing the message via one of the communications links (191, 193) of device 110 (e.g., using WiFi or Cellular communications).

At a stage 606 a communications link (191,193) may be established with a callee device (e.g., device 113) using the data representing the phone call (e.g., data for phone number 777-777-777). The telephony function of platform 150 may be configured to determine which internal and/or external functions to use to establish the communications link, such as VoIP or POTS, for example. In some examples, the callee device may not be a computing device (e.g., a wireless computing device) or may be a computing device that may not be configured to receive directly or indirectly a VoIP or other form of communications. Therefore, platform 150 may select one or more appropriate telephony functions to effectuate the establishment of the communications link, such as PBX or DID, for example.

At stage 608 data representing a message stating that a call from a callee (e.g., the traveler 101, a potential customer, etc.) is being provided by an electronic exchange and making an offer for the callee to join the electronic exchange may be communicated over the communications link. The message and/or invitation to join may be a audio data that is played back or data representing other forms of content including but not limited to analog content, digital content, multi-media content, audio content, image content, and video content, for example.

At a stage 610 a communications link (e.g., 191, 193) may be established between the callee device (e.g., 113) and the computing device (e.g., 110) to connect the phone call that was sent (e.g., transmitted) from the caller computing device to the callee device. Different communications links may be used to connect the caller computing device with the callee device. For example, platform 150 may connect with caller computing device via VoIP and connect with the callee device via POTS. As another example, platform 150 may connect with caller computing device and the callee device via VoIP. As yet another example, platform 150 may connect with caller computing device and the callee device via a Cellular network (e.g., 177). One or more portal computing devices (e.g., 177, 130) may be used to route or otherwise connect the caller computing device with the callee device.

At a stage 612, data representing a conversation (e.g., between caller 101 and callee 103) may be transmitted over the communications link established between the caller and callee devices. The data representing the conversation may be in the analog domain, the digital domain or both. Telephony function or other circuitry accessed by platform 150 may convert data (e.g., conversation between caller and callee or messages sent to caller and/or callee) from the analog domain to the digital domain or vice-versa, for one or more of the stages 602-612, for example.

Moving now to FIG. 7 where one example of a flow diagram 700 for an application (e.g., APP 126) on a caller computing device (e.g., device 110) that connects a phone call (e.g., sequence A) from the caller computing device with a callee device (e.g., device 113) using a platform (e.g., 150). At stage 702 data representing a phone number to be called may be received from a computing device (e.g., by APP 126 via display 111 of device 110). The data representing the phone number to be called may be received from an interface between a computing device and input system of the computing device, such as a touch screen (e.g., a dial pad, an icon or an image on display 111) or a voice interface (e.g., via speech signals output by a microphone 133, see FIG. 1) that converts signals from a microphone (e.g., from human speech) into text, numbers or some other form of data. The data representing the phone number to be called may be a number selected from a larger set of phone numbers based on search results obtained from a search of a data store including data on a pool of travelers. For example, the pool of travelers may have a connection (e.g., from past and/or present visits) with the region or location where the traveler 101 is located. The data on the pool of travelers may include searches by travelers in the pool for activities specific to the region or location (e.g., restaurants). Results from those searches may be included in search results for searches by traveler 101. As one example, the data on the pool of travelers may include search results for activities that were rated at 4-stars or higher by travelers in the pool. Accordingly, search results (e.g., r1-r5) may include hits for activities that were rated highly (e.g., 4-stars) by other travelers in the pool.

At a stage 704 a communications link (e.g., wired and/or wireless) may be established between the computing device and the platform using a communications interface circuit (e.g., a radio frequency (RF) system) of the computing device (e.g., for wired or wireless communication). For example, the communications link may be a wireless link via a one or more wireless protocols, including but not limited to WiFi (e.g., IEEE 802.11), a Bluetooth (BT), near field communication (NFC), and cellular (e.g., 2G, 3G, 4G, etc.), just to name a few. Wired communications links may include but are not limited to universal serial bus (USB), IEEE 1394, and local area network (LAN), for example.

At a stage 706 the data representing the phone number to be called may be transmitted to the platform using the communications link. An application or other hardware and/or software on the computing device may format or convert the data representing the phone number into one or more formats the platform is configured to receive, such as in one or more data packets or other data structures or formats, for example.

At a stage 708, data representing a message to a caller (e.g., the traveler, user, customer, etc. that caused the phone number to be called), the message stating the phone call is being connected, may be transmitted by the platform and may be received via the communications link. The actual content of the message (e.g., audio content and/or visual content) may be application dependent and is not limited to the examples described herein.

At a stage 710, optionally, the message received at the stage 708 may be formatted for presentation on a hardware system (e.g., display 111 and/or speaker 131, see FIG. 1) of the computing device (e.g., 110). In some examples, data for the message may be in a digital format and may be converted into an analog format, such as for driving an amplifier coupled with a speaker in an audio system of the computing device. In other examples, data for the message may be in a digital format and may be formatted into a different digital format, such as for display on a display of the computing device.

At a stage 712, the formatted message may be presented on a hardware system of the computing device (e.g., display 111 and/or speaker 131 of device 110). The type of data of the formatted message may determine (e.g., by a processor of the computing device which hardware system the formatted message is presented on, such as a display...
system for image data, an audio system for audio data, a Bluetooth system, or some combination of hardware systems such as display system and an audio system or a display system and a Bluetooth system, for example.

[0063] At a stage 714, data transmitted by the platform and representing a conversation between the caller and a callee who receives a phone call from the caller, may be received via the communications link. The data representing the conversation may be transmitted upon establishing a connection between the platform and a callee device. The callee device may be a computing device (e.g., device 113). In other examples, the callee device may not be a computing device (e.g., a land-line telephone).

[0064] At a stage 716, optionally, the data representing the conversation may be formatted for presentation on a hardware system of the computing device, such as was described above for the stage 710, for example. As was described above in reference to the stage 710, formatting of the data for the conversation may be optional, and may be executed in those cases where the data being received is in a format that is different than the format the hardware system requires for presentation of data it receives (e.g., from a processor or application in the computing device).

[0065] At a stage 718, the formatted data for the conversation may be presented on a hardware system of the computing device, such as was described above for the stage 712, for example.

[0066] Attention is now directed to FIG. 8 where one example of a block diagram 800 for a telephony function of a platform is depicted. A bus 801 or similar structure may couple one or more systems, circuitry, or other functions of platform 150. Platform 150 may include (e.g., in COMS) an input/output (I/O) system configured to transmit and receive data communications from external (e.g., internal to platform 150) and external systems (e.g., devices 110, 113, 130, 177, and 199) via wired 193 and/or wireless 191 communications links. A RF system 830 may include circuitry for one or more radios coupled 831 with one or more antenna. RF system 830 may be coupled 821 with I/O 820 to communicate data 191 received and/or transmitted using the one or more radios. For example, RF system may include a plurality of radios that communicate using different protocols, such as WiFi, Bluetooth, Cellular or NFC. One or more processors 810 (e.g., DSP, µC, µP, ASIC, FPGA, etc.) may be coupled with other systems via bus 801, such as memory 840, a call format converter 850, and a connection manager 860. Memory 840 may include one or more algorithms 841 and/or application program interfaces 843 that are embodied in a non-transitory computer readable medium configured to execute on processors 810 or other computer engines. Processors 810 may include one or more servers, laptop computers, or networked computers that are accessed by platform 150 (e.g., see 1055, 1053 and 1059 in FIG. 10).

[0067] Connection manager 860 may include a connection selector 863 configured to receive a signal (e.g., from bus 801) and select a sequence connection type between platform 150 and device 110 and/or device 113 during sequences A-C. The sequence connection type for sequence A is denoted as A 862, for sequence B is B 864 and for sequence C is denoted as C 866 and C' 868. Sequence C may have two different connections types due to differences in how devices 110 and 113 may communicate with platform 150. As one example, during sequence C when the platform 150 connects the traveler’s device 110 with the proprietor’s device 113, the sequence connection type C' may represent a server call connection between device 110 (e.g., via APP 126) with platform 150; whereas, the sequence connection type C may represent a VoIP call connection between proprietor device 113 and platform 150. Traveler 101 and proprietor 103 may be unaware of the different connection technologies being used to connect the call during sequence C. As another example, the sequence connection type C' may represent a VoIP call connection between device 110 (e.g., via APP 126) with platform 150; whereas, the sequence connection type C may represent a POTS call connection between proprietor device 113 and platform 150. In some examples, C and C' may be the same connection types, such as VoIP between the platform 150 and devices (110, 113), for example.

[0068] During a sequence, connection selector 863 may connect the data or signal from a device (110, 113) with the appropriate telephony function of platform 150, such as VoIP, POTS, Cellular, WiFi, PBX, etc. as one example, hardware and/or software that implements VoIP may be connected with A 862 during sequence A when communications between platform 150 and device 110 are VoIP based. As another example, a server call from device 110 during sequence A may connect a server or other compute engine of platform with signal and/or data from a 862. As yet another example, connection selector 863 may connect signals and/or data from device 113 during sequence B 864 and during sequence C' 868 with POTS hardware accesses by platform 150; whereas, data and/or signals for device 110 may be connected with VoIP resources of platform 150 for sequence A 862 and C' 866.

[0069] Call format converter 850 may include a call converter 852 (e.g., for device 110 signals and/or data) and a callee converter 854 (e.g., for device 113 signals and/or data). Call format converter 850 may include circuitry and/or software to convert different caller and/or callee signals and/or data into a format that may be received by a device. For example, if device 110 communicates with platform 150 via VoIP and device 113 communicates with platform 150 using POTS, then call converter 852 may convert digital signals from device 110 to analog signals compatible with device 113. On the other hand, callee converter 854 may convert analog signals from device 113 to digital signals compatible with device 110. Circuitry including but not limited to analog-to-digital converters (ADC), digital-to-analog converters (DAC), pulse-code-modulation converters (PCM), digital signal processors (DSP), or the like may be used for callee and/or callee converters (852, 854). Call format converter 850 and/or connection manager 860 may be included in a telephony function and/or system of platform 150.

[0070] FIG. 9 depicts one example of a flow diagram 900 for a telephony function of platform 150. At a stage 902 a communications link (e.g., via COMS or 1080) between the platform 150 and a device (e.g., 110 and/or 113) may be established for communications between the device and the platform 150. At a stage 904 a determination may be made as to whether or not the device is a caller device (e.g., 110). If the device is a caller device, then a YES branch may be taken and flow 900 may transition to a stage 906. On the other hand if the device is not a caller device, then a NO branch may be taken and flow 900 may transition to a stage 903.

[0071] At the stage 906 a determination may be made as to whether or not information being received at the platform 150 by the caller device (e.g., data transmitted 191 or 193 by device 110) is compatible with a format for a callee device
(e.g., the device specified by data in the phone number and/or associated with icon 119p). If a NO branch is taken, then flow 900 may transition to a stage 908 where the caller information may be formatted to be compatible with the format for the callee device (e.g., device 113). For example, call format converter 850 in FIG. 8 may convert using call converter 852, information from the callee device into a format compatible with the callee device (e.g., convert digital information to analog information). If a YES branch is taken from the stage 906, then flow 900 may transition to a stage 910. At the stage 910 a sequence connection type may be determined for the callee device. For example, connection manager 860 in FIG. 8 may detect the sequence connection type for information being communicated between platform 150 and the callee device, such as a server call, a VoIP, etc. At a stage 912 a telephony system of platform 150 may be selected based on the detected sequence connection type. For example, if the callee device 110 is communicating with platform 150 via a server call (e.g., from APP 126), then a computing resource of platform 150 may be selected as the telephony system. As another example, if the callee device 110 is communicating with platform 150 using a VoIP protocol, then a VoIP telephony function (e.g., hardware and/or software of platform 150) may be selected as the telephony system. At a stage 914 information may be communicated between the platform 150 and the callee device (e.g., sequence A in FIG. 1). At a stage 916 a determination may be made as to whether or not to connect the callee device (e.g., 110) and a callee device (e.g., 113) with each other.

[0072] If the NO branch was taken from the stage 904, then flow 900 may transition to a stage 903 where a determination may be made as to whether or not the device is a callee device (e.g., 113). If a NO branch is taken from the stage 903, then flow 900 may transition to another stage, such as back to the stage 902, for example. If the YES branch is taken from the stage 903, then flow 900 may transition to a stage 905 where a determination may be made as to whether caller information received at the platform is compatible with a callee device information format. If a NO branch is taken from the stage 905, then flow 900 may transition to a stage 907 where the format of the callee information may be formatted (e.g., via call format converter 850 of FIG. 8) to be compatible with the information format of the callee device. If the YES branch is taken from the stage 905, then flow 900 may transition to a stage 909. At the stage 909 a sequence connection type may be determined for the callee device. For example, connection manager 860 in FIG. 8 may detect the sequence connection type for information being communicated between platform 150 and the callee device, such as a server call, a VoIP, etc. At a stage 911 a telephony system of platform 150 may be selected based on the detected sequence connection type for the callee device (e.g., using connection manager 860 of FIG. 8). At a stage 913, information may be communicated between the platform 150 and the callee device (e.g., sequence B in FIG. 1).

[0073] At the stage 916 a determination may be made as to whether or not to connect the caller and callee devices (e.g., for sequence C of FIG. 1). If a NO branch is taken from the stage 916, then flow 900 may transition to another stage, such as the stage 902, for example. If a YES branch is taken from the stage 916, then flow 900 may transition to another stage, such as the stage 920. At the stage 920 the selected telephony systems for the caller and callee devices may be connected and communications between the caller and callee devices may proceed via the communications interface using the appropriate information formats for the caller and callee devices. The stage 920 may implement sequence C of FIG. 1, for example. As one example, caller device 110 may communicate with platform 150 using a server call and callee device 113 may communicate with platform 150 using VoIP. The traveler 101 and proprietor 103 may be unaware that their conversations during sequence C are being handled or otherwise routed through different telephony systems of platform 150 and/or may be unaware that the platform 150 is handling communications between caller and callee devices sans a direct connection between device 110 and 113 are a result of traveler 101 selecting icon 119p to initiate the phone call.

[0074] Reference is now made to FIG. 10 where one example of a block diagram 150 for a platform is depicted. Platform 150 may be configured to perform hardware and/or software functions of an electronic exchange for proprietors 103 and other merchants, business owners, etc. who are members of the electronic exchange or may become members of the electronic exchange (e.g., by electing to join 520 the electronic exchange). Platform 150 may be a platform that includes a communications interface and data storage and processing resources in communication with the communications interface using wired 193 and/or wireless 191 communications links. Platform 150 may be in wired 193 and/or wireless 191 communications with other devices and systems, including but not limited to external resources 199 and its associated resources (e.g., compute and data storage resources), one or more traveler devices 110, one or more proprietor devices 113, and other computing devices, just to name a few. Platform 150 may include resources in communications with one another, that may include but are not limited to an application program interface (API) 1041, executable code 1042, one or more laptop computers 1059, one or more servers 1053, a communications interface 1080 that may include wireless 191 (e.g., a wireless 1081 access point), and wired 193 links, firewall 1057, one or more server farms 1055, data storage 1060, location data 1030 which may include location history data from traveler device 110 (e.g., a location history data base), event/activities data 1065 (e.g., for events in a geographic region or location which may include the rental unit 120), credential data 1064 (e.g., WiFi access point network name and SSID for access point 130, credential for proprietors of the electronic exchange), proprietor data 1063 (e.g., proprietor contact information, location data, business type, service type), traveler data 1061 (e.g., traveler preferences, demographics, spending habits, information on traveler device(s) 110, contact information, email address, addresses for other electronic media/accounts, etc.), stay data 1066 (e.g., beginning/ending dates and/or times for a stay, rental unit location, etc.), rental unit data 1020 (e.g., geographic region or location, wireless access point 130 information, service required at the rental such as cleaning, laundry, snow shoveling, etc.), and electronic messages 1070 (e.g., email, tweets, text messages, SMS, IM, which may be used in addition to or in place of phone call sequences A, B, C). In some examples, data storage 1060 may include one or more of the other above described data storage categories. In other examples, data storage resources accessed by platform 150 may be external to platform 150 (e.g., positioned in external resource 199). Traveler data 1061 may include data on travelers having a granularity that may range from a global granularity for all travelers to a local granularity, such as a subset of data on a pool of travelers associated with a specific
geographic region or location, such as a pool of travelers having a connection with geographic region or location the traveler 101 is presently located in, for example.

[0075] One or more of the flows depicted in Figs. 1-7 and 9 may be implemented using hardware, circuitry, executable code 1042 and/or API 1041, for example. For purposes of explanation, a computing resource (e.g., 1053, 1055, 1059) depicted in FIG. 10 may be referred to as a networked computing device and a data storage resources may be referred to as data storage or a data store. For example, data 119 may be received by networked computing resource 1053 via communications interface 1080. In some examples, a computing device that transmitted the data 119 may be referred to as a traveler device (e.g., 110) or a portal computing device (e.g., 130, 177). As another example, data 123 from proprietor device 113 may be received by networked computing resource 1053 via communications interface 1080. In some examples, the data 123 may include credential data for the proprietor device 113, that upon verification, allows data communications access to platform 150 (e.g., after a proprietor 103 has become a member of the electronic exchange and has been assigned access credentials). In some examples, data 119 and/or 123 may comprise data from one or more of sequence A, B or C (e.g., VoIP data, digital data or other data for the caller and/or callee).

[0076] One or more traveler devices 110 and/or proprietor devices 113 may communicate (191, 193) with platform 150 via a Web Site/Web Page 1080 (e.g., using a browser or application on a laptop, PC, wireless device, smartphone, pad, tablet, touch screen device, etc.). Information (117, 119) from traveler device 110 and/or information (121, 123) from proprietor device 113 may be viewed, entered, transmitted, received, or otherwise communicated (191, 193) between platform 150 and another device (e.g., 110, 113, etc.) using Web Site/Page 1080. Data associated with rental unit 120 or other events/activities in a geographic region or location may be communicated via Web Site/Page 1080. Platform 150 may require access be granted to a device (e.g., 110, 113, etc.) prior to allowing data communication with the platform 150 via Web Site/Page 1080. In other examples, the phone call sequences A-C depicted in Figs. 1-5 may not require access credentials for the traveler device 110 and/or proprietor device 113. Traveler device 110 and/or proprietor device 113 may include a biometric sensor (e.g., see fingerprint scanner 518 in FIG. 5) to verify access credentials for data communications between platform 150 and traveler device 110, for example and/or between platform 150 and proprietor device 113, for example.

[0077] Location data 1030 may include locations (e.g., GPS data and/or other geo-location data) associated with events/activities (e.g., restaurants, shops, coffee houses, etc.) in a geographic region or location (e.g., a city, town, resort) in approximately the same locale as a rental unit (e.g., 120), for example. Examples of locations around a rental unit may include but are not limited to a park across the street from the rental, a cafe of coffee shop down the street from the rental, etc. Examples of proprietor locations may include location data associated with use of the owner device 113, such as location data from cellular networks (e.g., in the city or state the owner or a rental property or other types of events lives in), WiFi networks, WiMAX networks, known geo-location data for business, etc.

[0078] Event/activity data 1065 may include data for the stay at rental unit 120, an entertainment venue, a bar, a grocery store, a bakery, goods, services, business, restaurants, etc. that may be promoted for traveler 101 to partake in (e.g., via platform 150) or may be associated with activities the traveler 101 will likely partake in during his/her stay at the at the rental 120 (e.g., based on traveler history, demographics, preferences, etc.).

[0079] Location data 1030 may include a location history data base. The location history data base may include location data tracked and stored over time based on various locations visited by traveler 101 with traveler device 110 that includes or has access to internal/external sources of location data, such as satellite 187, access points 130, cellular networks 177, etc. Validation of location of a traveler 101 may include accessing data in location data 1030, the location history data base included in 1030, or both. In some examples, a computing device that communicates the data 119 (e.g., device 110) may include location history data base (e.g., 147) which may include the same or different data than the location history data base in 1030. In some examples location data in one of the location history data bases may be used to update and/or replace location data in another location history data base.

[0080] Credential data 1064 (e.g., access credentials, user name, email address, password, etc.) may be a data store where access data is retained for members of the electronic exchange. As another example, credential data 1064 may include credentials for WiFi access points (e.g., 130) located in a rental unit and/or in a proprietors 103 business. Other forms of credentials may be included in credential data 1064, such as access credentials for traveler devices 110 and/or proprietor devices 113, for example. Electronic messages 1070 may be a data store for incoming and/or outgoing electronic messages, such as emails, push notifications, push events, and electronic messages generated by one or more of platform 150, proprietor 103, or traveler 101, for example. Electronic messages 1070 may include data in 117, 121, 119 and 123, for example. Electronic messages 1070 may be presented on a display of device 110, 113, or web site/page 195, for example. Electronic messages may be used in place of or in addition to phone calls (e.g., sequences A-C). For example, one or more of the sequences A-C may be replaced with an electronic message.

[0081] Rental unit data 1020 may include information on a rental unit (e.g., event 120) that may be accessed by platform 150 to determine businesses and/or services that may be of interest to a traveler 101. Platform 150 may use the rental unit data to match goods/services that may be needed by traveler 101 with goods/services offered by proprietors in the geographic region or location of the rental unit 120, such as amenities, rental unit policies, pet policies, parking policies, rental address information, electronic devices in the rental unit, appliances in the rental unit, maintenance contact information, rental unit information, workout/exercise facilities at the rental, just to name a few.

[0082] Proprietor data 1063 may include data about proprietors 103, such as address and contact information, email accounts, data on proprietor devices 113 (e.g., MAC address or other forms of device ID, etc.), ratings on proprietors from other travelers and/or other sources for review data, for example.

[0083] Traveler data 1061 may include data about travelers (e.g., 101), such as addresses and contact information, email accounts, traveler demographics, traveler preferences, spending habits, spending power, data on traveler devices 110 (e.g., MAC address or other forms of device ID, etc.), financial
accounts for deposits, payments, refunds, etc. Stay data 1066 may include stay dates, check-in/check-out times/dates for a rental unit or hotel, location data for a rental unit, for example. [0084] Data storage 1060 may be used as a data store that may be accessed by other components internal to and/or external to platform 150. Platform 150 may include more or fewer resources than depicted in FIG. 10 as denoted by 1052.

[0085] Platform 150 may share data processing and/or data storage with external devices, such as traveler devices 110, owner devices 113, external resource 199, for example. As one example, hardware systems (e.g., see FIGS. 2 and 11) circuitry, sensors 230, clock 240 of traveler device 110 may perform calculations, signal processing or other electronic functions and communicate data (e.g., via 119) to platform 150. For example, location data resources of device 110 in conjunction with circuitry that receives signals from sensors 230 and/or clock 240 may be used to determine a rate of speed and direction (e.g., velocity), of traveler device 110, and data from that determination may be communicated (e.g., via 191 and 119) to platform 150. The data may be used to calculate whether or not a traveler 101 is heading toward an event/activity or away from an event/activity in a geographic region or location of one or more proprietors 103. The data may be used to determine if the traveler 101 will arrive at an event within (e.g., the 7:00 pm dinner reservation of 300C) a specified time set for the event.

[0086] Although the foregoing examples have been described in some detail for purposes of clarity of understanding, the above-described conceptual techniques are not limited to the details provided. There are many alternative ways of implementing the above-described conceptual techniques. The disclosed examples are illustrative and not restrictive.

What is claimed is:

1. A system, comprising:
a communications interface; and
a computing resource in communication with the communications interface;
the computing resource configured to:
receive data representing a phone call from a first computing device in communication with the communications interface via a first communications link, communicate data representing a first message to the first computing device prior to connecting the phone call from the first computing device with a device the phone call is addressed to, connect with the device the phone call is addressed to via a second communications link between the communications interface and the device, communicate, after connecting with the device, data representing a second message to the device, and connect the first computing device with the device using one or more communications links between the first device, the device and the communications interface.

2. The system of claim 1, wherein the computing resource is further configured to:
delay connection of the phone call from the first computing device to the device, and communicate during the delay, via the first communications link, the first message to the first computing device, the first message including data representing that the phone call from a potential customer is being provided by an electronic exchange.

3. The system of claim 2, wherein the computing resource is further configured to:
communicate during the delay, via the second communications link, the second message, the second message including data representing that the phone call from a potential customer is being provided by an electronic exchange.

4. The system of claim 1, wherein the computing resource is further configured to:
delay connection of the phone call from the first computing device to the device, and communicate during the delay, via the second communications link, the second message, the second message including data representing that the phone call from a potential customer is being provided by an electronic exchange, and the data further includes an invitation to join the electronic exchange.

5. The system of claim 1, wherein the first computing device is in wireless communication with the communications interface via the first communications link.

6. The system of claim 1, wherein the second message includes data representing that the phone call from a potential customer is being provided by an electronic exchange and the second message includes data representing a proprietor rating on the potential customer.

7. The system of claim 1, wherein the second message includes data representing that the phone call from a potential customer is being provided by an electronic exchange and the second message includes data representing a tally of a number of phone call leads for other potential customers that have been provided by the electronic exchange.

8. The system of claim 1, wherein the first computing device includes an application configured to transmit the data representing the phone call using a voice over Internet protocol call.

9. The system of claim 1, wherein communication between the first device and the communications interface comprises digital data and communication between the device and the communications interface comprises analog data.

10. The system of claim 1, wherein after the first device and the device are connected, communication between the first device and the communication interface is via a voice over Internet protocol, and communication between the device and the communication interface is via a different protocol than the voice over Internet protocol.

11. The system of claim 1, wherein after the first device and the device are connected, communication between the first device and the communication interface is via a server call, and communication between the device and the communication interface is via a different protocol than the server call.

12. The system of claim 1, wherein after the first device and the device are connected, communication between the first device and the communication interface and the device and the communication interface are via a voice over Internet protocol.

13. The system of claim 1, wherein the computing resource is further configured to:
compute a running tally of phone call leads, include in the second message, data representing that the phone call from a potential customer is being provided by the electronic exchange and data representing that the running tally of phone call leads is being provided by the electronic exchange.

14. A computing device, comprising:
a computing resource;
a display in communication with the computing resource;
a data storage resource; and
a communications interface in communication with the computing resource and the data storage resource, the computing resource configured to:
establish a communications link with an external system,
communicate to the external system, via the communications link, data representing a phone number to be called in response to a selection of an image presented on the display,
receive from the external system, prior to the external system connecting the phone call with a device the phone call is addressed to, data representing a first message generated by the external system, and receive, from the external system via the communications link, after the external system has connected the phone call with the device the phone call is addressed to, data representing a conversation.

15. The computing device of claim 14, wherein the computing resource is further configured to:
implement a voice over Internet protocol to communicate the data representing the phone number to be called to the external system.

16. The computing device of claim 14, wherein the computing resource is further configured to:
implement a server call to a networked computing resource to communicate the data representing the phone number to be called to the external system.

17. The computing device of claim 14, wherein the computing resource is further configured to:
access data representing temporal data from a clock,
access data representing geolocation data from a global positioning system integrated circuit,
determine a distance between a geolocation of the activity and a current geolocation of the computing device from the data representing geolocation data, determine an estimated time of arrival at the activity the phone call was addressed to by calculating a change in the distance as a function of time using data representing time data extracted from the data representing the temporal data, and communicate, via the communications link, the estimated time of arrival to the external system.

18. The computing device of claim 17, wherein the estimated time of arrival is determined after the external system has connected the phone call with the device the phone call is addressed to.

19. A method comprising:
receiving from a caller computing device, data representing a phone call to a callee device;
transmitting after a time delay, to the caller computing device, prior to connecting the caller computing device with the callee device the phone call is addressed to, data representing a first message stating the phone call to the callee device is being connected;
establishing a first communications link with the callee device using the data representing the phone call;
transmitting over the first communications link, data representing a second message stating the a call from a potential customer is being provided by an exchange;
establishing a second communications link between the callee device and the caller computing device, the second communications link operative to connect the phone call from the caller computing device with the callee device; and transmitting over the second communications link, data representing a conversation.

20. The method of claim 19 and further comprising:
converting, using a format converter, data transmitted from the callee device, the caller computing device or both, from a first format to a second format that is different than the first format; and selecting, using a connection manager, a first sequence connection type for the callee device and a second sequence connection type for the caller computing device that is different than the first sequence connection type.