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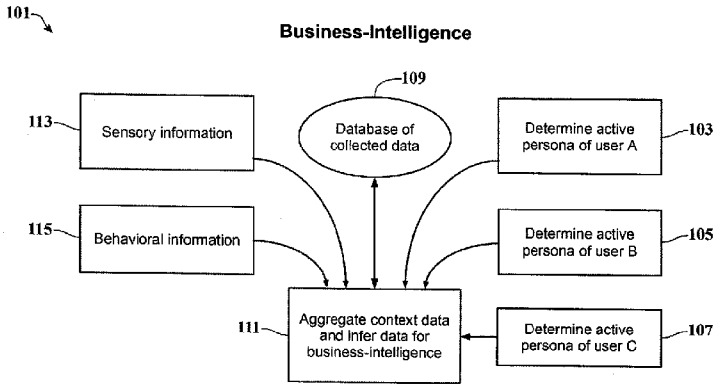


FIG. 1

(57) Abstract: A method is provided for customizing a service to a user on a mobile technology platform equipped with a display and having multiple personas defined therein. The method comprises determining (303) which of the multiple personas is an active persona; and customizing (307) a service to the user based on an active persona.

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SYSTEMS AND METHODS FOR IMPLEMENTING CONTEXT SPECIFIC PERSONAS ON MOBILE TECHNOLOGY PLATFORMS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority to U.S. Serial No. 61/604,483 (Ladaan et al.), entitled "Systems and Methods For Implementing Context Specific Personas On Mobile Technology Platforms", which was filed on February 28, 2012, and which is incorporated herein by reference in its entirety.

FIELD OF THE DISCLOSURE

[0002] The present disclosure relates generally to mobile technology platforms, and more particularly to systems and methods for customizing services to the user based on an active persona or associating the user's online behavior with a particular persona.

BACKGROUND OF THE DISCLOSURE

[0003] Mobile technology platforms, including mobile communications and mobile computing devices, are used in various settings for various types of tasks. Frequently, it is desirable for the user of such a device to adopt various roles or "personas" while using the device. For example, the user may be utilizing the device for both personal and business use, and hence has the need to switch between these personas.

[0004] In light of the foregoing, some systems have been developed to allow the user to switch between personas. For example, U.S. 7,086,008 (Capps et al.) discloses computer systems which may adopt one of many personas, depending upon the role that its owner is currently undertaking. The computer system includes a central repository of extensible personas available to all applications running on the computer system. Each such persona has associated therewith a suite of parameters, or specific values for parameters, which are appropriate for conducting transactions in the name of their particular persona.

[0005] The computer system of Capps et al. further provides a graphical user interface which allows the user to switch from persona to persona by simply selecting a particular persona from a list of available personas displayed on a display screen of the computer system. By selecting a persona, the user causes the computer system to globally change the entire suite of parameter values so that subsequent transactions conducted with the computer system employ the parameter values of the current persona.

[0006] In preferred embodiments of the system of Capps et al., the suite of parameters representing a given persona can be extended by applications running on the computer system. Specifically, various applications may add certain persona-specific parameters to the system's personas as required.

[0007] Capps et al. also discloses various techniques for changing the current persona adopted by the computer system. In accordance with one such technique, the user is allowed to select one of the personas listed on the display menu or list described above. Capps et al. notes that, in a pen-based computer system, this is preferably accomplished by determining when a user has tapped with a stylus on a displayed persona. In another technique disclosed in the reference, the current persona is determined by (1) identifying a password input by the user; (2) matching the password to one of the multiple personas available on the computer system; and (3) specifying, as the current persona, the persona which is matched to the password in the previous step.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is an illustration of an embodiment of a system and methodology for gathering business intelligence.

[0009] FIG. 2 is an illustration of an embodiment of a system and methodology for choosing a means to reach a user based on persona tagging of collected data.

[0010] FIG. 3 is an illustration of an embodiment of a system and methodology for selecting a means to reach a user based on the active persona and the persona related to the acquisition of data.

[0011] FIG. 4 is an illustration of an embodiment of a system and methodology for inferring an active persona from various sources.

[0012] FIG. 5 is an illustration of an embodiment of a system and methodology for suggesting an active persona from a device with multi-persona capabilities.

[0013] FIG. 6 is an illustration of an embodiment of a system and methodology for tagging collected data.

[0014] FIG. 7 is an illustration of a base multi-persona system upon which some of the systems and methodologies disclosed herein may be implemented.

SUMMARY OF THE DISCLOSURE

[0015] In one aspect, a method is provided for customizing a service to a user on a mobile technology platform equipped with a display and having multiple personas defined therein. The method comprises (a) determining which of the multiple personas is the active persona; and (b) customizing a service to the user based on the active persona.

[0016] In another aspect, a method is provided for customizing a service to a user on a mobile technology platform. The method comprises (a) creating a first user profile based on the user's activities on the mobile technology platform while the user is in a first persona; (b) creating a second user profile based on the user's activities on the mobile technology platform while the user is in a second persona; and (c) customizing a service to the user, wherein the service is customized based on the first user profile when the user is in the first persona, and wherein the service is customized based on the second user profile when the user is in the second persona.

[0017] In a further aspect, a method is provided for tagging the online behavior of a user on a mobile technology platform to the user's profile data. The method comprises (a) recording at least one parameter relating to the online behavior of a user of a mobile technology platform; (b) determining the context in which the behavior occurred; and (c) using the context to tag the recorded parameter to the user's profile data. In some embodiments, a plurality of personas are associated with the user, and at least one of said

personas (and in some embodiments, exactly one persona) is active when the user is online, and at least one of the active personas reflects the determined context.

[0018] In another aspect, a non-transient, tangible medium is provided which has suitable programming instructions recorded therein which, when executed, implement the foregoing systems and methodologies, in whole or in part.

DETAILED DESCRIPTION

[0019] As used herein, the term "persona" refers to a virtual environment which may comprise a set of user preferences associated with a user ID, and which govern the operation of an operating system. Multiple personas may be defined by a user in the systems and methodologies defined herein through the use of a suitable hardware virtualization technique, such as a virtual machine manager (VMM) or "hypervisor". A hypervisor may be utilized, for example, to allow multiple operating systems to run concurrently on a host device, where it presents a virtual operating platform to the guest operating systems and manages the execution of those operating systems.

[0020] There are two main types of hypervisors currently known to the art, namely, Type 1 (or native, bare metal) hypervisors, and Type 2 (or hosted) hypervisors. Type 1 hypervisors run directly on the host's hardware to control the hardware and to manage the guest operating systems. Hence, the guest operating systems run on another level above the hypervisor. Examples of Type 1 hypervisors include Citrix XenServer, VMware ESXi, and Microsoft Hyper-V. Type 2 hypervisors run within a conventional operating system environment as a distinct second software level, with the guest operating systems running at a third level above the hardware. Examples of Type 2 hypervisors include KVM and Virtualbox. As used herein, the term "hypervisor" includes both Type 1 and Type 2 hypervisors.

[0021] While the system of U.S. 7,086,008 (Capps et al.) may be suitable for its intended purpose, further improvements are needed with respect to the implementation of multiple persona paradigms on mobile technology platforms. Some of these needs and improvements are addressed in commonly assigned U.S. Serial No. 61/552,192 (Gonen et

al.), entitled "Systems and Methods for Implementing Multiple Personas on Mobile Technology Platforms", which was filed on October 27, 2011, and its PCT counterpart, PCT/US12/62497, both of which are incorporated herein by reference in their entirety. There, various systems and methodologies are described which relate to the user-experience on a phone having a user interface with two or more personas that a user interacts with. Principles and mechanisms are disclosed which relate to four fundamental user-experience topics, namely, (a) awareness, (b) notifications, (c) switching, and (d) sharing. However, while these systems and methodologies represent a significant advance in the art, the focus there was on "explicit" user interaction with an operating system or device.

[0022] In particular - and though not necessarily limited in this regard – the systems and methodologies are disclosed in commonly assigned U.S. Serial No. 61/552,192 (Gonen et al.) are primarily focused towards situations in which users are explicitly aware of the different personas, and where switching between them involves an explicit action on the part of the user. Likewise, sharing was also explicit in the sense that it required specific mechanisms (which might be somewhat ad-hoc) for each application or data type. Thus, for example, sharing was premised on one mechanism (or set of mechanisms) for phone settings, and another mechanism (or set of mechanisms) for alarm applications.

[0023] Some of these needs and improvements are also addressed in commonly assigned U.S. Serial No. 61/602,880 (Laadan et al.), entitled "Systems and Methods for Sharing and Switching Between Personas on Mobile Technology Platforms", which was filed on February 24, 2012, and which is incorporated herein by reference in its entirety. In particular - and though not necessarily limited in this regard – systems and methodologies are disclosed this application which leverage implicit interaction to (a) reduce the awareness burden on users by automating the switch operation between personas depending on context and usage; and (b) generalize the underlying sharing mechanisms by making them more structured and transparent to applications.

[0024] However, there is a need in the art for further improvements in the use of personas, particularly as they relate to contexts (that is, the role in which a person operates). In particular, people assume different roles, and hence operate in different contexts, in their online usage, much as they do in life in general. Thus, for example, when people work, they are in a work context; when they speak with their spouse, they are in a personal context; when they speak with their children, they are in parent context.

[0025] There is thus a need in the art for systems and methodologies (for mobile technology platforms in particular, but for other types of devices as well) which are context-sensitive, and which reflect any of the various "roles" that a user may be assuming at any particular time. For example, when a user is at work, interactions should occur via a work environment. When a user is with friends, various actions, such as sharing photos, should occur via a personal environment. These and other needs may be met by the systems, methodologies and software disclosed herein.

[0026] It has now been found that the foregoing needs may be met through the use of systems, methodologies and software disclosed herein in which the context in which a user is operating at a given moment during online usage is correlated to the user's profile. Hence, as users change from one context to another (either implicitly or explicitly), the new current context may be used to tag their profile data. This approach simplifies and improves the accuracy of the task of understanding online behavior and predicting intention from it, and thus simplifies and improves the accuracy of the process of customizing services to the user. For example, this approach improves the ability of advertisers to more accurately gauge the intentions of an online consumer, thus allowing them to present the user with advertisements which are more likely to be of interest to the user.

[0027] It has further been found that the foregoing needs may further be met, at least in part, by the appropriate use of prepackaged personas. For example, when users utilize prepackaged personas such as, for example, a gaming persona, their initial user profile (before any data collection occurs) will reflect this persona. Accordingly, the intention of the user may be simply and accurately understood from this persona. Hence, this

approach simplifies and improves the accuracy of the process of customizing services to the user. For example, this approach improves the ability of advertisers to more accurately gauge the intentions of an online consumer, thus allowing them to present the user with advertisements which are more likely to be of interest to the user.

[0028] The terms "context" and "persona" as they are used herein are closely related. In particular, the term "persona" is used herein to indicate the technology representation of a person's "context" (as described above), that is, the environment that reflects the user's "role" at any particular moment. The systems and methodologies disclosed herein seek to build on a one-to-one mapping between a user's "context" and the user's "persona" (the technological realization of the user's behavior and intentions).

[0029] By way of comparison, in U.S. Serial No. 61/602,880 (Laadan et al.) and U.S. Serial No. 61/552,192 (Gonen et al.), the term "persona" was used to indicate a specific realization of this concept (e.g., through the use of virtualization, and in particular, lightweight virtualization). However, in the present context, the term also applies generally to other technological realizations of the concept of "context". Such realizations may include, for example, the one described in Capps et al. Such realizations may also generally include "user profiles" (which generally differ from "personas" in that they only encapsulate some aspects of the environment, ranging from settings like wallpaper, ring tones and screen-lock style, to settings that affect applications behavior (e.g. user profiles in a browser)). While "profiles" provide only partial (if any) separation between a user's contexts, they are still indicative of those contexts, and can thus provide indications of the behavior and intentions of the user.

[0030] The systems and methodologies disclosed herein leverage the ability to understand, at any time, the user's context, behavior, and intention, whether that occurs via personas, profiles, or other forms. By contrast, the current state of the art is to infer these properties from the observed behavior (for example, from the user's browsing habits via accounts or via cookies. However, this process is complicated and speculative, and therefore inaccurate. Because "personas" are a one-to-one representation of "contexts", they provide a much more precise indication of these properties, since they

directly reflect the user's mode of operation. Thus, they provide a simple and accurate means to obtain the user's context, behavior and intention.

[0031] In the following discussion, the systems and methodologies will frequently be described with reference to their implementation on mobile technology platforms. However, it will be appreciated that the concept of segmenting a user's life into contexts is a general concept which applies beyond the realm of mobile technology platforms. For example, this concept may be implemented on desktop PCs and other computerized devices as well.

[0032] Contexts may be utilized in the systems and methodologies described herein in a variety of ways. However, these uses may be generally divided into at least three categories that are of particular interest here. These include instances where (i) a context is known and used (e.g., to collect data or push services); (ii) a context is inferred (for example, when a user doesn't have any personas); and (iii) a context is suggested (for example, the operating system or other software suggests a suitable persona or automatically changes personas). These situations are discussed in further detail below. In this discussion, the term "collected data" refers to data collected in connection with a persona.

[0033] In cases where a context is known, it may be used to collect accurate data about the user such as, for example, data about the user's online behavior. This accuracy arises from the fact that contexts, when known, give a precise indication of the user's primary activity at any time, thus allowing for distinct behavioral profiles to be developed on a per activity basis.

[0034] The collected data may be used to offer services and advertisements to users. This may occur in a manner similar to that currently practiced in the art, except that information which is relevant to a particular context may be channeled through a means associated with that context. For example, email which is relevant to work may be channeled through a work email address or platform, while email which is relevant to personal or private matters may be routed through a private email address or platform. This may be accomplished through general channels (for example, through browser ads,

emails or text-messages), and through any device (regardless of the device used to collect/tag the data), any media (for example, even street ads could be personalized), and at any time. This may also be accomplished via channels correlated with the "context" such as, for example, through work-related ads via the work email. Such a correlation may be inferred from the aforementioned knowledge (for example, the email account was used in the work persona).

[0035] When a context is known, it may also be utilized to offer or select specific services, information or advertisements to users. The services, information or advertisements may include, but are not limited to, tagged data which is based on past behavior. Because the "persona" is indicative of the user's current context, predictions on what may interest the user at any moment have the capability of being more focused and accurate. For example, indications of a current primary activity may be utilized for services and information relevant to that activity. By way of illustration, if a user is planning a lunch, a business or personal location may be suggested for the lunch based on the current context. Similarly, and by way of further illustration, when a user is searching for an item to purchase, business grade or consumer grade products may be offered.

[0036] Collected data may also be utilized to automatically switch a user context. For example, current data such as, for example, location, time, available networks and voice recognition may be utilized to conclude that the user's behavior has been changed, and may be further utilized to suggest that the context be changed or to change the context automatically.

[0037] It is possible to infer the current user's context even when the device (mobile or not) does not reflect the current "context" (for example, if the device does not support "personas"). The inferred user's context can then it can be use as described above. One method to infer the user's context is through the use of "physical" sensors such as location, available wireless networks (such as, for example, wifi or Bluetooth®), time, sound, voice, face recognition, and the like.

[0038] Another method is to infer the user's context using "logical" sensors such as, for example, the user's activity, browsing habits, incoming/outgoing phone calls, and the like. Any of these "logical" sensors may be optionally correlated with past behavior.

[0039] Still another method to infer the user's context is by looking at other devices that are owned or used by the same user. For example, the current context on a desktop that lacks support for personas may be inferred from the (same) user's mobile phone. Yet another method to infer the context is by looking at the context of colleagues or friends of the user (their context may be learned via their active persona, or may be inferred itself). The foregoing methods may be combined in various manners, combinations and subcombinations.

[0040] By way of specific illustration, some mobile technology platforms lack multi-persona capabilities. For a user on such a platform, current data about friends and colleagues of the user may be utilized to infer the user's primary activity, thus enhancing the user's profile. In some cases, data indicative of a behavioral change on the part of friends or colleagues of a user may be utilized to infer a similar behavioral change on the part of the user.

[0041] While the systems and methodologies described herein may be utilized to provide an active "persona" which faithfully reflects the current user's "context", there are instances in which, when the user changes the context, there could be some lag until the "persona" changes as well (this "persona" change may occur explicitly by the user, or may occur implicitly as a result of her usage). In such cases, the mismatch between the current "context" and the active "persona" may be detected by using the techniques described above to continuously infer the user's current context and to compare against the current persona. Upon detecting a mismatch, a persona-switch may be suggested to the user. Such a persona switch may be suggested automatically, or may be proposed explicitly (for example, on a desktop with a pop-up, or on a mobile phone with a notification), or may be proposed implicitly by making (more) visible the user-interface element used for switching (and thus making the action of switching more apparent and simple).

[0042] Personas may also be inferred from aggregate context data (that is, from data from multiple users). For example, such aggregate context data may be utilized to gain knowledge on people and places and for business intelligence. By way of illustration, if several colleagues enter a building in a work context, or switch to that context shortly thereafter, this information may be utilized, alone or in combination with other information, to infer that the building is a work location, or that a business meeting is occurring there.

[0043] In some applications, personas may also be inferred by using context data from one device for other devices. Thus, for example, the current context on a device may be utilized to offer services on other devices associated with the user, such as providing information, showing advertisements, or switching the context on other devices such as desktops or tablets (here it is to be noted that desktops are one example of a non-mobile platform that may also run multiple personas).

[0044] In some applications, current context data from other devices may be utilized to infer the context on a target device. Thus, for example, a context inferred from the user's activities on other devices, such as a desktop or laptop, may be utilized to understand the user's context on the target device.

[0045] It will be appreciated that aggregate context data may be manipulated to use devices and personas in new and different ways. By way of example, aggregate context data may be utilized to build social circles.

[0046] While contexts may be utilized in the systems and methodologies to obtain more or better data from users, the use of contexts as described herein may also be utilized to address the privacy concerns of users. At present, an increasing number of online sites collect substantial amounts of information about users. This may occur directly, as through the registration processes required by sites such as Facebook, gmail, or ecommerce sites. It may also occur indirectly, as through the use of cookies and IP tracking.

[0047] Perhaps as a result of the foregoing, online users are increasingly conscious about their privacy. There is also a considerable push by many governments to more

closely regulate what information is collected about users while they are online, and to ensure user privacy. In particular, there is growing interest in ensuring that some types of user information remains private, even while other information becomes more widely collected. Some of the systems and methodologies described herein may be utilized for this purpose.

[0048] In particular, with multiple personas, users may configure some personas to expose data (such as, for example, to connect to Facebook and keep browser cookies), while keeping other personas private. In fact, users may configure one persona for using Facebook, another for LinkedIn, another for Yahoo, and so forth. By contrast, users can use one or more personas as their private zone. For example, the Facebook application may not be installed there, but instead, a Facebook shortcut may launch the application in the proper (other) persona. Additionally, users may configure some personas with a "no tracking" mark, analogous to the recent no-tracking initiative for browsers. In the future, other methods may be utilized to express preferences, such as, for example, privacy preferences, to service providers.

[0049] As additional examples of utilizing persona context to address privacy concerns, advertisers can offer benefits, such as online discounts, to users with permissive privacy settings, so that they can learn about the users shopping habits. Users concerned about their privacy in general can still take advantage of those benefits inside a "shopping" persona and shop with greater discounts for items for which they have no concerns about their privacy, such as buying a ticket to the cinema.

[0050] The foregoing systems and methodologies may be further understood with reference to the attached drawings. Thus, FIG. 1 illustrates a particular, non-limiting embodiment of a system and methodology for gathering business intelligence in accordance with the teachings herein. In the embodiment **101** depicted therein, the active persona of user A is determined **103**, the active persona of user B is determined **105**, and the active persona of user C is determined **107**. Collected (tagged) data for these users is stored in a database **109**. Then, context data from users A, B and C is collected and examined **111**, and data for business intelligence is inferred from the information in the

database **109** and from the aggregate context data **111**. The inferred data may be data of sensory information **113** such as, for example, locations and sites. The inferred data may also be data of behavioral information **115** such as, for example, about activities and other people. The inferred data may then be stored in the database **109** for further use.

[0051] FIG. 2 illustrates a particular, non-limiting embodiment of a system and methodology for customizing a service channel. In the embodiment **201** depicted therein, a database **203** of collected data is maintained. Based on the collected data which is stored (and tagged) in the database **203**, services or materials are selected **205** to offer, customize or advertise. The persona tagging associated with the data used for this selection is then examined, and a means to reach the user is selected **207** based on the persona related to the acquisition of that data.

[0052] FIG. 3 illustrates a particular, non-limiting embodiment of a system and methodology for customizing services. In the embodiment **301** depicted therein, the active persona is determined **303** from a set of personas using the system and methodology depicted in FIG. 4. A database **305** of collected data is maintained. Based on the collected data stored (and tagged) in the database **305**, and based on the active persona, services are selected **307** to offer to or customize for a user, or advertisements are selected **307** to offer to the user. A means (such as, for example, a media or channel) is then selected **309** to reach the user, based on the active persona and the persona related to the acquisition of that data.

[0053] FIG. 4 illustrates a particular, non-limiting embodiment of a system and methodology for determining the active persona. The embodiment **401** depicted therein includes a first device **403** with multi-persona capabilities, and a second device **405** without multi-persona capabilities. When the user uses the first device **403**, the device indicates the active persona. When the user uses the second device **405**, the active persona may be inferred by correlation to another device (such as the first device **403**) which is associated with the same user and which has multi-persona capabilities.

[0054] For example, knowledge about the active persona of a user's contacts **407** (such as, for example, friends, colleagues or peers) may be utilized to infer a user's active

persona. Similarly, sensory information **409** (such as, for example, location, time or network signal) may be used to infer a user's active persona. Likewise, behavioral information **411** (such as, for example, emails and account used, services and websites visited, recent history or phone calls) may be utilized to infer the user's active persona. The foregoing information may be collected into a database **413** and may be utilized to determine the active persona from a set of personas **415**.

[0055] FIG. 5 illustrates a particular, non-limiting embodiment of a system and methodology for suggesting a persona. In the embodiment **501** depicted therein, an active persona is inferred **503** from a set of personas using the system and methodology of FIG. 4. The inferred persona is then compared **505** with the active persona reported by a device which is used by the user and which has multi-persona capabilities. A database **507** of collected data may be utilized for this purpose. If the active persona does not match the reported persona, a determination is made as to whether the mismatch is because the device does not reflect the active persona, or because a recent switch to another persona (by the user) has occurred. If it is concluded that the indication of the active persona by the device is outdated, then a switch **509** to the persona determined to be active is either suggested or is performed automatically.

[0056] FIG. 6 illustrates a particular, non-limiting embodiment of a system and methodology for tagging collected data. In the embodiment **601** depicted therein, the active persona is determined from a set of personas, either on a device **603** used by the user, or on servers (services) **605** used by the user. The system and methodology of FIG. 4 may be used for this determination. Thus, for example, when a device with multi-persona capabilities communicates with servers (services) on behalf of the user, the device may indicate the active persona for those services. This may occur, for example, by using a special application programming interface (API) associated with the services, or through extensions (piggyback) on the communication protocol, such as hypertext transfer protocol (HTTP) or transmission control protocol (TCP).

[0057] The data collected about the user may originate from the devices or services that the user uses. The data is tagged **607** with the active persona to indicate the user

context in which it was generated. The tagged collected data is stored **609** in a database, similar to other data collected.

[0058] FIG. 7 is a particular, non-limiting embodiment of a base multi-persona system **701** upon which some of the systems and methodologies disclosed herein may be implemented. The base system is intended as a reference to a generic multi-persona system.

[0059] The right side of FIG. 7 depicts the general appearance of one particular, non-limiting embodiment of a mobile technology platform, which in the embodiment depicted is a mobile phone **703**. The mobile phone **703** includes a display **705**. A button region **707** with a plurality of buttons disposed therein is rendered on the bottom of the display **705**, and a taskbar **709** is rendered at the top of the display **705**.

[0060] The left-hand side of FIG. 7 provides a schematic overview of the multi-persona system **701**. As seen therein, the taskbar **709** includes the background personas **711**, **713** and the foreground persona **715**, which have storage A **717**, storage B **719** and storage C **721** associated therewith, respectively.

[0061] The system **701** includes hardware **703** (which is simply the device itself – in this embodiment, a mobile phone **703**), a ThinVisor™ or hypervisor **723** and the host environment **725**. The hypervisor **723** sits on top of a Linux or other kernel (the device's operating system) **727**. The host environment **725** serves as the place where the control logic of the ThinVisor™ or hypervisor **723** is running, and functions as a hardware persona for some services, and as a software persona for other services.

[0062] Each persona may also run a CellroxService process (not depicted) that is responsible for communicating with the main Cellrox Control (also not depicted) that runs in the host environment. The CellroxControl is responsible for proxying and routing messages between personas, and for switching the foreground persona. It is to be understood that, as used in the present context, the term, "process" refers to an instance of a computer program that is executed by a processor.

[0063] Several modifications and variations are possible with respect to the systems and methodologies described above. For example, while these systems and

methodologies have frequently been described with respect to their implementation on mobile communications devices, one skilled in the art will appreciate that these systems and methodologies may also be implemented on various other mobile technology platforms including, but not limited to, book readers (such as Amazon's KINDLE® book reader), displays, and various types of mobile computers.

[0064] Moreover, one skilled in the art will appreciate that the various systems and methodologies disclosed herein may include, incorporate, or be implemented by suitable software. Such software may be disposed or recorded in a non-transient, tangible medium and may contain suitable programming instructions which, when executed, implement the foregoing systems and methodologies, in whole or in part.

[0065] The above description of the present invention is illustrative, and is not intended to be limiting. It will thus be appreciated that various additions, substitutions and modifications may be made to the above described embodiments without departing from the scope of the present invention. Accordingly, the scope of the present invention should be construed in reference to the appended claims.

WHAT IS CLAIMED IS:

1. A method for customizing a service to a user on a mobile technology platform equipped with a display and having multiple personas defined therein, the method comprising:

determining which of the multiple personas is the active persona; and

customizing a service to the user based on the active persona.

2. The method of claim 1, wherein customizing a service to the user includes at least one action selected from the group consisting of (a) targeting an advertisement to the user, (b) pushing data to the user, (c) providing data about friends and colleagues, (d) using data on a social network, and (e) feeding a personal digital assistant.

3. The method of claim 1, wherein customizing a service to the user includes targeting an advertisement to the user.

4. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to determine demographic information about the user.

5. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to determine the gender of the user.

6. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to determine the socioeconomic status of the user.

7. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to ascertain the profession of the user.

8. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to determine the user's hobbies.

9. The method of claim 3, wherein targeting an advertisement to the user includes using the active persona to determine whether the user is using the mobile technology platform for business or personal use.

10. The method of claim 3, further comprising:

sorting each of a group of advertisements into a first set of advertisements that are primarily targeted towards users who are using the mobile technology platform for

business purposes, and a second set of advertisements that are primarily targeted towards users who are using the mobile technology platform for personal use; and

determining whether the active persona corresponds to a business or personal use of the mobile technology platform.

11. The method of claim 10, wherein a user has a plurality of business personas relating to a plurality of business contexts, and further comprising sorting the first set of advertisements into a first plurality of subsets, wherein each of the first plurality of subsets corresponds to one of the plurality of business personas.

12. The method of claim 11, wherein a user has a plurality of personal personas relating to a plurality of personal contexts, and further comprising sorting the second set of advertisements into a second plurality of subsets, wherein each of the second plurality of subsets corresponds to one of the plurality of personal personas.

13. The method of claim 10, further comprising:

if the active persona is determined to correspond to business use of the persona, then generating an advertisement from the first set of advertisements to a device associated with the user; and

if the active persona is determined to correspond to personal use of the persona, then generating an advertisement from the second set of advertisements to a device associated with the user.

14. The method of claim 13, further comprising:

if the active persona is determined to correspond to business use of the persona, then generating on the display an advertisement from the first set of advertisements; and

if the active persona is determined to correspond to personal use of the persona, then generating on the display an advertisement from the second set of advertisements.

15. The method of claim 13, further comprising:

if the active persona is determined to correspond to business use of the persona, then

generating on the display an advertisement from the first set of advertisements, otherwise

generating on the display an advertisement from the second set of advertisements.

16. The method of claim 13, further comprising:

if the active persona is determined to correspond to personal use of the persona, then

generating on the display an advertisement from the second set of advertisements, otherwise

generating on the display an advertisement from the first set of advertisements.

17. The method of claim 3, wherein the advertisement is selected from the group consisting of banner advertisements and pop-up advertisements.

18. The method of claim 3, wherein targeting an advertisement to the user occurs during a browsing session.

19. The method of claim 18, wherein the active persona is the persona the user is in during the browsing session at the time the advertisement is targeted to the user.

20. The method of claim 1, wherein only one of said multiple personas is active at any time.

21. The method of claim 1, wherein each of said multiple personas has a data store associated with it, and wherein customizing a service includes selecting at least one option for the service based on the contents of the data store.

22. The method of claim 1, wherein customizing a service to the user is based on the active persona and on a comparison of the active persona to the remaining personas defined for the user.

23. The method of claim 1, wherein customizing a service to the user is based on the active persona and on on-line activities undertaken by the user while in the active persona.

24. The method of claim 1, wherein customizing a service to the user when the user is in a particular persona is conditional on a variable which is associated with the persona and whose value is settable by the user.

25. The method of claim 24, wherein the variable is changeable between a first value which enables customizing a service to the user based on the given persona when the

given persona is active, and a second value which disables customizing a service to the user based on the given persona when the given persona is active.

26. The method of claim 1, wherein customizing a service to the user based on the active persona includes:

collecting data based on the user's online behavior; and

using the collected data to create a user profile for the user.

27. The method of claim 26, wherein the collected data is associated with a persona associated with the user which was active when the data was collected.

28. The method of claim 26, wherein collecting data based on the user's online behavior occurs on the mobile technology platform.

29. The method of claim 28, wherein collecting data based on the user's online behavior is performed by an application installed on the mobile technology platform.

30. The method of claim 28, wherein the application reports the collected data to a central server.

31. The method of claim 28, wherein collecting data based on the user's online behavior is performed by the operating system of the mobile technology platform.

32. The method of claim 31, wherein the operating system reports the collected data to a central server.

33. The method of claim 28, wherein collecting data based on the user's online behavior is performed on a server to which the mobile technology platform connects.

34. The method of claim 28, wherein collecting data based on the user's online behavior is performed on a server to which the mobile technology platform connects during a browsing session.

35. A method for customizing a service to a user on a mobile technology platform, comprising:

creating a first user profile based on the user's activities on the mobile technology platform while the user is in a first persona;

creating a second user profile based on the user's activities on the mobile technology platform while the user is in a second persona; and

customizing a service to the user, wherein the service is customized based on the first user profile when the user is in the first persona, and wherein the service is customized based on the second user profile when the user is in the second persona.

36. The method of claim 35, further comprising:

associating the first user profile with the first persona, and associating the second user profile with the second persona.

37. The method of claim 35, wherein customizing a service to the user includes targeting an advertisement to the user.

38. The method of claim 35, further comprising:

creating a sharing persona which contains information to be shared between the first and second personas;

wherein the service is customized based on both the first user profile and the sharing persona when the user is in the first persona, and wherein the service is customized based on both the second user profile and the sharing persona when the user is in the second persona.

39. The method of claim 35, further comprising:

creating a sharing persona for the sharing of information and resources between the first and second personas.

40. The method of claim 39, wherein the service is customized based on both the first user profile and the sharing persona when the user is in the first persona, and wherein the service is customized based on both the second user profile and the sharing persona when the user is in the second persona.

41. The method of claim 39, further comprising:

creating a shared user profile based on the user's activities on the mobile technology platform while the user is in the sharing persona;

wherein the service is customized based on both the first user profile and the shared profile when the user is in the first persona, and wherein the service is customized based on both the second user profile and the shared user profile when the user is in the second persona.

42. The method of claim 35, wherein the first persona is associated with business use of the technology platform by the user, and wherein the second persona is not associated with business use of the technology platform by the user.

43. The method of claim 35, wherein the user has a third persona on the mobile technology platform, and wherein the third persona does not have a user profile associated with it.

44. The method of claim 35, wherein the steps of creating a first user profile and creating a second user profile include monitoring the user's actions while the user is in the first and second personas, respectively.

45. The method of claim 44, wherein the user has a third persona on the mobile technology platform, wherein monitoring the user's actions while the user is in the first and second personas includes recording information about the user's actions with a software program, and wherein the software program does not record information about the user's actions while the user is in the third persona.

46. The method of claim 35, wherein the service is customized based on the first user profile and further based on differences between the first and second user profile when the user is in the first persona, and wherein the service to the user is customized based on the second user profile and further based on differences between the first and second user profile when the user is in the second persona.

47. The method of claim 35, further comprising:

collecting data

wherein the step of creating a first user profile is based on the user's activities on the mobile technology platform while the user is in a first persona.

48. A method for tagging the online behavior of a user on a mobile technology platform to the user's profile data, comprising:

recording at least one parameter relating to the online behavior of a user of a mobile technology platform;

determining the context in which the behavior occurred; and

using the context to tag the recorded parameter to the user's profile data.

49. The method of claim 48, wherein a plurality of personas are associated with the user, wherein at least one of said personas is active when the user is online, and wherein at least one of the active personas reflects the determined context.

50. The method of claim 48, wherein a plurality of personas are associated with the user, wherein exactly one of said personas is active when the user is online, and wherein the active persona reflects the determined context.

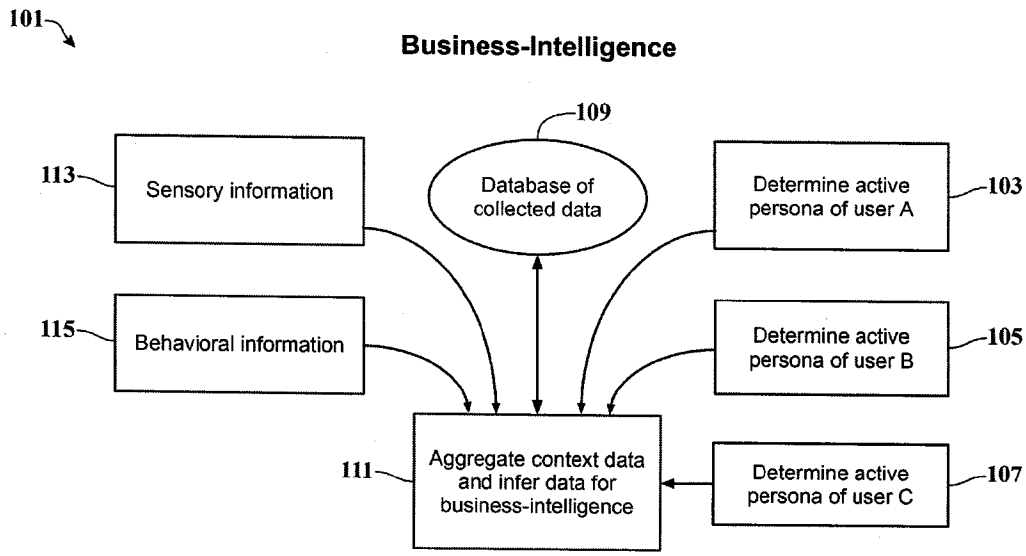

101
Business-Intelligence
109
113
Sensory information
Database of collected data
Determine active persona of user A
103
115
Behavioral information
Determine active persona of user B
105
111
Aggregate context data and infer data for business-intelligence
Determine active persona of user C
107

FIG. 1

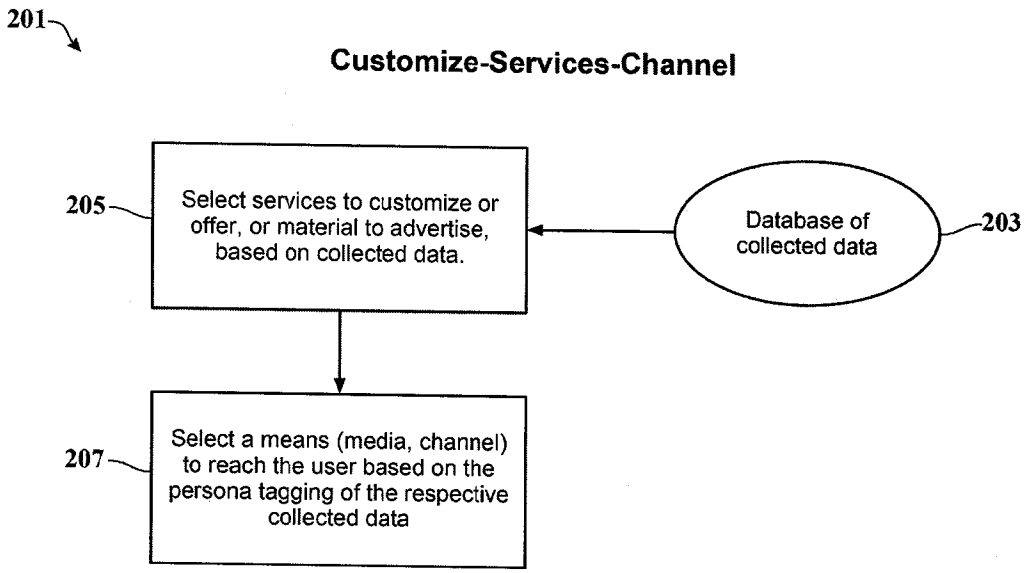

201
Customize-Services-Channel
205
Select services to customize or offer, or material to advertise, based on collected data.
Database of collected data
203
207
Select a means (media, channel) to reach the user based on the persona tagging of the respective collected data

FIG. 2

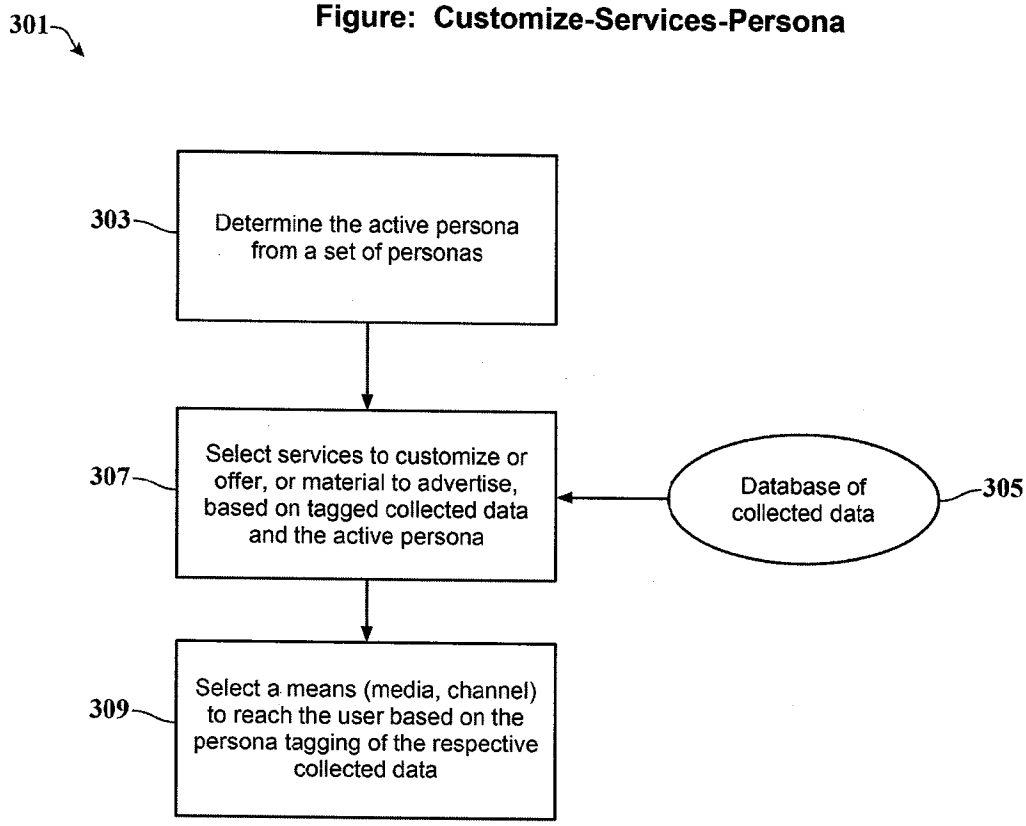

301
Figure: Customize-Services-Persona
303
Determine the active persona from a set of personas
307
Select services to customize or offer, or material to advertise, based on tagged collected data and the active persona
Database of collected data
305
309
Select a means (media, channel) to reach the user based on the persona tagging of the respective collected data

FIG. 3

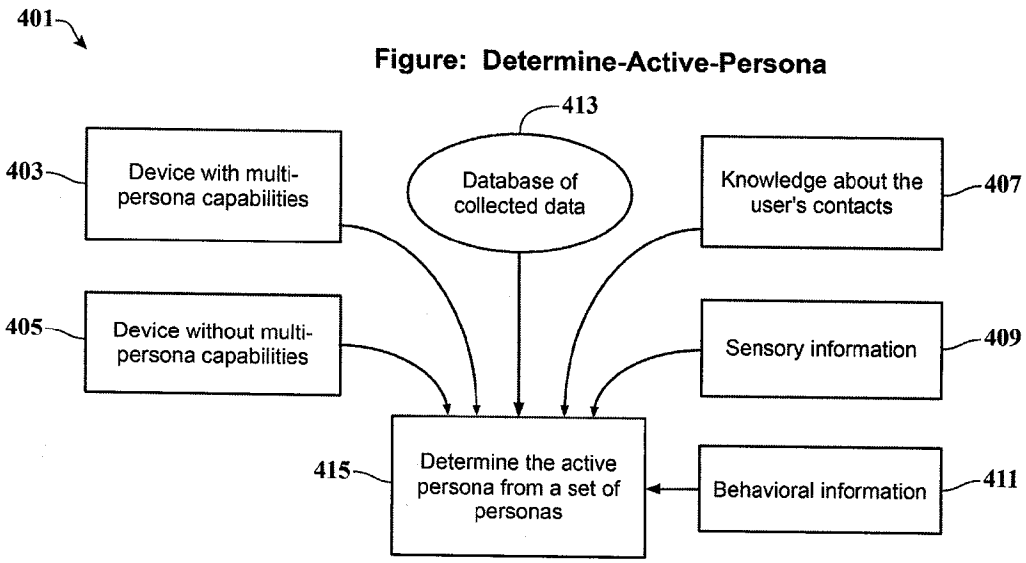

401
Figure: Determine-Active-Persona
413
403
Device with multi-persona capabilities
Database of collected data
Knowledge about the user's contacts
407
405
Device without multi-persona capabilities
Sensory information
409
415
Determine the active persona from a set of personas
Behavioral information
411

FIG. 4

Figure: Suggest-Persona

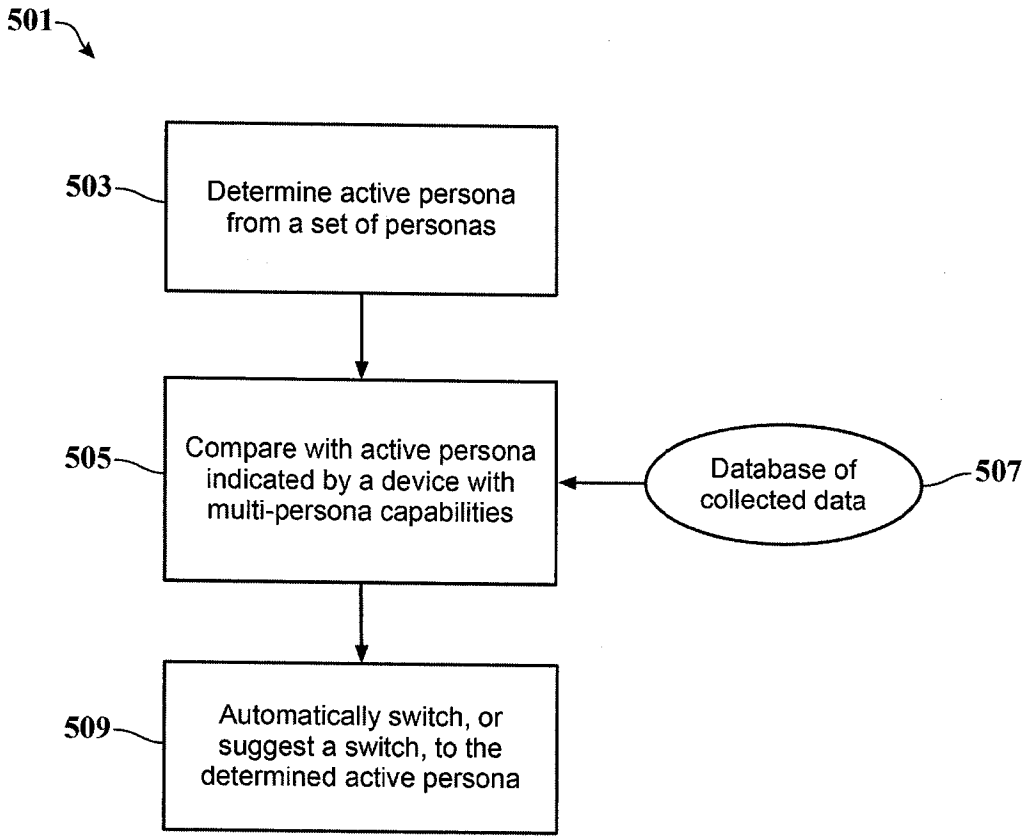


FIG. 5

Figure: Tag-Collected-Data

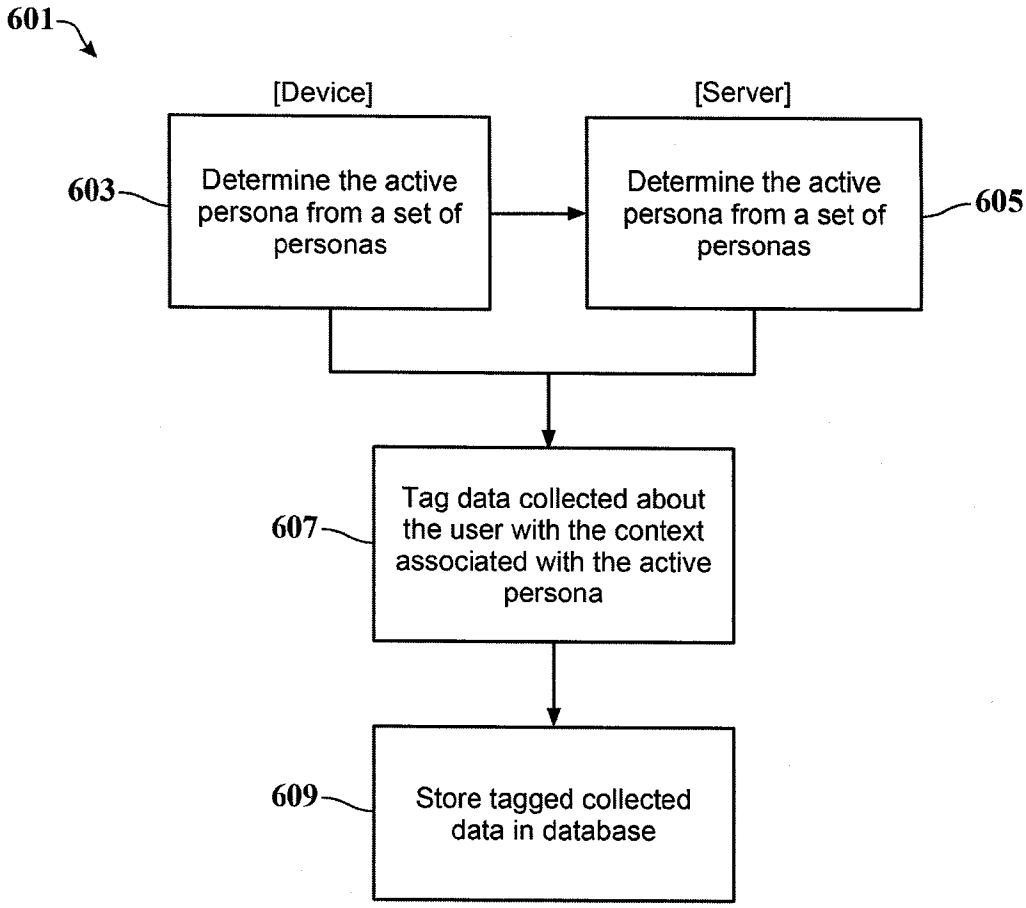


FIG. 6

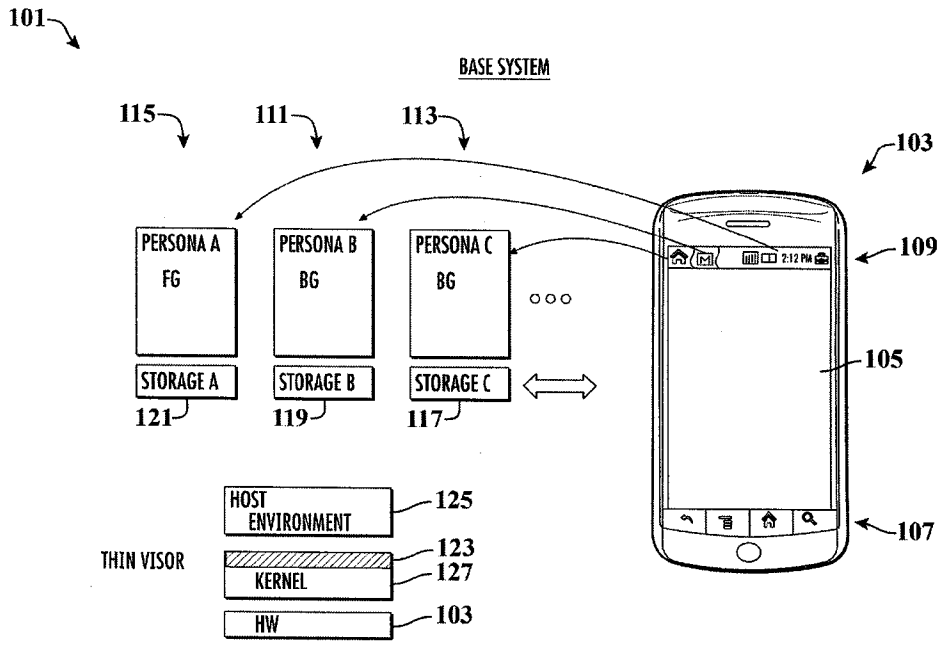

101
BASE SYSTEM
115
111
113
103
PERSONA A
FG
PERSONA B
BG
PERSONA C
BG
109
105
STORAGE A
121
STORAGE B
119
STORAGE C
117
HOST ENVIRONMENT
125
THIN VISOR
123
KERNEL
127
HW
103
107

FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2013/050151

A. CLASSIFICATION OF SUBJECT MATTER
IPC (2013.01) G06F 15/16, H04W 4/18, H04W 4/02

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)
IPC (2013.01) G06F 15/16, H04W 4/18, H04W 4/02

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Databases consulted: THOMSON INNOVATION, Esp@cenet, Google Patents
Search terms used: user, profil*, persona, business, work, personal, change, switch, select*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002013815 A1 Obradovich et al. 31 Jan 2003 (2003/01/31) Paragraphs 6-11, 39-41, 44-48, 62-67, 70	1-50
X	WO 0129573 A3 AMERICAN CALCAR INC 26 Apr 2001 (2001/04/26) The whole document	1-50

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

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
01 Jul 2013	03 Jul 2013
Name and mailing address of the ISA: Israel Patent Office Technology Park, Bldg.5, Malcha, Jerusalem, 9695101, Israel Facsimile No. 972-2-5651616	Authorized officer GORBONOVA Yelena Telephone No. 972-2-5651669

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/IL2013/050151

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Information on patent family members

International application No.
PCT/IL2013/050151

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