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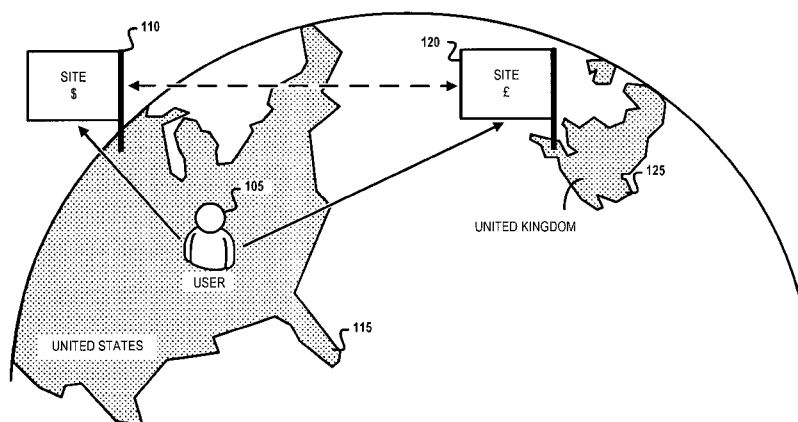


Fig. 1

(57) Abstract: A method and a system for currency weighted cross border listing exposure utilize a favorability factor that may be determined between a first and a second currency. A search may be executed that returns listings in both currencies. A subset of those listings in the second currency may then be presented in accordance with the favorability factor.

CURRENCY WEIGHTED CROSS BORDER LISTING EXPOSURE

5 RELATED APPLICATIONS

This patent application claims the benefit of U.S. Provisional Application Serial No. 61/327,515, filed on April 23, 2010, entitled "CURRENCY WEIGHTED CROSS BORDER LISTING EXPOSURE" and to U.S. Patent Application Serial No. 12/872,525, filed on August 31, 2010, both of which are
10 hereby incorporated by reference.

TECHNICAL FIELD

The present application relates generally to data processing and more specifically, to currency weighted cross border listing exposure.
15

BACKGROUND

In a network-based publication system, or marketplace, product or service listings may exist for multiple countries and in multiple currencies. Typically a user may search for listings on a site located in one country and one
20 currency. The publication system may present some listings from a second country and a second currency. Traditionally the number of foreign listings presented to users was manually configured.

Manually determining whether an exchange rate is favorable between the domestic and foreign currencies may be slow and inaccurate. Further, there may
25 be no baseline by which to compare two currencies due to continual fluctuations in the exchange rate. Also, as is often the case, lacking foreign and domestic listings that can be determined to be directed at the same product or service may preclude simply comparing foreign and domestic listings to determine whether the exchange rate is favorable in one direction of the other.

30 BRIEF DESCRIPTION OF THE DRAWINGS

Some embodiments are illustrated by way of example and not limitation in the figures of the accompanying drawings in which:

Fig. 1 is an overview of a network-based publication system spanning multiple countries and currencies.

Fig. 2 is a block diagram illustrating an example system for currency weighted cross border listing exposure.

Fig. 3a is a block diagram illustrating an example system for determining an exchange rate favorability factor.

5 **Fig. 3b** is a graph illustrating an example determination of an exchange rate favorability factor.

Fig. 4 is a block diagram illustrating an example system for determining an exchange rate favorability factor across multiple sites.

10 **Fig. 5** is a network diagram depicting a client-server system within which one example embodiment may be deployed.

Fig. 6 is a block diagram illustrating multiple applications that, in one example embodiment, are provided as part of the networked system shown in **Fig. 5**.

15 **Fig. 7** is a high-level entity-relationship diagram illustrating various tables that may be utilized by an example embodiment.

Fig. 8 is a flowchart illustrating an example method for currency weighted cross border listing exposure.

Fig. 9 is a flowchart illustrating an example method for determining an exchange rate favorability factor.

20 **Fig. 10** is a diagrammatic representation illustrating a machine in the example form of a computer system which may be part of an example embodiment.

25 DETAILED DESCRIPTION

Example methods and systems for currency weighted cross border listing exposure are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of example embodiments. It will be evident, however, to one skilled in the art that the inventive subject matter may be practiced without these specific details.

Some system components below may be described as a module. A module may be implemented in software, hardware, or both. It will be evident that any implementation that allows the module to perform its stated function is

permissible.

Network-based publication systems and marketplaces may change the presentation of foreign listings, i.e., listings specifying a different currency than the currency of a current user, based on the currency exchange rate between two countries and currencies. For example, if a user is searching for listings in the United States ("U.S."), in U.S. dollars, and the exchange rate of the dollar is favorable against the United Kingdom ("U.K.") pound, then more U.K. listings may be presented to users. This may be implemented by calculating a favorability factor between the two currencies and weighting the foreign or domestic listings with the favorability factor. Because listings are generally weighted based on other factors, such as price or calculated proximity to the search request, adding the favorability factor to the weighting will automatically adjust the number of foreign listings presented to users. In this way users may receive listings from a wider variety of sources because the number of foreign listings may be increased when they are a good value and not on a static and arbitrary determination by the operators of the publication system.

Problems may exist in determining whether an exchange rate is favorable between two currencies. First, one may attempt to find listings that provide the same product or service in each currency, apply the exchange rate to listings in one currency, and compare the two sets of listings. This approach is problematic because listing authors may not list identical products or services in an identifiable way, i.e., it may not be possible to determine if two listings in fact are offering the same product or service, or listings for the same product or service may not exist in both currencies. Second, although the exchange rate is available, there may be no baseline to compare equality in currencies, i.e., the point at which both currencies have the same purchasing power, and thus no way to determine if one currency has surpassed another. For example, the dollar could be gaining on the pound for years and still not be equal to, or provide the purchasing power of, the pound.

To calculate the favorability factor the network-based publication system may examine the behavior of its users. One analysis that may be performed is to determine a first currency associated with a number of users. For example, if users are registered with a site in the U.S., they may be associated with U.S. dollars. In another example, the predominant currency used in a user's

transactions may be used to determine the association. Once the first currency is determined, transactions by those users in a second currency may be compared with transactions in the first currency to determine periods where the users have determined that the exchange rate is favorable in the second currency. For
5 example, if users typically transact in dollars but currently have instigated many transactions in pounds, then it may be determined that the exchange rate is favorable towards the pound.

Architecture

Fig. 1 is an overview of a network-based publication system spanning
10 multiple countries and currencies. It may include a first site **110**, which is associated with U.S. dollars and in a first country **115** here labeled the U.S., and a second site **120**, which is associated with U.K. pounds and in a second country **125** here labeled the U.K.

In one embodiment a user **105** may be in the U.S. In other embodiments
15 the user **105** may be in any other country capable of interacting with the sites **110** and **120**. The user **105** may connect with the sites **110** and **120** through a network, for example, the internet. The user **105** may use any device capable of interacting with the sites **110** and **120**, for example, a smart-phone, or a desktop computer with a variety of software including a web browser or a dedicated
20 software program. The user **105** may be affiliated with site **110**, site **120**, or both.

In various embodiments the user **105** may connect directly to either site **110** or **120** to search for listings. The sites **110** and **120** may also connect to each other to provide listings in the other country and currency, in response to a
25 search initiated by user **105**. For example, if the user **105** conducted a search on the U.S. **110** site, the U.S. site **110** may communicate with the U.K. site **120** to search for listings to present to the user **105**. It will be appreciated by one of ordinary skill that the inventive subject matter does not limit the sites to the U.S. and the U.K., nor are the currencies limited to dollars and pounds.

30 *Platform Architecture*

Fig. 2 is a block diagram illustrating an example embodiment for a weighted cross border listing exposure system **200**, including a front end **205**, a currency exchange rate evaluation module ("CEREM") **210**, and a listing evaluation module **215**.

In one embodiment the front end **205** includes any collection of hardware and software to accept a user **105** search request, execute the search, and present search results to a user **105**. A more detailed description of the possible front end **205** components is described below with respect to **Figs. 5** and **6**. In various
5 embodiments these components may include one or more sites, with sites in different countries, such as sites **110** and **120** shown in **Fig. 1**. In other embodiments the listings for different countries may be aggregated into a single site.

10 In various embodiments the CEREM **210** may be software, hardware, or combination of both, to calculate a favorability factor between two or more currencies. For clarity the following examples may simply describe determining the favorability factor between two currencies, but it is noted that the same systems and processes may be used to calculate a favorability factor between more than two currencies.

15 The CEREM **210** may be notified by the front end **205** that listings from two sites, first site **110** and second site **120** for example, have been found in response to a user **105** requested search. The CEREM **210** may then determine a favorability factor between the currency of the first site **110**, dollars for example, and the currency of the second site **120**, pounds for example. The favorability
20 factor may be determined through various means, including, but not limited to, comparing use of the two currencies in one or many users' **105** transactions.

 The CEREM **210**, after determining a favorability factor between the two currencies, may communicate the favorability factor to the listing evaluation module **215**. In various embodiments the favorability factor may be a number,
25 or weight, indicating the direction of favorability as well as a degree of favorability. For example, if the favorability factor ranged from -10 to 10, a number less than 0 indicating that the first currency is favorable over the second, then a favorability factor of 5 may indicate that the second currency is moderately favorable over the first currency. In other embodiments, other
30 numbers and ranges of numbers may be used. In some embodiments the favorability factor may be a binary value, for example: favorable and unfavorable. In some embodiments the favorability factor may be a number of discrete classifications, for example: strongly unfavorable, unfavorable, neutral, favorable, and strongly favorable. In still other embodiments any scheme

indicating the exchange rate favorability between the two currencies could be used.

In various embodiments the listing evaluation module **215** may be software, hardware, or any combination of software and hardware. In some
5 embodiments the listing evaluation module **215** may determine which listings are presented to a user **105**. In some embodiments the listing evaluation module **215** may accept listings returned from a search and a number of factors which may influence the way listings are presented to users. In some embodiments the listing evaluation module **215** may weight listings to determine whether they are
10 presented to users as well as the order in which listings are presented. In some embodiments the listing evaluation module **215** may use external criteria to determine which listings to present, for example, limiting the number of foreign listings at a given site. In some embodiments the listing evaluation module **215** manages the number of impressions a listing receives at a given site, where a
15 listing impression is the number of views a listing receives across a number of users **105**.

The listing evaluation module **215** may accept the favorability factor from the CEREM **210** and apply it to determine which listings to present to one or more users **105**. In some embodiments the favorability factor may be a
20 weight factor, among other weight factors, applied to the listings. In some embodiments the favorability factor may be a weight that is applied only to the listings in the second currency, or foreign listings. In some embodiments, the favorability factor may influence the order in which the foreign listings are presented. In some other embodiments, the favorability factor may be a weight
25 to influence the number of foreign listings to present and the total number of foreign listings to present may be limited to a predetermined value. For example, if a user **105** searched for a pair of shoes on the U.S. site **110**, shoe listings may be returned from the U.S. site **110** and the U.K. site **120**. The listing evaluation module may then accept the favorability factor from the
30 CEREM **210**, in addition to other weight factors, and weight the returned listings. If the favorability factor, continuing the example from above, was 5, then the U.K. listings would be preferred over the U.S. listings if all other factors are equal. Thus, the U.K. listings may be featured more often and more prominently—ordered such that they appear at the top of the listings presented to

the user **105**—than the U.S. listings. However, even though the U.K. listings may be preferred, a predetermined value may limit the total number of listings, or impressions, that are presented.

5 The listing evaluation module **215** may communicate the listings, after the favorability factor has been considered, to the front end **205** to present to the user **105**.

Fig. **3a** is a block diagram illustrating an example system **300** for determining an exchange rate favorability factor, including the CEREM **210** and a data storage device **305**. The data storage device **305** may further include
10 consumer transaction data **310**.

The CEREM **210** may be coupled to the data storage device **305** such that the CEREM **210** may analyze the consumer transaction data **310**. The data storage device **305** may be located at any site, for example either site **110** or **120**, it may be centralized into a data warehouse, or it may be distributed across a
15 number of sites. One of ordinary skill in the art will recognize that the data storage device **305** may be any storage device containing the consumer transaction data **310** and accessible by the CEREM **210**.

The consumer transaction data **310** may include consumer transactions for many users. The transactions may include multiple transaction details,
20 including the user and currency involved in the transaction. In other embodiments the consumer transactions may provide pointers, keys, or other signals to indicate where the consumer and currency information for a given transaction may be obtained. In some embodiments the consumer transaction data **310** contains consumer transactions back to the first transaction of each user
25 **105**. In other embodiments the consumer transaction data **310** may be limited to a period of time, for example, two years.

The CEREM **210** may analyze the consumer transaction data **310** in a number of ways to determine the favorability factor. For example, the CEREM **210** may determine the first currency for a number of users **105**. The
30 CEREM **210** may then find transactions of those users **105** in which the transaction involved the second currency. This may indicate that the user **105** determined the exchange rate between the first and second currencies to be favorable towards the second currency in that transaction. The CEREM **210** may look at these transactions using the second currency and identify time

periods in which users **105** utilized the second currency more, or less, than they had in the past. The degree of second currency utilization may indicate the degree of favorability in the exchange rate. For example, if use of the first currency is represented by function C_f and use of the second currency by function C_s , then plotting $C_s - C_f$ may yield the favorability factor of the second currency at any given time as shown in **Fig. 3b**. In some embodiments the CEREM **210** may code the favorability factor in a real number, for example, or in other ways including but not limited to, a discrete number of favorability indicators, or a binary indicator of favorable or unfavorable.

Fig. 4 is a block diagram illustrating an example system **400** for determining an exchange rate favorability factor across multiple sites. The CEREM **210** may be coupled with first site **110** and second site **120**. First Site **110** may include a data storage device **305A**, the data storage device **305A** containing consumer transaction data **310A**. Second Site **120** may include data storage device **305B**, the data storage device **305B** containing consumer transaction data **310B**.

In various embodiments first site **110** may conduct business in U.S. dollars and second site **120** in U.K. pounds. For example, consumer transaction data **310A** may be for transactions in dollars and consumer transaction data **310B** may be for transactions in pounds. In other embodiments sites **110** and **120** may be associated with other currencies.

The CEREM **210** may analyze both sets of consumer transaction data **310A** and **310B** to determine a favorability factor between the currencies of sites **110** and **120**. The CEREM **210** may determine the first currency by the user's **105** association with a site. For example, a user **105** may be registered on the U.S. site **110**, thereby indicating that the first currency is dollars. The CEREM **210** may then determine how many transactions the user **105** conducted on the U.K. site **120**, using pounds as the second currency. The CEREM **210** may continue its analysis in a manner similar to that previously described with regard to **Fig. 3a**.

Fig. 5 is a network diagram depicting a client-server system **500**, within which one example embodiment may be deployed. A networked system **502**, in the example forms of a network-based marketplace or publication system, provides server-side functionality, via a network **504** (e.g., the Internet or Wide

Area Network (WAN)) to one or more clients. **Fig. 5** illustrates, for example, a web client **506** (e.g., a browser, such as the Internet Explorer browser developed by Microsoft Corporation of Redmond, Washington State), and a programmatic client **508** executing on respective client machines **510** and **512**.

5 An Application Program Interface (API) server **514** and a web server **516** are coupled to, and provide programmatic and web interfaces respectively to, one or more application servers **518**. The application servers **518** host one or more marketplace applications **520** and payment applications **522**. The application servers **518** are, in turn, shown to be coupled to one or more database
10 servers **524** that facilitate access to one or more databases **526**.

 The marketplace applications **520** may provide a number of marketplace functions and services to users that access the networked system **502**. The payment applications **522** may likewise provide a number of payment services and functions to users. The payment applications **522** may allow users to
15 accumulate value (e.g., in a commercial currency, such as the U.S. dollar, or a proprietary currency, such as "points") in accounts, and then later to redeem the accumulated value for products (e.g., goods or services) that are made available via the marketplace applications **520**. While the marketplace and payment
applications **520** and **522** are shown in **Fig. 5** to both form part of the networked
20 system **502**, it will be appreciated that, in alternative embodiments, the payment applications **522** may form part of a payment service that is separate and distinct from the networked system **502**.

 In some embodiments, the front end **205** may be any or all of the components of system **502**. In some embodiments the CEREM **210** may be a
25 marketplace application **520**, part of another marketplace application **520**, or it may be a component of the application server(s) **518**. In some embodiments the listing evaluation module **215** may be a marketplace application **520**, part of another marketplace application **520**, or it may be a component of the application server(s) **518**. In some embodiments the data storage devices **305**,
30 **305A**, or **305B** may be stored, in whole or part, in database **526**. In some embodiments system **502** contains multiple sites, for example, sites **110** and **120**. In other embodiments a system, such as networked system **502**, may exist for each site, the multiple networked systems **502** being coupled to each other.

 Further, while the system **500** shown in **Fig. 5** employs a client-server

architecture, the inventive subject matter is of course not limited to such an architecture, and could equally well find application in a distributed, or peer-to-peer, architecture system, for example. The various marketplace and payment applications 520 and 522 could also be implemented as standalone software programs, which do not necessarily have networking capabilities.

The web client 506 accesses the various marketplace and payment applications 520 and 522 via the web interface supported by the web server 516. Similarly, the programmatic client 508 accesses the various services and functions provided by the marketplace and payment applications 520 and 522 via the programmatic interface provided by the API server 514. The programmatic client 508 may, for example, be a seller application (e.g., the TurboLister application developed by eBay Inc., of San Jose, California) to enable sellers to author and manage listings on the networked system 502 in an off-line manner, and to perform batch-mode communications between the programmatic client 508 and the networked system 502.

Fig. 5 also illustrates a third party application 528, executing on a third party server machine 530, as having programmatic access to the networked system 502 via the programmatic interface provided by the API server 514. For example, the third party application 528 may, utilizing information retrieved from the networked system 502, support one or more features or functions on a website hosted by the third party. The third party website may, for example, provide one or more promotional, marketplace or payment functions that are supported by the relevant applications of the networked system 502.

Marketplace Applications

Fig. 6 is a block diagram illustrating multiple applications 520 and 522 that, in one example embodiment, are provided as part of the networked system 502. The applications 520 may be hosted on dedicated or shared server machines (not shown) that are communicatively coupled to enable communications between server machines. The applications themselves are communicatively coupled (e.g., via appropriate interfaces) to each other and to various data sources, so as to allow information to be passed between the applications or so as to allow the applications to share and access common data. The applications may furthermore access the one or more databases 526 via the database servers 528.

The networked system **502** may provide a number of publishing, listing and price-setting mechanisms whereby a seller may list (or publish information concerning) goods or services for sale, a buyer can express interest in or indicate a desire to purchase such goods or services, and a price can be set for a transaction pertaining to the goods or services. To this end, the marketplace applications **520** are shown to include at least one publication application **600** and one or more auction applications **602** which support auction-format listing and price setting mechanisms (e.g., English, Dutch, Vickrey, Chinese, Double, Reverse auctions etc.). The various auction applications **602** may also provide a number of features in support of such auction-format listings, such as a reserve price feature whereby a seller may specify a reserve price in connection with a listing and a proxy-bidding feature whereby a bidder may invoke automated proxy bidding.

A number of fixed-price applications **604** support fixed-price listing formats (e.g., the traditional classified advertisement-type listing or a catalogue listing) and buyout-type listings. Specifically, buyout-type listings (e.g., including the Buy-It-Now (BIN) technology developed by eBay Inc., of San Jose, California) may be offered in conjunction with auction-format listings, and allow a buyer to purchase goods or services, which are also being offered for sale via an auction, for a fixed-price that is typically higher than the starting price of the auction.

Transactions resulting from the auction applications **602** or the fixed-price applications **604** may be stored in the database **526**. In some embodiments the transactions will contain the user and the currency in which the transaction was conducted.

Personalization applications **610** allow users of the networked system **502** to personalize various aspects of their interactions with the networked system **502**. For example a user may, utilizing an appropriate personalization application **610**, create a personalized reference page at which information regarding transactions to which the user is (or has been) a party may be viewed. Further, a personalization application **610** may enable a user to personalize listings and other aspects of their interactions with the networked system **502** and other parties, including, for example, specifying a preferred, domestic, or associated currency.

The networked system **502** may support a number of marketplaces that are customized, for example, for specific geographic regions. A version of the networked system **502** may be customized for the U.K, whereas another version of the networked system **502** may be customized for the U.S. Each of these
5 versions may operate as an independent marketplace, or may be customized (or internationalized) presentations of a common underlying marketplace. The networked system **502** may accordingly include a number of internationalization applications **612** that customize information (and/or the presentation of information) by the networked system **502** according to predetermined criteria
10 (e.g., geographic, demographic or marketplace criteria). For example, the internationalization applications **612** may be used to support the customization of information for a number of regional websites that are operated by the networked system **502** and that are accessible via respective web servers **516**.

Navigation of the networked system **502** may be facilitated by one or
15 more navigation applications **614**. For example, a search application (as an example of a navigation application) may enable key word searches of listings published via the networked system **502**. A browse application may allow users to browse various category, catalogue, or inventory data structures according to which listings may be classified within the networked system **502**. Various
20 other navigation applications may be provided to supplement the search and browsing applications. In some embodiments the CEREM **210** and/or the listing evaluation module **215** may further enhance the navigation applications **614**.

Messaging applications **628** are responsible for the generation and delivery of messages to users of the networked system **502**, such messages for
25 example advising users regarding the status of listings at the networked system **502** (e.g., providing "outbid" notices to bidders during an auction process or to provide promotional and merchandising information to users). Respective messaging applications **628** may utilize any one of a number of message delivery networks and platforms to deliver messages to users. For example, messaging
30 applications **628** may deliver electronic mail (e-mail), instant message (IM), Short Message Service (SMS), text, facsimile, or voice (e.g., Voice over IP (VoIP)) messages via the wired (e.g., the Internet), Plain Old Telephone Service (POTS), or wireless (e.g., mobile, cellular, WiFi, WiMAX) networks.

Data Structures

Fig. 7 is a high-level entity-relationship diagram, illustrating various tables 700 that may be maintained within the databases 526, and that are utilized by and support the applications 520 and 522. A user table 702 contains a record for each registered user of the networked system 502, and may include identifier, address, preferred or associated currency, and financial instrument information pertaining to each such registered user. A user may operate as a seller, a buyer, or both, within the networked system 502. In one example embodiment, a buyer may be a user that has accumulated value (e.g., commercial or proprietary currency), and is accordingly able to exchange the accumulated value for items that are offered for sale by the networked system 502.

The tables 700 also include an items table 704 in which are maintained item records for goods and services that are available to be, or have been, transacted via the networked system 502. Each item record within the items table 704 may furthermore be linked to one or more user records within the user table 702, so as to associate a seller and one or more actual or potential buyers with each item record.

A transaction table 706 contains a record for each transaction (e.g., a purchase or sale transaction) pertaining to items for which records exist within the items table 704. Each transaction table 706 record may contain the user and the currency involved in the transaction. For example, if Bob, a user, purchased a pair of shoes and the listing and payment were in U.S. dollars, the transaction table 706 record for the transaction may contain that information. In other embodiments, the transaction table 706 record may indicate other tables where the user and currency involved in the transaction may be found.

An order table 708 is populated with order records, each order record being associated with an order. Each order, in turn, may be with respect to one or more transactions for which records exist within the transaction table 706.

Bid records within a bids table 710 each relate to a bid received at the networked system 502 in connection with an auction-format listing supported by an auction application 602. A feedback table 712 is utilized by one or more reputation applications 608, in one example embodiment, to construct and maintain reputation information concerning users. A history table 714 maintains a history of transactions to which a user has been a party. One or more attributes

tables 716 record attribute information pertaining to items for which records exist within the items table 704. Considering only a single example of such an attribute, the attributes tables 716 may indicate a currency attribute associated with a particular item, the currency attribute identifying the currency of a price
5 for the relevant item as specified by a seller.

Flowcharts

Fig. 8 is a flowchart illustrating an example method 800 for currency weighted cross border listing exposure. In various embodiments the method 800 may be performed, for example, by the components shown in Figs. 2–6,
10 including the CEREM 210 and the listing evaluation module 215. In alternative embodiments other components may be used to perform method 800.

At 805 an exchange rate favorability factor, or simply favorability factor, may be determined between a first currency and a second currency by the CEREM 210. For example, the first currency may be U.S. dollars and the
15 second currency may be U.K. pounds. Dollars may be the preferred or associated currency of a user 105. The exchange rate may be favorable if, after the exchange rate is applied to listings in pounds, dollars have more purchasing power, indicating that the dollar is strong against the pound. In some embodiments the favorability factor may be a number, indicating both
20 favorability and degree of favorability, or it may be a discreet value indicating favorability and degree of favorability, for example: extremely unfavorable, unfavorable, neutral, favorable, and extremely favorable. In other embodiments the favorability factor may be a simple binary value, for example, unfavorable or favorable.

25 The favorability factor may be determined from an outside source, for example, a financial services provider, or it may be determined by examining transaction data present within system 200. Transaction data may come from data storage devices 305, 305A, 305B, or database 526. Pertinent data may be stored in any of the tables shown in Fig. 7. In some embodiments the
30 favorability factor may be determined in advance of a user 105 search. In other embodiments the favorability factor may be determined following, or in response to, a user 105 search.

At 810 a user 105 search request may be executed, for example by the front end 205. Executing the search request may produce a number of listings

results, i.e., results containing listings, and those listings may contain listings in the first currency and listings in the second currency. For example, if user 105 requested a search for shoes from first site 110, first site 110 being a U.S. site transacting in dollars, the listings results may include U.S. listings as well as

5 U.K. listings from second site 120.

At 815 the listing evaluation module 215 may receive the listings and the favorability factor. The listing evaluation module 215 may then apply the favorability factor to the listings in the second currency to weight them. The listing evaluation module 215 may then determine, based on the listing weights,

10 which listings to present and in what order the listings should be presented. In other embodiments, other weights may be applied to the listings. For example, if five listings have listing weights: 1, 2, 3, 4, and 5, and the user will be presented with three listings, then the listings corresponding with the weights: 1, 2, and 3, may be presented and ordered such that the listing with weight 1 is presented

15 first and the listing with weight three is presented last. In some embodiments the favorability factor may simply trigger a number of listings in the second currency to present. In some embodiments, the number of listings in the second currency may be capped. In some embodiments, presenting listings includes managing listing impressions, where a listing impression is the number of times

20 the listing is viewed across multiple users 105. To put it another way, when using the listing weights to determine whether to present a listing to a particular user, the number of times a given listing has been seen by other users may be a factor. For example, when managing listing impressions, if the listing weight for a particular listing indicates that it should receive two impressions and it has

25 already been viewed by two users, it may not be shown to a third user.

Fig. 9 is a flowchart illustrating an example method 900 for determining an exchange rate favorability factor, for example, at 805 in Fig. 8 or by the CEREM 205.

At 905 the data storage device 305 (or 305A, 305B, or database 526)

30 may be searched for consumer transaction data 310 (or 310A, or 310B).

At 910 users 105 may be identified who typically use, or prefer, a first currency in which to transact business. The identification may be made by the currency of a site the user 105 is registered with. For example, if a user 105 is registered with the U.S. site (site 1) 110, the user 105 may be identified to prefer,

or be associated with, dollars. In some embodiments the first currency may be determined by analyzing the transaction data **310** for that user **105**. For example, the user **105** may have used dollars in more transactions over the user's **105** transaction history than any other currency. In some embodiments the first
5 currency may be any currency that is used at least as often as any other currency. In some embodiments a subset of the user's **105** transaction history may be used. In other embodiments, the user may elect a preferred, or associated, currency. For example, the user election may be stored in a user profile. Personalization applications **610** and/or table **702** may be involved in various embodiments to
10 store the user's **105** currency preference or association.

At **915** transactions are identified from the consumer transaction data **310** where users **105** identified at **910** utilized the second currency when completing the transaction. In various embodiments the consumer transaction data **310** may be collected from multiple sites, for example, first site **110** consumer transaction
15 data **310A** and second site **120** consumer transaction data **310B**. In other embodiments the consumer transaction data **310** may be aggregated into a data warehouse.

At **920** the CEREM **210**, for example, may compare users' **105** use of the first currency against their use of the second currency. For example, if an
20 average number of transactions is determined, and the first currency is used most of the time, identifying periods of time in which a user **105** chooses to use the second currency more frequently than outside the time period may indicate that the user **105** has determined that the exchange rate is favorable with respect to the second currency. More sophisticated comparisons may also be made, such
25 as determining a probability that a user **105** will use the second currency and noting time periods where the consumer's actual use of the second currency is higher than suggested by the probability. It will be understood that many mechanisms may be used to compare the transactions in the first and second currencies to find indicators that a user **105** finds the exchange rate favorable
30 during certain time periods.

After use of the first and second currency is compared, a favorability factor may be determined. In various embodiments the favorability factor may simply be a binary value reflecting the favorability. In other embodiments, analysis may be done on the number of transactions, the number of users, or

other data, to arrive at a favorability factor indicating both the favorability, and the degree of favorability.

Fig. 10 shows a diagrammatic representation of machine in the example form of a computer system 1000 within which a set of instructions, for causing the machine to perform any one or more of the methodologies discussed herein, may be executed. In alternative embodiments, the machine operates as a standalone device or may be connected (e.g., networked) to other machines. In a networked deployment, the machine may operate in the capacity of a server or a client machine in server-client network environment, or as a peer machine in a peer-to-peer (or distributed) network environment. The machine may be a server computer, a client computer, a personal computer (PC), a tablet PC, a set-top box (STB), a Personal Digital Assistant (PDA), a cellular telephone, a web appliance, a network router, switch or bridge, or any machine capable of executing a set of instructions (sequential or otherwise) that specify actions to be taken by that machine. Further, while only a single machine is illustrated, the term "machine" shall also be taken to include any collection of machines that individually or jointly execute a set (or multiple sets) of instructions to perform any one or more of the methodologies discussed herein.

The example computer system 1000 includes a processor 1002 (e.g., a central processing unit (CPU) a graphics processing unit (GPU) or both), a main memory 1004 and a static memory 1006, which communicate with each other via a bus 1008. The computer system 1000 may further include a video display unit 1010 (e.g., a liquid crystal display (LCD) or a cathode ray tube (CRT)). The computer system 1000 also includes an alphanumeric input device 1012 (e.g., a keyboard), a cursor control device 1014 (e.g., a mouse), a disk drive unit 1016, a signal generation device 1018 (e.g., a speaker) and a network interface device 1020.

The disk drive unit 1016 includes a machine-readable medium 1022 on which is stored one or more sets of instructions (e.g., software 1024) embodying any one or more of the methodologies or functions described herein. The software 1024 may also reside, completely or at least partially, within the main memory 1004 and/or within the processor 1002 during execution thereof by the computer system 1000, the main memory 1004 and the processor 1002 also constituting machine-readable media.

The software **1024** may further be transmitted or received over a network **1026** via the network interface device **1020**.

While the machine-readable medium **1022** is shown in an example embodiment to be a single medium, the term "machine-readable medium" should
5 be taken to include a single medium or multiple media (e.g., a centralized or distributed database, and/or associated caches and servers) that store the one or more sets of instructions. The term "machine-readable medium" shall also be taken to include any medium that is capable of storing, encoding or carrying a set of instructions for execution by the machine and that cause the machine to
10 perform any one or more of the methodologies of the inventive subject matter. The term "machine-readable medium" shall accordingly be taken to include, but not be limited to, solid-state memories, optical and magnetic media, and carrier wave signals. The term "tangible machine-readable medium" shall be taken to include, machine-readable media that is in tangible form, including, but not
15 limited to, solid-state memories, optical media, and magnetic media.

Thus, a methods and systems for currency weighted cross border listing exposure have been described. Although the inventive subject matter has been described with reference to specific example embodiments, it will be evident that various modifications and changes may be made to these embodiments without
20 departing from the broader scope of the inventive subject matter. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

Additional Notes & Examples

25 Example 1 includes subject matter (such as a system) comprising a data processor, a currency exchange rate evaluation module (CEREM) executable by the data processor—the CEREM configured to determine a favorability factor of an exchange rate between a first currency and a second currency, and a listing evaluation module to determine in accordance with the favorability factor a
30 subset of listings in the second currency to present from a set of listings resulting from a search, the set of listings including listings in the first currency and the second currency.

In Example 2, the subject matter of Example 1 can optionally include the CEREM further configured to identify users associated with the first currency

for transactions, identify transactions for the users in the second currency, and compare use of the second currency with use of the first currency.

In Example 3, the subject matter of one or any combination of Examples 1–2 can optionally include the transactions being from a plurality of sites.

5 In Example 4, the subject matter of one or any combination of Examples 1–3 can optionally include the users being identified by association with a site.

In Example 5, the subject matter of one or any combination of Examples 1–4 can optionally include the users being identified by user profiles.

10 In Example 6, the subject matter of one or any combination of Examples 1–5 can optionally include the listing evaluation module further configured to weight listings in the set of listings, the weight of listings in the subset of listings in the second currency to include the favorability factor.

In Example 7, the subject matter of one or any combination of Examples 1–6 can optionally include the weight of listings to determine the order listings
15 are presented.

In Example 8, the subject matter of one or any combination of Examples 1–7 can optionally include the listing evaluation module further configured to limit the subset of listings in the second currency to a predetermined size.

In Example 9, the subject matter of one or any combination of Examples
20 1–8 can optionally include the favorability factor comprising a binary value.

Example 10 can include, or can optionally be combined with, the subject matter of one or any combination of Examples 1–9 to include, subject matter (such as a method, a means for performing acts) comprising determining a favorability factor of an exchange rate between a first currency and a second
25 currency, executing a search request that produces results, the results including listings in the first currency and listings in the second currency, and determining in accordance with the favorability factor a subset of listings in the second currency to present.

In Example 11, the subject matter of Example 10 can optionally include
30 determining the favorability factor including identifying users utilizing the first currency for transactions, identifying transactions for the users in the second currency, and comparing use of the second currency to use of the first currency.

In Example 12, the subject matter of one or any combination of Examples 10–11 can optionally include the transactions being from a plurality of sites.

- 5 In Example 13, the subject matter of one or any combination of Examples 10–12 can optionally include the users being identified by association with a site.

In Example 14, the subject matter of one or any combination of Examples 10–13 can optionally include the users being identified by user profiles.

- 10 In Example 15, the subject matter of one or any combination of Examples 10–14 can optionally include weighting listings in the results, the weighting of the listings in the subset of listings in the second currency including the favorability factor.

- 15 In Example 16, the subject matter of one or any combination of Examples 10–15 can optionally include presenting the listings in an order determined at least in part by the weighting.

In Example 17, the subject matter of one or any combination of Examples 10–16 can optionally include limiting a size of the subset of listings in the second currency to a predetermined size.

- 20 In Example 18, the subject matter of one or any combination of Examples 10–17 can optionally include where the favorability factor is a binary value.

- Example 19 can include, or can optionally be combined with the subject matter of one or any combination of Examples 1–18 to include, subject matter
25 (such as a tangible (non-transitory) machine-readable medium having computer executable instructions stored thereon instructions for causing a computer to perform acts) comprising determining a favorability factor of an exchange rate between a first currency and a second currency, executing a search request that produces results, the results including listings in the first currency and listings in
30 the second currency, and determining in accordance with the favorability factor a subset of listings in the second currency to present.

Example 20 can include, or can optionally be combined with the subject matter of one or any combination of Examples 1–19 to include, subject matter (such as a system) comprising a data storage device—the data storage device

including consumer transaction data and the consumer transaction data including a plurality of consumer transactions in a first currency, and at least one transaction for a consumer in a second currency, the consumer being associated with at least one transaction in the plurality of consumer transactions in the first
5 currency. The subject matter of Example 20 can also comprise a currency exchange rate evaluation module (CEREM) configured to determine a favorability factor between the first currency and the second currency based on the consumer transaction data by comparing use of the second currency to use of the first currency.

10 In Example 21, the subject matter of Example 20 can optionally include where consumer transactions are from a plurality of sites.

In Example 22, the subject matter of one or any combination of Examples 20–21 can optionally include where the first currency is determined by consumer association with a site.

15 In Example 23, the subject matter of one or any combination of Examples 20–22 can optionally include where the first currency is determined by a consumer profile.

Example 24 can include, or can optionally be combined with the subject matter of one or any combination of Examples 1–23 to include, subject matter
20 (such as a method or means for performing acts) comprising searching a data storage device for consumer transaction data. The consumer transaction data can include a plurality of consumer transactions in a first currency, and at least one transaction for a consumer in a second currency, the consumer being associated with at least one transaction in the plurality of consumer transactions in the first
25 currency. The subject matter of Example 24 can also include determining a favorability factor between the first currency and the second currency based on the consumer transaction data by comparing use of the second currency to use of the first currency.

In Example 25, the subject matter of Example 24 can optional include
30 where consumer transactions are from a plurality of sites.

In Example 26, the subject matter of one or any combination of Examples 24–25 can optionally include where the first currency is determined by consumer association with a site.

In Example 27, the subject matter of one or any combination of Examples 24–26 can optionally include where the first currency is determined by a consumer profile.

5 These non-limiting examples can be combined in any permutation or combination.

 The above detailed description includes references to the accompanying drawings, which form a part of the detailed description. The drawings show, by way of illustration, specific embodiments in which the invention can be practiced. These embodiments are also referred to herein as “examples.” Such
10 examples can include elements in addition to those shown or described. However, the present inventors also contemplate examples in which only those elements shown or described are provided. Moreover, the present inventors also contemplate examples using any combination or permutation of those elements shown or described (or one or more aspects thereof), either with respect to a
15 particular example (or one or more aspects thereof), or with respect to other examples (or one or more aspects thereof) shown or described herein.

 All publications, patents, and patent documents referred to in this document are incorporated by reference herein in their entirety, as though individually incorporated by reference. In the event of inconsistent usages between this
20 document and those documents so incorporated by reference, the usage in the incorporated reference(s) should be considered supplementary to that of this document; for irreconcilable inconsistencies, the usage in this document controls.

 In this document, the terms “a” or “an” are used, as is common in patent
25 documents, to include one or more than one, independent of any other instances or usages of “at least one” or “one or more.” In this document, the term “or” is used to refer to a nonexclusive or, such that “A or B” includes “A but not B,” “B but not A,” and “A and B,” unless otherwise indicated. In this document, the terms “including” and “in which” are used as the plain-English equivalents of
30 the respective terms “comprising” and “wherein.” Also, in the following claims, the terms “including” and “comprising” are open-ended, that is, a system, device, article, or process that includes elements in addition to those listed after such a term in a claim are still deemed to fall within the scope of that claim. Moreover, in the following claims, the terms “first,” “second,” and “third,” etc.

are used merely as labels, and are not intended to impose numerical requirements on their objects.

Method examples described herein can be machine or computer-implemented at least in part. Some examples can include a computer-readable
5 medium or machine-readable medium encoded with instructions operable to configure an electronic device to perform methods as described in the above examples. An implementation of such methods can include code, such as microcode, assembly language code, a higher-level language code, or the like. Such code can include computer readable instructions for performing various
10 methods. The code may form portions of computer program products. Further, in an example, the code can be tangibly stored on one or more volatile, non-transitory, or non-volatile tangible computer-readable media, such as during execution or at other times. Examples of these tangible computer-readable media can include, but are not limited to, hard disks, removable magnetic disks,
15 removable optical disks (e.g., compact disks and digital video disks), magnetic cassettes, memory cards or sticks, random access memories (RAMs), read only memories (ROMs), and the like.

The above description is intended to be illustrative, and not restrictive. For example, the above-described examples (or one or more aspects thereof)
20 may be used in combination with each other. Other embodiments can be used, such as by one of ordinary skill in the art upon reviewing the above description. The Abstract is provided to comply with 37 C.F.R. §1.72(b), to allow the reader to quickly ascertain the nature of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or
25 meaning of the claims. Also, in the above Detailed Description, various features may be grouped together to streamline the disclosure. This should not be interpreted as intending that an unclaimed disclosed feature is essential to any claim. Rather, inventive subject matter may lie in less than all features of a particular disclosed embodiment. Thus, the following claims are hereby
30 incorporated into the Detailed Description, with each claim standing on its own as a separate embodiment, and it is contemplated that such embodiments can be combined with each other in various combinations or permutations. The scope of the invention should be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled.

35

CLAIMS

What is claimed is:

1. A system comprising:
 - 5 a data processor;
 - a currency exchange rate evaluation module (CEREM) executable by the data processor, the CEREM configured to determine a favorability factor of an exchange rate between a first currency and a second currency; and
 - 10 a listing evaluation module to determine in accordance with the favorability factor a subset of listings in the second currency to present from a set of listings resulting from a search, the set of listings including listings in the first currency and the second currency.
2. The system of claim 1, wherein the CEREM is further configured to:
 - 15 identify users associated with the first currency for transactions;
 - identify transactions for the users in the second currency; and
 - compare use of the second currency with use of the first currency.
3. The system of claim 2, wherein the transactions are from a plurality of
20 sites.
4. The system of claim 2, wherein the users are identified by association with a site.
- 25 5. The system of claim 2, wherein the users are identified by user profiles.
6. The system of claim 1, wherein the listing evaluation module is further configured to weight listings in the set of listings, the weight of listings in the subset of listings in the second currency to include the favorability factor.
30
7. The system of claim 6, wherein the weight of listings determines the order listings are presented.

8. The system of claim 1, wherein the listing evaluation module is further configured to limit the subset of listings in the second currency to a predetermined size.
- 5 9. The system of claim 1, wherein the favorability factor comprises a binary value.
10. A method comprising:
determining a favorability factor of an exchange rate between a first
10 currency and a second currency;
executing a search request that produces results, the results including listings in the first currency and listings in the second currency; and
determining in accordance with the favorability factor a subset of listings
in the second currency to present.
- 15 11. The method of claim 10, wherein the determining the favorability factor includes:
identifying users utilizing the first currency for transactions;
identifying transactions for the users in the second currency; and
20 comparing use of the second currency to use of the first currency.
12. The method of claim 11, wherein the transactions are from a plurality of sites.
- 25 13. The method of claim 11, wherein the users are identified by association with a site.
14. The method of claim 11, wherein the users are identified by user profiles.
- 30 15. The method of claim 10, further comprising weighting listings in the results, the weighting of the listings in the subset of listings in the second currency including the favorability factor.

16. The method of claim 15, further comprising presenting the listings in an order determined at least in part by the weighting.
17. The method of claim 10, further comprising limiting a size of the subset
5 of listings in the second currency to a predetermined size.
18. The method of claim 10, wherein the favorability factor is a binary value.
19. A non-transitory machine readable medium including instructions that
10 when executed, cause a machine to perform operations including:
determining a favorability factor of an exchange rate between a first
currency and a second currency;
executing a search request that produces results, the results including
listings in the first currency and listings in the second currency; and
15 determining in accordance with the favorability factor a subset of listings
in the second currency to present.
20. A system comprising:
a data storage device, the data storage device including consumer
20 transaction data, the consumer transaction data including:
a plurality of consumer transactions in a first currency; and
at least one transaction for a consumer in a second currency, the
consumer being associated with at least one transaction in the plurality of
consumer transactions in the first currency; and
25 a currency exchange rate evaluation module (CEREM) configured to
determine a favorability factor between the first currency and the second
currency based on the consumer transaction data by comparing use of the second
currency to use of the first currency.
- 30 21. The system of claim 20, wherein consumer transactions are from a
plurality of sites.
22. The system of claim 20, wherein the first currency is determined by
consumer association with a site.

23. The system of claim 20, wherein the first currency is determined by a consumer profile.
- 5 24. A method comprising:
searching a data storage device for consumer transaction data, wherein
the consumer transaction data includes:
a plurality of consumer transactions in a first currency; and
at least one transaction for a consumer in a second currency, the
10 consumer being associated with at least one transaction in the plurality of
consumer transactions in the first currency; and
determining a favorability factor between the first currency and the
second currency based on the consumer transaction data by comparing use of the
second currency to use of the first currency.
- 15 25. The method of claim 24, wherein consumer transactions are from a
plurality of sites.
26. The method of claim 24, wherein the first currency is determined by
20 consumer association with a site.
27. The method of claim 24, wherein the first currency is determined by a
consumer profile.

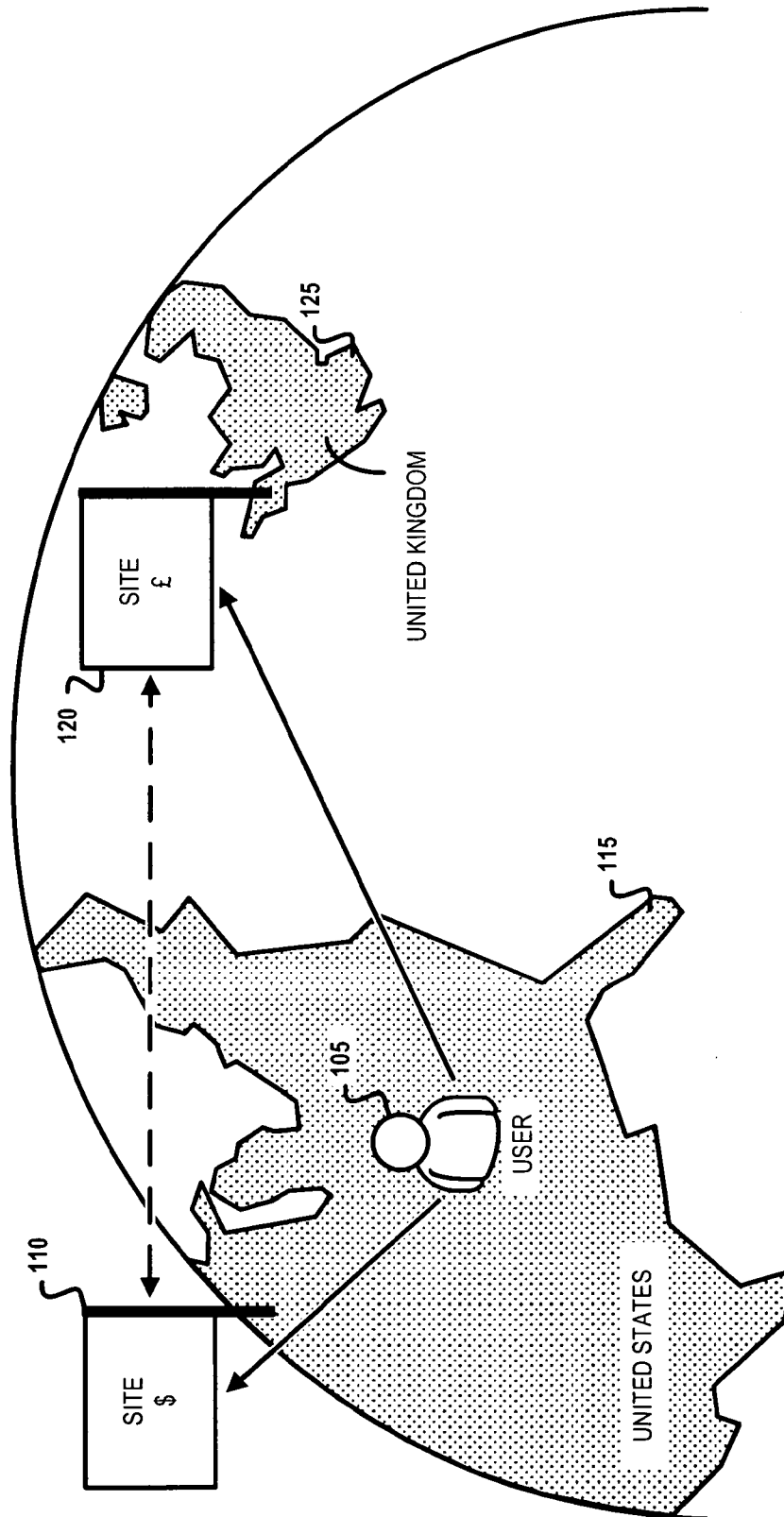
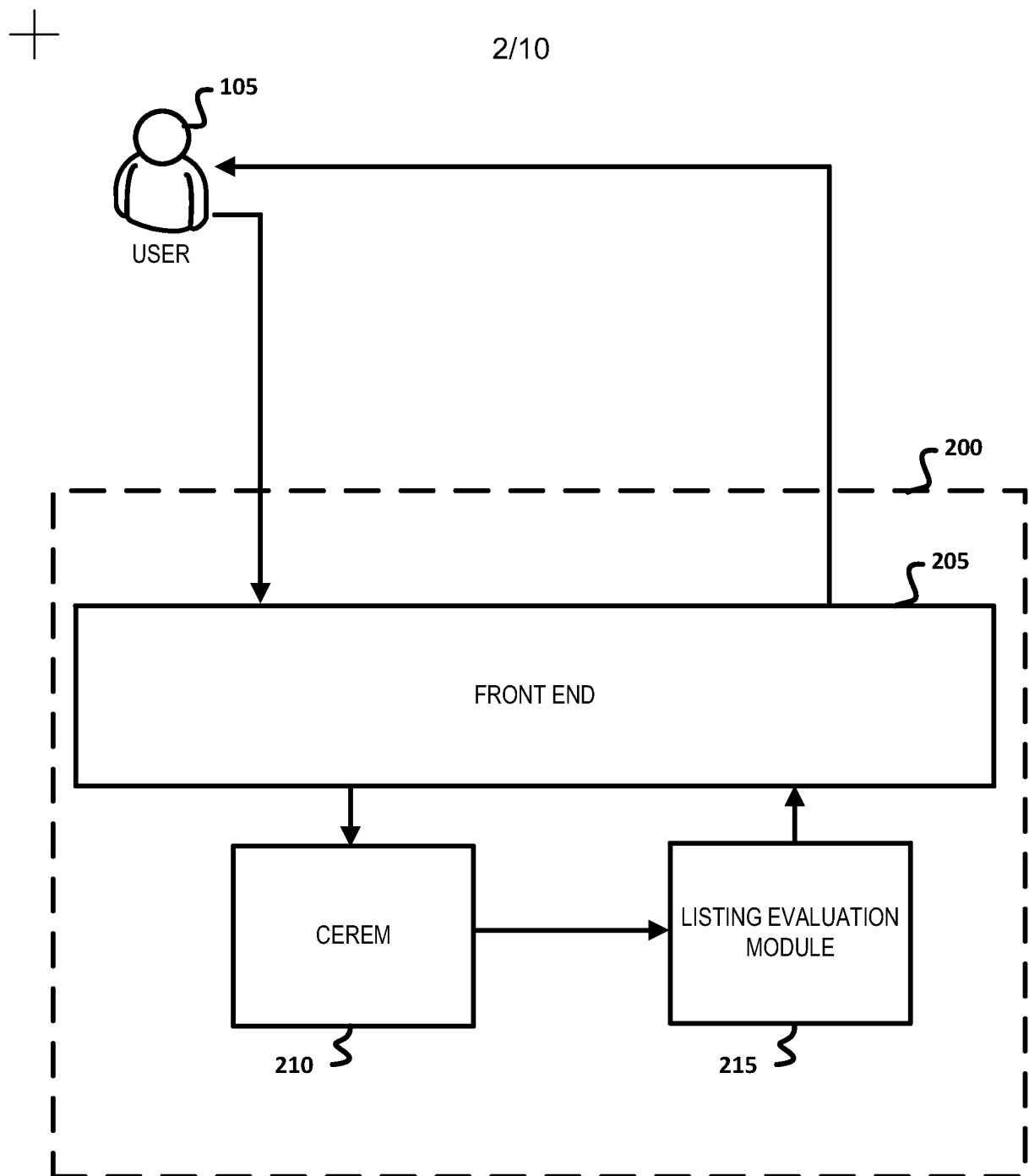


Fig. 1

*Fig. 2*

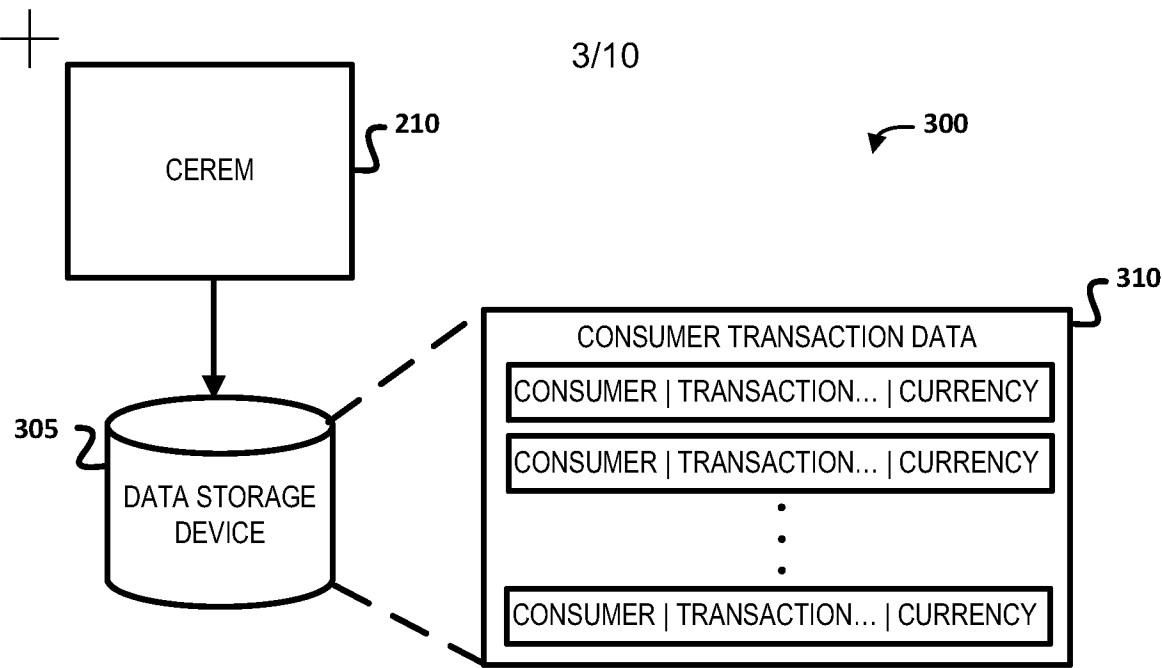


Fig. 3a

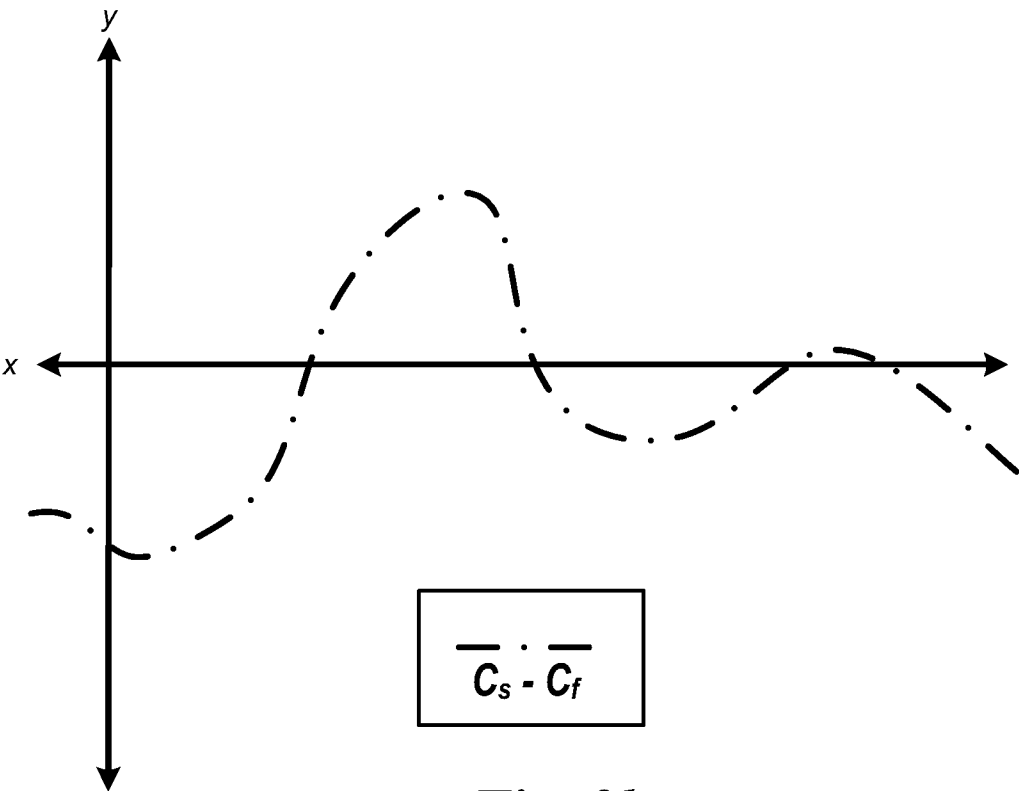


Fig. 3b



4/10

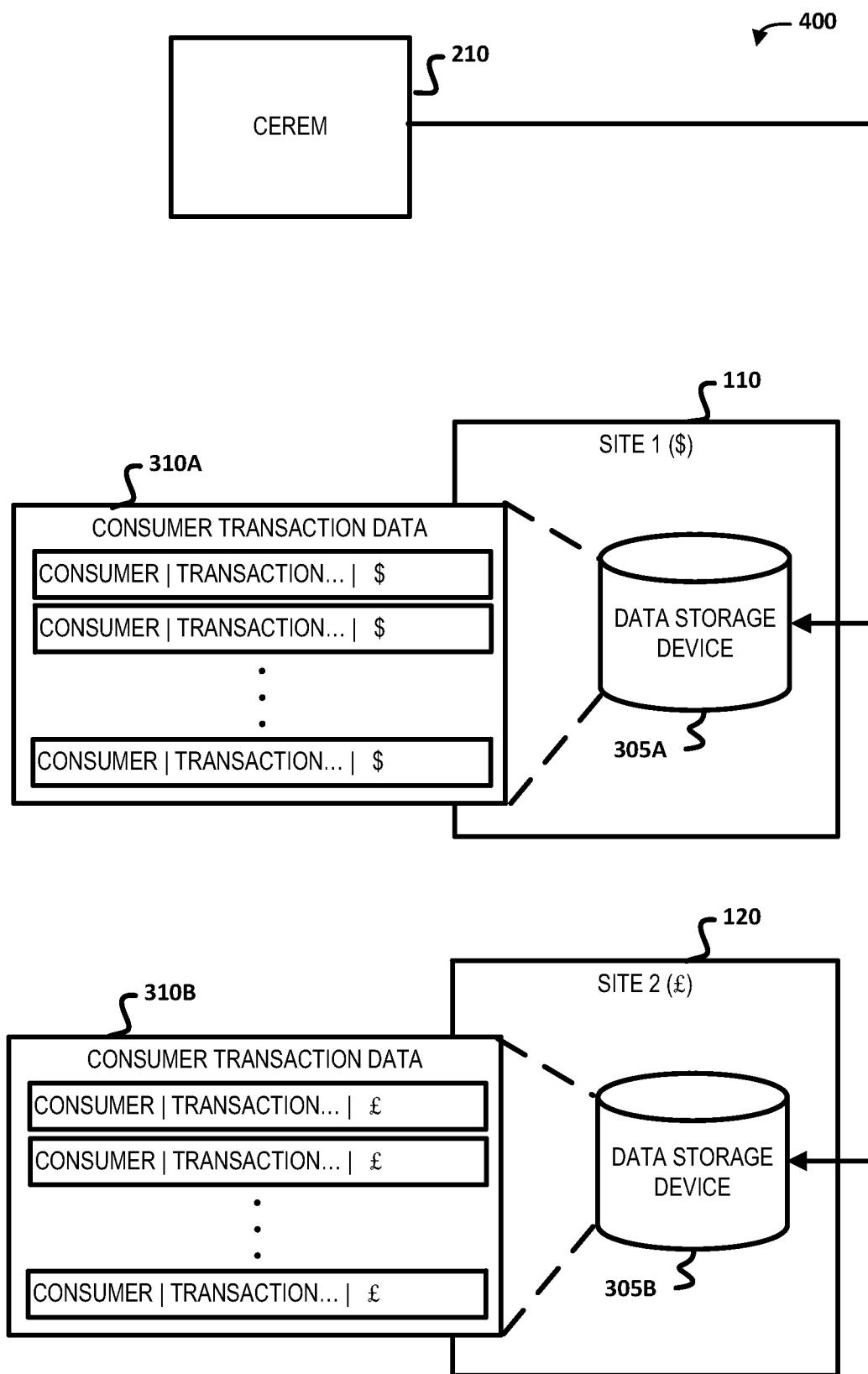
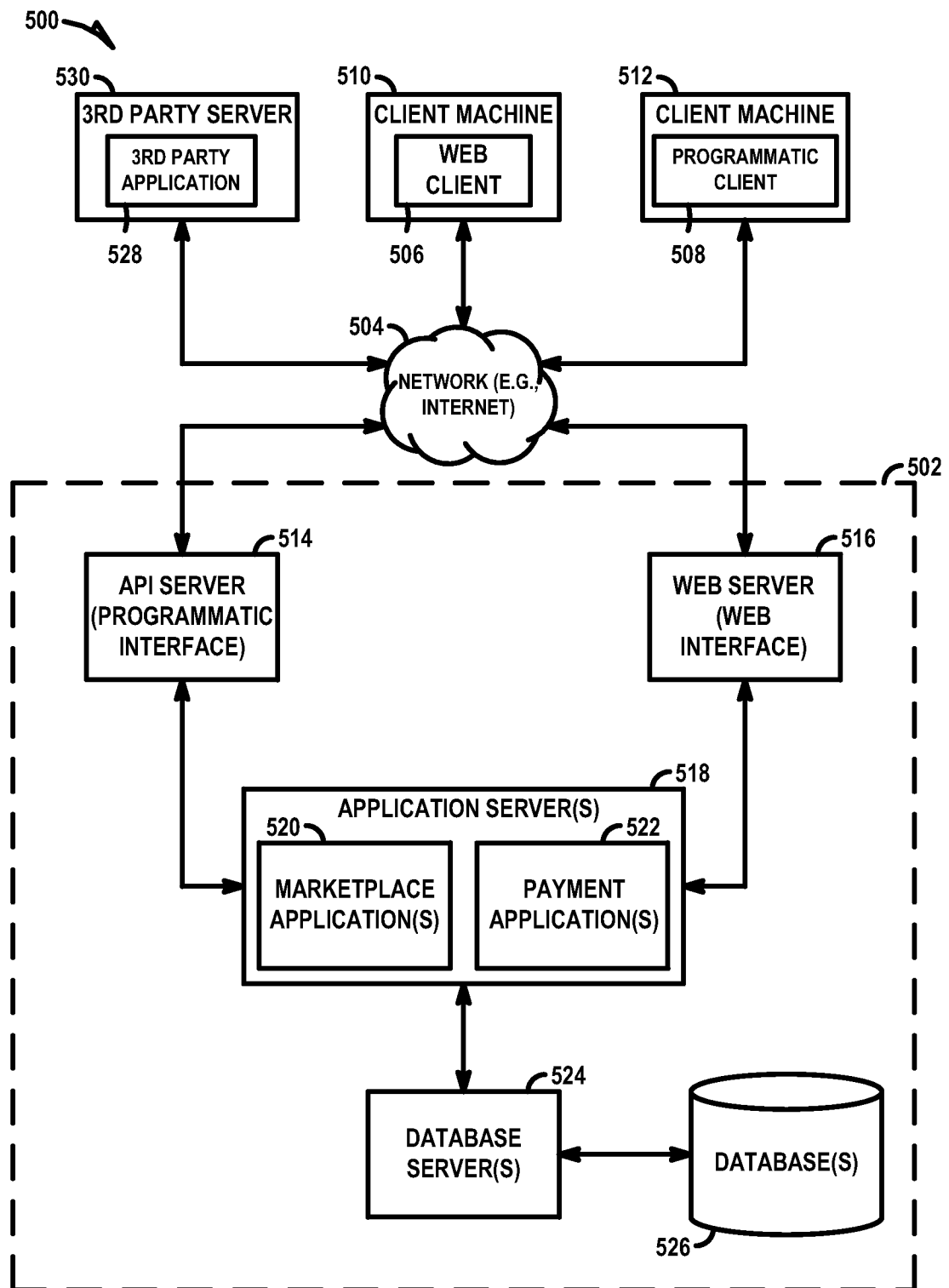


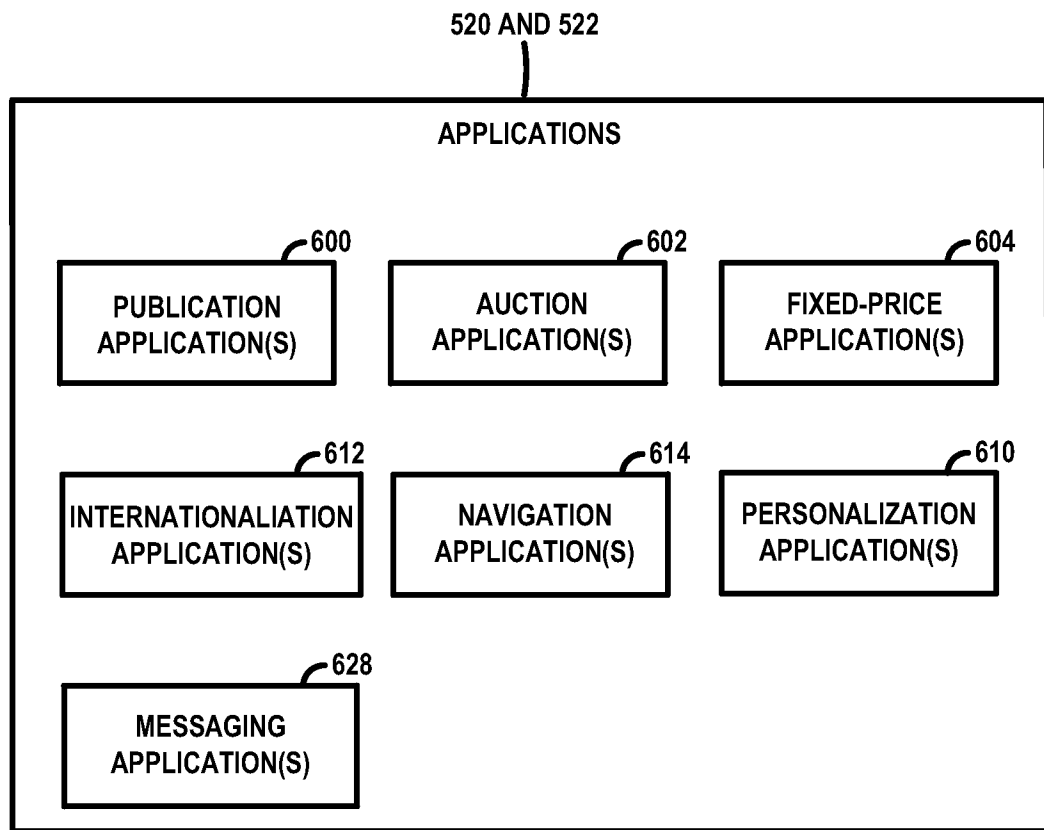
Fig. 4



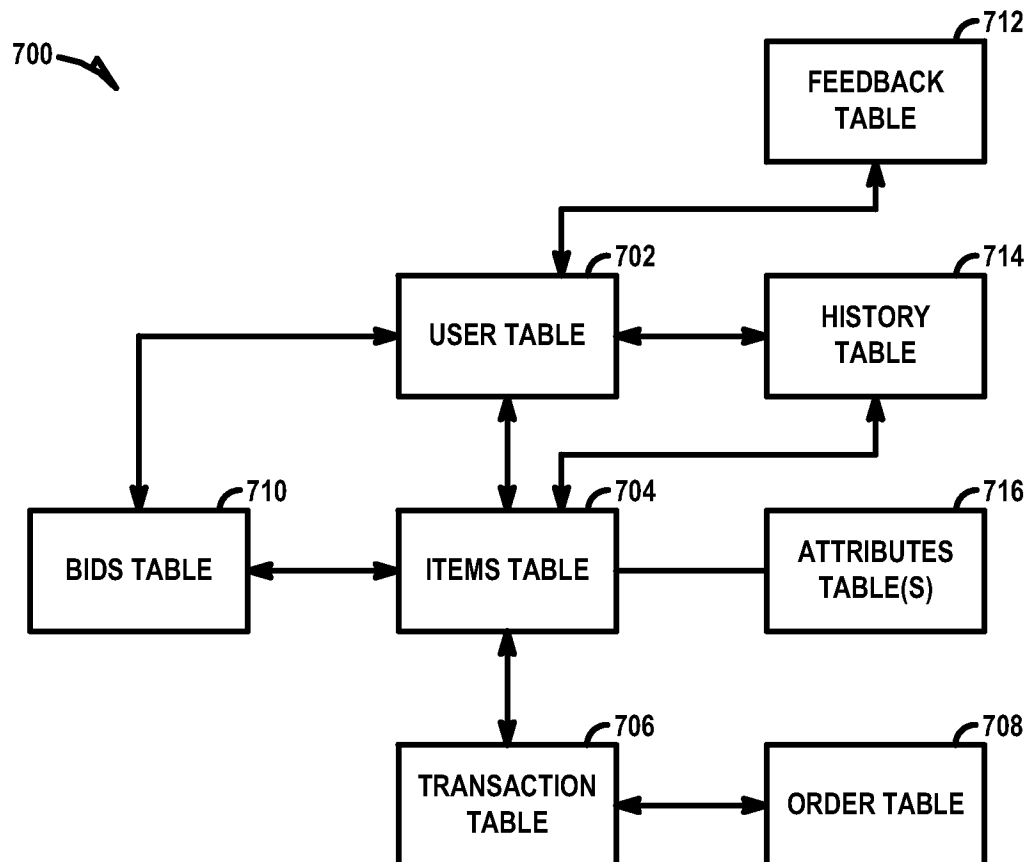
5/10

*Fig. 5*

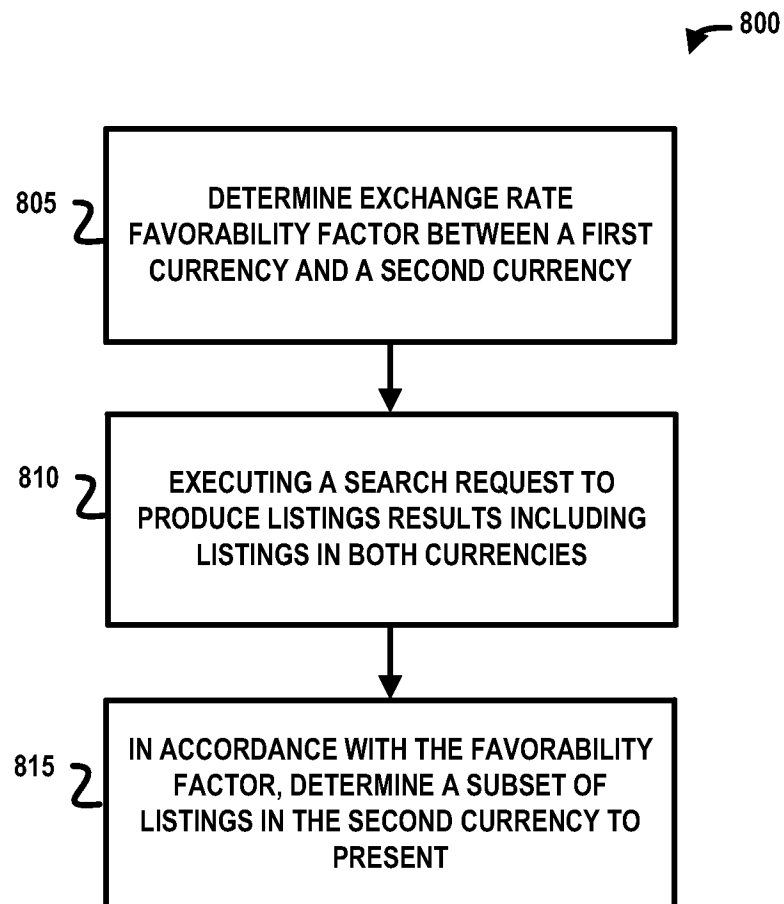
6/10

*Fig. 6*

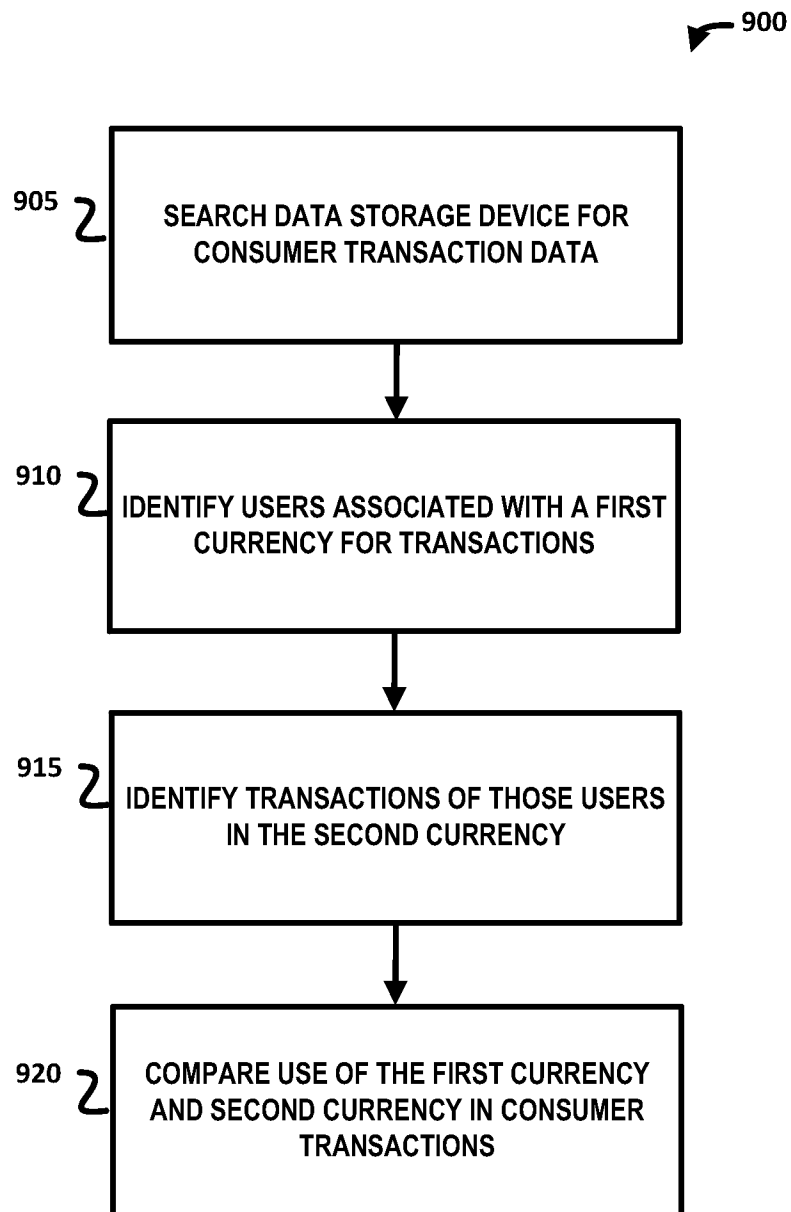
7/10

*Fig. 7*

8/10

*Fig. 8*

9/10

*Fig. 9*

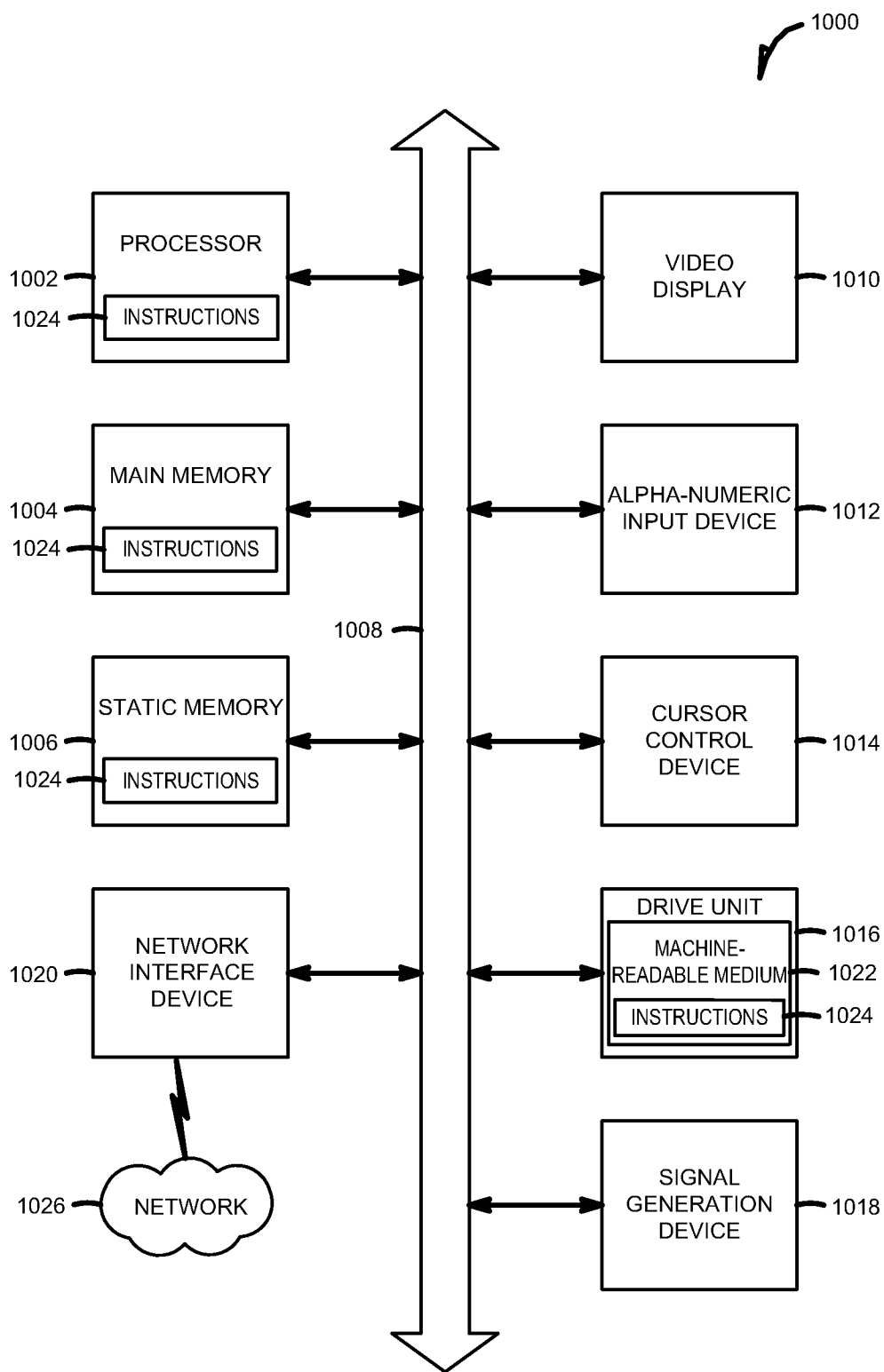


Fig. 10

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/33056

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06Q 30/00 (2011.01)

USPC - 705/26.1

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)

USPC - 705/26.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 705/26.1, 26.7, 26.8, 27.1, 35, 39; 709/201, 217, 218, 219 (keyword limited; terms below)

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

Dialog; Google Patents; Google Scholar

exchange, currency, rate, foreign, domestic, listing, website, web, site, page, webpage, transact, purchas, results, marketplace, store, retailer, favor, favour, weigh, international, foreign, product, service, online, internet, network, compil, aggregat, marketplace, store

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2002/0046131 A1 (BOONE et al.) 18 April 2002 (18.04.2002), Para [0029], [0032], [0049], [0052], [0060]-[0061], [0065], [0067], [0078], [0108], [0120], [0127], [0131]-[0132]	1-27
Y	US 2005/0021454 A1 (KARPOVICH et al.) 27 January 2005 (27.01.2005), Para [0059]-[0060], [0067]-[0069]	1-27
Y	US 2009/0138458 A1 (WANKER) 28 May 2009 (28.05.2009), Para [0044], [0051], [0081]	6, 7, 9, 15, 16 and 18

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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"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

20 June 2011 (20.06.2011)

Date of mailing of the international search report

28 JUN 2011

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

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