(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 April 2018 (19.04.2018)

WIPO | PCT

(10) International Publication Number
WO 2018/071749 A1

(51) International Patent Classification:
G06F 17/30 (2006.01) *G06Q 10/08* (2012.01)
G06Q 10/02 (2012.01) *G06Q 30/06* (2012.01)

(21) International Application Number:
PCT/US2017/056478

(22) International Filing Date:
13 October 2017 (13.10.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/408,736	15 October 2016 (15.10.2016)	US
62/423,906	18 November 2016 (18.11.2016)	US
62/436,842	20 December 2016 (20.12.2016)	US
62/485,045	13 April 2017 (13.04.2017)	US

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(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, SZ, TZ,

(54) Title: COURIER MANAGEMENT SYSTEM

(57) Abstract: Provided is a courier management system. The system includes a customer computing device for accessing and receiving data produced by the system and a server located at a service provider, the server coupled to the customer computing device. The server may be programmed to store customer preferences, generate and transmit a scalable shopping preference interface to allow a customer to select a level of courier involvement, automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement after receiving a shopping list. Automatically generating order instructions may include selecting a substitute or alternative product to complete the shopping list in response to automatically determining a requested product is out of stock.

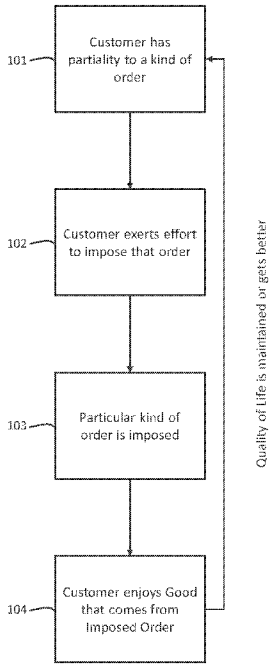

FIG. 1

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[Continued on next page]

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, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

COURIER MANAGEMENT SYSTEM

Related Application(s)

[0001] This application claims the benefit of U.S. Provisional application number 62/423,906, filed November 18, 2016, U.S. Provisional application number 62/408,736, filed October 15, 2016, U.S. Provisional application number 62/436,842, filed December 20, 2016, and U.S. Provisional application number 62/485,045, filed April 13, 2017, which are all incorporated by reference in their entirety herein.

Technical Field

[0002] These teachings relate generally to providing products and services to individuals.

Background

[0003] Various shopping paradigms are known in the art. One approach of long-standing use essentially comprises displaying a variety of different goods at a shared physical location and allowing consumers to view/experience those offerings as they wish to thereby make their purchasing selections. This model is being increasingly challenged due at least in part to the logistical and temporal inefficiencies that accompany this approach and also because this approach does not assure that a product best suited to a particular consumer will in fact be available for that consumer to purchase at the time of their visit.

[0004] Increasing efforts are being made to present a given consumer with one or more purchasing options that are selected based upon some preference of the consumer. When done properly, this approach can help to avoid presenting the consumer with things that they might not wish to consider. That said, existing preference-based approaches nevertheless leave much to be desired. Information regarding preferences, for example, may tend to be very product specific and accordingly may have little value apart from use with a very specific product or product category. As a result, while helpful, a preferences-based approach is inherently very limited in scope and offers only a very weak platform by which to assess a wide variety of product and service categories.

Brief Description of the Drawings

[0005] The above needs are at least partially met through provision of the vector-based characterizations of products described in the following detailed description, particularly when studied in conjunction with the drawings, wherein:

[0006] FIG. 1 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0007] FIG. 2 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0008] FIG. 3 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0009] FIG. 4 comprises a graph as configured in accordance with various embodiments of these teachings;

[0010] FIG. 5 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0011] FIG. 6 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0012] FIG. 7 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0013] FIG. 8 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0014] FIG. 9 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0015] FIG. 10 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0016] FIG. 11 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0017] FIG. 12 comprises a graphic representation as configured in accordance with various embodiments of these teachings;

[0018] FIG. 13 comprises a block diagram as configured in accordance with various embodiments of these teachings;

[0019] FIG. 14 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0020] FIG. 15 comprises a graph as configured in accordance with various embodiments of these teachings;

[0021] FIG. 16 comprises a flow diagram as configured in accordance with various embodiments of these teachings;

[0022] FIG. 17 comprises a block diagram as configured in accordance with various embodiments of these teachings;

[0023] FIG. 18 is a block diagram of components of a courier management system, in accordance with some embodiments;

[0024] FIG. 19 is a block diagram of courier management system, in accordance with some embodiments;

[0025] FIG. 20 is a block diagram of a sliding scale of a courier management system, in accordance with some embodiments;

[0026] FIG. 21 depicts an example graphical user interface 100 for defining delivery agents for categories of delivery agent, according to some embodiments;

[0027] FIG. 22 depicts a graphical user interface 200 for selecting user selectable preferences, according to some embodiments;

[0028] FIG. 23 is a block diagram of an example system 300 for selecting a delivery agent, according to some embodiments; and

[0029] FIG. 24 is a flow chart depicting example operations for selecting a delivery agent, according to some embodiments.

[0030] Elements in the figures are illustrated for simplicity and clarity and have not necessarily been drawn to scale. For example, the dimensions and/or relative positioning of some of the elements in the figures may be exaggerated relative to other elements to help to improve understanding of various embodiments of the present teachings. Also, common but well-understood elements that are useful or necessary in a commercially feasible embodiment

are often not depicted in order to facilitate a less obstructed view of these various embodiments of the present teachings. Certain actions and/or steps may be described or depicted in a particular order of occurrence while those skilled in the art will understand that such specificity with respect to sequence is not actually required. The terms and expressions used herein have the ordinary technical meaning as is accorded to such terms and expressions by persons skilled in the technical field as set forth above except where different specific meanings have otherwise been set forth herein.

Detailed Description

[0031] Generally speaking, many of these embodiments provide for a memory having information stored therein that includes partiality information for each of a plurality of persons in the form of a plurality of partiality vectors for each of the persons wherein each partiality vector has at least one of a magnitude and an angle that corresponds to a magnitude of the person's belief in an amount of good that comes from an order associated with that partiality. This memory can also contain vectorized characterizations for each of a plurality of products, wherein each of the vectorized characterizations includes a measure regarding an extent to which a corresponding one of the products accords with a corresponding one of the plurality of partiality vectors.

[0032] Rules can then be provided that use the aforementioned information in support of a wide variety of activities and results. Although the described vector-based approaches bear little resemblance (if any) (conceptually or in practice) to prior approaches to understanding and/or metricizing a given person's product/service requirements, these approaches yield numerous benefits including, at least in some cases, reduced memory requirements, an ability to accommodate (both initially and dynamically over time) an essentially endless number and variety of partialities and/or product attributes, and processing/comparison capabilities that greatly ease computational resource requirements and/or greatly reduced time-to-solution results.

[0033] So configured, these teachings can constitute, for example, a method for automatically correlating a particular product with a particular person by using a control circuit to obtain a set of rules that define the particular product from amongst a plurality of candidate products for the particular person as a function of vectorized representations of partialities for the particular person and vectorized characterizations for the candidate products. This control circuit can also obtain partiality information for the particular person in

the form of a plurality of partiality vectors that each have at least one of a magnitude and an angle that corresponds to a magnitude of the particular person's belief in an amount of good that comes from an order associated with that partiality and vectorized characterizations for each of the candidate products, wherein each of the vectorized characterizations indicates a measure regarding an extent to which a corresponding one of the candidate products accords with a corresponding one of the plurality of partiality vectors. The control circuit can then generate an output comprising identification of the particular product by evaluating the partiality vectors and the vectorized characterizations against the set of rules.

[0034] The aforementioned set of rules can include, for example, comparing at least some of the partiality vectors for the particular person to each of the vectorized characterizations for each of the candidate products using vector dot product calculations. By another approach, in lieu of the foregoing or in combination therewith, the aforementioned set of rules can include using the partiality vectors and the vectorized characterizations to define a plurality of solutions that collectively form a multi-dimensional surface and selecting the particular product from the multi-dimensional surface. In such a case the set of rules can further include accessing other information (such as objective information) for the particular person comprising information other than partiality vectors and using the other information to constrain a selection area on the multi-dimensional surface from which the particular product can be selected.

[0035] People tend to be partial to ordering various aspects of their lives, which is to say, people are partial to having things well arranged per their own personal view of how things should be. As a result, anything that contributes to the proper ordering of things regarding which a person has partialities represents value to that person. Quite literally, improving order reduces entropy for the corresponding person (i.e., a reduction in the measure of disorder present in that particular aspect of that person's life) and that improvement in order/reduction in disorder is typically viewed with favor by the affected person.

[0036] Generally speaking a value proposition must be coherent (logically sound) and have "force." Here, force takes the form of an imperative. When the parties to the imperative have a reputation of being trustworthy and the value proposition is perceived to yield a good outcome, then the imperative becomes anchored in the center of a belief that "this is something that I must do because the results will be good for me." With the imperative so

anchored, the corresponding material space can be viewed as conforming to the order specified in the proposition that will result in the good outcome.

[0037] Pursuant to these teachings a belief in the good that comes from imposing a certain order takes the form of a value proposition. It is a set of coherent logical propositions by a trusted source that, when taken together, coalesce to form an imperative that a person has a personal obligation to order their lives because it will return a good outcome which improves their quality of life. This imperative is a value force that exerts the physical force (effort) to impose the desired order. The inertial effects come from the strength of the belief. The strength of the belief comes from the force of the value argument (proposition). And the force of the value proposition is a function of the perceived good and trust in the source that convinced the person's belief system to order material space accordingly. A belief remains constant until acted upon by a new force of a trusted value argument. This is at least a significant reason why the routine in people's lives remains relatively constant.

[0038] Newton's three laws of motion have a very strong bearing on the present teachings. Stated summarily, Newton's first law holds that an object either remains at rest or continues to move at a constant velocity unless acted upon by a force, the second law holds that the vector sum of the forces F on an object equal the mass m of that object multiplied by the acceleration a of the object (i.e., F = ma), and the third law holds that when one body exerts a force on a second body, the second body simultaneously exerts a force equal in magnitude and opposite in direction on the first body.

[0039] Relevant to both the present teachings and Newton's first law, beliefs can be viewed as having inertia. In particular, once a person believes that a particular order is good, they tend to persist in maintaining that belief and resist moving away from that belief. The stronger that belief the more force an argument and/or fact will need to move that person away from that belief to a new belief.

[0040] Relevant to both the present teachings and Newton's second law, the "force" of a coherent argument can be viewed as equaling the "mass" which is the perceived Newtonian effort to impose the order that achieves the aforementioned belief in the good which an imposed order brings multiplied by the change in the belief of the good which comes from the imposition of that order. Consider that when a change in the value of a particular order is observed then there must have been a compelling value claim influencing that change. There is a proportionality in that the greater the change the stronger the value

argument. If a person values a particular activity and is very diligent to do that activity even when facing great opposition, we say they are dedicated, passionate, and so forth. If they stop doing the activity, it begs the question, what made them stop? The answer to that question needs to carry enough force to account for the change.

[0041] And relevant to both the present teachings and Newton's third law, for every effort to impose good order there is an equal and opposite good reaction.

[0042] FIG. 1 provides a simple illustrative example in these regards. At block 101 it is understood that a particular person has a partiality (to a greater or lesser extent) to a particular kind of order. At block 102 that person willingly exerts effort to impose that order to thereby, at block 103, achieve an arrangement to which they are partial. And at block 104, this person appreciates the "good" that comes from successfully imposing the order to which they are partial, in effect establishing a positive feedback loop.

[0043] Understanding these partialities to particular kinds of order can be helpful to understanding how receptive a particular person may be to purchasing a given product or service. FIG. 2 provides a simple illustrative example in these regards. At block 201 it is understood that a particular person values a particular kind of order. At block 202 it is understood (or at least presumed) that this person wishes to lower the effort (or is at least receptive to lowering the effort) that they must personally exert to impose that order. At decision block 203 (and with access to information 204 regarding relevant products and or services) a determination can be made whether a particular product or service lowers the effort required by this person to impose the desired order. When such is not the case, it can be concluded that the person will not likely purchase such a product/service 205 (presuming better choices are available).

[0044] When the product or service does lower the effort required to impose the desired order, however, at block 206 a determination can be made as to whether the amount of the reduction of effort justifies the cost of purchasing and/or using the proffered product/service. If the cost does not justify the reduction of effort, it can again be concluded that the person will not likely purchase such a product/service 205. When the reduction of effort does justify the cost, however, this person may be presumed to want to purchase the product/service and thereby achieve the desired order (or at least an improvement with respect to that order) with less expenditure of their own personal effort (block 207) and thereby achieve, at block 208, corresponding enjoyment or appreciation of that result.

[0045] To facilitate such an analysis, the applicant has determined that factors pertaining to a person's partialities can be quantified and otherwise represented as corresponding vectors (where "vector" will be understood to refer to a geometric object/quantity having both an angle and a length/magnitude). These teachings will accommodate a variety of differing bases for such partialities including, for example, a person's values, affinities, aspirations, and preferences.

[0046] A value is a person's principle or standard of behavior, their judgment of what is important in life. A person's values represent their ethics, moral code, or morals and not a mere unprincipled liking or disliking of something. A person's value might be a belief in kind treatment of animals, a belief in cleanliness, a belief in the importance of personal care, and so forth.

[0047] An affinity is an attraction (or even a feeling of kinship) to a particular thing or activity. Examples including such a feeling towards a participatory sport such as golf or a spectator sport (including perhaps especially a particular team such as a particular professional or college football team), a hobby (such as quilting, model railroading, and so forth), one or more components of popular culture (such as a particular movie or television series, a genre of music or a particular musical performance group, or a given celebrity, for example), and so forth.

[0048] "Aspirations" refer to longer-range goals that require months or even years to reasonably achieve. As used herein "aspirations" does not include mere short term goals (such as making a particular meal tonight or driving to the store and back without a vehicular incident). The aspired-to goals, in turn, are goals pertaining to a marked elevation in one's core competencies (such as an aspiration to master a particular game such as chess, to achieve a particular articulated and recognized level of martial arts proficiency, or to attain a particular articulated and recognized level of cooking proficiency), professional status (such as an aspiration to receive a particular advanced education degree, to pass a professional examination such as a state Bar examination of a Certified Public Accountants examination, or to become Board certified in a particular area of medical practice), or life experience milestone (such as an aspiration to climb Mount Everest, to visit every state capital, or to attend a game at every major league baseball park in the United States). It will further be understood that the goal(s) of an aspiration is not something that can likely merely simply happen of its own accord; achieving an aspiration requires an intelligent effort to order one's

life in a way that increases the likelihood of actually achieving the corresponding goal or goals to which that person aspires. One aspires to one day run their own business as versus, for example, merely hoping to one day win the state lottery.

[0049] A preference is a greater liking for one alternative over another or others. A person can prefer, for example, that their steak is cooked "medium" rather than other alternatives such as "rare" or "well done" or a person can prefer to play golf in the morning rather than in the afternoon or evening. Preferences can and do come into play when a given person makes purchasing decisions at a retail shopping facility. Preferences in these regards can take the form of a preference for a particular brand over other available brands or a preference for economy-sized packaging as versus, say, individual serving-sized packaging.

[0050] Values, affinities, aspirations, and preferences are not necessarily wholly unrelated. It is possible for a person's values, affinities, or aspirations to influence or even dictate their preferences in specific regards. For example, a person's moral code that values non-exploitive treatment of animals may lead them to prefer foods that include no animal-based ingredients and hence to prefer fruits and vegetables over beef and chicken offerings. As another example, a person's affinity for a particular musical group may lead them to prefer clothing that directly or indirectly references or otherwise represents their affinity for that group. As yet another example, a person's aspirations to become a Certified Public Accountant may lead them to prefer business-related media content.

[0051] While a value, affinity, or aspiration may give rise to or otherwise influence one or more corresponding preferences, however, is not to say that these things are all one and the same; they are not. For example, a preference may represent either a principled or an unprincipled liking for one thing over another, while a value is the principle itself. Accordingly, as used herein it will be understood that a partiality can include, in context, any one or more of a value-based, affinity-based, aspiration-based, and/or preference-based partiality unless one or more such features is specifically excluded per the needs of a given application setting.

[0052] Information regarding a given person's partialities can be acquired using any one or more of a variety of information-gathering and/or analytical approaches. By one simple approach, a person may voluntarily disclose information regarding their partialities (for example, in response to an online questionnaire or survey or as part of their social media presence). By another approach, the purchasing history for a given person can be analyzed to

intuit the partialities that led to at least some of those purchases. By yet another approach demographic information regarding a particular person can serve as yet another source that sheds light on their partialities. Other ways that people reveal how they order their lives include but are not limited to: (1) their social networking profiles and behaviors (such as the things they "like" via Facebook, the images they post via Pinterest, informal and formal comments they initiate or otherwise provide in response to third-party postings including statements regarding their own personal long-term goals, the persons/topics they follow via Twitter, the photographs they publish via Picasso, and so forth); (2) their Internet surfing history; (3) their on-line or otherwise-published affinity-based memberships; (4) real-time (or delayed) information (such as steps walked, calories burned, geographic location, activities experienced, and so forth) from any of a variety of personal sensors (such as smart phones, tablet/pad-styled computers, fitness wearables, Global Positioning System devices, and so forth) and the so-called Internet of Things (such as smart refrigerators and pantries, entertainment and information platforms, exercise and sporting equipment, and so forth); (5) instructions, selections, and other inputs (including inputs that occur within augmented-reality user environments) made by a person via any of a variety of interactive interfaces (such as keyboards and cursor control devices, voice recognition, gesture-based controls, and eye tracking-based controls), and so forth.

[0053] The present teachings employ a vector-based approach to facilitate characterizing, representing, understanding, and leveraging such partialities to thereby identify products (and/or services) that will, for a particular corresponding consumer, provide for an improved or at least a favorable corresponding ordering for that consumer. Vectors are directed quantities that each have both a magnitude and a direction. Per the applicant's approach these vectors have a real, as versus a metaphorical, meaning in the sense of Newtonian physics. Generally speaking, each vector represents order imposed upon material space-time by a particular partiality.

[0054] FIG. 3 provides some illustrative examples in these regards. By one approach the vector 300 has a corresponding magnitude 301 (i.e., length) that represents the magnitude of the strength of the belief in the good that comes from that imposed order (which belief, in turn, can be a function, relatively speaking, of the extent to which the order for this particular partiality is enabled and/or achieved). In this case, the greater the magnitude 301, the greater the strength of that belief and vice versa. Per another example, the vector 300 has a

corresponding angle A 302 that instead represents the foregoing magnitude of the strength of the belief (and where, for example, an angle of 0° represents no such belief and an angle of 90° represents a highest magnitude in these regards, with other ranges being possible as desired).

[0055] Accordingly, a vector serving as a partiality vector can have at least one of a magnitude and an angle that corresponds to a magnitude of a particular person's belief in an amount of good that comes from an order associated with a particular partiality.

[0056] Applying force to displace an object with mass in the direction of a certain partiality-based order creates worth for a person who has that partiality. The resultant work (i.e., that force multiplied by the distance the object moves) can be viewed as a worth vector having a magnitude equal to the accomplished work and having a direction that represents the corresponding imposed order. If the resultant displacement results in more order of the kind that the person is partial to then the net result is a notion of "good." This "good" is a real quantity that exists in meta-physical space much like work is a real quantity in material space. The link between the "good" in meta-physical space and the work in material space is that it takes work to impose order that has value.

[0057] In the context of a person, this effort can represent, quite literally, the effort that the person is willing to exert to be compliant with (or to otherwise serve) this particular partiality. For example, a person who values animal rights would have a large magnitude worth vector for this value if they exerted considerable physical effort towards this cause by, for example, volunteering at animal shelters or by attending protests of animal cruelty.

[0058] While these teachings will readily employ a direct measurement of effort such as work done or time spent, these teachings will also accommodate using an indirect measurement of effort such as expense; in particular, money. In many cases people trade their direct labor for payment. The labor may be manual or intellectual. While salaries and payments can vary significantly from one person to another, a same sense of effort applies at least in a relative sense.

[0059] As a very specific example in these regards, there are wristwatches that require a skilled craftsman over a year to make. The actual aggregated amount of force applied to displace the small components that comprise the wristwatch would be relatively very small. That said, the skilled craftsman acquired the necessary skill to so assemble the

wristwatch over many years of applying force to displace thousands of little parts when assembly previous wristwatches. That experience, based upon a much larger aggregation of previously-exerted effort, represents a genuine part of the "effort" to make this particular wristwatch and hence is fairly considered as part of the wristwatch's worth.

[0060] The conventional forces working in each person's mind are typically more-or-less constantly evaluating the value propositions that correspond to a path of least effort to thereby order their lives towards the things they value. A key reason that happens is because the actual ordering occurs in material space and people must exert real energy in pursuit of their desired ordering. People therefore naturally try to find the path with the least real energy expended that still moves them to the valued order. Accordingly, a trusted value proposition that offers a reduction of real energy will be embraced as being "good" because people will tend to be partial to anything that lowers the real energy they are required to exert while remaining consistent with their partialities.

[0061] FIG. 4 presents a space graph that illustrates many of the foregoing points. A first vector 401 represents the time required to make such a wristwatch while a second vector 402 represents the order associated with such a device (in this case, that order essentially represents the skill of the craftsman). These two vectors 401 and 402 in turn sum to form a third vector 403 that constitutes a value vector for this wristwatch. This value vector 403, in turn, is offset with respect to energy (i.e., the energy associated with manufacturing the wristwatch).

[0062] A person partial to precision and/or to physically presenting an appearance of success and status (and who presumably has the wherewithal) may, in turn, be willing to spend $100,000 for such a wristwatch. A person able to afford such a price, of course, may themselves be skilled at imposing a certain kind of order that other persons are partial to such that the amount of physical work represented by each spent dollar is small relative to an amount of dollars they receive when exercising their skill(s). (Viewed another way, wearing an expensive wristwatch may lower the effort required for such a person to communicate that their own personal success comes from being highly skilled in a certain order of high worth.)

[0063] Generally speaking, all worth comes from imposing order on the material space-time. The worth of a particular order generally increases as the skill required to impose the order increases. Accordingly, unskilled labor may exchange $10 for every hour worked where the work has a high content of unskilled physical labor while a highly-skilled data

scientist may exchange $75 for every hour worked with very little accompanying physical effort.

[0064] Consider a simple example where both of these laborers are partial to a well-ordered lawn and both have a corresponding partiality vector in those regards with a same magnitude. To observe that partiality the unskilled laborer may own an inexpensive push power lawn mower that this person utilizes for an hour to mow their lawn. The data scientist, on the other hand, pays someone else $75 in this example to mow their lawn. In both cases these two individuals traded one hour of worth creation to gain the same worth (to them) in the form of a well-ordered lawn; the unskilled laborer in the form of direct physical labor and the data scientist in the form of money that required one hour of their specialized effort to earn.

[0065] This same vector-based approach can also represent various products and services. This is because products and services have worth (or not) because they can remove effort (or fail to remove effort) out of the customer's life in the direction of the order to which the customer is partial. In particular, a product has a perceived effort embedded into each dollar of cost in the same way that the customer has an amount of perceived effort embedded into each dollar earned. A customer has an increased likelihood of responding to an exchange of value if the vectors for the product and the customer's partiality are directionally aligned and where the magnitude of the vector as represented in monetary cost is somewhat greater than the worth embedded in the customer's dollar.

[0066] Put simply, the magnitude (and/or angle) of a partiality vector for a person can represent, directly or indirectly, a corresponding effort the person is willing to exert to pursue that partiality. There are various ways by which that value can be determined. As but one non-limiting example in these regards, the magnitude/angle V of a particular partiality vector can be expressed as:

$$V = \begin{bmatrix} X_1 \\ \vdots \\ X_n \end{bmatrix} [W_1 \cdots W_n]$$

where X refers to any of a variety of inputs (such as those described above) that can impact the characterization of a particular partiality (and where these teachings will accommodate either or both subjective and objective inputs as desired) and W refers to weighting factors

that are appropriately applied the foregoing input values (and where, for example, these weighting factors can have values that themselves reflect a particular person's consumer personality or otherwise as desired and can be static or dynamically valued in practice as desired).

[0067] In the context of a product (or service) the magnitude/angle of the corresponding vector can represent the reduction of effort that must be exerted when making use of this product to pursue that partiality, the effort that was expended in order to create the product/service, the effort that the person perceives can be personally saved while nevertheless promoting the desired order, and/or some other corresponding effort. Taken as a whole the sum of all the vectors must be perceived to increase the overall order to be considered a good product/service.

[0068] It may be noted that while reducing effort provides a very useful metric in these regards, it does not necessarily follow that a given person will always gravitate to that which most reduces effort in their life. This is at least because a given person's values (for example) will establish a baseline against which a person may eschew some goods/services that might in fact lead to a greater overall reduction of effort but which would conflict, perhaps fundamentally, with their values. As a simple illustrative example, a given person might value physical activity. Such a person could experience reduced effort (including effort represented via monetary costs) by simply sitting on their couch, but instead will pursue activities that involve that valued physical activity. That said, however, the goods and services that such a person might acquire in support of their physical activities are still likely to represent increased order in the form of reduced effort where that makes sense. For example, a person who favors rock climbing might also favor rock climbing clothing and supplies that render that activity safer to thereby reduce the effort required to prevent disorder as a consequence of a fall (and consequently increasing the good outcome of the rock climber's quality experience).

[0069] By forming reliable partiality vectors for various individuals and corresponding product characterization vectors for a variety of products and/or services, these teachings provide a useful and reliable way to identify products/services that accord with a given person's own partialities (whether those partialities are based on their values, their affinities, their preferences, or otherwise).

[0070] It is of course possible that partiality vectors may not be available yet for a given person due to a lack of sufficient specific source information from or regarding that person. In this case it may nevertheless be possible to use one or more partiality vector templates that generally represent certain groups of people that fairly include this particular person. For example, if the person's gender, age, academic status/achievements, and/or postal code are known it may be useful to utilize a template that includes one or more partiality vectors that represent some statistical average or norm of other persons matching those same characterizing parameters. (Of course, while it may be useful to at least begin to employ these teachings with certain individuals by using one or more such templates, these teachings will also accommodate modifying (perhaps significantly and perhaps quickly) such a starting point over time as part of developing a more personal set of partiality vectors that are specific to the individual.) A variety of templates could be developed based, for example, on professions, academic pursuits and achievements, nationalities and/or ethnicities, characterizing hobbies, and the like.

[0071] FIG. 5 presents a process 500 that illustrates yet another approach in these regards. For the sake of an illustrative example it will be presumed here that a control circuit of choice (with useful examples in these regards being presented further below) carries out one or more of the described steps/actions.

[0072] At block 501 the control circuit monitors a person's behavior over time. The range of monitored behaviors can vary with the individual and the application setting. By one approach, only behaviors that the person has specifically approved for monitoring are so monitored.

[0073] As one example in these regards, this monitoring can be based, in whole or in part, upon interaction records 502 that reflect or otherwise track, for example, the monitored person's purchases. This can include specific items purchased by the person, from whom the items were purchased, where the items were purchased, how the items were purchased (for example, at a bricks-and-mortar physical retail shopping facility or via an on-line shopping opportunity), the price paid for the items, and/or which items were returned and when), and so forth.

[0074] As another example in these regards the interaction records 502 can pertain to the social networking behaviors of the monitored person including such things as their "likes," their posted comments, images, and tweets, affinity group affiliations, their on-line

profiles, their playlists and other indicated "favorites," and so forth. Such information can sometimes comprise a direct indication of a particular partiality or, in other cases, can indirectly point towards a particular partiality and/or indicate a relative strength of the person's partiality.

[0075] Other interaction records of potential interest include but are not limited to registered political affiliations and activities, credit reports, military-service history, educational and employment history, and so forth.

[0076] As another example, in lieu of the foregoing or in combination therewith, this monitoring can be based, in whole or in part, upon sensor inputs from the Internet of Things (IOT) 503. The Internet of Things refers to the Internet-based inter-working of a wide variety of physical devices including but not limited to wearable or carriable devices, vehicles, buildings, and other items that are embedded with electronics, software, sensors, network connectivity, and sometimes actuators that enable these objects to collect and exchange data via the Internet. In particular, the Internet of Things allows people and objects pertaining to people to be sensed and corresponding information to be transferred to remote locations via intervening network infrastructure. Some experts estimate that the Internet of Things will consist of almost 50 billion such objects by 2020. (Further description in these regards appears further herein.)

[0077] Depending upon what sensors a person encounters, information can be available regarding a person's travels, lifestyle, calorie expenditure over time, diet, habits, interests and affinities, choices and assumed risks, and so forth. This process 500 will accommodate either or both real-time or non-real time access to such information as well as either or both push and pull-based paradigms.

[0078] By monitoring a person's behavior over time a general sense of that person's daily routine can be established (sometimes referred to herein as a routine experiential base state). As a very simple illustrative example, a routine experiential base state can include a typical daily event timeline for the person that represents typical locations that the person visits and/or typical activities in which the person engages. The timeline can indicate those activities that tend to be scheduled (such as the person's time at their place of employment or their time spent at their child's sports practices) as well as visits/activities that are normal for the person though not necessarily undertaken with strict observance to a corresponding

schedule (such as visits to local stores, movie theaters, and the homes of nearby friends and relatives).

[0079] At block 504 this process 500 provides for detecting changes to that established routine. These teachings are highly flexible in these regards and will accommodate a wide variety of "changes." Some illustrative examples include but are not limited to changes with respect to a person's travel schedule, destinations visited or time spent at a particular destination, the purchase and/or use of new and/or different products or services, a subscription to a new magazine, a new Rich Site Summary (RSS) feed or a subscription to a new blog, a new "friend" or "connection" on a social networking site, a new person, entity, or cause to follow on a Twitter-like social networking service, enrollment in an academic program, and so forth.

[0080] Upon detecting a change, at optional block 505 this process 500 will accommodate assessing whether the detected change constitutes a sufficient amount of data to warrant proceeding further with the process. This assessment can comprise, for example, assessing whether a sufficient number (i.e., a predetermined number) of instances of this particular detected change have occurred over some predetermined period of time. As another example, this assessment can comprise assessing whether the specific details of the detected change are sufficient in quantity and/or quality to warrant further processing. For example, merely detecting that the person has not arrived at their usual 6 PM-Wednesday dance class may not be enough information, in and of itself, to warrant further processing, in which case the information regarding the detected change may be discarded or, in the alternative, cached for further consideration and use in conjunction or aggregation with other, later-detected changes.

[0081] At block 507 this process 500 uses these detected changes to create a spectral profile for the monitored person. FIG. 6 provides an illustrative example in these regards with the spectral profile denoted by reference numeral 601. In this illustrative example the spectral profile 601 represents changes to the person's behavior over a given period of time (such as an hour, a day, a week, or some other temporal window of choice). Such a spectral profile can be as multidimensional as may suit the needs of a given application setting.

[0082] At optional block 507 this process 500 then provides for determining whether there is a statistically significant correlation between the aforementioned spectral profile and any of a plurality of like characterizations 508. The like characterizations 508 can comprise,

for example, spectral profiles that represent an average of groupings of people who share many of the same (or all of the same) identified partialities. As a very simple illustrative example in these regards, a first such characterization 602 might represent a composite view of a first group of people who have three similar partialities but a dissimilar fourth partiality while another of the characterizations 603 might represent a composite view of a different group of people who share all four partialities.

[0083] The aforementioned "statistically significant" standard can be selected and/or adjusted to suit the needs of a given application setting. The scale or units by which this measurement can be assessed can be any known, relevant scale/unit including, but not limited to, scales such as standard deviations, cumulative percentages, percentile equivalents, Z-scores, T-scores, standard nines, and percentages in standard nines. Similarly, the threshold by which the level of statistical significance is measured/assessed can be set and selected as desired. By one approach the threshold is static such that the same threshold is employed regardless of the circumstances. By another approach the threshold is dynamic and can vary with such things as the relative size of the population of people upon which each of the characterizations 508 are based and/or the amount of data and/or the duration of time over which data is available for the monitored person.

[0084] Referring now to FIG. 7, by one approach the selected characterization (denoted by reference numeral 701 in this figure) comprises an activity profile over time of one or more human behaviors. Examples of behaviors include but are not limited to such things as repeated purchases over time of particular commodities, repeated visits over time to particular locales such as certain restaurants, retail outlets, athletic or entertainment facilities, and so forth, and repeated activities over time such as floor cleaning, dish washing, car cleaning, cooking, volunteering, and so forth. Those skilled in the art will understand and appreciate, however, that the selected characterization is not, in and of itself, demographic data (as described elsewhere herein).

[0085] More particularly, the characterization 701 can represent (in this example, for a plurality of different behaviors) each instance over the monitored/sampled period of time when the monitored/represented person engages in a particular represented behavior (such as visiting a neighborhood gym, purchasing a particular product (such as a consumable perishable or a cleaning product), interacts with a particular affinity group via social networking, and so forth). The relevant overall time frame can be chosen as desired and can

range in a typical application setting from a few hours or one day to many days, weeks, or even months or years. (It will be understood by those skilled in the art that the particular characterization shown in FIG. 7 is intended to serve an illustrative purpose and does not necessarily represent or mimic any particular behavior or set of behaviors).

[0086] Generally speaking it is anticipated that many behaviors of interest will occur at regular or somewhat regular intervals and hence will have a corresponding frequency or periodicity of occurrence. For some behaviors that frequency of occurrence may be relatively often (for example, oral hygiene events that occur at least once, and often multiple times each day) while other behaviors (such as the preparation of a holiday meal) may occur much less frequently (such as only once, or only a few times, each year). For at least some behaviors of interest that general (or specific) frequency of occurrence can serve as a significant indication of a person's corresponding partialities.

[0087] By one approach, these teachings will accommodate detecting and timestamping each and every event/activity/behavior or interest as it happens. Such an approach can be memory intensive and require considerable supporting infrastructure.

[0088] The present teachings will also accommodate, however, using any of a variety of sampling periods in these regards. In some cases, for example, the sampling period per se may be one week in duration. In that case, it may be sufficient to know that the monitored person engaged in a particular activity (such as cleaning their car) a certain number of times during that week without known precisely when, during that week, the activity occurred. In other cases it may be appropriate or even desirable, to provide greater granularity in these regards. For example, it may be better to know which days the person engaged in the particular activity or even the particular hour of the day. Depending upon the selected granularity/resolution, selecting an appropriate sampling window can help reduce data storage requirements (and/or corresponding analysis/processing overhead requirements).

[0089] Although a given person's behaviors may not, strictly speaking, be continuous waves (as shown in FIG. 7) in the same sense as, for example, a radio or acoustic wave, it will nevertheless be understood that such a behavioral characterization 701 can itself be broken down into a plurality of sub-waves 702 that, when summed together, equal or at least approximate to some satisfactory degree the behavioral characterization 701 itself. (The more-discrete and sometimes less-rigidly periodic nature of the monitored behaviors may introduce a certain amount of error into the corresponding sub-waves. There are various

mathematically satisfactory ways by which such error can be accommodated including by use of weighting factors and/or expressed tolerances that correspond to the resultant sub-waves.)

[0090] It should also be understood that each such sub-wave can often itself be associated with one or more corresponding discrete partialities. For example, a partiality reflecting concern for the environment may, in turn, influence many of the included behavioral events (whether they are similar or dissimilar behaviors or not) and accordingly may, as a sub-wave, comprise a relatively significant contributing factor to the overall set of behaviors as monitored over time. These sub-waves (partialities) can in turn be clearly revealed and presented by employing a transform (such as a Fourier transform) of choice to yield a spectral profile 703 wherein the X axis represents frequency and the Y axis represents the magnitude of the response of the monitored person at each frequency/sub-wave of interest.

[0091] This spectral response of a given individual – which is generated from a time series of events that reflect/track that person's behavior – yields frequency response characteristics for that person that are analogous to the frequency response characteristics of physical systems such as, for example, an analog or digital filter or a second order electrical or mechanical system. Referring to FIG. 8, for many people the spectral profile of the individual person will exhibit a primary frequency 801 for which the greatest response (perhaps many orders of magnitude greater than other evident frequencies) to life is exhibited and apparent. In addition, the spectral profile may also possibly identify one or more secondary frequencies 802 above and/or below that primary frequency 801. (It may be useful in many application settings to filter out more distant frequencies 803 having considerably lower magnitudes because of a reduced likelihood of relevance and/or because of a possibility of error in those regards; in effect, these lower-magnitude signals constitute noise that such filtering can remove from consideration.)

[0092] As noted above, the present teachings will accommodate using sampling windows of varying size. By one approach the frequency of events that correspond to a particular partiality can serve as a basis for selecting a particular sampling rate to use when monitoring for such events. For example, Nyquist-based sampling rules (which dictate sampling at a rate at least twice that of the frequency of the signal of interest) can lead one to choose a particular sampling rate (and the resultant corresponding sampling window size).

[0093] As a simple illustration, if the activity of interest occurs only once a week, then using a sampling of half-a-week and sampling twice during the course of a given week will adequately capture the monitored event. If the monitored person's behavior should change, a corresponding change can be automatically made. For example, if the person in the foregoing example begins to engage in the specified activity three times a week, the sampling rate can be switched to six times per week (in conjunction with a sampling window that is resized accordingly).

[0094] By one approach, the sampling rate can be selected and used on a partiality-by-partiality basis. This approach can be especially useful when different monitoring modalities are employed to monitor events that correspond to different partialities. If desired, however, a single sampling rate can be employed and used for a plurality (or even all) partialities/behaviors. In that case, it can be useful to identify the behavior that is exemplified most often (i.e., that behavior which has the highest frequency) and then select a sampling rate that is at least twice that rate of behavioral realization, as that sampling rate will serve well and suffice for both that highest-frequency behavior and all lower-frequency behaviors as well.

[0095] It can be useful in many application settings to assume that the foregoing spectral profile of a given person is an inherent and inertial characteristic of that person and that this spectral profile, in essence, provides a personality profile of that person that reflects not only how but why this person responds to a variety of life experiences. More importantly, the partialities expressed by the spectral profile for a given person will tend to persist going forward and will not typically change significantly in the absence of some powerful external influence (including but not limited to significant life events such as, for example, marriage, children, loss of job, promotion, and so forth).

[0096] In any event, by knowing a priori the particular partialities (and corresponding strengths) that underlie the particular characterization 701, those partialities can be used as an initial template for a person whose own behaviors permit the selection of that particular characterization 701. In particular, those particularities can be used, at least initially, for a person for whom an amount of data is not otherwise available to construct a similarly rich set of partiality information.

[0097] As a very specific and non-limiting example, per these teachings the choice to make a particular product can include consideration of one or more value systems of potential

customers. When considering persons who value animal rights, a product conceived to cater to that value proposition may require a corresponding exertion of additional effort to order material space-time such that the product is made in a way that (A) does not harm animals and/or (even better) (B) improves life for animals (for example, eggs obtained from free range chickens). The reason a person exerts effort to order material space-time is because they believe it is good to do and/or not good to not do so. When a person exerts effort to do good (per their personal standard of "good") and if that person believes that a particular order in material space-time (that includes the purchase of a particular product) is good to achieve, then that person will also believe that it is good to buy as much of that particular product (in order to achieve that good order) as their finances and needs reasonably permit (all other things being equal).

[0098] The aforementioned additional effort to provide such a product can (typically) convert to a premium that adds to the price of that product. A customer who puts out extra effort in their life to value animal rights will typically be willing to pay that extra premium to cover that additional effort exerted by the company. By one approach a magnitude that corresponds to the additional effort exerted by the company can be added to the person's corresponding value vector because a product or service has worth to the extent that the product/service allows a person to order material space-time in accordance with their own personal value system while allowing that person to exert less of their own effort in direct support of that value (since money is a scalar form of effort).

[0099] By one approach there can be hundreds or even thousands of identified partialities. In this case, if desired, each product/service of interest can be assessed with respect to each and every one of these partialities and a corresponding partiality vector formed to thereby build a collection of partiality vectors that collectively characterize the product/service. As a very simple example in these regards, a given laundry detergent might have a cleanliness partiality vector with a relatively high magnitude (representing the effectiveness of the detergent), a ecology partiality vector that might be relatively low or possibly even having a negative magnitude (representing an ecologically disadvantageous effect of the detergent post usage due to increased disorder in the environment), and a simple-life partiality vector with only a modest magnitude (representing the relative ease of use of the detergent but also that the detergent presupposes that the user has a modern washing

machine). Other partiality vectors for this detergent, representing such things as nutrition or mental acuity, might have magnitudes of zero.

[00100] As mentioned above, these teachings can accommodate partiality vectors having a negative magnitude. Consider, for example, a partiality vector representing a desire to order things to reduce one's so-called carbon footprint. A magnitude of zero for this vector would indicate a completely neutral effect with respect to carbon emissions while any positive-valued magnitudes would represent a net reduction in the amount of carbon in the atmosphere, hence increasing the ability of the environment to be ordered. Negative magnitudes would represent the introduction of carbon emissions that increases disorder of the environment (for example, as a result of manufacturing the product, transporting the product, and/or using the product)

[00101] FIG. 9 presents one non-limiting illustrative example in these regards. The illustrated process presumes the availability of a library 901 of correlated relationships between product/service claims and particular imposed orders. Examples of product/service claims include such things as claims that a particular product results in cleaner laundry or household surfaces, or that a particular product is made in a particular political region (such as a particular state or country), or that a particular product is better for the environment, and so forth. The imposed orders to which such claims are correlated can reflect orders as described above that pertain to corresponding partialities.

[00102] At block 902 this process provides for decoding one or more partiality propositions from specific product packaging (or service claims). For example, the particular textual/graphics-based claims presented on the packaging of a given product can be used to access the aforementioned library 901 to identify one or more corresponding imposed orders from which one or more corresponding partialities can then be identified.

[00103] At block 903 this process provides for evaluating the trustworthiness of the aforementioned claims. This evaluation can be based upon any one or more of a variety of data points as desired. FIG. 9 illustrates four significant possibilities in these regards. For example, at block 904 an actual or estimated research and development effort can be quantified for each claim pertaining to a partiality. At block 905 an actual or estimated component sourcing effort for the product in question can be quantified for each claim pertaining to a partiality. At block 906 an actual or estimated manufacturing effort for the product in question can be quantified for each claim pertaining to a partiality. And at block

907 an actual or estimated merchandising effort for the product in question can be quantified for each claim pertaining to a partiality.

[00104] If desired, a product claim lacking sufficient trustworthiness may simply be excluded from further consideration. By another approach the product claim can remain in play but a lack of trustworthiness can be reflected, for example, in a corresponding partiality vector direction or magnitude for this particular product.

[00105] At block 908 this process provides for assigning an effort magnitude for each evaluated product/service claim. That effort can constitute a one-dimensional effort (reflecting, for example, only the manufacturing effort) or can constitute a multidimensional effort that reflects, for example, various categories of effort such as the aforementioned research and development effort, component sourcing effort, manufacturing effort, and so forth.

[00106] At block 909 this process provides for identifying a cost component of each claim, this cost component representing a monetary value. At block 910 this process can use the foregoing information with a product/service partiality propositions vector engine to generate a library 911 of one or more corresponding partiality vectors for the processed products/services. Such a library can then be used as described herein in conjunction with partiality vector information for various persons to identify, for example, products/services that are well aligned with the partialities of specific individuals.

[00107] FIG. 10 provides another illustrative example in these same regards and may be employed in lieu of the foregoing or in total or partial combination therewith. Generally speaking, this process 1000 serves to facilitate the formation of product characterization vectors for each of a plurality of different products where the magnitude of the vector length (and/or the vector angle) has a magnitude that represents a reduction of exerted effort associated with the corresponding product to pursue a corresponding user partiality.

[00108] By one approach, and as illustrated in FIG. 10, this process 1000 can be carried out by a control circuit of choice. Specific examples of control circuits are provided elsewhere herein.

[00109] As described further herein in detail, this process 1000 makes use of information regarding various characterizations of a plurality of different products. These teachings are highly flexible in practice and will accommodate a wide variety of possible

information sources and types of information. By one optional approach, and as shown at optional block 1001, the control circuit can receive (for example, via a corresponding network interface of choice) product characterization information from a third-party product testing service. The magazine/web resource Consumers Report provides one useful example in these regards. Such a resource provides objective content based upon testing, evaluation, and comparisons (and sometimes also provides subjective content regarding such things as aesthetics, ease of use, and so forth) and this content, provided as-is or pre-processed as desired, can readily serve as useful third-party product testing service product characterization information.

[00110] As another example, any of a variety of product-testing blogs that are published on the Internet can be similarly accessed and the product characterization information available at such resources harvested and received by the control circuit. (The expression "third party" will be understood to refer to an entity other than the entity that operates/controls the control circuit and other than the entity that provides the corresponding product itself.)

[00111] As another example, and as illustrated at optional block 1002, the control circuit can receive (again, for example, via a network interface of choice) user-based product characterization information. Examples in these regards include but are not limited to user reviews provided on-line at various retail sites for products offered for sale at such sites. The reviews can comprise metricized content (for example, a rating expressed as a certain number of stars out of a total available number of stars, such as 3 stars out of 5 possible stars) and/or text where the reviewers can enter their objective and subjective information regarding their observations and experiences with the reviewed products. In this case, "user-based" will be understood to refer to users who are not necessarily professional reviewers (though it is possible that content from such persons may be included with the information provided at such a resource) but who presumably purchased the product being reviewed and who have personal experience with that product that forms the basis of their review. By one approach the resource that offers such content may constitute a third party as defined above, but these teachings will also accommodate obtaining such content from a resource operated or sponsored by the enterprise that controls/operates this control circuit.

[00112] In any event, this process 1000 provides for accessing (see block 1004) information regarding various characterizations of each of a plurality of different products.

This information 1004 can be gleaned as described above and/or can be obtained and/or developed using other resources as desired. As one illustrative example in these regards, the manufacturer and/or distributor of certain products may source useful content in these regards.

[00113] These teachings will accommodate a wide variety of information sources and types including both objective characterizing and/or subjective characterizing information for the aforementioned products.

[00114] Examples of objective characterizing information include, but are not limited to, ingredients information (i.e., specific components/materials from which the product is made), manufacturing locale information (such as country of origin, state of origin, municipality of origin, region of origin, and so forth), efficacy information (such as metrics regarding the relative effectiveness of the product to achieve a particular end-use result), cost information (such as per product, per ounce, per application or use, and so forth), availability information (such as present in-store availability, on-hand inventory availability at a relevant distribution center, likely or estimated shipping date, and so forth), environmental impact information (regarding, for example, the materials from which the product is made, one or more manufacturing processes by which the product is made, environmental impact associated with use of the product, and so forth), and so forth.

[00115] Examples of subjective characterizing information include but are not limited to user sensory perception information (regarding, for example, heaviness or lightness, speed of use, effort associated with use, smell, and so forth), aesthetics information (regarding, for example, how attractive or unattractive the product is in appearance, how well the product matches or accords with a particular design paradigm or theme, and so forth), trustworthiness information (regarding, for example, user perceptions regarding how likely the product is perceived to accomplish a particular purpose or to avoid causing a particular collateral harm), trendiness information, and so forth.

[00116] This information 1004 can be curated (or not), filtered, sorted, weighted (in accordance with a relative degree of trust, for example, accorded to a particular source of particular information), and otherwise categorized and utilized as desired. As one simple example in these regards, for some products it may be desirable to only use relatively fresh information (i.e., information not older than some specific cut-off date) while for other products it may be acceptable (or even desirable) to use, in lieu of fresh information or in

combination therewith, relatively older information. As another simple example, it may be useful to use only information from one particular geographic region to characterize a particular product and to therefore not use information from other geographic regions.

[00117] At block 1003 the control circuit uses the foregoing information 1004 to form product characterization vectors for each of the plurality of different products. By one approach these product characterization vectors have a magnitude (for the length of the vector and/or the angle of the vector) that represents a reduction of exerted effort associated with the corresponding product to pursue a corresponding user partiality (as is otherwise discussed herein).

[00118] It is possible that a conflict will become evident as between various ones of the aforementioned items of information 1004. In particular, the available characterizations for a given product may not all be the same or otherwise in accord with one another. In some cases it may be appropriate to literally or effectively calculate and use an average to accommodate such a conflict. In other cases it may be useful to use one or more other predetermined conflict resolution rules 1005 to automatically resolve such conflicts when forming the aforementioned product characterization vectors.

[00119] These teachings will accommodate any of a variety of rules in these regards. By one approach, for example, the rule can be based upon the age of the information (where, for example the older (or newer, if desired) data is preferred or weighted more heavily than the newer (or older, if desired) data. By another approach, the rule can be based upon a number of user reviews upon which the user-based product characterization information is based (where, for example, the rule specifies that whichever user-based product characterization information is based upon a larger number of user reviews will prevail in the event of a conflict). By another approach, the rule can be based upon information regarding historical accuracy of information from a particular information source (where, for example, the rule specifies that information from a source with a better historical record of accuracy shall prevail over information from a source with a poorer historical record of accuracy in the event of a conflict).

[00120] By yet another approach, the rule can be based upon social media. For example, social media-posted reviews may be used as a tie-breaker in the event of a conflict between other more-favored sources. By another approach, the rule can be based upon a trending analysis. And by yet another approach the rule can be based upon the relative

strength of brand awareness for the product at issue (where, for example, the rule specifies resolving a conflict in favor of a more favorable characterization when dealing with a product from a strong brand that evidences considerable consumer goodwill and trust).

[00121] It will be understood that the foregoing examples are intended to serve an illustrative purpose and are not offered as an exhaustive listing in these regards. It will also be understood that any two or more of the foregoing rules can be used in combination with one another to resolve the aforementioned conflicts.

[00122] By one approach the aforementioned product characterization vectors are formed to serve as a universal characterization of a given product. By another approach, however, the aforementioned information 1004 can be used to form product characterization vectors for a same characterization factor for a same product to thereby correspond to different usage circumstances of that same product. Those different usage circumstances might comprise, for example, different geographic regions of usage, different levels of user expertise (where, for example, a skilled, professional user might have different needs and expectations for the product than a casual, lay user), different levels of expected use, and so forth. In particular, the different vectorized results for a same characterization factor for a same product may have differing magnitudes from one another to correspond to different amounts of reduction of the exerted effort associated with that product under the different usage circumstances.

[00123] As noted above, the magnitude corresponding to a particular partiality vector for a particular person can be expressed by the angle of that partiality vector. FIG. 11 provides an illustrative example in these regards. In this example the partiality vector 1101 has an angle M 1102 (and where the range of available positive magnitudes range from a minimal magnitude represented by 0° (as denoted by reference numeral 1103) to a maximum magnitude represented by 90 ° (as denoted by reference numeral 1104)). Accordingly, the person to whom this partiality vector 1001 pertains has a relatively strong (but not absolute) belief in an amount of good that comes from an order associated with that partiality.

[00124] FIG. 12, in turn, presents that partiality vector 1101 in context with the product characterization vectors 1201 and 1203 for a first product and a second product, respectively. In this example the product characterization vector 1201 for the first product has an angle Y 1202 that is greater than the angle M 1102 for the aforementioned partiality vector 1101 by a relatively small amount while the product characterization vector 1203 for the

second product has an angle X 1204 that is considerably smaller than the angle M 1102 for the partiality vector 1101.

[00125] Since, in this example, the angles of the various vectors represent the magnitude of the person's specified partiality or the extent to which the product aligns with that partiality, respectively, vector dot product calculations can serve to help identify which product best aligns with this partiality. Such an approach can be particularly useful when the lengths of the vectors are allowed to vary as a function of one or more parameters of interest. As those skilled in the art will understand, a vector dot product is an algebraic operation that takes two equal-length sequences of numbers (in this case, coordinate vectors) and returns a single number.

[00126] This operation can be defined either algebraically or geometrically. Algebraically, it is the sum of the products of the corresponding entries of the two sequences of numbers. Geometrically, it is the product of the Euclidean magnitudes of the two vectors and the cosine of the angle between them. The result is a scalar rather than a vector. As regards the present illustrative example, the resultant scaler value for the vector dot product of the product 1 vector 1201 with the partiality vector 1101 will be larger than the resultant scaler value for the vector dot product of the product 2 vector 1203 with the partiality vector 1101. Accordingly, when using vector angles to impart this magnitude information, the vector dot product operation provides a simple and convenient way to determine proximity between a particular partiality and the performance/properties of a particular product to thereby greatly facilitate identifying a best product amongst a plurality of candidate products.

[00127] By way of further illustration, consider an example where a particular consumer as a strong partiality for organic produce and is financially able to afford to pay to observe that partiality. A dot product result for that person with respect to a product characterization vector(s) for organic apples that represent a cost of $10 on a weekly basis (i.e., Cv · P1v) might equal (1,1), hence yielding a scalar result of ||1|| (where Cv refers to the corresponding partiality vector for this person and P1v represents the corresponding product characterization vector for these organic apples). Conversely, a dot product result for this same person with respect to a product characterization vector(s) for non-organic apples that represent a cost of $5 on a weekly basis (i.e., Cv · P2v) might instead equal (1,0), hence yielding a scalar result of ||1/2||. Accordingly, although the organic apples cost more than the non-organic apples, the dot product result for the organic apples exceeds the dot product

result for the non-organic apples and therefore identifies the more expensive organic apples as being the best choice for this person.

[00128] To continue with the foregoing example, consider now what happens when this person subsequently experiences some financial misfortune (for example, they lose their job and have not yet found substitute employment). Such an event can present the "force" necessary to alter the previously-established "inertia" of this person's steady-state partialities; in particular, these negatively-changed financial circumstances (in this example) alter this person's budget sensitivities (though not, of course their partiality for organic produce as compared to non-organic produce). The scalar result of the dot product for the $5/week non-organic apples may remain the same (i.e., in this example, ||1/2||), but the dot product for the $10/week organic apples may now drop (for example, to ||1/2|| as well). Dropping the quantity of organic apples purchased, however, to reflect the tightened financial circumstances for this person may yield a better dot product result. For example, purchasing only $5 (per week) of organic apples may produce a dot product result of ||1||. The best result for this person, then, under these circumstances, is a lesser quantity of organic apples rather than a larger quantity of non-organic apples.

[00129] In a typical application setting, it is possible that this person's loss of employment is not, in fact, known to the system. Instead, however, this person's change of behavior (i.e., reducing the quantity of the organic apples that are purchased each week) might well be tracked and processed to adjust one or more partialities (either through an addition or deletion of one or more partialities and/or by adjusting the corresponding partiality magnitude) to thereby yield this new result as a preferred result.

[00130] The foregoing simple examples clearly illustrate that vector dot product approaches can be a simple yet powerful way to quickly eliminate some product options while simultaneously quickly highlighting one or more product options as being especially suitable for a given person.

[00131] Such vector dot product calculations and results, in turn, help illustrate another point as well. As noted above, sine waves can serve as a potentially useful way to characterize and view partiality information for both people and products/services. In those regards, it is worth noting that a vector dot product result can be a positive, zero, or even negative value. That, in turn, suggests representing a particular solution as a normalization of the dot product value relative to the maximum possible value of the dot product. Approached

this way, the maximum amplitude of a particular sine wave will typically represent a best solution.

[00132] Taking this approach further, by one approach the frequency (or, if desired, phase) of the sine wave solution can provide an indication of the sensitivity of the person to product choices (for example, a higher frequency can indicate a relatively highly reactive sensitivity while a lower frequency can indicate the opposite). A highly sensitive person is likely to be less receptive to solutions that are less than fully optimum and hence can help to narrow the field of candidate products while, conversely, a less sensitive person is likely to be more receptive to solutions that are less than fully optimum and can help to expand the field of candidate products.

[00133] FIG. 13 presents an illustrative apparatus 1300 for conducting, containing, and utilizing the foregoing content and capabilities. In this particular example, the enabling apparatus 1300 includes a control circuit 1301. Being a "circuit," the control circuit 1301 therefore comprises structure that includes at least one (and typically many) electrically-conductive paths (such as paths comprised of a conductive metal such as copper or silver) that convey electricity in an ordered manner, which path(s) will also typically include corresponding electrical components (both passive (such as resistors and capacitors) and active (such as any of a variety of semiconductor-based devices) as appropriate) to permit the circuit to effect the control aspect of these teachings.

[00134] Such a control circuit 1301 can comprise a fixed-purpose hard-wired hardware platform (including but not limited to an application-specific integrated circuit (ASIC) (which is an integrated circuit that is customized by design for a particular use, rather than intended for general-purpose use), a field-programmable gate array (FPGA), and the like) or can comprise a partially or wholly-programmable hardware platform (including but not limited to microcontrollers, microprocessors, and the like). These architectural options for such structures are well known and understood in the art and require no further description here. This control circuit 1301 is configured (for example, by using corresponding programming as will be well understood by those skilled in the art) to carry out one or more of the steps, actions, and/or functions described herein.

[00135] By one optional approach the control circuit 1301 operably couples to a memory 1302. This memory 1302 may be integral to the control circuit 1301 or can be physically discrete (in whole or in part) from the control circuit 1301 as desired. This

memory 1302 can also be local with respect to the control circuit 1301 (where, for example, both share a common circuit board, chassis, power supply, and/or housing) or can be partially or wholly remote with respect to the control circuit 1301 (where, for example, the memory 1302 is physically located in another facility, metropolitan area, or even country as compared to the control circuit 1301).

[00136] This memory 1302 can serve, for example, to non-transitorily store the computer instructions that, when executed by the control circuit 1301, cause the control circuit 1301 to behave as described herein. (As used herein, this reference to "non-transitorily" will be understood to refer to a non-ephemeral state for the stored contents (and hence excludes when the stored contents merely constitute signals or waves) rather than volatility of the storage media itself and hence includes both non-volatile memory (such as read-only memory (ROM) as well as volatile memory (such as an erasable programmable read-only memory (EPROM).)

[00137] Either stored in this memory 1302 or, as illustrated, in a separate memory 1303 are the vectorized characterizations 1304 for each of a plurality of products 1305 (represented here by a first product through an Nth product where "N" is an integer greater than "1"). In addition, and again either stored in this memory 1302 or, as illustrated, in a separate memory 1306 are the vectorized characterizations 1307 for each of a plurality of individual persons 1308 (represented here by a first person through a Zth person wherein "Z" is also an integer greater than "1").

[00138] In this example the control circuit 1301 also operably couples to a network interface 1309. So configured the control circuit 1301 can communicate with other elements (both within the apparatus 1300 and external thereto) via the network interface 1309. Network interfaces, including both wireless and non-wireless platforms, are well understood in the art and require no particular elaboration here. This network interface 1309 can compatibly communicate via whatever network or networks 1310 may be appropriate to suit the particular needs of a given application setting. Both communication networks and network interfaces are well understood areas of prior art endeavor and therefore no further elaboration will be provided here in those regards for the sake of brevity.

[00139] By one approach, and referring now to FIG. 14, the control circuit 1301 is configured to use the aforementioned partiality vectors 1307 and the vectorized product characterizations 1304 to define a plurality of solutions that collectively form a

multidimensional surface (per block 1401). FIG. 15 provides an illustrative example in these regards. FIG. 15 represents an N-dimensional space 1500 and where the aforementioned information for a particular customer yielded a multi-dimensional surface denoted by reference numeral 1501. (The relevant value space is an N-dimensional space where the belief in the value of a particular ordering of one's life only acts on value propositions in that space as a function of a least-effort functional relationship.)

[00140] Generally speaking, this surface 1501 represents all possible solutions based upon the foregoing information. Accordingly, in a typical application setting this surface 1501 will contain/represent a plurality of discrete solutions. That said, and also in a typical application setting, not all of those solutions will be similarly preferable. Instead, one or more of those solutions may be particularly useful/appropriate at a given time, in a given place, for a given customer.

[00141] With continued reference to FIG. 14 and 15, at optional block 1402 the control circuit 1301 can be configured to use information for the customer 1403 (other than the aforementioned partiality vectors 1307) to constrain a selection area 1502 on the multi-dimensional surface 1501 from which at least one product can be selected for this particular customer. By one approach, for example, the constraints can be selected such that the resultant selection area 1502 represents the best 95th percentile of the solution space. Other target sizes for the selection area 1502 are of course possible and may be useful in a given application setting.

[00142] The aforementioned other information 1403 can comprise any of a variety of information types. By one approach, for example, this other information comprises objective information. (As used herein, "objective information" will be understood to constitute information that is not influenced by personal feelings or opinions and hence constitutes unbiased, neutral facts.)

[00143] One particularly useful category of objective information comprises objective information regarding the customer. Examples in these regards include, but are not limited to, location information regarding a past, present, or planned/scheduled future location of the customer, budget information for the customer or regarding which the customer must strive to adhere (such that, by way of example, a particular product/solution area may align extremely well with the customer's partialities but is well beyond that which the customer can afford and hence can be reasonably excluded from the selection area 1502), age information for the

customer, and gender information for the customer. Another example in these regards is information comprising objective logistical information regarding providing particular products to the customer. Examples in these regards include but are not limited to current or predicted product availability, shipping limitations (such as restrictions or other conditions that pertain to shipping a particular product to this particular customer at a particular location), and other applicable legal limitations (pertaining, for example, to the legality of a customer possessing or using a particular product at a particular location).

[00144] At block 1404 the control circuit 1301 can then identify at least one product to present to the customer by selecting that product from the multi-dimensional surface 1501. In the example of FIG. 15, where constraints have been used to define a reduced selection area 1502, the control circuit 1301 is constrained to select that product from within that selection area 1502. For example, and in accordance with the description provided herein, the control circuit 1301 can select that product via solution vector 1503 by identifying a particular product that requires a minimal expenditure of customer effort while also remaining compliant with one or more of the applied objective constraints based, for example, upon objective information regarding the customer and/or objective logistical information regarding providing particular products to the customer.

[00145] So configured, and as a simple example, the control circuit 1301 may respond per these teachings to learning that the customer is planning a party that will include seven other invited individuals. The control circuit 1301 may therefore be looking to identify one or more particular beverages to present to the customer for consideration in those regards. The aforementioned partiality vectors 1307 and vectorized product characterizations 1304 can serve to define a corresponding multi-dimensional surface 1501 that identifies various beverages that might be suitable to consider in these regards.

[00146] Objective information regarding the customer and/or the other invited persons, however, might indicate that all or most of the participants are not of legal drinking age. In that case, that objective information may be utilized to constrain the available selection area 1502 to beverages that contain no alcohol. As another example in these regards, the control circuit 1301 may have objective information that the party is to be held in a state park that prohibits alcohol and may therefore similarly constrain the available selection area 1502 to beverages that contain no alcohol.

[00147] As described above, the aforementioned control circuit 1301 can utilize information including a plurality of partiality vectors for a particular customer along with vectorized product characterizations for each of a plurality of products to identify at least one product to present to a customer. By one approach 1600, and referring to FIG. 16, the control circuit 1301 can be configured as (or to use) a state engine to identify such a product (as indicated at block 1601). As used herein, the expression "state engine" will be understood to refer to a finite-state machine, also sometimes known as a finite-state automaton or simply as a state machine.

[00148] Generally speaking, a state engine is a basic approach to designing both computer programs and sequential logic circuits. A state engine has only a finite number of states and can only be in one state at a time. A state engine can change from one state to another when initiated by a triggering event or condition often referred to as a transition. Accordingly, a particular state engine is defined by a list of its states, its initial state, and the triggering condition for each transition.

[00149] It will be appreciated that the apparatus 1300 described above can be viewed as a literal physical architecture or, if desired, as a logical construct. For example, these teachings can be enabled and operated in a highly centralized manner (as might be suggested when viewing that apparatus 1300 as a physical construct) or, conversely, can be enabled and operated in a highly decentralized manner. FIG. 17 provides an example as regards the latter.

[00150] In this illustrative example a central cloud server 1701, a supplier control circuit 1702, and the aforementioned Internet of Things 1703 communicate via the aforementioned network 1310.

[00151] The central cloud server 1701 can receive, store, and/or provide various kinds of global data (including, for example, general demographic information regarding people and places, profile information for individuals, product descriptions and reviews, and so forth), various kinds of archival data (including, for example, historical information regarding the aforementioned demographic and profile information and/or product descriptions and reviews), and partiality vector templates as described herein that can serve as starting point general characterizations for particular individuals as regards their partialities. Such information may constitute a public resource and/or a privately-curated and accessed resource as desired. (It will also be understood that there may be more than one such central cloud server 1701 that store identical, overlapping, or wholly distinct content.)

[00152] The supplier control circuit 1702 can comprise a resource that is owned and/or operated on behalf of the suppliers of one or more products (including but not limited to manufacturers, wholesalers, retailers, and even resellers of previously-owned products). This resource can receive, process and/or analyze, store, and/or provide various kinds of information. Examples include but are not limited to product data such as marketing and packaging content (including textual materials, still images, and audio-video content), operators and installers manuals, recall information, professional and non-professional reviews, and so forth.

[00153] Another example comprises vectorized product characterizations as described herein. More particularly, the stored and/or available information can include both prior vectorized product characterizations (denoted in FIG. 17 by the expression "vectorized product characterizations V1.0") for a given product as well as subsequent, updated vectorized product characterizations (denoted in FIG. 17 by the expression "vectorized product characterizations V2.0") for the same product. Such modifications may have been made by the supplier control circuit 1702 itself or may have been made in conjunction with or wholly by an external resource as desired.

[00154] The Internet of Things 1703 can comprise any of a variety of devices and components that may include local sensors that can provide information regarding a corresponding user's circumstances, behaviors, and reactions back to, for example, the aforementioned central cloud server 1701 and the supplier control circuit 1702 to facilitate the development of corresponding partiality vectors for that corresponding user. Again, however, these teachings will also support a decentralized approach. In many cases devices that are fairly considered to be members of the Internet of Things 1703 constitute network edge elements (i.e., network elements deployed at the edge of a network). In some case the network edge element is configured to be personally carried by the person when operating in a deployed state. Examples include but are not limited to so-called smart phones, smart watches, fitness monitors that are worn on the body, and so forth. In other cases, the network edge element may be configured to not be personally carried by the person when operating in a deployed state. This can occur when, for example, the network edge element is too large and/or too heavy to be reasonably carried by an ordinary average person. This can also occur when, for example, the network edge element has operating requirements ill-suited to the mobile environment that typifies the average person.

[00155] For example, a so-called smart phone can itself include a suite of partiality vectors for a corresponding user (i.e., a person that is associated with the smart phone which itself serves as a network edge element) and employ those partiality vectors to facilitate vector-based ordering (either automated or to supplement the ordering being undertaken by the user) as is otherwise described herein. In that case, the smart phone can obtain corresponding vectorized product characterizations from a remote resource such as, for example, the aforementioned supplier control circuit 1702 and use that information in conjunction with local partiality vector information to facilitate the vector-based ordering.

[00156] Also, if desired, the smart phone in this example can itself modify and update partiality vectors for the corresponding user. To illustrate this idea in FIG. 17, this device can utilize, for example, information gained at least in part from local sensors to update a locally-stored partiality vector (represented in FIG. 17 by the expression "partiality vector V1.0") to obtain an updated locally-stored partiality vector (represented in FIG. 17 by the expression "partiality vector V2.0"). Using this approach, a user's partiality vectors can be locally stored and utilized. Such an approach may better comport with a particular user's privacy concerns.

[00157] It will be understood that the smart phone employed in the immediate example is intended to serve in an illustrative capacity and is not intended to suggest any particular limitations in these regards. In fact, any of a wide variety of Internet of Things devices/components could be readily configured in the same regards. As one simple example in these regards, a computationally-capable networked refrigerator could be configured to order appropriate perishable items for a corresponding user as a function of that user's partialities.

[00158] Presuming a decentralized approach, these teachings will accommodate any of a variety of other remote resources 1704. These remote resources 1704 can, in turn, provide static or dynamic information and/or interaction opportunities or analytical capabilities that can be called upon by any of the above-described network elements. Examples include but are not limited to voice recognition, pattern and image recognition, facial recognition, statistical analysis, computational resources, encryption and decryption services, fraud and misrepresentation detection and prevention services, digital currency support, and so forth.

[00159] As already suggested above, these approaches provide powerful ways for identifying products and/or services that a given person, or a given group of persons, may likely wish to buy to the exclusion of other options. When the magnitude and direction of the

relevant/required meta-force vector that comes from the perceived effort to impose order is known, these teachings will facilitate, for example, engineering a product or service containing potential energy in the precise ordering direction to provide a total reduction of effort. Since people generally take the path of least effort (consistent with their partialities) they will typically accept such a solution.

[00160] As one simple illustrative example, a person who exhibits a partiality for food products that emphasize health, natural ingredients, and a concern to minimize sugars and fats may be presumed to have a similar partiality for pet foods because such partialities may be based on a value system that extends beyond themselves to other living creatures within their sphere of concern. If other data is available to indicate that this person in fact has, for example, two pet dogs, these partialities can be used to identify dog food products having well-aligned vectors in these same regards. This person could then be solicited to purchase such dog food products using any of a variety of solicitation approaches (including but not limited to general informational advertisements, discount coupons or rebate offers, sales calls, free samples, and so forth).

[00161] As another simple example, the approaches described herein can be used to filter out products/services that are not likely to accord well with a given person's partiality vectors. In particular, rather than emphasizing one particular product over another, a given person can be presented with a group of products that are available to purchase where all of the vectors for the presented products align to at least some predetermined degree of alignment/accord and where products that do not meet this criterion are simply not presented.

[00162] And as yet another simple example, a particular person may have a strong partiality towards both cleanliness and orderliness. The strength of this partiality might be measured in part, for example, by the physical effort they exert by consistently and promptly cleaning their kitchen following meal preparation activities. If this person were looking for lawn care services, their partiality vector(s) in these regards could be used to identify lawn care services who make representations and/or who have a trustworthy reputation or record for doing a good job of cleaning up the debris that results when mowing a lawn. This person, in turn, will likely appreciate the reduced effort on their part required to locate such a service that can meaningfully contribute to their desired order.

[00163] These teachings can be leveraged in any number of other useful ways. As one example in these regards, various sensors and other inputs can serve to provide automatic

updates regarding the events of a given person's day. By one approach, at least some of this information can serve to help inform the development of the aforementioned partiality vectors for such a person. At the same time, such information can help to build a view of a normal day for this particular person. That baseline information can then help detect when this person's day is going experientially awry (i.e., when their desired "order" is off track). Upon detecting such circumstances these teachings will accommodate employing the partiality and product vectors for such a person to help make suggestions (for example, for particular products or services) to help correct the day's order and/or to even effect automatically-engaged actions to correct the person's experienced order.

[00164] When this person's partiality (or relevant partialities) are based upon a particular aspiration, restoring (or otherwise contributing to) order to their situation could include, for example, identifying the order that would be needed for this person to achieve that aspiration. Upon detecting, (for example, based upon purchases, social media, or other relevant inputs) that this person is aspirating to be a gourmet chef, these teachings can provide for plotting a solution that would begin providing/offering additional products/services that would help this person move along a path of increasing how they order their lives towards being a gourmet chef.

[00165] By one approach, these teachings will accommodate presenting the consumer with choices that correspond to solutions that are intended and serve to test the true conviction of the consumer as to a particular aspiration. The reaction of the consumer to such test solutions can then further inform the system as to the confidence level that this consumer holds a particular aspiration with some genuine conviction. In particular, and as one example, that confidence can in turn influence the degree and/or direction of the consumer value vector(s) in the direction of that confirmed aspiration.

[00166] All the above approaches are informed by the constraints the value space places on individuals so that they follow the path of least perceived effort to order their lives to accord with their values which results in partialities. People generally order their lives consistently unless and until their belief system is acted upon by the force of a new trusted value proposition. The present teachings are uniquely able to identify, quantify, and leverage the many aspects that collectively inform and define such belief systems.

[00167] A person's preferences can emerge from a perception that a product or service removes effort to order their lives according to their values. The present teachings

acknowledge and even leverage that it is possible to have a preference for a product or service that a person has never heard of before in that, as soon as the person perceives how it will make their lives easier they will prefer it. Most predictive analytics that use preferences are trying to predict a decision the customer is likely to make. The present teachings are directed to calculating a reduced effort solution that can/will inherently and innately be something to which the person is partial.

[00168] There are two primary shopping options available to a customer who wishes to purchase a store item. The first includes the physical presence of the customer at a retail establishment, referred to as a "brick-and-mortar" store. Here, the customer can retrieve item of interests from in-store inventory if the items are available, and purchase the items at a checkout counter at the store. The second shopping option is referred to as "online shopping" where the customer can purchase store items over the internet. Here, the purchased items are delivered to a location designated by the online customer. What is lacking is a system that allows for management of a courier regarding selecting and delivering purchased items.

[00169] In one aspect, provided is a courier management system, comprising: a customer computing device for accessing and receiving data produced by the system; a server located at a service provider, the server coupled to the customer computing device and programmed to: receive from the customer computing device customer preferences and automatically store the customer preferences; automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement; receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences; and receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement.

[00170] In another aspect, provided is a courier management system, comprising: a customer computing device for accessing and receiving data produced by the system; a server located at a service provider, the server coupled to the customer computing device and programmed to: receive from the customer computing device customer preferences and automatically store the customer preferences; automatically generate and transmit to the

customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement; receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences; and receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement, wherein: automatically generating order instructions comprises selecting a substitute or alternative product to complete the shopping list in response to automatically determining a requested product is out of stock.

[00171] Many store customers prefer to shop online, while other store customers prefer to be physically present at a brick-and-mortar when shopping referred to as being offline. These customers enjoy walking about the store, perusing items of interest, etc. Other customers may shop at a store out of necessity since they do not own a home computer or smartphone, or have access to an internet service.

[00172] Online customers enjoy a customized and expedient shopping experience that is typically not offered at a brick-and-mortar store. For example, online customers can order items online at any time, thereby avoiding the time-consuming effort of being physically present at the store to select items of interest from shelves and waiting in line at the store checkout to purchase the items especially at peak times. Also, online customers typically have immediate access to their purchase history, and can receive a display of recommended items for purchase based on shopping patterns or other purchase history information.

[00173] Online shopping does not allow for the selection of particular products that require more discrimination in selecting, such as fresh produce, fresh baked goods, vegetables and the like. Additionally, in systems where same day delivery is critical or available, a customer may need to obtain an item immediately and if it is not available may need substitute item. Existing systems do not allow for this type of interaction, management and control.

[00174] The present inventive concepts provide a system for customers to have the convenience of ordering online while still have the selectability of in store shopping by utilizing and managing courier system. The courier management system and method in accordance with some embodiments permits a user to adjust the amount of involvement from

couriers using a scalable input, an automatically generating orders for a courier in response to processing a shopping list, and in some embodiments, selecting a substitute or alternative item(s) in accordance with customer preference data.

[00175] FIGs. 18 and 19 are block diagrams of a courier management system 1810 in accordance with an embodiment of the invention. The system 1810 may be employed by a retailer 1959, and comprise a customer computing device 1814 for accessing and receiving data produced by the system 1810 and a server 1812 located at a service provider, the server 1812 coupled to the customer computing device 1814. The system 1810 includes courier management module 1916. The courier management module 1916 provides a means for a courier to be registered to operate within system 1810. The courier management module 1916 allows a courier to sign up/qualify 1930 to be a courier. The courier management system establishes compensation 1932, a rating system 1934, an indemnification process 1936, a background check 1938, uploading of a resume/qualifications 1940, courier vehicle qualifications 1942, courier bonding 1944, and courier staging by popular shopping areas 1946. This courier management module 1916 is accessible through a courier computing device that allows a courier to access the system 1810 in order to operate within the system 1810.

[00176] The courier management module 1916, further provides for means of a brick and mortar avatar 1918 and a two-way communication 1920. The two-way communication 1920 provides a means of communication between a customer and the courier. The two-way communication 1920 may include, but is not limited to text 1922, video 1924, images 1926, and other quick and easy back and forth communication 1928, such as, but not limited to voice communication and the like.

[00177] The courier management system 1810 operates to allow a courier to operate more like the customer as a shopper 1948. This is accomplished by allowing the customer to enter customer preferences, such as, but not limited to a budget 1950, product preferences 1952, including dietary restrictions, brand preferences, health restrictions, health goals, and the like, and shopping history 1954.

[00178] The system further allows a retailer 1959 that may utilize a courier shopping system, to qualify couriers 1956 by selecting couriers that meet certain criteria. The system 1810 operates as a clearing house 1958 of courier data and other information. Further the system 1810 allows for the purchase and transport of controlled substances 1960, such as,

alcohol, pharmaceuticals and the like. This may require age verification 1962 of the courier and possibly the customer.

[00179] As depicted in FIG. 20, the courier management system 1810 may include a sliding scale 2070. A purpose of the system 1810 is to allow the courier and the system to do more and to allow the customer to delegate more to the system while requiring the customer to do less. The sliding scale is one way of accomplishing this. The customer may utilize vectors 2072 that include little delegation such as just fill order 2074 or delegation of all shopping such as come to my house and figure out what I need 2076. The customer may totally prescribe a shopping list for the courier to simply "pick" the goods, or the system may allow a customer to provide general guidelines and the courier purchases with broad discretion. The amount of autonomy provided to the courier is determined by the customer input with the sliding scale 2070 as depicted by slider 2078. The sliding scale becomes a quantifiable vector as described with respect to FIGs. 1-17.

[00180] Embodiments of the courier management system 1810 allows for multiple couriers to coordinate for a customer's order/shopping list. One courier may perform shopping while a second courier performs the delivery. Further still, a third courier may meet the second courier at the delivery location for assisting in unloading or setup responsibilities of the second courier based on the shopping list/order. The courier management system 1810 learns the customer's preferences regarding courier use as the customer uses the system 1810 and can automatically predict the courier usage by the customer.

[00181] In operation, the system 1810 may include the server 1812, wherein the server 1812 may be programmed to receive from the customer computing device 1814 customer preferences and automatically store the customer preferences. The server 1812 may be programmed to automatically generate and transmit to the customer computing device 1814 for display a scalable shopping preference interface 2070 associated with the customer preferences. The scalable shopping preference interface comprises a sliding scale 2078 indicating a level of courier involvement. The server 1812 is programmed to receive from the customer computing device 1814 a signal from the scalable shopping preference interface 2070 a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences. The server 1812 may also be programmed to receive from the customer computing device 1814 a shopping list and

automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement.

[00182] The server 1812 may be programmed to automatically store the shopping list, and to automatically store all shopping lists from the customer computing device and associated levels of courier involvement.

[00183] The server 1812 may also be programmed to automatically generate and transmit to the computing device 1814 for display a recommended level of courier involvement in response to processing the stored customer preferences and stored shopping lists with associated levels of courier involvement. The level of courier involvement comprises selecting a number of couriers to coordinate the fulfilling of the shopping list received from the customer computing device by the server.

[00184] In some embodiments, the server 1812 programmed for automatically generating order instructions comprises selecting a substitute or alternative product to complete the shopping list in response to automatically determining a requested product is out of stock. In some embodiments, the scalable shopping preference interface comprises a selection of types of substitute or alternative products, wherein the selection of types of substitute or alternative products comprises at least one of price, brand, quality, freshness, expiration date, and combinations thereof. Selecting the substitute or alternative product comprises the server programmed to receive a selection of types of substitute or alternative products and store the same in the customer preferences, such as, but not limited to dietary restrictions.

[00185] The server 1812 programmed for selecting the substitute or alternative product comprises the server programmed to retrieve the stored customer preferences and determine the substitute or alternative product in response to processing the shopping list data and the stored customer preferences data.

[00186] The server 1812 may operate to store various customer preferences and the like. For example, and without limitation, the server 1812 may store a product table where each SKU would have many value propositions, such as, but not limited to, a) All natural, b) Organic, c) Etc. The server 1812 may store a courier table where each courier would have many value propositions, such as, but not limited to, a) Expert in identifying quality produce, b) Knowledgeable in understanding content labels, c) Etc. The server 1812 may store a

customer table where each customer would have many values, such as, but not limited to, a) Values the environment at a 1810 on a scale of 1-10, b) Values being healthy at a 5 on a scale of 1-10, c) Values being efficient with energy at a 2 on a scale of 1-10, d) Etc.

[00187] The system 1810 may utilize this information in the operation of the system, such as, for example, a customer that values organic then couriers with expertise in label content would be preferable.

[00188] Another non-limiting example may be, while the courier is shopping, he or she may encounter a product more aligned with the customer's values than the item the customer originally requested. If the customer has selected on the sliding scale to be highly involved with the couriers decisions then the courier would connect with the customer to get approval to substitute a better aligned product. On the other hand when the customer grows to trust the skills of the courier they may move the sliding scale to leaving the decision to the courier without making contact with the customer.

[00189] The courier management systems would present on the couriers computing device the relevant customer's values and the level of customer engagement. The management systems may also provide a communication link to the customer when appropriate.

[00190] In some embodiments, a courier management system comprises a customer computing device for accessing and receiving data produced by the system, a server located at a service provider, the server coupled to the customer computing device and programmed to: receive from the customer computing device customer preferences and automatically store the customer preferences, automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement, receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences, and receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement.

[00191] In some embodiments, the server is programmed to automatically store the shopping list. In some embodiments, the server is programmed to automatically store all shopping lists from the customer computing device and associated levels of courier involvement. In some embodiments, the server is programmed to automatically generate and transmit to the computing device for display a recommended level of courier involvement in response to processing the stored customer preferences and stored shopping lists with associated levels of courier involvement. In some embodiments, the server is further programmed to determine a recommended level of courier involvement based on value vectors associated with the customer. In some embodiments, the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value. In some embodiments, the level of courier involvement comprises selecting a number of couriers to coordinate the fulfilling of the shopping list received from the customer computing device by the server. In some embodiments, one or more couriers are selected to fulfill the shopping list based on value vectors associated with the customer. In some embodiments, the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

[00192] In some embodiments, a courier management system comprises a customer computing device for accessing and receiving data produced by the system, a server located at a service provider, the server coupled to the customer computing device and programmed to: receive from the customer computing device customer preferences and automatically store the customer preferences, automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement, receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences, and receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement, wherein: automatically generating

order instructions comprises selecting a substitute or alternative product to complete the shopping list in response to automatically determining a requested product is out of stock.

[00193] In some embodiments, the scalable shopping preference interface comprises a selection of types of substitute or alternative products. In some embodiments, the selection of types of substitute or alternative products comprises at least one of price, brand, quality, freshness, expiration date, and combinations thereof. In some embodiments, selecting the substitute or alternative product comprises the server programmed to receive a selection of types of substitute or alternative products and store the same in the customer preferences. In some embodiments, the customer preferences comprise dietary restrictions. In some embodiments, selecting the substitute or alternative product comprises the server programmed to retrieve the stored customer preferences and determine the substitute or alternative product in response to processing the shopping list data and the stored customer preferences data. In some embodiments, the server is programmed to automatically store the shopping list. In some embodiments, the server is programmed to automatically store all shopping lists from the customer computing device and associated levels of courier involvement. In some embodiments, the server is programmed to automatically generate and transmit to the computing device for display a recommended level of courier involvement in response to processing the stored customer preferences and stored shopping lists with associated levels of courier involvement. In some embodiments, the server is further programmed to determine a recommended level of courier involvement based on value vectors associated with the customer. In some embodiments, the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value. In some embodiments, the level of courier involvement comprises selecting a number of couriers to coordinate the fulfilling of the shopping list received from the customer computing device by the server. In some embodiments, one or more couriers are selected to fulfill the shopping list based on value vectors associated with the customer. In some embodiments, the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

[00194] In some embodiments, systems, apparatuses and methods are provided herein useful for selecting a delivery agent. In some embodiments, a system comprises a point of sale system and a delivery system including a control circuit, the control circuit configured to generate a graphical user interface including a list of delivery options and one or more preferences and one or more categories of delivery agents, receive, via the graphical user interface, first user input defining delivery agents for at least some of the categories, receive, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences, receive, from the point of sale system, an indication of a purchase, select, from the list of delivery options, a category of delivery agent, select, from the category of delivery agent, a delivery agent, and transmit an instruction to deliver the purchase via the delivery agent.

[00195] Currently, shoppers are limited to a small number of options for receiving products purchased remotely (*e.g.,* via the Internet or over the phone). Typically, a shopper can choose to have items that he/she purchases remotely delivered to his/her home via a standard delivery service (*e.g.,* the United States Postal Service, United Parcel Service, Federal Express, etc.) or the shopper can pick the items up in store ("in-store pickup"). Unfortunately, current delivery options are quite limited. Some shoppers find these limitations to be frustrating and potentially difficult to accommodate.

[00196] Generally speaking, pursuant to various embodiments, systems, apparatuses and methods are provided herein useful for selecting a delivery agent to deliver a product. In some embodiments, a system comprises a point of sale system and a delivery system including a control circuit, the control circuit configured to generate a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more preferences, and wherein the list of delivery options includes one or more categories of delivery agents, receive, via the graphical user interface, first user input defining delivery agents for at least some of the categories, receive, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences, receive, from the point of sale system, an indication of a purchase, select, from the list of delivery options based on the second user input, a category of delivery agent, select, from the category of delivery agent based on the second user input, a delivery agent, and transmit an instruction to deliver the purchase via the delivery agent.

[00197] As previously discussed, shoppers are limited in the ways in which they can acquire products purchased remotely. Specifically, shoppers have very limited shipping options, typically relying on standard shipping methods. Put simply, if a shopper would like a remotely purchased product shipped, the shopper indicates that he/she would like the product delivered and then must wait for the product to arrive at his/her house via whatever shipping route the seller has chosen. Not only does this introduce a time delay from purchase of the product to acquisition of the product, but packages left at the shopper's home are vulnerable to theft. Embodiments of the methods, systems, and apparatuses described herein reduce and/or eliminate some of these problems by providing a greater number of delivery options for shoppers. Additionally, in some embodiments, the shopper's preferences can be provided (as well as inferred) and a system can select appropriate delivery options for the shopper.

[00198] FIG. 21 depicts an example graphical user interface (GUI) 2100 for defining delivery agents for categories of delivery agent, according to some embodiments. The GUI 2100 can be presented via a web browser (as depicted in FIG. 21) or a dedicated application and can be presented via any suitable device. The GUI 2100 includes four categories: a first category 2102, a second category 2104, a third category 2106, and a fourth category 2108. The categories represent types of delivery agents and can be of any suitable type. As an example, the first category 2102 is a family category, the second category 2104 is a crowd source category, the third category 2106 is a friends category, and the fourth category 2108 is a locker category. Other types of categories exist. A shopper can select categories to enable/disable and or view the category via the GUI 2100. In the example GUI 2100, the shopper can expand a category and/or enable or disable the category using an associated category selector 2110. As depicted in FIG. 21, the category selector 2110 associated with the first category 2102 is selected. The second category 2102 is expanded to show delivery agents associated with the second category. The second category 2102 includes the delivery agents "Spouse," "Parents," "Brother," "Sister," and "Child." Individual delivery agents within a category can be enabled and disabled via a delivery agent selector 2120. As depicted in FIG. 21, the delivery agent "Brother" in the second category 2102 is deselected whereas the delivery agent "Child" is selected, as indicated by the delivery agent selectors. The second category 2102, once expanded, includes a navigation arrow 2124. The shopper can select the navigation arrow to scroll through delivery agents that are in a category but not depicted in the expanded view. The GUI 2100 can also provide a shopper the ability to add additional delivery agents and/or categories. For example, the GUI 2100 includes a new

delivery agent icon 2122. Selection of the new delivery agent icon 2122 allows the shopper to add a new delivery agent to a category. In some embodiments, the GUI 2100 includes a new category icon which allows the shopper to add a new category of delivery agent.

[00199] Different categories of delivery agent may provide different delivery services. For example, delivery agents in the first category 2102 (*i.e.,* family members) can be utilized to pick items up for a shopper. The family members can pick the items up at a store or warehouse facility. For example, a shopper might order Product X from Store Y. If the shopper's spouse is at or near Store Y, the shopper's spouse can receive an alert that the shopper purchased Product X from Store Y. The shopper's spouse can then choose to pick Product X up from Store Y. In some embodiments, the shopper is alerted when a delivery agent retrieves the product. As another example, if the shopper has enabled crowd source delivery agents to delivery products, a notification can be sent to crowd source delivery agents that the shopper has purchased Product X from Store Y. The crowd source delivery agents can then choose whether to retrieve Product X from Store Y for the shopper. In some embodiments, notifications are sent based on proximity. For example, the crowd source delivery agent nearest Store Y may first receive the notification that the shopper has purchased Product X from Store Y. As another example, delivery agent routes can be considered. For example, a delivery agent may already be making a delivery that requires the delivery agent to pass Store Y. The delivery agent can be alerted as to the shopper's purchase of Product X from Store Y. The delivery agents can deliver products directly to the shopper (*e.g.,* at the shopper's current location), the shopper's home, the shopper's car (*e.g.,* place the products in the trunk of the shopper's car), a secure facility (*e.g.,* a locker), a retail store, or any other suitable location. In some embodiments, the delivery agent can be an employee and the employee can deliver the product to a locker or other secure area at a facility in which the product is stored (*e.g.,* a retail store, a warehouse, etc.).

[00200] While FIG. 21 depicts an example GUI for defining categories of delivery agents, FIG. 22 depicts an example GUI for selecting user selectable preferences.

[00201] FIG. 22 depicts a graphical user interface 2200 for selecting user selectable preferences, according to some embodiments. Similar to how delivery agents can be categorized, products can also be categorized. For example, products can be categorized by type, price point, perishability, retailer, etc. Shoppers may have different preferences for how products in different categories are delivered. Additionally, customers may have preferences

regarding value propositions of products, categories of products, delivery agents, and/or categories of delivery agents. A shopper can input these preferences via a graphical user interface, such as the example GUI 2200 depicted in FIG. 22. The GUI 2200 allows a shopper to enable and disable categories of delivery agents for different categories of products. The GUI 2200 includes category selectors 2210 and four categories of products: a first category 2202, a second category 2204, a third category 2206, and a fourth category 2208. In the example GUI 2200 depicted in FIG. 22, each category represents a different type of product. Specifically, the first category 2102 includes household products, the second category 2104 includes food products, the third category 2106 includes sporting goods, and the fourth category 2208 includes pharmacy products.

[00202] The shopper can choose which categories of delivery agents that he/she would allow to deliver products based on category of product. For example, as depicted in FIG. 22, the shopper has selected family delivery agents, crowd source delivery agents, friends delivery agents, lockers, and trunks as acceptable delivery agents for household products, but has only selected family delivery agents as acceptable delivery agents for pharmacy products. Such preferences may indicate value propositions of the shopper. For example, if a shopper only allows pharmacy products to be delivered by family members it may indicate that the shopper values privacy. On the other hand, if a shopper allows all products to be delivered by any delivery agent, it may indicate that the shopper values fast delivery. Similar value propositions can be inferred based on products that the shopper purchases. For example, if a shopper consistently buys "green" products, it may imply that the shopper values goods and services that are environmentally friendly. In some embodiments, these value propositions are preferences that can be used to select a delivery agent to deliver products to the shopper. In this respect, the shopper has selected preferences via user input to purchase products and/or select delivery agents. As an example, a delivery agent with an environmentally friendly vehicle can be chosen to deliver products to the shopper that consistently buys "green" products. The delivery agent is chosen based on the inference that the shopper will prefer the delivery agent based on the value proposition.

[00203] While FIG. 22 depicts an example GUI for selecting user selectable preferences, FIG. 23 depicts an example system for selecting a delivery agent for a product.

[00204] FIG. 23 is a block diagram of an example system 2300 for selecting a delivery agent, according to some embodiments. The system 2300 includes a point of sale (POS)

system 2302 and a delivery system 2304. The POS 2302 and the delivery system 2304 are in communication with each other, as depicted by the arrows. The POS system 2302 receives purchase information from shoppers and transmits the purchase information to the delivery system. The purchase information can include an indication of products purchased, payment information, shipping information, shopper identification information, demographic information, previous purchase information, shopper preferences, ratings, etc. The delivery system 2304 receives the purchase information and selects a delivery agent. The delivery system 2304 selects a delivery agent based on the purchase information.

[00205] In a basic form, the purchase information includes a selection of a delivery agent (*i.e.,* the shopper has selected the delivery agent) and the delivery system 2304 instructs delivery of the products via the selected delivery agent. In an advanced form, the delivery system 2304 selects a delivery agent based on inference (*i.e.,* the delivery system 2304 selects a delivery agent for the shopper, as opposed to the shopper picking the delivery agent). The delivery system 2304 can select a delivery agent based on previous purchase information. For example, the delivery system 2304 can select the delivery agent based on products previously purchased by the shopper, the shopper's previous ratings of products or delivery agents (*e.g.,* specific delivery agents or categories of delivery agents), a product currently being purchased, value propositions, or any other suitable information.

[00206] In some embodiments, the delivery system 2304 can progress from the basic form to the advanced form over time, with any number of intermediate forms. In other words, the delivery system 2304 can begin by allowing the shopper to select a delivery agent and "learn" based on the shopper's selections. After the shopper has completed a sufficient number of purchases, the delivery system 2304 can move to an intermediate form in which the delivery system 2304 selects a delivery agent for the shopper and seeks the shopper's approval of the selection. For example, the delivery system 2304 can select the delivery agent and present an indication of the selected delivery agent during checkout, or send the shopper a notification (*e.g.,* via text message or email). The shopper can then approve, or disapprove, of the delivery system's 2304 selection. After a sufficient number of selections in the intermediate form (*e.g.,* a certain number of selections, a certain number of approvals, a lack of disapprovals over a time period, an approval percentage, etc.), the delivery system 2304 can transition to the advanced form. It should be noted that other intermediate stages can exist. For example, in a second intermediate form, the delivery system 2304 may ask for

approval for every N^{th} purchase. Additionally, the delivery system 2304 may progress through the forms (*i.e.,* basic to advanced and those in between) at different rates for different products or types of transactions and/or independently for different products or types of transactions. For example, the delivery system 2304 may have sufficient information to select a delivery agent without requesting approval for household products purchased by a shopper but request that the shopper select a delivery agent for food products (*e.g.,* if the shopper frequently purchases household items but infrequently purchases food products).

[00207] In some embodiments, the delivery system 2304 can request feedback from the shopper regarding the delivery agent. For example, the delivery system 2304 can ask the shopper to rate the delivery agent. The rating can be based on the delivery agent's performance, whether the shopper approved of the delivery system's selection, costs associated with the delivery agent, timeliness of the delivery agent, etc. The delivery system 2304 can use the ratings to select delivery agents for the shopper. Additionally, the delivery system 2304 can compile ratings from multiple shoppers. The delivery system 2304 can use the complied ratings to select or suggest delivery agents to shoppers. In some embodiments, the delivery system can include the rating information in the GUI.

[00208] While FIG. 23 depicts an example system for selecting a delivery agent, FIG. 24 is a flow chart including example operations for selecting a delivery agent.

[00209] FIG. 24 is a flow chart depicting example operations for selecting a delivery agent, according to some embodiments. The flow begins at block 2402.

[00210] At block 2402, a GUI is generated. For example, a delivery system generates a GUI. In a thin client example, the delivery system generates the GUI by preparing a full GUI for transmission. In a thick client example, the delivery system generates the GUI by preparing values for transmission to be presented within the GUI. The flow continues at block 2404.

[00211] At block 2404, the GUI is transmitted. For example, the delivery system can transmit the GUI. The delivery system can transmit the GUI to any suitable device, such as a mobile device or a computer. The device receives and presents the GUI. In the thin client example (*e.g.,* a browser on a computer), the device receives all of the content necessary for rendering the GUI from the delivery system. In the thick client example (*e.g.,* a dedicated application executing on a mobile device), much of the content necessary for rendering the

GUI is resident on the device and the device receives only limited information specific to, for example, a shopper or transaction. The transmission of the GUI can include any information necessary for presentation on the device. The flow continues at block 2406.

[00212] At block 2406, first user input is received. For example, the delivery system can receive first user input via the GUI. The first user input can define delivery agents for one or more of the categories (*e.g.,* add/remove delivery agents from a category, enable/disable categories, etc.), define categories, create new categories, delete categories, etc. In some embodiments, the delivery system can store the delivery agents in a data structure. For example, the data structure can include an entry for the user that includes the delivery agents received via the first user input. Additionally, the data structure can organize the delivery agents by category, or include an entry for each delivery agent indicating the category to which the delivery agent belongs. The flow continues at block 2408.

[00213] At block 2408, second user input is received. For example, the delivery system can receive second user input via the GUI. The second user input can select one or more preferences from a group of user selectable preferences. The user selectable preferences can indicate product preferences, cost preferences, product type preferences, delivery preferences, value propositions, etc. The second user input can also include past purchase information (*e.g.,* products or services previously selected by the user) as well as ratings. In some embodiments, the delivery system can store the user selectable preferences in a data structure. For example, the delivery system can store the user selectable preferences in conjunction with the entry for the user. The flow continues at block 2410.

[00214] At block 2410, an indication of a purchase is received. For example, the delivery system can receive an indication of a purchase from a POS system. The indication of a purchase can include purchase information such as an indication of products purchased, payment information, shipping information, shopper identification information, demographic information, previous purchase information, shopper preferences, ratings, etc. In some embodiments, product information (*e.g.,* as described above) can be included in the data structure. In such embodiments, the delivery system can receive the product information from the data structure. The flow continues at block 2412.

[00215] At block 2412, a category of delivery agent is selected. For example, the delivery system can select a category of delivery agent. The delivery system can select a category of delivery agent based on the user selectable preferences and/or the purchase

information. For example, the delivery system can select a family category of delivery agent to deliver a product. In some embodiments, the delivery system references the data structure to select the category of delivery agent. The data structure, in addition to including the entry for the user can include information regarding the qualities of the category of delivery agent. The flow continues at block 2414.

[00216] At block 2414, a delivery agent is selected. For example, the delivery system can select a delivery agent. The delivery system selects the delivery agent from the category of delivery agent. The selection of the delivery agent can be based on the user selectable preferences and/or the purchase information as well as proximity information. In some embodiments, the delivery system references the data structure to select the delivery agent. The data structure, in addition to including the information regarding the qualities of the category of delivery agent can include information regarding the qualities of the delivery agent. For example, the data structure can include information regarding timeliness of the delivery agent, discreteness of the delivery agent, social perception of the delivery agent, cost of the delivery agent, ratings for the delivery agent, etc. The flow continues at block 2416.

[00217] At block 2416, the instruction to deliver the purchase is transmitted. For example, the delivery system can instruct the delivery agent to deliver the products. In some embodiments, the delivery system transmits an instruction to the delivery agent. In the case that more than one delivery agent may be acceptable, the delivery system can notify multiple delivery agents simultaneously or consecutively. Alternatively, or additionally, the delivery system can post an instruction and await a delivery agent (from the more than one acceptable delivery agent) to select the instruction.

[00218] While FIGS. 21 – 24 and the related text generally describe selecting a delivery agent, FIGS. 1 – 17 and the related text provide greater detail regarding value propositions.

[00219] In some embodiments, a system comprises a point of sale system and a delivery system including a control circuit, the control circuit configured to generate a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more preferences, and wherein the list of delivery options includes one or more categories of delivery agents, receive, via the graphical user interface, first user input defining delivery agents for at least some of the categories, receive, via the graphical user interface, second user input selecting at least some of the one or more user selectable

preferences, receive, from the point of sale system, an indication of a purchase, select, from the list of delivery options based on the second user input, a category of delivery agent, select, from the category of delivery agent based on the second user input, a delivery agent, and transmit an instruction to deliver the purchase via the delivery agent.

[00220] In some embodiments, the control circuit is further configured to request, after the purchase is delivered, feedback regarding the delivery agent. In some embodiments, the control circuit further configured to: determine a user associated with the purchase, receive value information stored for the user, the value information indicating at least one partiality possessed by the user, and wherein at least one of the selection of the category of delivery agent and the selection of the delivery agent is based on the value information associated with the user. In some embodiments, the indication of a purchase was generated in response to one of a one-time order, a recurring order, and a predicted order. In some embodiments, at least one of the selection of the category of delivery agent and the selection of the delivery agent is based on a product included in the purchase. In some embodiments, the control circuit is further configured to transmit an indication of the delivery agent. In some embodiments, the control circuit is further configured to wait until receipt of approval of the delivery agent before the transmission of the instruction to deliver the purchase via the delivery agent. In some embodiments, at least one of the selection of the category of delivery agent and the selection of the delivery agent is based ratings previously submitted by other users. In some embodiments, the selection of the delivery agent is based on a location of the delivery agent. In some embodiments, the control circuit is configured to select the delivery agent based on a data structure, wherein the data structure includes information about a user, information about products, information about categories of delivery agents, and information about delivery agents.

[00221] In some embodiments, a method comprises generating a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more user selectable preferences, and wherein the list of delivery options includes one or more categories of delivery agents, transmitting, for presentation at a user device, the graphical user interface, receiving, via the graphical user interface, first user input defining delivery agents for at least some of the categories, receiving, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences, receiving, from a point of ale system, an indication of a purchase, selecting, from the list of

delivery options based on the second user input, a category of delivery agent, selecting, from the category of delivery agent based on the second user input, a delivery agent, and transmitting an instruction to deliver the purchase via the delivery agent.

[00222] In some embodiments, the method further comprises requesting, after the purchase is delivered, feedback regarding the delivery agent. In some embodiments, the method further comprises determining a user account associated with the purchase, receiving value information stored for the user, the value information indicating at least one partiality possessed by the user, and wherein at least one of the selecting the category of delivery agent and the selecting the delivery agent is based on the value information associated with the user. In some embodiments, the indication of a purchase was generated in response to one of a one-time order, a recurring order, and a predicted order. In some embodiments, at least one of the selecting the category of delivery agent and the selecting the delivery agent is based on a product included in the purchase. In some embodiments, the method further comprises transmitting an indication of the delivery agent. In some embodiments, the method further comprises waiting until receipt of approval of the delivery agent before the transmitting the instruction to deliver the purchase via the delivery agent. In some embodiments, at least one of the selecting the category of delivery agent and the selecting the delivery agent are based on ratings previously submitted by other users. In some embodiments, the selecting the delivery agent is based on a location of the delivery agent. In some embodiments, the selecting the delivery agent includes referencing a data structure, wherein the data structure includes information about a user, information about products, information about categories of delivery agents, and information about delivery agents.

[00223] Those skilled in the art will recognize that a wide variety of modifications, alterations, and combinations can be made with respect to the above described embodiments without departing from the scope of the invention, and that such modifications, alterations, and combinations are to be viewed as being within the ambit of the inventive concept.

[00224] This application is related to, and incorporates herein by reference in its entirety, each of the following U.S. applications listed as follows by application number and filing date: 62/323,026 filed April 15, 2016; 62/341,993 filed May 26, 2016; 62/348,444 filed June 10, 2016; 62/350,312 filed June 15, 2016; 62/350,315 filed June 15, 2016; 62/351,467 filed June 17, 2016; 62/351,463 filed June 17, 2016; 62/352,858 filed June 21, 2016; 62/356,387 filed June 29, 2016; 62/356,374 filed June 29, 2016; 62/356,439 filed June 29,

2016; 62/356,375 filed June 29, 2016; 62/358,287 filed July 5, 2016; 62/360,356 filed July 9, 2016; 62/360,629 filed July 11, 2016; 62/365,047 filed July 21, 2016; 62/367,299 filed July 27, 2016; 62/370,853 filed August 4, 2016; 62/370,848 filed August 4, 2016; 62/377,298 filed August 19, 2016; 62/377,113 filed August 19, 2016; 62/380,036 filed August 26, 2016; 62/381,793 filed August 31, 2016; 62/395,053 filed September 15, 2016; 62/397,455 filed September 21, 2016; 62/400,302 filed September 27, 2016; 62/402,068 filed September 30, 2016; 62/402,164 filed September 30, 2016; 62/402,195 filed September 30, 2016; 62/402,651 filed September 30, 2016; 62/402,692 filed September 30, 2016; 62/402,711 filed September 30, 2016; 62/406,487 filed October 11, 2016; 62/408,736 filed October 15, 2016; 62/409,008 filed October 17, 2016; 62/410,155 filed October 19, 2016; 62/413,312 filed October 26, 2016; 62/413,304 filed October 26, 2016; 62/413,487 filed October 27, 2016; 62/422,837 filed November 16, 2016; 62/423,906 filed November 18, 2016; 62/424,661 filed November 21, 2016; 62/427,478 filed November 29, 2016; 62/436,842 filed December 20, 2016; 62/436,885 filed December 20, 2016; 62/436,791 filed December 20, 2016; 62/439,526 filed December 28, 2016; 62/442,631 filed January 5, 2017; 62/445,552 filed January 12, 2017; 62/463,103 filed February 24, 2017; 62/465,932 filed March 2, 2017; 62/467,546 filed March 6, 2017; 62/467,968 filed March 7, 2017; 62/467,999 filed March 7, 2017; 62/471,804 filed March 15, 2017; 62/471,830 filed March 15, 2017; 62/479,525 filed March 31, 2017; 62/480,733 filed April 3, 2017; 62/482,863 filed April 7, 2017; 62/482,855 filed April 7, 2017; 62/485,045 filed April 13, 2017; 15/487,760 filed April 14, 2017; 15/487,538 filed April 14, 2017; 15/487,775 filed April 14, 2017; 15/488,107 filed April 14, 2017; 15/488,015 filed April 14, 2017; 15/487,728 filed April 14, 2017; 15/487,882 filed April 14, 2017; 15/487,826 filed April 14, 2017; 15/487,792 filed April 14, 2017; 15/488,004 filed April 14, 2017; 15/487,894 filed April 14, 2017; 62/486,801, filed April 18, 2017; 62/510,322, filed May 24, 2017; 62/510,317, filed May 24, 2017; 15/606,602, filed May 26, 2017; 62/513,490, filed June 1, 2017; 15/624,030 filed June 15, 2017; 15/625,599 filed June 16, 2017; 15/628,282 filed June 20, 2017; 62/523,148 filed June 21, 2017; 62/525,304 filed June 27, 2017; 15/634,862 filed June 27, 2017; 62/527,445 filed June 30, 2017; 15/655,339 filed July 20, 2017; 15/669,546 filed August 4, 2017; and 62/542,664 filed August 8, 2017; 62/542,896 filed August 9, 2017; 15/678,608 filed August 16, 2017; 62/548,503 filed August 22, 2017; 62/549,484 filed August 24, 2017; 15/685,981 filed August 24, 2017; 62/558,420 filed September 14, 2017; 15/704,878 filed September 14, 2017; and 62/559,128 filed September 15, 2017.

CLAIMS

What is claimed is:

1. A courier management system, comprising:

a customer computing device for accessing and receiving data produced by the system;

a server located at a service provider, the server coupled to the customer computing device and programmed to:

receive from the customer computing device customer preferences and automatically store the customer preferences;

automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement;

receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences; and

receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement.

2. The system of claim 1, wherein the server is programmed to automatically store the shopping list.

3. The system of claim 2, wherein the server is programmed to automatically store all shopping lists from the customer computing device and associated levels of courier involvement.

4. The system of claim 3, wherein the server is programmed to automatically generate and transmit to the computing device for display a recommended level of courier involvement in response to processing the stored customer preferences and stored shopping lists with associated levels of courier involvement.

5. The system of claim 1, wherein the server is further programmed to determine a recommended level of courier involvement based on value vectors associated with the customer.

6. The system of claim 5, wherein the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

7. The system of claim 1, wherein the level of courier involvement comprises selecting a number of couriers to coordinate the fulfilling of the shopping list received from the customer computing device by the server.

8. The system of claim 1, wherein one or more couriers are selected to fulfill the shopping list based on value vectors associated with the customer.

9. The system of claim 8, wherein the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

10. A courier management system, comprising:

a customer computing device for accessing and receiving data produced by the system;

a server located at a service provider, the server coupled to the customer computing device and programmed to:

receive from the customer computing device customer preferences and automatically store the customer preferences;

automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement;

receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences; and

receive from the customer computing device a shopping list and automatically generate order instructions in response to accessing and processing the customer preferences and the level of courier involvement, wherein:

automatically generating order instructions comprises selecting a substitute or alternative product to complete the shopping list in response to automatically determining a requested product is out of stock.

11. The system of claim 10, wherein the scalable shopping preference interface comprises a selection of types of substitute or alternative products.

12. The system of claim 11, wherein the selection of types of substitute or alternative products comprises at least one of price, brand, quality, freshness, expiration date, and combinations thereof.

13. The system of claim 12, wherein selecting the substitute or alternative product comprises the server programmed to receive a selection of types of substitute or alternative products and store the same in the customer preferences.

14. The system of claim 13, wherein the customer preferences comprise dietary restrictions.

15. The system of claim 14, wherein selecting the substitute or alternative product comprises the server programmed to retrieve the stored customer preferences and determine the substitute or alternative product in response to processing the shopping list data and the stored customer preferences data.

16. The system of claim 10, wherein the server is programmed to automatically store the shopping list.

17. The system of claim 16, wherein the server is programmed to automatically store all shopping lists from the customer computing device and associated levels of courier involvement.

18. The system of claim 17, wherein the server is programmed to automatically generate and transmit to the computing device for display a recommended level of courier involvement in response to processing the stored customer preferences and stored shopping lists with associated levels of courier involvement.

19. The system of claim 10, wherein the server is further programmed to determine a recommended level of courier involvement based on value vectors associated with the customer.

20. The system of claim 19, wherein the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

21. The system of claim 10, wherein the level of courier involvement comprises selecting a number of couriers to coordinate the fulfilling of the shopping list received from the customer computing device by the server.

22. The system of claim 10, wherein one or more couriers are selected to fulfill the shopping list based on value vectors associated with the customer.

23. The system of claim 22, wherein the value vectors of the customer each represents at least one of a person's values leading to at least one of a plurality of possible preferences and affinities and each comprises a magnitude that corresponds to the customer's belief in good that comes from an order associated with that value.

24. A system comprising:

a point of sale system; and

a delivery system, the delivery system including a control circuit configured to:

generate a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more user selectable preferences, and wherein the list of delivery options includes one or more categories of delivery agents;

receive, via the graphical user interface, first user input defining delivery agents for at least some of the categories;

receive, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences;

receive, from the point of sale system, an indication of a purchase;

select, from the list of delivery options based on the second user input, a category of delivery agent;

select, from the category of delivery agent based on the second user input, a delivery agent; and

transmit an instruction to deliver the purchase via the delivery agent.

25. The system of claim 24, wherein the control circuit is further configured to:

request, after the purchase is delivered, feedback regarding the delivery agent.

26. The system of claim 24, the control circuit further configured to:

determine a user associated with the purchase;

receive value information stored for the user, the value information indicating at least one partiality possessed by the user; and

wherein at least one of the selection of the category of delivery agent and the selection of the delivery agent is based on the value information associated with the user.

27. The system of claim 24, wherein the indication of a purchase was generated in response to one of a one-time order, a recurring order, and a predicted order.

28. The system of claim 24, wherein at least one of the selection of the category of delivery agent and the selection of the delivery agent is based on a product included in the purchase.

29. The system of claim 24, wherein the control circuit is further configured to:

transmit an indication of the delivery agent.

30. The system of claim 29, wherein the control circuit is further configured to:

wait until receipt of approval of the delivery agent before the transmission of the instruction to deliver the purchase via the delivery agent.

31 . The system of claim 24, wherein at least one of the selection of the category of delivery agent and the selection of the delivery agent is based ratings previously submitted by other users.

32. The system of claim 24, wherein the selection of the delivery agent is based on a location of the delivery agent.

33. The system of claim 24, wherein the control circuit is configured to select the delivery agent based on a data structure, wherein the data structure includes information about a user, information about products, information about categories of delivery agents, and information about delivery agents.

34. A method comprising:

generating a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more user selectable preferences, and wherein the list of delivery options includes one or more categories of delivery agents;

transmitting, for presentation at a user device, the graphical user interface;

receiving, via the graphical user interface, first user input defining delivery agents for at least some of the categories;

receiving, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences;

receiving, from a point of sale system, an indication of a purchase;

selecting, from the list of delivery options based on the second user input, a category of delivery agent;

selecting, from the category of delivery agent based on the second user input, a delivery agent; and

transmitting an instruction to deliver the purchase via the delivery agent.

35 . The method of claim 34, further comprising:

requesting, after the purchase is delivered, feedback regarding the delivery agent.

36 . The method of claim 34, further comprising:

determining a user account associated with the purchase;

receiving value information stored for the user, the value information indicating at least one partiality possessed by the user; and

wherein at least one of the selecting the category of delivery agent and the selecting the delivery agent is based on the value information associated with the user.

37 . The method of claim 34, wherein the indication of a purchase was generated in response to one of a one-time order, a recurring order, and a predicted order.

38 . The method of claim 34, wherein at least one of the selecting the category of delivery agent and the selecting the delivery agent is based on a product included in the purchase.

39 . The method of claim 34, further comprising:

transmitting an indication of the delivery agent.

40 . The method of claim 39, further comprising:

waiting until receipt of approval of the delivery agent before the transmitting the instruction to deliver the purchase via the delivery agent.

41. The method of claim 34, wherein at least one of the selecting the category of delivery agent and the selecting the delivery agent are based on ratings previously submitted by other users.

42. The method of claim 34, wherein the selecting the delivery agent is based on a location of the delivery agent.

43. The method of claim 34, wherein the selecting the delivery agent includes referencing a data structure, wherein the data structure includes information about a user, information about products, information about categories of delivery agents, and information about delivery agents.

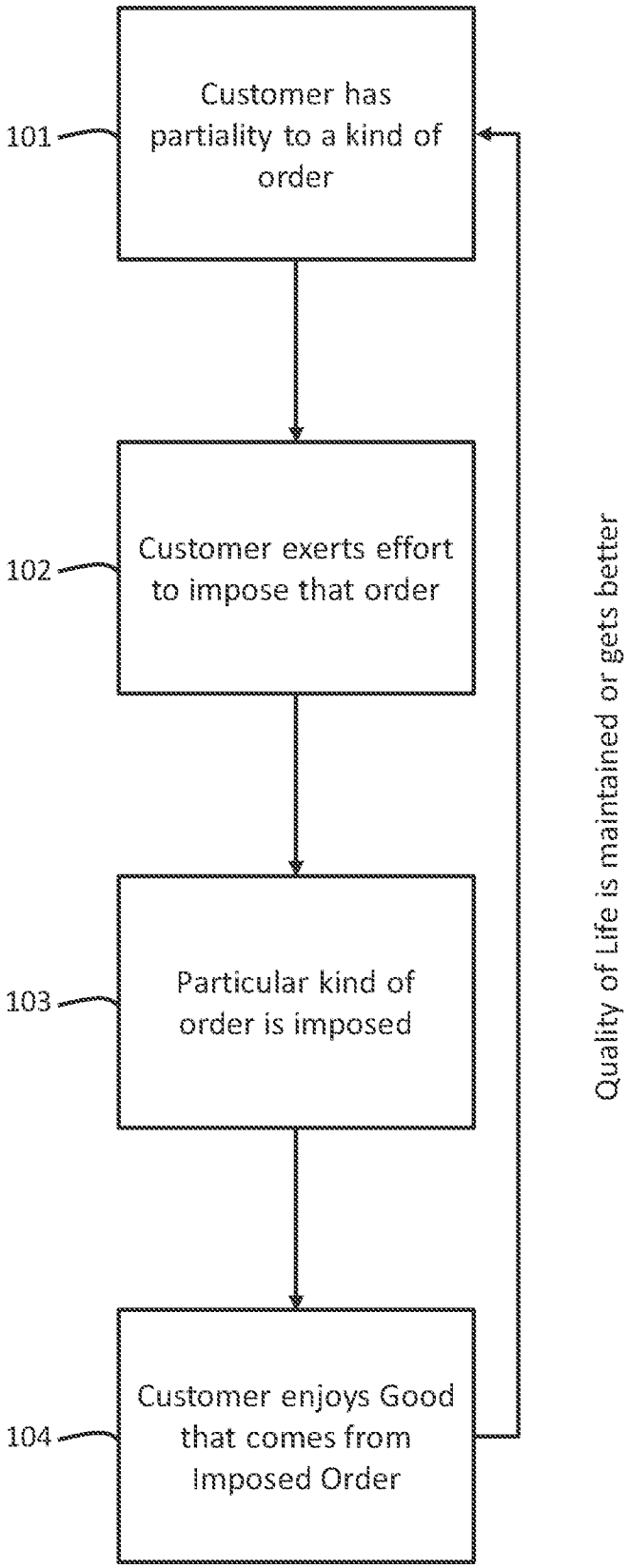
Customer has partiality to a kind of order
101
Customer exerts effort to impose that order
102
Particular kind of order is imposed
103
Customer enjoys Good that comes from Imposed Order
104
Quality of Life is maintained or gets better

FIG. 1

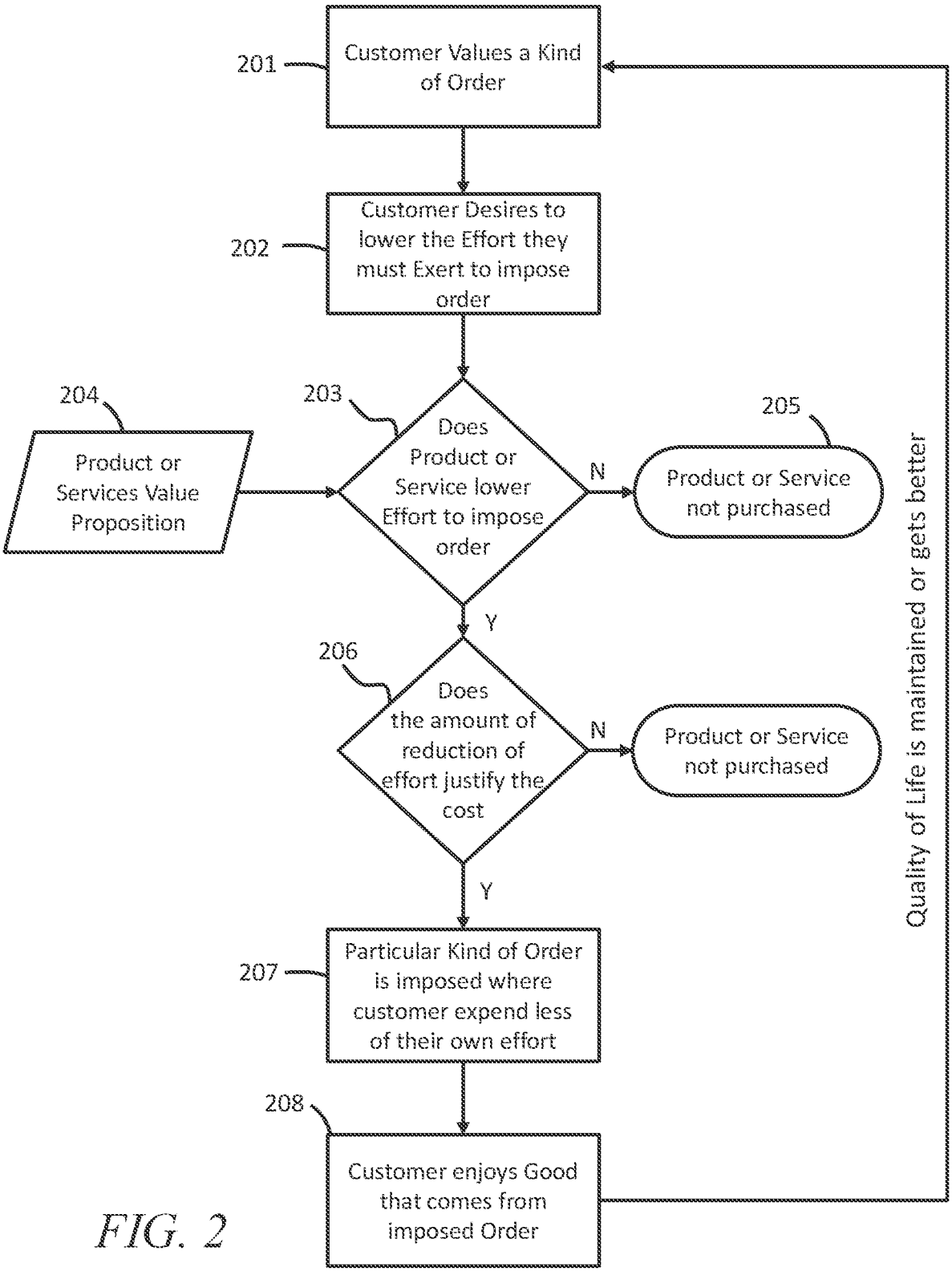
201
Customer Values a Kind of Order
202
Customer Desires to lower the Effort they must Exert to impose order
203
Does Product or Service lower Effort to impose order
204
Product or Services Value Proposition
205
Product or Service not purchased
N
Y
206
Does the amount of reduction of effort justify the cost
Product or Service not purchased
N
Y
207
Particular Kind of Order is imposed where customer expend less of their own effort
208
Customer enjoys Good that comes from imposed Order
Quality of Life is maintained or gets better

FIG. 2

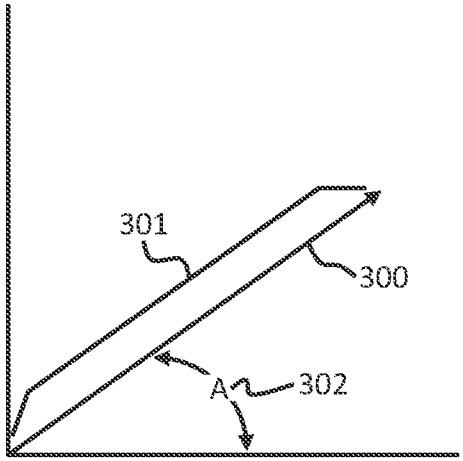

FIG. 3

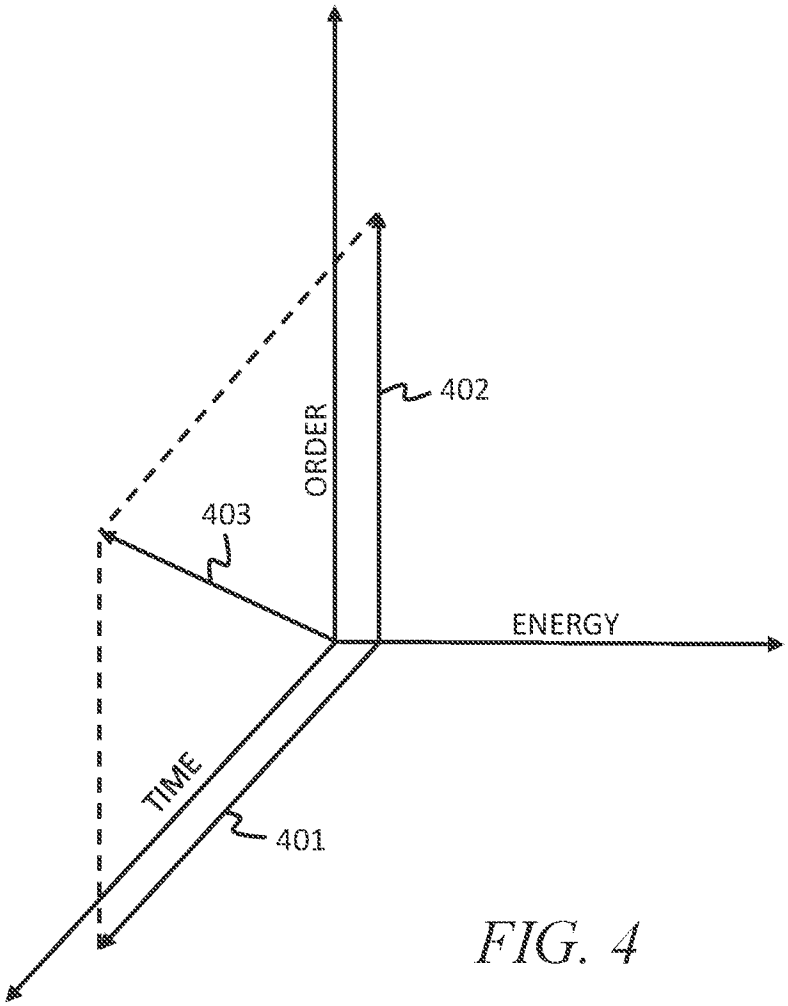

FIG. 4

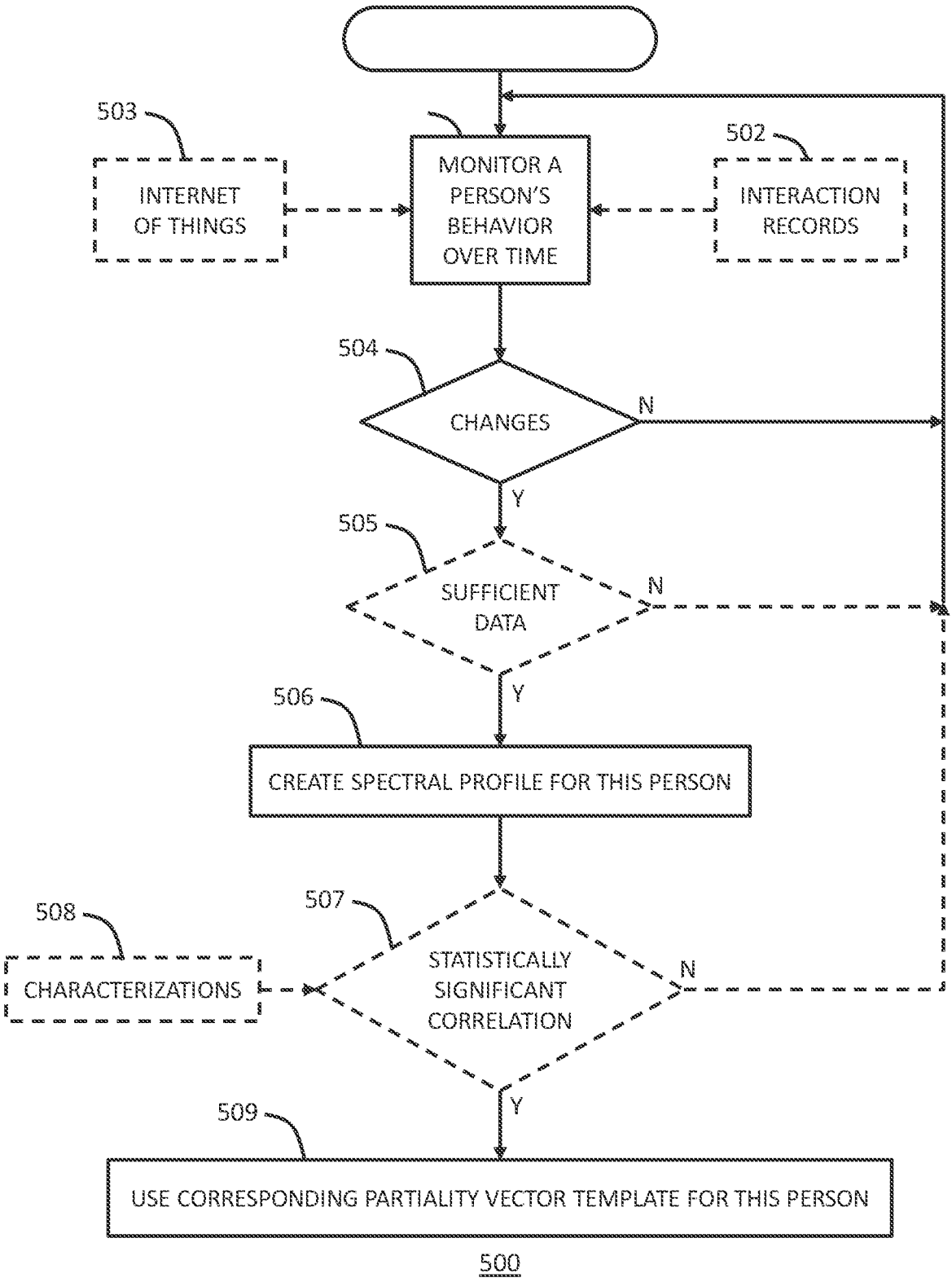
503
INTERNET OF THINGS
MONITOR A PERSON'S BEHAVIOR OVER TIME
502
INTERACTION RECORDS
504
CHANGES
N
Y
505
SUFFICIENT DATA
N
Y
506
CREATE SPECTRAL PROFILE FOR THIS PERSON
508
CHARACTERIZATIONS
507
STATISTICALLY SIGNIFICANT CORRELATION
N
Y
509
USE CORRESPONDING PARTIALITY VECTOR TEMPLATE FOR THIS PERSON
500

FIG. 5

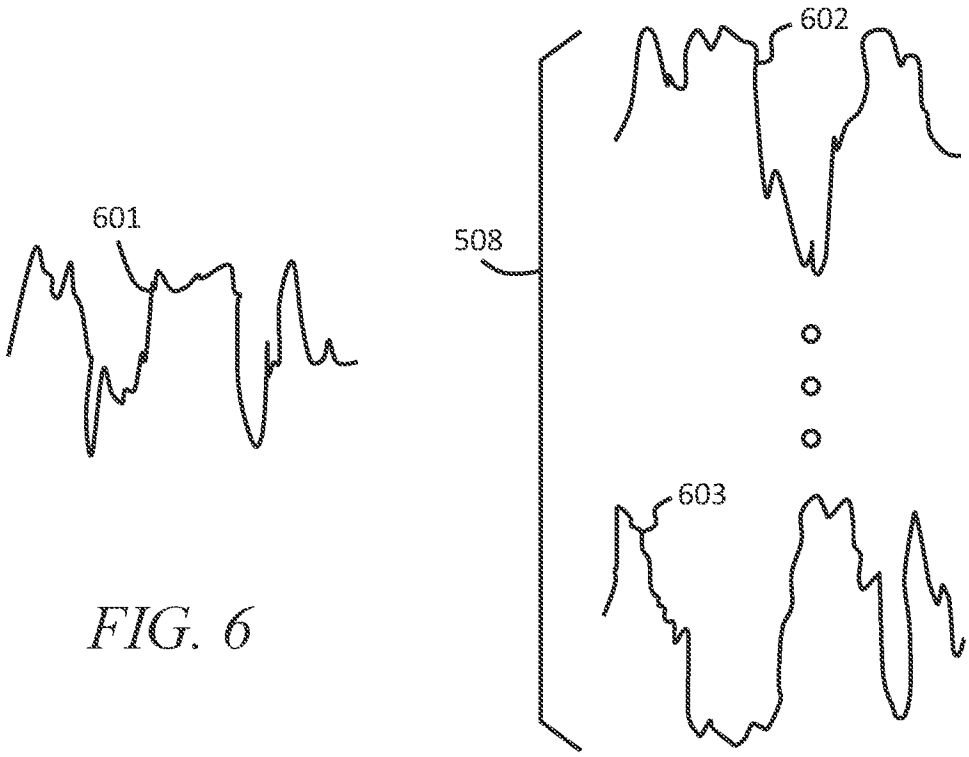

FIG. 6

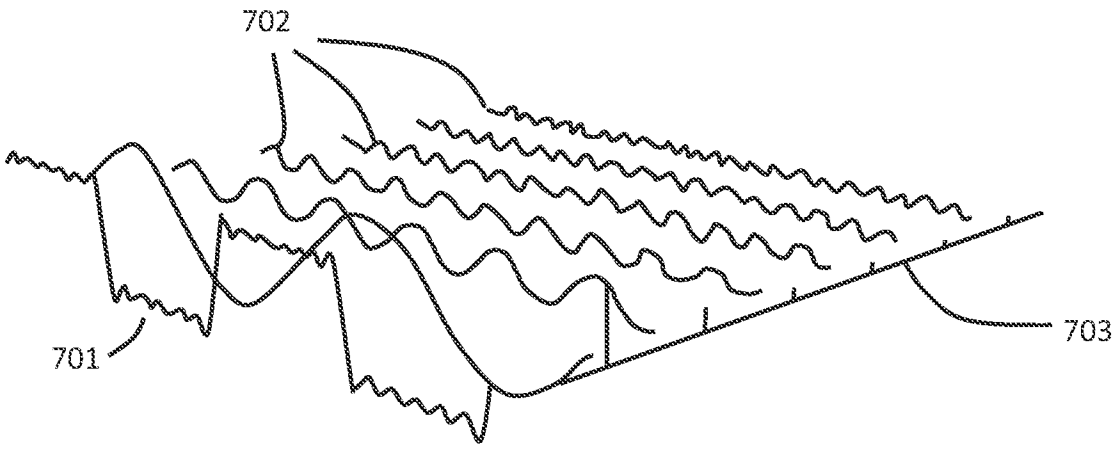

FIG. 7

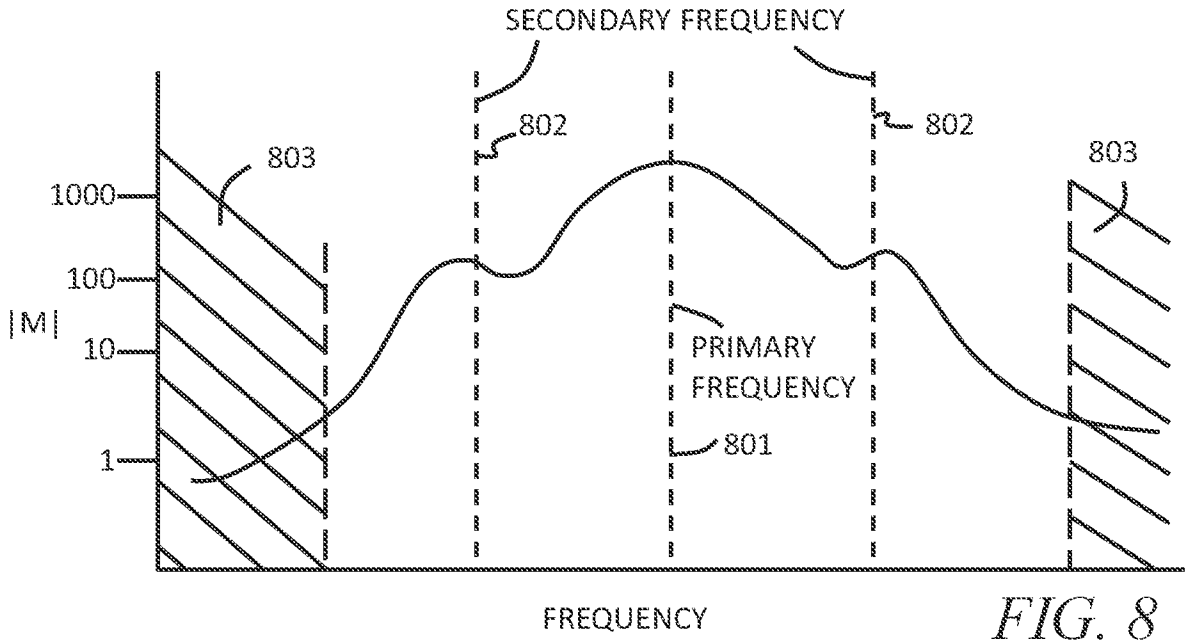
SECONDARY FREQUENCY
802
802
803
803
1000
100
10
1
|M|
PRIMARY
FREQUENCY
801
FREQUENCY

FIG. 8

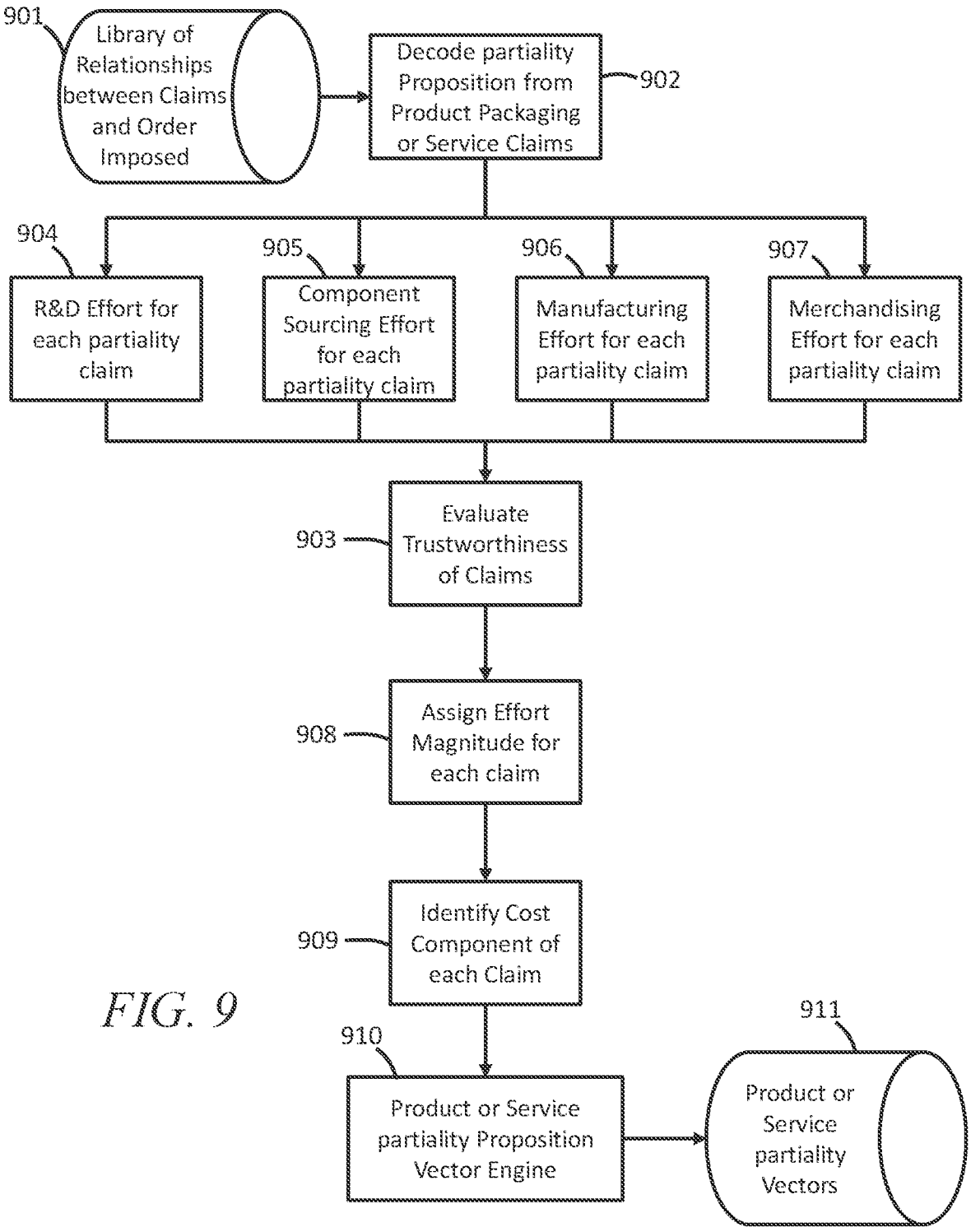
901
Library of Relationships between Claims and Order Imposed
Decode partiality Proposition from Product Packaging or Service Claims
902
904
905
906
907
R&D Effort for each partiality claim
Component Sourcing Effort for each partiality claim
Manufacturing Effort for each partiality claim
Merchandising Effort for each partiality claim
903
Evaluate Trustworthiness of Claims
908
Assign Effort Magnitude for each claim
909
Identify Cost Component of each Claim
910
911
Product or Service partiality Proposition Vector Engine
Product or Service partiality Vectors

FIG. 9

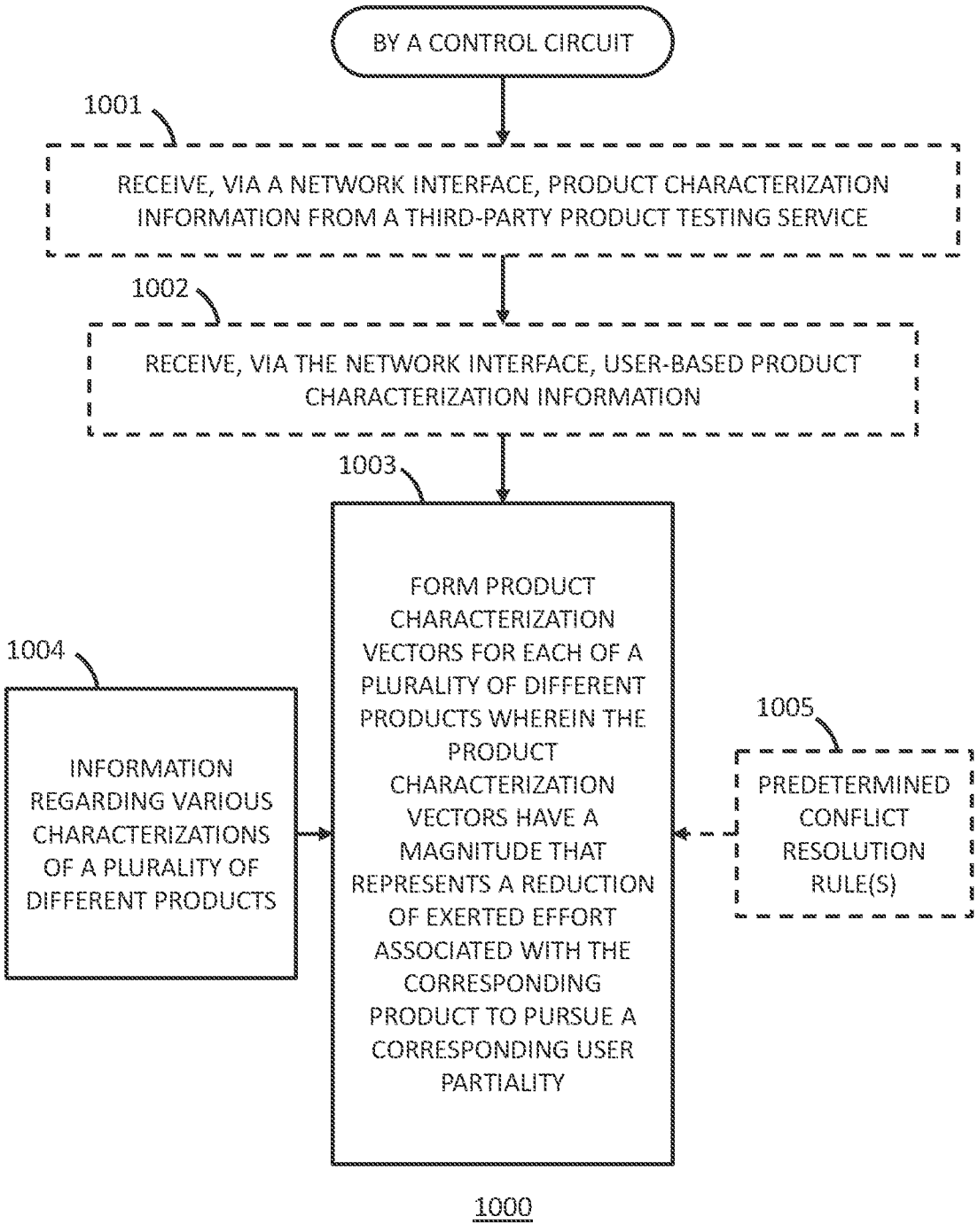
BY A CONTROL CIRCUIT
1001
RECEIVE, VIA A NETWORK INTERFACE, PRODUCT CHARACTERIZATION INFORMATION FROM A THIRD-PARTY PRODUCT TESTING SERVICE
1002
RECEIVE, VIA THE NETWORK INTERFACE, USER-BASED PRODUCT CHARACTERIZATION INFORMATION
1003
FORM PRODUCT CHARACTERIZATION VECTORS FOR EACH OF A PLURALITY OF DIFFERENT PRODUCTS WHEREIN THE PRODUCT CHARACTERIZATION VECTORS HAVE A MAGNITUDE THAT REPRESENTS A REDUCTION OF EXERTED EFFORT ASSOCIATED WITH THE CORRESPONDING PRODUCT TO PURSUE A CORRESPONDING USER PARTIALITY
1004
INFORMATION REGARDING VARIOUS CHARACTERIZATIONS OF A PLURALITY OF DIFFERENT PRODUCTS
1005
PREDETERMINED CONFLICT RESOLUTION RULE(S)
1000

FIG. 10

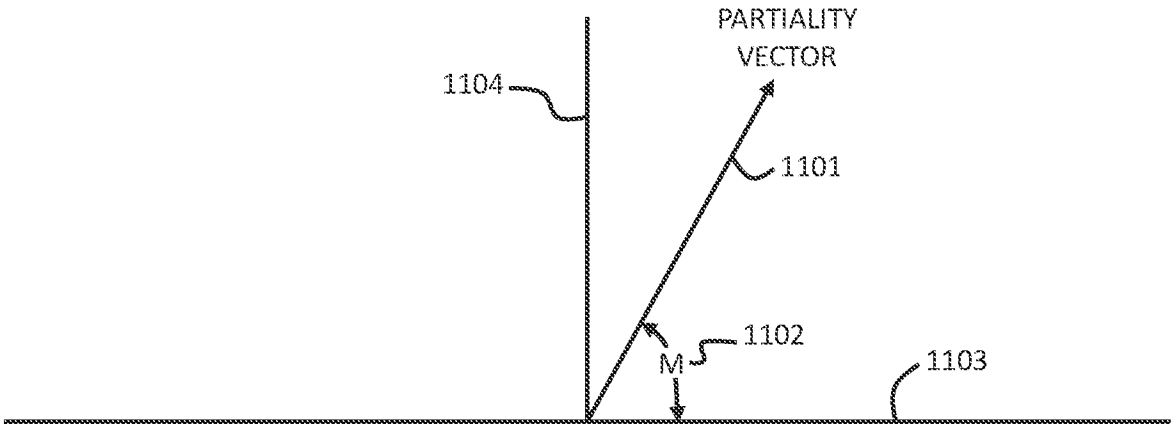
PARTIALITY
VECTOR
1104
1101
1102
M
1103

FIG. 11

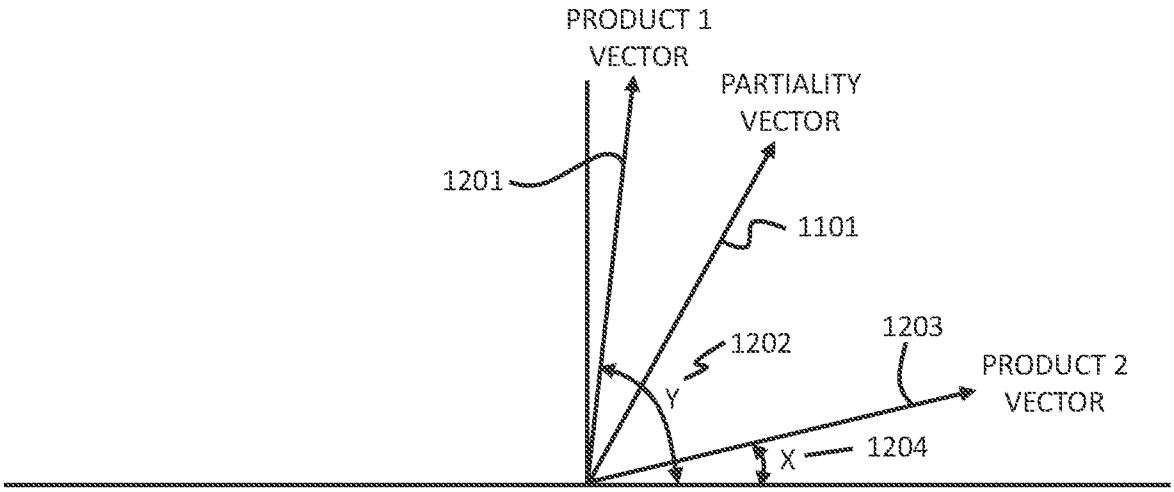
PRODUCT 1
VECTOR
PARTIALITY
VECTOR
1201
1101
1202
1203
PRODUCT 2
VECTOR
Y
X
1204

FIG. 12

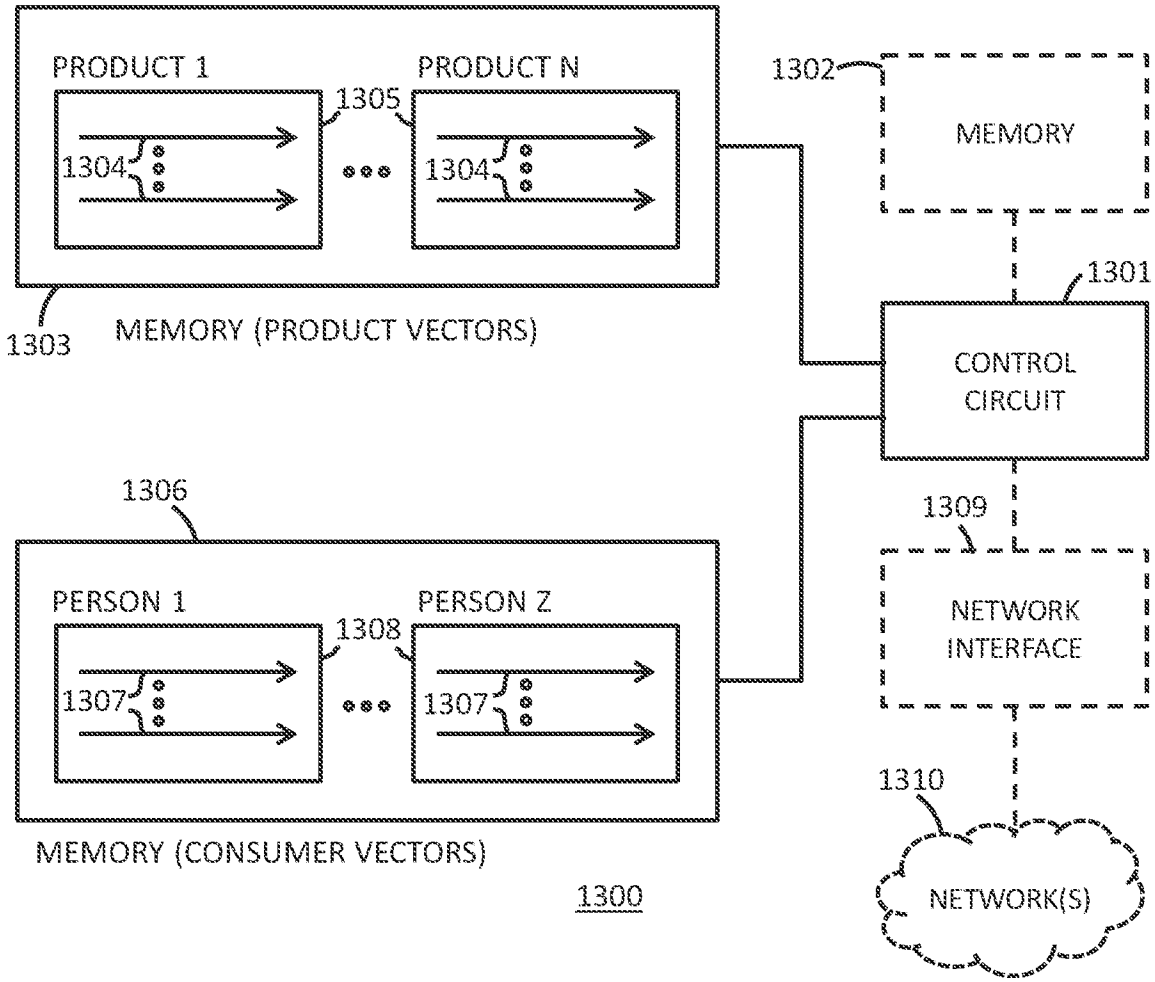
PRODUCT 1
PRODUCT N
1305
1304
1304
1303
MEMORY (PRODUCT VECTORS)
1302
MEMORY
1301
CONTROL CIRCUIT
1306
1309
PERSON 1
PERSON Z
1308
1307
1307
NETWORK INTERFACE
1310
NETWORK(S)
MEMORY (CONSUMER VECTORS)
1300

FIG. 13

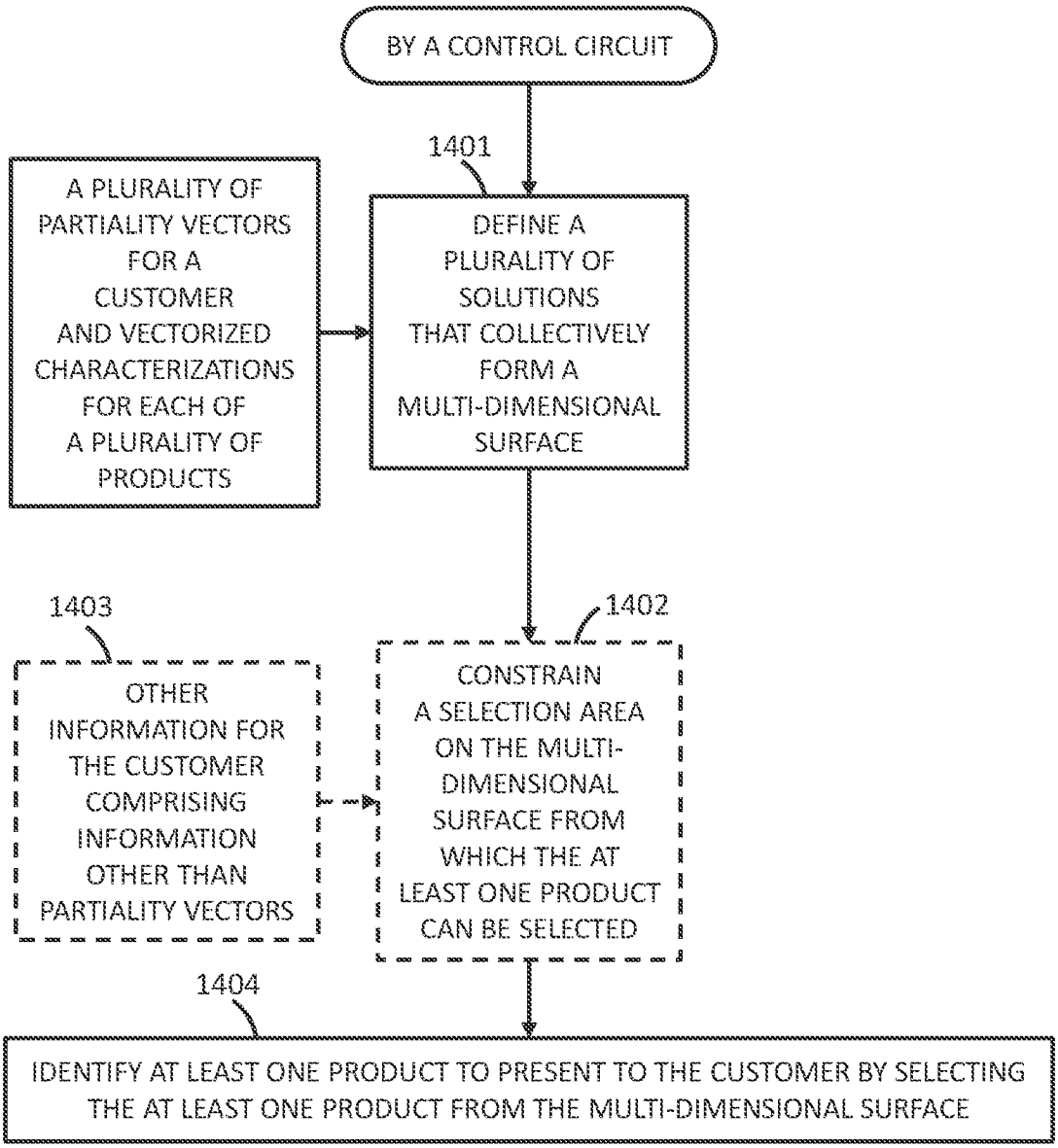
BY A CONTROL CIRCUIT
1401
A PLURALITY OF PARTIALITY VECTORS FOR A CUSTOMER AND VECTORIZED CHARACTERIZATIONS FOR EACH OF A PLURALITY OF PRODUCTS
DEFINE A PLURALITY OF SOLUTIONS THAT COLLECTIVELY FORM A MULTI-DIMENSIONAL SURFACE
1403
1402
OTHER INFORMATION FOR THE CUSTOMER COMPRISING INFORMATION OTHER THAN PARTIALITY VECTORS
CONSTRAIN A SELECTION AREA ON THE MULTI-DIMENSIONAL SURFACE FROM WHICH THE AT LEAST ONE PRODUCT CAN BE SELECTED
1404
IDENTIFY AT LEAST ONE PRODUCT TO PRESENT TO THE CUSTOMER BY SELECTING THE AT LEAST ONE PRODUCT FROM THE MULTI-DIMENSIONAL SURFACE
1400

FIG. 14

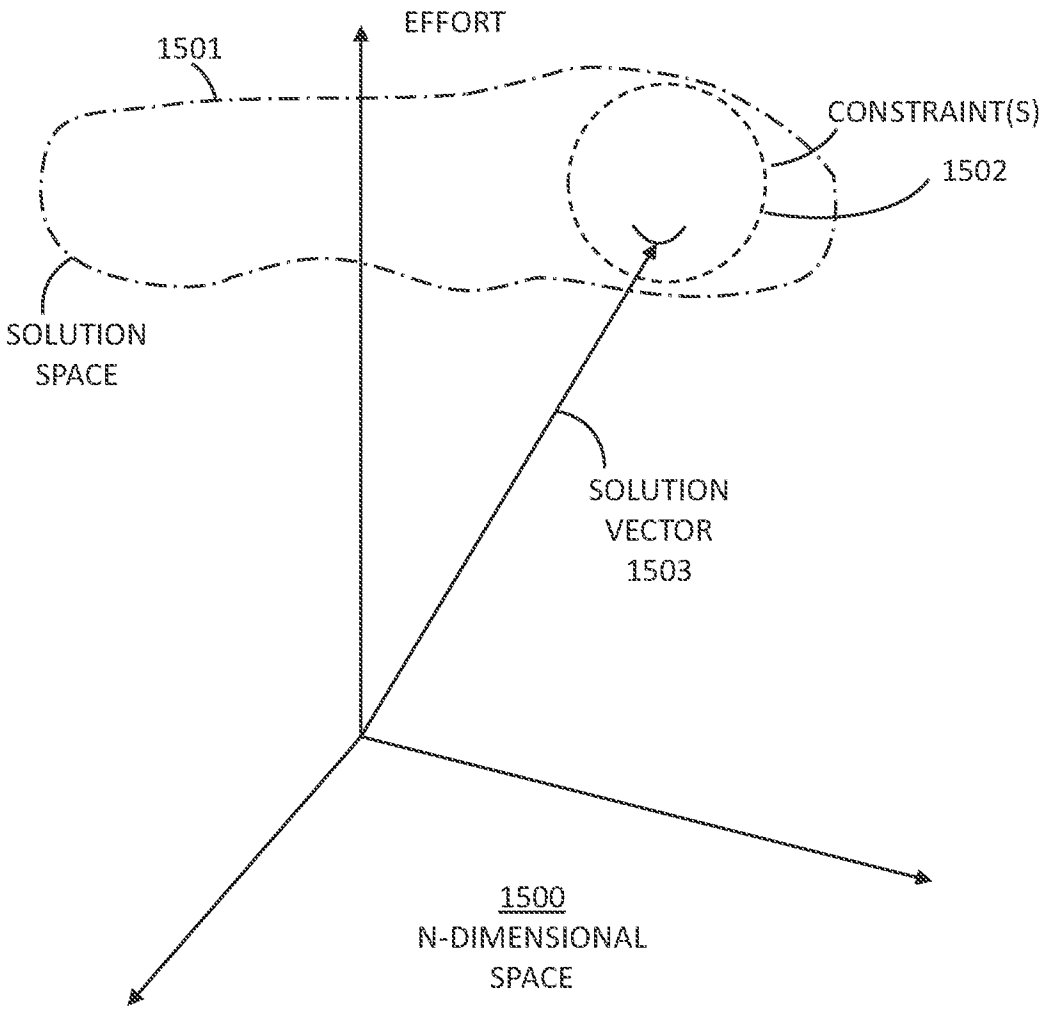
EFFORT
1501
CONSTRAINT(S)
1502
SOLUTION
SPACE
SOLUTION
VECTOR
1503
1500
N-DIMENSIONAL
SPACE

FIG. 15

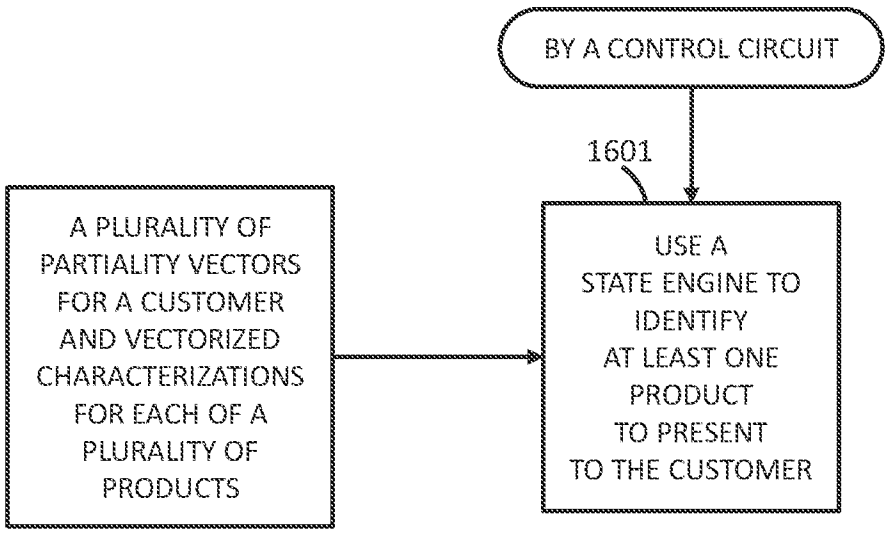
BY A CONTROL CIRCUIT
1601
A PLURALITY OF PARTIALITY VECTORS FOR A CUSTOMER AND VECTORIZED CHARACTERIZATIONS FOR EACH OF A PLURALITY OF PRODUCTS
USE A STATE ENGINE TO IDENTIFY AT LEAST ONE PRODUCT TO PRESENT TO THE CUSTOMER
1600

FIG. 16

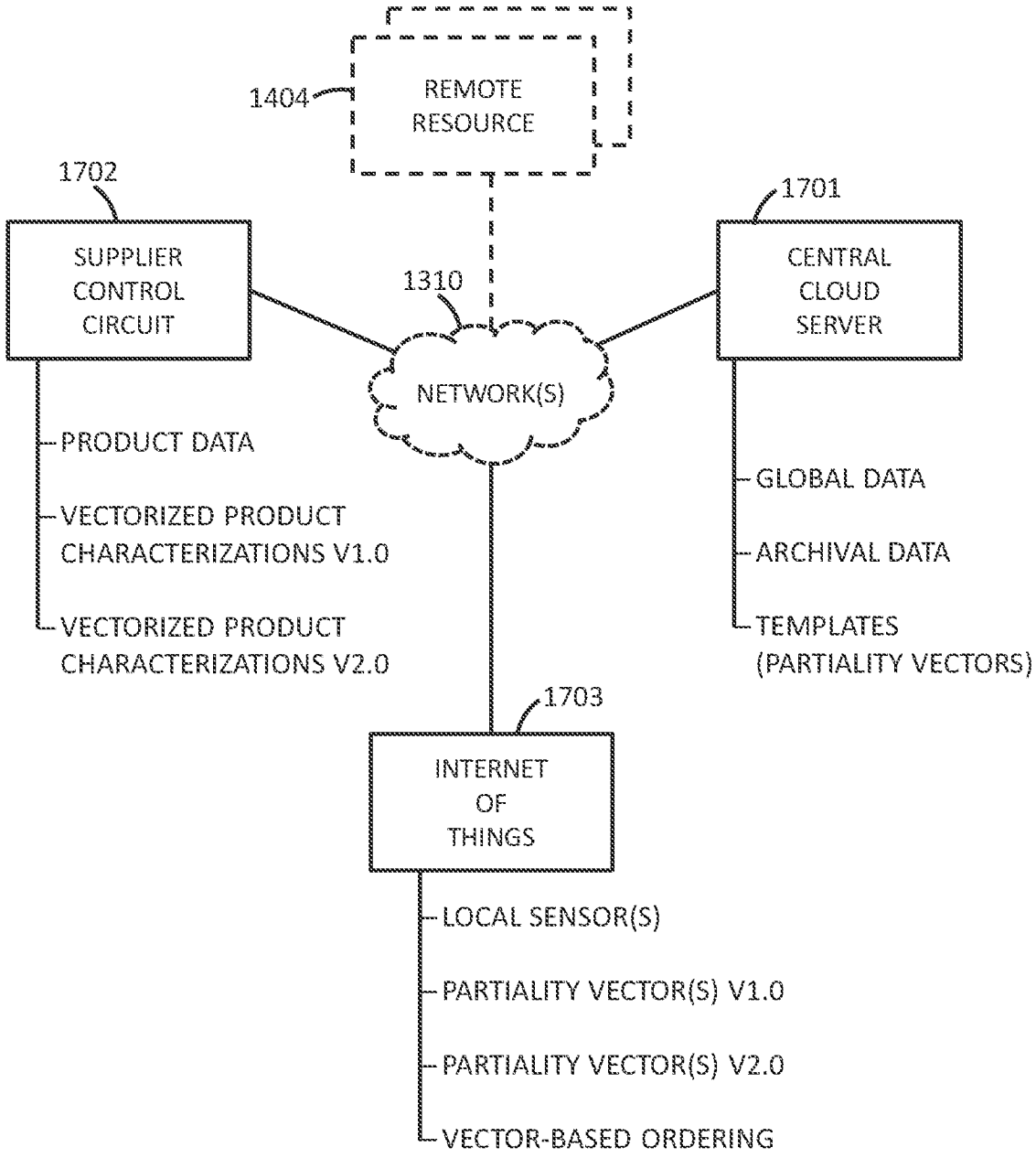
1404
REMOTE RESOURCE
1702
SUPPLIER CONTROL CIRCUIT
1310
NETWORK(S)
1701
CENTRAL CLOUD SERVER
PRODUCT DATA
VECTORIZED PRODUCT CHARACTERIZATIONS V1.0
VECTORIZED PRODUCT CHARACTERIZATIONS V2.0
GLOBAL DATA
ARCHIVAL DATA
TEMPLATES (PARTIALITY VECTORS)
1703
INTERNET OF THINGS
LOCAL SENSOR(S)
PARTIALITY VECTOR(S) V1.0
PARTIALITY VECTOR(S) V2.0
VECTOR-BASED ORDERING

FIG. 17

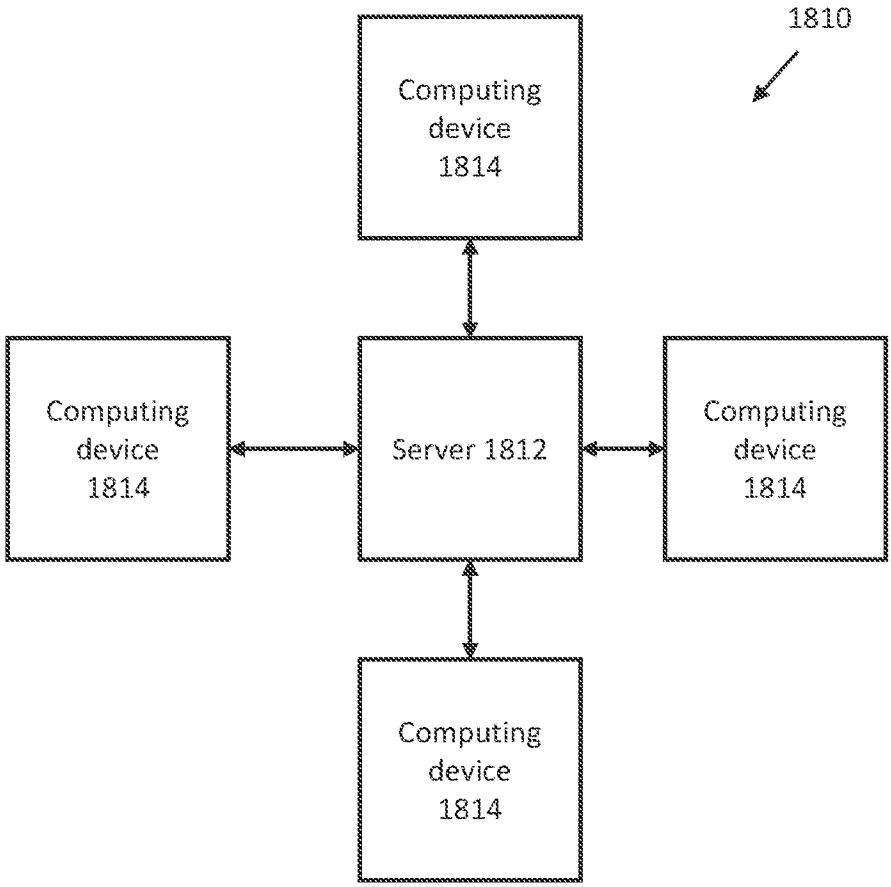
1810
Computing device 1814
Computing device 1814
Server 1812
Computing device 1814
Computing device 1814

FIG. 18

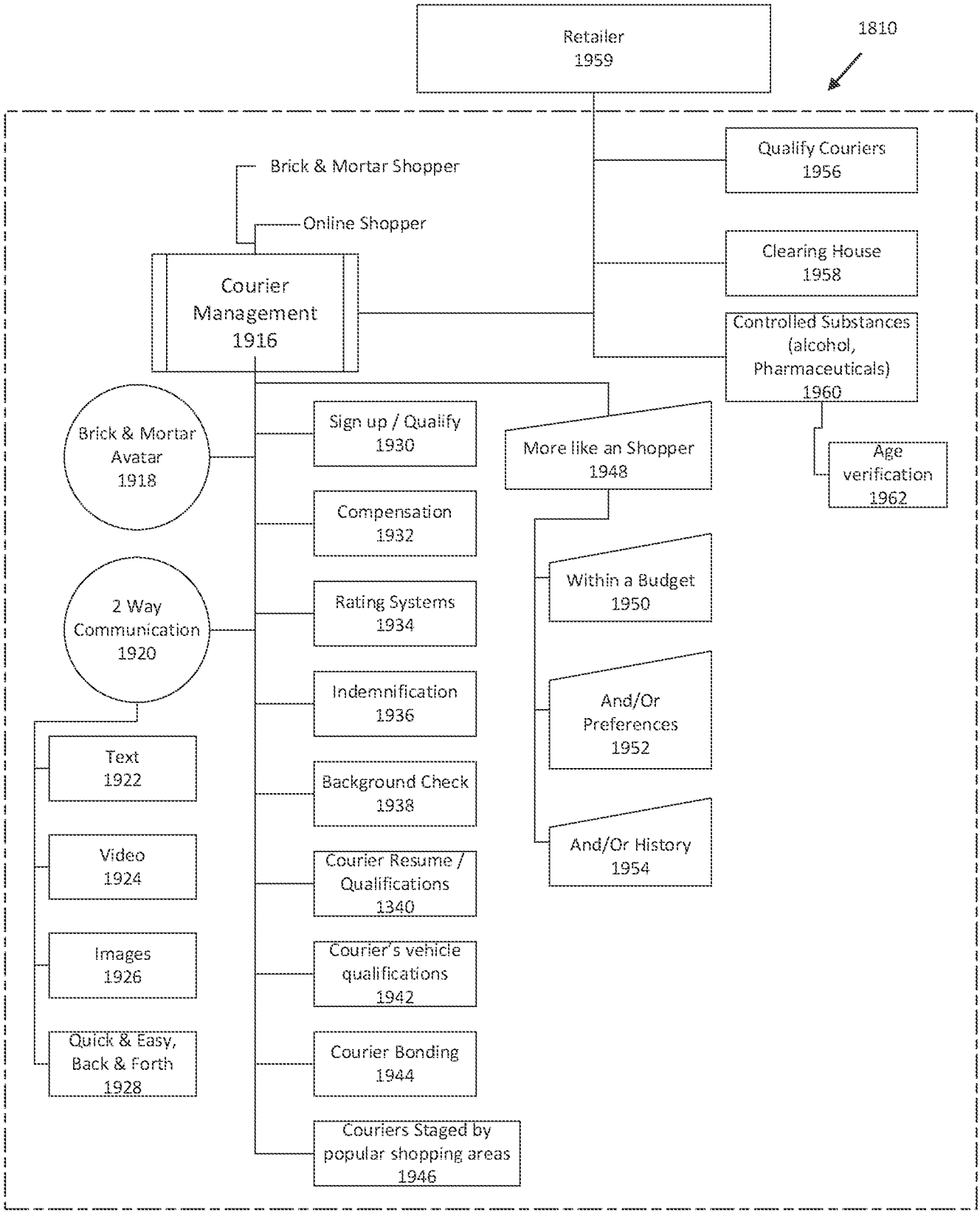
Retailer
1959
1810
Qualify Couriers
1956
Clearing House
1958
Controlled Substances
(alcohol,
Pharmaceuticals)
1960
Age
verification
1962
Brick & Mortar Shopper
Online Shopper
Courier
Management
1916
Brick & Mortar
Avatar
1918
2 Way
Communication
1920
Text
1922
Video
1924
Images
1926
Quick & Easy,
Back & Forth
1928
Sign up / Qualify
1930
Compensation
1932
Rating Systems
1934
Indemnification
1936
Background Check
1938
Courier Resume /
Qualifications
1340
Courier's vehicle
qualifications
1942
Courier Bonding
1944
Couriers Staged by
popular shopping areas
1946
More like an Shopper
1948
Within a Budget
1950
And/Or
Preferences
1952
And/Or History
1954

FIG. 19

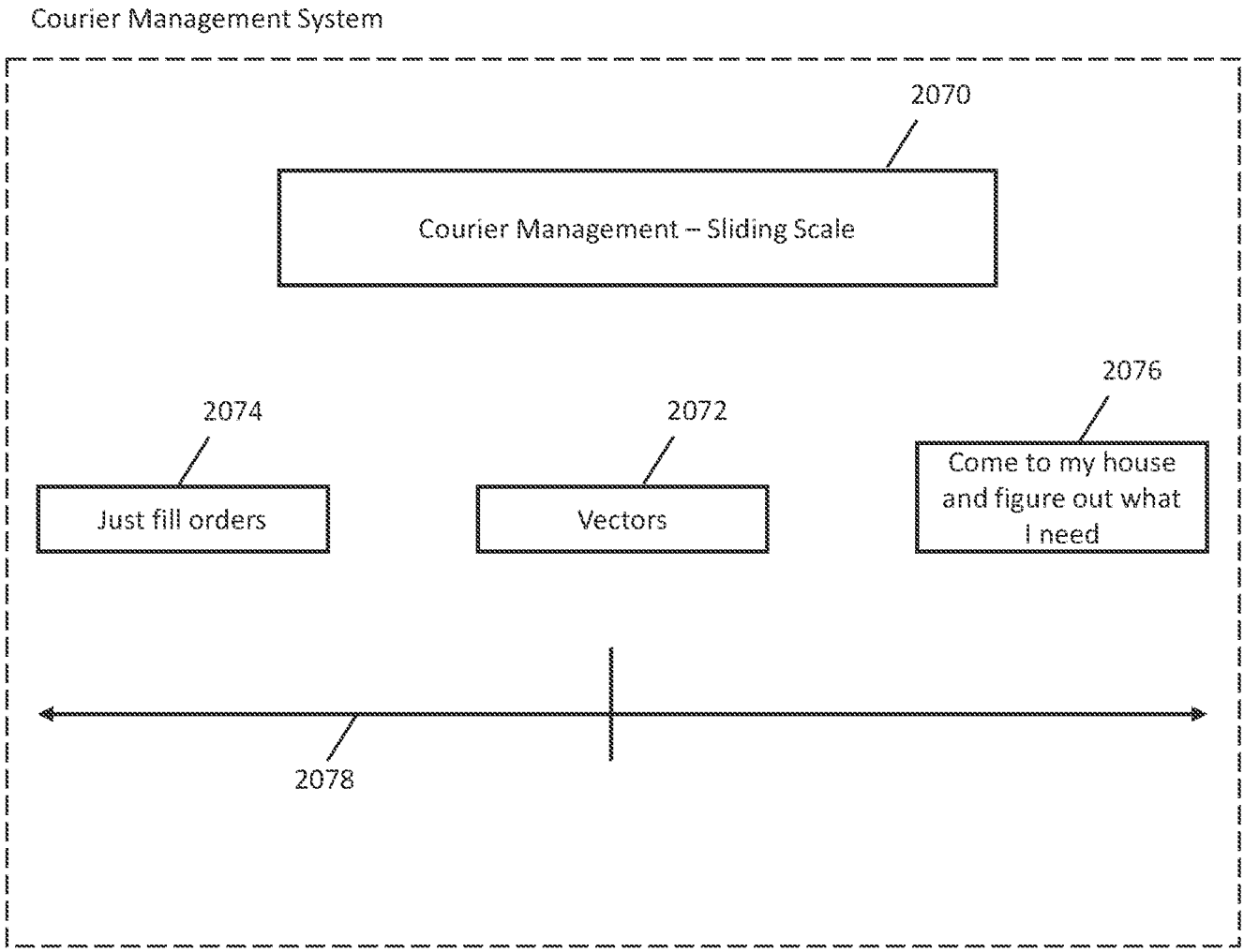
Courier Management System
2070
Courier Management – Sliding Scale
2076
2074
2072
Come to my house and figure out what I need
Just fill orders
Vectors
2078

FIG. 20

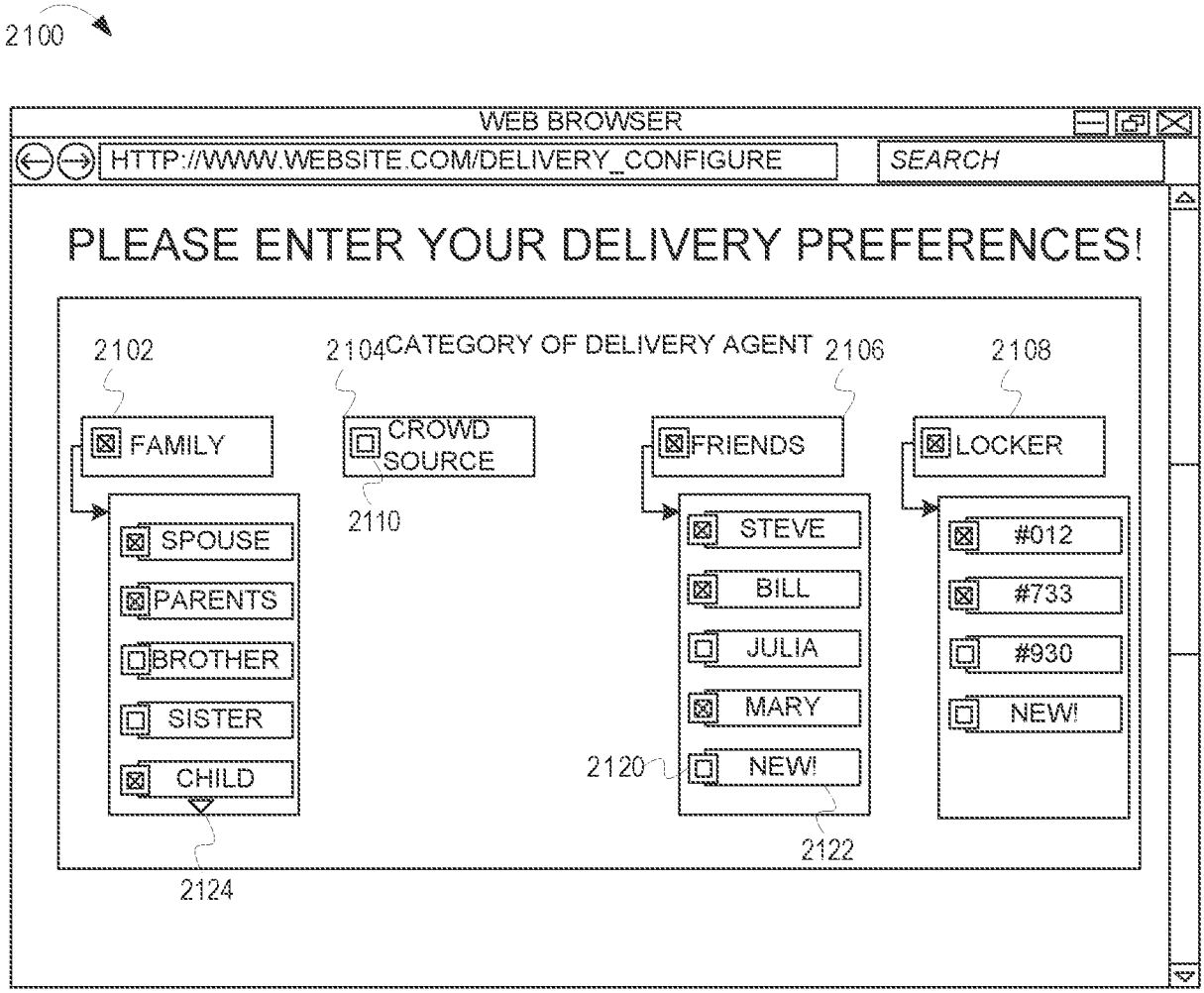
2100
WEB BROWSER
HTTP://WWW.WEBSITE.COM/DELIVERY_CONFIGURE
SEARCH
PLEASE ENTER YOUR DELIVERY PREFERENCES!
2102
2104
CATEGORY OF DELIVERY AGENT
2106
2108
FAMILY
CROWD SOURCE
FRIENDS
LOCKER
SPOUSE
PARENTS
BROTHER
SISTER
CHILD
2110
STEVE
BILL
JULIA
MARY
NEW!
2120
#012
#733
#930
NEW!
2122
2124

FIG. 21

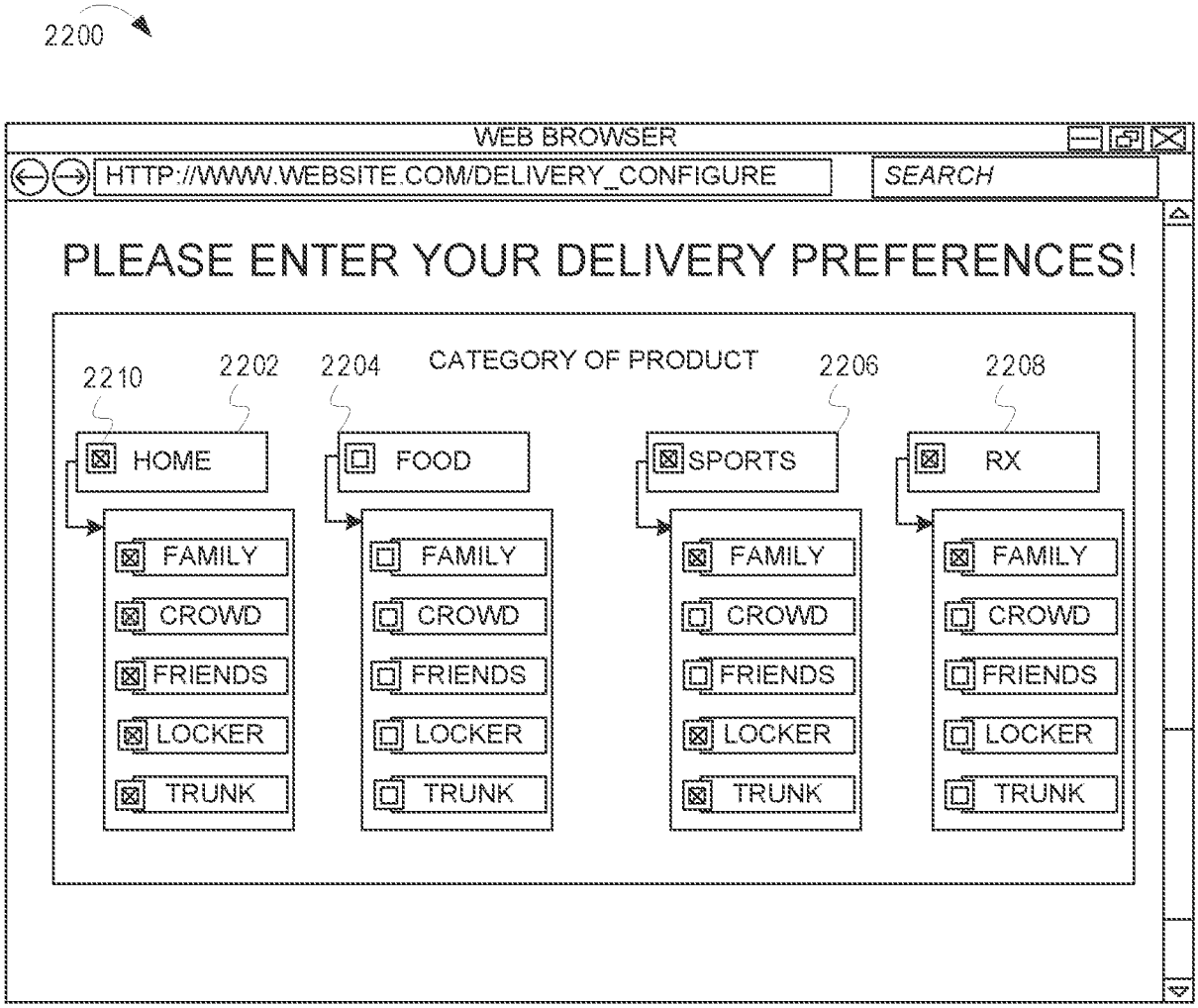
2200
WEB BROWSER
HTTP://WWW.WEBSITE.COM/DELIVERY_CONFIGURE
SEARCH
PLEASE ENTER YOUR DELIVERY PREFERENCES!
2210
2202
2204
CATEGORY OF PRODUCT
2206
2208
HOME
FOOD
SPORTS
RX
FAMILY
CROWD
FRIENDS
LOCKER
TRUNK
FAMILY
CROWD
FRIENDS
LOCKER
TRUNK
FAMILY
CROWD
FRIENDS
LOCKER
TRUNK
FAMILY
CROWD
FRIENDS
LOCKER
TRUNK

FIG. 22

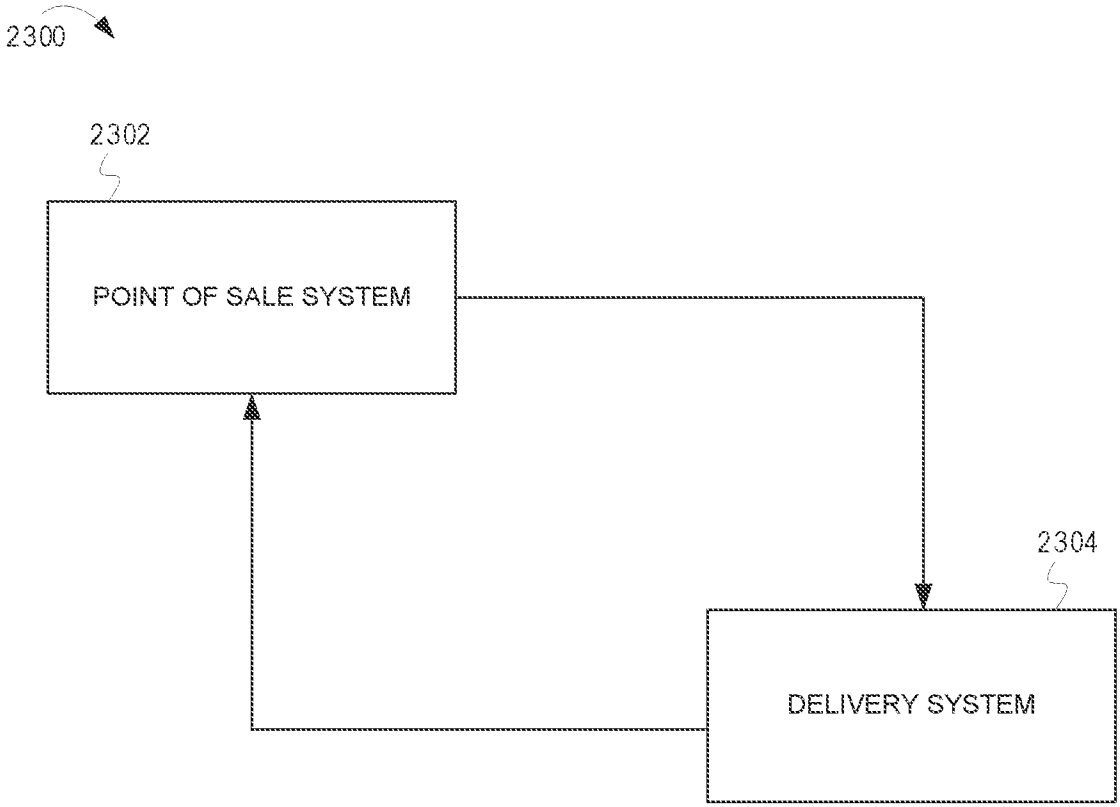

FIG. 23

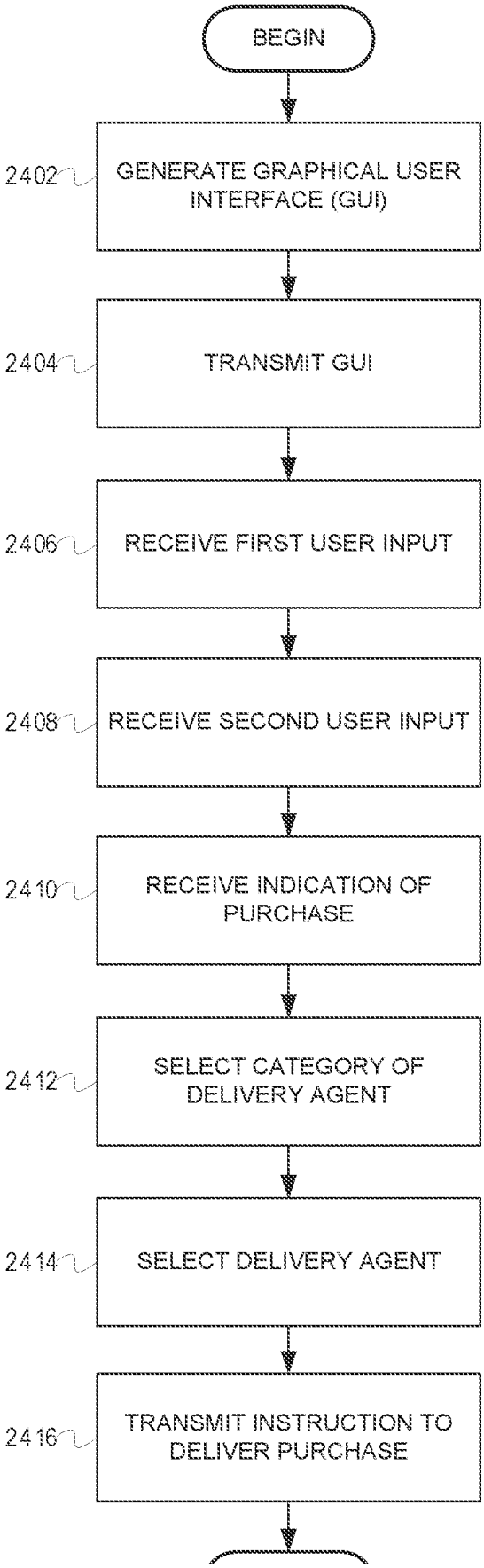
BEGIN
2402
GENERATE GRAPHICAL USER INTERFACE (GUI)
2404
TRANSMIT GUI
2406
RECEIVE FIRST USER INPUT
2408
RECEIVE SECOND USER INPUT
2410
RECEIVE INDICATION OF PURCHASE
2412
SELECT CATEGORY OF DELIVERY AGENT
2414
SELECT DELIVERY AGENT
2416
TRANSMIT INSTRUCTION TO DELIVER PURCHASE

FIG. 24

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/056478

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 17/30; G06Q 10/02; G06Q 10/08; G06Q 30/06; G06Q 30/0603; G06Q 30/0613 (2017.01)
CPC - G06Q 10/02; G06Q 10/08; G06Q 30/0603; G06Q 30/0613; G06Q 30/0617; G06Q 30/0633 (2018.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 705/26.810; 705/26.800; 705/26.410; 705/27.100 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/0088628 A1 (HOPSON et al) 19 April 2007 (19.04.2007) entire document	1-23
Y	US 2015/0220979 A1 (MYWORLD, INC.) 06 August 2015 (06.08.2015) entire document	1-23
Y	US 2003/0065520 A1 (JUTZI et al) 03 April 2003 (03.04.2003) entire document	5, 6, 8, 9, 19, 20, 22, 23
A	US 2011/0055046 A1 (BOWEN et al) 03 March 2011 (03.03.2011) entire document	1-23
A	US 2015/0149443 A1 (VEVEO, INC.) 28 May 2015 (28.05.2015) entire document	1-23

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
09 January 2018	29 JAN 2018
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/056478

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
See extra sheet(s).

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-23

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/056478

Continued from Box No. III Observations where unity of invention is lacking

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-23, drawn to a courier management system, comprising: a customer computing device for accessing and receiving data produced by the system.
Group II, claims 24-43, drawn to a system comprising: a point of sale system; and a delivery system.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature of the Group I invention: a customer computing device for accessing and receiving data produced by the system; a server located at a service provider, the server coupled to the customer computing device and programmed to: receive from the customer computing device customer preferences and automatically store the customer preferences; automatically generate and transmit to the customer computing device for display a scalable shopping preference interface associated with the customer preferences, wherein the scalable shopping preference interface comprises a sliding scale indicating a level of courier involvement; receive from the customer computing device a signal from the scalable shopping preference interface a signal indicating selection of the level of courier involvement and store selection of courier involvement with the customer preferences as claimed therein is not present in the invention of Group II. The special technical feature of the Group II invention: a point of sale system; and a delivery system, the delivery system including a control circuit configured to: generate a graphical user interface, wherein the graphical user interface includes a list of delivery options and one or more user selectable preferences, and wherein the list of delivery options includes one or more categories of delivery agents; receive, via the graphical user interface, first user input defining delivery agents for at least some of the categories; receive, via the graphical user interface, second user input selecting at least some of the one or more user selectable preferences; receive, from the point of sale system, an indication of a purchase; select, from the list of delivery options based on the second user input, a category of delivery agent; select, from the category of delivery agent based on the second user input, a delivery agent as claimed therein is not present in the invention of Group I.

Groups I and II lack unity of invention because even though the inventions of these groups require the technical feature of generating and transmitting an interface, wherein the interface includes a list of delivery options and one or more user selectable preferences, and receiving via the interface a delivery agent, this technical feature is not a special technical feature as it does not make a contribution over the prior art.

Specifically, US 2011/0055046 A1 (BOWEN et al.) 03 March 2011 teaches generating and transmitting an interface, wherein the interface includes a list of delivery options and one or more user selectable preferences (paras. 0015-0021).

Since none of the special technical features of the Group I or II inventions are found in more than one of the inventions, unity of invention is lacking.