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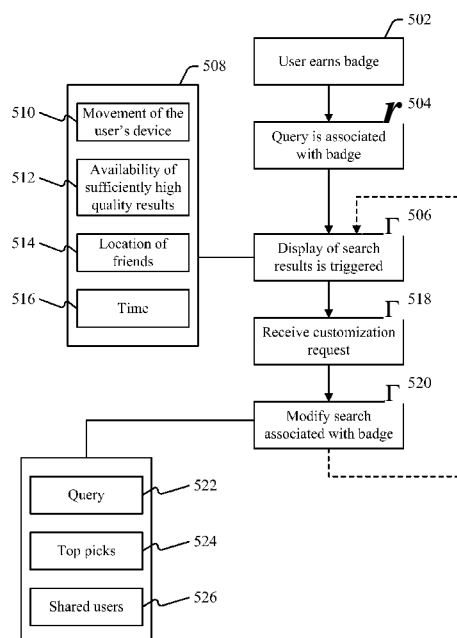
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[Continued on nextpage]

**(54) Title:** PERSISTENT CONTEXTUAL SEARCHES**FIG. 5**

(57) **Abstract:** A badge may be assigned to a person, where the badge represents a characteristic or recurrent behavior of the person. A query may be associated with a badge, and the query may be continually used in a search request in combination with the person's context, thereby allowing the person to be continually provided with fresh results that may be relevant to the person's durable characteristics and current context. In one example, the person carries a handheld device, and the results are presented to the user on the user's desktop or lock screen. The act of providing the results may be triggered in various ways, such as movement of the person who carries the device, or the availability of sufficiently high-quality results.



## PERSISTENT CONTEXTUAL SEARCHES

### BACKGROUND

[0001] Many searches are based on context. A person who searches for "restaurant" might want to know about restaurants generally, but more likely the person is looking for a nearby restaurant. In this example, the context associated with the search is the location in which the search is being performed. While a person can perform any type of contextual search, people tend to search recurrently for the same things, in predictable patterns. For example, a person who likes Chinese restaurants is likely to search for Chinese restaurants frequently. If the person is registered with an online service and has given appropriate permission for his searches and other behaviors to be mined, then the service might deduce the person's affinity for Chinese restaurants and might assign a virtual "Chinese restaurant" badge to that person as a way of designating the person's affinity.

[0002] A badge (or another type of expression of a person's affinities and interests) can be used in various ways - e.g., as a method of promoting social cohesion among like-minded people in an online setting. However, there are other ways in which a badge can be used.

### SUMMARY

[0003] A badge can be used as a basis to perform a persistent search that is based on the user's location or other context. The user can be shown results that change as the user's context changes. Moreover, the results can be shown to the user without the user's having to request the search explicitly, since the search request may be inferred from the fact that the badge has been assigned to the user.

[0004] Initially, the user earns a badge. For example, a user who frequently eats at tapas restaurants or bars might earn a "tapas" badge, thereby designating the user as someone who is interested in tapas. Similarly, badges such as "golf enthusiast", "wine lover", "Ivy League alum", "world traveler", could be assigned based on the user's behavior, or based on a user's express selection of a badge. (To the extent that badge assignments would be deduced from the user's behavior, appropriate permission to mine this behavior may be obtained from the user in order to preserve the user's interest in privacy.) A query may be associated with a badge. Contextual information (e.g., the user's location) may be added to the query, and the contextual information may be updated as the context changes. The query may be executed recurrently, and the results may be shown to

the user in response to an appropriate trigger. The execution of the query, and the showing of the results to the user, may take place without any explicit or direct request by the user. In this way, results that update automatically, and continually, may be provided to the user as part of the experience that the user's device provides. Users may be able to edit the query associated with a badge, and may affect the search experience in various other ways.

[0005] Search results may be shown to a user in various ways - e.g., on the desktop, on the lock screen, etc. Moreover, search results may be shown in response to various triggers, such as when the user moves from one location to another, or when sufficiently high-quality results are available.

[0006] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0007] FIG. 1 is a block diagram of a first example of a badge-based search experience, as that experience might look on an example device.

[0008] FIG. 2 is a block diagram of a second example of a badge-based search experience on the device of FIG. 1.

[0009] FIG. 3 is a block diagram of an example badge-based search experience that changes based on context.

[0010] FIG. 4 is a block diagram of an interface that allows the search experience associated with a badge to be customized.

[0011] FIG. 5 is a flow diagram of an example process in which a badge-based search experience may be provided.

[0012] FIG. 6 is a block diagram of example components that may be used in connection with implementations of the subject matter described herein.

#### **DETAILED DESCRIPTION**

[0013] As people make increasing use of mobile devices to access information, people often expect their mobile devices to anticipate the information that they want to see. The traditional method of search is for a person to invoke a search application (e.g., by visiting a search engine's web site) and to enter a search query explicitly. However, search has evolved to support scenarios other than an explicit search. In particular, a search can be viewed as a way of describing what information is sought, given that the underlying

information, and the context in which the information is being requested, is constantly changing.

[0014] Local searches typify the scenario of changing information and changing context. For example, a user who is looking for a tapas restaurant might enter the query "tapas". However, the response to this query may depend on both the user's current circumstances (e.g., his or her location), and the current state of a business directory that lists existing businesses. The response depends on the user's current circumstances because, in one example, the query is interpreted as implicitly requesting tapas restaurants that the user can reasonably get to in the near future (e.g., restaurants that are near the user's current location). The response also depends on the current state of the directory because new restaurants open and old ones close, so the set of responses that are appropriate - given a particular location for the user - can change throughout time.

[0015] In theory, anyone can perform any search, contextual or otherwise. However, in reality, people often perform certain types of searches based on predictable patterns - e.g., based on their interests, their lifestyles, and other factors. For example, if a person is an established tapas enthusiast, he or she may want to search for tapas bars recurrently, so that he or she can see the location of the nearest tapas restaurant and reviews of those restaurants. If a person likes wine, or art museums, or laser tag, then he or she may frequently do searches related to those concepts. It is convenient, therefore, to think of such searches not so much as discrete events, but rather as requests to provide continually-updating information that can change as a user's location (or other context) changes.

[0016] Some systems implement the notion of a badge, which is a concept that can be associated with a user who has exhibited certain behaviors. A user who has frequently searched for, or eaten in, tapas restaurants may be assigned the "tapas" badge. A user who frequently plays laser tag may be assigned the "laser tag" badge. Such badges describe a durable property of a user, and may suggest a search that is to be performed. It is noted that the acts that causes the user to earn the badge are often behaviors that are unrelated to the act of requesting a search or entering a query. For example, the acts of riding the same bus to work each day, or playing golf five times per year, or visiting one's sister each Saturday at 2pm, are behaviors that are not associated with searches. The act of engaging in such behaviors is not normally associated with the act of requesting a search, and engaging in these behaviors does not directly cause a search to be performed.

[0017] The subject matter described herein uses badges, or similar types of information about a user, to perform a search. The search may be continually updated, and may be based on the user's present physical location or other contextual information about the user. A triggering event may cause the result to be displayed on a device associated with the user, such as a smart phone or other mobile device. As the user changes context (e.g., by moving from one place to another), the result that is displayed may be updated. For example, the "tapas" badge may be associated with the query "tapas restaurant", with the implied geographic term "here." Thus, a user's having the tapas badge causes the query "tapas restaurant here" to be continually searched, and updated information based on this query may be shown. If the user is in Seattle, one set of results may be produced; if the user is in San Francisco, another set of results may be produced. While the user could explicitly execute this query in different places, because the user has been identified as a tapas enthusiast (via the assignment of the "tapas" badge to the user), software on the user's device may continually execute this query and may provide results to the user, without the user's explicitly or directly having to initiate the search process or indicate a change in location.

[0018] The result of a badge-driven search may be displayed to the user in various ways. In one example, the result may be displayed on the "lock" screen of the user's device, before the user has unlocked the device. In another example, the result may be displayed on the home screen of the device after the user unlocks the device.

[0019] The query to be associated with the badge may be customized by the user. For example, the user may edit the text query associated with a badge, or may specify various filters (e.g., the results may be filtered so that only tapas restaurants with a rating of four stars or higher are shown).

[0020] In one example, the query results that are shown to a person with a particular badge may be influenced by the opinions of others with the same badge. For example, people might be given the opportunity to indicate a particular restaurant or other entity (with the indication being "recommend", "like", or some similar sentiment). If many people with the tapas badge like or recommend a particular tapas restaurant, then a person with the tapas badge might receive results that are biased in favor of that restaurant (e.g., by listing that restaurant higher on the search results).

[0021] It is noted that the notion of automatically executing a query associated with a badge is not the same as using a badge, or some passive information, to influence a search result. For example, if a user has the "vintage clothing" badge and enters the query

"clothing," the badge might be used to influence the results of the "clothing" query in favor of vintage clothing. However, doing so is not the same as (nor is it an obvious variant of) associating a query with the badge and automatically executing the query. In one case, the user query is influenced by factors associated with the badge. In the other case, the badge itself is the source of the query that is actually executed. Moreover, it is noted that executing a query associated with a badge that has been earned through a behavior is not the same as (nor is it an obvious variant of) executing a saved query. While a saved query may have the same durable quality that some badges have, a saved query is merely a query that the user entered. A badge, on the other hand, might be earned through some behavior other than explicitly specifying a search to be performed. (It is noted that a badge that was earned through behavior continues to be distinct from a saved search, even if the user explicitly modifies the query associated with the badge. This is so because the badge itself, in one example, has to be earned through behavior, even if the user can later change the query associated with the badge that was earned through behavior. In this non-limiting example, a user cannot use a badge to save a search unless the user has earned the badge.)

[0022] Turning now to the drawings, FIG. 1 shows an example badge-based search experience, as that experience might look on an example device. Device 100 may be a mobile telephone, a portable music player, a tablet computer, or any other type of device. Device 100 typically has some memory and some processing capability which are implemented, for example, using components that are shown in FIG. 6 and described below. Device 100 may have various controls, such as escape button 102 (which may have various functions, such as exiting an application and/or returning the view on device 100 to the home screen), and touch screen 104 (which serves as both an input device and an output/display device). In the experience shown in FIG. 1, various pieces of information may be displayed on touch screen 104. One such piece of information is search box 106, which allows a user to enter a query.

[0023] The experience may also show various badges 108, 110, and 112 that are associated with the user of device 100. In one example, the device knows which badges to display because the user is logged in to some online service, and the badges are associated with the user's account. In another example, the device is registered to a particular user, and the badges for the registered user are displayed. One of the example badges (badge 112) is shown larger than the others, thereby allowing the badge to indicate a search result. The reason for which badge 112 shows a search result might be that the user has clicked or

tapped (or otherwise activated) the badge, thereby indicating that the user wants to see a current search result from the query associated with that badge. In another example, a passive trigger has caused the badge to display search results to the user. (Some example triggers are discussed below in connection with FIG. 5.) In the example shown, the search results 114 in the badge contain the name of a tapas restaurant. Since badge 112 is the "tapas lover" badge, the query associated with the badge might be "tapas" or "tapas restaurant", together with a geographic term that corresponds to the current location of the device. (Such a current location might be determined from GPS component on the device; location information from such a GPS might be used pursuant to appropriate permission obtained from the device's user.) Thus, the restaurant shown in search results 114 may be the name of a nearby tapas restaurant. It is noted that, in the example of FIG. 1, search results 114 show not only the name of the restaurant, but also a rating 116 for the restaurant, and information 118 indicating how far away the restaurant is. The rating and distance information are merely examples; any type of information about a search result could be shown.

[0024] FIG. 2 shows another view of device 100, presenting a different type of badge-based search experience. In FIG. 2, device 100 is shown as having touch screen 104, discussed above in connection with FIG. 1. However, in FIG. 2, the information shown on touch screen 104 is the "lock" screen - i.e., the screen that prevents the user from performing unintended actions with the device while the user is not actively using the device. In general, lock screen allows the user to perform only a limited set of actions until the lock screen is unlocked - e.g., the lock screen might display the time and/or the network, might allow the user to "swipe to unlock", or might allow the user to answer an incoming phone call. However, in general active use of the device (e.g., using apps, performing explicit searches, etc.) involves the user's first unlocking the device.

[0025] In the example experience of FIG. 2, badge 112, and its associated search results 114, are shown on the lock screen. In this way, the user can see search results associated with his or her badges without having to unlock the device. FIG. 1, discussed above, is an example of showing badge-based search results after, or beneath, the lock screen; FIG. 2 is an example of showing badge-based search results on, or above, the lock screen.

[0026] FIG. 3 shows an example badge-based search experience that changes based on context. FIG. 3 shows two views of device 100. As in FIG. 1, device 100 shows the beneath-the-lock-screen experience, including badge 112 associated with the user of



the device. Moreover, the screen shows the search results associated with that badge. However, the two views of device 100 show how the experience changes based on the user's context. In this example, the context is composed of the user's physical location, although there could be other types of context that could influence a search - e.g., the time of day, the time of year, whether the user is at work or at home, etc.

[0027] Thus, in one view of device 100, the device (and the user carrying the device) are in Seattle. Therefore, search results 114 include a tapas restaurant in the Seattle area. In a second view of device 100, the device and its user are in San Francisco.

Therefore, in the second view of device 100, the results include tapas restaurants that are located in San Francisco. As noted above, these searches may have been performed passively, based on the fact that the user has the "tapas lover" badge. Thus, the act of showing the user information that might be relevant to a "tapas lover" who is in the user's current location, without the user's having to make a direct request for the information, is part of the experience that is depicted in FIG. 3.

[0028] As noted above, the search experience associated with a badge may be customized by the user. FIG. 4 shows an example of how to customize the search associated with a badge.

[0029] The interface of FIG. 4 is shown in two separate screens on device 100; the user may be able to flip back and forth between the two screens. The interface comprises a box 402 that shows the text query associated with a badge. Additionally, the interface comprises various ways to narrow and/or filter the search performed on that text query. Thus the interface includes a menu 404 that allows the user to specify geographic limits on the search (e.g., within five miles of the present location); a category 406 of results to search for (e.g., "restaurants/bars"); constraints on the price and/or rating to be associated with a result (at 408 and 410); and other information 412 such as whether the entity listed in the search results is "good for kids" and/or has "outdoor seating." Thus, in the example shown, the search associated with a particular user's instance of the "tapas lover" badge uses the text query "tapas", the geographic constraint of being within "5 miles" (of the user's current location), the category constraint of "restaurants/bars", the price constraint of restaurants in the "three dollar sign" category, and the rating constraint that the restaurant be rated at least four stars. Additionally, the search imposes the criteria that the entity listed in the results be "good for kids" and have "outdoor seating." These parameters are configurable and customizable by the user. For example, a user could

change the text in box 402 in order to change the underlying text query, or could change the geographic constraint, or could change any of the other aspects of the query.

[0030] In addition to allowing the user to customize the specific way in which the search is done, the customization interface may also allow the user to identify "top picks" 414, and other users 416 with whom the badge (or, rather, the user's customized version of the badge) is shared. Identifying the user's choices of "top picks" may allow the search results to be skewed or biased toward the items on the "top picks" list if those items are appropriate to the search query. For example, if the user has specified a five-mile geographic limit on the search and has specified the Harvest Vine restaurant as a top pick, then the search results may include Harvest Vine if the user happens to be within five miles of that restaurant. By specifying Harvest Vine as a top pick, Harvest Vine may be included in the search results even if the search algorithm otherwise would have omitted it, or Harvest Vine may appear at the top of the results even if the search algorithm otherwise would have placed it somewhere else in the results. Another consequence of specifying top picks is that the top picks of the various users who have the "tapas lover" badge may be collected, and these results may be used (anonymously) to influence the search results that other "tapas lovers" receive in their badge-based search experience. For example, if many holders of the "tapas lover" badge have indicated that Harvest Vine is a top pick, then the search results given to holders of that badge may be biased in favor of Harvest Vine - even for badge-holders who have not actually indicated Harvest Vine as a top pick. (It is noted that the user can add top picks, and also can delete top picks - as indicated by the deletion "X" shown in the interface.)

[0031] Another action that a user may perform on the customization interface is to specify users with whom the badge holder has decided to share the badge. A user may share a badge with other users, so that the other users also receive the search experience associated with that badge. The sharing of the badge may be controlled through the customization interface shown in FIG. 4. FIG. 4 shows two users with whom the badge has been shared; the badge can be shared with additional users by adding those users, or the badge can be "unshared" with users by deleting those users from the list (as indicated by the deletion "X" shown in the interface.)

[0032] FIG. 5 shows an example process in which a badge-based search experience may be provided. Before turning to a description of FIG. 5, it is noted that the flow diagram in FIG. 5 is described, by way of example, with reference to components shown in FIGS. 1-4, although this process may be carried out in any system and is not

limited to the scenarios shown in FIGS. 1-4. Additionally, the flow diagram in FIG. 5 shows an example in which stages of a process are carried out in a particular order, as indicated by the lines connecting the blocks, but the various stages shown in this diagram can be performed in any order, or in any combination or sub-combination.

5           **[0033]**     At 502, a user earns a badge. The user may earn the badge by any appropriate process and/or set of actions. For example, a user might earn the "tapas lover" badge mentioned above by eating at some number of tapas restaurants. (This fact might be determined, for example, if the user's payment method is connected to the account that he or she uses on his or her phone. In this case, paying a bill at a tapas restaurant may be  
10   taken as an indication that the user has eaten at that restaurants, and eating at some number of restaurants within a given amount of time might earn the "tapas lover" badge. The user's payment information may be obtained pursuant to appropriate permission obtained from the user, in order to protect the user's expectation of privacy.) In another example, a user might earn a "wine enthusiast" badge by purchasing a certain amount of wine, or a  
15   "gold" badge by spending a certain amount of time on the golf course (as determined from the user's location, after the user gives appropriate permission to use his or her location) or by paying for a certain number of greens fees. Badges can be earned in any appropriate manner.

**[0034]**     At 504, a query is associated with the badge. For example, the text query  
20   "tapas" may be associated with the "tapas lover" badge. Additionally, other information that is used to select search results - e.g., a geographic limitation, a limitation to "restaurants/bars", a particular rating, etc. - may be considered part of the query that is associated with the badge. Typically, the query that is associated with the badge is one that is assigned without user input. For example, the "tapas" query may be associated with the  
25   "tapas lover" badge automatically upon the user's earning the badge, without the user having to enter the query, or having to indicate in any way that the word "tapas" is the query that the user wants to associate with the badge. In one example, the user may later change the query associated with the badge, but the initial query typically is not one that the user has chosen, nor one as to which the user has any particular input or influence.

30           **[0035]**     At 506, display of the search results is triggered. There are various ways in which the display of the search results might be triggered. In one example, current search results are continually displayed, in which case the trigger to display the results perpetually exists. In other example, triggers 508 might include movement of the user's device (at 510), availability of a sufficiently high quality result (at 512), location of friends

(at 514), or the passage of time (at 516). The search results themselves may be obtained by issuing a search request, based on the query and also based on the context that exists at the device. The search request may be issued to a search provider, such as a server that runs search engine software.

5           **[0036]**     In the case of movement (at 510), the fact that the user's device has moved from one city to another might be a trigger to display search results, since the results might change based on the user's location.

**[0037]**     In the case of availability of a sufficiently high quality result (at 512), it might be the case that the quality of results changes as the user moves, and that some  
10    results are worth displaying and others are not. For example, if the user is in Seattle, there are likely to be highly relevant results to the query "tapas" within five miles. If the user starts driving south, there may be places where there are no results that satisfy the constraints of the query, or results that are not deemed of sufficient relevance to be worth displaying. Thus, the results associated with a badge might be displayed only when there  
15    are results that have scored sufficiently high in relevance; when only low-relevance results are available, the badge, and its associated results, might not be displayed at all.

**[0038]**     In the case of the "location of friends" trigger (at 514), the display of results might be triggered by the fact that the user has friends who share the same badge and are nearby. In the example of the "tapas lover" badge, the user might be particularly  
20    interested in nearby tapas restaurants if he has friends nearby who would be willing to go to the restaurant with him. If such friends are in close proximity to each other, this fact might trigger the display of the "tapas lover" badge, and the associated search results, on the friends' respective devices. Thus, if users choose to share their locations, information about users being near each other could be used to determine when to display the results  
25    associated with a badge.

**[0039]**     In the case of the passage of time (at 516), some systems might be configured to display the current results associated with a badge periodically at particular time intervals.

**[0040]**     The foregoing are some examples of triggers, although other triggers  
30    could be used to determine when to display the search results associated with a badge.

**[0041]**     After some amount of time, a customization request may be received (at 518). When such a customization request is received, the customization interface shown in FIG. 4 may be displayed, thereby allowing a user to affect the search criteria associated with a badge, as well as other information such as whom the badge is shared with and the

user's "top picks" associated with the badge. The user may then enter customized information, and the search criteria (or other information) associated with a badge may be modified accordingly (at 520). Examples of the search criteria that that may be modified in response to a customization request include the query 522 (including both the text of the query, as well as any other criteria that are used to filter results, such as geographic constraints), the user's "top picks" 524, and the list of shared users 526.

[0042] After the search criteria are modified, the process may return to 506 to update the search results. It is noted that the act of "displaying" the search results, as described above in connection with block 506, includes not only the initial act of showing the search results on the screen, but may also include the act of updating the display to reflect new search results, or different search results based on a change in context or a change in the query associated with a badge. Additionally, it is noted that a user's modification of the search criteria is not the only reason that updated search results would be displayed. Search results could be updated based on any of the triggers 508 that were previously described, or based on any other triggers. Thus, while FIG. 5 shows search results being displayed, followed by a modification to the search criteria, followed by an updated to the search results, it may be the case that the process loops from 506 back to 506 without any intervening modification or customization of the search criteria, thereby allowing the search results to be updated recurrently.

[0043] FIG. 6 shows an example environment in which aspects of the subject matter described herein may be deployed.

[0044] Computer 600 includes one or more processors 602 and one or more data remembrance components 604. Processor(s) 602 are typically microprocessors, such as those found in a personal desktop or laptop computer, a server, a handheld computer, or another kind of computing device. Data remembrance component(s) 604 are components that are capable of storing data for either the short or long term. Examples of data remembrance component(s) 604 include hard disks, removable disks (including optical and magnetic disks), volatile and non-volatile random-access memory (RAM), read-only memory (ROM), flash memory, magnetic tape, etc. Data remembrance component(s) are examples of computer-readable storage media. Computer 600 may comprise, or be associated with, display 612, which may be a cathode ray tube (CRT) monitor, a liquid crystal display (LCD) monitor, or any other type of monitor.

[0045] Software may be stored in the data remembrance component(s) 604, and may execute on the one or more processor(s) 602. An example of such software is badge-

based search software 606, which may implement some or all of the functionality described above in connection with FIGS. 1-5, although any type of software could be used. Software 606 may be implemented, for example, through one or more components, which may be components in a distributed system, separate files, separate functions, separate objects, separate lines of code, etc. A computer (e.g., personal computer, server computer, handheld computer, etc.) in which a program is stored on hard disk, loaded into RAM, and executed on the computer's processor(s) typifies the scenario depicted in FIG. 6, although the subject matter described herein is not limited to this example.

[0046] The subject matter described herein can be implemented as software that is stored in one or more of the data remembrance component(s) 604 and that executes on one or more of the processor(s) 602. As another example, the subject matter can be implemented as instructions that are stored on one or more computer-readable media. Such instructions, when executed by a computer or other machine, may cause the computer or other machine to perform one or more acts of a method. The instructions to perform the acts could be stored on one medium, or could be spread out across plural media, so that the instructions might appear collectively on the one or more computer-readable media, regardless of whether all of the instructions happen to be on the same medium. The term "computer-readable media" does not include signals per se; nor does it include information that exists solely as a propagating signal. It will be understood that, if the claims herein refer to media that carry information solely in the form of a propagating signal, and not in any type of durable storage, such claims will use the terms "transitory" or "ephemeral" (e.g., "transitory computer-readable media", or "ephemeral computer-readable media"). Any claim that does not explicitly describe the media as "transitory" or "ephemeral" shall not be understood to describe information that exists solely as a propagating signal or solely as a signal per se. Additionally, it is noted that "hardware media" or "tangible media" include devices such as RAMs, ROMs, flash memories, and disks that exist in physical, tangible form; such "hardware media" or "tangible media" are not signals per se. Moreover, "storage media" are media that store information. The term "storage" is used to denote the durable retention of data. For the purpose of the subject matter herein, information that exists only in the form of propagating signals is not considered to be "durably" retained. Therefore, "storage media" include disks, RAMs, ROMs, etc., but does not include information that exists only in the form of a propagating signal because such information is not "stored."

[0047] Additionally, any acts described herein (whether or not shown in a diagram) may be performed by a processor (e.g., one or more of processors 602) as part of a method. Thus, if the acts A, B, and C are described herein, then a method may be performed that comprises the acts of A, B, and C. Moreover, if the acts of A, B, and C are described herein, then a method may be performed that comprises using a processor to perform the acts of A, B, and C.

[0048] In one example environment, computer 600 may be communicatively connected to one or more other devices through network 608. Computer 610, which may be similar in structure to computer 600, is an example of a device that can be connected to computer 600, although other types of devices may also be so connected.

[0049] It is noted that the term "behavior" is used herein, and is explained by the foregoing description. However, if an occasion arises in which it is relevant to distinguish between saved searches and badges earned through behaviors, the term "non-search behavior" will be understood to indicate acts other than entering search queries, and the term "non-search behavior" will exclude acts that are, or that comprise, entering search queries. Moreover, the concept of a "badge earned through non-search behavior", or a concept designated by similar phrasing, will be understood to include badges earned by a user's performing some "non-search behavior," within the meaning of that term as explained above. However, a badge can be associated with a query, and it will be understood that "badge earned through non-search behavior" includes badges that are associated with queries, including those badges whose associated queries have been modified by the user as long as the badge was once earned by a user through non-search behavior.

[0050] Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Rather, the specific features and acts described above are disclosed as example forms of implementing the claims.

## CLAIMS

What Is Claimed Is:

1. A method of showing search results based on a badge, the executable instructions, the method comprising:

5                    requesting a search based on a query associated with said badge and also based on a context that exists at a time at which said search is requested, said badge having been assigned to a user of said a based on behavior of said user, said search being requested without a direct request for said search having been made by said user;

                  receiving, from a search provider, results based on said search;

10                   determining that display of said results has been triggered; and displaying said results on said device.

2. The method of claim 1, said device having a lock screen that prevents access to functions of said device until said lock screen is unlocked, said results being displayed  
15                   with said badge on said lock screen.

3. The method of claim 1, said device having a lock screen that prevents access to functions of said device until said lock screen is unlocked, said device having a desktop beneath said lock screen that is viewable after said lock screen is unlocked, said results  
20                   being displayed with said badge on said desktop.

4. The method of claim 1, said determining that display of said results has been triggered comprising:

                  determining that said device has moved, triggering of display of said results  
25                   being based on movement of said device.

5. The method of claim 1, said acts further comprising:

                  receiving, from said user, a request to customize said search request associated with said badge by modifying said query.

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6. A computer-readable medium having computer-executable instructions to perform the method of any of claims 1-5.



7. A device that provides search results based on a badge, the device comprising:

a memory;

a processor;

a display;

5 a badge that is stored in said memory and that is assigned to a user of said device based on said user's behavior; and

a search component that is stored in said memory and that executes on said processor, that makes a search request based on a query that is associated with said badge and also based on a context that exists at said device at a time at which said request is  
10 made, that receives results in response to said search request, that determines whether display of said results have been triggered, and that displays said results when display of said results has been triggered, said device making said request without said user having initiated said request, said device showing said results with said badge and either on a desktop of said device or on a lock screen of said device.

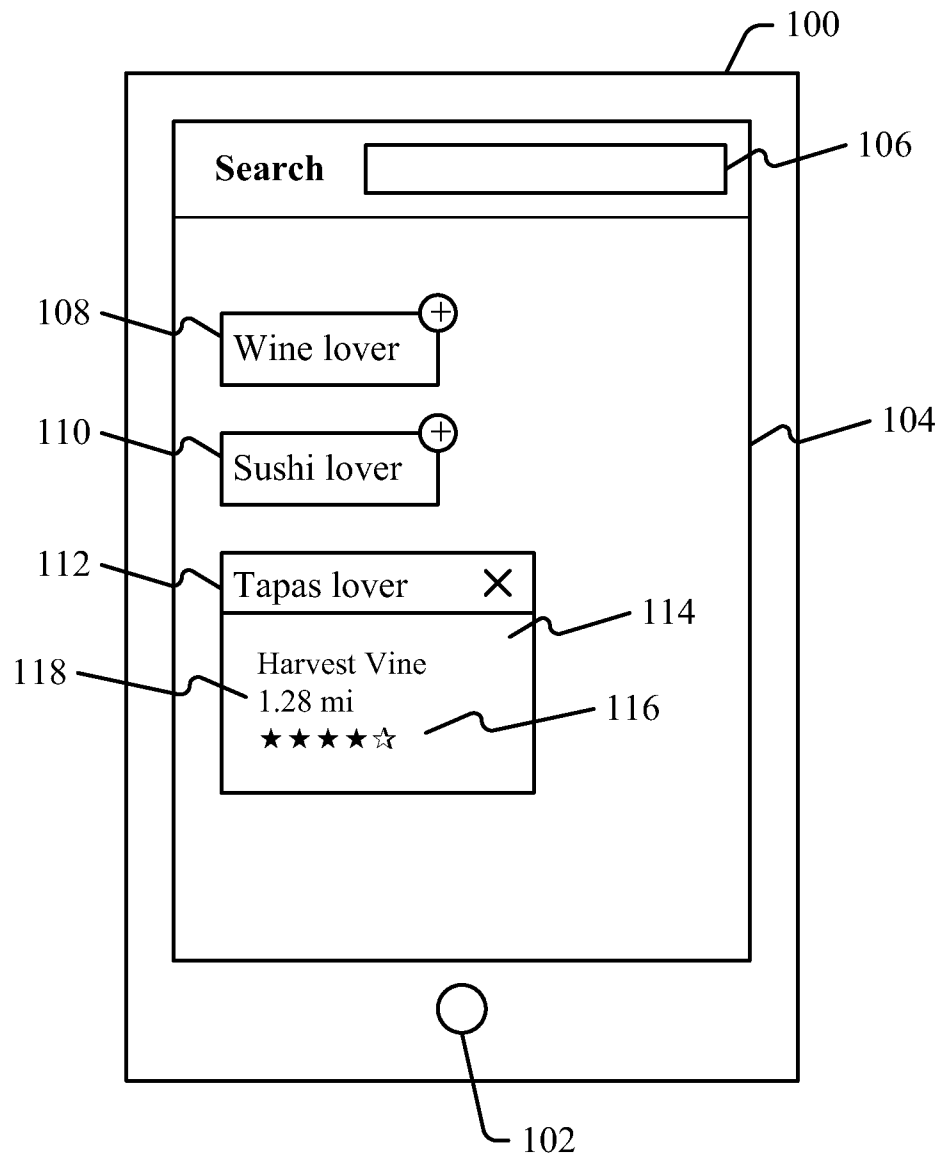
15

8. The device of claim 7, said device being at a geographic location, said context comprising said geographic location.

9. The device of claim 7, said device determining that display of said results has  
20 been triggered by determining that results received in response to said search request are of a sufficiently high quality, triggering of display of said results being based on quality of said results.

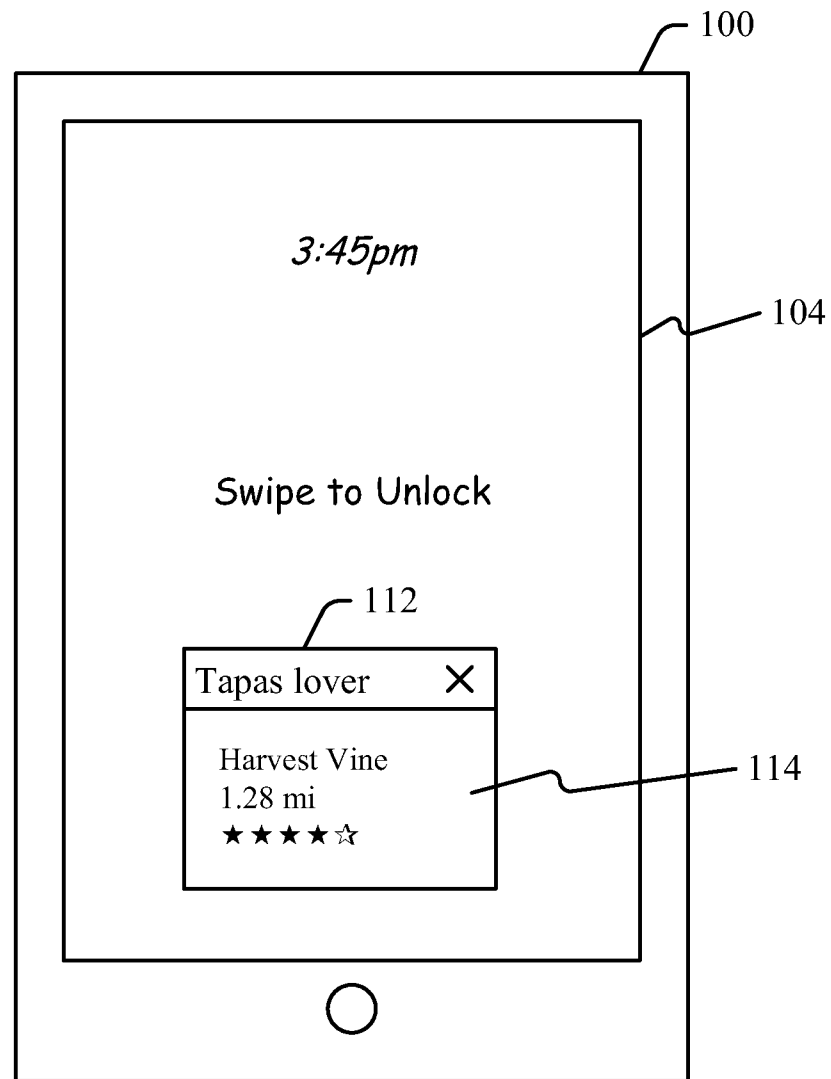
10. The device of claim 7, said badge being assigned to users other than said user,  
25 said results being based on choices of users associated with said badge.

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**FIG. 1**

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**FIG. 2**

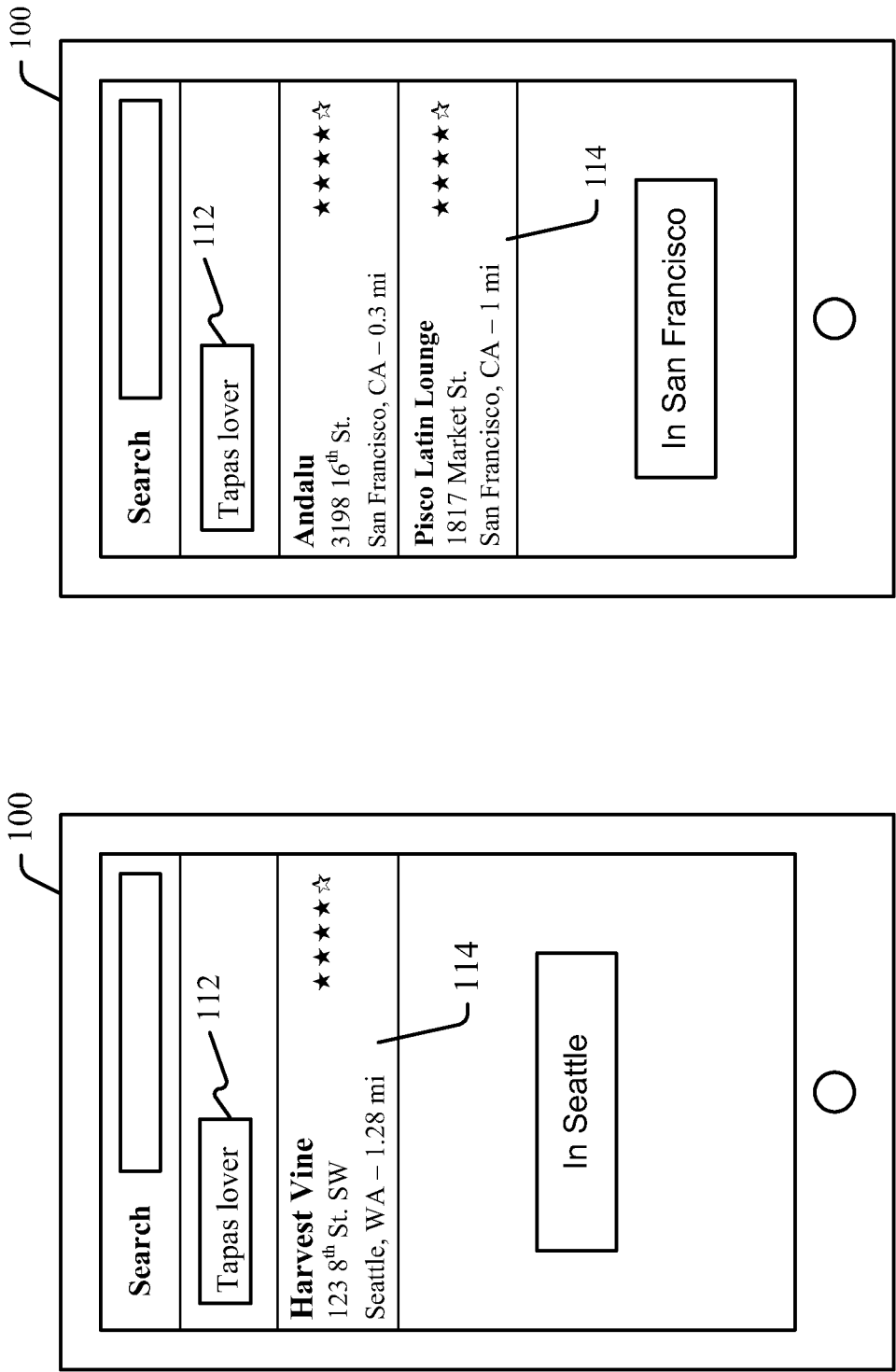


FIG. 3

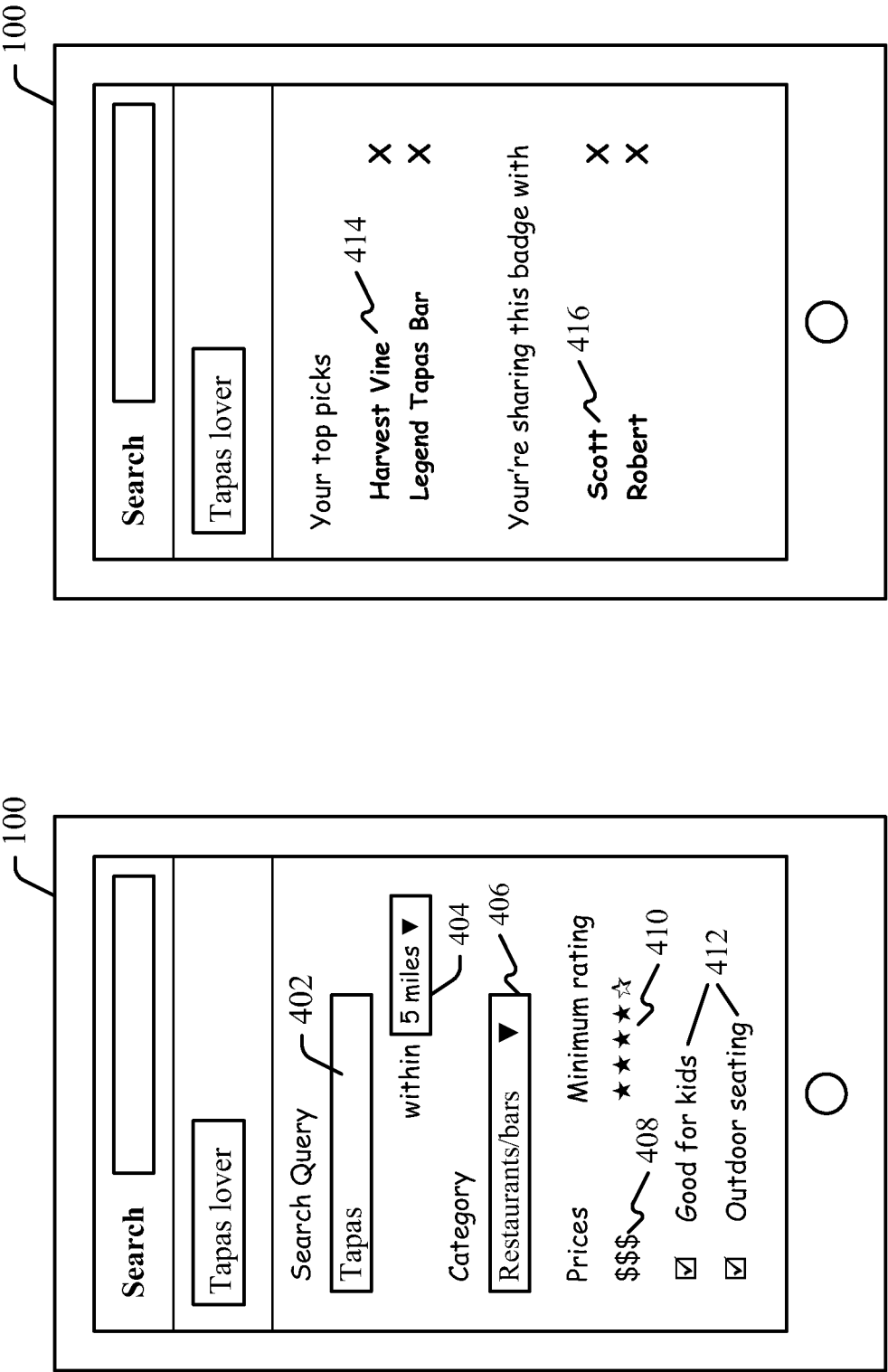
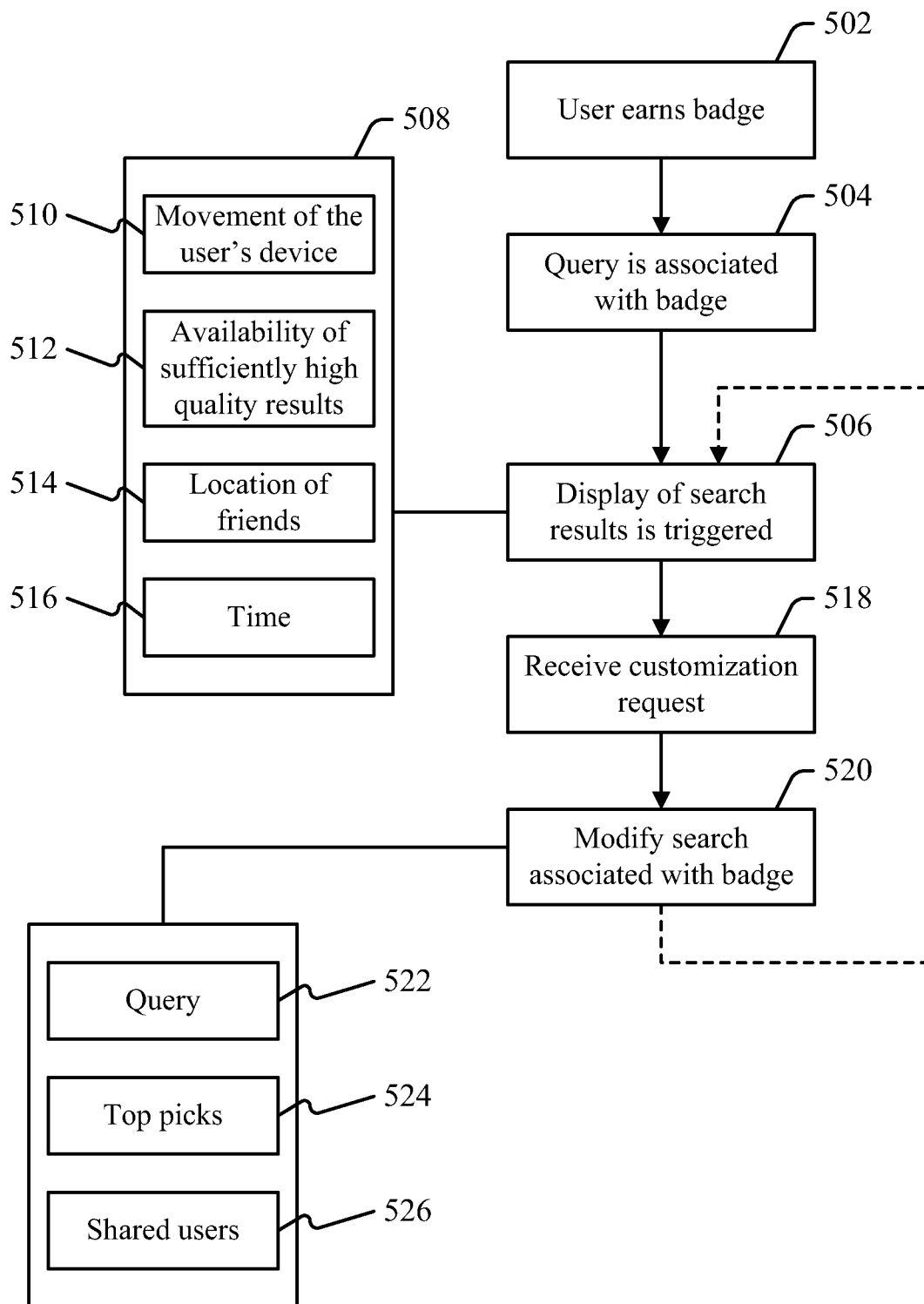


FIG. 4

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**FIG. 5**

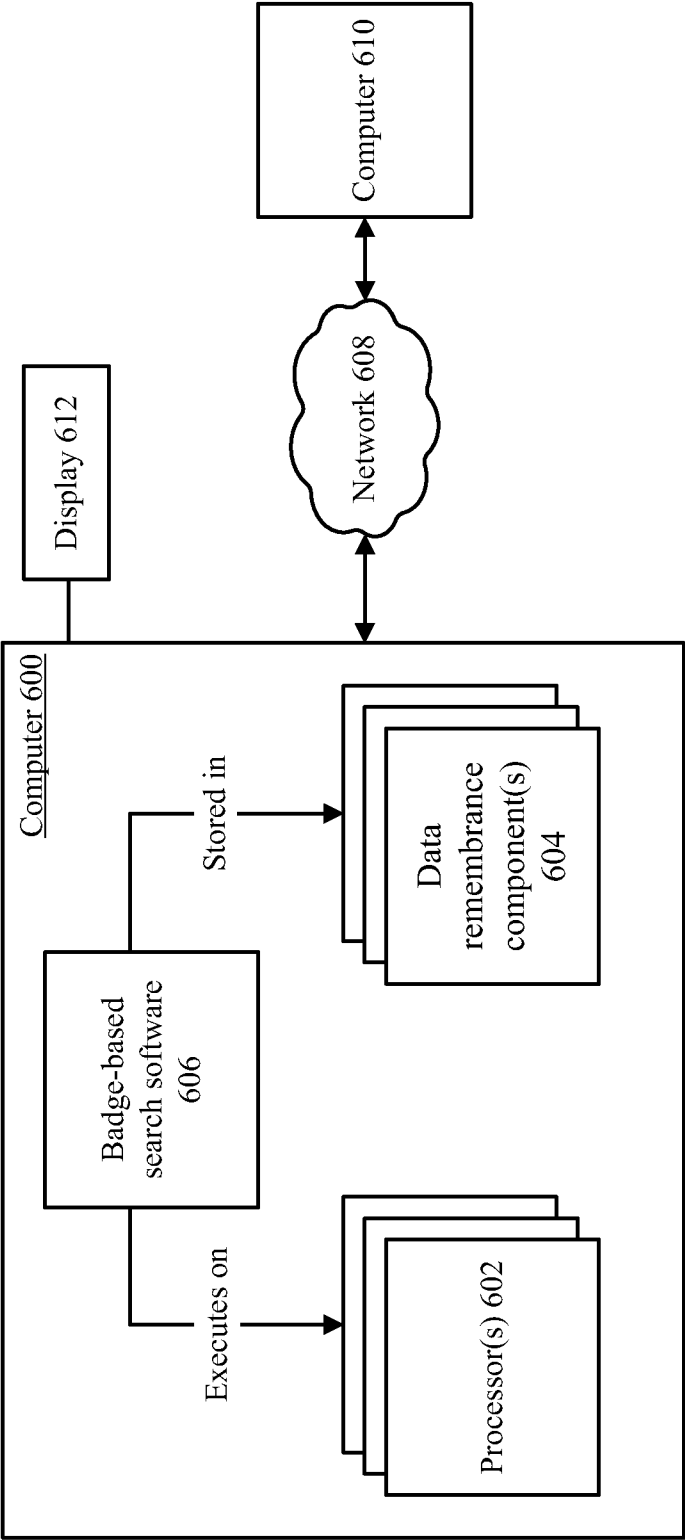


FIG. 6

## INTERNATIONAL SEARCH REPORT

International application No.

**PCT/US2012/060424****A. CLASSIFICATION OF SUBJECT MATTER*****G06F 17/30(2006.01)i, G06F 3/14(2006.01)i***

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)

G06F 17/30; G06Q 99/00; G06F 7/00; G06F 17/60; H04H 60/32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords: assign, badge, search, user, behavior and similar terms.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006-0026013 AI (REINER KRAFT) 02 February 2006 See paragraphs 79-93 ; figures 9-10 ; and claim 1.	1-10
A	wo 2009-086014 AI (AMAZON TECHNOLOGIES, INC.) 09 July 2009 See paragraphs 17-19 , 52-75 ; and figures 2-3 .	1-10
A	EP 1619597 AI (SAP AG) 25 January 2006 See paragraphs 25-45 ; figure 7; and claim 1.	1-10
A	US 2007-0033218 AI (DAVID C. TAYLOR) 08 February 2007 See paragraphs 49-78 ; and figures 3, 6.	1-10
A	US 2005-0071251 AI (GREGORY, D. LINDEN et al.) 31 March 2005 See paragraphs 14-15 , 81-112 ; and figure 2.	1-10

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

\* Special categories of cited documents:

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"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

27 March 2013 (27.03.2013)

Date of mailing of the international search report

**29 March 2013 (29.03.2013)**

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International application No.

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