



(51) International Patent Classification:
G06Q 50/10 (2012.01)

(21) International Application Number:
PCT/US2012/040432

(22) International Filing Date:
1 June 2012 (01.06.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/493,410 3 June 2011 (03.06.2011) US
61/636,478 20 April 2012 (20.04.2012) US

(71) Applicant (for all designated States except US): **NUDGIT, INC.** [US/US]; 227 South B St., Ste. A, San Mateo, CA 94401 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHOE, Timothy** [US/US]; 2125 Bryant Street, Apt. 112, San Francisco, CA 94110 (US). **RAPPAPORT, Alain** [US/US]; 115 Romero Road, Woodside, CA 94062 (US). **LIN, Likuo** [US/US]; 333 S. Bernardo Ave, Sunnyvale, CA 94086 (US). **LIN, Justin** [US/US]; 146 W. Braewood Drive, Coppell, TX 75019 (US). **BROWN, Joshua** [US/US]; 208 Pennsylvania Street, San Francisco, CA 94107 (US).

(74) Agent: **ALTMAN, Daniel, E.**; Knobbe Martens Olson & Bear, LLP, 2040 Main Street, 14th Floor, Irvine, CA 92614 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: SYSTEM AND METHODS FOR DEMAND-DRIVEN TRANSACTIONS

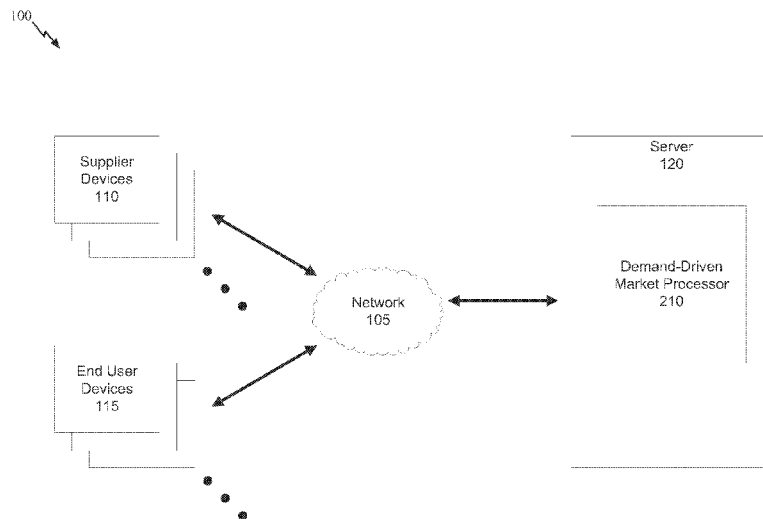


FIG. 2

(57) Abstract: Systems, methods, and apparatus for obtaining responses to expressions of interest are disclosed. In one aspect, a computer system comprising computer hardware receives expressions of interest from users, where the expressions of interest comprise expression characteristics. The computer hardware further organizes the expressions of interest based on the expression characteristics to produce expressions of interest. The organized expressions of interest may be presented to one or more entities capable of responding to the organized expressions of interest and/or one or more entities that have an incentive to respond to the organized expressions of interest.

WO 2012/167059 A2

SYSTEM AND METHODS FOR DEMAND-DRIVEN TRANSACTIONS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Patent Application No. 61/493,410, entitled “SYSTEM AND METHODS FOR CONSUMER-INITIATED TRANSACTIONS” and filed on June 3, 2011, and to U.S. Provisional Patent Application No. 61/636,478, entitled “SYSTEM AND METHODS FOR DEMAND-DRIVEN TRANSACTIONS” and filed on April 20, 2012, both of which are incorporated by reference in their entireties.

BACKGROUND

[0002] Electronic, network-based markets for goods and services, like most markets, are often driven by supply. Businesses generally specialize in one or an array of products, which may be known to consumers via word of mouth, advertisements, or the like. Businesses hope that their goods and services either match present consumer interest or are interesting enough to generate new interest and commitment. Often, businesses create supply and compete with each other hoping that consumer needs and impulse spending lead to a transaction.

[0003] However, competition among suppliers can be largely unsupported by actual consumer demand. Instead, actual consumer demand can take a passive role in establishing a market, and the ability to conduct a transaction can become based on a certain luck of the match between hypothetical demand and actual supply. This potentially significant mismatch can greatly discount the ability of people to address things that actually matter to them.

SUMMARY

[0004] Various implementations of systems, methods and devices within the scope of the appended claims each have several aspects, no single one of which is solely responsible for the desirable attributes described herein. Without limiting the scope of the appended claims, some prominent features are described herein.

[0005] Details of one or more implementations of the subject matter described in this specification are set forth in the accompanying drawings and the description below. Other features, aspects, and advantages will become apparent from the description, the drawings, and the claims.

[0006] One aspect of the disclosure provides a user-driven method for obtaining responses to expressions of interest by a computer system comprising computer hardware. The method includes receiving expressions of interest from users, the expressions of interest comprising expression characteristics. The method further includes organizing the expressions of interest based on the expression characteristics to produce aggregated expressions of interest. The method further includes programmatically presenting the organized expressions of interest to one or more entities capable of responding to the organized expressions of interest.

[0007] Another aspect of the disclosure provides a consumer-driven method for initiating transactions by a computer system comprising computer hardware. The method includes receiving expressions of interest from consumers for one or more of a good, a service, a desire to engage in an activity, and a demand, the expressions of interest comprising a plurality of demand attributes. The method further includes programmatically organizing the expressions of interest based on the demand attributes to enable one or more suppliers to respond to the expressions of interest by at least performing the following: identifying matched suppliers by programmatically matching the demand attributes with said one or more suppliers; outputting the expressions of interest for presentation to said matched suppliers interested in the expressions of interest; and providing functionality for the matched suppliers to respond to the expressions of interest.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] Throughout the drawings, reference numbers may be re-used to indicate correspondence between referenced elements. The drawings are provided to illustrate example embodiments described herein and are not intended to limit the scope of the disclosure.

[0009] FIG. 1 is a block diagram of a communications system.

[0010] FIG. 2 is a more detailed block diagram of a communications system.

[0011] FIG. 3 is a more detailed block diagram of a server as illustrated in FIG. 1.

[0012] FIG. 4 illustrates an example parent-child-sibling relationship for an activity.

[0013] FIGS. 5A-C graphically illustrate the addition of ranked results.

[0014] FIG. 6 illustrates an agenda viewed through a browser accessing a network application.

[0015] FIGS. 7A-H illustrate another agenda viewed through a browser accessing a network application in which a demand is being generated.

[0016] FIG. 8 illustrates another agenda viewed through a browser accessing a network application.

[0017] FIG. 9 illustrates another agenda viewed through a browser accessing a network application.

[0018] FIG. 10 illustrates another agenda viewed through a browser accessing a network application.

[0019] FIG. 11 illustrates another agenda viewed through a browser accessing a network application.

[0020] FIG. 12 illustrates another agenda viewed through a browser accessing a network application.

[0021] FIG. 13 illustrates another agenda viewed through a browser accessing a network application.

[0022] FIGS. 14A-E illustrate another agenda viewed through a browser accessing a network application in which an offer is being purchased.

[0023] FIG. 15 illustrates another agenda viewed through a browser accessing a network application in which a voucher is generated based on the purchase of an offer.

[0024] FIG. 16 illustrates a dashboard viewed through a browser accessing a network application.

[0025] FIGS. 17A-B illustrate another dashboard viewed through a browser accessing a network application.

[0026] FIG. 18 illustrates another dashboard viewed through a browser accessing a network application.

[0027] FIGS. 19A-K illustrates another dashboard viewed through a browser accessing a network application.

[0028] FIGS. 20A and B illustrate other dashboards viewed through a browser accessing a network application.

[0029] FIG. 21 illustrates an embodiment of a process for allowing a consumer to generate a demand.

[0030] FIG. 22 illustrates an embodiment of a process for allowing a supplier to build an offer.

[0031] FIG. 23 illustrates an embodiment of a process for processing a demand-driven request.

DETAILED DESCRIPTION

[0032] The disclosure, designs, figures, and description provided in the following pages are non-limiting examples of some embodiments of the present invention. Other embodiments of systems and methods for providing a demand-driven market may or may not include the features disclosed herein. In addition, disclosed advantages and benefits may apply to only some embodiments of the disclosed inventions, and should not be used to limit the inventions.

[0033] The term “demand” is a broad term that is intended to have its ordinary meaning. In addition, in certain embodiments, demand refers to a stated desire by a user to engage in a certain activity that may or may not directly involve or reference a commercial transaction (e.g., a demand can include a user’s desire to “lose weight,” “wish friend happy birthday,” etc.). In some embodiments, demand refers to a customer’s intent or desire to engage in a commercial transaction (e.g., to acquire, purchase, sell, donate, etc. a good (e.g., a product) and/or service, etc.). A demand may be product and/or service specific, location specific, time specific, etc. A demand may be associated with one or more activities and a user. Furthermore, a demand may belong to a category, which is a classification and/or sub-classification of an activity based on its characteristics. A demand may also include one or more activity attributes, each of which may include a description, value, and/or directive, etc. For example, a description could refer to a distance, a value could refer to the numerical value or amplitude of the distance (e.g., 10 miles), and a directive could refer to a suggestion. In addition, a demand may include one or more preferences, e.g., a user-specific preference, such as age, food allergy, favorite music, etc. In some embodiments, a demand is sometimes referred to as an “intent.”

[0034] The term “offer” is also a broad term that is intended to have its ordinary meaning. In addition, in certain embodiments, an offer refers to a proposal by a user, such as a supplier or merchant of goods and/or services, to provide goods and/or services to another user, such as the customer, according to the stated terms. The offer may be product and/or service

specific, location, specific, time specific, etc. In some embodiments, the offer may be personalized to a specific user or group of users.

[0035] FIG. 1 is a block diagram of a communications system 100. Communications system 100 may include a network 105, one or more supplier devices 110, one or more end user devices 115, and a server 120. The network 105 may include any communications network, such as the Internet. Network 105 may be a wired network, a wireless network, or a combination of the two. For example, the network 105 may be a local area network (LAN), a wide area network (WAN), the Internet, and/or combinations of the same. The server 120 may be in communication with any of a variety of information-providing devices, either directly or via the network 105. For example, the server 120, may be in communication with a weather service, traffic application, news feed, RSS feed, etc., or other indicators, sensors, and/or applications that can provide information. Such information can be used by the server 120 to further predict or suggest user demands and/or to efficiently match demands to appropriate goods and services suppliers (as discussed in greater detail below).

[0036] The one or more supplier devices 110 may each include a computing device. In an embodiment, a supplier device 110 includes a portable device, such as a portable electronic device. For example, supplier device 110 may include a cell phone, a smart phone, a tablet, a laptop, a personal digital assistant (PDA), or the like. In another embodiment, supplier device 110 may include a stationary computing device, such as a computer, a desktop computer, a workstation, a server, terminal, kiosk, or the like. The supplier device 110 may communicate with server 120 through network 105. As an example, the supplier device 110 may include an application processor that communicates with the server 120 through network 105. In an embodiment, the application processor is configured to run an operating system, such as Windows, Unix, Mac OS, iOS, Android, Windows Phone, Linux, or the like. The operating system may execute instructions to run applications on the supplier device 110 and display results to the user of the supplier device 110 via a display (not shown). For example, the operating system may be configured to run a browser, where the browser executes browser-executable code. The operating system may run a browser that allows a user to access a network application, such as a web application, hosted by the server 120. In another example, the operating system may be configured to run an application that receives and stores data from the server 120. For example, the supplier device 110 may allow a user to view demand and offer

information as described herein while the supplier device 110 is not in communication with network 105 (e.g., via the use of a stand-alone application).

[0037] The supplier device 110 may include a display and one or more input devices for user interaction. An input device may be any device that allows a user to interact with the supplier device 110. For example, an input device may be a button, a mouse, stylus, keyboard, touch screen, microphone, and/or the like. The input device can be in communication with the application processor of the supplier device 110 to allow the user to interact with an application being executed, such as, for example, a browser, a stand-alone application, etc.

[0038] In general, the supplier device 110 may be configured to allow a user, such as a supplier or merchant of goods and/or services, to communicate with the server 120 in order to view indications of demand (sometimes referred to merely as “demand” or “demands”) generated by customers and/or to create offers for one or more customers based on such customer’s individual, stated demand.

[0039] The one or more end user (e.g., customer, client, etc.) devices 115 may each also include any computing device. In an embodiment, an end user device 115 includes a portable device, such as a portable electronic device. For example, end user device 115 may include a cell phone, a smart phone, a tablet, a laptop, a personal digital assistant (PDA), a personal information manager (PIM) or the like. In another embodiment, end user device 115 may include a stationary computing device, such as a computer, a desktop computer, a workstation, server, terminal, or the like. The end user device 115 may communicate with server 120 through network 105. As an example, the end user device 115 may include an application processor that communicates with the server 120 through network 105. In an embodiment, the application processor is configured to run an operating system, such as Windows, Unix, Mac OS, iOS, Android, Windows Phone, Linux, or the like. The operating system may execute instructions to run applications on the end user device 115 and display results to the user of the end user device 115 via a display (not shown). For example, the operating system may be configured to run a browser, where the browser executes browser-executable code. The operating system may run a browser that allows the end user to access a network application, such as a web application, hosted by the server 120. In another example, the operating system may be configured to run an application that receives and stores data from the server 120. In other words, the end user device 115 may allow a user to view demand and offer information as

described herein while the end user device 115 is not in communication with network 105 (e.g., via the use of a stand-alone application).

[0040] The end user device 115 may include a display and one or more input devices for user interaction. An input device may be any device that allows a user to interact with the end user device 115. For example, an input device may be a button, a mouse, stylus, keyboard, touch screen, microphone, and/or the like. The input device can be in communication with the application processor of the end user device 115 to allow the user to interact with an application being executed, such as, for example, a browser, stand-alone application, etc.

[0041] In general, the end user device 115 may be configured to allow a user, such as a customer, to communicate with the server 120 in order to create demands for goods and/or services. The end user device 115 may also be configured to allow the user to view one or more offers issued to the user by a merchant or supplier, which may be based on the user's created and stated demand.

[0042] The server 120 can include a computing device that is configured to communicate with the supplier device 110 and/or the end user device 115 through network 105. The server 120 can include one or more processors to execute one or more instructions, memory, and communication devices to transmit and receive data over the network 105. In an embodiment, the server 120 can be configured to facilitate real-time or near instantaneous communication between a supplier and a consumer. The server 120 can be configured to allow the supplier to provide to the consumer one or more offers that may be of interest to the consumer based on the individual consumer's stated demand for particular products and/or services. For example, the server 120 may facilitate such communication via a hosted network application, such as a web application, that may be accessed by the supplier and the consumer. While FIG. 1 illustrates one server 120, this is not meant to be limiting, as the functionality described herein may be implemented in more than one server (e.g., these servers can be co-located or can be geographically separate, etc.). The functionality described herein may also be implemented in one or more virtual machines that execute on a physical server. In addition, the functionality described herein may be implemented in server 120 or in other computing devices. Further, the functionality described herein may be implemented in a cloud computing environment.

[0043] FIG. 2 is a more detailed block diagram of a communications system 100. In an embodiment, the server 120 includes a demand-driven market processor 210. The demand-driven market processor 210 may facilitate communication between a supplier and a customer such that the supplier can provide one or more offers to the customer that may be of interest to the customer based on the customer's stated demand. As described herein, the demand-driven market processor 210 may execute instructions to allow a customer to generate a demand, to allow a supplier to build an offer based on the generated demand, to process a demand-driven request, and/or to generate a market-summary dashboard for use by a supplier (as discussed in further detail, below).

[0044] While the server 120 is described herein with respect to the demand-driven market processor 210, this is not meant to be limiting. Generally, the demand-driven market processor 210 uses the principles and benefits of a semantic matching platform (SMP) to perform the operations described herein. In one embodiment, the SMP is configured perform a matching process (sometimes referred to as "smart matching") to accurately match expressions of consumer demand to specific suppliers (and other resources) that can satisfy those demands. For example, in one embodiment, the SMP matches expressions of consumer demand with businesses that have indicated a desire to be notified when such demands are expressed. For example, a car dealership may establish a profile such that it is notified of all users that express a demand to purchase a car.

[0045] In other embodiments, the SMP includes an abstraction processor that identifies two or more demands that may or may not be intuitively connected. For example, the abstraction processor may be configured to determine activities having a syntactic, lexicographical, or semantic relationship with some other activity (for example, as discussed below with respect to FIGS. 5A-C, etc.). The SMP can be configured to notify businesses when a user expresses a demand for an activity that is related to the business-followed-activity in such manner. For example, a car dealership may establish a profile such that it is notified of all users that express a demand to purchase a car. However, the abstraction processor may determine that the activity of purchasing a car is related to repair a car, buy a particular part for a car, buy a special gift, etc. Therefore, although the business may have only configured its profile in a narrow manner, such as that it is notified (or able to retrieve notifications) of users that express

an interest or demand to purchase a car, the SMP will also notify such businesses of users that have expressed a demand for such abstraction-processor-identified related activities.

[0046] Furthermore, in some embodiments the matching process can utilize statistical information to identify matching businesses. For example, the SMP can include statistical information related to historical user activity, such as the likelihood that a second activity will be selected (e.g., demand will be expressed for that activity) after a first activity is selected. The SMP can therefore utilize a combination of known pre-defined relationships (e.g., human knowledge regarding the relationships between activities), activities identified via an abstraction process, as well as by utilizing statistical information.

[0047] The SMP may have broad applicability to not only demand-driven processes, but also marketplaces in general and other contexts. The server 120 may include additional processors or modules (and/or not include the demand-driven market processor 210 at all) that are configured to use the principles and benefits of the SMP to perform operations similar to those described herein.

[0048] In general, the SMP is configured to apply an ontology, which can be a continuously evolving and growing collection of intents to engage in a particular activity or activities (e.g., demands, such as things that people want or intend to do, purchase, etc.). In an embodiment, the ontology formalizes the manner in which demands may be expressed in a computable form to provide support for key functions, such as matching, searching, choosing, decision-making and other functions of everyday life. Such expressions could be symbolic representations (or other representations, e.g., numeric, etc.) of future actions, and may include properties like entities or objects, verbs or actions, attributes, contexts, constraints, relationships, and/or usage.

[0049] The demand-driven market processor is configured to apply an abstraction process. The abstraction process can connect two or more intents or activities by identifying similarities, intersections, or relations between them, and exploiting those shared characteristics to solve or reduce the effects of various problems. This abstraction process may enable efficiencies in matching users that express certain demands to suppliers that can help address them with offers. For example, intents or activities can be matched by using their description. Two separate intents or activities may have different action properties, but may occur in the same location. This relationship may be exploited by the abstraction process. As another example,

intents or activities can be connected by their relationship. Different types of relationships between intents or activities (e.g., intents or activities A and B) may include “A is a child of B,” “A is satisfied by B,” “A co-occurs with B,” “A precedes B,” “A follows B,” and/or “A is a synonym with B,” etc. In this way, for example, the phrase “make dinner” has the relation “is satisfied by” with “get groceries.” The relationships may have equal or varying strengths. For example, based on captured data, such as the outcomes of transactions in a demand and supply cycle (e.g., whether offers built for generated demands as described herein were or were not purchased), the strengths of certain relationships may be increased or decreased for particular objects (e.g., if the transaction rate is low for a set of demands and offers, the strength of the relationship that defined the connection between the goods and/or services desired and the goods and/or services offered may be decreased). The strength of relationships is described in more detail below. A given relationship and its values can be created editorially, automatically, or in a mixed initiative manner that combines both. One type relationship, “A is satisfied by B,” can be particularly useful. In one embodiment, the “satisfied” relationship identifies activities, intents, or demands that are largely or wholly, non-exclusively satisfied by engaging in other activities, intents, or demand. For example, the activity, “make dinner” is satisfied by the activity “go shopping for food.” Therefore, a business that follows the activity “go shopping for food” can be notified not only when users express a demand to shop for food, but also when users express a demand for a related activity (e.g., an activity that satisfies one of the relationships described herein, or other predefined or computer-learned relationship), such as to “make dinner.”

[0050] Such relationships may be used to generate intent or activity graphs, which can be used for matching and searching. By using semantic relations, as well as usage data and other attributes, the graphs may allow for the matching of intents and activities. The graphs may aid in searching as search results may be associated with terms related to the searched term (as depicted in the graph). The use of an ontology may provide another dimension to be used in generating rankings as well. Ontologies disclosed herein include demand ontologies and supply ontologies.

[0051] FIG. 3 is a more detailed block diagram of a server, such as server 120 of FIGS. 1-2. In an embodiment, the server 120 may include the demand-driven market processor 210 and may be in communication with a demand database 360 and/or an offer database 370. The term “database” is a broad term, intended to have its broadest ordinary meaning. In

addition, the term database may refer to one or more data sets that are stored in one or more locations in one or more formats. The demand-driven market processor 210 may include modules, such as an agenda generator 310, a demand generator 320, an offer builder 330, a demand-driven transaction processor 340, and/or a dashboard generator 350. While the five modules are illustrated in FIG. 3, this is not meant to be limiting, and it should be apparent to one skilled in the art that any number of modules may be included in the demand-driven market processor 210. In addition, the operations performed by each module as described herein may be performed by any module or combination of modules.

[0052] In some aspects, the agenda generator 310 is configured to communicate with an end user device 115. The agenda generator 310 may be configured to generate an agenda for one or more consumers, where the agenda is personalized for each consumer and is a representation of a consumer's outstanding and/or completed demands. For example, the agenda generator 310 generates a graphical representation of a consumer's demands by organizing demands into groups for which no supplier has offered goods and/or services, groups for which at least one supplier has offered goods and/or services, and/or groups for which at least one supplier offered goods and/or services and the offer was purchased by the consumer. The agenda generator 310 may allow a consumer to access a generated agenda via the end user device 115. For example, the consumer may access the generated agenda by accessing the network application hosted by the server 120 in a browser or other application executed by the application processor of the end user device 115.

[0053] In an embodiment, the agenda generator 310 may generate an agenda based on results from the demand generator 320. In an embodiment, the demand generator 320 is configured to generate a demand for goods and/or services based on demand information provided by a consumer. This demand is matched to suppliers that offer goods and/or services related to the demand, and then the demand is sent to or becomes observable by the matched suppliers (additional details regarding supplier matching are provided herein). For example, demand information provided by the consumer may include a desire to engage in a certain activity; a type of good desired by the consumer; a type of service desired by the consumer; a time or time period in which the consumer would like the good and/or service; a time or time period by which the consumer would like the good and/or service; a location where the consumer

would like the good and/or service; additional information regarding restrictions, special instructions, etc.; and/or the like.

[0054] A consumer may be able to provide this demand information to the demand generator 320 via the generated agenda. In an embodiment, the consumer may be able to express a demand by selecting from a set of suggested demands, by selecting a demand by type, and/or by entering a demand in a free-form format. The demand may be entered by typing in a natural language format, by speaking, by selecting keys, by touch via a touchscreen, by clicking and dragging, by using a form, and/or the like. Demands could also be received from another process or program, and may be communicated via an Application Programming Interface or other process. Some suggested demands may, for example, include finding a place to eat, buying a new car, obtaining insurance, finding a bar and/or restaurant, finding ingredients for a meal, obtaining health services, finding clothing, buying beverages, and/or the like. Some demand types may, for example, include automotive, finance, food, health, home and local, leisure, personal care, shopping, and/or the like. The demand generator 320 may offer a list of categories or subcategories after a type is chosen. For example, if the type “food” is chosen, the demand generator 320 may further list “bakery & dessert,” “grocery,” “restaurant,” or the like as subcategories. These subcategories and the contents therein may be ranked based on what the demand generator 320 determines the consumer most likely wants to find.

[0055] In an embodiment, the demand generator 320 may be configured to use an ontology, such as a demand ontology, to discover items related or associated with goods and/or services initially identified by the consumer. For example, the entered demand information may be parsed and separated into different classes, such as a category, an agenda verb, an object, a verb interrogative, an object interrogative, a detail interrogative, and/or a location. The category may be a general description of the type of goods and/or service desired, an agenda verb may be a desired action, an object may be an item upon which the desired action is to take place, a verb interrogative may be a term that modifies the agenda verb, an object interrogative may be a term that modifies the object, a detail interrogative may be when the demand is to take place, and a location may be where the demand is to take place.

[0056] In an embodiment, the demand generator 320 may arrange the entries in each class to generate a standardized message. The demand generator 320 can use a standardized message to identify items related or associated with the initially identified goods and/or services.

For example, if a user initially indicates a desire to “fix a car,” the demand generator 320 may enter “auto” in the category parent class and “fix” in the children verb class. Other children verbs may be associated or related with the “auto” parent class, such as “buy” and/or “donate.” When the demand generator 320 transmits the generated demand to the appropriate suppliers as described herein, the demand generator 320 may transmit the generated demand not just to those suppliers that fix cars, but also to those that buy cars and/or those that offer car donation services. In this way, regardless of the way that the consumer enters the demand information as described herein (e.g., natural language input, voice input, spoken input, keyed input, touchscreen input, click and drag interface, etc.) or the type of grammar and/or vocabulary used, the standardizing of messages allows the demand generator 320 to transmit the generated demand to suppliers that offer the exact goods and/or services desired as well as to suppliers that offer similar or related goods and/or services.

[0057] The generated demand (in the form of a standardized message) may be transmitted to the agenda generator 310, the demand database 360, and/or the dashboard generator 350. In an embodiment, based on receiving a generated demand, the agenda generator 310 may generate a new agenda and/or modify an existing agenda such that the newly generated demand is represented in the agenda. In further embodiments, the generated demand may be stored in the demand database 360. For example, the demand database 360 may contain demands generated for different consumers. A supplier may obtain access to the generated demands (e.g., generated demands related to its business) in order to analyze previous demands (e.g., demands that have been fulfilled, expired demands, etc.) and current demands (e.g., outstanding demands, demands that have not been fulfilled, etc.) for the purposes of generating offers more likely to be purchased by consumers. In alternate embodiments, the generated demand may be stored in memory on the end user device 115 and/or the server 120.

[0058] In further embodiments, the generated demand may be transmitted to the dashboard generator 350 to allow a supplier to build an offer tailored to the generated demand. The generated demand may be transmitted to the dashboard generator 350 such that it is available for those suppliers that offer the specific goods and/or services desired or related goods and/or services desired. The appropriate suppliers may be identified by using an ontology as described herein (e.g., a generated demand may be available to a supplier if the supplier offers the same goods and/or services desired or if the supplier offers goods and/or services that have a

semantic relation with the goods and/or services desired). Once the dashboard generator 350 receives the generated demand, the supplier may be immediately notified and/or the generated demand may be immediately observable. Notifications may include a message generated in the network application, an electronic message sent to the supplier (e.g., an email, a text message, etc.), a phone call, an audible sound generated by the supplier device 110 (e.g., a ring generated by the supplier's mobile device), a vibration generated by the supplier device 110, or the like. The dashboard generator 350 is described in greater detail below.

[0059] In some aspects, the dashboard generator 350 is configured to communicate with a supplier device 110. The dashboard generator 350 may be configured to generate a dashboard for one or more suppliers, where the dashboard is personalized for each supplier and is a representation of demand relevant to the supplier's business (both current and/or historical) and/or demand otherwise selected for observation by the supplier, a supplier's active offers, a supplier's expired offers, the number of offers purchased, net sales from purchased offers, offers generated by other businesses, an indication of goods and/or services offered by the supplier, and/or a number of users still actively looking for offers related to goods and/or services offered by the supplier. For example, the dashboard generator 350 generates a graphical representation of the information described herein. The dashboard generator 350 may allow a supplier to access the generated dashboard via the supplier device 110. For example, the supplier may access the generated dashboard by accessing a network application hosted by the server 120 in a browser or other application executed by the application processor of the supplier device 110.

[0060] In some embodiments, a user may be both a consumer and a supplier. In an embodiment, a user that is both a consumer and a supplier may additionally access a generated agenda via a supplier device 110 and a generated dashboard via an end user device 115 (e.g., the supplier device 110 and the end user device 115 may be different devices or the same device). For those users that are both consumers and suppliers, the users may be able to access both the generated agenda and the generated dashboard by accessing the network application hosted by the server 120 in a browser or other application executed by the application processor of the supplier device 110 and/or end user device 115. Within the network application, the user may have the option of switching from the generated agenda to the generated dashboard, and vice-versa.

[0061] In an embodiment, the dashboard generator 350 allows a supplier to add demands, goods and/or services that it is in the business of offering or interested in observing. The supplier may be able to add demands, goods and/or services by selecting from a set of demands, suggested goods and/or services, by selecting a demand, good and/or service by type, and/or by entering a demand, good and/or service in a free-form format. The demand, good and/or service may be entered by typing in a natural language format, by speaking, by selecting keys, by touch via a touchscreen, by clicking, gesturing, and dragging, and/or the like. Some suggested demands, goods and/or services may, for example, include finding a place to eat, buying a new car, obtaining insurance, finding a bar and/or restaurant, finding ingredients for a meal, obtaining health services, finding clothing, buying beverages, and/or the like. Some demand, good and/or service types may, for example, include automotive, finance, food, health, home and local, leisure, personal care, shopping, and/or the like. Note that the dashboard generator 350 may offer a list of subcategories after a type is chosen. For example, if the type “food” is chosen, the dashboard generator 350 may further list “bakery & dessert,” “grocery,” “restaurant,” or the like as subcategories. These subcategories and the contents therein may be ranked based on what the dashboard generator 350 determines the supplier most likely wants to find.

[0062] In an embodiment, the agenda generator 320 may generate an agenda and the dashboard generator 350 may generate a dashboard based on results from the offer builder 330. In an embodiment, the offer builder 330 is configured to build an offer for goods and/or services based on offer information provided by a supplier. For example, offer information provided by the supplier may include an intended recipient of the offer (e.g., a consumer, a group of consumers, etc.); terms of the offer (e.g., a description of the goods and/or services being offered for sale, a purchase price for the goods and/or services, a discount on the goods and/or services, a time period during which the offer may be redeemed, disclaimers for the goods and/or services, restrictions on use of the offer, a photo of the location, goods, and/or services, etc.); and/or the like.

[0063] Before generating an offer, the supplier may view outstanding demands in the generated dashboard. The generated dashboard may group, filter and/or sort the outstanding demands based on time posted (e.g., sorted into groups and grouped by 30 minutes ago, 1 hour ago, 2 hours ago, etc.), a time period for the demand (e.g., sorted into groups and grouped by

past, now, today, by a date, on a date, etc.), the type of activity (e.g., sorted into groups and grouped by activity object), whether the demand includes special notes from the consumer, and/or loyalty of the consumer to the supplier (e.g., a frequency of the user expressing the demand and/or acting on the expressed demand).

[0064] A supplier may be able to provide offer information to the offer builder 330 via the generated dashboard. The generated dashboard may include suggestions to aid the supplier in providing appropriate offer information. For example, suggestions may include offer templates, offers previously generated by the supplier, offers generated by competitors, expected return on a purchased offer after fees are deducted, locations where the offer can be redeemed, a photo of a location, good, and/or service, language that includes a restriction on the use of the offer, information on why the consumer may be valuable (e.g., the consumer is a frequent customer, the customer is a good tipper, etc.), and/or the like.

[0065] In an embodiment, the offer builder 330 allows a supplier to generate offers for goods and/or services by selecting from a set of suggested terms as described herein and/or by entering information in a free-form format. The information may be entered by typing in a natural language format, by speaking, by selecting keys, by touch via a touchscreen, by clicking and dragging, and/or the like. In some aspects, the offer builder 330 may restrict certain suppliers from building offers. For example, if a supplier has several active offers, but no consumer has purchased any of the offers, then the supplier may be restricted from building an additional offer. In this way, the supplier may be incentivized to create more competitive and/or targeted offers.

[0066] In an embodiment, the offer builder 330 may be configured to use an ontology, such as a supply ontology, to define the offer to support the demand identified by the consumer. For example, the entered offer information may be parsed and separated into different classes, such as a category, an offer verb, an offer type, a unit limit, an offer interrogative, a type interrogative, a detail interrogative, and/or a location. The category may be a general description of the type of goods and/or services offered, an offer verb may be an action applied to the price of the goods and/or services (e.g., a discount, buy 1 get 1 free, etc.), an offer type may be who the offer applies to, a unit limit may be a limit on how many goods and/or services the offer applies to, an offer interrogative may describe how much the offer is for, a type interrogative may describe how many goods and/or services the offer is good for, a detail interrogative may be

when the goods and/or services may be available, and a location may be where the goods and/or services may be available. In an embodiment, the offer builder 330 may arrange the entries in each class to generate a standardized message. The standardized message may be transmitted to the consumer that generated the demand as described herein.

[0067] The built offer may be modified by the supplier via the generated dashboard. The built offer (in the form of a standardized message) may be transmitted to the agenda generator 310, the offer database 370, and/or the dashboard generator 350. In an embodiment, based on receiving a built offer, the agenda generator 310 may generate a new agenda and/or modify an existing agenda such that the newly built offer is represented in the agenda. Note that the agenda generator 310 may only generate a new agenda and/or modify an existing agenda for those consumers that indicated a demand for goods and/or services covered by the offer. Once the agenda has been updated, a consumer may be immediately notified. Notifications may include a message generated in the network application, an electronic message sent to the consumer (e.g., an email, a text message, etc.), a phone call, an audible sound generated by the end user device 115 (e.g., a ring generated by the consumer's mobile device), a vibration generated by the end user device 115, or the like. Note also that the offers may be synchronized across platforms such that the consumers and/or suppliers may access the network application via different devices (e.g., a desktop, a mobile device, etc.) and still be able to view the built offer.

[0068] In further embodiments, the built offer may be stored in the offer database 370. For example, the offer database 370 may contain offers built for different suppliers. A supplier may obtain access to the built offers (e.g., built offers related to its business) in order to view what competitors are offering to consumers the supplier may be targeting. Likewise, a consumer may obtain access to the built offers in order to view offers that may satisfy one or more stated demands for goods and/or services. In alternate embodiments, the built offer may be stored in memory on the supplier device 110 and/or the server 120. In further embodiments, the built offer may be transmitted to the dashboard generator 350 to allow a supplier to view outstanding offers that consumers may purchase and/or to view offers that were purchased.

[0069] In an embodiment, if a consumer decides to purchase an offer, the agenda generator 310 may receive payment information (e.g., credit card information, debit card information, bank account information, networked money transfer information, etc.) from the

consumer and forward this information to the demand-driven transaction processor 340. For example, the generated agenda may include an option to purchase an offer displayed to the consumer. By choosing the option to purchase, the generated agenda may prompt the consumer to provide payment information. In alternate embodiments, not shown, if a consumer decides to purchase an offer, the generated agenda may prompt the consumer to provide payment information and the demand-driven transaction processor 340 may directly receive the payment information. In some aspects, the demand-driven transaction processor 340 may verify that the payment information is accurate (e.g., by comparing the payment information to information stored in a central repository, not shown) and process the payment. If payment is successful, the demand-driven transaction processor 340 may transmit notifications to the agenda generator 310 and/or the dashboard generator 350. The agenda generator 310 may then generate a new agenda and/or modify an existing agenda for the consumer that purchased the offer to reflect the fact that the offer has been purchased. The demand-driven transaction processor 340 may additionally generate redemption information and transmit this to the agenda generator 310 such that the consumer may view how to redeem the purchased offer. The dashboard generator 350 may generate a new dashboard and/or modify an existing dashboard for the supplier from which the offer was purchased to reflect the fact that the offer was purchased. For example, the graphical representation of the number of offers purchased and/or the net sales of purchased offers may be updated. Once the dashboard has been updated, the supplier may be immediately notified as described herein.

[0070] The consumer may be configured to rate the supplier after purchasing and/or using an offer via the generated agenda. The ratings may then be used by the agenda generator 320 in ranking and/or sorting built offers and by the offer builder 330 in suggestion more effective offers.

[0071] Generally, the demand-driven market processor 210 may monitor the demand and supply cycle to derive patterns that inform both sides (e.g., correlations between variables, like suppliers in a particular area are more responsive, certain types of demands are more successful for immediate rather than delayed services, etc.). Alternatively, a statistical engine included in the server 120, not shown, may monitor the demand and supply cycle to derive patterns that inform both sides. In some embodiments, the demand-driven market processor 210 may monitor the demand and supply cycle in real-time (e.g., the demand-driven market

processor 210 may continuously derive patterns as demands are generated, offers are built, offers are purchased, and/or offers are not purchased). In other words, the demand-driven market processor 210 may continuously derive patterns based on generated demands, built offers, and/or outcomes after transactions have been or have not been consummated. In other embodiments, the demand-driven market processor 210 may periodically monitor the demand database 360 and/or the offer database 370 to derive patterns. By seeing explicit demand, as well as other available offers, suppliers can be encouraged to be competitive, and can compete for one (e.g., before groups have a chance to form) or many consumers depending on their unique acquisition constraints.

[0072] In some embodiments, the agenda generator 310 and/or the dashboard generator 350 may organize, filter, and/or rank generated demands and/or built offers. The agenda generator 310 may use internal metrics (e.g., distance adequacy, incentive strength, social recommendation level, a weighted sum that can use normalization across variables, etc.) to rank built offers. For example, an offer score may be represented by the following equation:

$$OfferScore = \sum_{j=1}^n a_{i,j} w_j \quad (1)$$

where $a_{i,j}$ is the value of each metric j for each offer i , and w_j is the weight of that metric in the assessment. As an example, if the distance adequacy metric is used, the metric could be computed as the ratio of (actual distance – maximal distance)/maximal distance. If the incentive strength metric is used, the metric could be computed as the frequency with which such offers are fulfilled. If the social recommendation level metric is used, the metric could be computed as the ratio of (current rating / maximal rating).

[0073] In further embodiments, the agenda generator 310 and/or the dashboard generator 350 may execute instructions that implement a computer process, such as a ranking process, that is configured to integrate heterogeneous scoring dimensions into a single rank. The ranking process can be used in ranking activities (e.g., actions typically thought of by a consumer in the course of formulating a demand), offers, searches (e.g., search results), and/or suggestions. In an embodiment, the ranking process combines different dimensions that are pertinent to the evaluation of certain data structures or symbolic representations (e.g., activities, offers, suppliers, consumers, goods, services, etc.). For example, when searching for an activity, usage of an activity, properties with respect to the intent graph described herein, frequency of usage,

location, time, and/or rank obtained through a term vector search may be relevant to a final ranking of search results.

[0074] In some aspects, each dimension is normalized. For example, each dimension may be normalized by taking the ratio of a maximal value of the given dimension, d , to the value for that particular activity. For example, the ratio may be represented by the following equation:

$$f(d) = (Activity_i) / MAX(Activity_{i \rightarrow n}) \quad (2)$$

In an embodiment, a higher value would translate into a “better” score. Examples of dimensions may include a term score (based on a term vector analysis), a match score (e.g., a number of times an activity is clicked off of search results per the number of times a query term is used in the same session), a popularity score (e.g., a number of users), a frequency score (e.g., a ratio of a usage score over a number of users over the same time period), a usage score (e.g., a number of times the activity is chosen from any agenda over a defined period of time), a usage p score (e.g., a number of times the activity is chosen by a particular user for any agenda over a defined period of time), a link score (e.g., an incoming and/or outgoing link for any relation), a degree score (e.g., a measure of how connected an activity is to others), a closeness score (e.g., a measure of how near an activity is to others), a family score (e.g., a number of parents (2 term rank), children (3 term rank), and/or siblings (1 term rank)), a concur score (e.g., a value inferred by query statistics and part of a link score), and/or a response score (e.g., a number of purchased offers over a number of offers made). When processing link scores, “social” scores can be specialized to only certain relations, if desired. Other possible dimensions may include an attribute score, a time score, a location score, and the like.

[0075] In an embodiment, a basic formula for an $Activity_i$ uses a weighted product of normalized values for each dimension d included and measured. The composite value of the activity (also called the influence coefficient of the activity) may be represented by the following equation:

$$CV(Activity_i) = \prod_{d \in \text{dimensions}} f(d)^{w(d)} \quad (3)$$

Weights for each dimension may be represented through the exponents (relative contribution to the rank: established manually at a start, then subject to automated adjustments). For example, a term score may be 1 and a link score may be 0.25, which would lead to the following equation:

$$CV(Activity_i) = termScore^1 * linkScore(Activity_i)^{0.25} \quad (4)$$

A rank for the activity may then be based on the above-calculated composite value. In general, rankings may determine how activities, offers, searches, and/or suggestions are ordered. For example, activities, offers, searches, and/or suggestions may be displayed near the top if the rank is high. Likewise, activities, offers, searches, and/or suggestions may be displayed near the bottom if the rank is low.

[0076] In other embodiments normalization is implemented by utilizing the relationship:

$$f(d) = MIN(Activity_{i \rightarrow n}) / (Activity_i) \tag{5}$$

In the case where smaller (parameter) values are better. The process can verify that each dimension is normalized so that better values increase in the same direction. Further, a potential division by 0 is avoided by replacing 0 by a very small number, e.g., 0.0001. In another embodiment, normalization is implemented by utilizing the relationship:

$$f(d) = MAX(Activity_{i \rightarrow n}) / (Activity_i) \tag{6}$$

In another embodiment, normalization is not implemented. A potential division by 0 may be avoided by replacing 0 by a very small number relative to the parameter values.

[0077] In order to change these measures (scores) into a distance from the origin, where the closer to the origin the better, the process can also utilize the following composite value relationship:

$$CV(Activity_i) = -\log \prod_{d \in dimensions} f(d)^{w(d)} = -\sum_{d \in dimensions} w_d \log f(d) \tag{7}$$

This implementation can use the same normalization approaches. The potential log(0) is avoided by replacing 0 by a very small number, e.g., 0.0001.

[0078] The ranking process may be configurable. For example, certain dimensions may be considered and certain dimensions may not be considered when ranking activities, offers, searches, and/or suggestions.

[0079] As an example, an activity search may use two or more instances of the InfoStar process for ranking purposes. A query may be run against an index (term score) to obtain a first set of results. The ranking process may be executed on the first set using certain dimensions and the first set may be ranked. A semantic search in the intent graph may then be performed. For example, for each element of the first set, the element's parents, children, and/or siblings may be identified. If parents, children, and/or siblings exist, a separate set (e.g., a family

set) may be made for those. The exploitation of the “family tree” may be parametrizable, meaning that the scope of expansion may be limited to parents, children, and/or siblings. As an example, FIG. 4 illustrates an example parent-child-sibling relationship for the activity of ordering a pizza. For each element of the first set, another set (e.g., a relations set) may be generated based on other elements items that have a relationship (e.g., any relationship described herein) with the given element (e.g., those elements that have a concurrence relationship with the given element). The ranking process that includes a family score dimension and a relation score dimension (e.g., a number of relationships) may be instantiated, where a second set includes the first set with the family scores and/or the relation scores. The InfoStar process may be executed on the second set and the second set may be ranked. The ranked results of the second set may then be added to the ranked results of the first set.

[0080] FIGS. 5A-C graphically illustrate various embodiments of methods to rank search results from two search processes. FIG. 5A depicts a graph 500 of the first set of search results 502 and the second set of search results 504. The first set of search result 502 are assigned higher influence coefficients (and therefore considered more relevant search results than the second set of search results 504). For example, in one embodiment, the first set of search results 502 are determined by a “term vector” search, or a search that provides results that are syntactically or lexicographically related to the query. For example, the search can return results that include a particular word or group of words (e.g., search terms, keywords, etc.) that appear in the search query. For example, a search query of “get a car” could return syntactic results, such as “get car insurance,” and “wash car.” In one embodiment, the second set of search results 504 are determined by a “family relationship” search, or a search that provides results that are semantically related to the query. For example, the search can return results that are children of a common parent (grandparent, great-grandparent, etc.) of the search query (see FIG. 4). For example, a query of “get a car,” might have a parent activity of “buy something expensive,” (e.g., a species-genus relationship), or “get a loan” (a relationship based upon the relatedness of the two activities, such as the search query activity the parent activity). Such relatedness between activities can be predetermined and known by the ranking process (e.g., a memory or database can store such relationships between activities). The search results can include children of the parent activity. For example, if the search query is “get a car,” and a parent activity is “ buy something expensive,” the related semantic search result (which is a child

of the parent activity) can include “buy a house.” Similarly, if the search query is “get a car,” and a parent activity is “get a loan,” the related semantic search result (which is a child of the parent activity) can also include “buy a house.”

[0081] A ranking process (sometimes referred to as InfoStar or I*) can rank the search results based upon the type of relationship between the query and the search results. For example, in some embodiments, the ranking process ranks all syntactically related results higher than merely semantically related results, such as illustrated in FIG. 5A. In another illustrative, non-limiting example, a search for “car” (with no action verb attached) could syntactically or lexigraphically related results (e.g., results that include the term “car,” such as “buy a car,” “fix car,” “wash car,” etc.) as well as symantically related results (e.g., results that are siblings, or children of a parent activity, such as “get a loan.”). The ranking process can be configured to rank the syntactic results higher than the semantic results, as shown in FIG. 5A.

[0082] In other embodiments, the ranking process can combine or interweave the search results from the two search processes (e.g., the syntactic search process and the semantic search process), as shown in FIGS. 5B and C. FIG. 5B depicts the graph 500 of the first set 502 and the second set 504 when there is overlap between two (or more) search processes. FIG. 5C depicts the graph 500 in which there is a mesh of dimensions and semantic relations. As depicted by graph 500 in FIG. 5C, the semantically related activites are explored and delivered for the first dimensionally ranked before the second. For example, the ranking process can be configured to select a first syntactic search result as the highest ranked result and the semantic results that relate to the first syntactic search result (e.g., its family relations) as the next highest ranked result. The ranking process can select a second syntactic search result as the next highest ranked result, and its semantic relations as the next highest ranked result, and so on.

[0083] For example, if an activity query is “car,” the syntactic results could include “buy a car,” “fix car,” and “wash car.” The result “buy a car” may have a semantic relationship to the activity “get a loan.” If this is the only result that has a related semantic activity, the ranking process could rank the search results (from highest to lowest) as” buy a car,” “get a loan,” “fix car,” and “wash car.”

[0084] In some embodiments, the dashboard generator 350 may not update dashboards for all suppliers to which a generated demand pertains. The dashboard generator 350 may use heuristic rules to selectively notify suppliers of pending demands. For example, the

dashboard generator 350 may take into account date and time, weather conditions, distance between consumer and supplier, the type of goods and/or services desired, cost, quality, gender, frequency, duration, or the like. As an example, if a consumer generates a demand for flowers, a supplier, like a flower shop, may not be notified if it is currently raining and the supplier is greater than a threshold distance from the consumer (e.g., 10 miles, etc.).

[0085] Likewise, in some embodiments, the agenda generator 310 may rank offers according to heuristic rules. For example, if a supplier builds an offer for goods and/or services at a fixed price and the consumer previously purchased an offer from the supplier, then the offer may be ranked higher.

[0086] Similarly, in some embodiments, the agenda generator 310 may generate suggestions based on heuristic rules. The term “heuristic” is a broad term that is intended to have its broadest, ordinary meaning. In addition, in some embodiment, a heuristic refers to a form of compiled knowledge that can be represented in a rule, logical construct, or other structure. For example, one rule of a heuristic might include, “if TIME is earlier than 8:00 am then GET BREAKFAST.” In such example, if the time was earlier than 8:00 am then the agenda generator 310 could suggest that the user “get breakfast.”

[0087] The suggestions may be based on observations (e.g., system observation, user observation, etc.) and/or preferences (e.g., time, input by the user, etc.). For example, if a consumer generated a demand for a table reservation at a restaurant for two people, and the consumer’s friends gave the restaurant a high rating, then the agenda generator 310 may suggest that the consumer may also want to purchase flowers. As another example, if a consumer previously purchased a product, and the product is one that is periodically purchased (e.g., hair coloring, toothpaste, etc.), the agenda generator 310 may suggest that the consumer may want to purchase the product and/or purchase the product sometime during the week.

[0088] Moreover, in some embodiments, the dashboard generator 350 may group generated demands based on heuristic rules. For example, if several consumers generated demands for the same goods and/or services for a same or similar time, then the dashboard generator 350 may group those demands together. In addition, generated demands for the same goods and/or services for a different time may be displayed concurrently with the grouped demands. As an example, if a supplier offers haircuts, generated demands for haircuts on a Wednesday afternoon may be grouped and an indication may be made as to how many demands

were generated for haircuts on Wednesday afternoon. Generated demands for haircuts on a Thursday morning may then be grouped and displayed below the Wednesday afternoon demand grouping, and so on. In some aspects, further groupings may be made. For example, the Wednesday afternoon and Thursday morning demands may be grouped, and a number of total demands may be indicated. Demands may be grouped (or ungrouped) based on supplier preference, until the dashboard generator 350 determines that time-based needs may involve more discrete demand exposure, and/or the like. As another example, if a supplier offers multiple related goods and/or services (e.g., the supplier sells olive oil and vinegar), then the dashboard generator 350 may group demands for those related goods and/or services (e.g., olive oil and vinegar demands would be grouped under “condiments”). In this way, a supplier may be able to efficiently build offers based on availability, demand, and/or the like.

[0089] Furthermore, in some embodiments, the offer builder 330 may suggest offers, as described herein, based on heuristic rules. For example, based on a generated demand that the supplier wishes to build an offer for, the offer builder 330 may suggest an offer type, a purchase price, and/or a time period for which the offer would be valid. The suggestions for offer type, purchase price, and/or time period may be based on patterns learned by the demand-driven market processor 210 and/or the statistical engine, not shown (e.g., patterns based on outcome (either after a transaction has been consummated or a transaction has not been consummated), such as what incentives works best for what demands, what demands are rapidly fulfilled, what offers are rapidly purchased, what demands are less successful, what offers are less successful, etc.).

[0090] In some embodiments, the server 120 may be configured to accommodate new activities. For example, the server 120 may be configured to generate demands and/or build offers for new types of activities based on data received from external sources (e.g., a supplier offering goods and/or services not already recognized or covered by implemented activities, a consumer desiring goods and/or services not already recognized or covered by implemented activities, etc.). The new activity may be included in a new category, an existing category, a new subcategory, an existing subcategory, or the like. The propagation of the new activity through the system (e.g., level of exposure to users and suppliers) may be based on criteria such as editorial consistency with existing activities and organic utilization.

[0091] In some embodiments, the server 120 may include a verification processor, not shown. The verification processor may be configured to determine whether a supplier is a legitimate business or person. The verification processor may monitor whether the supplier is the person or entity as represented, whether the supplier has the authority to bind the person or entity in contract, whether the user is in violation of any policy or other discretionary standard, and/or whether a method of recourse is available for any violation of contract, policy or similar breach. Based on these factors, the verification processor may classify the supplier as verified, in good standing, or not in good standing. Based on the classification, the supplier's use of the network application may or may not be restricted.

[0092] FIG. 6 illustrates an agenda 600 viewed through a browser accessing a network application. Although the illustrated agenda 600 is viewed through a browser, the same or similar agenda (as well as all of the browser-implemented examples provided herein) may be viewed through any other client application, including, but not limited to a stand-alone application (e.g., a downloadable program, application, "app," etc.). The agenda 600 includes active and/or expired demands 602 (referred to in some figures, and below, by the term, "nudges" 602), open offers 604, and purchased offers 606. The nudges 602 may indicate which ones are expired and/or a number of pending offers associated with the nudge. The open offers 604 may include a description of the type of goods and/or services being offered (and the deal being offered) and/or who made the offer. While purchased offers 606 is empty as illustrated in FIG. 6, the purchased offers 606 may include similar information as open offers 604.

[0093] FIGS. 7A-H illustrate another agenda 700 viewed through a browser accessing a network application in which a demand is being generated. In FIG. 7A, the consumer may select from one of the suggested nudges 702, one of the categories 704, and/or perform a free-form search via search box 706 in order to begin the demand generation process by choosing an activity. Some of the suggested nudges 702 include "go out to lunch," "get new car," "get auto insurance," and so on. Some of the categories 704 include "automotive," "finance," "food," and so on. If a free-form search is undertaken, an ontology, such as the demand ontology, may be implemented in order to generate an appropriate demand. Also, based on the ontology, the search box may display the most likely expression matches in real-time as the consumer types or otherwise enters characters into the search box (e.g., an auto-complete service based on an ontology, like the demand ontology).

[0094] FIGS. 7B-C illustrate the next step after an activity has been chosen. As illustrated, “get groceries” was the activity chosen. The network application, via for example the demand generator 320, provides several options to the consumer. The consumer can select on which date or by which date the consumer desires the activity. In addition, in some embodiments if the user selects Today as the date the activity is desired, the network application can provide further predetermined choices relating to the time of day, such as Now, Afternoon, Tonight (see FIG. 7B). In some embodiments, if the user selects On/By Date as the date the activity is desired, the network application can provide further predetermined choices relating to the On/By Date, such as Tomorrow, Day After Tomorrow, Specified Date, etc. The consumer can also specify a location for receiving the desired activity (e.g., at, nearby and/or within a selected distance (e.g., within a selected radius) of a Current Location, a Saved Location (e.g., Home, Work, etc.), a Specific Location (e.g., enter the address, area code, zip code, landmark, etc.)).

[0095] FIG. 7D illustrates a pop-up window 730 that displays a calendar and that may appear when selecting a date. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area. FIG. 7E illustrates that upon selecting a date, the chosen date is displayed in box 710.

[0096] FIG. 7F illustrates a pop-up window that displays a text field box that may appear when selecting to specify a location. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area. If current location in box 712 is chosen, the server 120 may attempt to determine a location of the end user device 115. The server 120 may determine the location based on global positioning satellite information, an Internet protocol (“IP”) address of the end user device 115, and/or any other known means of determining a location of an end user device 115. FIG. 7G illustrates that upon typing in the text field box, an ontology, such as a demand ontology, may be implemented in order to display the most likely expression matches in real-time. In some embodiments, the most likely expression

matches may be based on previous locations chosen by the consumer and/or a current location of the consumer.

[0097] FIG. 7H illustrates that upon selecting a location for the desired activity, the chosen location is displayed in box 714.

[0098] FIG. 8 illustrates another agenda 800 viewed through a browser accessing a network application. FIG. 8 depicts the agenda 800 after a new demand has been generated. For example, after generating a demand for “get new car” as described with respect to FIGS. 7A-H, nudges 602 includes a new icon indicating that “get new car” is now an outstanding nudge.

[0099] FIG. 9 illustrates another agenda 900 viewed through a browser accessing a network application. FIG. 9 depicts the agenda 900 after one of the open offers is selected (e.g., via a mouseover, a click, a gesture, a voice input, etc.). A pop-up window may appear and include a description of the offer (e.g., what it is for, who made the offer, when it expires, a redemption period, a photo of the location and/or goods and/or services, a location where the offer is redeemable, terms and conditions, and/or an option to purchase the offer). In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area.

[0100] FIG. 10 illustrates another agenda 1000 viewed through a browser accessing a network application. Upon selecting one of the expired or outstanding nudges, details of the nudge may become visible, such as in field 1010, and the offers associated with that nudge may be visible.

[0101] FIG. 11 illustrates another agenda 1100 viewed through a browser accessing a network application. Upon selecting the “get new car” nudge (e.g., via a mouseover, a click, a gesture, a voice input, etc.), the open and purchased offers become empty since no offers have been received for the newly created nudge. However, the details of the nudge may still be visible, such as in field 1110.

[0102] FIG. 12 illustrates another agenda 1200 viewed through a browser accessing a network application. As illustrated in FIG. 12, an offer has been received for the “get new car” nudge, as indicated in the open offers field as well as by the numbered icon placed over the “get new car” nudge.

[0103] FIG. 13 illustrates another agenda 1300 viewed through a browser accessing a network application. FIG. 13 depicts the agenda 1300 after an offer associated with the “get new car” nudge is selected. A pop-up window may appear and include a description of the offer as described herein. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area.

[0104] FIGS. 14A-E illustrate another agenda 1400 viewed through a browser accessing a network application in which an offer is being purchased. As illustrated in FIG. 14A, the agenda 1400 may provide a description of the offer that may be purchased, including a subtotal price and a total price after taking into account tax and/or other fees. In an embodiment, a consumer may be able to enter credit card or other purchase information (e.g., check, wire transfer, gift card, etc.). For example, as illustrated in FIG. 14B, a pop-up window 1410 may appear that allows a consumer to enter and store credit card or other purchase information. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area. Likewise, as illustrated in FIG. 14C, a consumer may also store billing information (e.g., name, address, etc.). In some embodiments, once the credit card or other purchase information is entered, a representation of this information may be displayed in a box, such as box 1420. As illustrated in FIG. 14D, a representation of the billing information may also be displayed in a box, such as box 1430, once the information is entered. In an embodiment, the consumer may be given a choice as to whether he or she wants to store credit card or other purchase information in memory, such as memory residing on server 120. As illustrated in FIG. 14E, a consumer may be given an option to edit the purchase order before it is submitted and the transaction consummated.

[0105] FIG. 15 illustrates another agenda 1500 viewed through a browser accessing a network application in which a voucher 1510 is generated based on the purchase of an offer. The voucher 1510 may include identification information (e.g., a bar code, a verification code, a unique key, and/or the like), a location that the voucher 1510 is redeemable at, a name or other identification of the purchasing party, a time the offer was purchased, an identification of the

offer purchased, a time period during which the voucher 1510 is redeemable, terms and conditions of use of the voucher 1510, and/or other like information. As an example, the identification information may be generated by the network application and/or supplied by a supplier. In an embodiment, the voucher 1510 is printable. In other embodiments, the voucher 1510 may be redeemed electronically. For example, the voucher 1510 may include a bar code that can be displayed on a mobile device and scanned by an appropriate device. Likewise, the voucher 1510 may include information that the end user device 115 transmits to a reader configured to facilitate transactions for the goods and/or services.

[0106] FIG. 16 illustrates a dashboard 1600 viewed through a browser accessing a network application. The dashboard 1600 may include a following field 1610, a current summary field 1620, an active offer field 1630, and/or an update field 1640. In an embodiment, the following field 1610 may include the types of activities for which the supplier receives generated demands. The dashboard 1600 may allow a supplier to add and/or remove activities from the following field 1610. Activities may be added based on suggestions provided by the dashboard 1600. In an embodiment, the current summary field 1620 includes an indication of a number of consumers that desire goods and/or services offered by the supplier, an indication of a number of built offers still outstanding, an indication of a number of offers that were purchased, and/or an indication of net sales from purchased offers. The current summary field 1620 may be interactive such that a supplier may receive additional information by selecting (e.g., via a mouseover, a click, a gesture, a voice input, etc.) one of the indications. For example, a supplier may select one of the indications to generate, view, and/or print a report.

[0107] In an embodiment, active offer field 1630 identifies built offers that are still outstanding and/or may provide a description of each built offer. In an embodiment, the update field 1640 identifies new consumers (e.g., consumers that recently generated a demand for goods and/or services that the supplier follows in the following field 1610 and that have not already been addressed by the supplier) and/or offers built by other businesses (e.g., businesses that offer goods and/or services that are the same as or related to the goods and/or services offered by the supplier, other businesses that may be considered competitors by the supplier, etc.).

[0108] FIGS. 17A-B illustrate another dashboard 1700 viewed through a browser accessing a network application. In an embodiment, a supplier may be able to view the terms of offers built by other businesses via a button or other selectable component in the update field

1640. In an embodiment, the offers appear in a pop-up window 1710. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area. Within the pop-up window 1710 or alternative to a pop-up window, the consumer may be able to browse through some or all pertinent offers.

[0109] FIG. 18 illustrates another dashboard 1800 viewed through a browser accessing a network application. In an embodiment, the supplier may be able to add an activity to the following field 1610 based on suggestions provided by the dashboard generator 350, based on categories and/or subcategories offered by the dashboard generator 350, and/or based on entering a free-form search. In some embodiments, an ontology, such as a demand ontology, may be used to assist the supplier in adding an activity.

[0110] FIGS. 19A-K illustrates another dashboard 1900 viewed through a browser accessing a network application. In an embodiment, the server 120, such as via the offer builder 330, may allow a supplier to build an offer tailored to a received generated demand of a consumer. FIGS. 19A-K graphically illustrate the process by which an offer may be built. As described herein, the supplier may provide offer information, the dashboard 1900 may provide suggestions to aid the supplier in providing appropriate offer information, the supplier may be able to select from a set of suggested terms, and/or the supplier may be able to enter information in a free-form format. In an embodiment, offer terms entered by the supplier may be analyzed in real-time and compared against the demand space. If the entered offer terms deviate by a predetermined degree from other offer terms in the demand space and/or deviate from offer terms expected based on the demand for the good and/or service, then the entered offer terms may be flagged for the supplier. In this way, suppliers may be able to generate more effective and relevant offer terms.

[0111] FIGS. 20A and B illustrate another dashboard 2000 viewed through a browser accessing a network application. In an embodiment, an activity in the following field 1610 may be selected. Upon selecting an activity, one or more offers associated with the activity and offer details associated with the offer may be displayed. For example, a description of the offer, an expiration date, an indication of a number of offers remaining, a redemption period, one or more locations the offer is redeemable at, terms and/or conditions of the offer, an indication of a

number of recipients of the offer, an indication of a number of offers purchased, an indication of a number of offers redeemed, an indication of an amount of money payable to the supplier following redemption of an offer ("Available \$" indicator), an indication of an amount of money paid to the supplier following redemption of an offer ("Fulfilled \$" indicator), and/or an indication of net sales based on the offers being redeemed may be provided to the supplier. A Recipients indicator 2010 allows a supplier to view offers and analyze the recipients of any offer. For example, the supplier can determine what kinds of recipients purchased the offer (see FIG. 20A). A Redeem Voucher indicator 2020 allows a supplier to redeem purchased vouchers by inputting the redemption key presented by the purchaser (see FIG. 20B). For example, the supplier can type or otherwise enter the redemption key in a pop-up window 2030 that appears when selecting the Redeem Voucher indicator 2020. In other embodiments, alternatives to pop-up windows may be used, such as separate tabs, screen overlays, sliding panels, and the like. For example, a mobile device may show separate windows using a horizontal or vertical scrolling display, which may advantageously require less display area. An End Offer Early indicator 2040 allows a supplier to end an offer before its original expiration (see FIG. 20B).

[0112] FIG. 21 illustrates an embodiment of a process 2100 for allowing a consumer to generate a demand. In various embodiments, additional blocks may be performed, fewer blocks than shown may be performed, and/or the blocks may be performed in an order different than that shown. The process may be performed, for example, by demand generator 320 of FIG. 3.

[0113] In an embodiment, the process 2100 begins at block 2110. At block 2110, demand information is received. In an embodiment, demand information may include a type of good desired by the consumer; a type of service desired by the consumer; a time on which the consumer would like the good and/or service; a time by which the consumer would like the good and/or service; a location where the consumer would like the good and/or service; additional information regarding restrictions, special instructions, etc.; and/or the like. In some embodiments, after block 2110, the process 2100 proceeds to block 2120. At block 2120, items related to or associated with the received demand information are determined. In an embodiment, the determination is made by implementing an ontology, such as an ontology as described herein. In some embodiments, after block 2120, the process 2100 proceeds to block 2130. At block 2130, a demand is generated based on the received demand information. The

demand may be generated by applying any of the methods described herein, including the matching processes discussed above. For example, in some embodiments, the demand is merely a particular activity selected or identified by the user (e.g., the user expresses a desire to “buy a car,” and the demand is therefore determined to be “buy a car”). In other embodiments, the demand is generated by applying an ontology to identify syntactically, lexicographically, and/or semantically related activities. In some embodiments, after block 2130, the process 2100 proceeds to block 2140. At block 2140, the demand generated based on the received demand information is transmitted to suppliers associated with the determined items. In an embodiment, the generated demand is made available to those suppliers that offer goods and/or services the same as or related to the goods and/or services desired as defined by the generated demand.

[0114] FIG. 22 illustrates an embodiment of a process 2200 for allowing a supplier to build an offer. In various embodiments, additional blocks may be performed, fewer blocks than shown may be performed, and/or the blocks may be performed in an order different than that shown. The process may be performed, for example, by offer builder 330 of FIG. 3.

[0115] In an embodiment, the process 2200 begins at block 2210. At block 2210, offer information is received for a demand. In an embodiment, offer information may include an intended recipient of the offer (e.g., a consumer, a group of consumers, etc.); terms of the offer (e.g., a description of the goods and/or services being offered for sale, a purchase price for the goods and/or services, a discount on the goods and/or services, a time period during which the offer may be redeemed, disclaimers for the goods and/or services, restrictions on use of the offer, a photo of the location, goods, and/or services, etc.); and/or the like. In some embodiments, after block 2210, the process 2200 proceeds to block 2220. At block 2220, a standardized message based on the received offer information is generated. In an embodiment, the standardized message is generated by implementing an ontology, such as a supply ontology, as described herein. In some embodiments, after block 2220, the process 2200 proceeds to block 2230. At block 2230, the standardized message is transmitted to the consumer that generated the demand. In some embodiments, the process 2200 identifies multiple potential offer recipients. The process 2200 can implement one or more ranking processes, such as the ranking processes discussed above, to determine which of the potential offer recipients are to receive an offer. In some embodiments, the process 2200 ranks the potential offer recipients by relevance to enable the business to decide which potential offer recipients are to receive an offer.

[0116] FIG. 23 illustrates an embodiment of a process 2300 for processing a demand-driven request. In various embodiments, additional blocks may be performed, fewer blocks than shown may be performed, and/or the blocks may be performed in an order different than that shown. The process may be performed, for example, by server 120 of FIG. 1.

[0117] In an embodiment, the process 2300 begins at block 2310. At block 2310, a demand is generated. In an embodiment, the demand may be generated by the demand generator 320 as described herein. In some embodiments, after block 2310, the process 2300 proceeds to block 2320. At block 2320, an offer is received based on the generated demand. In an embodiment, the offer may be built by the offer builder 330 as described herein. In some embodiments, after block 2320, the process 2300 proceeds to block 2330. At block 2330, a consumer is notified that an offer has been received. In an embodiment, a notification may include a message generated in the network application, an electronic message sent to the supplier (e.g., an email, a text message, etc.), a phone call, an audible sound generated by an end user device 115 (e.g., a ring generated by the consumer's mobile device), a vibration generated by the supplier device 110, or the like. In some embodiments, after block 2330, the process 2300 proceeds to block 2340. At block 2340, payment information is received from the consumer to purchase the received offer. In some embodiments, after block 2340, the process 2300 proceeds to block 2350. At block 2350, if the purchase of the received offer is successful, a voucher is generated. In an embodiment, the voucher may include identification information (e.g., a bar code, a verification code, a unique key, and/or the like), a location that the voucher is redeemable at, a name or other identification of the purchasing party, a time the offer was purchased, an identification of the offer purchased, a time period during which the voucher is redeemable, terms and conditions of use of the voucher, and/or other like information.

[0118] In this way, a consumer may be able to view and/or purchase offers from suppliers related to goods and/or services desired by the consumer within minutes or seconds of generating a demand for the goods and/or services. Aspects of the disclosure described herein may result in the reduction of time spent by consumers on searching, navigating, and attempting to make sense of information from disparate sources. Aspects of the disclosure described herein may further allow consumers rapid access to relevant choices and lead to faster decision-making.

[0119] Furthermore, in this way, suppliers may be able to reduce resources and budget spent on advertising, to optimize choice presented to consumers, and/or to direct capture and understanding of demand.

[0120] In some implementations, the server 120 can provide functionality for receiving expressions of interest from users, which can, but need not be, transactions. Instead, these expressions of interest may include an articulated demand, a proposal to provide information, goods, and/or services, and/or a request for advice. As an example, a user might express an interest in changing his or her diet or exercising.

[0121] In response, the server 120 may aggregate the expressions of interest from the users based on the parameters or attributes of such expressions of interest. The server 120 may programmatically present the aggregated expressions of interest to one or more entities that are capable of responding to the aggregated expressions of interest. As one example, the server 120 could supply a plurality of users' desire to exercise to an author of a medical advice column or to a health professional. The author or health professional may then choose to respond to the aggregated request for help. Many other variations of expressions of interest, aggregations thereof, and responses can be provided in other embodiments.

[0122] Many other variations than those described herein can be apparent from this disclosure. For example, depending on the embodiment, certain acts, events, or functions of any of the processes described herein can be performed in a different sequence, can be added, merged, or left out altogether (e.g., not all described acts or events are necessary for the practice of the processes). Moreover, in certain embodiments, acts or events can be performed concurrently, e.g., through multi-threaded processing, interrupt processing, or multiple processors or processor cores or on other parallel architectures, rather than sequentially. In addition, different tasks or processes can be performed by different machines and/or computing systems that can function together.

[0123] The various illustrative logical blocks, modules, and process steps described in connection with the embodiments disclosed herein can be implemented as electronic hardware, computer software, or combinations of both. To clearly illustrate this interchangeability of hardware and software, various illustrative components, blocks, modules, and steps have been described above generally in terms of their functionality. Whether such functionality is implemented as hardware or software depends upon the particular application

and design constraints imposed on the overall system. For example, the disclosure as described herein can be implemented by one or more computer systems or by a computer system including one or more processors. The described functionality can be implemented in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the scope of the disclosure.

[0124] The various illustrative logical blocks and modules described in connection with the embodiments disclosed herein can be implemented or performed by a machine, such as a general purpose processor, a digital signal processor (DSP), an application specific integrated circuit (ASIC), a field programmable gate array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, or any combination thereof designed to perform the functions described herein. A general purpose processor can be a microprocessor, but in the alternative, the processor can be a controller, microcontroller, or state machine, combinations of the same, or the like. A processor can also be implemented as a combination of computing devices, e.g., a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration. A computing environment can include any type of computer system, including, but not limited to, a computer system based on a microprocessor, a mainframe computer, a digital signal processor, a portable computing device, a personal organizer, a device controller, and a computational engine within an appliance, to name a few.

[0125] The steps of a method, process, or algorithm described in connection with the embodiments disclosed herein can be embodied directly in hardware, in a software module executed by a processor, or in a combination of the two. A software module can reside in RAM memory, flash memory, ROM memory, EPROM memory, EEPROM memory, registers, hard disk, a removable disk, a CD-ROM, or any other form of non-transitory computer-readable storage medium, media, or physical computer storage known in the art. An exemplary storage medium can be coupled to the processor such that the processor can read information from, and write information to, the storage medium. In the alternative, the storage medium can be integral to the processor. The processor and the storage medium can reside in an ASIC. The ASIC can reside in a user terminal. In the alternative, the processor and the storage medium can reside as discrete components in a user terminal.

[0126] Conditional language used herein, such as, among others, "can," "might," "may," "e.g.," and the like, unless specifically stated otherwise, or otherwise understood within the context as used, is generally intended to convey that certain embodiments include, while other embodiments do not include, certain features, elements and/or states. Thus, such conditional language is not generally intended to imply that features, elements and/or states are in any way required for one or more embodiments or that one or more embodiments necessarily include logic for deciding, with or without author input or prompting, whether these features, elements and/or states are included or are to be performed in any particular embodiment. The terms "comprising," "including," "having," and the like are synonymous and are used inclusively, in an open-ended fashion, and do not exclude additional elements, features, acts, operations, and so forth. Also, the term "or" is used in its inclusive sense (and not in its exclusive sense) so that when used, for example, to connect a list of elements, the term "or" means one, some, or all of the elements in the list.

[0127] While the above detailed description has shown, described, and pointed out novel features as applied to various embodiments, it can be understood that various omissions, substitutions, and changes in the form and details of the devices or processes illustrated can be made without departing from the spirit of the disclosure. As can be recognized, certain embodiments of the inventions described herein can be embodied within a form that does not provide all of the features and benefits set forth herein, as some features can be used or practiced separately from others.

WHAT IS CLAIMED IS:

1. A user-driven method for obtaining responses to expressions of interest, the method comprising:

by a computer system comprising computer hardware:

receiving expressions of interest from users, the expressions of interest comprising expression characteristics;

organizing the expressions of interest based on the expression characteristics to produce aggregated expressions of interest; and

programmatically presenting the organized expressions of interest to one or more entities capable of responding to the organized expressions of interest.

2. The method of claim 1, wherein the expressions of interest comprise at least one or more of the following: a desired transaction, an articulated demand, a proposal to provide information, goods, or services, a request for advice, and a search query.

3. The method of claim 1, wherein at least some of the one or more entities capable of responding to the organized expressions are entities with an incentive to respond to the organized expressions.

4. A consumer-driven method for initiating transactions, the method comprising:

by a computer system comprising computer hardware:

receiving expressions of interest from consumers for one or more of a good, a service, a desire to engage in an activity, and a demand, the expressions of interest comprising a plurality of demand attributes; and

programmatically organizing the expressions of interest based on the demand attributes to enable one or more suppliers to respond to the expressions of interest by at least performing the following:

identifying matched suppliers by programmatically matching the demand attributes with said one or more suppliers,

outputting the expressions of interest for presentation to said matched suppliers interested in the expressions of interest, and

providing functionality for the matched suppliers to respond to the expressions of interest.

5. The method of claim 4, wherein said outputting comprises storing the expressions of interest in a memory location.

6. The method of claim 4, wherein the expressions of interest comprise requests for information or an incentive with respect to the good or service transaction.

7. The method of claim 6, wherein the requested incentive comprises a positive incentive or a negative incentive.

8. The method of claim 6, wherein the requested incentive comprises at least one or more of the following: a discount, an option, a service item, preferential treatment, and points in a rewards program.

9. The method of claim 4, wherein the demand attributes comprise one or more of the following:

a time period in which the good or service is desired;

a description of the good or service;

a list of one or more preferred suppliers;

a location of each of the consumers;

a desired discount on the good or service;

a desired price on the good or service; and

a desired quantity of the good or service.

10. The method of claim 4, wherein said programmatically organizing the expressions of interest comprises aggregating the expressions of interest.

11. The method of claim 4, wherein said outputting the expressions of interest for presentation to the one or more suppliers comprises supplying the expressions of interest to a minimum specified number of suppliers.

12. The method of claim 4, wherein said organizing comprises sending the expressions of interest to the matched supplier.

13. The method of claim 4, wherein said organizing comprises providing an application programming interface (API) or a software development kit (SDK) that enables suppliers to access the expressions of interest.

14. The method of claim 4, wherein said organizing comprises providing a user interface for searching the expressions of interest.

15. The method of claim 4, further comprising:

receiving a response from the one or more suppliers;
presenting the response to the consumers; and
receiving acceptances from the consumers to consummate the good or service transaction.

16. The method of claim 4, wherein the providing functionality for the matched supplier's to respond comprises providing functionality for matched suppliers to provide one or more of the following: an incentive type, a location, a good or service, an attribute of a good or service, and a proposed price.

17. The method of claim 4, wherein said identifying matched suppliers further comprises identifying related demand attributes and programmatically matching the related demand attributes with said one or more suppliers.

18. The method of claim 17, wherein the related demand attributes are one or more of semantically related, syntactically related, and lexicographically related to said demand attributes.

19. The method of claim 17, wherein said identifying matched suppliers further comprises ranking said related demand attributes.

20. The method of claim 19, wherein said ranking is based upon a type of relationship between said demand attribute and said related demand attributes.

21. The method of claim 20, wherein said type of relationship comprises one or more of a statistical relationship, a semantic relationship, a syntactic relationship, a linguistic relationship, and user-identified relationship.

22. The method of claim 4, further comprising receiving the responses of matched suppliers and sending the responses to consumers.

23. The method of claim 22, further comprising ranking the responses, and wherein sending the responses comprises sending at least a portion of the ranked responses.

24. The method of claim 4, further comprising generating a suggested expression of interest based on the received expressions of interest.

25. The method of claim 24, wherein generating the suggested expression of interest comprises generating the suggested expression of interest based on knowledge and usage data associated with the received expressions of interest.

26. The method of claim 25, wherein knowledge and usage data comprises at least one of a profile of one or more consumers, a preference of one or more consumers, a history of one or more consumers, and previous actions taken by a set of consumers.

27. The method of claim 4, further comprising generating suggested expressions of interest as the expressions of interest are received.

28. The method of claim 27, wherein generating suggested expressions of interest comprises generating suggested expressions of interest based on knowledge and usage data and at least a portion of the received expressions of interest.

29. The method of claim 28, wherein knowledge and usage data comprises at least one of a profile of one or more consumers, a preference of one or more consumers, a history of one or more consumers, and previous actions taken by a set of consumers.

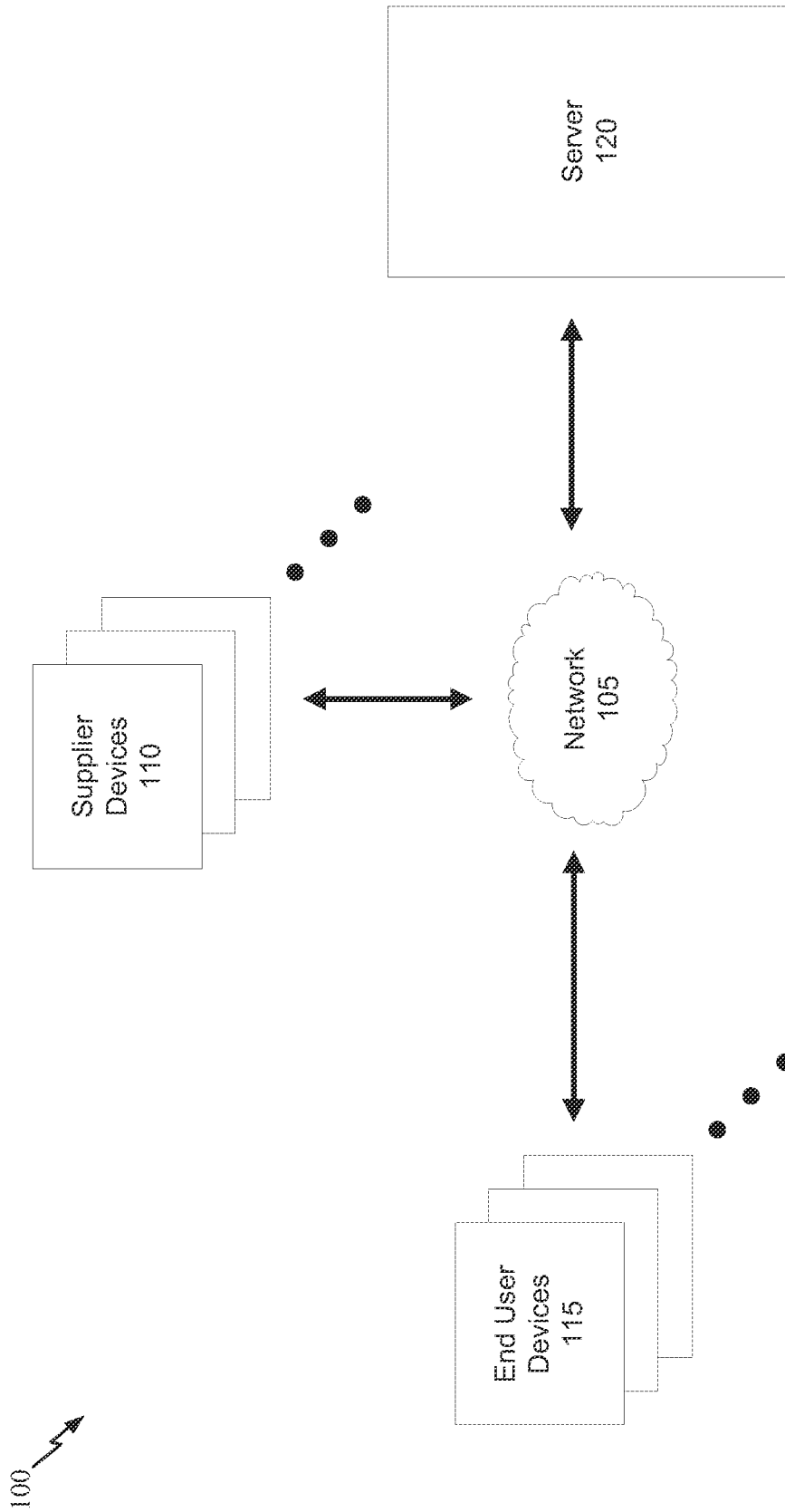


FIG. 1

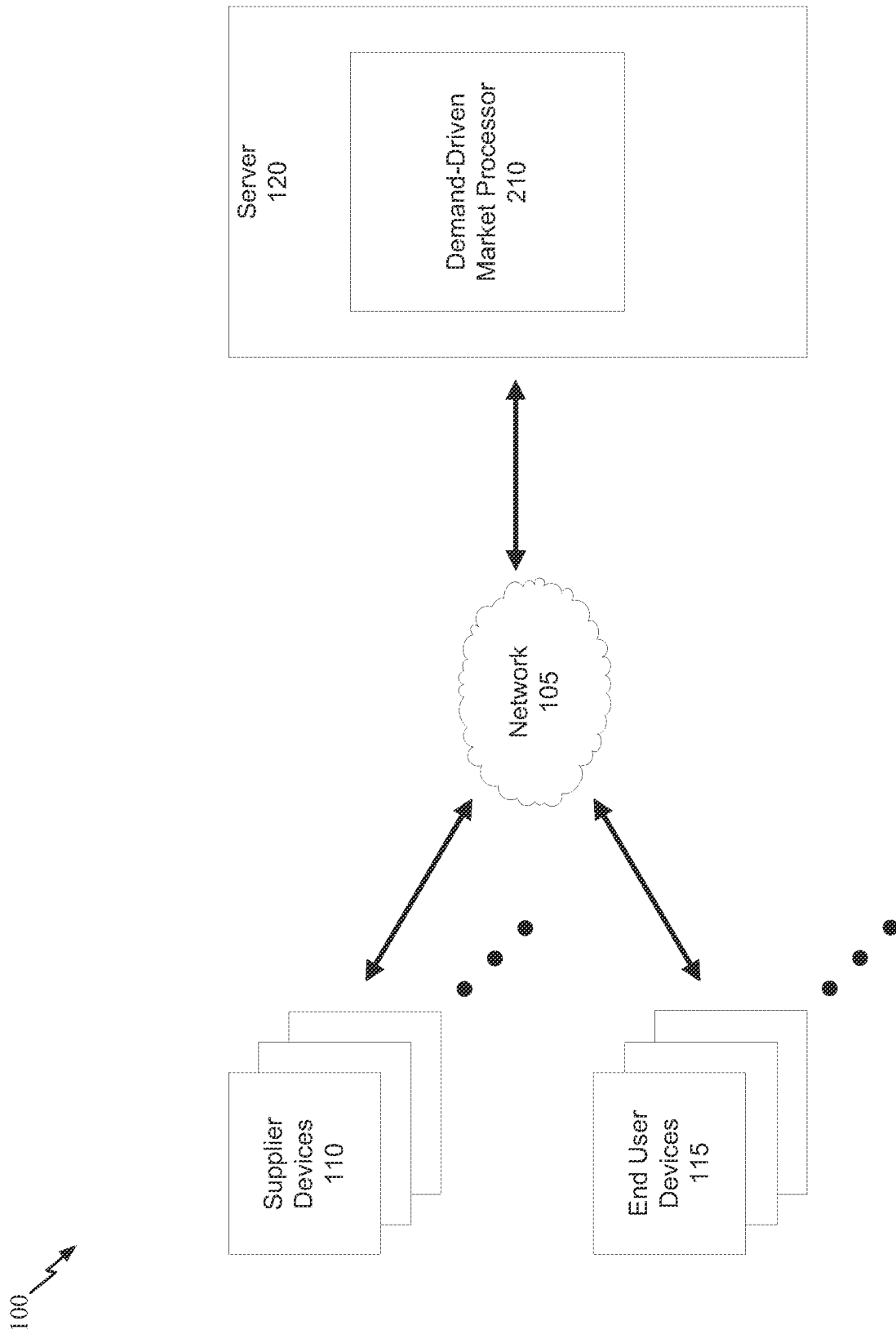


FIG. 2

120 ↗

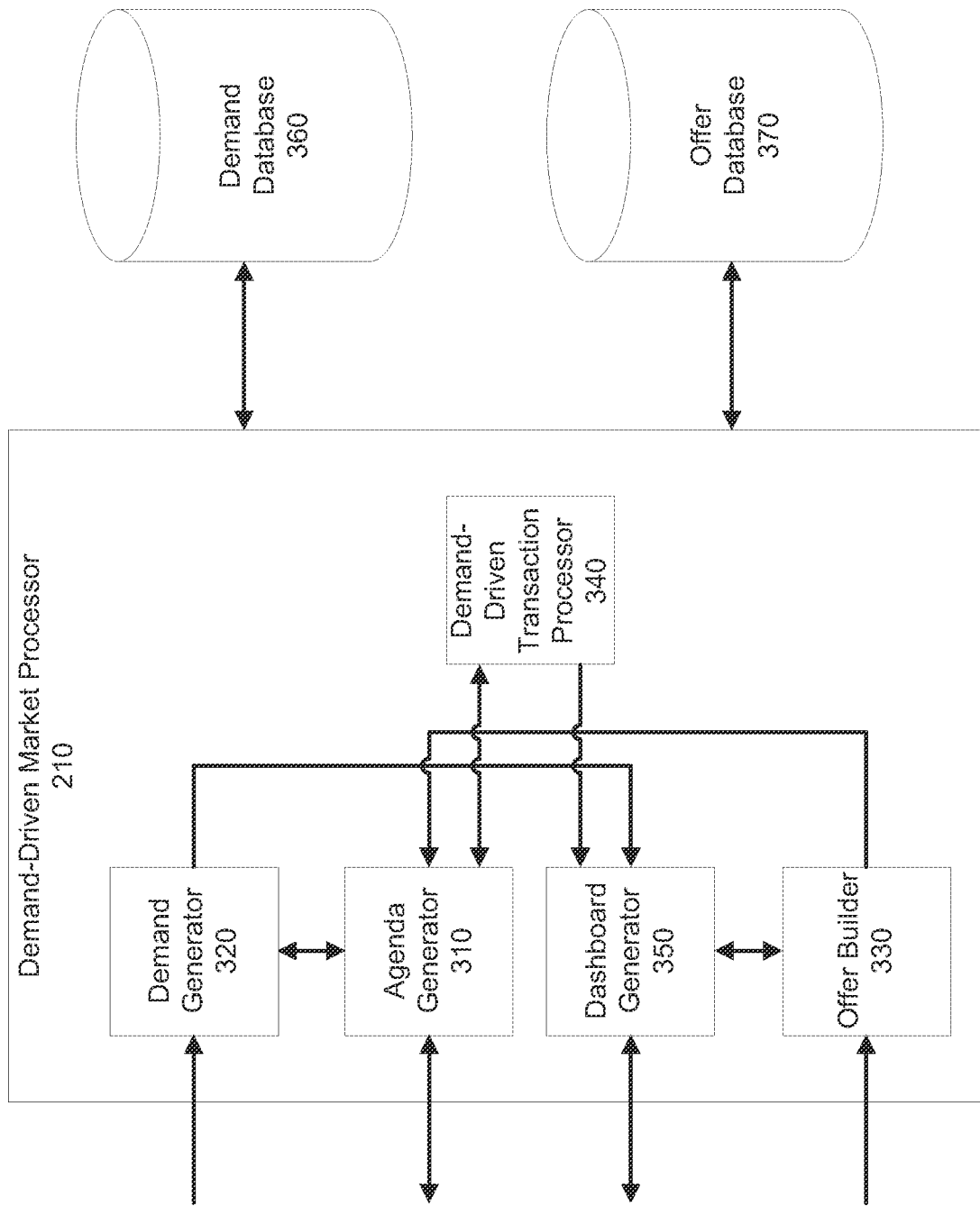


FIG. 3

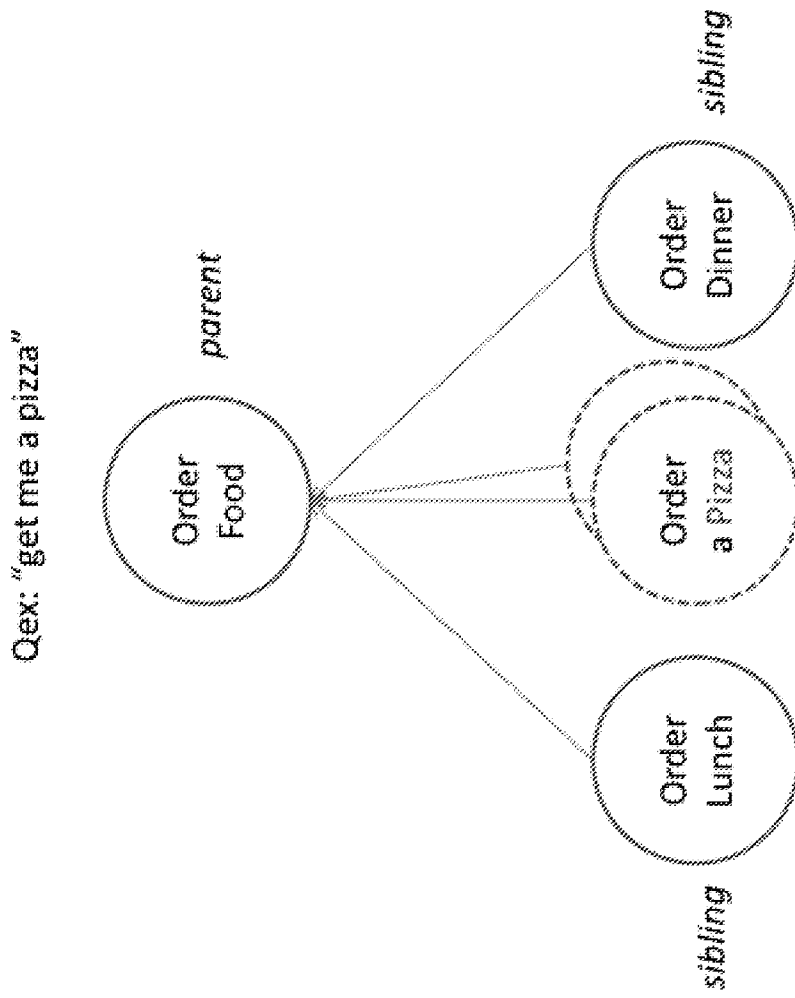


FIG. 4

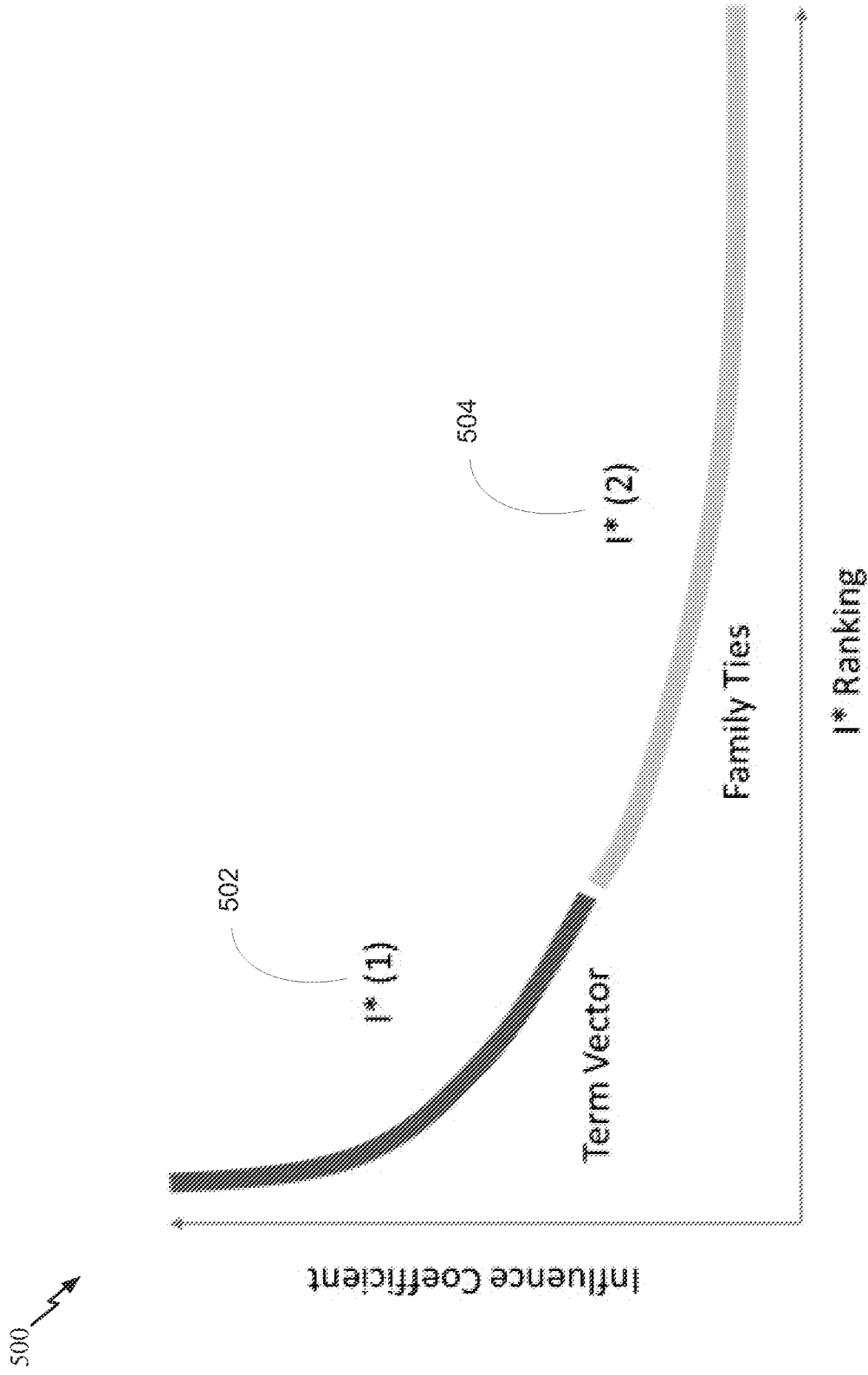


FIG. 5A

500 ↗

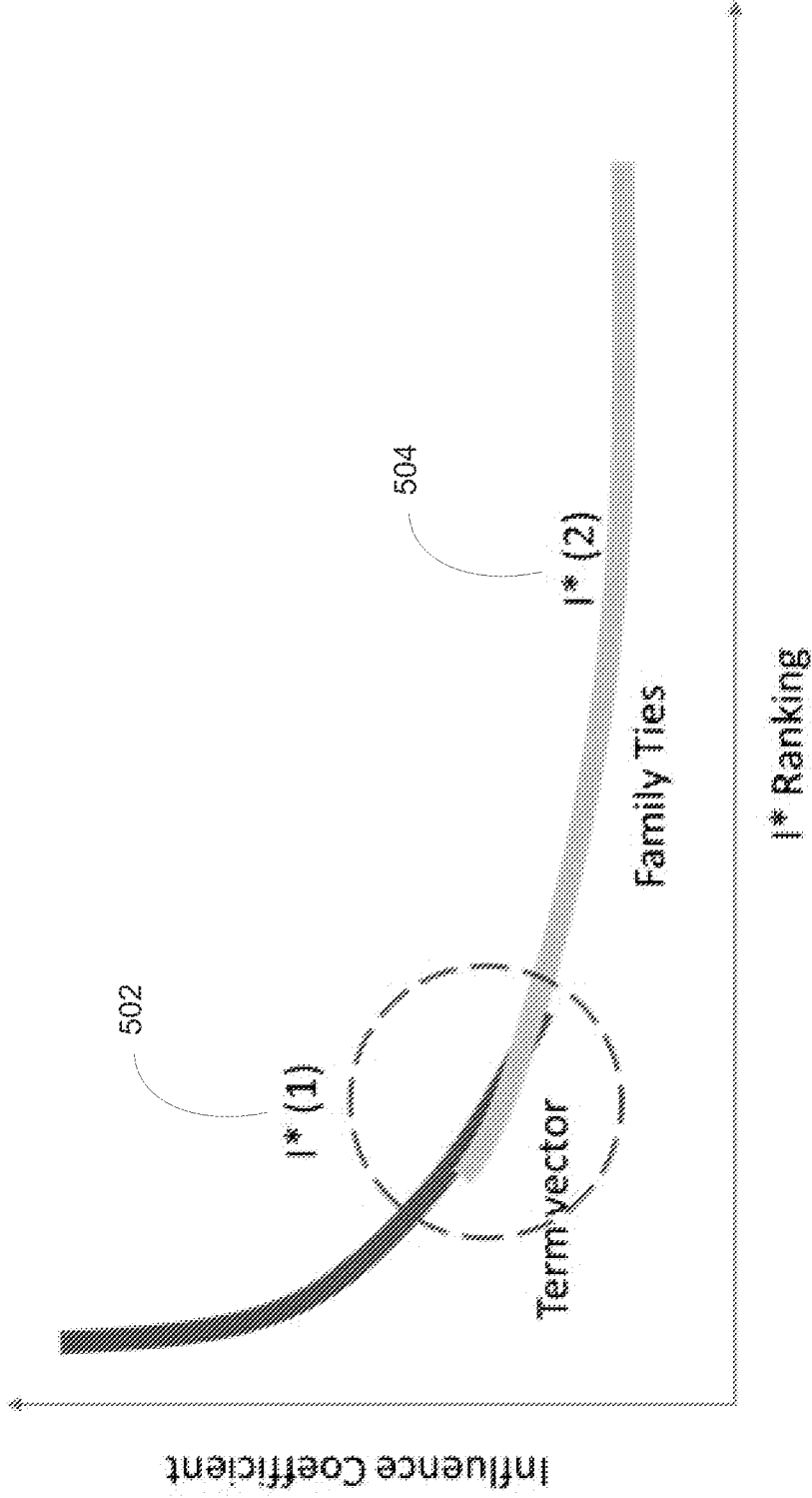


FIG. 5B

500 ↗

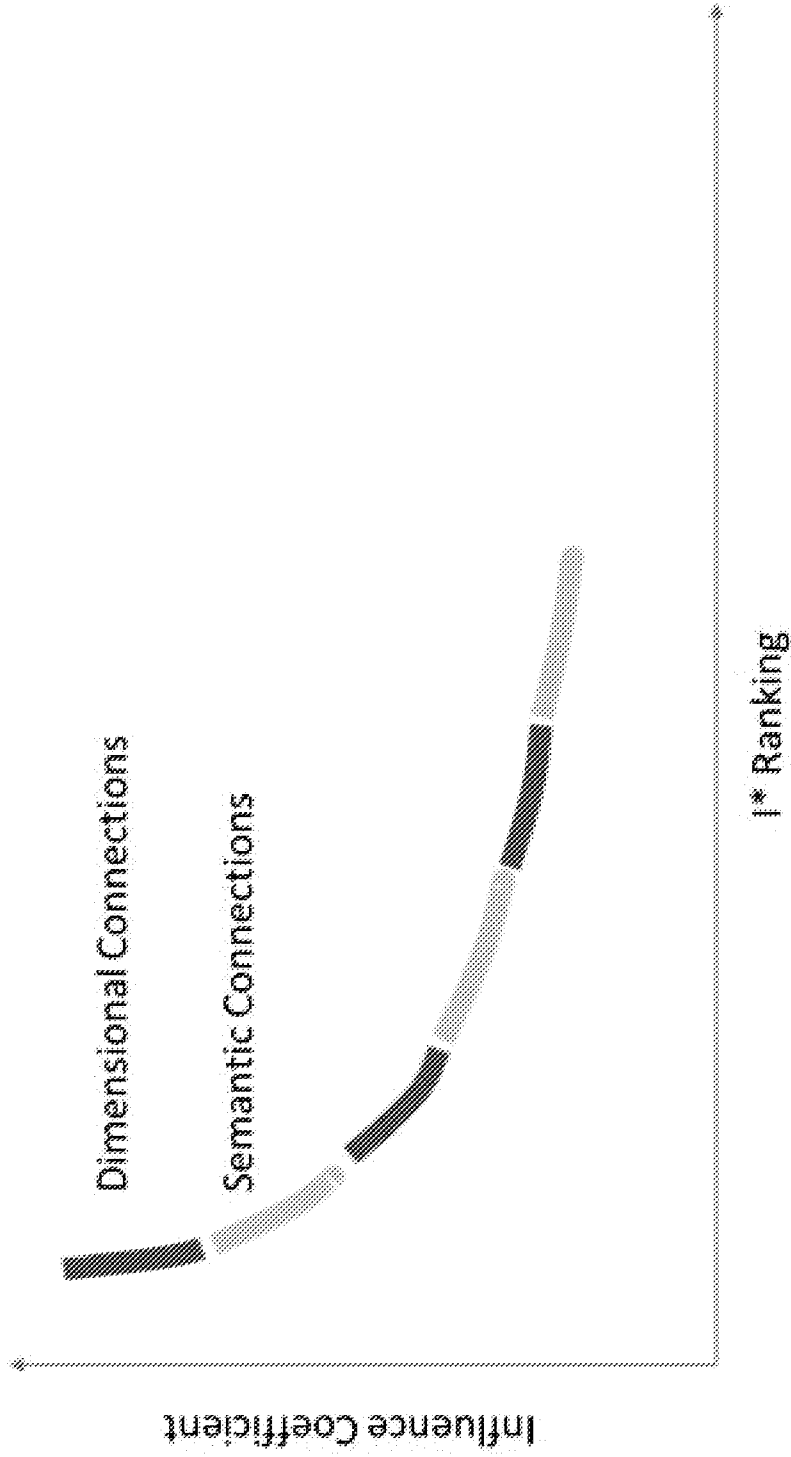


FIG. 5C

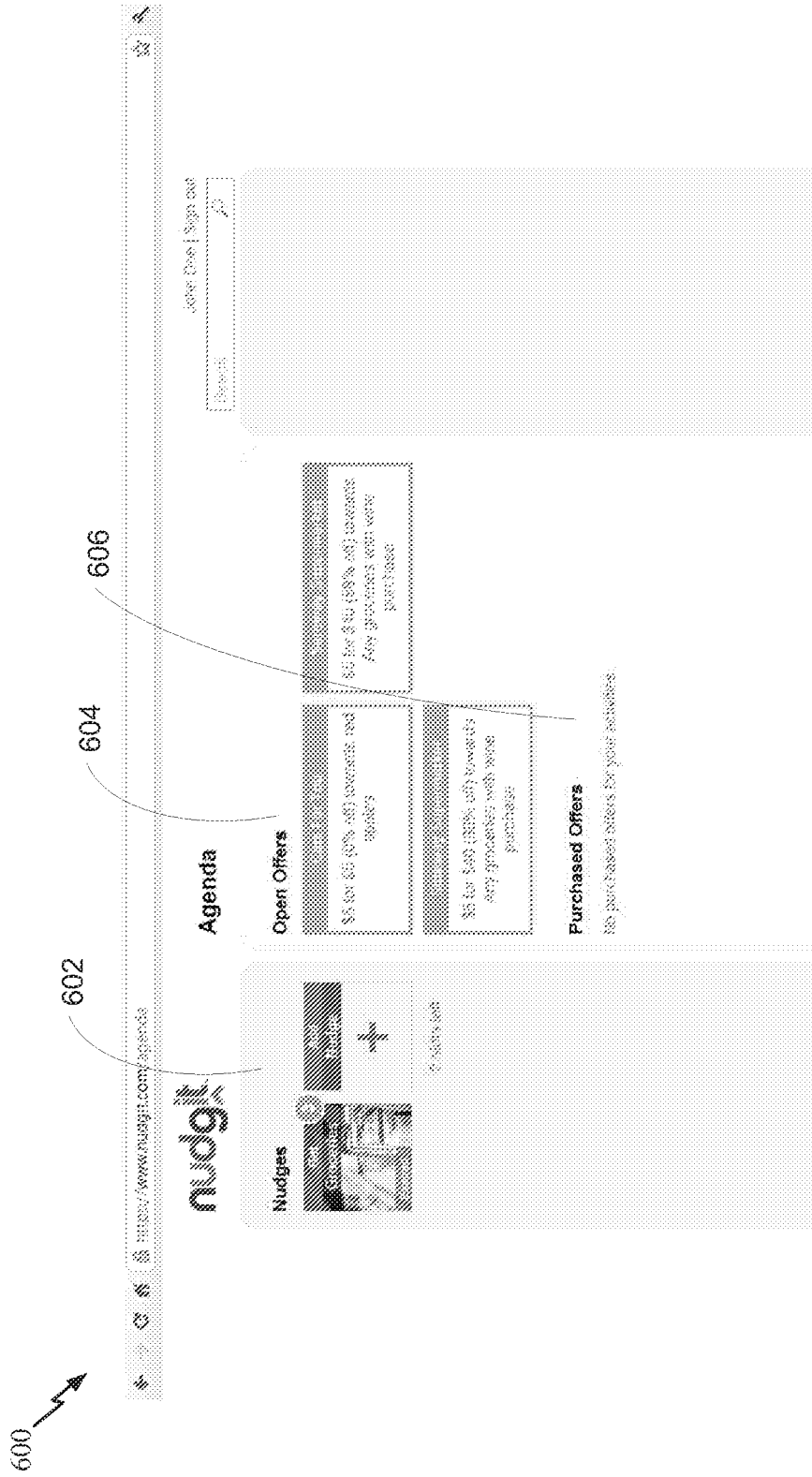


FIG. 6

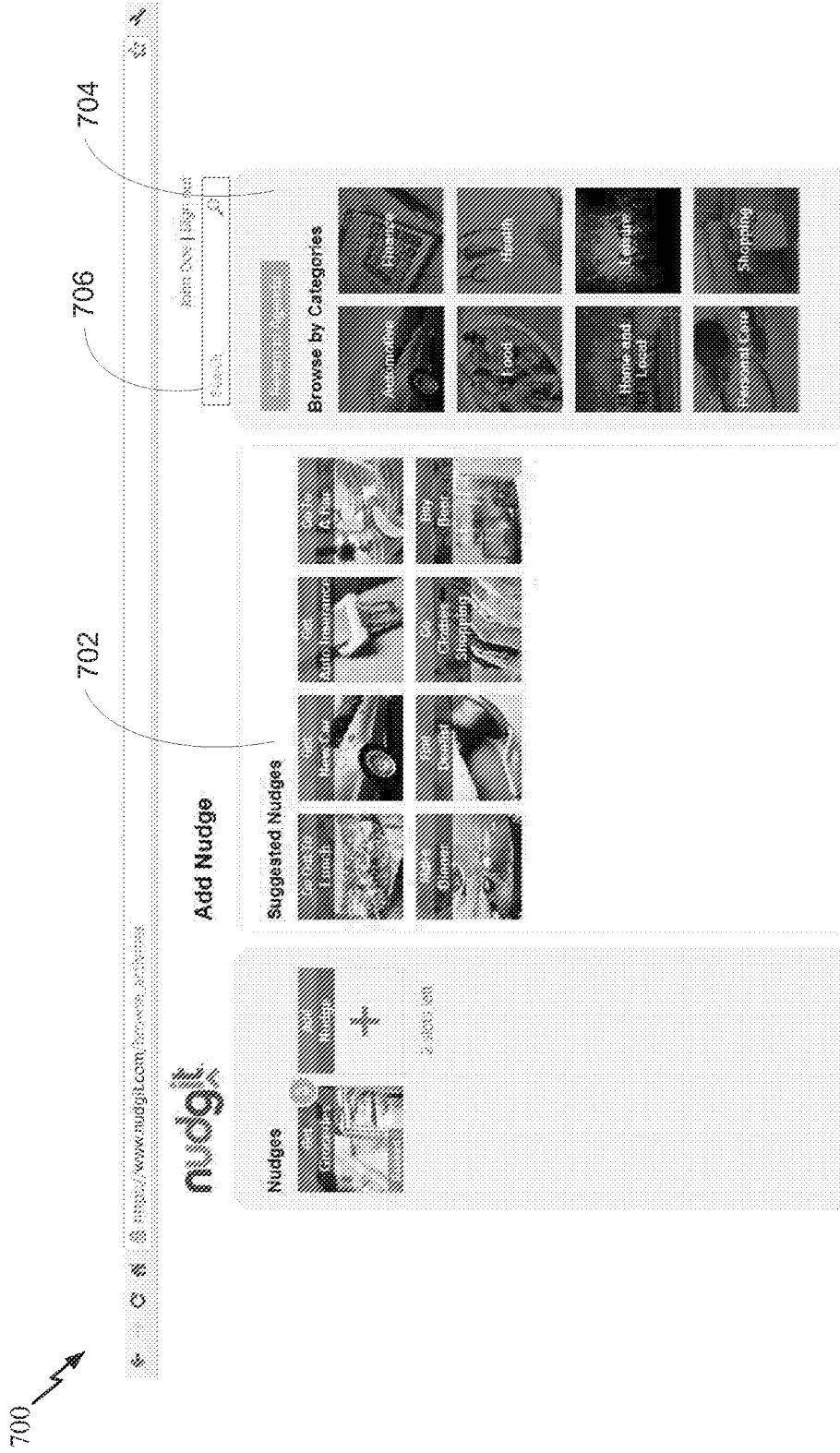


FIG. 7A

700 ↗

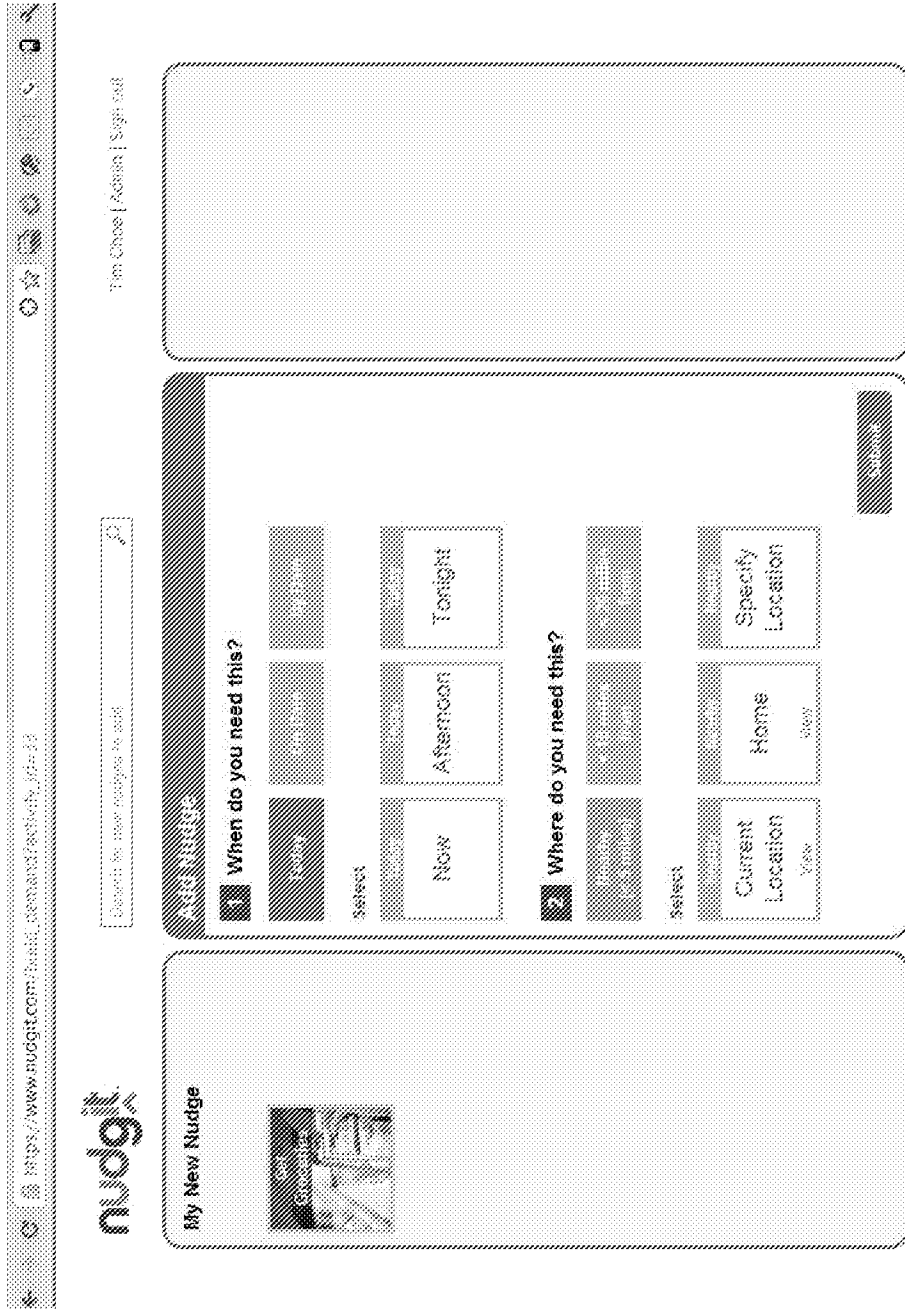


FIG. 7B

700 ↗

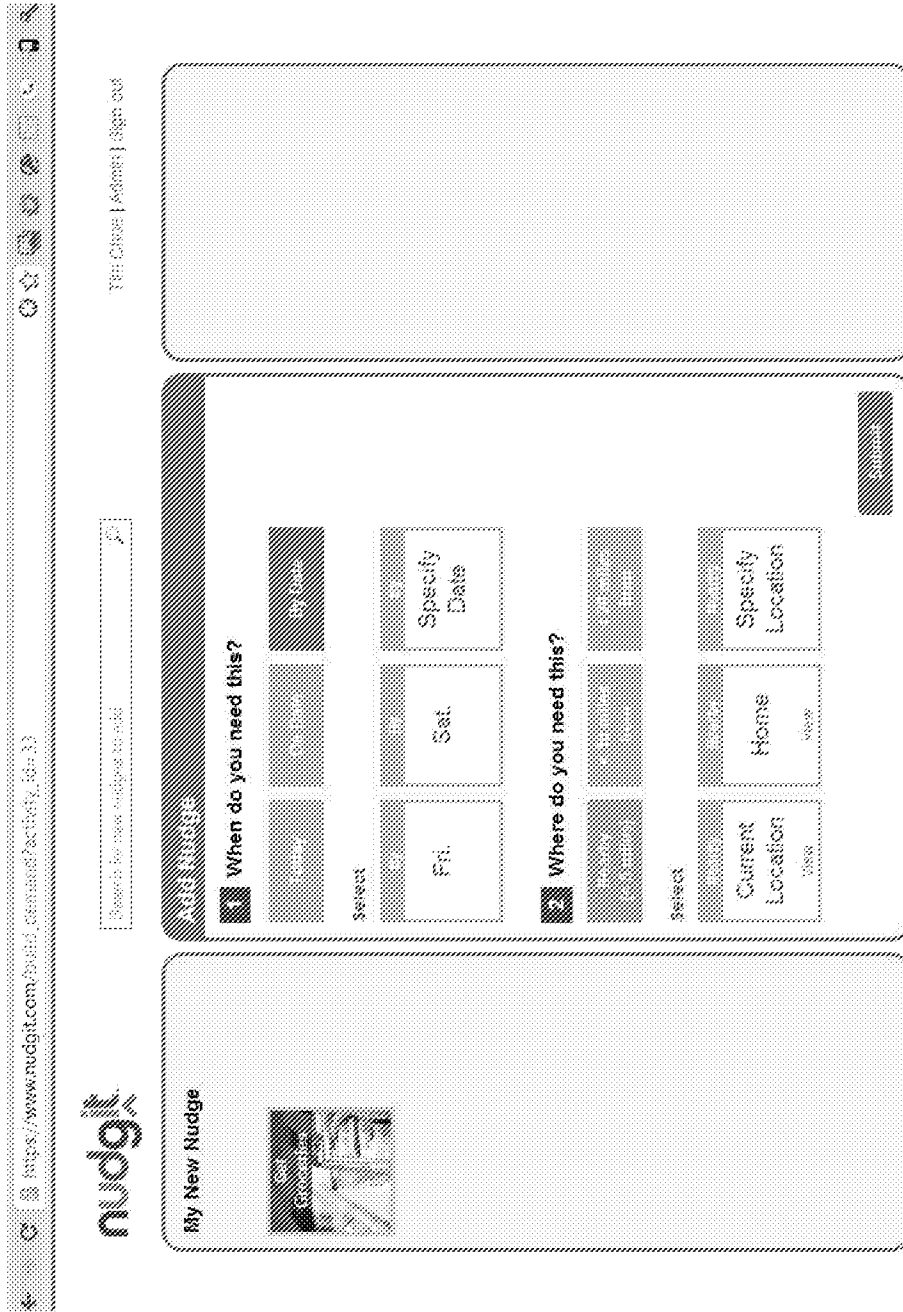


FIG. 7C

700 ↗

730 ↘

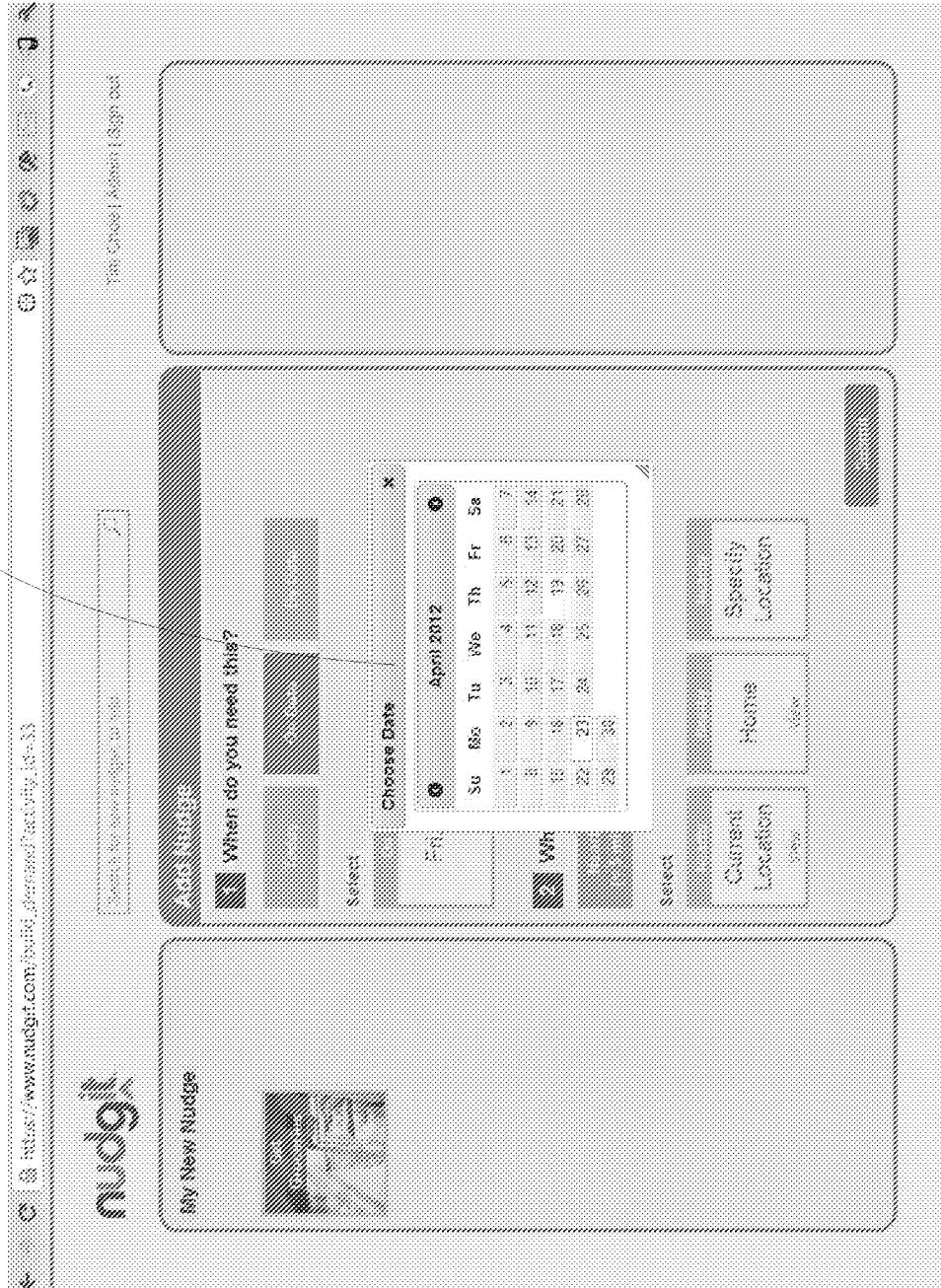


FIG. 7D

700 ↗

710

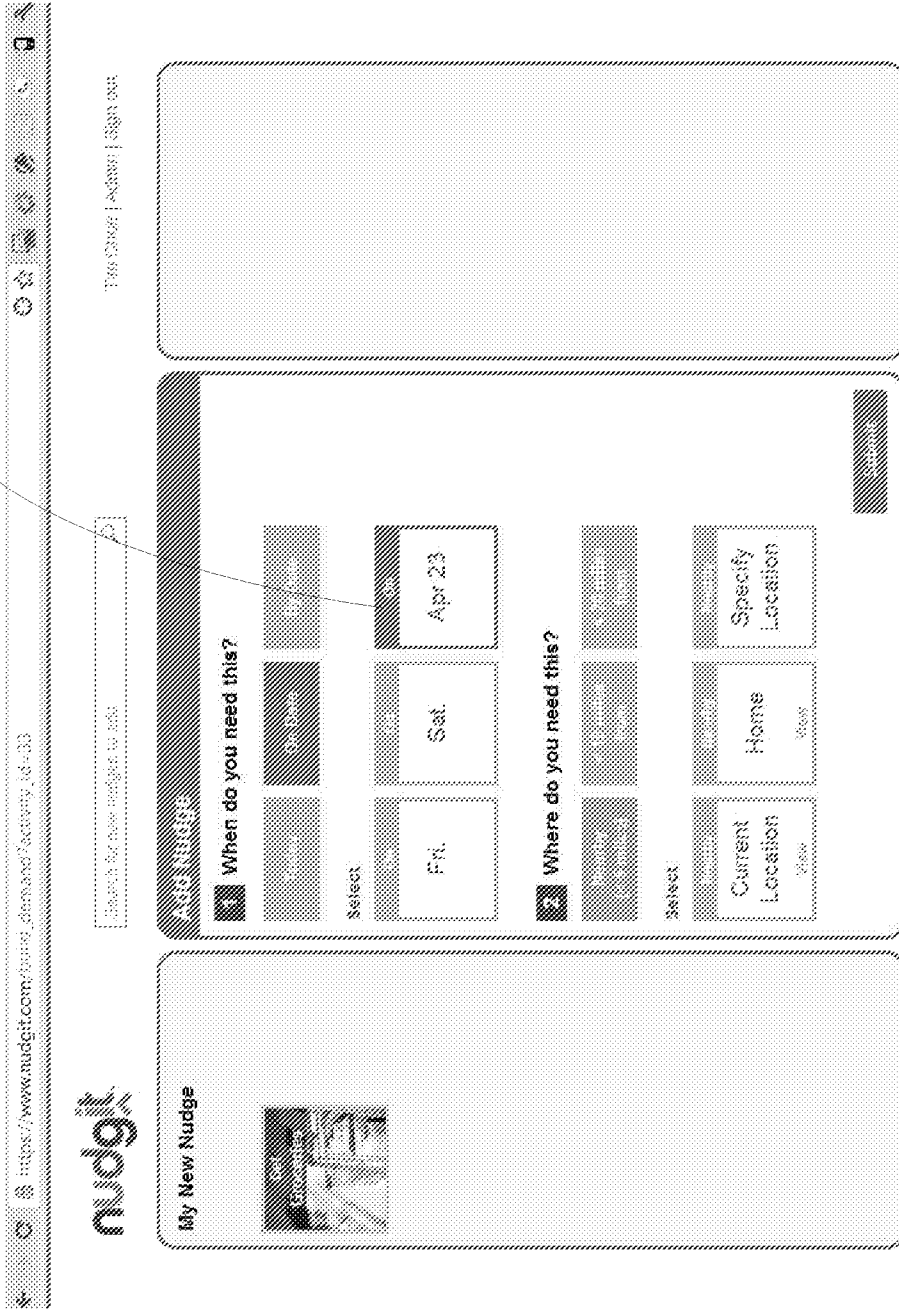


FIG. 7E

700 ↗

712

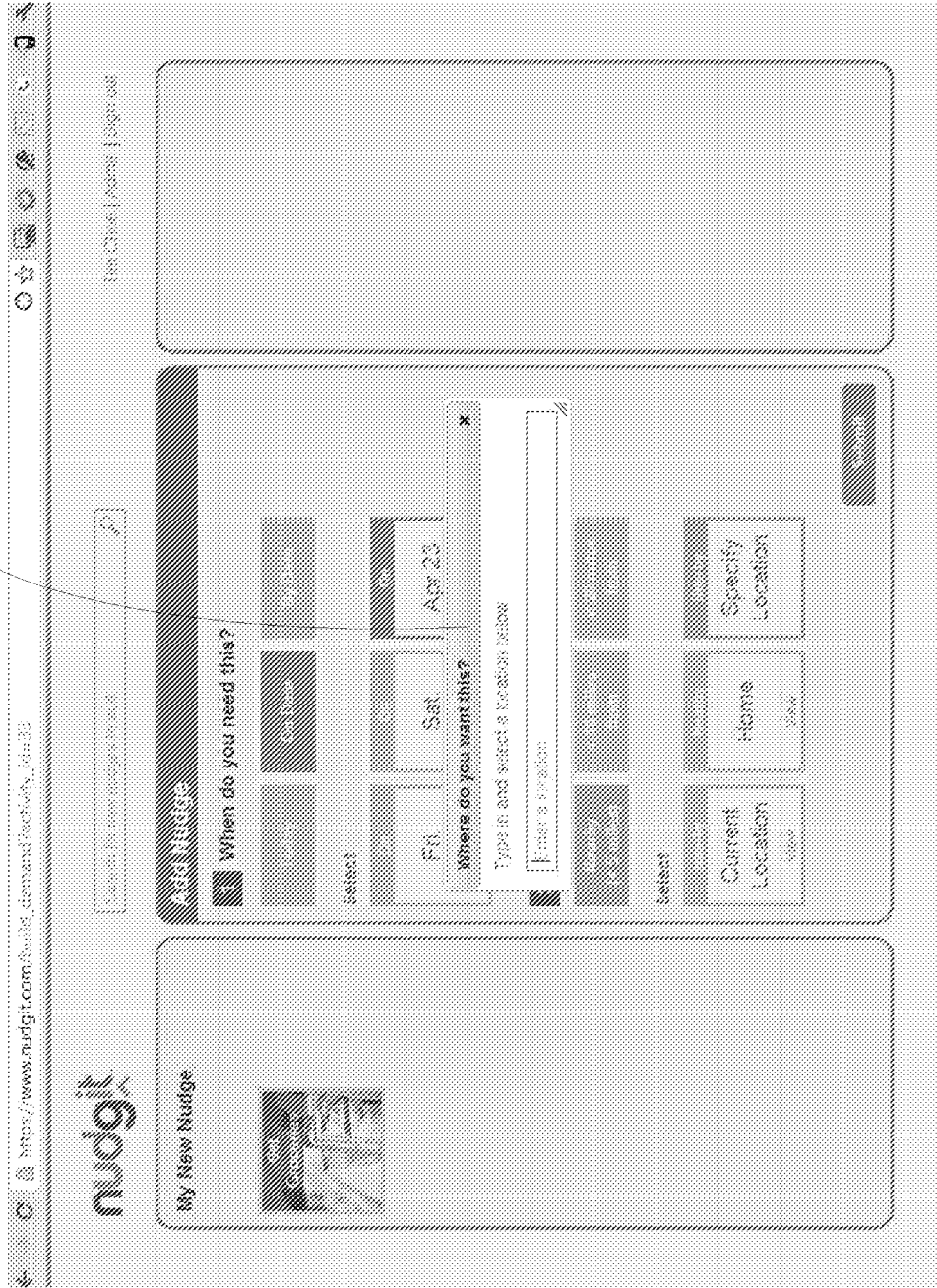


FIG. 7F

700 ↗

712

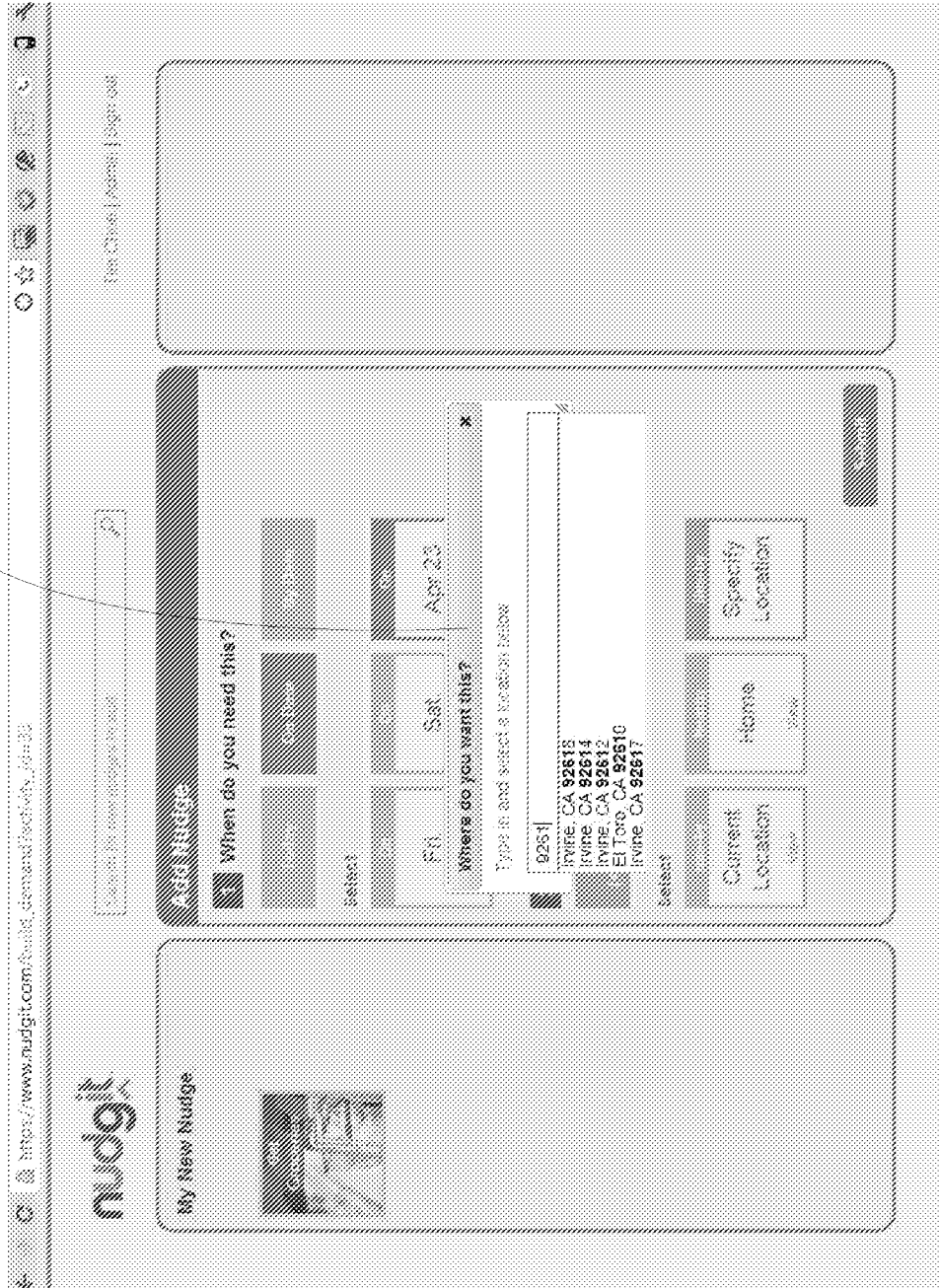


FIG. 7G

700 ↗

714

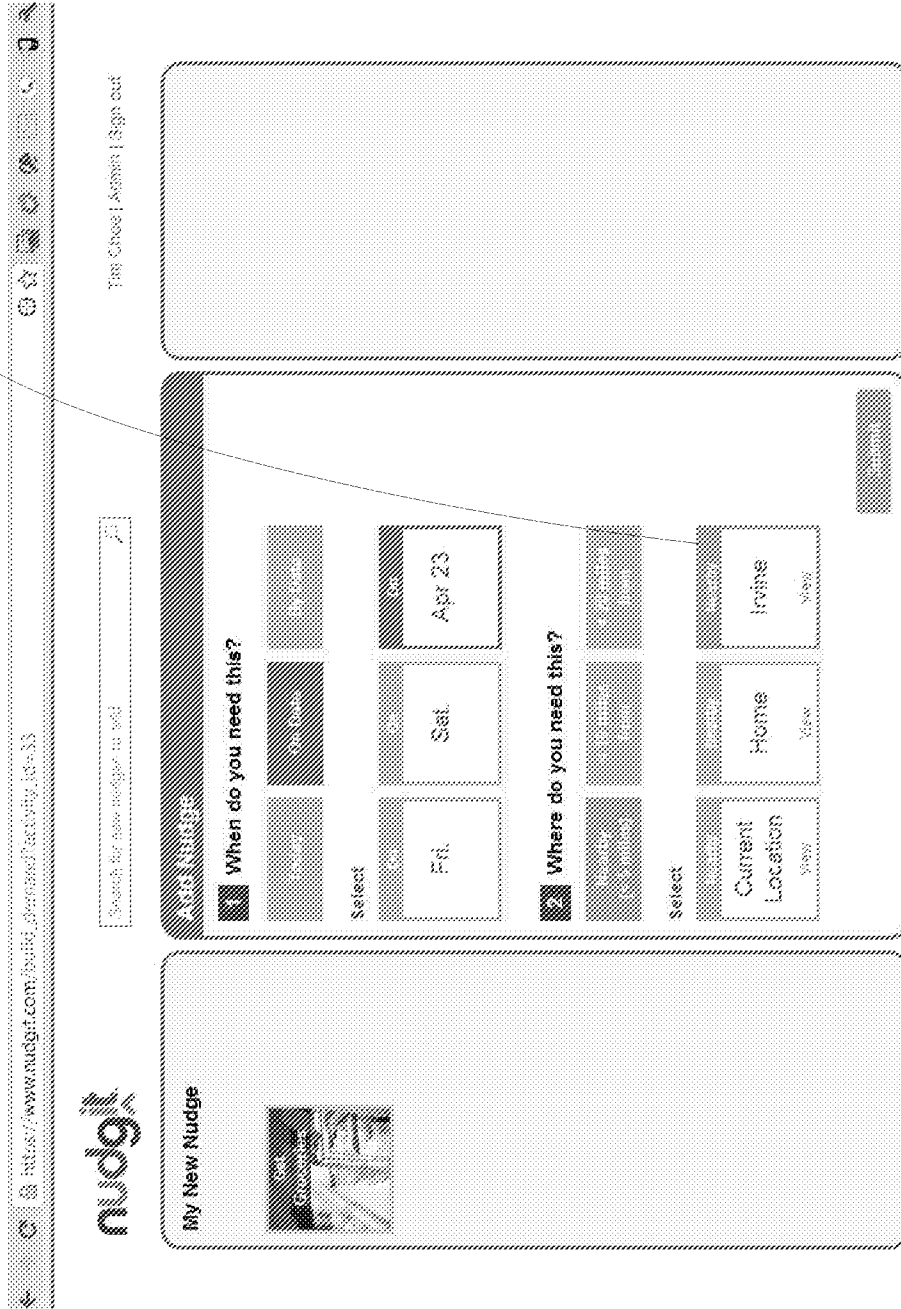


FIG. 7H

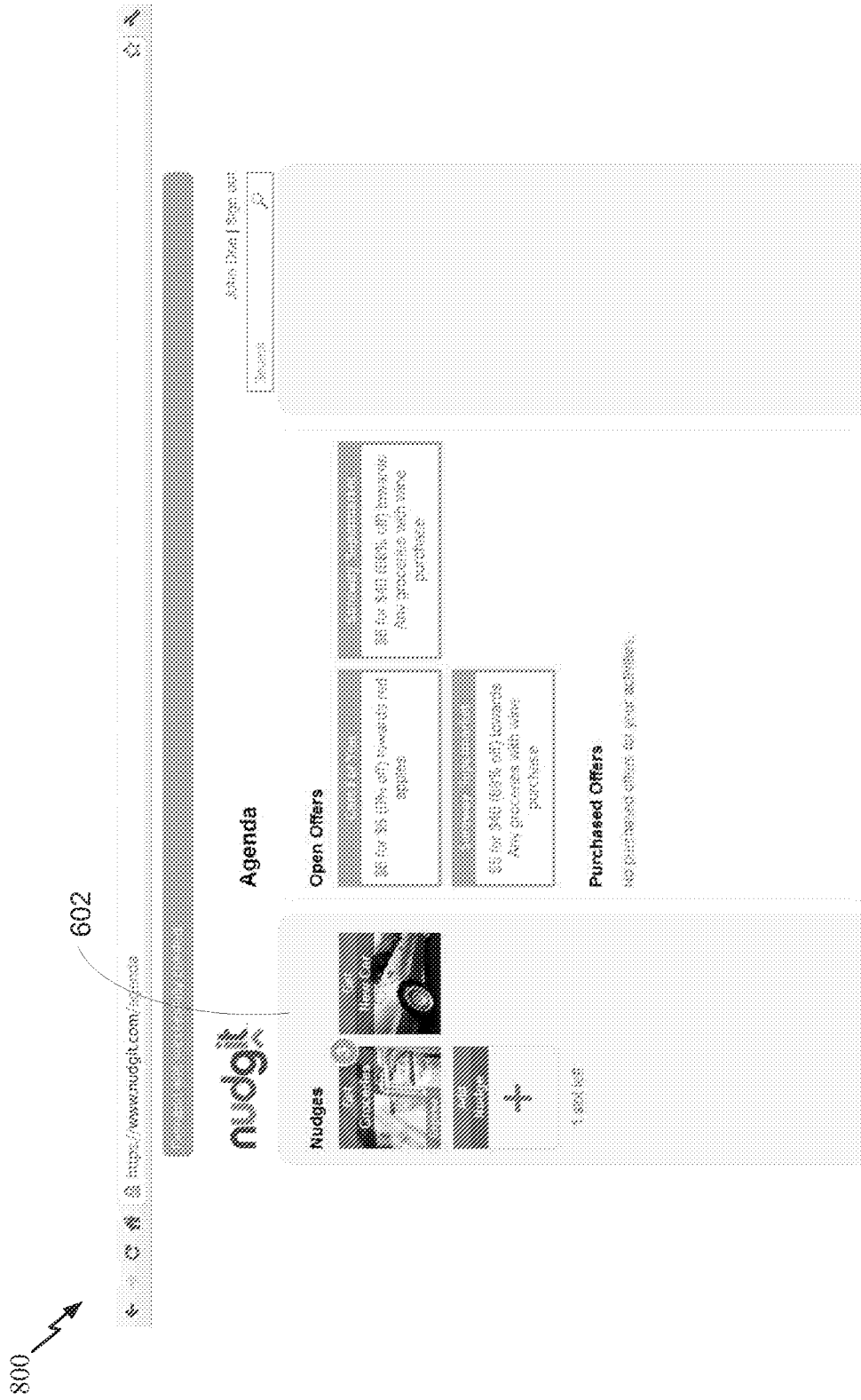


FIG. 8

900 ↗

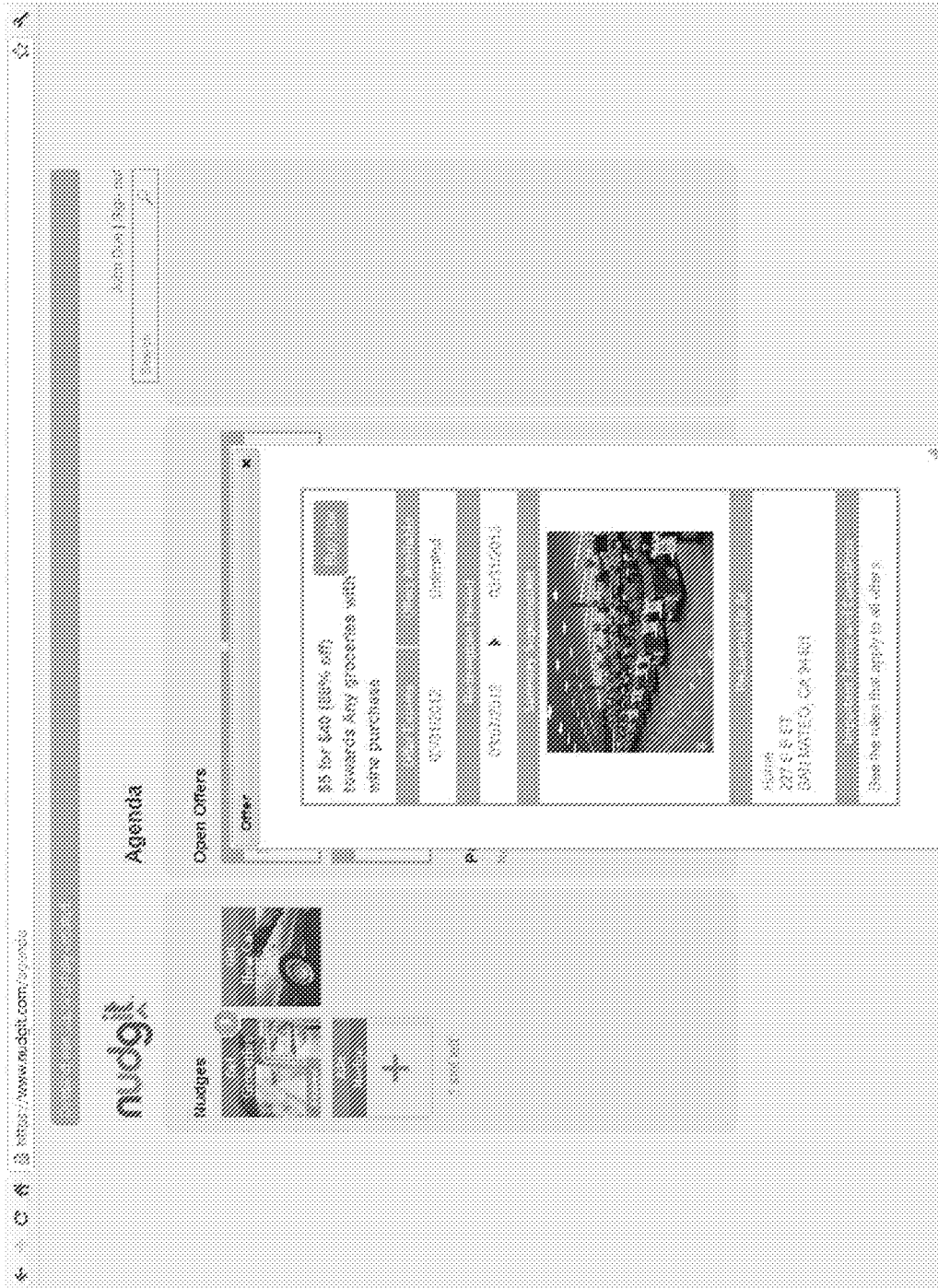


FIG. 9

1000

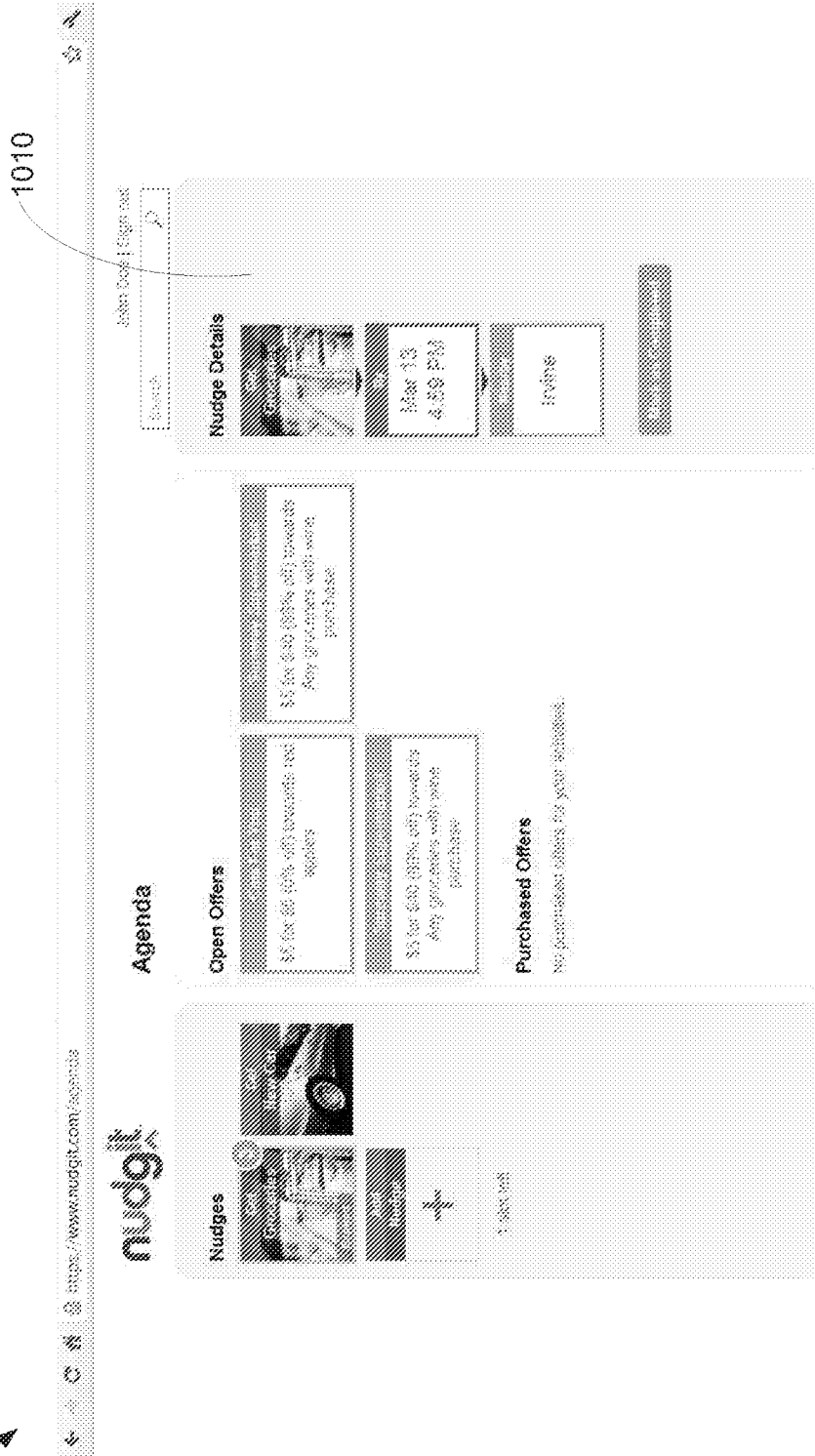


FIG. 10

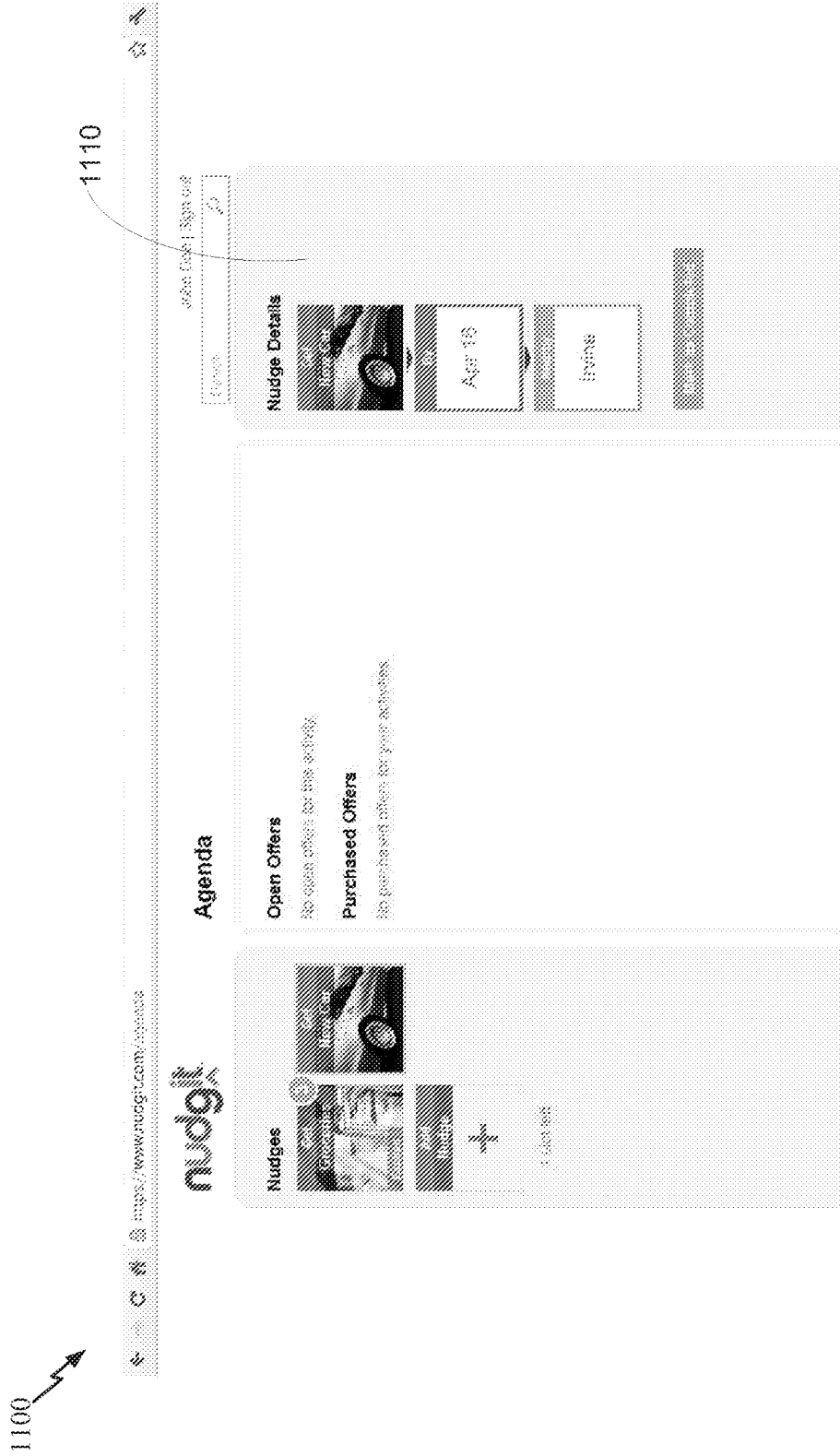


FIG. 11

1200 ↗

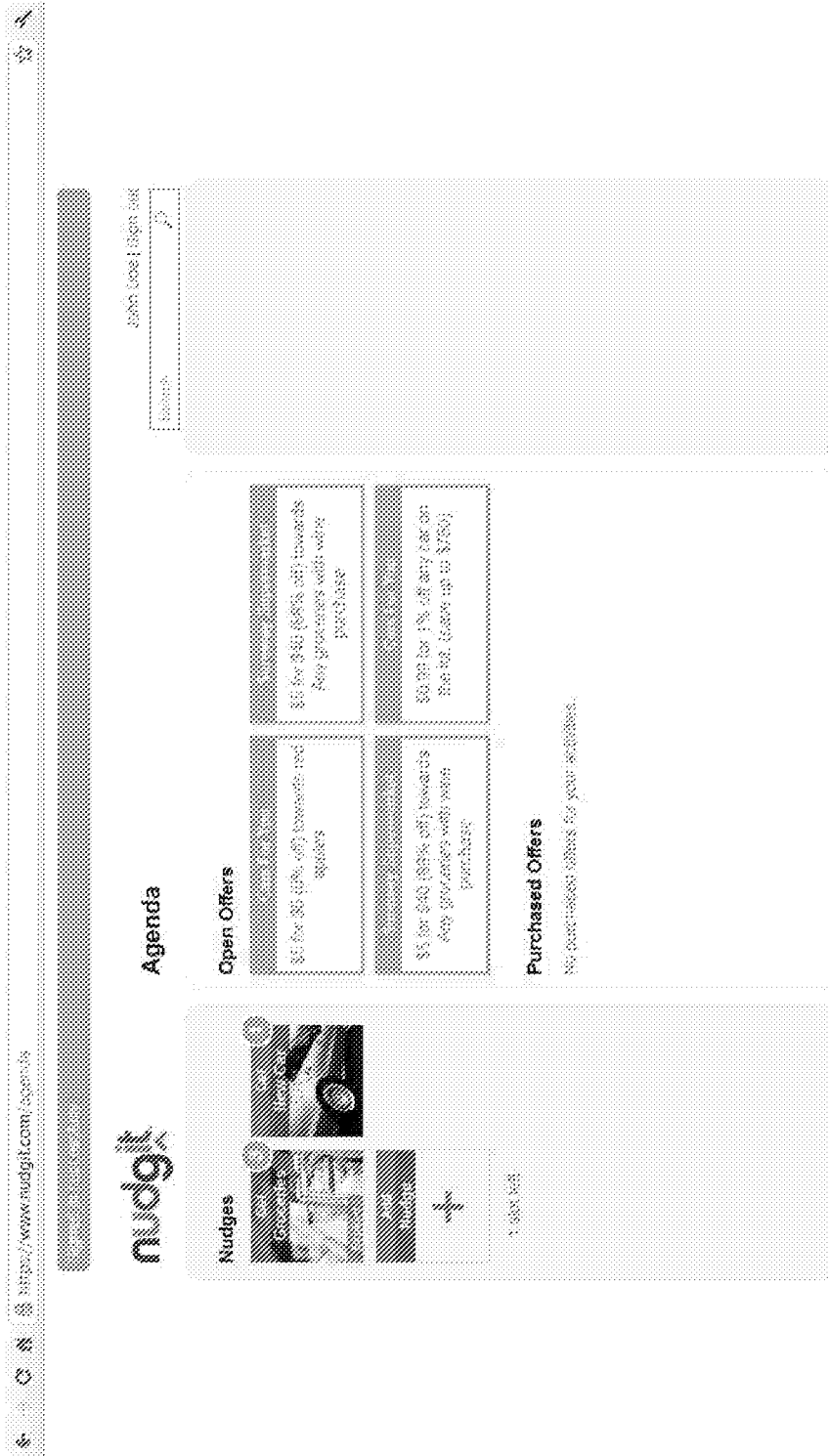


FIG. 12

1300 ↗

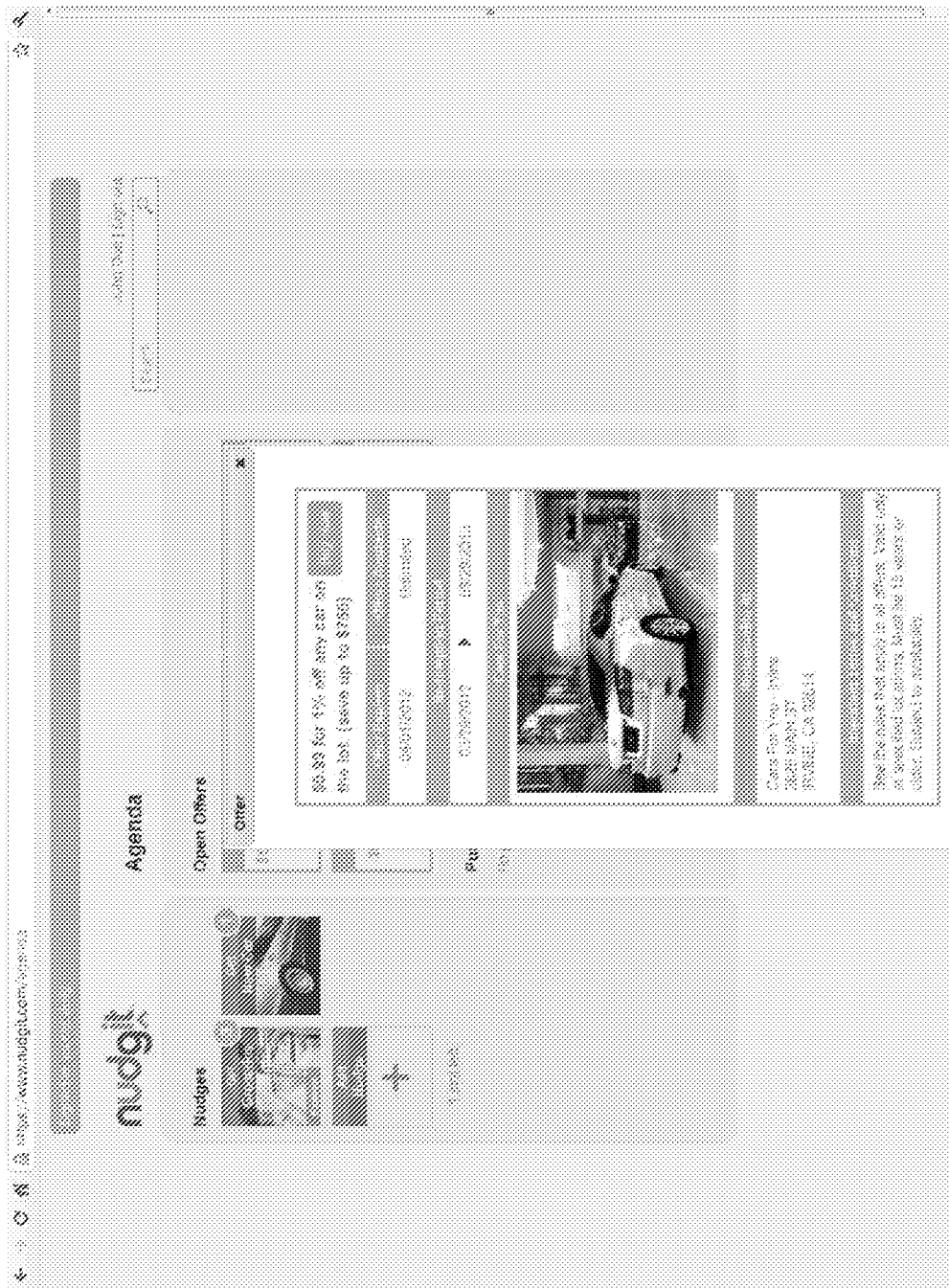


FIG. 13

1400 ↗

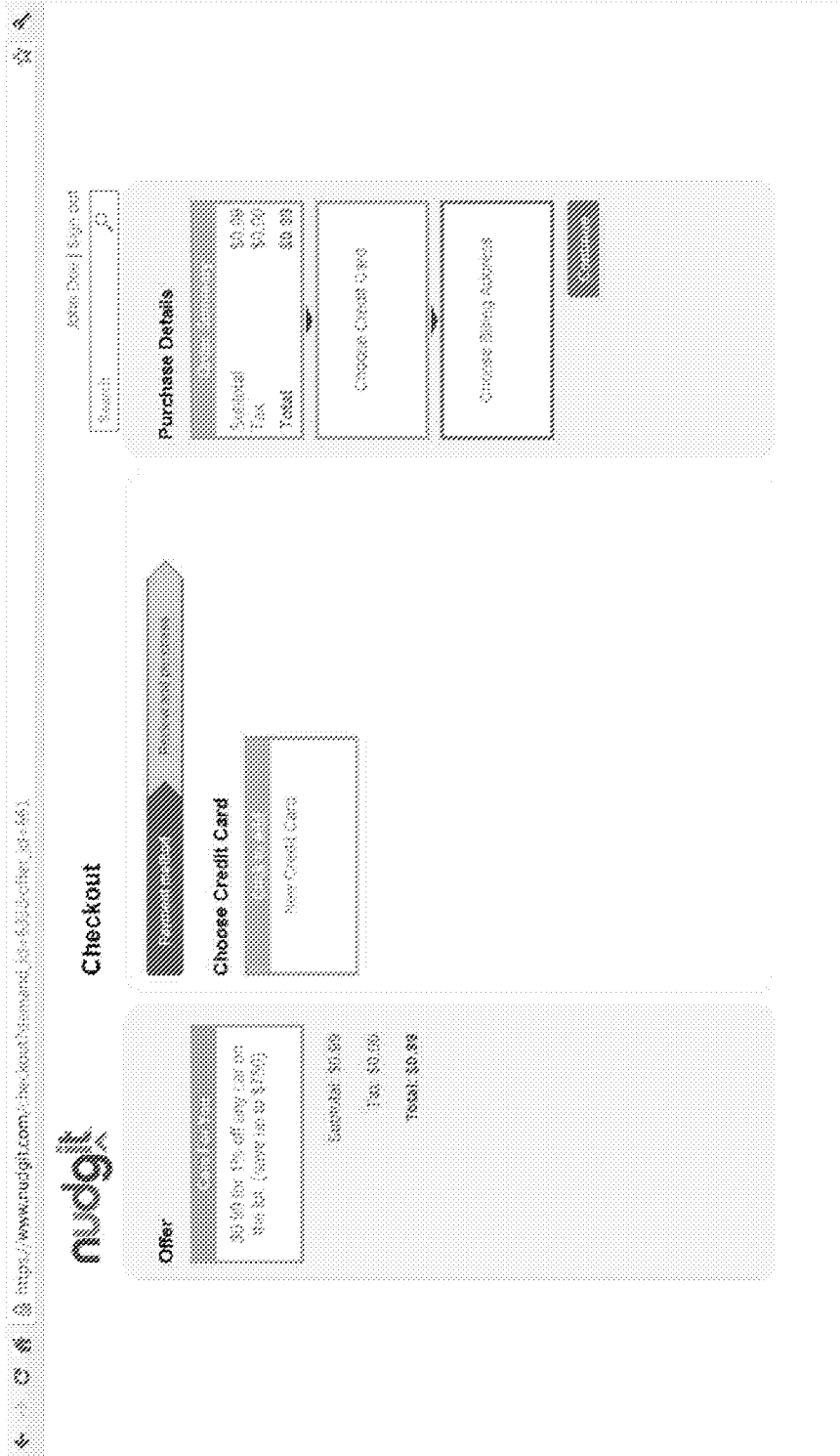


FIG. 14A

1400 ↗

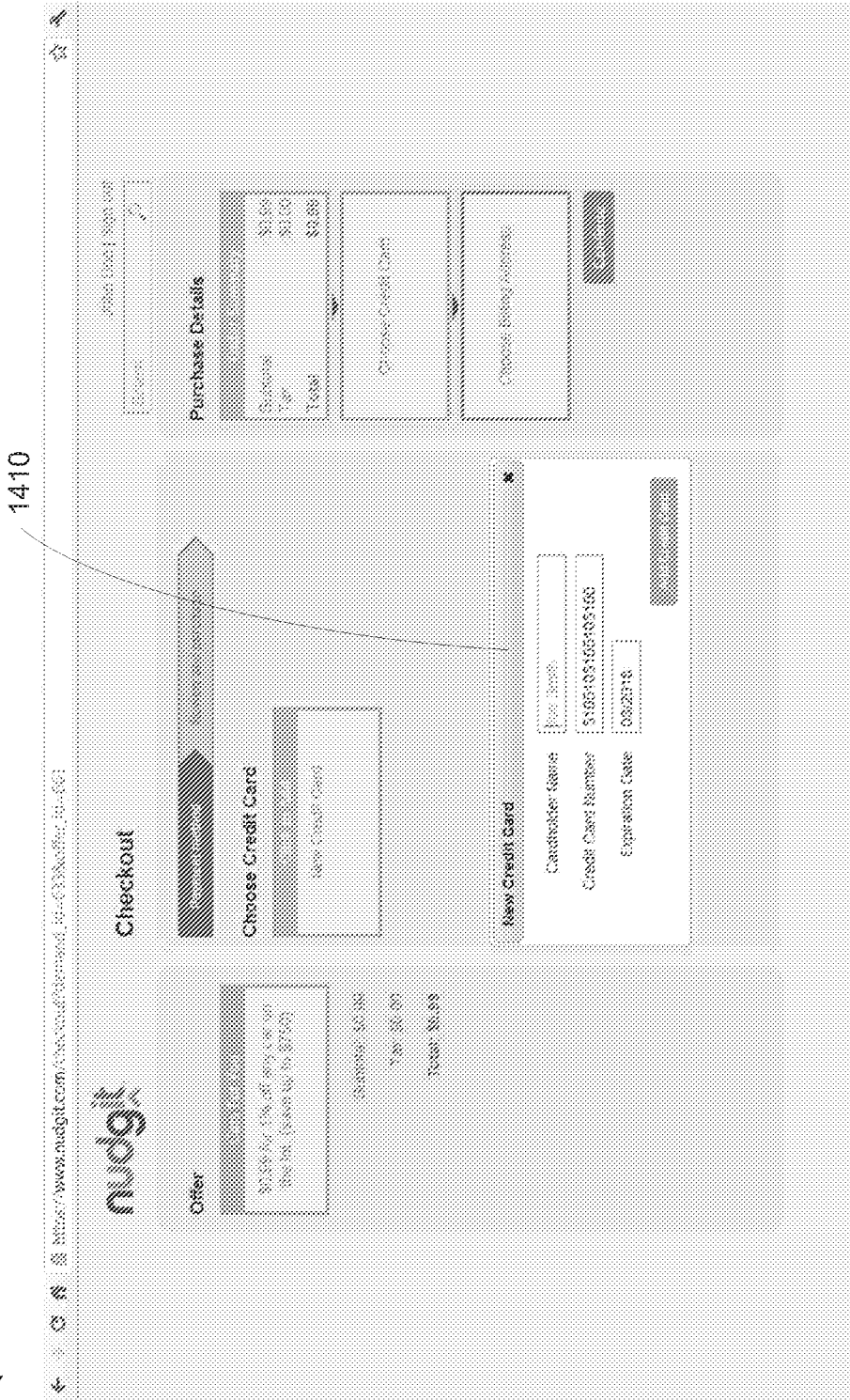


FIG. 14B

1400 ↗

1420

http://www.nudgi.com/checkout?demand_id=60&offer_id=651

Sign out | Sign in

Checkout

Offer

\$0.99 for \$5 off any fat on the fat. (value up to \$7.00)

Subtotal: \$0.99
Tax: \$0.00
Total: \$0.99

Choose Credit Card

New Credit Card

Choose Billing Address

New Address

Purchase Details

Subtotal	\$0.99
Tax	\$0.00
Total	\$0.99

John Doe
123 Main Street
Springfield, IL 62761

Choose Billing Address

Save for future purchases

FIG. 14C

1400 ↗

1430

← <https://www.nudgi.com/checkout/checkout.html?req=653&offer=14-60> Add Cart Sign out

nudgi

Checkout Review and purchase

Offer

\$3.50 for 1% off any purchase
\$10.00 (saves up to \$7.50)

SUBTOTAL: \$0.00
TAX: \$0.00
TOTAL: \$0.00

Choose Credit Card

New Credit Card

Choose Billing Address

New Address

Purchase Details

Subtotal	\$0.00
Tax	\$0.00
Total	\$0.00

John Doe
123 Main Street
Chicago, IL 60601

John Doe
100 Main Street
Irvine, CA 92614

Save for future purchases

FIG. 14D

1400 ↗

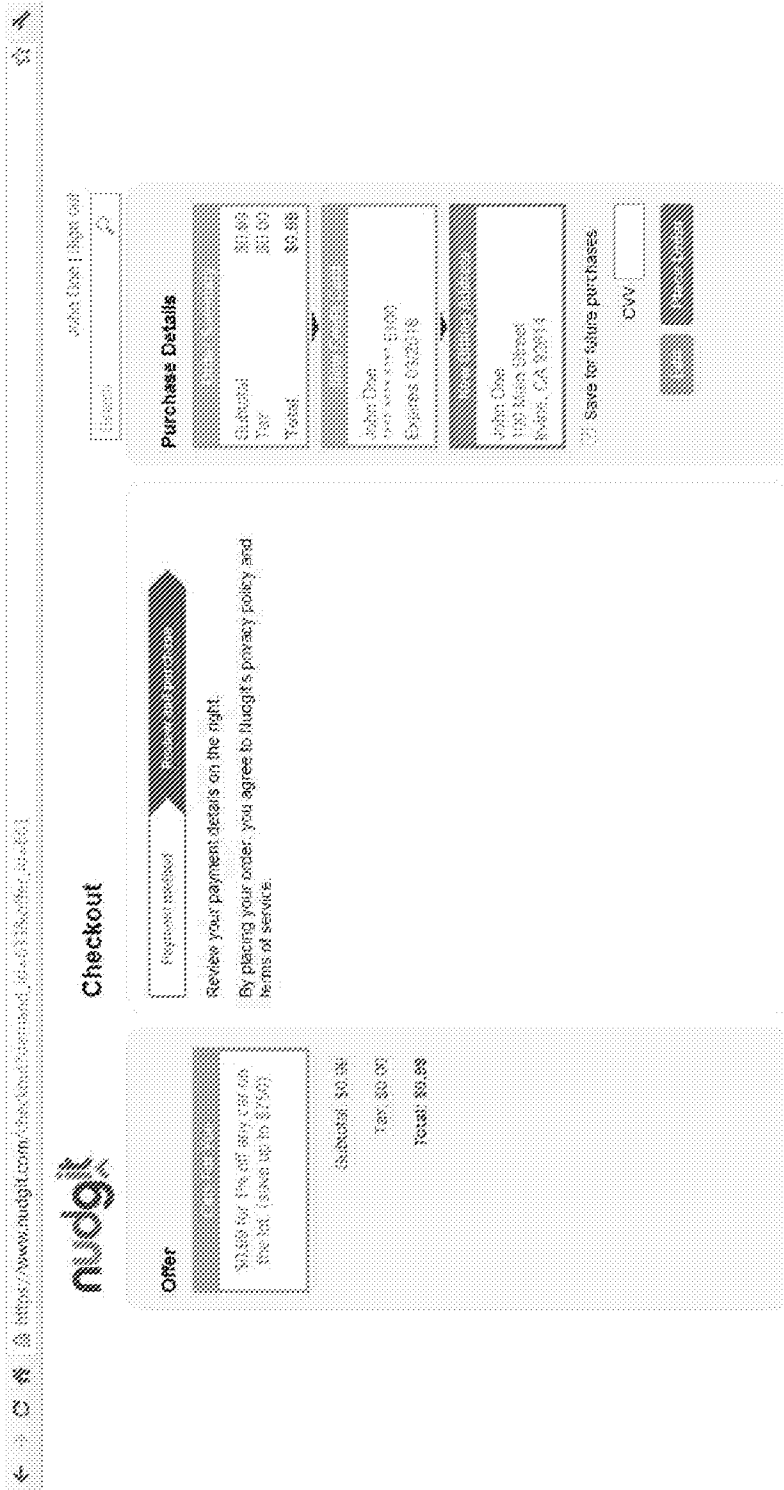


FIG. 14E

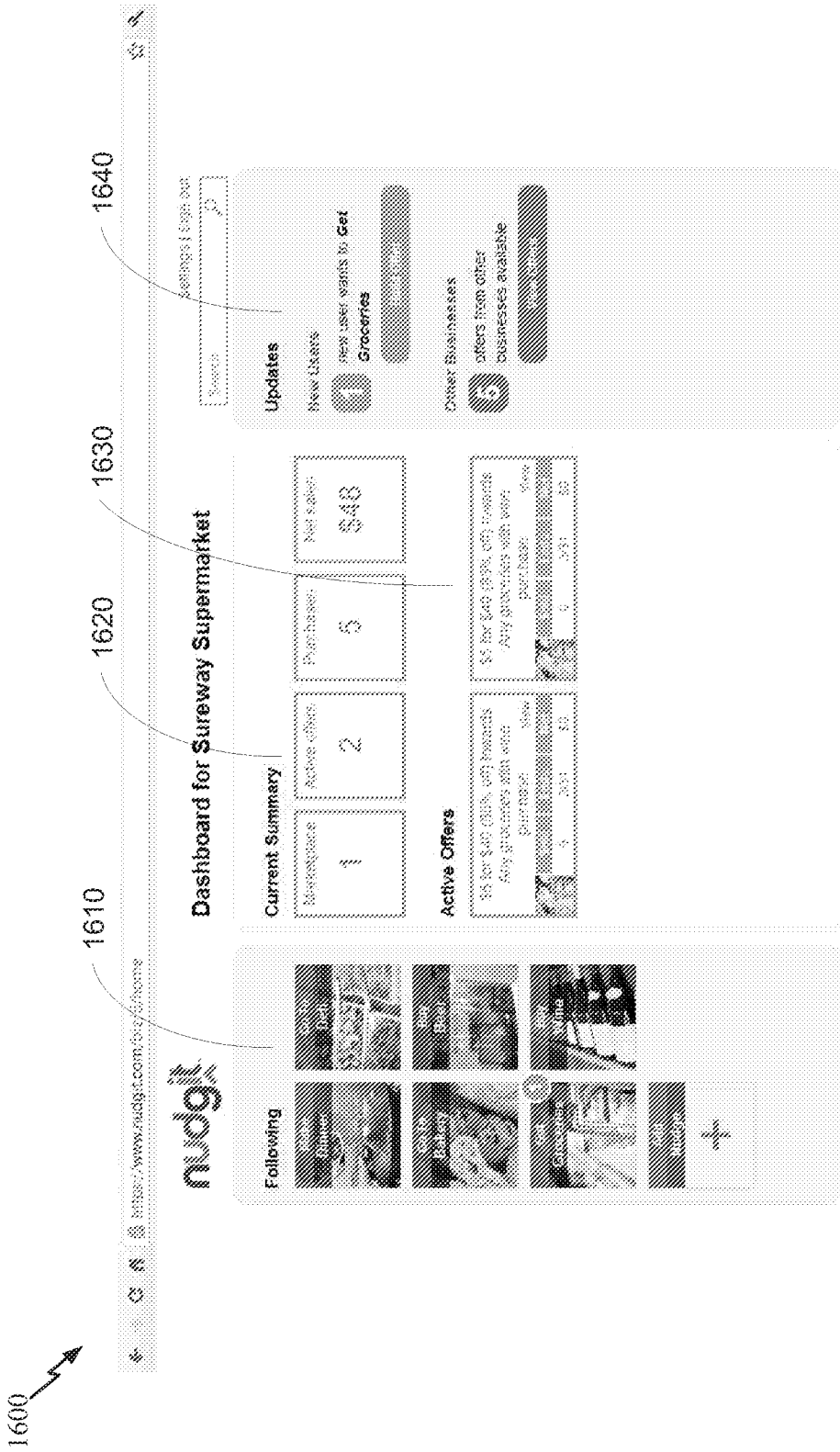


FIG. 16



FIG. 17A

1700 ↗



FIG. 17B

1800 ↗



FIG. 18

1900 ↗

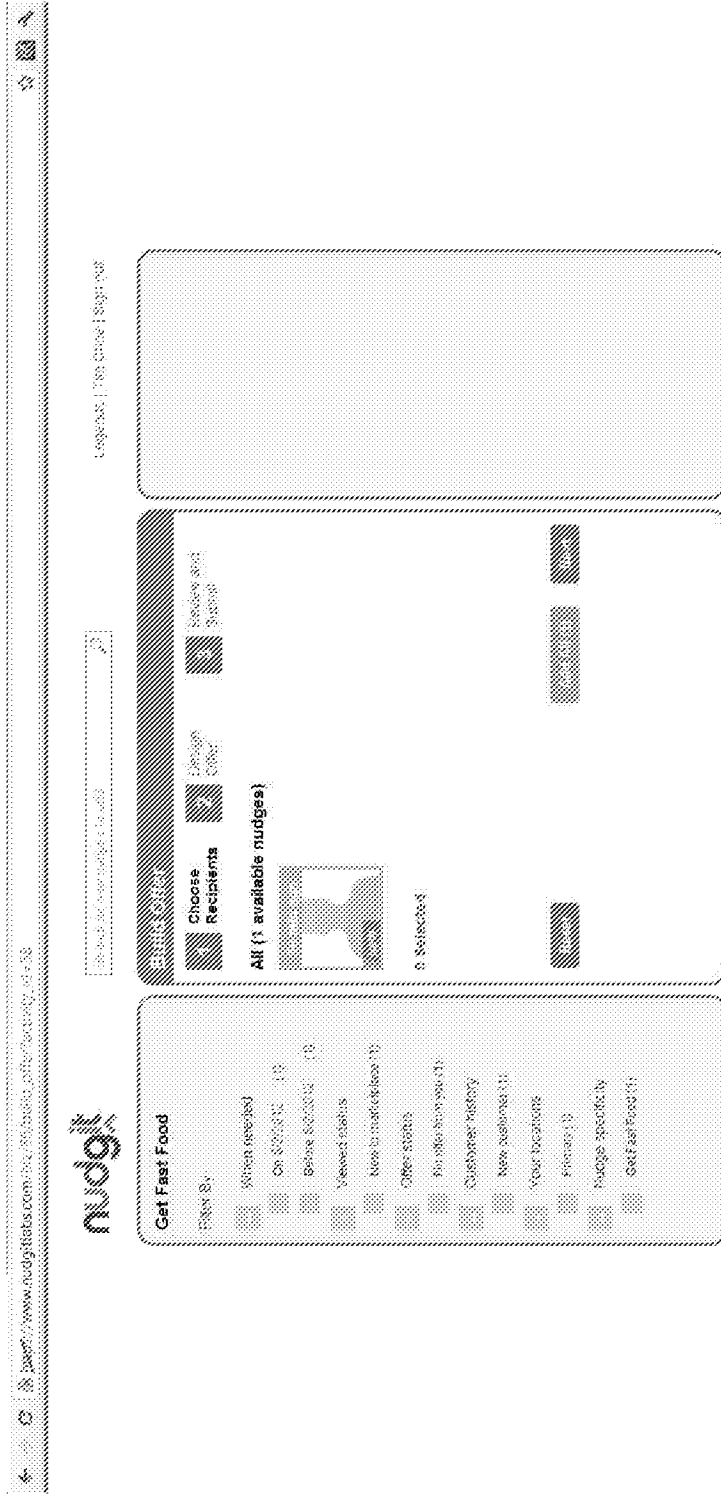


FIG. 19A

1900 ↗

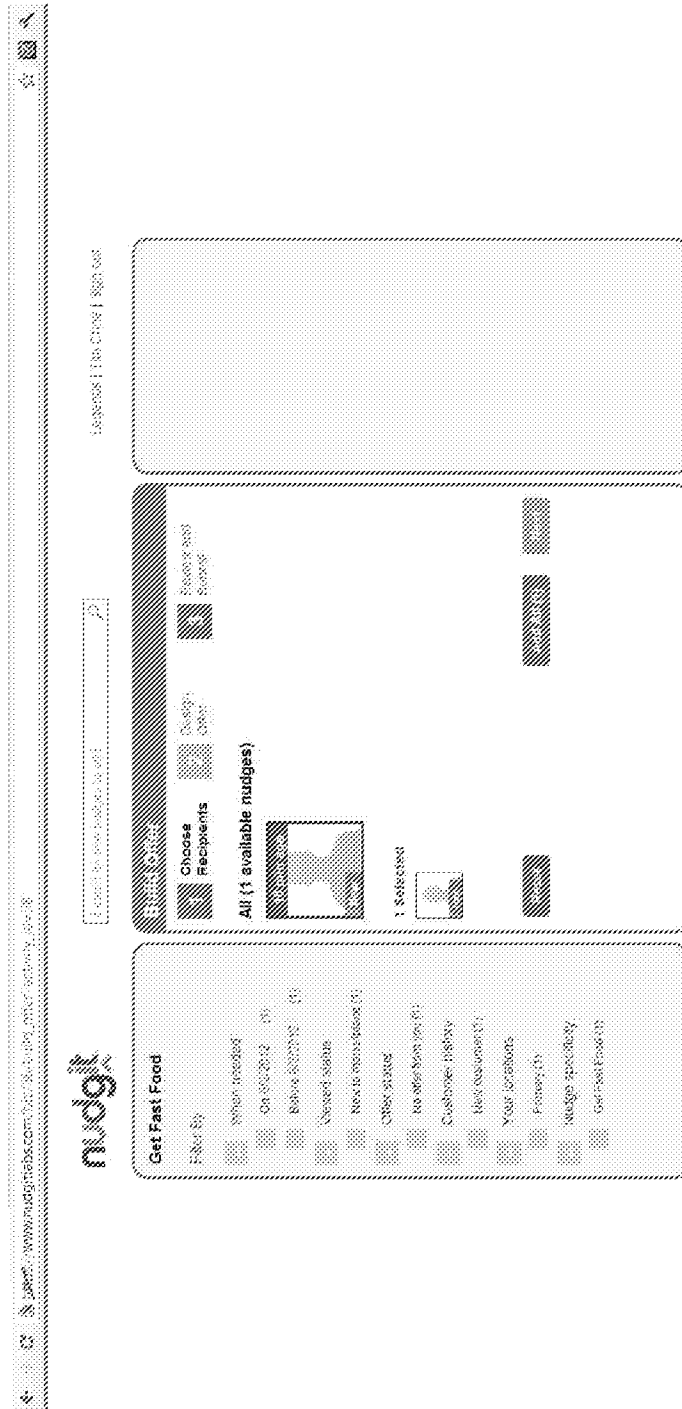


FIG. 19B

1900 ↗

Browser address bar: https://www.nudgik.com/.../build_offer/activity/4133

Navigation: Settings | Sign Out

Buttons: Save, Offer Preview

Build Offer

Recipients
Activity:

Selected by:

Create Offer

Choose For poster Reward and Subject
 Show Available Post Available Offer Expiration
 Reschedule Post Location Location Location Location

Create From

Select

\$10 for \$40 (25% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$5 for \$40 (12.5% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$2 for \$40 (5% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$1 for \$40 (2.5% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$10 for \$40 (25% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$5 for \$40 (12.5% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$2 for \$40 (5% off) towards any purchases with same purchase	0	25%	1	100%	100%
\$1 for \$40 (2.5% off) towards any purchases with same purchase	0	25%	1	100%	100%

FIG. 19D

1900 ↗

www.nudgt.com:7070/build_offer_facets.js:10

nudgt

Build Offer

Recipients Activity

Selected (0)

Create New points

Choose template

Choose from

Create Offer

Pay for offer

Review and submit

See template

Create terms

Select

\$5 for \$10 (50% off) towards any item to enter purchase

\$10 for \$20 (50% off) towards any item to enter purchase

\$15 for \$30 (50% off) towards any item to enter purchase

\$5 for \$10 (50% off) towards any item to enter purchase

\$10 for \$20 (50% off) towards any item to enter purchase

\$15 for \$30 (50% off) towards any item to enter purchase

Offer Preview

Search

Settings Page edit

FIG. 19E


1900 ↗

<https://www.nudgit.com/2012/07/14/build-offer-19-02>


[Home](#)
[Sign out](#)

Recipients

SARINBY



Selected (0)



Build Offer

Checked
Encipients

Create
Offer

Review and
Submit

Custom
Templates

Plan
and Shop

Other
Encipients

Appointments
Publish

Luxuries
and Prints

Custom
Terms

ORDER REFERENCE: 1946712010

Enter limit: 10

30 min Limit


4:30pm

Offer Preview

\$5 for \$25 (75% off)
towards your FIRST
SPECIALY visit

Valid thru: Unlimited

Expires on: 03/31/2013



Address: SARINBY
SARINBY - 3601 S. Main
227 E 8th St
Evanston, IL 60201
(708) 857-8888

Emergency Department - Sarinby
594 E. ON AND 8th St. 2ND
FLOOR - EVANSTON, IL 60201

Use the phone that apply to all
offers.

FIG. 19G

1900 ↗

Home Settings | Sign out

nudgii

Recipients
Activity
Selected (0)

Build Offer

General Info **Create Offer** Photo and Video Locations and Photo Redeem and Custom Icons

Select Locations where this offer may be redeemed.

124728 ST. LOUIS, MISSOURI, MO 63107
124728 ST. LOUIS, MISSOURI, MO 63107

Select Photo

Offer Preview

\$5 for \$25 PARK MUSEUMS YEAR PASS
Redeem

PARK MUSEUMS
300 N. MICHIGAN ST.
ST. LOUIS, MO 63107
314.435.1574

PARK MUSEUMS YEAR PASS \$25 for \$5

FIG. 19I

2000

The screenshot shows a web browser window with the URL <http://www.nudgeit.com/biz/65/offer/795>. The page features the 'nudgeit' logo and a search bar. The main content is divided into three vertical panels:

- Offer Panel (left):** Contains a 'Return to Dashboard' link, a title '\$1 for \$3 (80% off) Biscuits (not avail. for sale)', a duration of '7 days' and 'Unlimited', a date range from 'Apr 18, 2012 3:00pm PDT' to 'May 18, 2012 3:00pm PDT', an image of a striped biscuit, and contact information for '227 S B ST STE 4, SAN MATEO, CA 94401, 6507815814'. A disclaimer at the bottom states: 'See the terms that apply to all offers. 24-hour notice of cancellation or expiration required. Must present voucher before usage is initiated. Age/ID/membership required.'
- Offer Details Panel (middle):** Shows 'Status (active)' and a table of metrics:

Redemptions	Unredeemed	Unredeemed	Unredeemed
1	0	0	\$0

Below the table, another row shows 'Unredeemed' with a value of '\$0'.
- Manage Panel (right):** Features a 'Manage' header and a 'Total Price' section.

FIG. 20A

2000

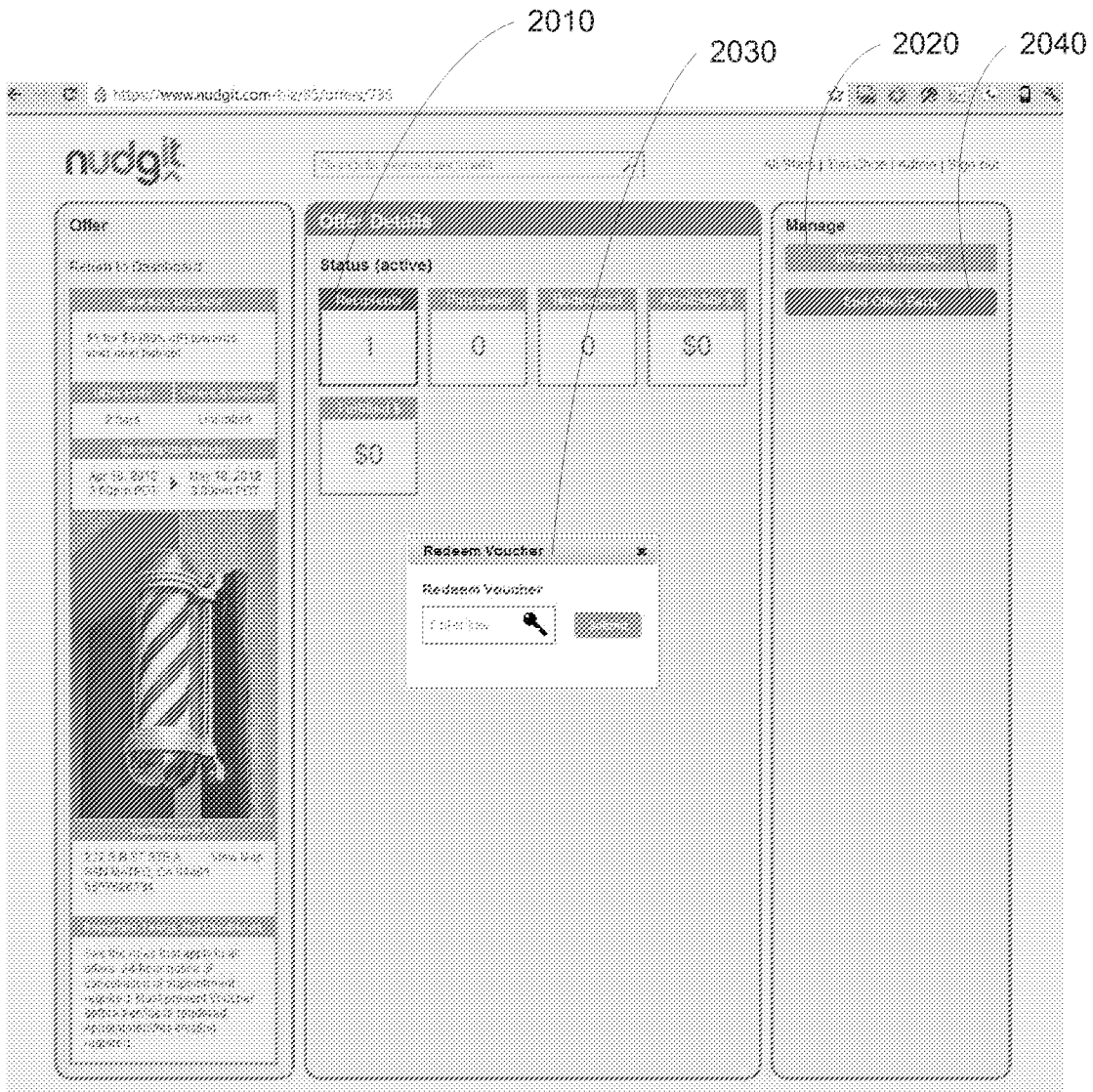


FIG. 20B

2100 ↘

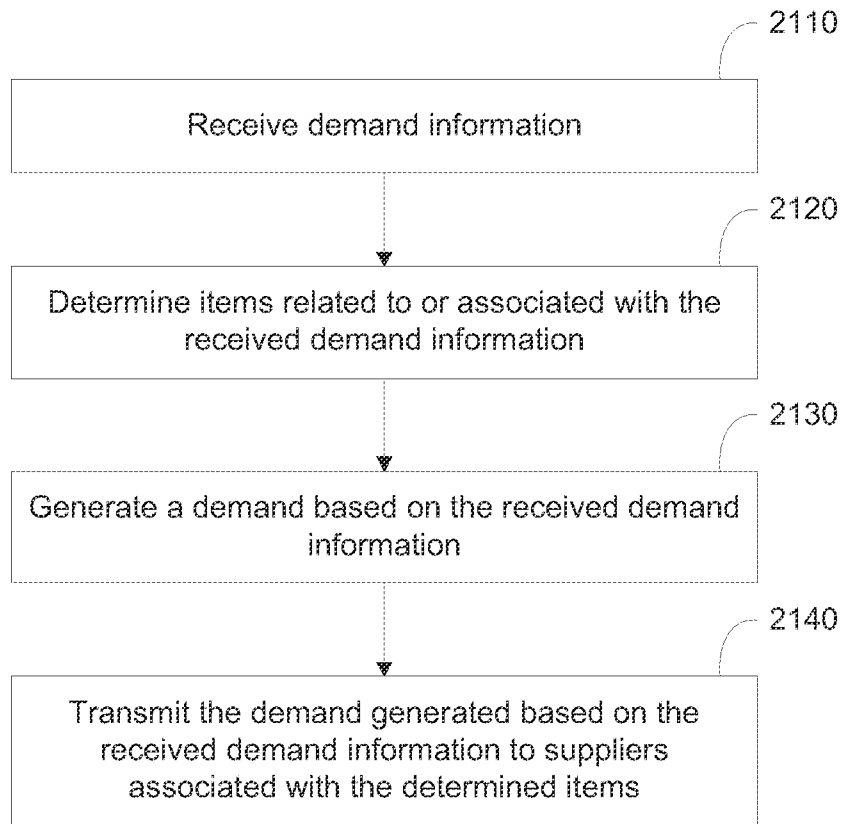


FIG. 21

2200 ↘

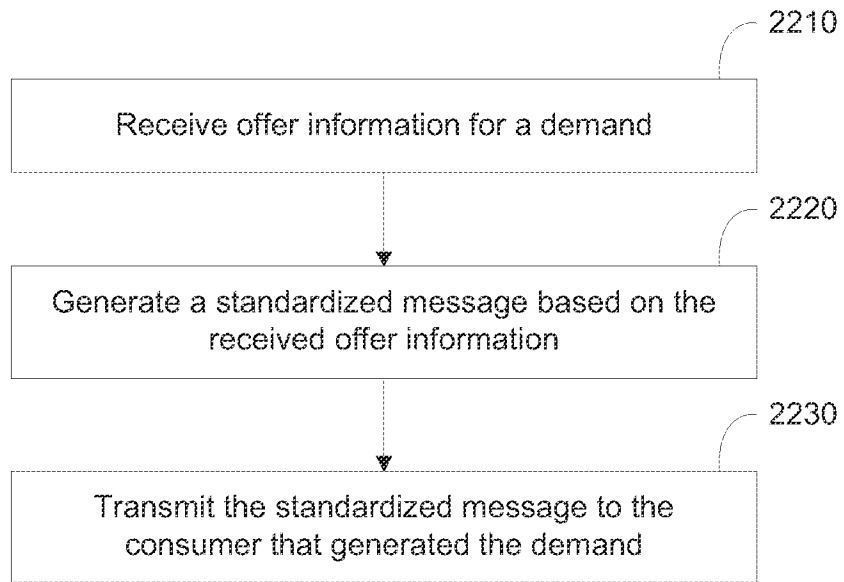


FIG. 22

2300 ↘

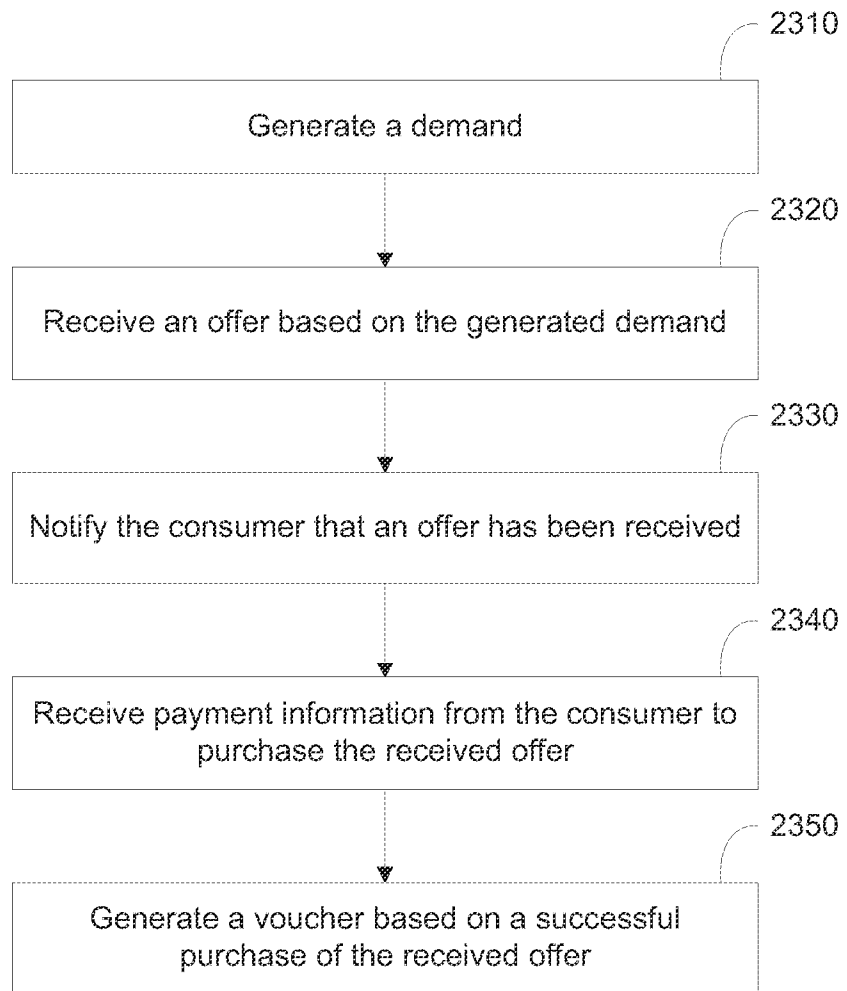


FIG. 23