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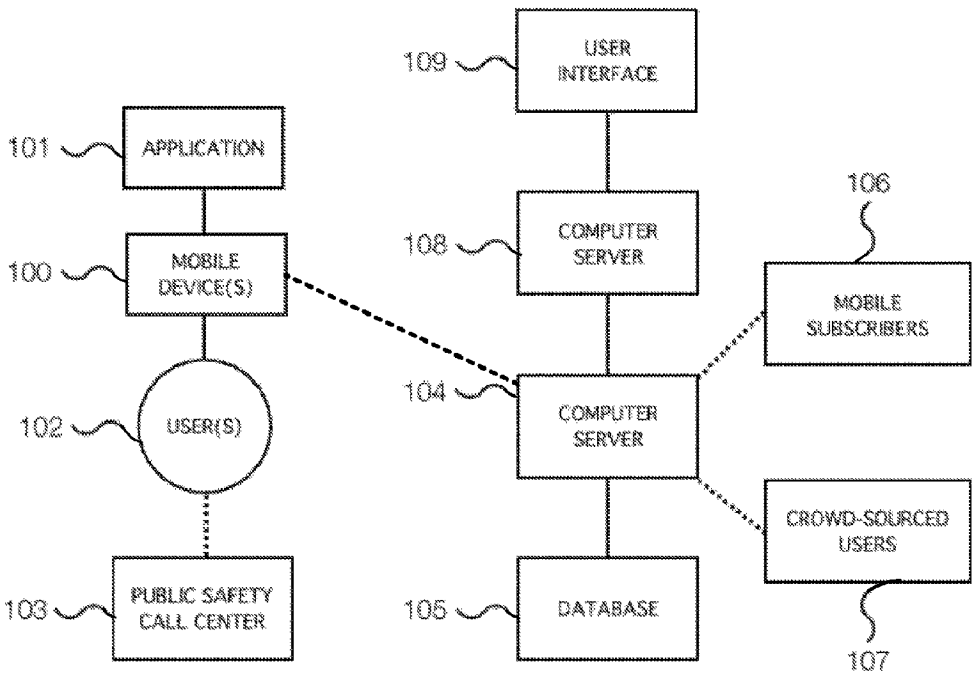
(54) Titre : NOUVEAU SYSTEME DE NOTIFICATION D'ALERTE ET DE MESSAGERIE
(54) Title: A NOVEL ALERT NOTIFICATION AND MESSAGING SYSTEM

FIGURE 1



(57) Abrégé/Abstract:
Systems consistent with the present disclosure may include a plurality of user mobile devices to generate an alert based on an incident, and crowd-sourced user mobile devices and subscriber mobile devices to receive an alert notification within a mobile alert

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(57) Abrégé(suite)/Abstract(continued):
network. Systems may also include a computer server communicatively coupled to the mobile devices to receive the alerts from the user mobile devices and to send the alerts to the crowd-source user mobile device and subscriber mobile devices according to a proximity rule. The user mobile and crowd-sourced user mobile devices are to send messages related to the incident to each mobile device via the computer server. A subset of the crowd-sourced-user mobile devices or subscriber mobile devices is to receive each alert notification. The user mobile devices and the crowd-sourced-user mobile device are to send messages related to the incident to each mobile device via the computer server.

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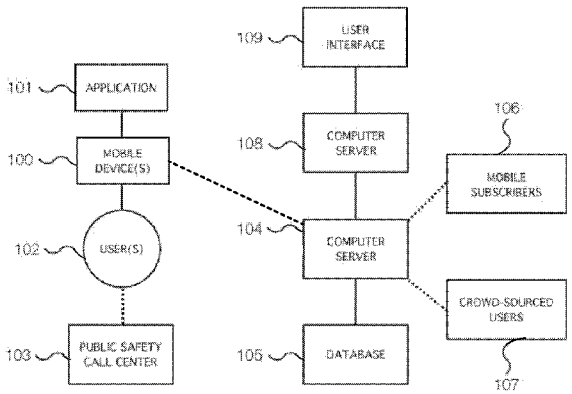
(54) **Title**: A NOVEL ALERT NOTIFICATION AND MESSAGING SYSTEM

FIGURE 1



(57) **Abstract**: Systems consistent with the present disclosure may include a plurality of user mobile devices to generate an alert based on an incident, and crowd-sourced user mobile devices and subscriber mobile devices to receive an alert notification within a mobile alert network. Systems may also include a computer server communicatively coupled to the mobile devices to receive the alerts from the user mobile devices and to send the alerts to the crowd-source user mobile device and subscriber mobile devices according to a proximity rule. The user mobile and crowd-sourced user mobile devices are to send messages related to the incident to each mobile device via the computer server. A subset of the crowd-sourced-user mobile devices or subscriber mobile devices is to receive each alert notification. The user mobile devices and the crowd-sourced-user mobile device are to send messages related to the incident to each mobile device via the computer server.

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A NOVEL ALERT NOTIFICATION AND MESSAGING SYSTEM

PRIORITY

This disclosure claims priority to U.S. Provisional Patent Application No. 61/871871 filed August 30, 2013 entitled "Personal Safety Alert System," U.S. Provisional Patent Application No. 61/879666 filed September 13, 2013 entitled "Mobile Fall Detection and Alert System," U.S. Provisional Patent Application No. 61/891820 filed October 16, 2013 entitled "Emergency Telephony Crowd-Sourcing Alert System," U.S. Provisional Patent Application No. 61/894937 filed October 24, 2013 entitled "Emergency Telephony Crowd-Sourcing Information System," and U.S. Provisional Patent Application No. 61/927460 filed January 14, 2014 entitled "Safety Alert Messaging and Notification System" wherein they are incorporated by reference in their entirety.

FIELD

This disclosure pertains to an alert notification and messaging system, and in particular (but not exclusively), to techniques for transmitting alerts and distributing the alerts among mobile devices related to incidents in real time.

BACKGROUND

The North American Numbering Plan has assigned the telephone number 9-1-1 as the primary emergency contact number in the United States. Many other countries use similar three-digit telephone numbers to allow reporting of emergency incidents. For example, Australia uses the three-digit telephone number 0-0-0 and the European Union uses 1-1-2.

Typically, when one uses an emergency telephone number to summon emergency assistance, only public safety dispatchers and responding public safety personnel are made aware of the emergency incident in real-time. However, persons nearby the scene of the incident may have access to valuable information but may be completely unaware that an emergency situation is occurring.

Accordingly, a need exists to communicate the occurrence of an incident in real-time and to obtain and share valuable information about the incident to emergency agencies, law enforcement, and family members of persons at or near the scene of an incident. The present disclosure addresses such a need.

SUMMARY

The following summary is included in order to provide a basic understanding of some aspects and features of the present disclosure. This summary is not an extensive overview of the disclosure and as such it is not intended to particularly identify key or critical elements of the

disclosure or to delineate the scope of the disclosure. Its sole purpose is to present some concepts of the disclosure in a simplified form as a prelude to the more detailed description that is presented below.

Systems and methods of the present disclosure pertain to alert notification systems and in particular to techniques for sending alerts and exchanging information during emergency incidents. Systems consistent with the present disclosure may include a plurality of mobile devices, the plurality of mobile devices include user mobile device(s) to generate an alert based on an incident, crowd-sourced-user mobile device(s) to receive a notification of the generated alert, and subscriber mobile device(s) to receive the notification of the generated alert. Systems may also include a computer server communicatively coupled to the plurality of mobile devices via a mobile alert network, the computer server to receive the generated alert from the user mobile device(s) and to send the generated alert to the crowd-source-user mobile device(s) and the subscriber mobile device(s) according to a proximity rule. The user mobile device(s) and the crowd-sourced user mobile device(s) are to send messages related to the incident to each of the plurality of mobile devices via the computer server(s) in the network. Only a subset of the crowd-sourced-user mobile devices or a subset of the subscriber mobile devices receives the notification of each generated alert. The user mobile device(s) and the crowd-sourced-user mobile device(s) are to send messages related to the incident to each mobile device via the computer server(s) in the network.

BRIEF DESCRIPTION OF THE DRAWINGS

To facilitate understanding, identical reference numerals have been used, where possible, to designate identical elements that are common to the drawings. The drawings are not to scale and the relative dimensions of various elements in the drawings are depicted schematically and not necessarily to scale. The techniques of the present disclosure may readily be understood by considering the following detailed description in conjunction with the accompanying drawings, in which:

FIG. 1 is an exemplary layout of several software and hardware components of a system consistent with the present disclosure.

FIG. 2 is an exemplary layout of an alert distributed through a system consistent with the present disclosure.

FIG. 3 is an exemplary layout illustrating the transmission of data when a mobile device is used to contact emergency assistance.

FIG. 4 is an exemplary mobile device display that illustrates the location of a user mobile device in relation to a crowd-sourced-user mobile device.

FIG. 5 is an exemplary mobile device display that allows a user to transmit and view messages related to an incident from a mobile device within a mobile alert network.

FIG. 6 is an exemplary control display that may be used by public safety personnel to monitor messages related to a crowd-sourced emergency call or other crowd-sourced alert trigger.

FIG. 7 is an exemplary control display that may be used by public safety personnel to monitor various related message groups.

FIG. 8 is an illustration of a control display 800 of a public-service-agency user interface that enables a public service agency to create a global boundary around a location of an incident such that each mobile device within the global boundary is sent an alert or alert notification from a public agency.

FIG. 9 is yet another illustration of a control display 900 of a public-service-agency user interface that enables a user to change the global boundary.

FIG. 10 is an exemplary layout illustrating a process of generating and transmitting alert notification(s) to crowd-sourced-user mobile devices and subscriber mobile devices.

FIG. 11 is an illustration of the locations of a subscriber mobile device and crowd-sourced-user mobile devices in relation to a user mobile device that issued the alert.

FIG. 12 is an illustration of an exemplary process for generating alerts to subscriber mobile devices when a user mobile device arrives at a location where the aggregate number of crime incidents within a predetermined time period exceeds a threshold value.

FIG. 13 is an exemplary illustration of two mobile device display screenshots showing a list of subscribed user mobile devices along with the type of notifications to be received by a subscribed mobile device.

FIG. 14 is an exemplary illustration of two mobile display screenshots showing notification settings and incident type settings for a subscribed user mobile device.

FIG. 15 is an exemplary illustration of two mobile display screenshots showing an alert notification received by a crowd-sourced-user mobile device.

FIG. 16 is an exemplary layout of a process for receiving a notification of an alert at a user mobile device and in response sending an information report to a computer server and public safety systems on the mobile alert network.

FIG. 17 is an illustration of an exemplary layout showing the distribution of user data throughout a mobile alert network consistent with the present disclosure.

FIG. 18 is an exemplary illustration of an emergency alert incident record generated when a user mobile device contacts emergency assistance.

FIG. 19 is an exemplary layout of several software and hardware components which incorporate biofeedback monitoring in accordance with systems and methods in accordance with the present disclosure.

FIG. 20 is an exemplary illustration that shows the configuration of user account data in accordance with systems and methods of the present disclosure.

FIG. 21 is an illustration of an exemplary biofeedback-monitoring device consistent with systems and methods of the present disclosure.

FIG. 22 is another illustration of an exemplary biofeedback-monitoring device consistent with systems and methods of the present disclosure.

FIG. 23 is an exemplary layout illustrating various alert options in accordance with systems and methods of the present disclosure.

FIG. 24 is an exemplary layout illustrating the process of fall detection and an alert generation response from a user mobile device in accordance with systems and methods of the present disclosure.

FIG. 25 is an exemplary layout illustrating the process of generating various types of alerts for fall detection in accordance with systems and methods of the present disclosure.

FIG. 26 is an exemplary layout illustrating a process of fall detection using a biofeedback-monitoring device(s) coupled to a mobile device consistent with systems and methods of the present disclosure.

FIG. 27 is an illustration of a user equipped with a user mobile device having biofeedback-monitoring and fall-detection capability consistent with systems and methods of the present disclosure.

FIG. 28 is an exemplary layout of various functions to be performed in response to an incoming alert in accordance with systems and methods of the present disclosure.

FIG. 29 is an exemplary illustration of a mobile-device-alert display that may be used to evaluate and respond to alerts in accordance with systems and methods of the present disclosure.

FIG. 30 is an exemplary layout of several software and hardware components and various manners to generate alerts within a mobile alert network.

FIG. 31 is an exemplary illustration of two mobile device screenshots displaying an alert notification that has been transmitted to a crowd-sourced-user mobile device.

FIG. 32 is an illustration of a geographic boundary around a user mobile device and other mobile devices in relation to crowd-sourced-user mobile devices within a mobile alert network.

FIG. 33 is exemplary layout illustrating an alert process when a biofeedback-monitoring device generates an alert in accordance with systems and methods of the present disclosure.

FIG. 34 is an exemplary illustration of two mobile device screenshots illustrating time-based alert settings associated with a fixed location.

FIG. 35 is an exemplary illustration of two mobile device screenshots illustrating time-based alert settings associated with a trip between two fixed locations.

FIG. 36 is an illustration of two mobile device screenshots illustrating a manner of sending manual alerts in accordance with systems and methods of the present disclosure.

FIG. 37 is an exemplary illustration of two mobile device screenshots of a user making a 9-1-1 calls and by using a keypad and a user mobile phone that receives an alert based on the 9-1-1 call.

FIG. 38 is an exemplary illustration of two mobile device screenshots of a user making a 9-1-1 call by selecting an emergency function and a user mobile phone that receives an alert based on the 9-1-1 call.

DETAILED DESCRIPTION

A detailed description of some embodiments is provided below along with accompanying figures. The detailed description is provided in connection with such embodiments, but is not limited to any particular example. The scope is limited only by the claims and numerous alternatives, modifications, and equivalents are encompassed. Numerous specific details are set forth in the following description in order to provide a thorough understanding. These details are provided for the purpose of example and the described techniques may be practiced according to the claims without some or all of these specific details. For the purpose of clarity, technical material that is known in the technical fields related to some embodiments have not been described in detail to avoid unnecessarily obscuring the description.

Systems consistent with the present disclosure may include a plurality of user mobile devices to generate an alert based on an incident, crowd-sourced-user mobile devices to receive a notification of the alert, and subscriber mobile devices to receive the notification of the alert all within a mobile alert network. The network may also include a computer server communicatively coupled to the mobile devices to receive the alerts from the user mobile devices and to send the alerts to the crowd-source-user and subscriber mobile devices according to a proximity rule. The user mobile devices and the crowd-sourced user mobile devices are capable to send messages related to the incident to each mobile device via the computer server. In some embodiments, only a subset of the crowd-sourced user mobile devices or a subset of the subscriber mobile devices is to receive the notification of each alert. The user mobile devices and the crowd-sourced user mobile devices send messages related to the incident to other mobile device within the mobile alert network via the computer server(s).

FIG. 1 is an illustration of an exemplary flowchart of several software and hardware components of a system in accordance with the present disclosure. The systems disclosed herein may include a mobile alert network of mobile device(s) 100, computer server(s)

104, 108, mobile subscribers 106, crowd-sourced-user mobile devices 107, and any other devices and computer systems which may receive or transmit alerts, alert notifications, or other messages related to an incident (e.g., emergency event).

In some implementations, the mobile device 100 is a cellular telephone, smartphone device, or any device which may be easily transported and coupled to an individual's person. In some embodiments, mobile device 100 is a cordless telephone component of a LAN line phone system.

A mobile device 100 is installed with a software application 101 that enables the mobile device 100 to communicate and share data with its telephony software. In some embodiments of the present disclosure, software application 101 communicates and shares data with the mobile device's telephony software (not shown) using software development kits (SDKs).

The present disclosure is not limited to SDK's and therefore any method which enables the software application 101 to share data and communicate with the mobile device's telephony software is within the spirit and scope of the present disclosure. In some embodiments software application 101 and the mobile device's 100 telephony software application is combined into a single software application.

Mobile device 100 is capable to recognize when the mobile device's 101 telephony software contacts emergency assistance and may be further configured to automatically transmit an alert or notification computer server(s) 104 upon such event. For example, software application 101 may be configured to transmit an alert or alert notification when user 102 makes a 9-1-1 call. One having ordinary skill in the art may appreciate that the present disclosure is not limited to generating and transmitting alerts based on a 9-1-1 call. Any manner of contacting emergency assistance may trigger an alert. In some embodiments, software application 101 may be configured to generate and transmit alerts from various emergency assistance contacts.

Most notably, data related to contacting emergency assistance (e.g., contacting public safety call center 103) may be transmitted wirelessly to computer server(s) 104 using any suitable data transmission protocols, such as CDMA (Code Division Multiple Access), GSM (Global System for Mobile Communications), UMTS (Universal Mobile Telecommunication System), and the IP (Internet Protocol) based protocols, such as LTE, (Long Term Evolution), WiMax (Worldwide Interoperability for Microwave Access), VOLTE (Voice Over Long Term Evolution), wireless email, short message service (SMS), multimedia messaging service (MMS), satellite data transmission methods, or voice over internet protocol (VOIP).

Computer server(s) 104 may include a database 105 which has identifying information of registered users 102 that have downloaded and enabled the application software 101 on their mobile device 100. The identifying information may include the user's 102 full legal name, date of birth, mobile telephone number (of the mobile device 100), any unique listed

numbers associated with the user's mobile device such as IMEI (International Mobile Equipment Identity), IMSI (International Mobile Subscriber Identity), ESN (Electronic Serial Number), MEID (Mobile Equipment Identifier), MAC ID (Media Access Control) mobile service provider information, mobile subscribers to the user 102 or user's mobile device 100, or any payment information on file for user 102 and its subscribers 106. FIG. 1 also shows a secure data access portal 108 that can be accessed by authorized public safety personnel using a user interface 109 to access data from the computer server(s) 104.

FIG. 2 is an exemplary layout of an alert distributed through a system consistent with the present disclosure. The user's 200 mobile device 201 places a call to the corresponding emergency communications center 202 to summon public safety personnel (e.g., police, fire, ambulance services).

In some embodiments, when user 200 contacts emergency assistance (e.g., public safety call center 202), an alert 203 and other data is transmitted to computer server(s) 209. For example, the other day may include a unique incident ID (204), a time stamp (e.g., data and time) of the alert transmission (205), mobile user's ID (206), the location of the mobile device that transmitted the alert (207) (e.g., GPS coordinates), and an alert type (208).

In addition, a proximity algorithm 210 may be executed by computer server(s) 209 to determine the emergency assistance center(s) (e.g., public safety call center 202) that is nearest to the mobile device 201 which issued the alert 203. Once the proximity algorithm 210 determines the nearest emergency assistance center, computer server 209 transmits an alert notification 211 to a public safety UI 212.

In addition, computer server(s) 209 may determine which mobile devices on the mobile alert network should receive the alert notification based on a distance from the mobile device 201 which transmitted the alert 203. In some embodiments, computer server(s) 209 transmits alert notification(s) 214 to a mobile UI 215 which forwards the alert notification(s) to other mobile device user 213.

FIG. 3 is an exemplary layout illustrating the transmission of data when a mobile device 300 is used to contact emergency assistance. As shown, mobile device 300 makes a 9-1-1 telephone call 301 to an emergency communications center 303 via a wireless means 302. Advantageously, a software application (consistent with the present disclosure) that is installed on the mobile device 300 may detect 304 the emergency call. Upon detection, the mobile device 300 transmits data 305 (e.g., incident ID number 306, user ID 307, and GPS coordinates 308) to computer server(s) 309.

FIG. 4 is an exemplary mobile device display that illustrates the location of a user mobile device in relation to a crowd-sourced-user mobile device. As shown, a display screen of a crowd-sourced-user mobile device 400 displays a map interface 401 near the vicinity of the mobile device that transmitted the alert. In addition, icons 402, 403 of each mobile device is

shown in relation to the other device on the map interface 401 so each crowd-sourced user is informed to the exact location of the mobile device that issued the alert.

Also, the crowd-sourced-user mobile device 400 displays a message indicator 406. The message indicator 406 may provide an indication of the number of messages received from a public safety agency or from another mobile device user within the mobile alert network.

Furthermore, the crowd-sourced user may use an interface mechanism to compose and send message(s) 405 to other interface mobile users within the mobile alert network based on predefined transmission rules. The crowd-sourced-user mobile device may also receive the address of where the alert was generated along with the distance that the crowd-sourced-user-mobile phone is away from the mobile device which issued the alert.

FIG. 5 is an exemplary mobile device display that allows a user to transmit and view messages related to an incident from a mobile device 500 within a mobile alert network. As shown, the crowd-sourced-user mobile device 500 displays location information 501 of the mobile device that issued the alert (along with the distance from that device), the alert type generated, and the timestamp 503 of the generated alert. Advantageously, a crowd-sourced user may view the messages 504 sent related to the incident. For each message 504, an alphanumeric identifier 502 may be assigned to indicate a specific mobile user that transmitted the message 504. In particular, a special identifier 505 may indicate that the message 504 was sent by public safety agency.

Messages may be composed 506 and transmitted 507 to mobile devices throughout the mobile alert network. Accordingly, crowd-sourced-user mobile devices may both receive and transmit alert notifications throughout the network.

FIG. 6 is an exemplary control display 600 that may be used by public safety personnel to monitor messages related to a crowd-sourced emergency call or other crowd-sourced alert trigger. The control display 600 displays a comprehensive view of the mobile alert network as it relates to the generated alerts related to a specific incident. In addition, the control display 600 displays the alert type 601, the mobile telephone number 602 of the mobile user who generated the alert, the timestamp of the alert 603, and the street address 604 of the mobile device when the alert was generated. Control display 600 may also include some of the message features (605-609, 615, and 616) present on the crowd-sourced-user mobile interface (see FIGs. 4 and 5).

Control display 600 features a map interface 610 which shows icon 612-614 of crowd-sourced-user mobile devices in relation to the user mobile device 611 that issued the alert. Each icon 611 – 614 may also include a unique alphanumeric identifier (001, 002, and 003) that corresponds to an identifier 607 displayed in the messaging interface.

FIG. 7 is an exemplary control display 700 that may be used by public safety personnel to monitor various related message groups. In the embodiment shown, the locations of two different users (A) 701, (B) 702, each of which generated alerts related to the same incident, are shown on the display's map interface 703.

In particular, the location of crowd-sourced-user mobile devices 704, 705 that received an alert notification issued by user (B) 702 are shown in relation to the location of user (B) 702. In addition, the location of crowd-sourced-user mobile devices 706, 707 that received an alert notification of the alert issued by user (A) 701. A software interface mechanism 708 may be used to merge the message interface feeds related to the alerts generated by users (A) 701 and (B) 702. As discussed above, control display 700 may have features which operate similarly to the control display previously described in FIGs. 4 – 6.

FIG. 8 is an illustration of a control display 800 of a public-service-agency user interface that enables a public service agency to create a global boundary around a location of an incident such that each mobile device within the global boundary is sent an alert or alert notification from a public agency. As shown, an adjustable geographic boundary 803 may be set (see geo-radius indicator 804) around a location of interest such as a scene of a crime, accident, or natural disaster such that crowd-sourced-user mobile devices and their subscribers may receive an alert or alert notification of the incident. In the example shown in the figure, the geographic boundary 803 is set to a one-mile radius surrounding the mobile device identified by icon 802.

In one implementation, icon 802 of map interface 801 may represent the location of a business-related incident. Public-safety-agency personnel may set a one-mile radius 803 around the business-related incident 802 such that nearby businesses, identified by icons 805 and 806 located within the geographic boundary 803, are sent notification alerts of the incident. For instance, if a bank is robbed, personnel at a public service agency may issue an alert to other nearby banks to prevent another bank robbery and possibly reprehend the assailant.

In yet another implementation, an emergency telephone call is made from a traditional LAN to a public safety dispatch center to report an incident which may be recorded in a public safety agency's computer aided dispatch system (CAD). While on scene, public safety responders may determine that the incident may effect an area 2 – 3 miles from the initial incident locus. Personnel having access to the public-safety-agency user interface may select a geographic boundary 803 surrounding the location of the incident and transmit an alert notification to mobile users on the mobile alert network within the selected geographic boundary.

FIG. 9 is yet another illustration of a control display 900 of a public-service-agency user interface that enables a user to change the global boundary. For instance, there may be times when public-safety-agency personnel desires to expand the geographic boundary around a location of interest 902 from a first setting 904 to a geographic boundary having a second

setting 906 via a geo-radius indicator 905 such that more mobile devices on the mobile alert network may be made aware of an incident.

As shown, geographic boundary 904 enables alerts to be sent to mobile devices 903, 914. However, geographic boundary 906 enables alerts to be sent to mobile devices 903, 914 in addition, mobile devices 907-910 as shown by the icons of the mobile devices on the map interface 901. Accordingly, public-service-b agency personnel may compose 911 and transmit 912 messages and alerts throughout the mobile alert network according to a predefined proximity rule.

A user interface function 905 may be used to increase or decrease the geographic boundary 906 within select mobile user of the mobile alert network receives notification and alerts. For example, the expanded geographic boundary 906 shows that mobile users indicated by icons 907-910 will also receive the re-transmitted alert notification. FIG. 9 also shows a user interface mechanism to compose 911 and transmit 912 a message that will be transmitted and re-transmitted upon an expansion of the geographic boundary 903.

FIG. 10 is an exemplary layout illustrating a process of generating and transmitting alert notification(s) to crowd-sourced-user mobile devices and subscriber mobile devices. An alert may be generated when a mobile device 1001 places a call to emergency assistance (trigger 1001).

Alert data is also transmitted such as an unique incident number 1004, a time stamp 1005, a user ID 1006, GPS coordinates 1007 of the mobile device 1001, and the alert type 1008. Once a computer server(s) 1003 receives the alert(s) 1002, the alerts 1002 are processed and the computer server(s) 1003 uses the proximity algorithm 1009 to determine the location of other mobile devices on the mobile alert network that is in proximity to the location from which the alert 1002 originated.

In time, computer server(s) 1003 then wirelessly transmits "crowd-sourced" alert notification(s) to crowd-sourced users 1011 via software interface 1012. In addition, computer server(s) 1003 may also transmit alert notification 1013, 1018 to mobile subscribers 1014, 1016 via a mobile user interface 1015, 1019. Mobile subscribers 1014, 1016 may subscribe to various mobile devices on the mobile alert network.

Moreover, computer server(s) 1003 may use a notification algorithm 1017 to determine instances where a mobile user that receives a crowd-sourced alert 1011 requires that a notification alert 1018 be sent to a subscriber.

FIG. 11 is an illustration of the locations of a subscriber mobile device and crowd-sourced-user mobile devices in relation to a user mobile device that issued an alert. The embodiment shown illustrates icon 1100 of an exemplary mobile device to transmit an alert 1101. Based on a proximity rule, computer server 1102 discovers the crowd-sourced-user mobile

devices represented by icon 1103 ("User B") and icon 1104 ("User C") that are within the geographic boundary 1108 as displayed on the map interface 1107.

Accordingly, alert notifications 1105, 1106 are therefore transmitted to mobile users 1103, 1104, respectively. In this example, "User B" and "User C" have enabled the alert software application settings to receive all crowd-sourced alert notifications within a one-mile geographic boundary 1108 of their current location. However, because "User D" 1109 is not within the one-mile geographic boundary 1108 of "User A," "User D" does not receive a crowd-sourced alert notification.

Furthermore, map interface 1107 illustrates that "User C" 1104 is subscribed to by "User E" 1110. Therefore, according to one embodiment, "User E" has configured the settings of the alert software application settings so that the mobile device receives an alert notification anytime "User C" 1104 receives a crowd-sourced alert notification (or transmits an alert). The mobile subscriber settings may be stored on the computer server(s) 1102 such that when "User C" receives a crowd-sourced alert 1106, an alert notification alert 1111 informing "User E" that "User C" has received a crowd-sourced alert notification is transmitted to the computer servers 1102. For the purpose of this example, "User E" receives the crowd-sourced alert notification in the State of Texas 1112 based on the alert notification 1106 received by "User C."

FIG. 12 is an illustration of an exemplary process for generating alerts to subscriber mobile devices when a user mobile device arrives at a location where the aggregate number of crime incidents within a predetermined time period exceeds a threshold value. In some implementations, "User A" 1200 uses the user interface 1201 to configure the alert software application settings 1204 to transmit periodic location data 1204 (settings that determine time between updates) using GPS functions installed on the user's mobile device 1202 such that GPS location data 1205 is set to the computer server(s) 1206. In some embodiments, computer server(s) 1206 has or is coupled to a crime database 1213 which includes date, time, incident types, and location data of recorded crime events.

Advantageously, "User B" 1207 may use user interface 1208 to configure alert application software settings 1210 of mobile device 1209 to receive crime density alerts 1211 based on "User B's" 1207 location. In some embodiments, the settings 1210 are transmitted to computer server(s) 1206. Furthermore, when "User A's" GPS location 1205 is transmitted to the computer server(s) 1206, an algorithm 1212 determines whether the threshold (based on settings 1210) set by "User B" 1207 has been met or exceeded. In the event that the threshold is met or exceeded, the computer server(s) 1206 will transmit an alert notification 1214 to "User B" 1207. Accordingly, the present disclosure affords the capability for mobile devices within the mobile alert network to subscribe to various user mobile devices and set unique threshold settings for each mobile device subscribed thereto.

FIG. 13 is an exemplary illustration of two mobile device display screenshots 1300, 1301 (i.e., screenshots A, B) showing a list of subscriber user mobile devices along with the type of notifications to be received by a subscribed mobile device. As shown, screenshot "A" features a list of user mobile devices subscribed to by the user and user interface mechanisms to configure the type of alerts to be received for each subscribed mobile device 1303, 1304.

For example, screenshot "B" shows setting options for crowd-sourced 9-1-1 alerts 1306, biofeedback alerts 1307, public-safety alerts 1308, and crime-density alerts 1309 for each subscribed mobile device 1305 (e.g., James Davis).

FIG. 14 is an exemplary illustration of two mobile display screenshots 1400, 1401 (i.e., screenshots A, B) that illustrates notification settings 1403 and incident type settings 1408 for a subscriber mobile device. For the purpose of the embodiment shown, crime density alerts for James Davis may be enabled or disabled (1403) when the subscribed user mobile device transmits their GPS location to the computer server(s) on the mobile alert network. The subscriber mobile user may configure the notification settings to receive alerts based on a configured geographic boundary 1404 (e.g., 0 – 3 miles), timeframe 1405 (e.g., 0 – 3 weeks), and incident threshold 1406 (e.g., 5 – 25 incidents).

A user mobile device may also "drill down" to specific types of incidents (e.g., criminal incidents) via user interface function 1407. For instance, screenshot "B" shows a list 1409 – 1413 of criminal incident types 1408 that may be enabled by the subscriber user to generate the crime density alerts.

FIG. 15 is an exemplary illustration of two mobile display screenshots 1500, 1501 (i.e., screenshots A, B) showing an alert notification received by a crowd-sourced-user mobile device. Screenshot "A" shows an incident proximity alert 1502 received by a crowd-sourced-mobile user. As shown, the alert notification 1502 displays the alert type 1503, the name/ID 1504 of the owner of the mobile device that transmitted the alert, any additional information related to the alert 1505, and the distance from the incident (e.g., 0.2 miles).

The crowd-sourced-mobile user may select the "View" function 1506 to receive more information about the incident. For example, "screenshot "B" 1501 displays a mobile interface 1508 with the address 1509 of the incident (or location of mobile device when alert was transmitted) along with icons 1510, 1511 showing the locations of the devices in relation to each other. In this view, information of the incident proximity alert (e.g., crowd-sourced-user name, incident type, etc.) may be displayed.

Screenshot "B" shows an example of an incident proximity alert 1507, displayed on a map interface 1508 which displays location information (GPS and/or street address) 1509, the location of the user mobile device responsible for generating the alert 1510, and the location of the subscribing mobile device users 1511.

FIG. 16 is an exemplary layout of a process for receiving a notification of an alert at a user mobile device and in response sending an information report to computer server(s) and public safety systems on the mobile alert network. As shown, an alert notification 1600 is received by a mobile device 1601 that another mobile device on the network has dialed an emergency number. Mobile device 1601 may be configured to transmit an information report 1602 to the computer servers 1604 when the user of the mobile device 1601 elects to transmit relevant information to the mobile alert network.

Information report 1602 may transmit useful information such as, but not limited to, an incident ID number 1605, a user identifier 1606 (or anonymous), a timestamp of the transmission 1607, the GPS location of the user transmitting the report at the time the notification alert was received as well as the GPS location 1608 of mobile device 1601, text narrative(s) information 1609, and digital photographs or videos 1610.

In some embodiments, data from the information reports 1602 may be accessed by public safety personnel via a public-safety user interface 1603 (or public safety CAD system 1612) via a secure public safety portal 1611.

FIG. 17 is an illustration of an exemplary layout showing the distribution of user data throughout a network/system consistent with the present disclosure. As shown, alert data transmitted from a mobile device within the mobile alert network may have associated metadata that is transmitted with the alert. For example, when an alert is transmitted from a mobile device (i.e., transmitting alert user 1704), a user identifier 1706, incident date/time 1708, and GPS location of the mobile device that sent the data is transmitted along with the alert data 1709.

Once the alert is transmitted, it is received at computer server(s) 1701 where the alert is processed (to determine register user data 1707) to send alert data to other mobile device and system components of the mobile alert network. In some embodiments, the alert data or alert notification is forwarded to secure public safety portal 1700 where an emergency alert incident record is prepared.

In some embodiments, data from an emergency alert incident record 1702, having an incident identification number 1703, sent from a user mobile device may also be accessible to a secure public safety portal 1700 such as have transmitted information reports in response to a received alert notification 1705: information identifying the user or an anonymous designation 1710, the timestamp 1711 that the information report was transmitted 1711, the GPS location 1712 of the user mobile device that transmitted the alert, text narrative data 1713, and digital photographs and/or videos 1714.

FIG. 18 is an exemplary illustration of an emergency alert incident record 1800 generated when a user mobile device contacts emergency assistance. As shown, an emergency alert incident record 1800 may include an incident ID 1802, a user ID 1803 (e.g., mobile phone

number), and the timestamp 1804 when the emergency alert incident record was generated. Most notably, the emergency alert incident record lists information from two incident reports 1805.

FIG. 19 is an exemplary layout of several software and hardware components which incorporate biofeedback monitoring in accordance with systems and methods. A mobile device 1900 having an alert software application 1901 installed thereon enables users to log into the system using an authentication process 1902, generate or modify a user profile 1903, sync/pair 1904 the mobile device 1900 with a biofeedback-monitoring device 1905, manually transmit an alert 1906, configure timer alert 1907, and configure biofeedback-threshold alerts 1908.

Mobile devices 1900 may transmit data and alerts to computer server(s) 1909, which in turn, may transmit alert notifications to computers 1910 accessible to monitoring center personnel via a monitoring user interface 1911. In this embodiment, mobile device 1900 has components 1912 capable to detect a falling motion. For instance, exemplary components may include, but are not limited to accelerometers, gyroscopes, and timers to detect movement.

FIG. 20 is an exemplary illustration that shows the configuration of user account data. Computer server(s) 2000 may maintain user account ID 2001 that includes a username and password 2002, an activation status of a user (on/off) 2003, biofeedback link 2004, the current location 2005 of the mobile device 2009, user account information 2006, and the subscribers 2007 of the user mobile device for each mobile device on the mobile alert network.

In addition, computer server(s) 2000 may also include personal information of the mobile device users such as the user's name, date of birth, physical description, medical conditions, home and work addresses, description of vehicles owned, known threats, and restraining order and information if applicable 2006. Computer server(s) 2000 may also maintain the email addresses and SMS numbers of subscribers 2007 that the user wishes to notify in the event of an emergency. As such, the mobile device user may elect to have alerts, alert notifications, and messages sent to mobile devices of family and friends, with their consent, that are on the mobile alert network. Advantageously, the account data may be linked to a mobile device and may be accessed using an interface 2008 from the linked mobile device or a computer 2009.

FIG. 21 is an illustration of an exemplary biofeedback-monitoring device consistent with systems and methods of the present disclosure. In an embodiment, the device's sensors 2102 wirelessly transmit monitored biometric data to the user's mobile device (not shown) using any of several wireless techniques (e.g., Bluetooth technology, Near Field Communications, etc.). Biofeedback-monitoring device 2100 may include other button(s) 2103 to carryout additional functionality.

FIG. 22 is another illustration of an exemplary biofeedback monitoring device 2202. Illustration "A" shows the shirt pocket 2201 of the shirt 2200 containing an inserted biofeedback-monitoring device 2202 whereas Illustration "B" shows a larger view of the

biofeedback-monitoring device 2202. In addition, the biofeedback-monitoring device 2202 includes capability to wirelessly connect with a mobile device on the mobile alert network allowing the reception and transmission of audio over a cellular network, capability to measure biofeedback data such as electro-cardio and pulse data, galvanic skin response data, and electro-muscular data.

Furthermore, biofeedback-monitoring device 2202 may wirelessly transmit biofeedback data to a linked mobile device, a camera capable of transmitting video through a linked mobile device to computer server(s), a rechargeable power supply 2208, and a clipping mechanism 2209 to fasten the biofeedback-monitoring device to an article of clothing. In addition, button or switch 2207, that when manipulated by the user, causes a manual alert to be transmitted to the mobile alert network. Biofeedback-monitoring device 2202 may include other button(s) 2205, 2210 to carryout additional functionality.

FIG. 23 is an exemplary layout illustrating various alert options in accordance with systems and methods of the present disclosure. As shown, user mobile device(s) may transmit an alert based on a manual trigger 2301, timer-based trigger 2302, or biofeedback trigger 2303. For example, an alert 2305 may be generated when a biofeedback-monitoring device 2304, linked to the user's mobile device 2300, receives data that meets or exceeds a predetermined biofeedback-response threshold associated with the biofeedback trigger 2303.

In some embodiments, when the alert(s) 2305 is transmitted to the computer server(s) 2306, an alert notification 2307 is then transmitted to monitoring center computer(s) 2308 to be evaluated by monitoring center personnel and/or subscribers 2309. Likewise, an alert may be generated and transmitted from mobile device 2300 manually (i.e., manual trigger 2301) or based on a predetermined time limit or event (i.e., timer-based trigger 2302).

FIG. 24 is an exemplary layout illustrating the process of fall detection and an alert generation response from a user mobile device in accordance with systems and methods of the present disclosure. Mobile device 2400 is capable of analyzing biofeedback back sent from a biofeedback-monitoring device 2403 based on a set of predefined rules 2401. The mobile device 2400 also has motion sensors 2402 (and/or accelerometers) to detect when the mobile device 2400 is moving.

In particular, the mobile device 2400 may detect when the mobile device 2400 is in a fall state 2404. In some embodiments, when mobile device 2400 detects 24004 when mobile device 2400 is in a fall state, the device 2400 transmits an alert 2406. User mobile device 2400 may also generate alerts based on a biofeedback trigger 2408 as described above. Once the alert 2406 is received and processed by the computer servers 2407, alert notification(s) may be transmitted to monitoring center(s) 2409, subscriber mobile devices 2410, and crowd-sourced-user mobile device(s) 2411.

FIG. 25 is an exemplary layout illustrating the process of generating various types of alerts (e.g., based on fall detection 2501, biofeedback trigger 2503, manual trigger 2504, and timers 2505). Accordingly, a mobile device 2500 having an alert system application of the present disclosure installed thereon may generate alerts for various incident triggers. For example, mobile device 2500 may be wirelessly linked to a biofeedback monitoring device 2502 which includes a biofeedback trigger 2503 such that mobile device 2500 generates alerts based on physiological responses which meet or exceed a predetermined threshold value of biofeedback trigger 2503. Moreover, in the event that biofeedback trigger 2503 detects that the user's physiological responses exceed a predetermined threshold, the user may be alerted that via a message displayed on the display screen of the mobile device 2500 that an alert is to be generated unless aborted by the user by submitting a password within a predetermined timeframe.

FIG. 26 is an exemplary layout illustrating a process of fall detection using a biofeedback-monitoring device(s) coupled to a mobile device 2600 consistent with the present disclosure installed thereon. More specifically, mobile device 2600 is capable of detecting movement consistent with a fall 2601.

If data 2601 is below configurable threshold 2614, the biofeedback-monitoring device continues monitoring. However, when data (e.g., acceleration, time, etc.) consistent with a fall is equal to or greater 2603 than a configurable threshold value 2602, the biofeedback-monitoring device 2604 will perform a biofeedback assessment 2605. In some embodiments, the biofeedback assessment 2605 validates the occurrence of a detected fall. In particular, the user's physiological responses, electro-cardio data, pulse data, galvanic-skin response data, electro-muscular data, pupil-dilation data, or eyelid-blink data may be measured by the biofeedback-monitoring device 2604.

If the physiological data assessed is equal to or exceeds 2606 the threshold(s) for each respective physiological target, an alert 2607 is transmitted to computer server(s) on the mobile alert network. Alternatively, if the physiological data accessed is below 2608 a threshold, a configurable timer 2609 begins. In some embodiments, i the user fails to enter a correct passcode (e.g., PIN) within a predetermined timeframe 2610, an alert 2611 is transmitted. However, if the physiological data is submitted in time, the timer is dismissed 2612 and the biofeedback-monitoring device 2604 continues monitoring 2613.

FIG. 27 is an illustration of a user 2706 equipped with a user mobile device 2703 having biofeedback-monitoring and fall-detection capability consistent with systems and methods of the present disclosure. In this example, the user's mobile device 2703 having a biofeedback monitor device 2704 coupled thereto may detect the user's fall 2705 from a hunting apparatus 2701 according to the functionality of alert software application installed, previously described, installed within the mobile device 2703.

FIG. 28 is an exemplary layout of various functions to be performed in response to an incoming alert. When a configured mobile device 2800 transmits an alert 2801 to computer servers 2802, an alert notification is transmitted to monitoring center computer(s) 2803. The computer server(s) 2802 may automatically dial the telephone number of the mobile device transmitting the alert 2804 to connect the user associated with the alert to monitoring center personnel 2803. If a connection 2805 is made, monitoring center personnel are able to verbally communicate 2806with the user, monitoring center personnel may requests that the user render a predetermined verbal password 2807. If the user provides the correct password, the alert notification incident ends 2808. Alternatively, if the user does not provide the correct password/PIN or no response is given 2809, a notification may be transmitted to enforcement personnel.

If the automated call results in voice mail activation 2810, the computer server(s) 2802 will terminate the call and automatically redial 2811 the user's telephone number in an attempt to connect with the user to determine the user's safety. The mobile alert network installed on a mobile device 2800 may also force the mobile device 2800 to answer after a predetermined number of rings 2812. If this feature is enabled, the user mobile device 2800 will automatically connect and provide monitoring center personnel with the ability to monitor ("listen) 2813 audio transmissions by the user's phone in an attempt to determine the user's safety.

FIG. 29 is an exemplary illustration of a mobile-device-alert display 2900 that may be used to evaluate and respond to alerts. The display 2900 features a visual representation of the type of alert received (e.g., biofeedback alert) 2901, the telephone number 2902 of the mobile device that generated the alert, and the location of the mobile device when the alert 2903 was generated.

The display 2900 also shows the name 2904, a photograph 2905 of the user 2905, and provides a means to view additional data such as the user's account information 2906 (e.g., date of birth, physical description, associated addresses), medical conditions 2907, description of vehicles 2908, notes 2909, and any other relevant information that may assist in an emergency situation. Furthermore, the display 2900 features a map of the user's current location 2910 and an icon representing the specific location of the user 2911.

A password 2912 associated with the user account 2912 and provides a mechanism to view or listen to video and audio transmitted by the user if such a configuration has been enabled 2913. Also shown is a real-time activity log 2914 of events related to the incident that is accessible from a monitoring center. Personnel may make a call 2915, send alerts or messages to a CAD system 2916, or contact emergency assistance 2917.

A telephone call may be made to the appropriate public safety agency's emergency dispatch center, utilizing geo-location data generated by the user's current or last known location and determining from stored database information, the correct public safety

agency with jurisdiction to contact via telephone. Additionally, if connection has been made with a user in response to an alert, and it is determined by monitoring center personnel that local public safety personnel should respond, a three-way call among monitoring center personnel, the user's mobile cellular device, and public safety personnel may be enabled 2917.

FIG. 30 is an exemplary layout of several software and hardware components and various manners to generate alerts within a mobile alert network. Alerts 3000 are transmitted from a user mobile device 3001 to computer servers 3002 and subsequently distributed alerts to various systems. In some embodiments, after the computer server(s) 3002 processes the alert, the computer server(s) 3002 forwards an alert notification 3003 to a monitoring center computer system 3004. Personnel at the monitoring center may access the computing system 3004 via a monitoring interface 3005. Moreover, personnel at a monitoring center may direct the alert notifications to be forwarded to other computing systems and devices within the mobile alert network (e.g., subscriber mobile devices 3007, public-safety computer-aided dispatch (CAD) 3008, public-safety mobile subscribers 3009, and crowd-sourced-user mobile devices 3010).

If the system settings of the alert software application have been configured to automatically transmit data concerning the received alert to other devices within the mobile alert network automatically to user-selected notification subscribers 3007, public safety computer aided dispatch systems 3008, and public safety mobile subscribers 3009. In addition, personnel at a monitoring center may use a computer interface 3005 to manually transmit alert notifications and messages to computers and mobile devices configured to receive these messages. Further shown in FIG. 30, is the ability of monitoring center personnel to utilize a computer interface 3005 to manually cause the transmission of received alert notification data to locations (computers and/or mobile devices) where a software mechanism has been implemented to enable the reception of alert notification data transmitted by the disclosure. Advantageously, a user mobile device 3002 may elect to enable 3012 or disable 3013 the crowd-sourcing function of the device 3002.

FIG. 31 is an exemplary illustration of two mobile device screenshots 3100, 3106 (i.e., screenshots A, B) that may be used to evaluate and respond to alerts in accordance with systems and methods of the present disclosure. Illustration "A" provides a screenshot of a display 3100 featuring a crowd-sourced alert 3101 which displays the address 3103 of the user mobile device which generated the alert 3102 and the distance 3104 that the mobile device of the current user is located from the user mobile device which generated the alert 3102. To view more information about the alert, the "Go" function 3105 may be selected by a user.

Illustration "B" provides a screenshot of a display 3106 featuring a map display 3109 upon which displays a crowd-sourced alert indicator 3107 with the address 3108 of the incident (or the address of the mobile user that generated the alert. In addition, the map display

includes location icons 3110 and 3111 of the crowd-sourced-user mobile device and the user mobile device.

FIG. 32 is an illustration of a geographic boundary 3200 around a user mobile device and other mobile devices in relation to crowd-sourced-user mobile devices within a mobile alert network. As shown, user mobile device icon 3201 has configured system settings to receive crowd-sourced alerts from other devices (e.g., 3202, 3204) within the mobile alert network that are within a 0.5 mile geographic boundary 3200. In contrast, because user mobile devices 3205 and 3206 are outside of the 0.5 mile geographic boundary 3200, user mobile device 3201 would not receive crowd-sourced alerts from these devices.

FIG. 33 is exemplary layout illustrating an alert process when a biofeedback monitoring device 3302 generates an alert. In the embodiment shown, mobile device 3300 may wirelessly receive data 3301 from biofeedback monitoring device 3302. In some embodiments, the alert software application within the mobile device 3300 includes configurable threshold(s) for one or several biometric parameters measured by the biofeedback monitoring device 3302.

In particular, the alert software application may be configured to receive data from the biofeedback monitoring device 3302 which may meet or exceed 3306 the configured threshold 3303 thereby triggering 3307 an alert 3308. Once mobile device 3300 generates an alert 3308, the alert 3308 is transmitted to computer server(s) 3309.

For example, data 3301 may indicate that the mobile device moves in a direction consistent with a fall a distance that is equal to or greater than a configurable threshold value 3302. In some embodiments, if the calculated distance of movement consistent with a fall is equal to or greater than the data threshold value 3303, a configurable will begin counting down and a user interface prompt will be displayed on the user mobile device that requires a personal identification number (PIN) to be dismissed 3309.

If the user fails to enter the correct PIN before the timer expires, an alert will be transmitted. If the user correctly enters the required PIN before the timer expires, an alert will not be transmitted and will continue to process and analyze the data.

In the event that data indicating the mobile device is moving in a direction consistent with a fall 3301, and the data receives indicates that the distance of the fall was below 3304 than the threshold currently configured, an alert will not be transmitted and the disclosure's monitoring components will continue 3305 to process and analyze the received data.

FIG. 34 is an exemplary illustration of two mobile device screenshots 3600, 3606 illustrating time-based alert settings associated with a fixed location. Screenshot "A" illustrates the following functions and elements: the capability to select from a list of saved timer alerts 3401, the capability to change the time-based location alert associated with a fixed location to a time-based location alert associated with a trip between two fixed locations 3402, the capability to input a specific location where the user will be present for a predetermined time period 3403, the

capability to save the time-based alert 3404, and a function 3405 to select a time period associated with the alert.

Furthermore, screenshot "B" illustrates the following functions and elements: the fixed location previously entered by the user associated with the time-based alert being generated 3407 (entered in 3403), the capability to enter a specific time period that the user estimates he or she will be present at the previously entered location 3408, and the capability to start a timer 3409 that when expired, will generate a visual prompt on the user's mobile device screen requesting that the user add additional time or dismiss the prompt.

FIG. 35 is an exemplary illustration of two mobile device screenshots 3500, 3505 illustrating time-based alert settings associated with a trip between two fixed locations. In particular, screenshot "A" illustrates the following functions and elements: the capability to enter a specific location where a user will begin 3501 and end a trip 3502, the capability to save the time-based location alert 3703, and the capability to select a time period associated with the alert 3504.

Likewise, screenshot "B" illustrates functions and elements: the fixed locations 3506, 3507 previously entered by the user associated with the time-based alert being generated (entered in 3501, 3502), the capability to enter a specific time period that the user estimates will be required to travel the distance between the aforementioned locations 3508, and the capability to start a timer 3509 that generates a visual prompt on the user's mobile device screen requesting that the user add additional time or dismiss the prompt or otherwise a location/timer based alert is transmitted to the network's computer server(s).

FIG. 36 is an illustration of two mobile device screenshots 3600, 3602 illustrating a manner of sending manual alerts. In particular, screenshot "A" illustrates the following functions and elements: the capability to generate a manually transmitted alert 3601. In some embodiments, a touch screen interface may be used to slide a button in a predetermined direction (e.g., rightward) to generate and transmit the alert.

Likewise, screenshot "B" illustrates the following functions and elements: the capability to manually generate an alert has been moved to the rightward position 3603. The illustration also shows a notification 3604 that the generated alert has been transmitted.

FIG. 37 is an exemplary illustration of two mobile device screenshots 3700, 3701 of a user making a 9-1-1 calls and by using a keypad and a user mobile phone that receives an alert based on the 9-1-1 call. Illustration "A" shows a mobile device screen where the user has dialed the emergency number 9-1-1 (3702) whereas illustration "B" shows a mobile device screen of a user who has received an incoming, crowd-sourced alert from the user of the mobile device depicted in illustration "A".

The mobile device screen 3701 shown in illustration "B" shows a description of the incoming alert 3703 that includes the location associated with the nearby user who generated the alert and the distance from that user to the user who received the alert. Furthermore, the embodiment shows a map associated with the location of the incident 3704, a visual representation of the user's location on the map who generate the alert 3705, a visual representation of the user's location who received the alert 3706, the identity of the user who transmitted the alert 3707, a visual representation or picture of the user who generated the alert 3708, and a mechanism to exit the displayed screen 3709.

FIG. 38 is an exemplary illustration of two mobile device screenshots 3800, 3801 of a user making a 9-1-1 call by selecting an emergency function and a user mobile phone that receives an alert based on the 9-1-1 call. For example, a user involved in a situation requiring the response of medical services, could utilize the application icon 3802, shown in FIG. 38, illustration "A," to automatically dial 9-1-1 and connect with an emergency communications center. FIG. 38, illustration "B", shows an example of a screen that would display data related to the aforementioned subscriber alert, to include a visual or text indication that the alert 3804, was related to an incident where medical assistance is needed.

This disclosure pertains to an alert notification and messaging system, and in particular (but not exclusively), to techniques for transmitting alerts and distributing among mobile devices related to incidents in real time. It will be understood by those having ordinary skill in the art that the present disclosure may be embodied in other specific forms without departing from the spirit and scope of the disclosure disclosed. In addition, the examples and embodiments described herein are in all respects illustrative and not restrictive. Those skilled in the art of the present disclosure will recognize that other embodiments using the concepts described herein are also possible.

What is claimed is:

1. A system, comprising:

a plurality of mobile devices, the plurality of mobile devices include a first set of user mobile devices to generate at least one alert based on at least one incident, a second set of crowd-sourced-user mobile devices and a third set of subscriber mobile devices to receive a notification for each generated alert; and

at least one computer server communicatively coupled to the plurality of mobile devices, the at least one computer server to receive the generated alert from the first set of user mobile devices and to send a notification of each generated alert to the second set of crowd-source-user mobile devices and the third set of subscriber mobile devices according to a proximity rule wherein only a subset of the second set of crowd-sourced-user mobile devices or a subset of the third set of subscriber mobile devices receive the notification of each generated alert;

wherein at least the first set of user mobile devices and the second set of crowd-sourced-user mobile devices are to send messages related to the incident to each of the plurality of mobile devices via the at least one computer server.

2. The system of claim 1 further comprising a biofeedback sensor coupled to at least one of the first set of user mobile devices wherein a state of the biofeedback sensor may cause the at least one user mobile device to generate an alert.

3. The system of claim 2, wherein the biofeedback sensor includes fall detection capability.

4. The system of claim 1, wherein the at least one computer server includes memory to retain each generated alert, notification, and message related to the incident.

5. The system of claim 1, wherein the at least one computer server is communicatively coupled to a public safety dispatch computer-aided dispatch (CAD) system.

6. The system of claim 5, wherein messages and notifications that are transmitted to the at least one computer server are further transmitted to the public safety dispatch CAD system as a data stream.

7. The system of claim 1, wherein each mobile device is to function as a user mobile device, crowd-sourced-user mobile device, and a subscriber mobile device.

8. The system of claim 1, wherein the first set of user mobile devices include at least one user mobile device.

9. The system of claim 1, wherein at least one of the third set of subscriber mobile devices subscribe to receive notifications of alerts from two or more user mobile devices.

10. The system of claim 1, wherein each of the third set of subscriber mobile devices are to send messages to a subset of the third set of subscriber mobile devices, a subset of the first set of user mobile devices and a subset of the second set of crowd-sourced-user mobile devices according to the proximity rule.

11. A computer readable medium including code, when executed, to cause a mobile device to:

generate an alert based on an incident;

transmit the alert to at least one computer server;

receive a first notification relevant to the incident;

generate a second notification relevant to the incident; and

transmit the second notification to the at least one computer server to be distributed to a network of mobile devices.

12. The computer readable medium of claim 11, wherein the alert is generated and transmitted by a software application within a mobile device.

13. The computer readable medium of claim 11, wherein a software application within a mobile device receives the first notification, generates the second notification, and transmits the second notification.

14. The computer readable medium of claim 13, wherein the mobile device is a smartphone.

15. The computer readable medium of claim 11, wherein the generated alert includes at least one of an incident identification (ID), a date/time stamp, a user ID, and an alert type.

16. A computer readable medium including code, when executed, to cause a mobile device to:

receive a first notification of an alert related to an incident upon a determination that a first mobile device is within a predetermined distance from a second mobile device;

generate a second notification related to the incident; and

transmit the second notification to at least one computer server to be distributed to the second mobile device.

17. The computer readable medium of claim 16, wherein the first notification includes at least one of a user identifier, a date/time stamp, GPS location data of the incident, a text message narrative of the incident, a photograph of the incident, and a video of the incident.

18. The computer readable medium of claim 16, wherein the second notification includes a text message narrative, a photograph of the incident, and a video of the incident.

19. A method, comprising:

setting a first geo-boundary around a user mobile device;

wherein the first geo-boundary includes a radial perimeter distance around the user mobile device wherein notifications of alerts that are transmitted by a crowd-sourced user mobile device are received by the user mobile device for a crowd-sourced user mobile device that is located within the first geo-boundary of the user mobile device; and

receiving a first notification of an alert that relates to an incident generated from a crowd-sourced user mobile device that is located a distance within the first geo-boundary of the user mobile device.

20. The method of claim 19, further comprising setting a time duration that the first geo-boundary is in effect.

21. The method of claim 19 further comprising changing the geo-boundary of the user mobile device from the first geo-boundary setting to a second geo-boundary setting.

22. The method of claim 19, wherein the radial perimeter distance is less than 1 mile.

23. The method of claim 19, wherein the incident is any of a criminal event, a medical emergency, or a natural disaster.

24. A method, comprising:

receiving an alert based on an incident in proximity to a first mobile device;

determining whether each of a set of mobile devices is within a predetermined proximity range from the first mobile device;

transmitting a notification of the alert to each mobile device within the set of mobile devices based on the determination;

transmitting the notification of the alert to each subscriber mobile device of each mobile device within the set of mobile devices based on the determination;

receiving a message from a subscriber mobile device about the incident;

transmitting the message about the incident to each mobile device within the set of mobile devices that are within the predetermined proximity range from the first mobile device and to each subscriber mobile device of the set of mobile devices that are within the predetermined proximity range.

25. The method of claim 24 further comprising transmitting an emergency alert incident record that is generated by a public safety system to each mobile device within the set of mobile devices that are within the predetermined proximity range.

26. The method of claim 24, wherein the alert is generated and transmitted from the first mobile phone.

27. The method of claim 24, wherein the alert is generated and transmitted from a public safety dispatch system.

28. A method, comprising:

generating an emergency alert incident record in response to a call to an emergency agency;

wherein the emergency alert incident record includes at least one of an incident ID number, user identifier, time stamp of the incident, GPS location of the incident, a text narrative related to the incident, a photograph of the incident, and a video of the incident;

transmitting information from the emergency alert incident record to at least one computer server to be transmitted to a plurality of user mobile devices within a predetermined proximity of the incident; and

transmitting information from the emergency alert incident record to the at least one computer server to be transmitted to a plurality of subscriber devices of the plurality of user mobile devices.

29. The method of claim 28, wherein calling the emergency agency includes calling 9-1-1.

30. The method of claim 28, wherein the emergency alert incident report is generated at a public safety CAD.

31. A system, comprising:

a network of mobile devices, the network of mobile devices includes a first set of user

mobile devices to generate alerts based on incidents, a second set of crowd-sourced-user mobile devices, and a third set of subscriber mobile devices to receive notifications of the generated alerts;

a network of computer servers communicatively coupled to the network of mobile devices via a wireless network, the network of computer servers to receive the generated alerts from the first set of user mobile devices and to send notifications of the generated alerts to the second set of crowd-source-user mobile devices and to the third set of subscriber mobile devices;

wherein the first set of user mobile devices, the second set of crowd-sourced-user mobile devices, and the third set of subscriber mobile devices are to send messages related to the incidents to a subset of the plurality of mobile devices via the network of computer servers according to a proximity rule; and

a plurality of biofeedback sensors coupled to at least one of the first set of user mobile devices wherein a state of the biofeedback sensor is to cause the at least one user mobile device to generate the alerts.

32. The system of claim 31, wherein the plurality of biofeedback sensors monitors changes in at least one of electro-cardio and pulse data, galvanic skin response data, electro-muscular data, pupil dilation data, and eyelid blink rate data.

33. The system of claim 31, wherein the plurality of biofeedback sensors are coupled wirelessly to the user mobile device.

34. A method, comprising:

using a first mobile device to contact an emergency agency;

as a result of contacting the emergency agency, automatically generating and transmitting an alert to a computer server; and

transmitting a notification of the alert from the computer server to a plurality of crowd-source user mobile devices that are within a predetermined distance from the first mobile device.

35. The method of claim 34 further comprising transmitting a notification of the alert from the computer server to a plurality of subscriber devices of the first device and the plurality of crowd-source-user mobile devices that are within the predetermined distance from the first mobile device.

36. The method of claims 34, wherein contacting the emergency agency includes dialing 9-1-1 from a mobile device.

37. A method, comprising:

generating an alert of an incident related to public safety; and

transmitting a notification of the alert to a subset of mobile devices within a network of mobile devices;

wherein the subset of mobile devices that receive the notification of the alert are within a predetermined distance from the location of the incident.

38. The method of claim 37 wherein the notification of the alert is transmitted to the network of mobile devices via at least one computer server communicatively coupled to the network of mobile devices.

39. The method of claim 37 further comprising transmitting messages from one mobile device within the subset of mobile devices to the other mobile devices within the set regarding the incident.

40. The method of claim 37, wherein the alert is generated from a public agency, an emergency telecommunications system, or an alarm system.

FIGURE 1

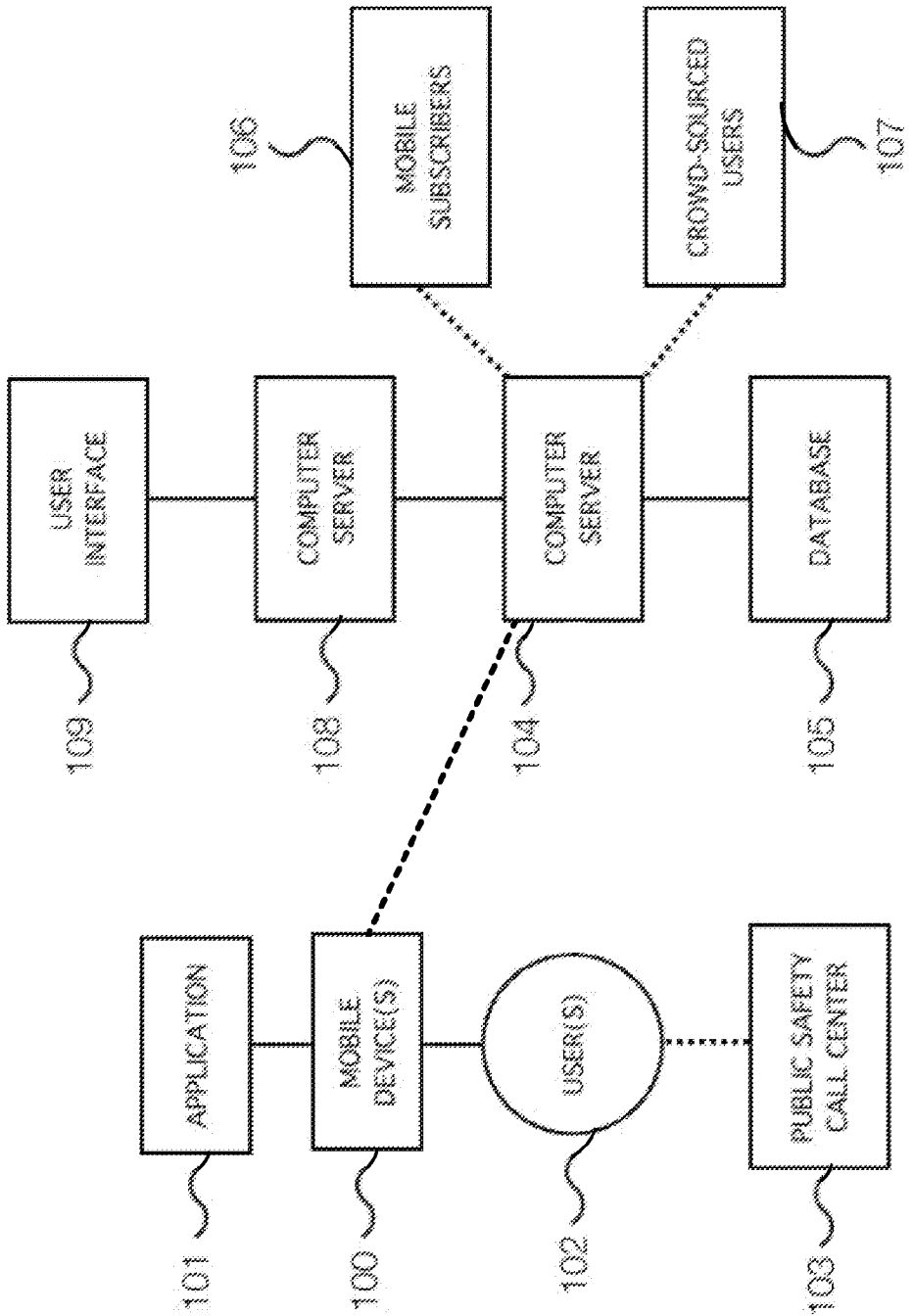

MOBILE SUBSCRIBERS
106
CROWD-SOURCED USERS
107
USER INTERFACE
COMPUTER SERVER
COMPUTER SERVER
DATABASE
109
108
104
105
APPLICATION
MOBILE DEVICE(S)
USER(S)
PUBLIC SAFETY CALL CENTER
101
100
102
103

FIGURE 2

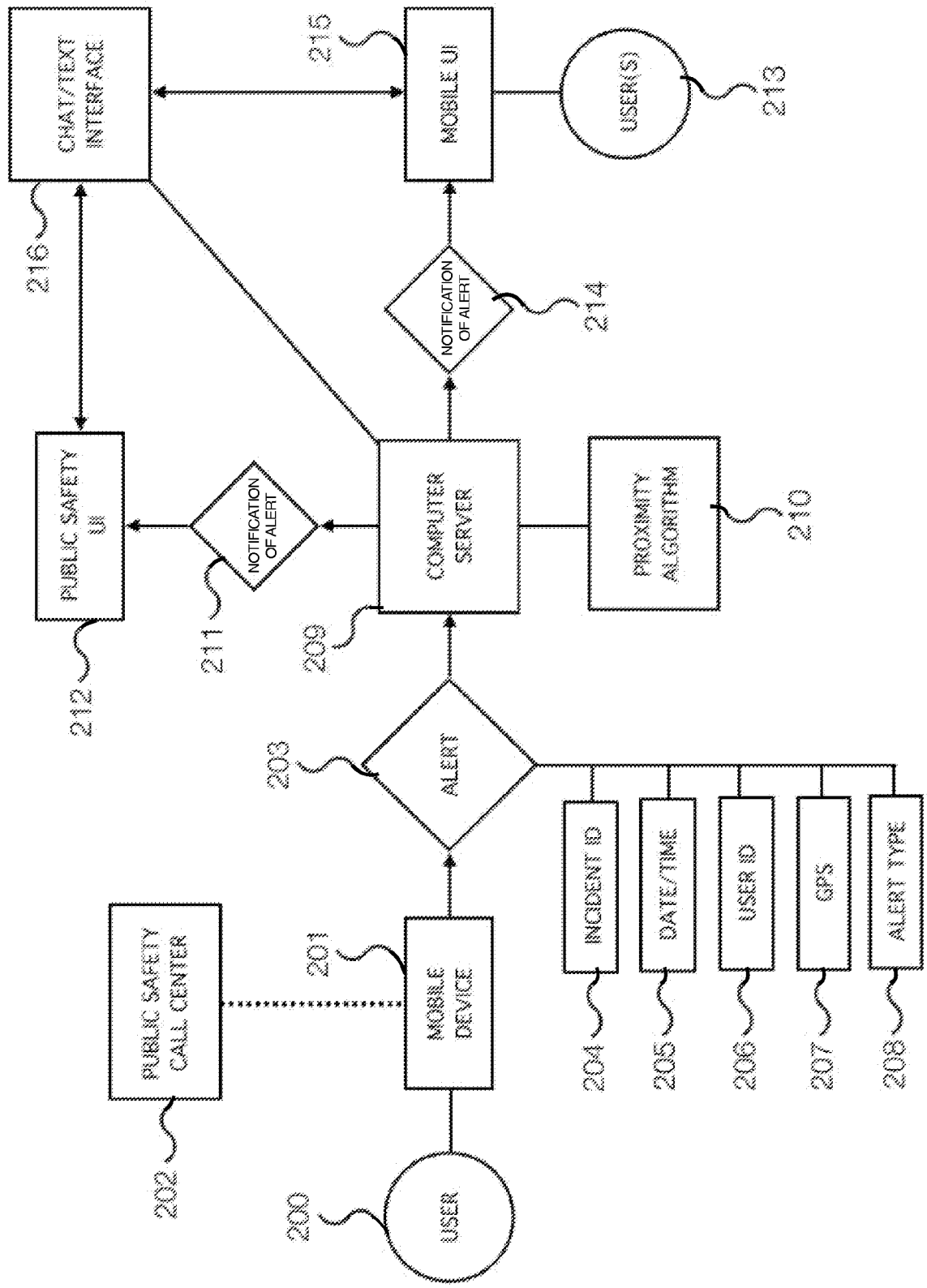

CHAT/TEXT INTERFACE
MOBILE UI
USER(S)
NOTIFICATION OF ALERT
PUBLIC SAFETY UI
NOTIFICATION OF ALERT
COMPUTER SERVER
PROXIMITY ALGORITHM
ALERT
INCIDENT ID
DATE/TIME
USER ID
GPS
ALERT TYPE
PUBLIC SAFETY CALL CENTER
MOBILE DEVICE
USER
215
213
216
214
212
211
209
210
203
204
205
206
207
208
202
201
200

FIGURE 3

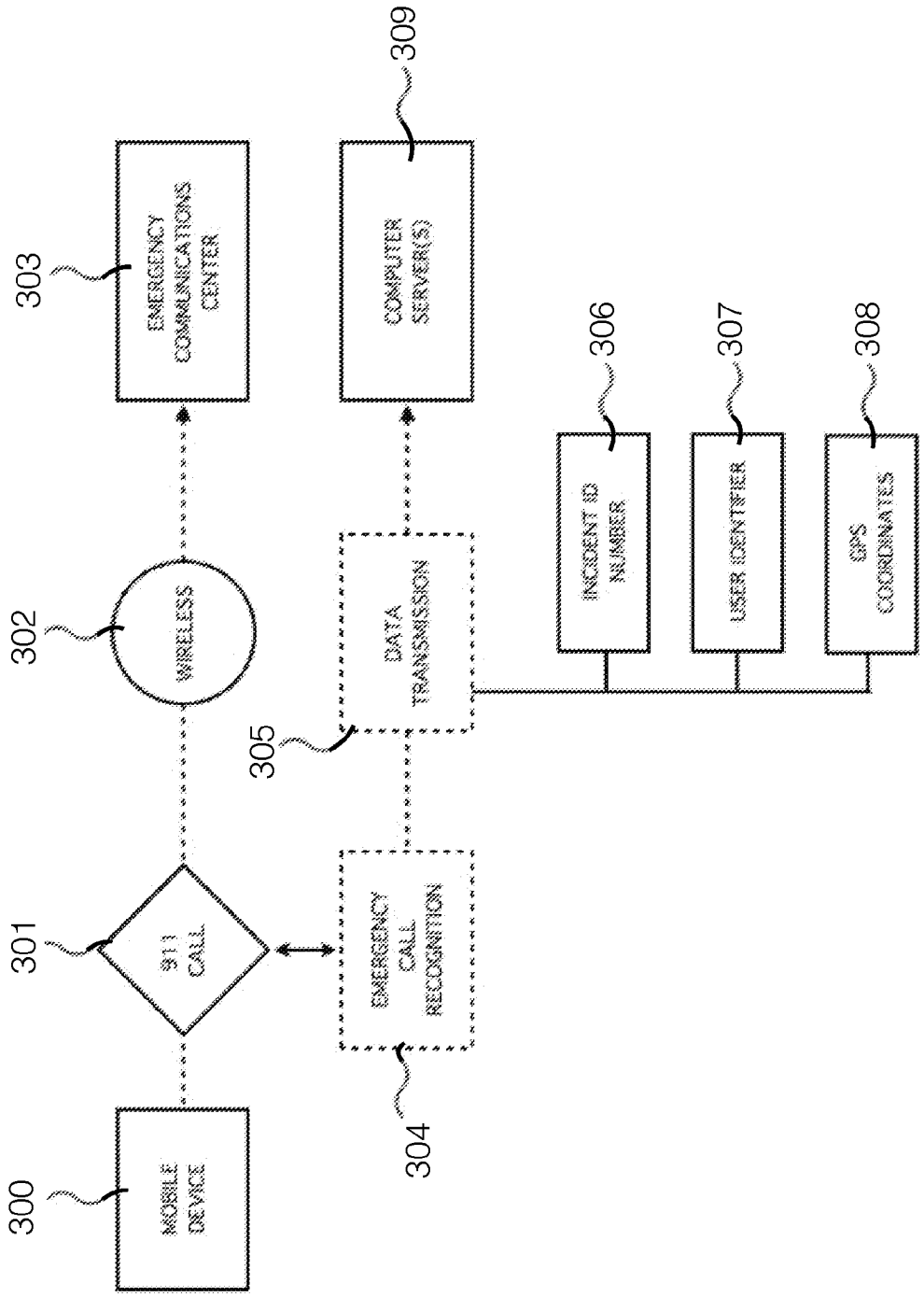

300
MOBILE DEVICE
301
911 CALL
302
WIRELESS
303
EMERGENCY COMMUNICATIONS CENTER
304
EMERGENCY CALL RECOGNITION
305
DATA TRANSMISSION
306
INCIDENT ID NUMBER
307
USER IDENTIFIER
308
GPS COORDINATES
309
COMPUTER SERVER(S)

FIGURE 4

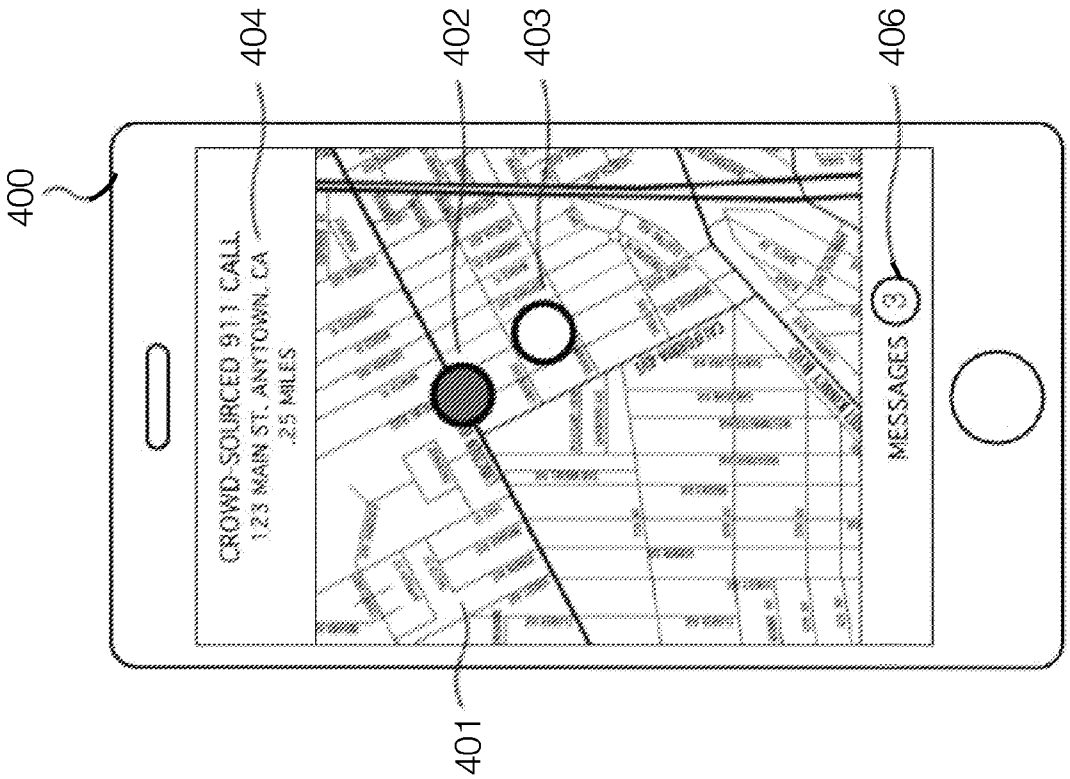

400
404
402
403
406
CROWD SOURCED 911 CALL
123 MAIN ST, ANYTOWN, CA
.25 MILES
MESSAGES
3
401

FIGURE 5

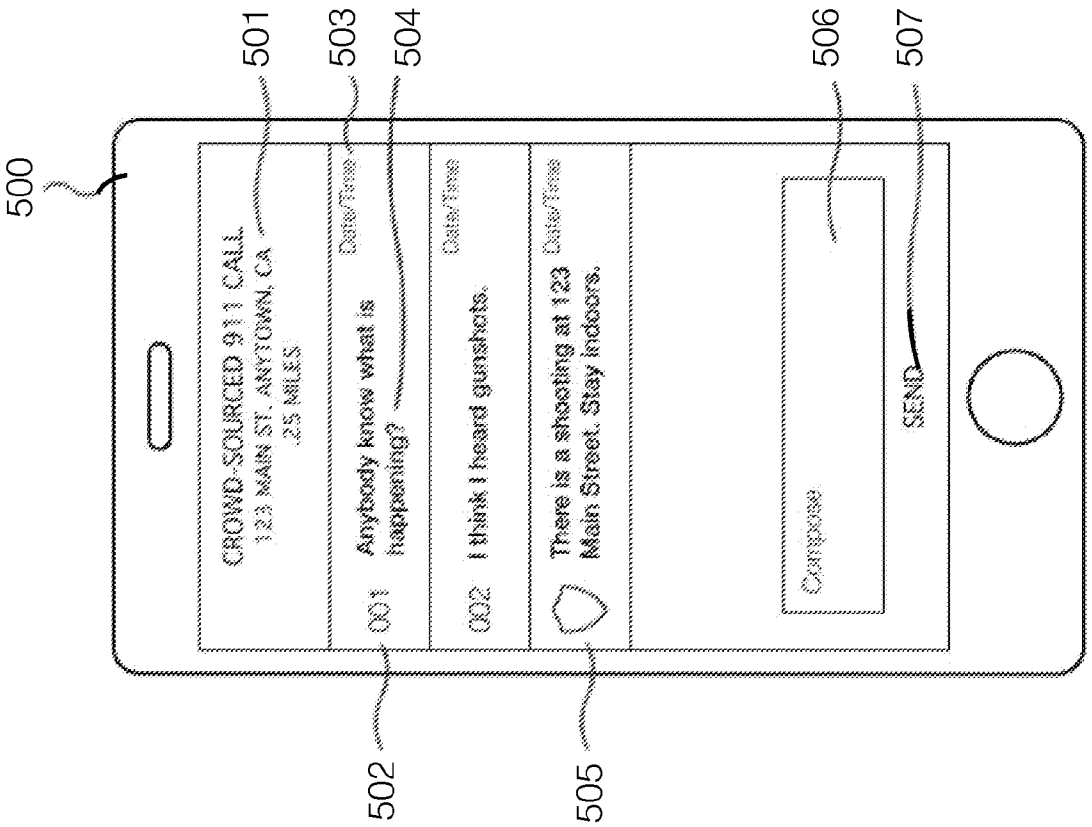

500
501
503
504
506
507
CROWD-SOURCED 911 CALL
123 MAIN ST, ANYTOWN, CA
.25 MILES
Date/Time
Anybody know what is happening?
001
Date/Time
I think I heard gunshots.
002
Date/Time
There is a shooting at 123 Main Street. Stay indoors.
Compose
SEND
502
505

FIGURE 6

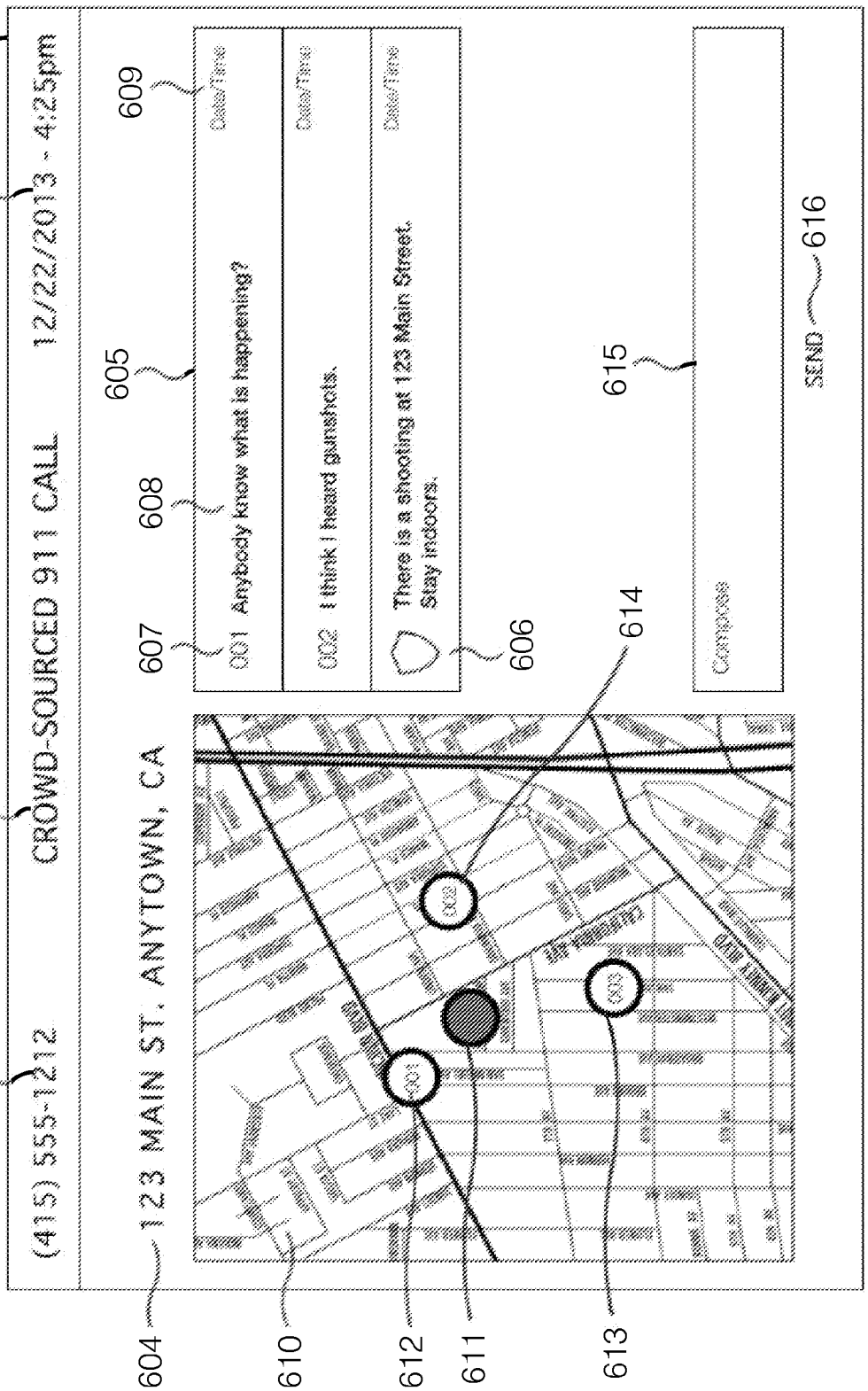

600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
CROWD-SOURCED 911 CALL
(415) 555-1212
12/22/2013 - 4:25pm
123 MAIN ST, ANYTOWN, CA
001 Anybody know what is happening?
002 I think I heard gunshots.
There is a shooting at 123 Main Street. Stay indoors.
Date/Time
Compose
SEND

FIGURE 7

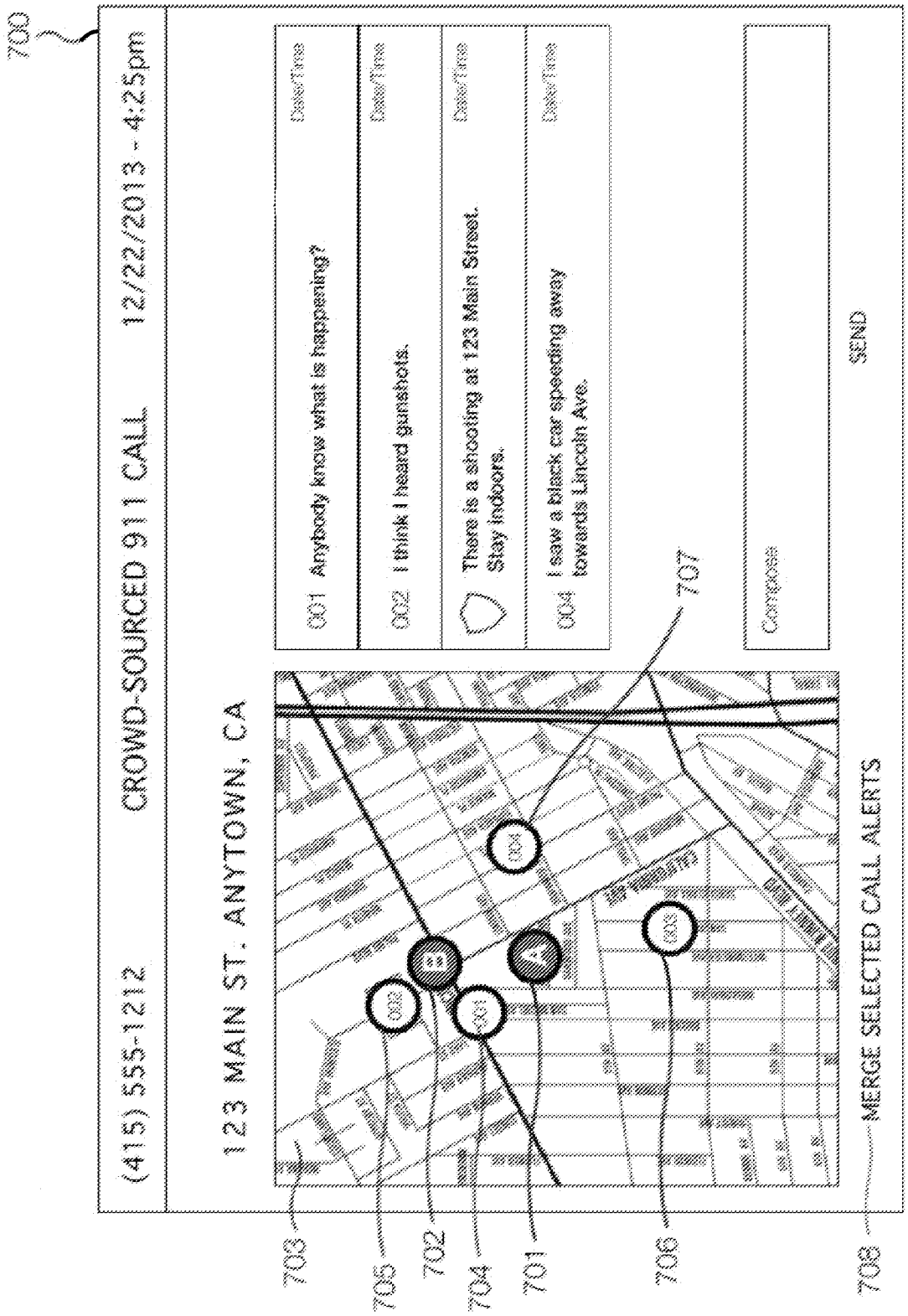

700
(415) 555-1212
CROWD-SOURCED 911 CALL
12/22/2013 - 4:25pm
123 MAIN ST. ANYTOWN, CA
Date/Time
001 Anybody know what is happening?
Date/Time
002 I think I heard gunshots.
Date/Time
There is a shooting at 123 Main Street. Stay indoors.
Date/Time
004 I saw a black car speeding away towards Lincoln Ave.
707
Compose
SEND
MERGE SELECTED CALL ALERTS
703
705
702
704
701
706
708

FIGURE 8

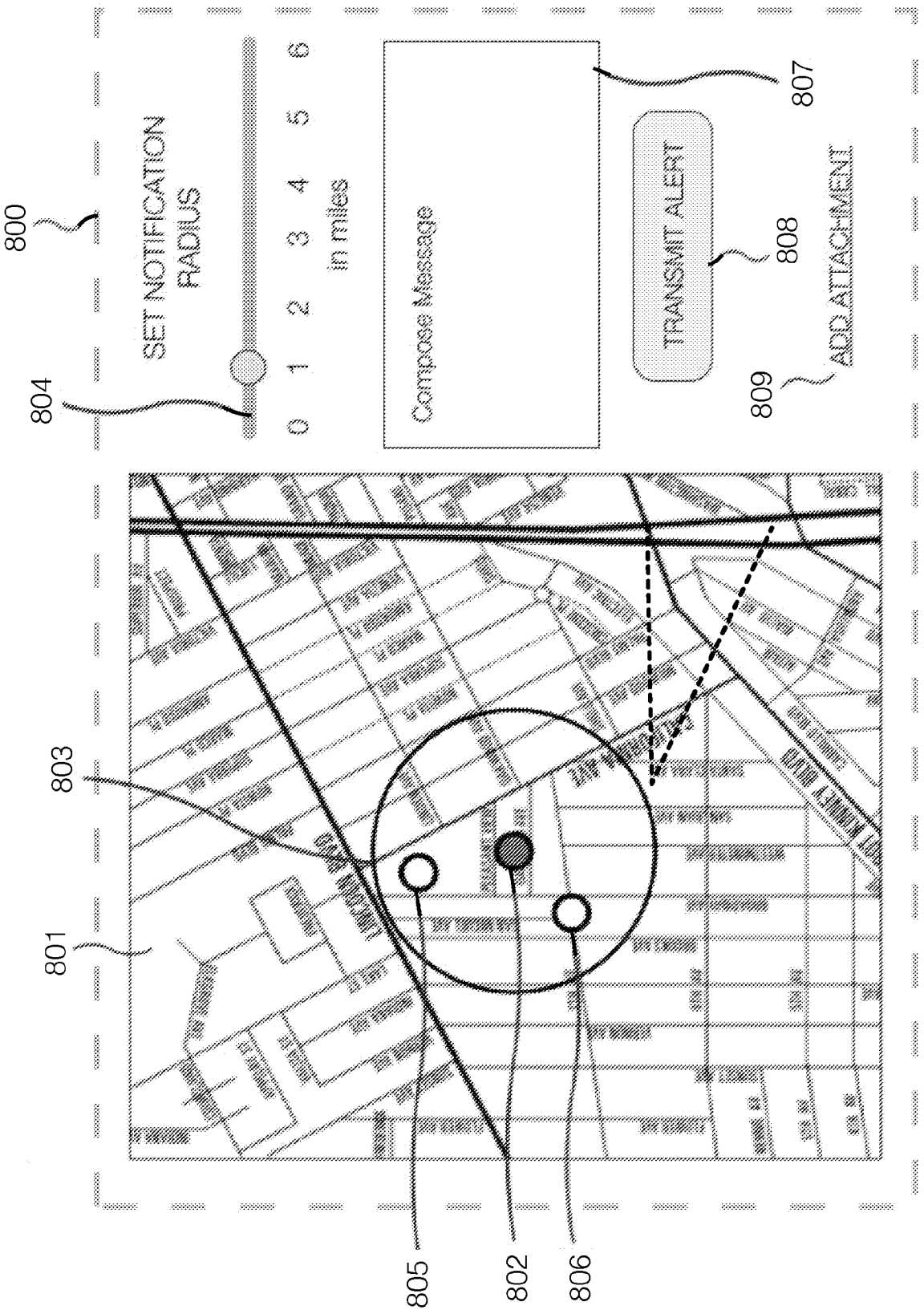

800
SET NOTIFICATION RADIUS
0 1 2 3 4 5 6
in miles
804
Compose Message
807
TRANSMIT ALERT
808
809
ADD ATTACHMENT
803
801
805
802
806

FIGURE 9

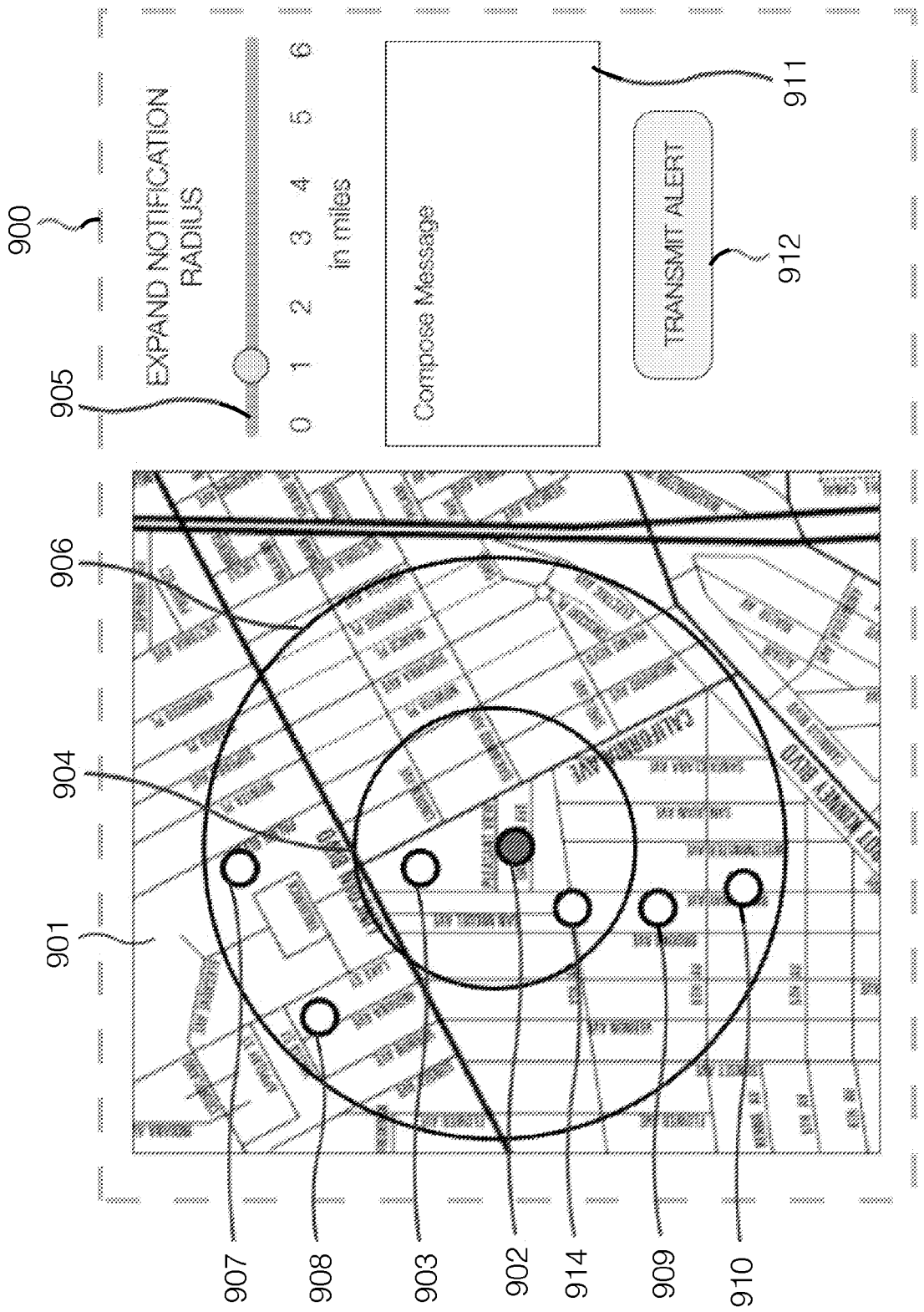

900
905
EXPAND NOTIFICATION RADIUS
0 1 2 3 4 5 6
in miles
Compose Message
TRANSMIT ALERT
911
912
906
904
901
907
908
903
902
914
909
910

FIGURE 10

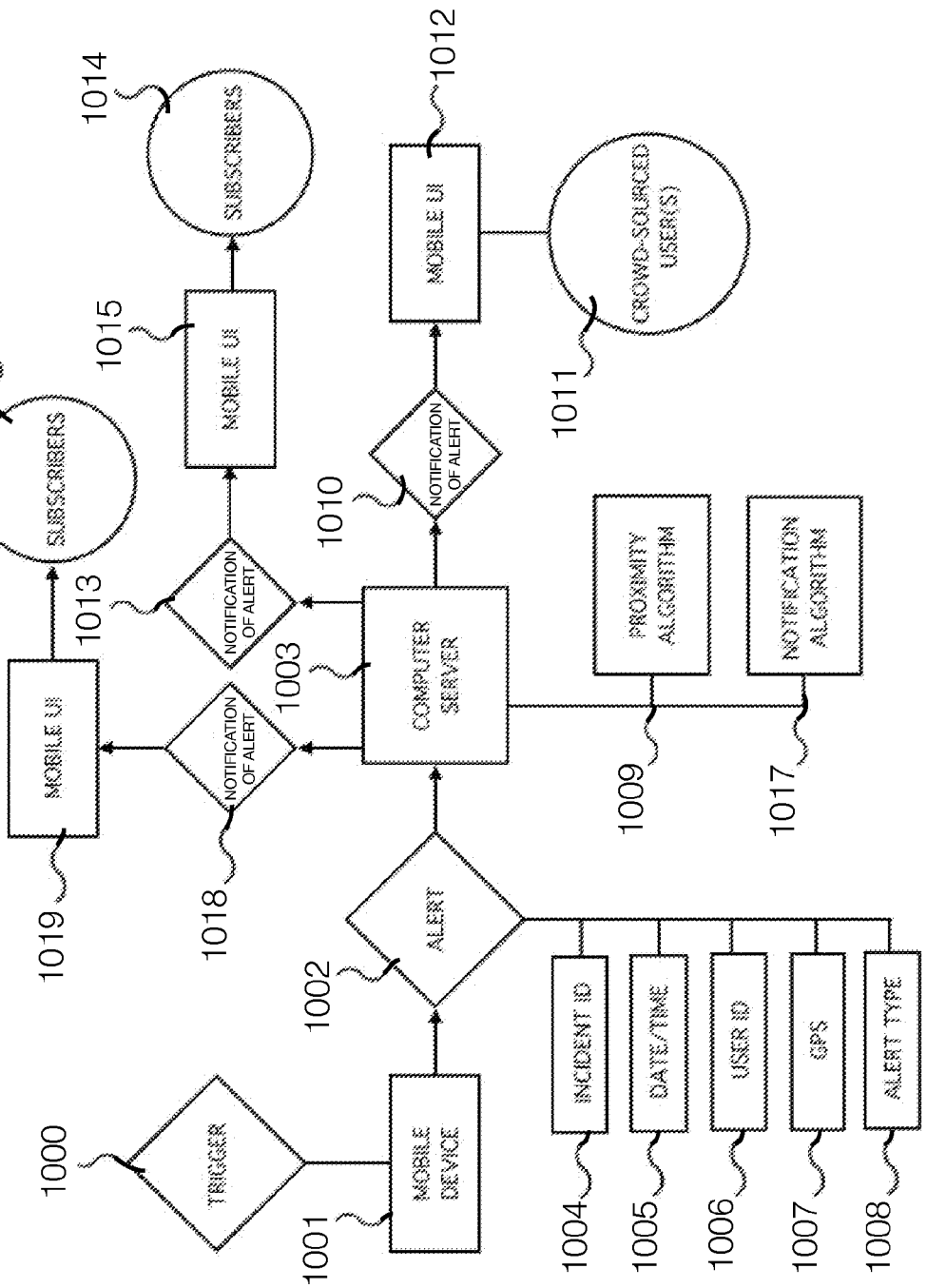

1000
TRIGGER
1001
MOBILE DEVICE
1002
ALERT
1003
COMPUTER SERVER
1004
INCIDENT ID
1005
DATE/TIME
1006
USER ID
1007
GPS
1008
ALERT TYPE
1009
PROXIMITY ALGORITHM
1010
NOTIFICATION OF ALERT
1011
CROWD-SOURCED USER(S)
1012
MOBILE UI
1013
NOTIFICATION OF ALERT
1014
SUBSCRIBERS
1015
MOBILE UI
1016
SUBSCRIBERS
1017
NOTIFICATION ALGORITHM
1018
NOTIFICATION OF ALERT
1019
MOBILE UI

FIGURE 11

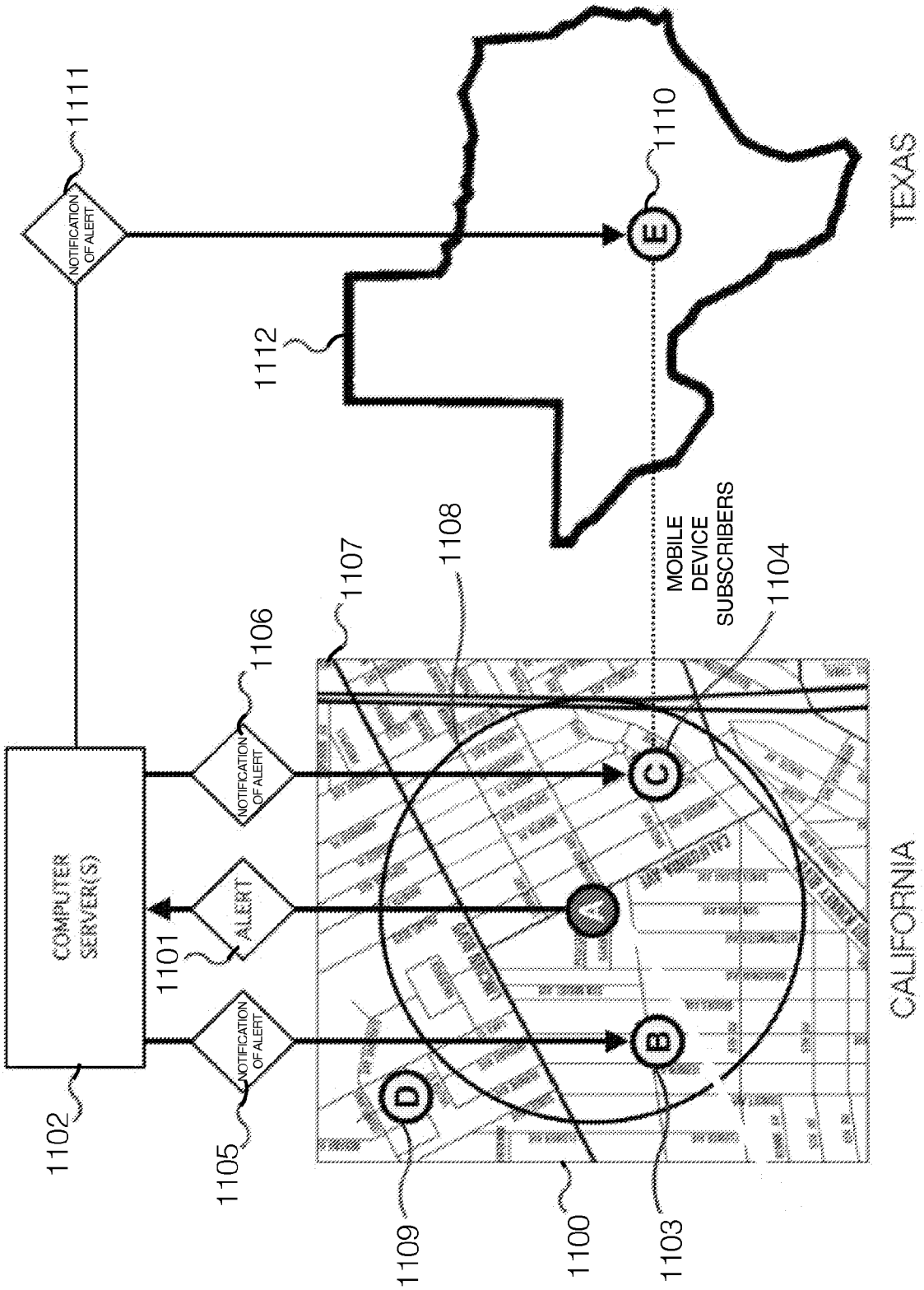

1111
NOTIFICATION OF ALERT
1110
E
TEXAS
1112
1107
1108
MOBILE DEVICE SUBSCRIBERS
1104
1106
NOTIFICATION OF ALERT
C
COMPUTER SERVER(S)
ALERT
1101
A
NOTIFICATION OF ALERT
B
D
1102
1105
1109
1100
1103
CALIFORNIA

FIGURE 12

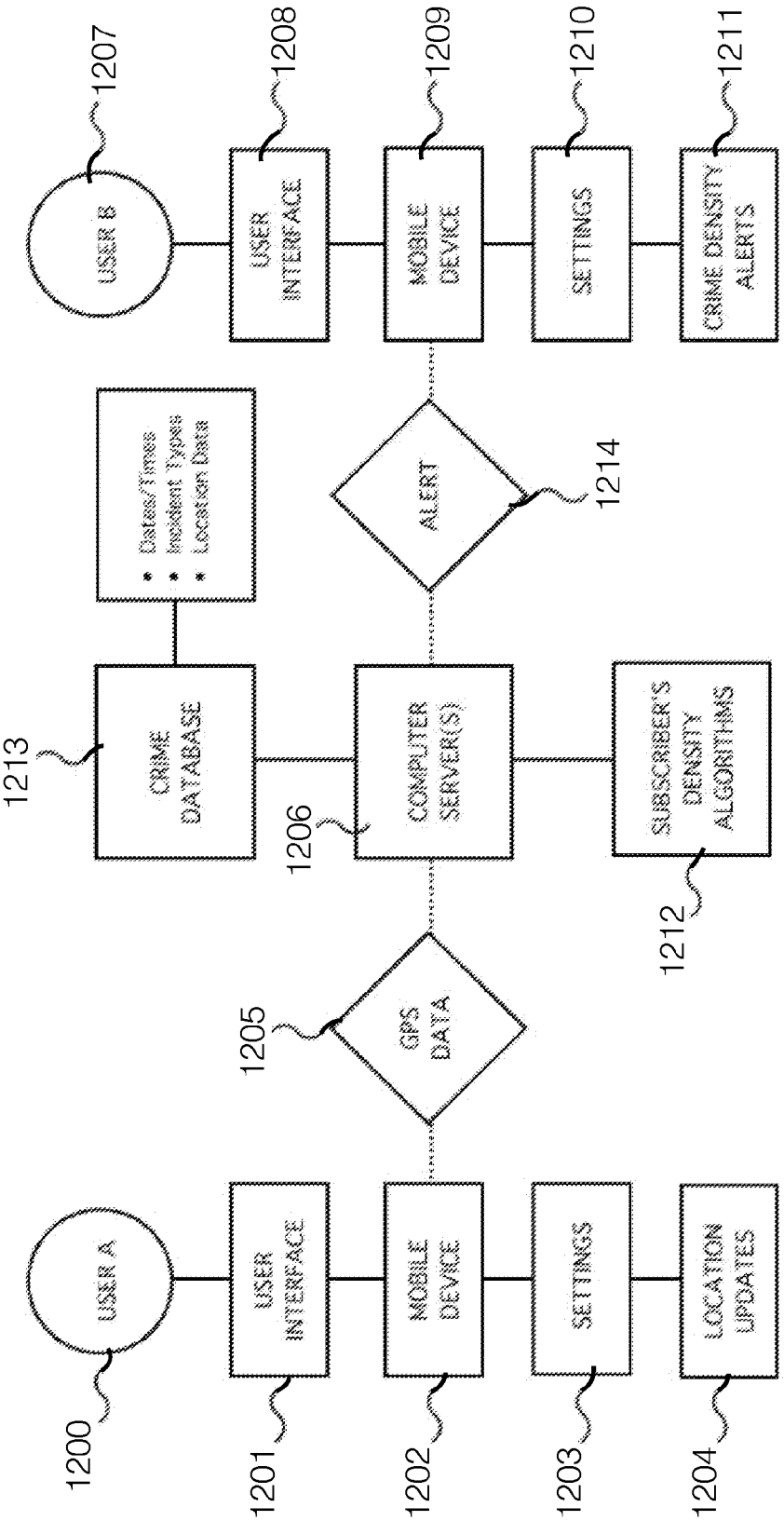

USER A
USER INTERFACE
MOBILE DEVICE
SETTINGS
LOCATION UPDATES
1200
1201
1202
1203
1204
GPS DATA
1205
COMPUTER SERVER(S)
1206
CRIME DATABASE
1213
Dates/Times
Incident Types
Location Data
SUBSCRIBER'S DENSITY ALGORITHMS
1212
ALERT
1214
USER B
USER INTERFACE
MOBILE DEVICE
SETTINGS
CRIME DENSITY ALERTS
1207
1208
1209
1210
1211

FIGURE 13

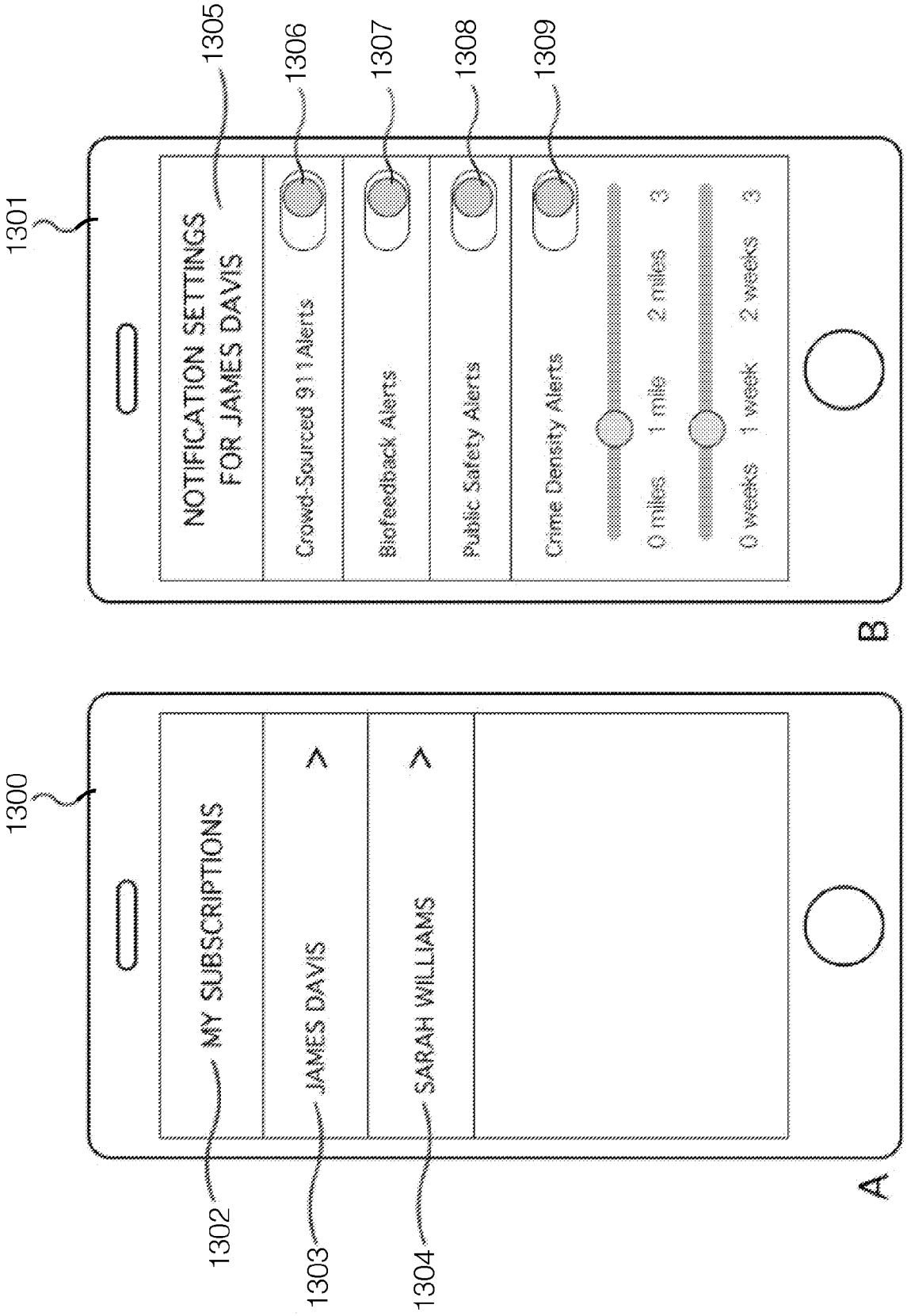

1300
MY SUBSCRIPTIONS
JAMES DAVIS
SARAH WILLIAMS
1302
1303
1304
A
1301
NOTIFICATION SETTINGS FOR JAMES DAVIS
1305
Crowd-Sourced 911 Alerts
1306
Biofeedback Alerts
1307
Public Safety Alerts
1308
Crime Density Alerts
1309
0 miles 1 mile 2 miles 3
0 weeks 1 week 2 weeks 3
B

FIGURE 14

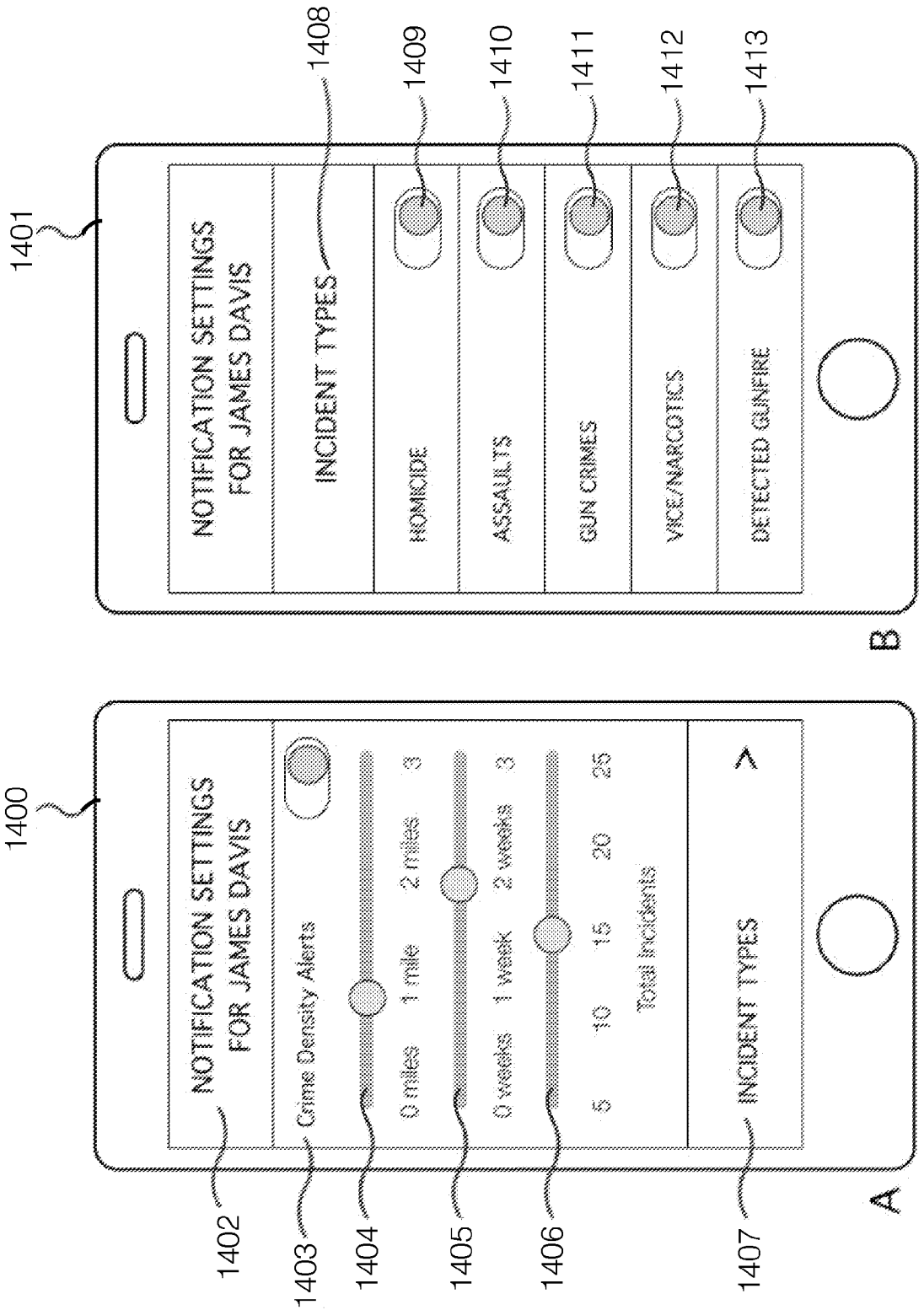

1400
1401
NOTIFICATION SETTINGS FOR JAMES DAVIS
Crime Density Alerts
0 miles 1 mile 2 miles 3
0 weeks 1 week 2 weeks 3
5 10 15 20 25
Total Incidents
INCIDENT TYPES
A
NOTIFICATION SETTINGS FOR JAMES DAVIS
INCIDENT TYPES
HOMICIDE
ASSAULTS
GUN CRIMES
VICE/NARCOTICS
DETECTED GUNFIRE
B
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413

FIGURE 15

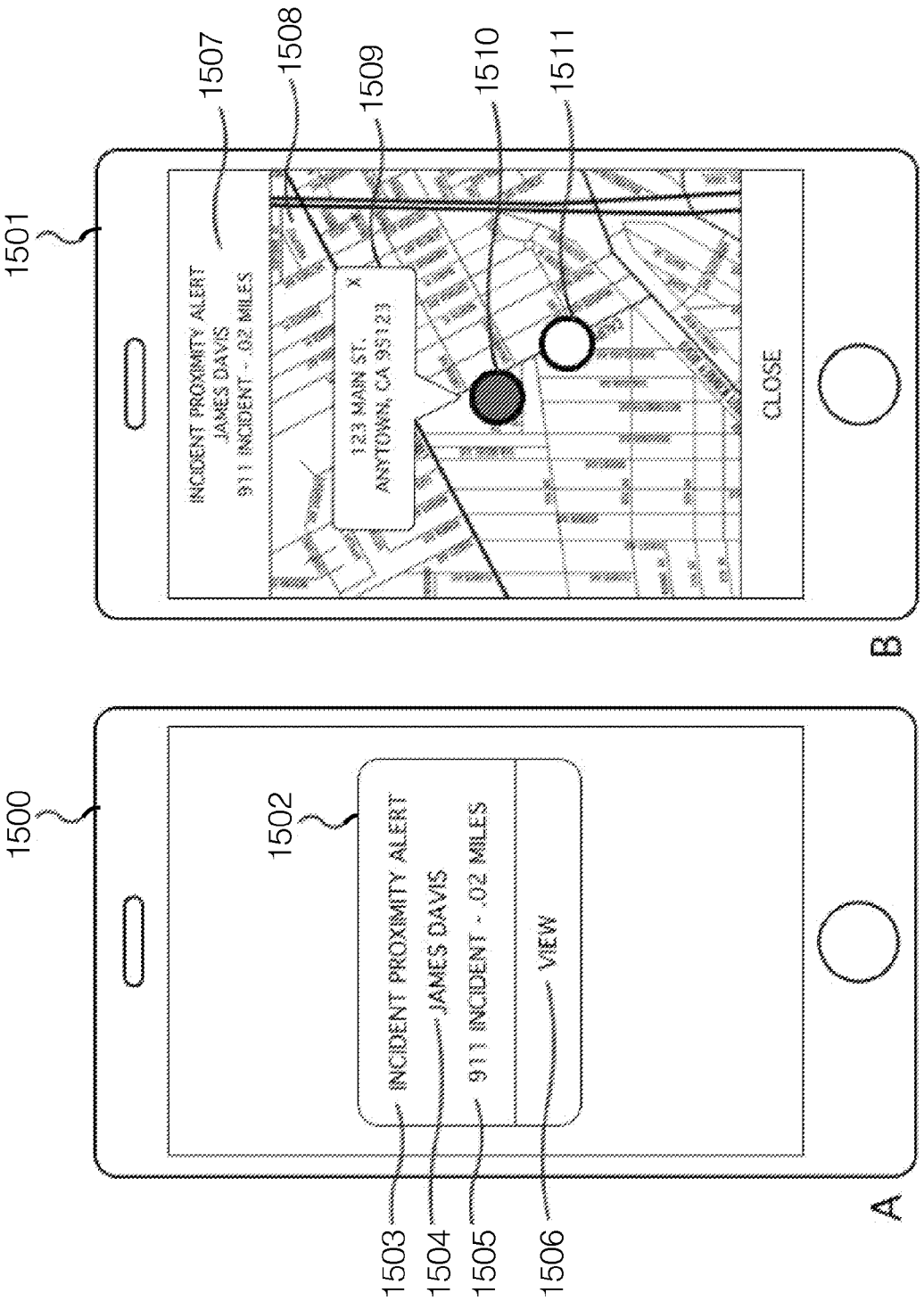

1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
INCIDENT PROXIMITY ALERT
JAMES DAVIS
911 INCIDENT - .02 MILES
VIEW
INCIDENT PROXIMITY ALERT
JAMES DAVIS
911 INCIDENT - .02 MILES
123 MAIN ST.
ANYTOWN, CA 95123
CLOSE
A
B

FIGURE 16

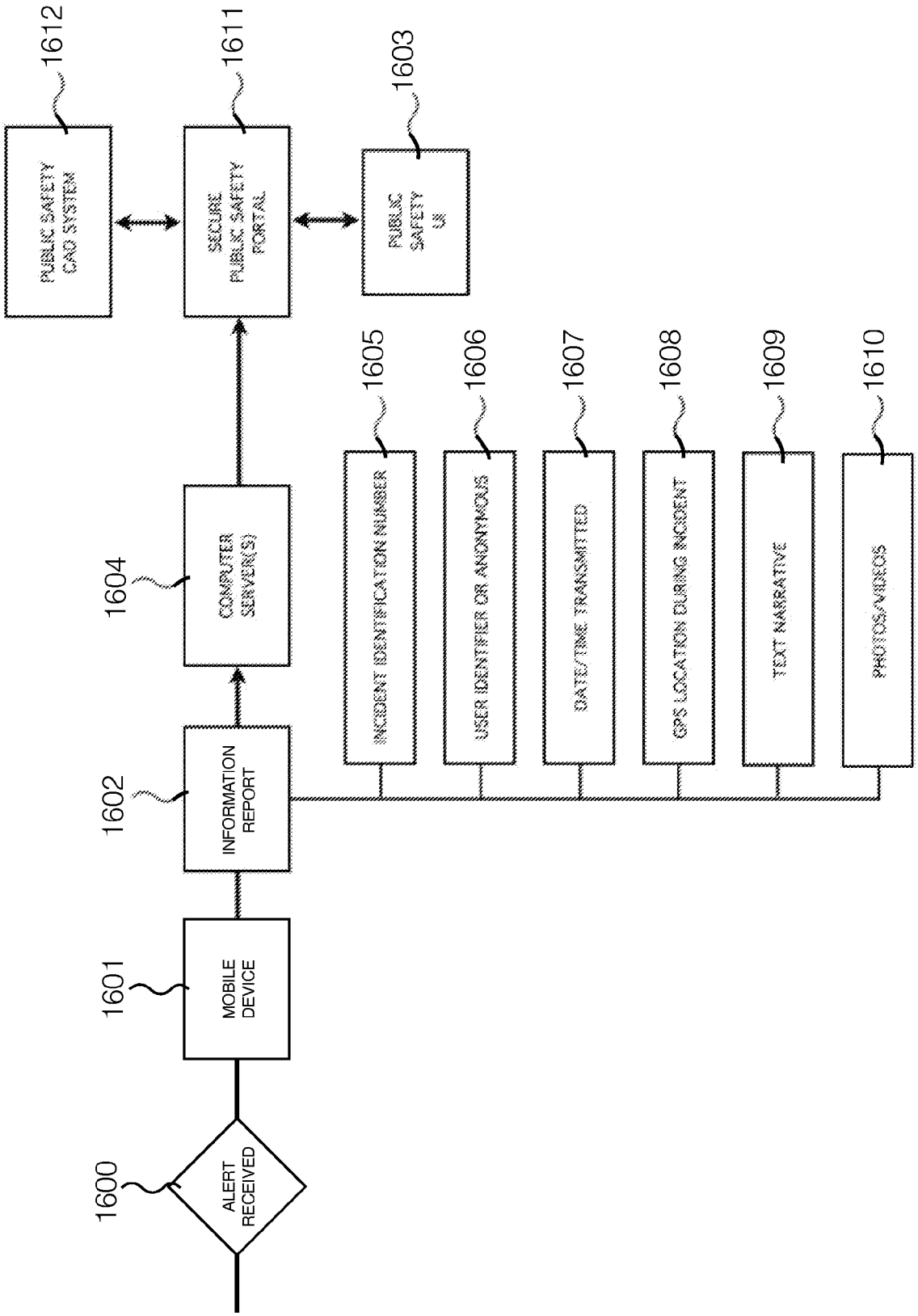

1600
ALERT RECEIVED
1601
MOBILE DEVICE
1602
INFORMATION REPORT
1604
COMPUTER SERVER(S)
1605
INCIDENT IDENTIFICATION NUMBER
1606
USER IDENTIFIER OR ANONYMOUS
1607
DATE/TIME TRANSMITTED
1608
GPS LOCATION DURING INCIDENT
1609
TEXT NARRATIVE
1610
PHOTOS/VIDEOS
1611
SECURE PUBLIC SAFETY PORTAL
1603
PUBLIC SAFETY UI
1612
PUBLIC SAFETY CAD SYSTEM

FIGURE 17

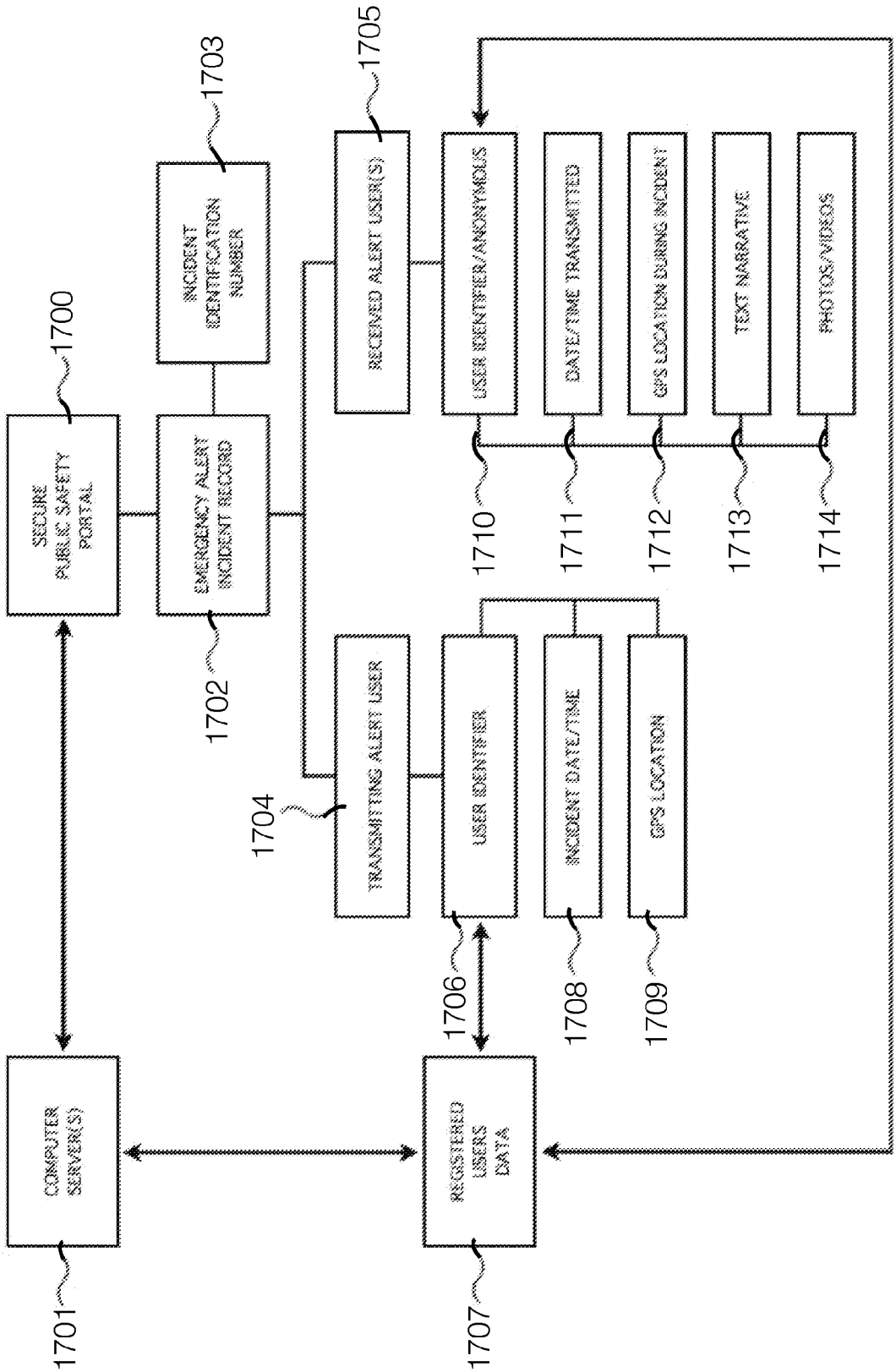

1700
SECURE PUBLIC SAFETY PORTAL
1701
COMPUTER SERVER(S)
1702
EMERGENCY ALERT INCIDENT RECORD
1703
INCIDENT IDENTIFICATION NUMBER
1704
TRANSMITTING ALERT USER
1705
RECEIVED ALERT USER(S)
1706
USER IDENTIFIER
1707
REGISTERED USERS DATA
1708
INCIDENT DATE/TIME
1709
GPS LOCATION
1710
USER IDENTIFIER/ANONYMOUS
1711
DATE/TIME TRANSMITTED
1712
GPS LOCATION DURING INCIDENT
1713
TEXT NARRATIVE
1714
PHOTOS/VIDEOS

FIGURE 18

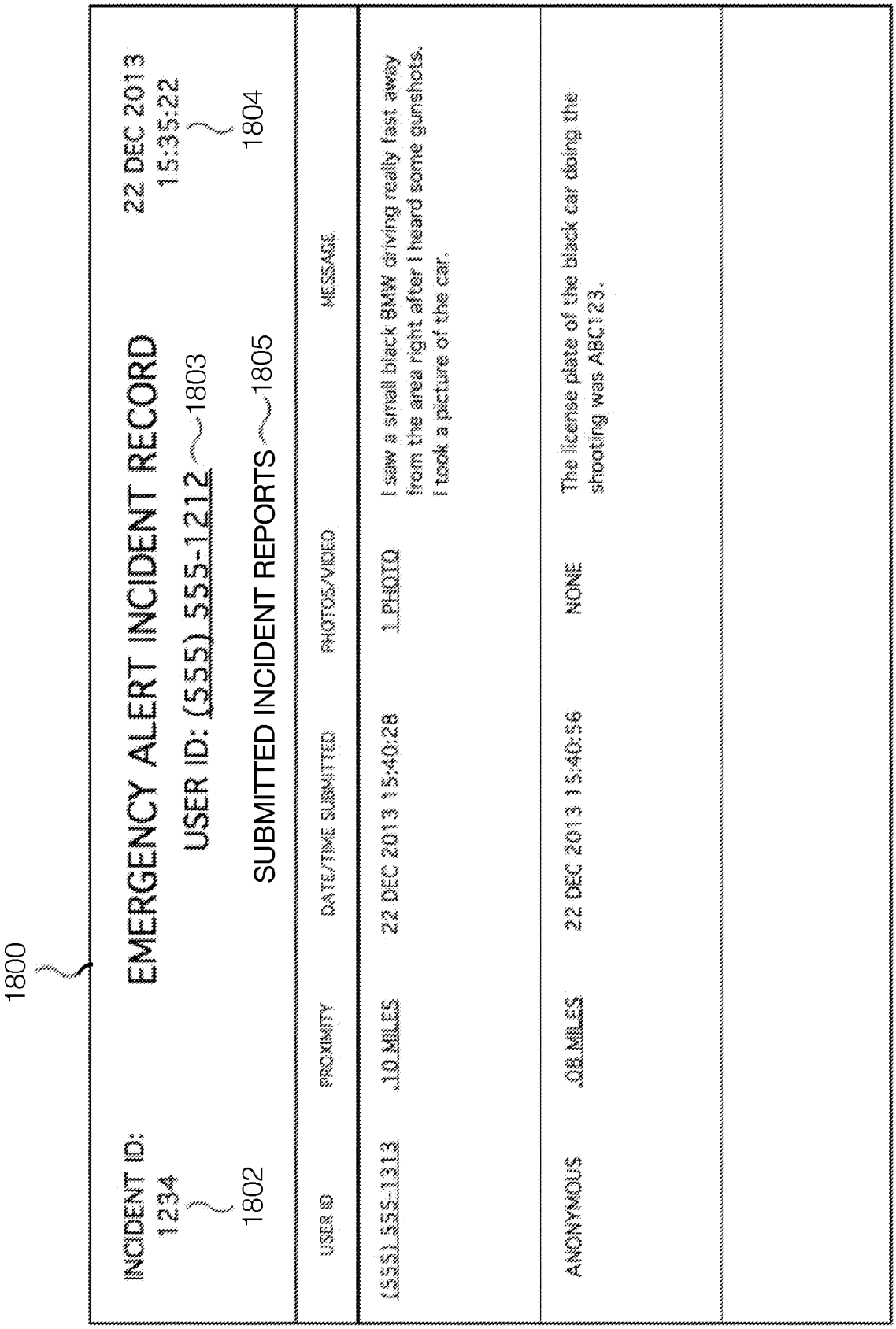

1800
EMERGENCY ALERT INCIDENT RECORD
INCIDENT ID: 1234
1802
USER ID: (555) 555-1212
1803
22 DEC 2013 15:35:22
1804
SUBMITTED INCIDENT REPORTS
1805
USER ID
PROXIMITY
DATE/TIME SUBMITTED
PHOTOS/VIDEO
MESSAGE
(555) 555-1313
.10 MILES
22 DEC 2013 15:40:28
1 PHOTO
I saw a small black BMW driving really fast away from the area right after I heard some gunshots. I took a picture of the car.
ANONYMOUS
.08 MILES
22 DEC 2013 15:40:56
NONE
The license plate of the black car doing the shooting was ABC123.

FIGURE 19

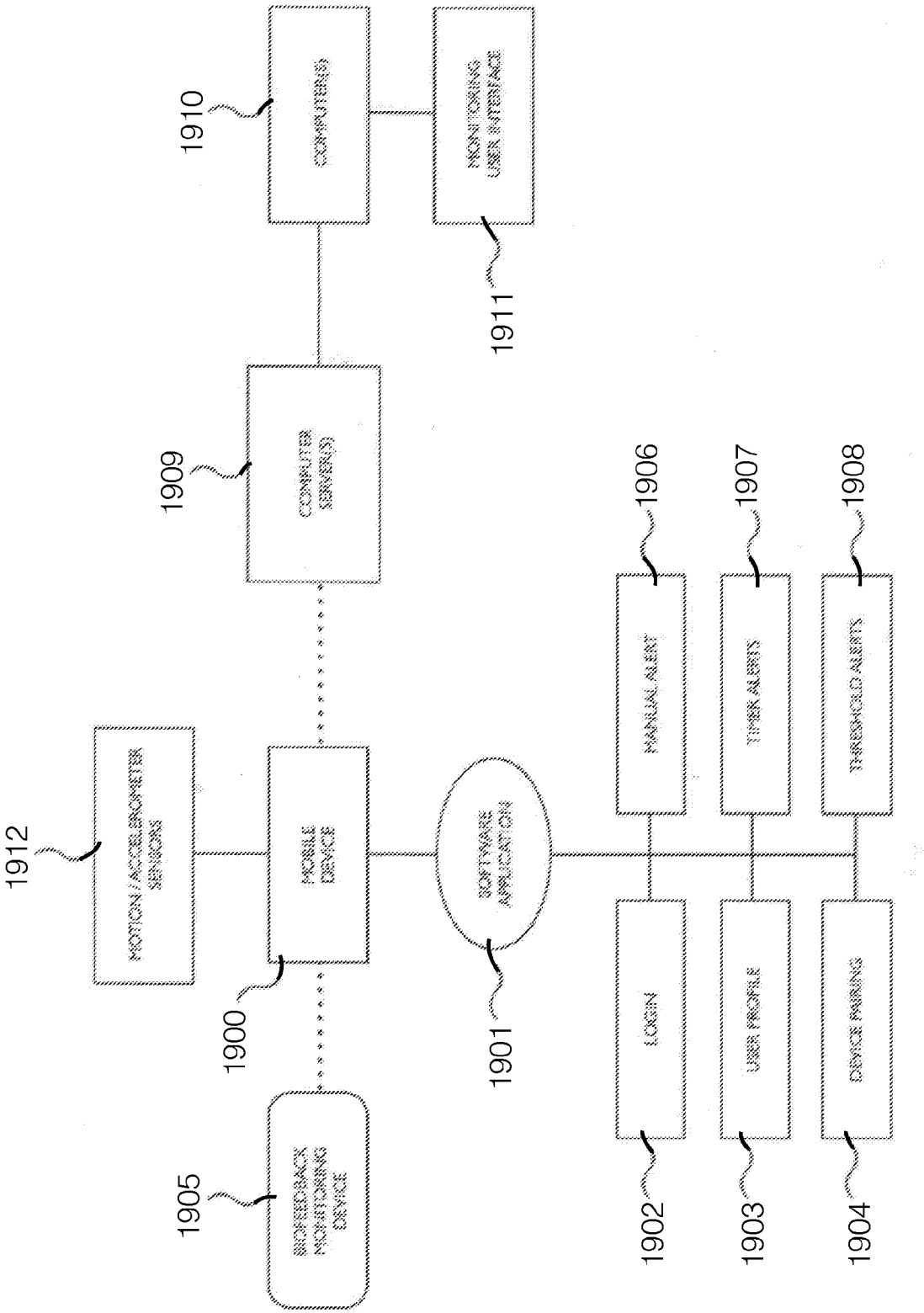

1910
COMPUTING
MONITORING USER INTERFACE
1911
1909
COMPUTER SERVERS
1912
MOTION / ACCELEROMETER SENSORS
MOBILE DEVICE
1900
SOFTWARE APPLICATION
1901
1906
MANUAL ALERT
1907
TIMER ALERTS
1908
THRESHOLD ALERTS
1905
BIOFEEDBACK MONITORING DEVICE
LOGIN
USER PROFILE
DEVICE PAIRING
1902
1903
1904

FIGURE 20

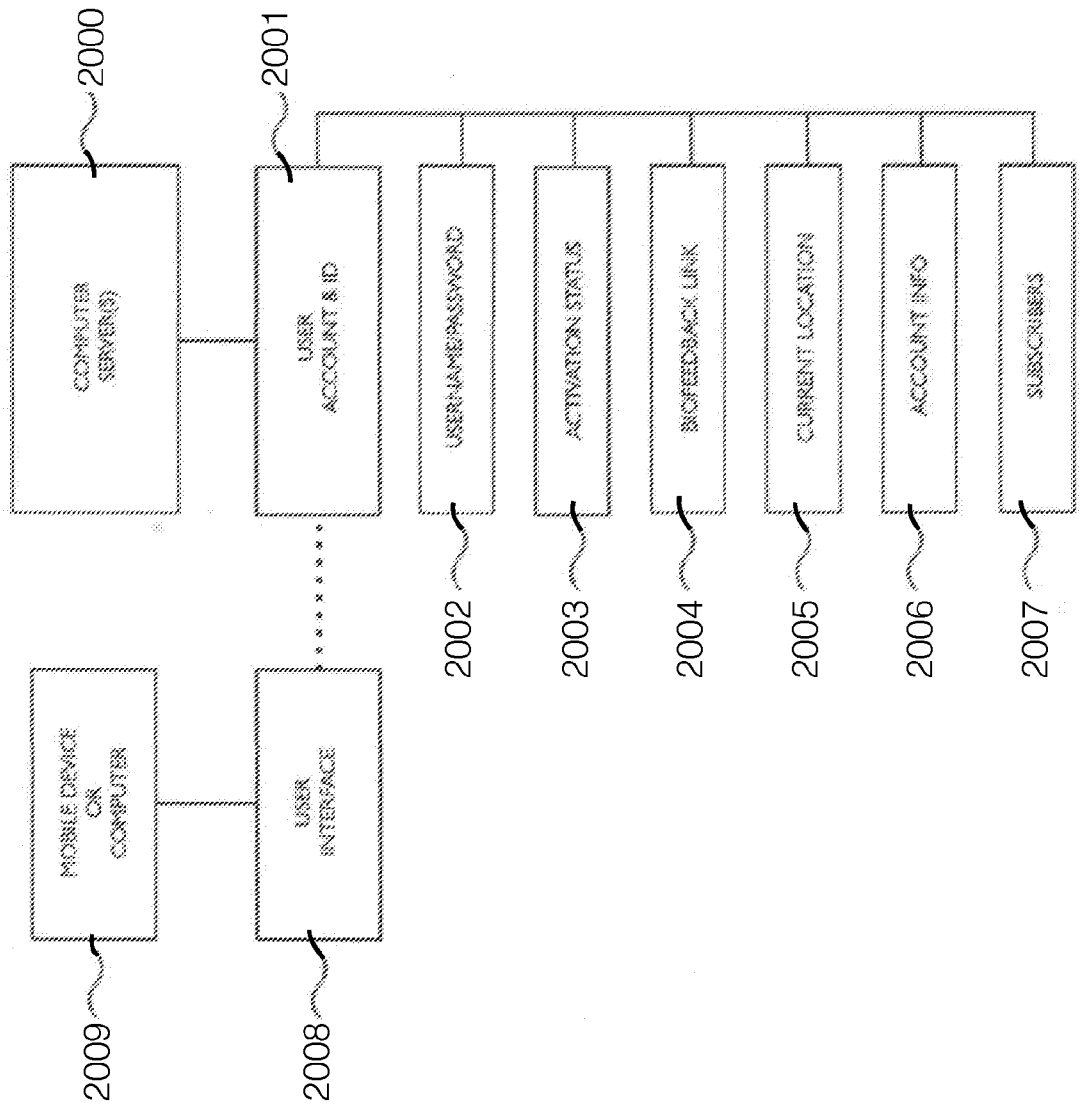

2000
2001
COMPUTER (SERVER)
USER ACCOUNT & ID
USER NAME/PASSWORD
ACTIVATION STATUS
BIOFEEDBACK LINK
CURRENT LOCATION
ACCOUNT INFO
SUBSCRIBERS
2002
2003
2004
2005
2006
2007
MOBILE DEVICE OR COMPUTER
USER INTERFACE
2009
2008

FIGURE 21

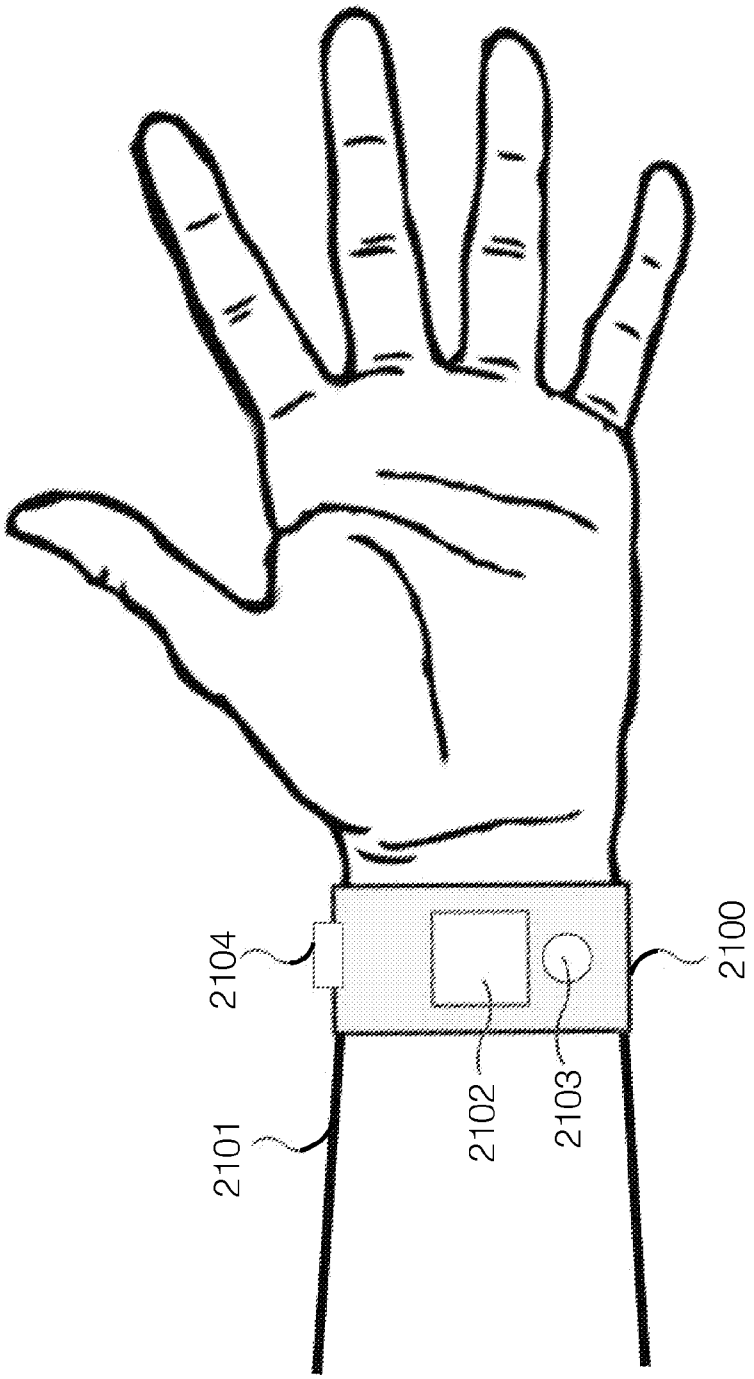


FIGURE 22

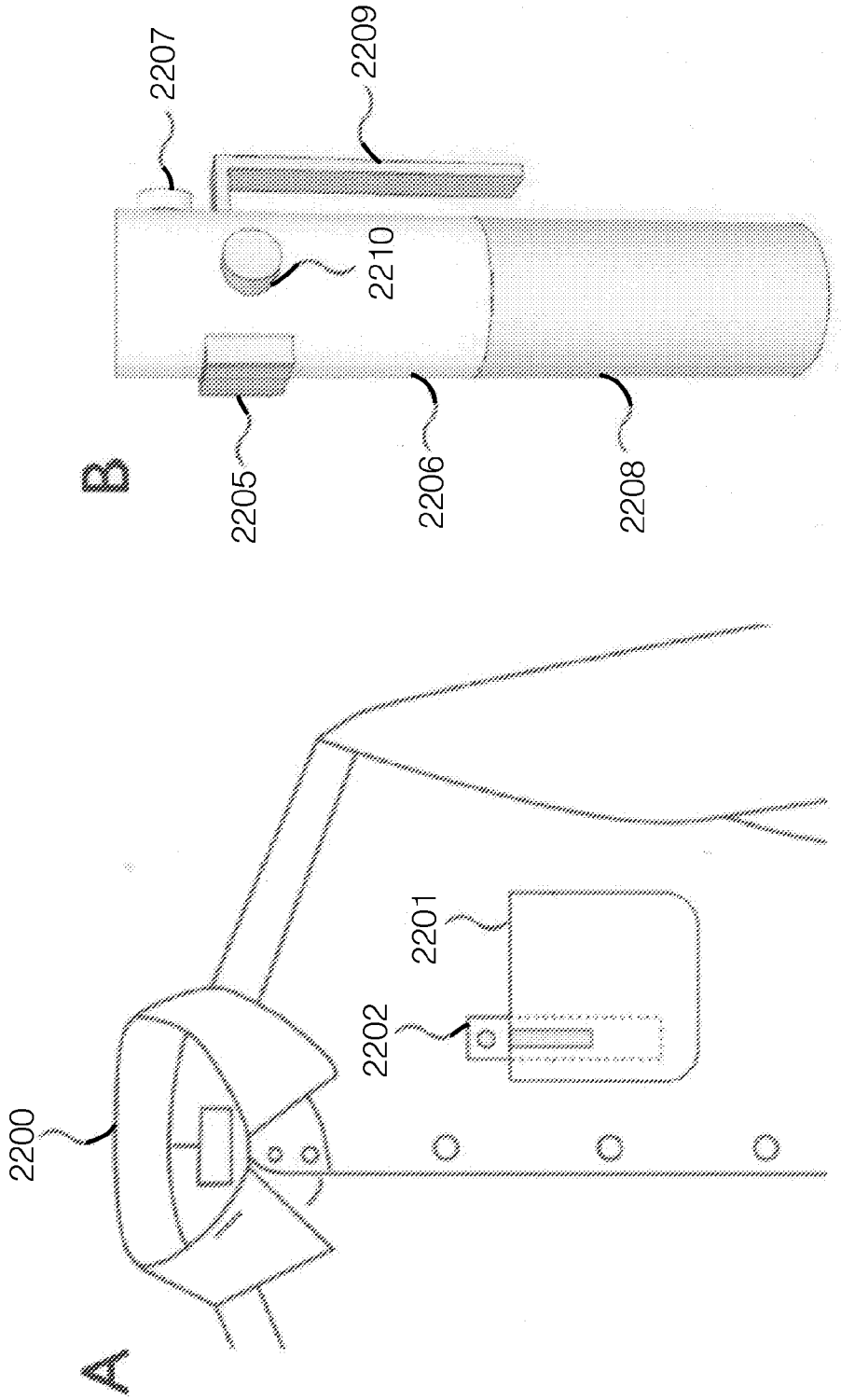


FIGURE 23

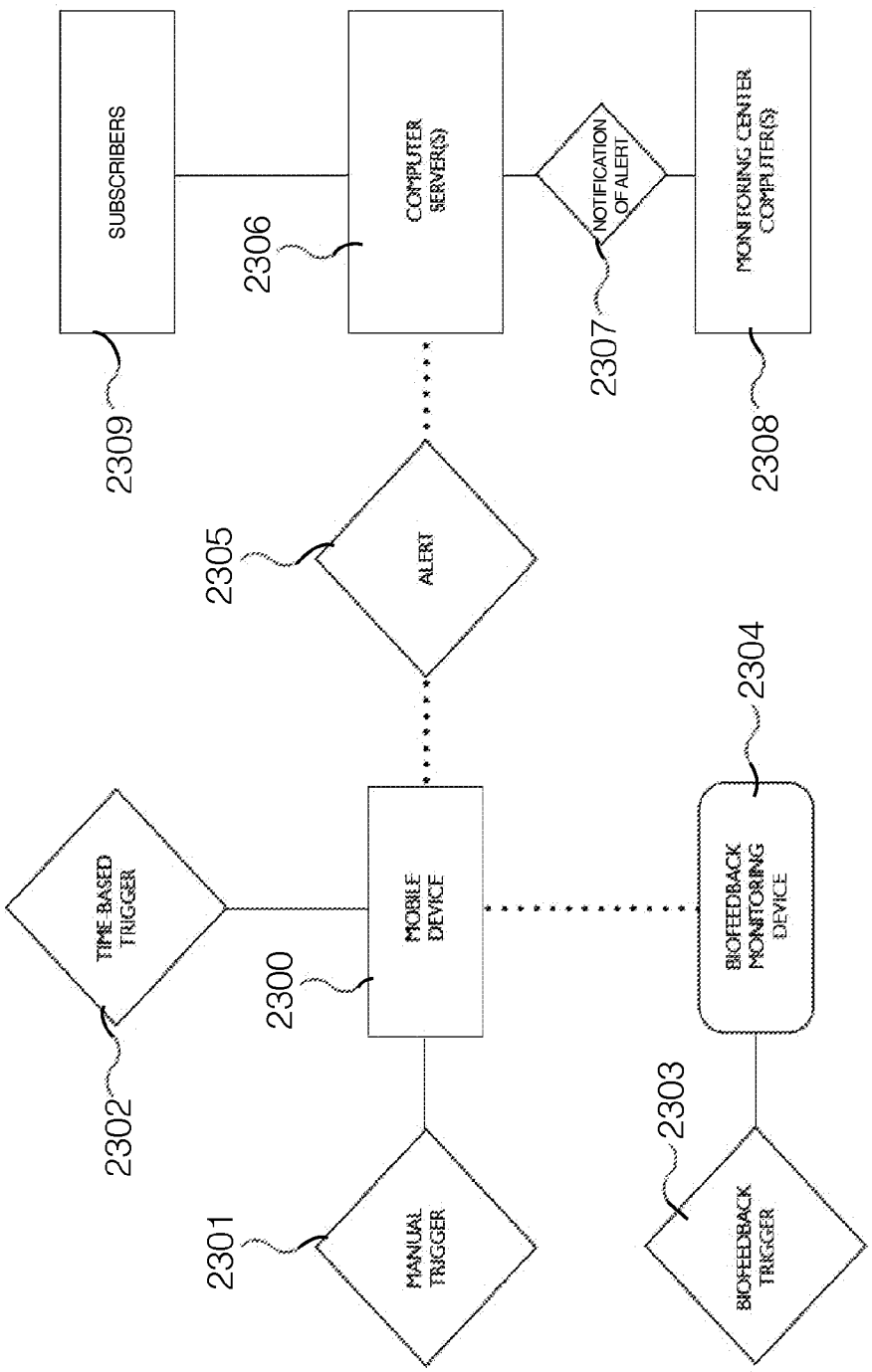

SUBSCRIBERS
COMPUTER SERVER(S)
NOTIFICATION OF ALERT
MONITORING CENTER COMPUTER(S)
2309
2306
2307
2308
ALERT
2305
TIME BASED TRIGGER
MOBILE DEVICE
BIOFEEDBACK MONITORING DEVICE
2304
2302
2300
MANUAL TRIGGER
BIOFEEDBACK TRIGGER
2301
2303

FIGURE 24

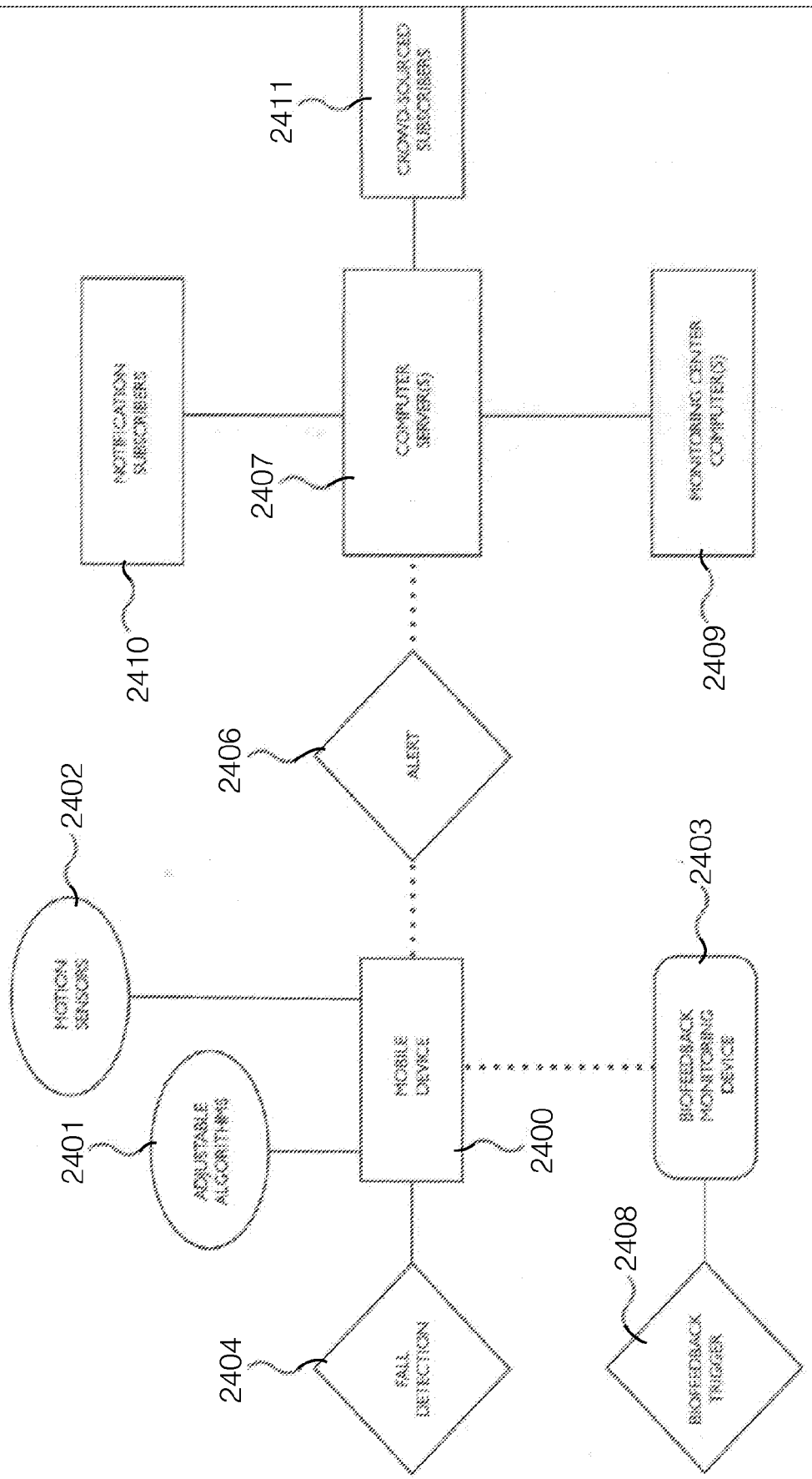

2411
CROWD SOURCED SUBSCRIBERS
NOTIFICATION SUBSCRIBERS
COMPUTER SERVER(S)
MONITORING CENTER COMPUTER(S)
2407
2410
2409
2406
ALERT
2402
2403
MOTION SENSORS
MOBILE DEVICE
BIOFEEDBACK MONITORING DEVICE
2401
ADJUSTABLE ALGORITHMS
2400
2408
2404
FALL DETECTION
BIOFEEDBACK TRIGGER

FIGURE 25

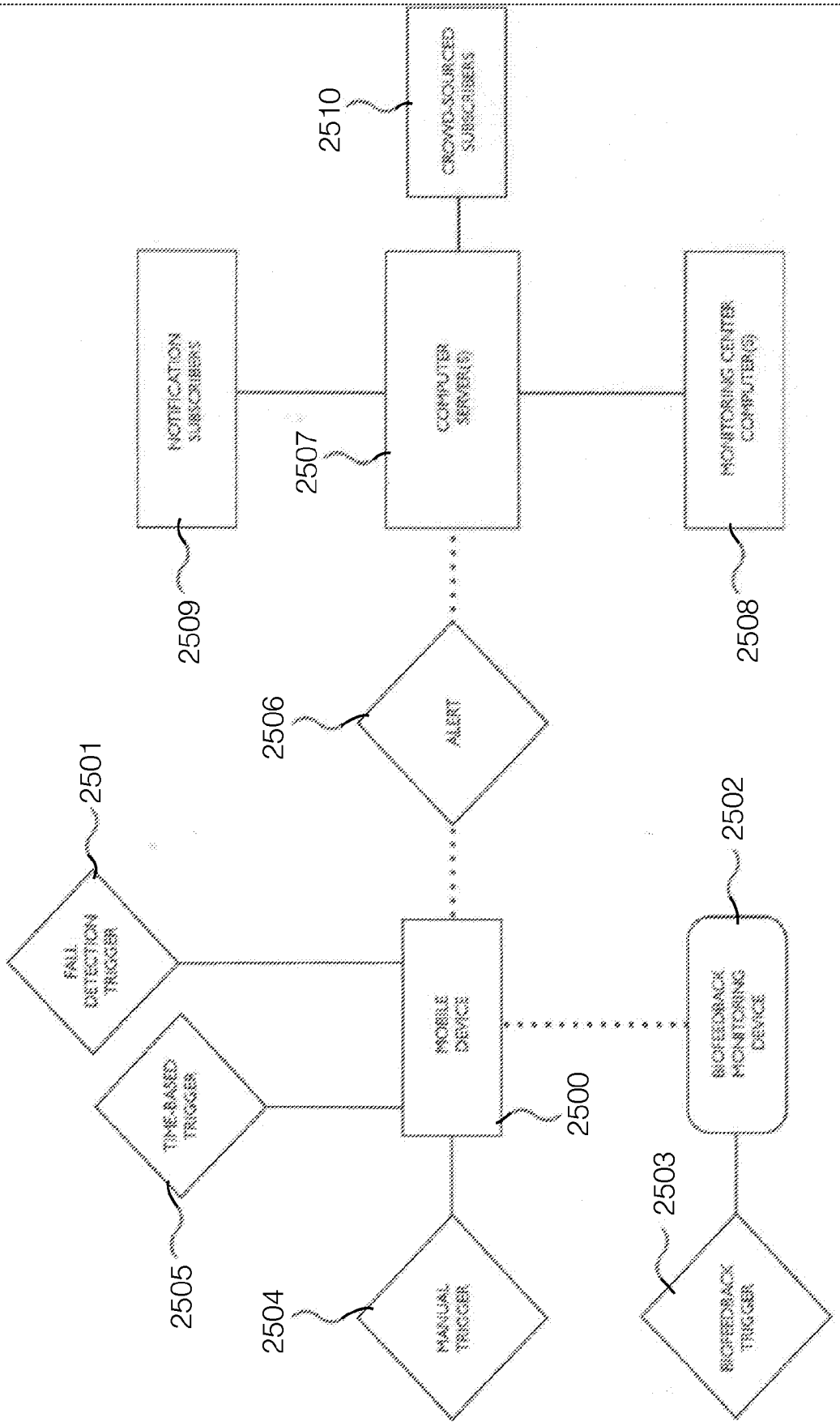

2510
CROWD-SOURCED SUBSCRIBERS
2507
COMPUTER SERVER(S)
2509
NOTIFICATION SUBSCRIBERS
2508
MONITORING CENTER COMPUTER(S)
2506
ALERT
2501
FALL DETECTION TRIGGER
2502
BIOFEEDBACK MONITORING DEVICE
MOBILE DEVICE
2500
TIME-BASED TRIGGER
2505
2504
MANUAL TRIGGER
2503
BIOFEEDBACK TRIGGER

FIGURE 26

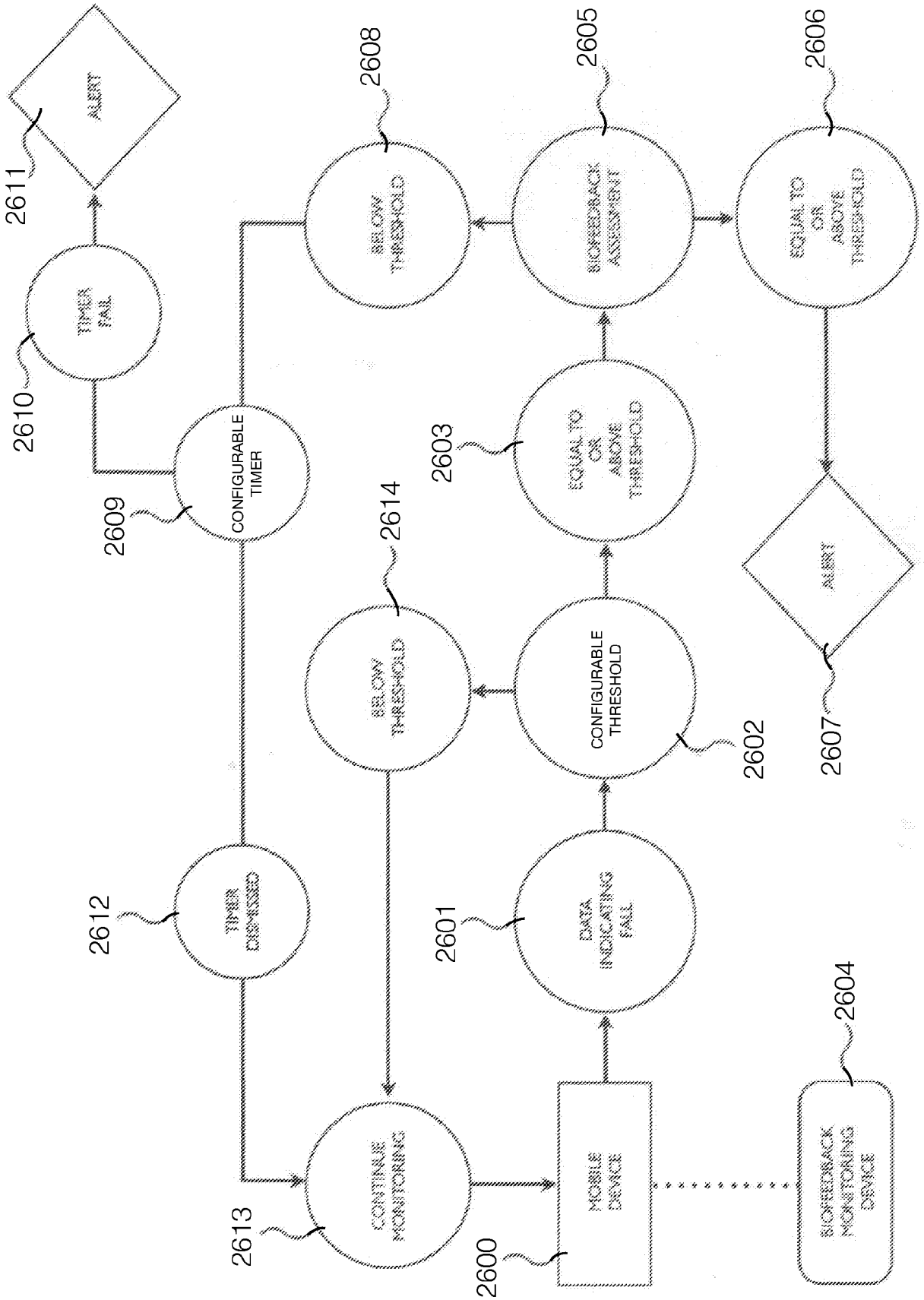

2600
MOBILE DEVICE
2604
BIOFEEDBACK MONITORING DEVICE
2613
CONTINUE MONITORING
2612
TIMER EXPIRED
2609
CONFIGURABLE TIMER
2610
TIMER FAIL
2611
ALERT
2614
BELOW THRESHOLD
2608
BELOW THRESHOLD
2601
DATA INDICATING FAIL
2602
CONFIGURABLE THRESHOLD
2603
EQUAL TO OR ABOVE THRESHOLD
2605
BIOFEEDBACK ASSESSMENT
2607
ALERT
2606
EQUAL TO OR ABOVE THRESHOLD

FIGURE 27

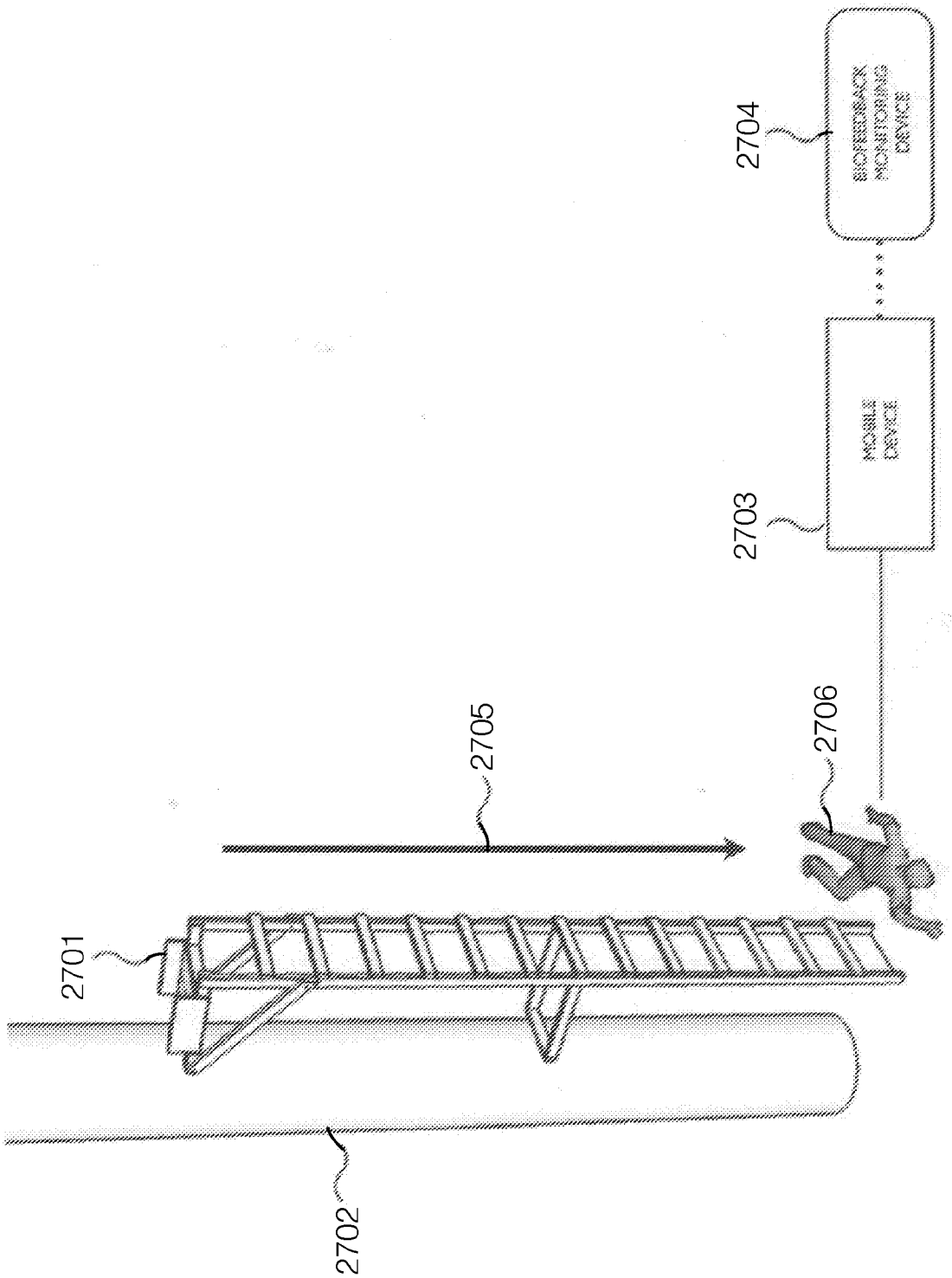

2704
BIOFEEDBACK MONITORING DEVICE
2703
MOBILE DEVICE
2706
2705
2701
2702

FIGURE 28

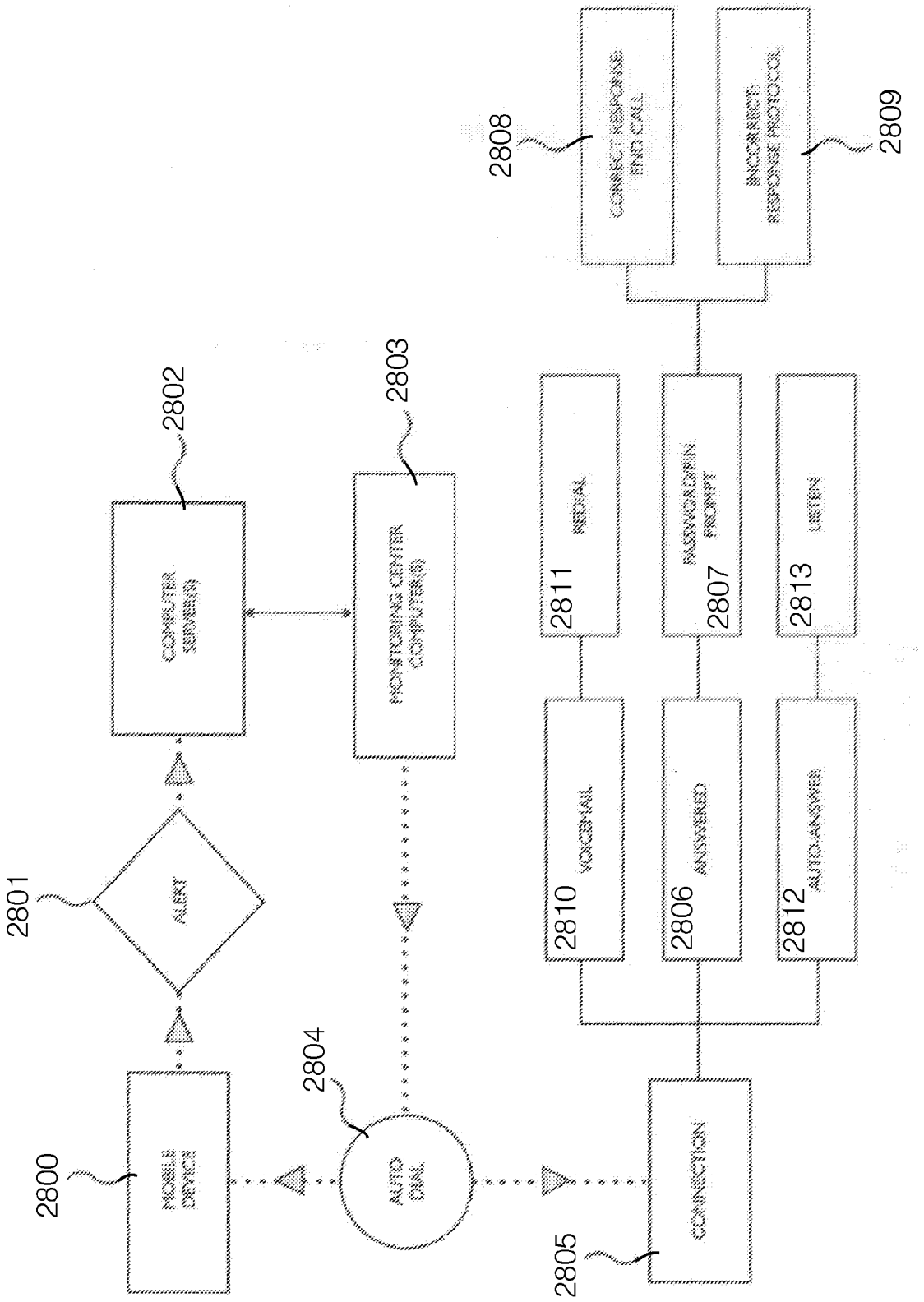

2800
MOBILE DEVICE
2801
ALERT
2802
COMPUTER (DIVERA)
2803
MONITORING CENTER COMPUTER(S)
2804
AUTO DIAL
2805
CONNECTION
2806
ANSWERED
2807
PASSWORD/PIN PROMPT
2808
CORRECT RESPONSE END CALL
2809
INCORRECT RESPONSE PROTOCOL
2810
VOICEMAIL
2811
REDIAL
2812
AUTO-ANSWER
2813
LISTEN

FIGURE 29

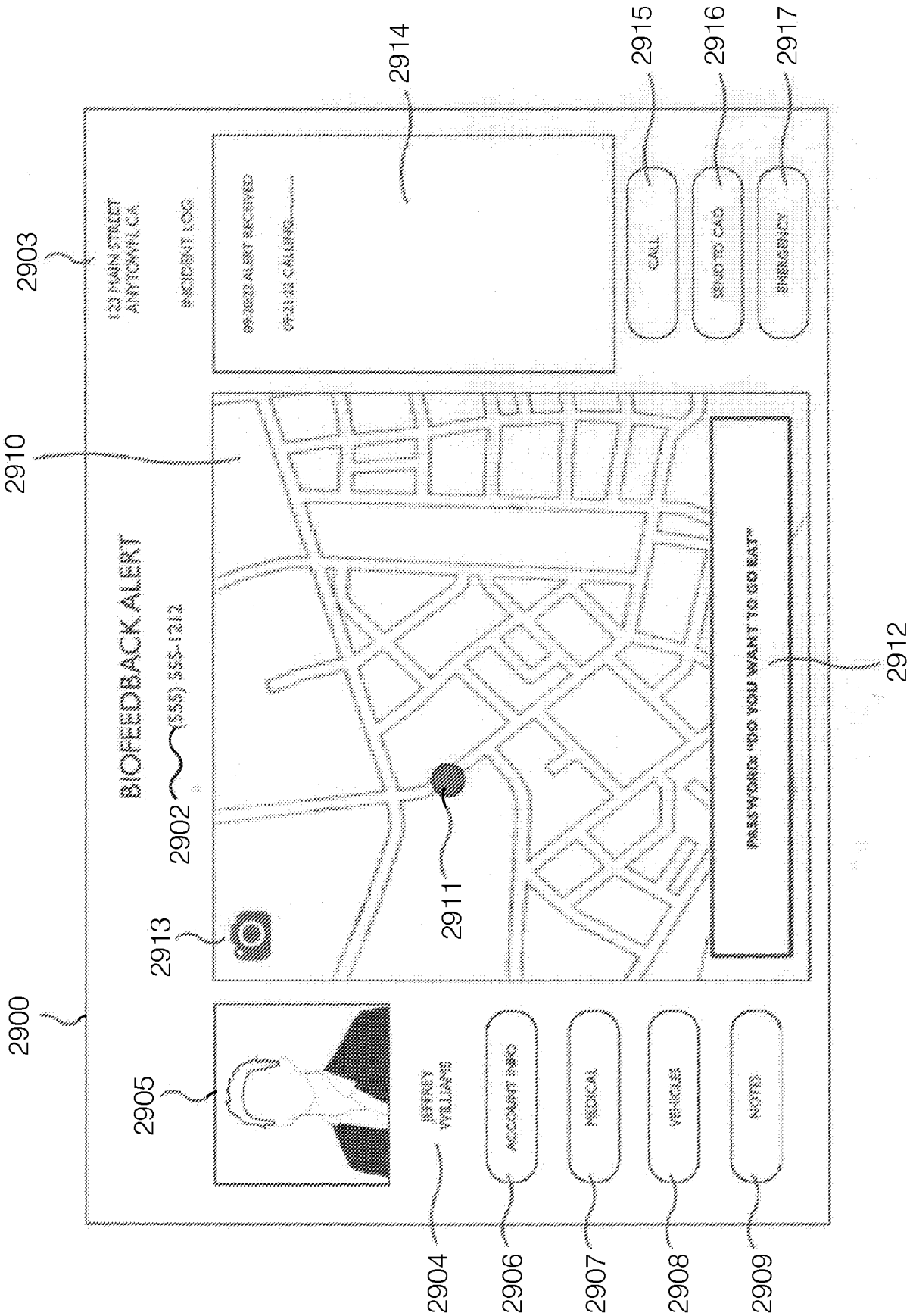

2900
2903
123 MAIN STREET
ANYTOWN, CA
INCIDENT LOG
2914
2915
2916
2917
CALL
SEND TO CAD
EMERGENCY
2910
BIOFEEDBACK ALERT
(555) 555-1212
2902
2911
2913
PASSWORD: "DO YOU WANT TO GO EAT"
2912
2905
JEFFREY
WILLIAMS
ACCOUNT INFO
MEDICAL
VEHICLES
NOTES
2904
2906
2907
2908
2909

FIGURE 30

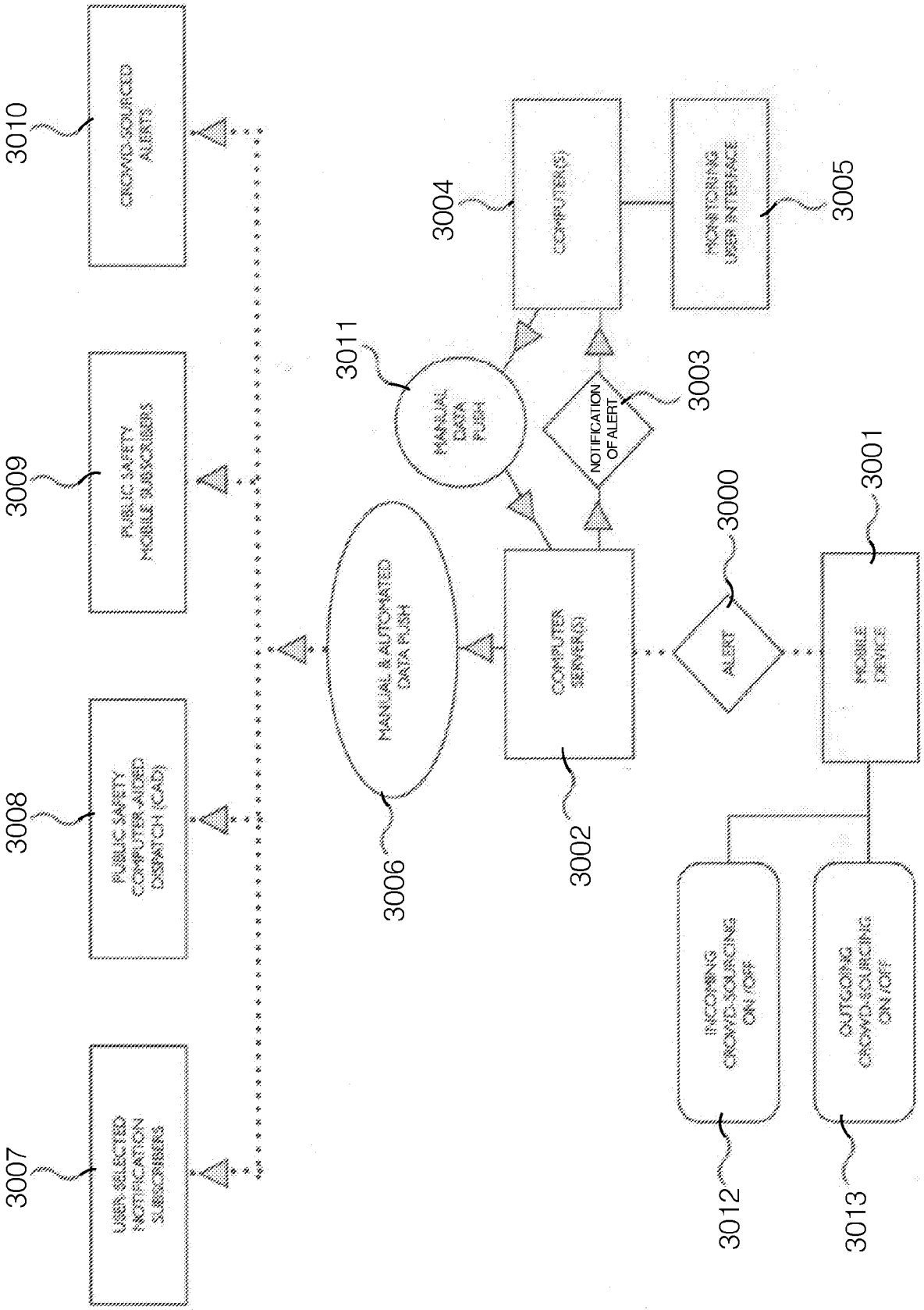

3010
CROWD-SOURCED ALERTS
3009
PUBLIC SAFETY MOBILE SUBSCRIBERS
3008
PUBLIC SAFETY COMPUTER AIDED DISPATCH (CAD)
3007
USER SELECTED NOTIFICATION SUBSCRIBERS
MANUAL & AUTOMATED DATA PUSH
3006
COMPUTER SERVER(S)
3002
3011
MANUAL DATA PUSH
3004
COMPUTER(S)
3005
MONITORING USER INTERFACE
NOTIFICATION OF ALERT
3003
3000
ALERT
3001
MOBILE DEVICE
INCOMING CROWD-SOURCING ON / OFF
3012
OUTGOING CROWD-SOURCING ON / OFF
3013

FIGURE 31

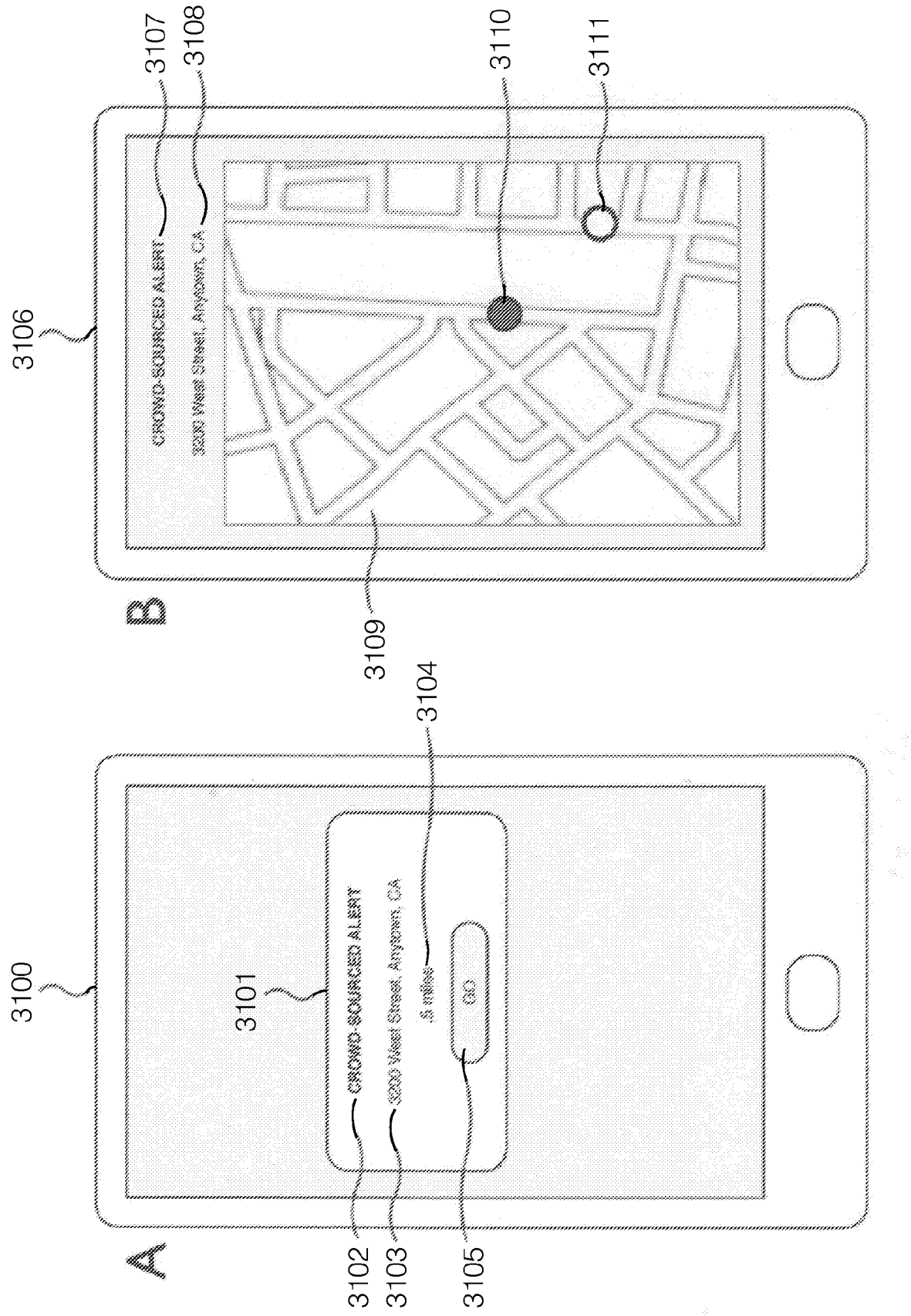

A
B
3100
3101
3102
3103
3104
3105
3106
3107
3108
3109
3110
3111
CROWD-SOURCED ALERT
3200 West Street, Anytown, CA
.5 miles
GO
CROWD-SOURCED ALERT
3200 West Street, Anytown, CA

FIGURE 32

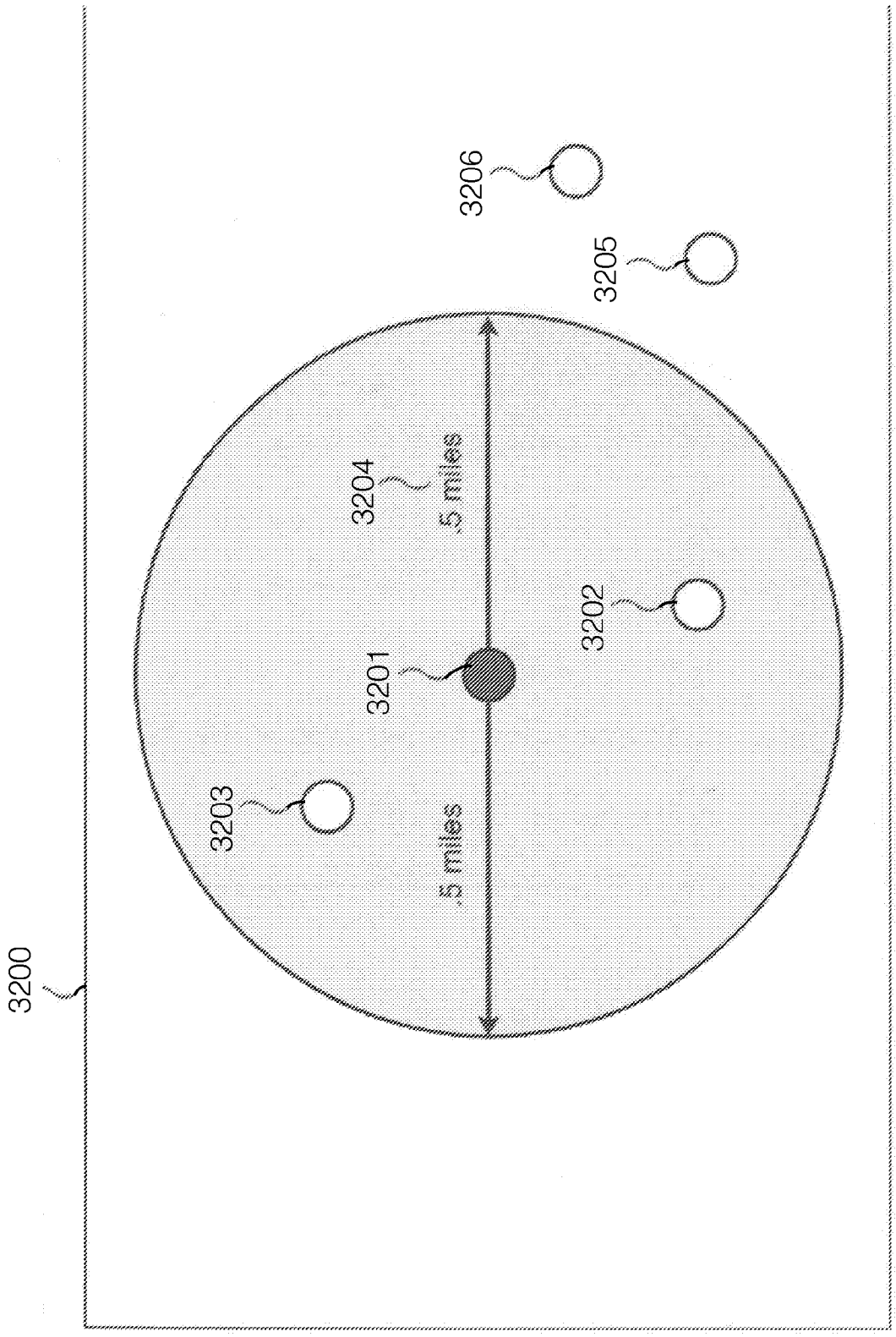


FIGURE 33

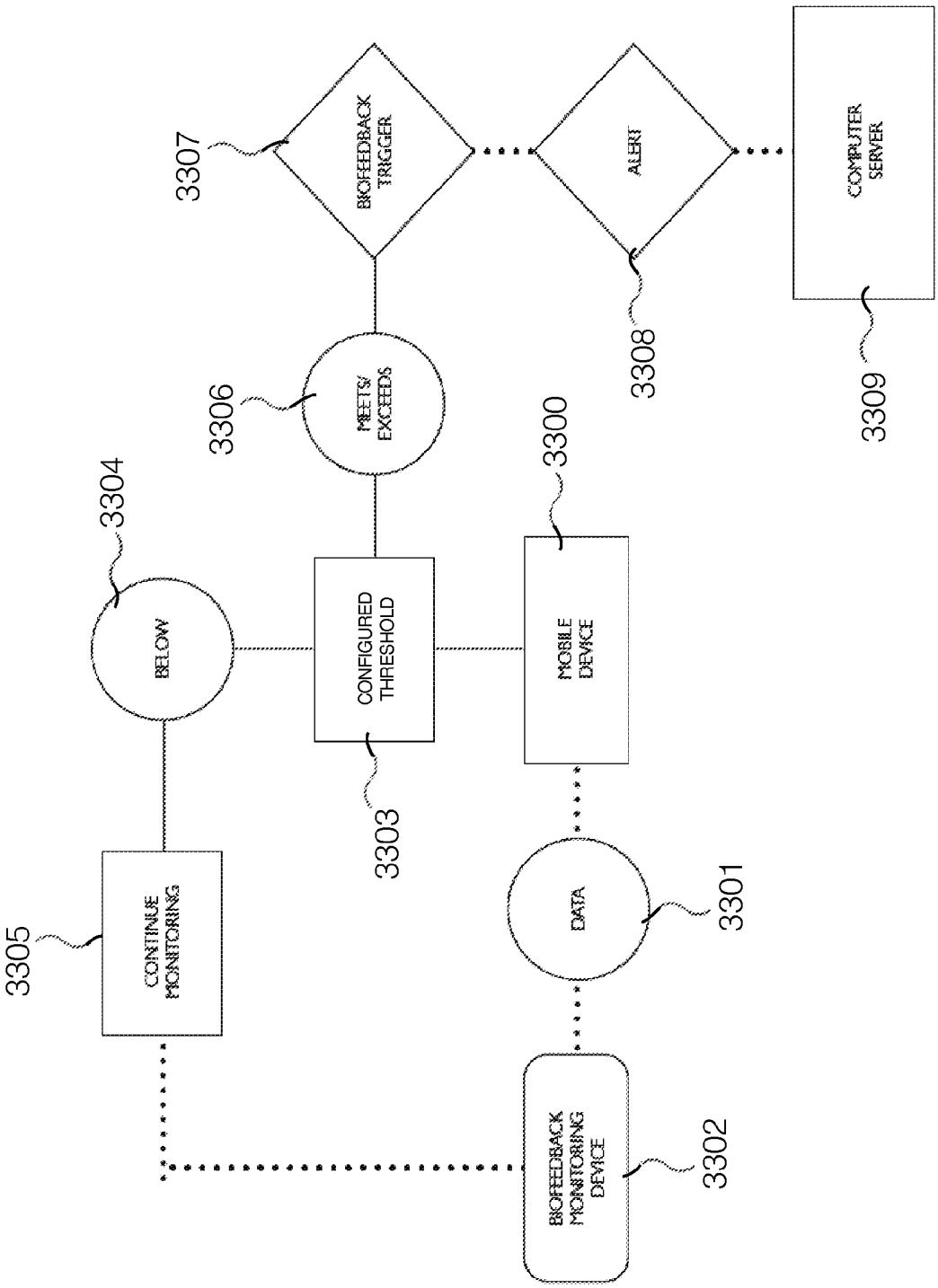

BIOFEEDBACK MONITORING DEVICE
3302
DATA
3301
MOBILE DEVICE
3300
CONFIGURED THRESHOLD
3303
BELOW
3304
CONTINUE MONITORING
3305
MEETS/ EXCEEDS
3306
BIOFEEDBACK TRIGGER
3307
ALERT
3308
COMPUTER SERVER
3309

FIGURE 34

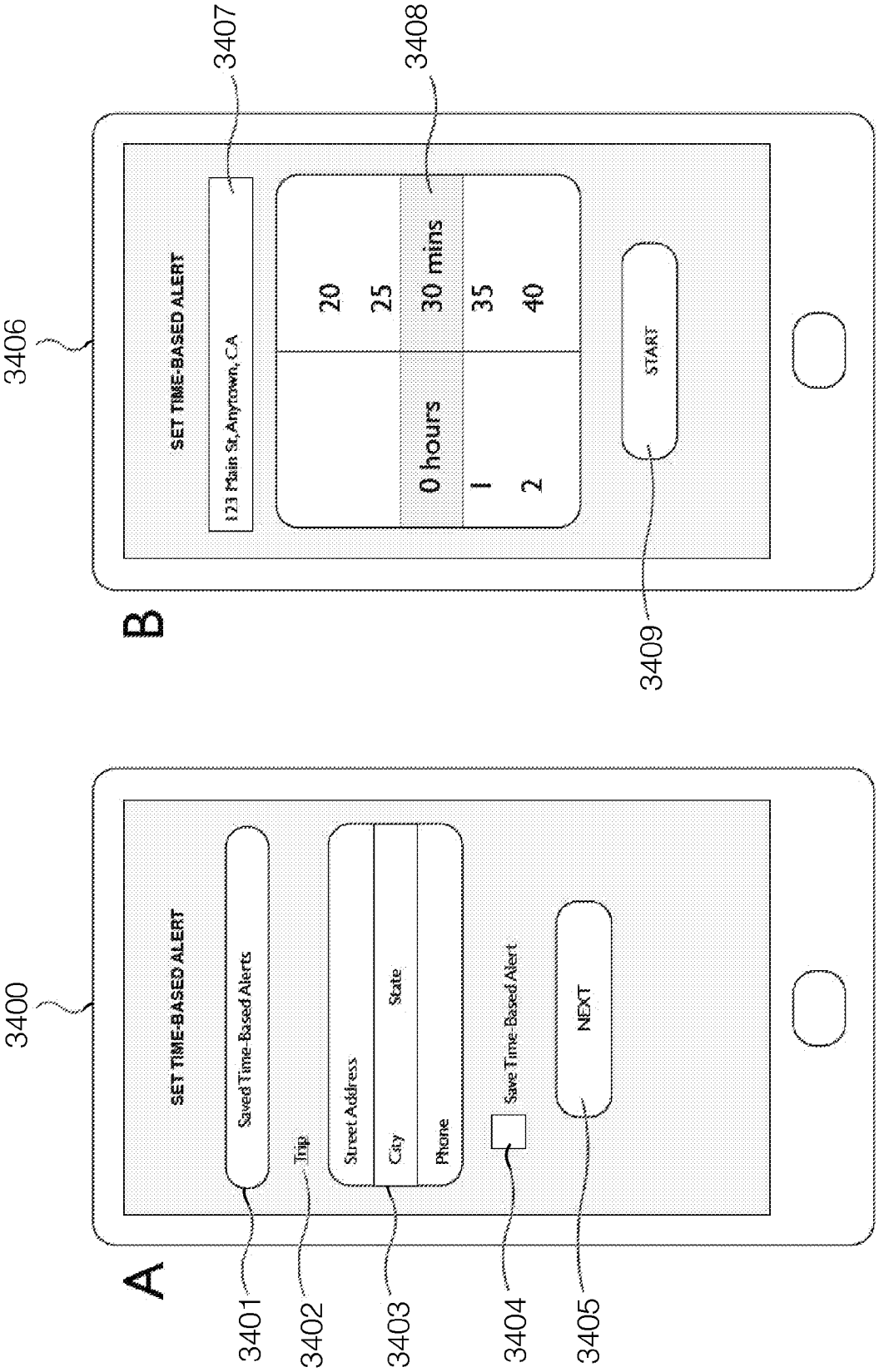

A
3400
SET TIME-BASED ALERT
Saved Time-Based Alerts
Trip
Street Address
City
State
Phone
Save Time-Based Alert
NEXT
3401
3402
3403
3404
3405
B
3406
SET TIME-BASED ALERT
123 Main St, Anytown, CA
3407
20
25
30 mins
35
40
3408
0 hours
1
2
START
3409

FIGURE 35

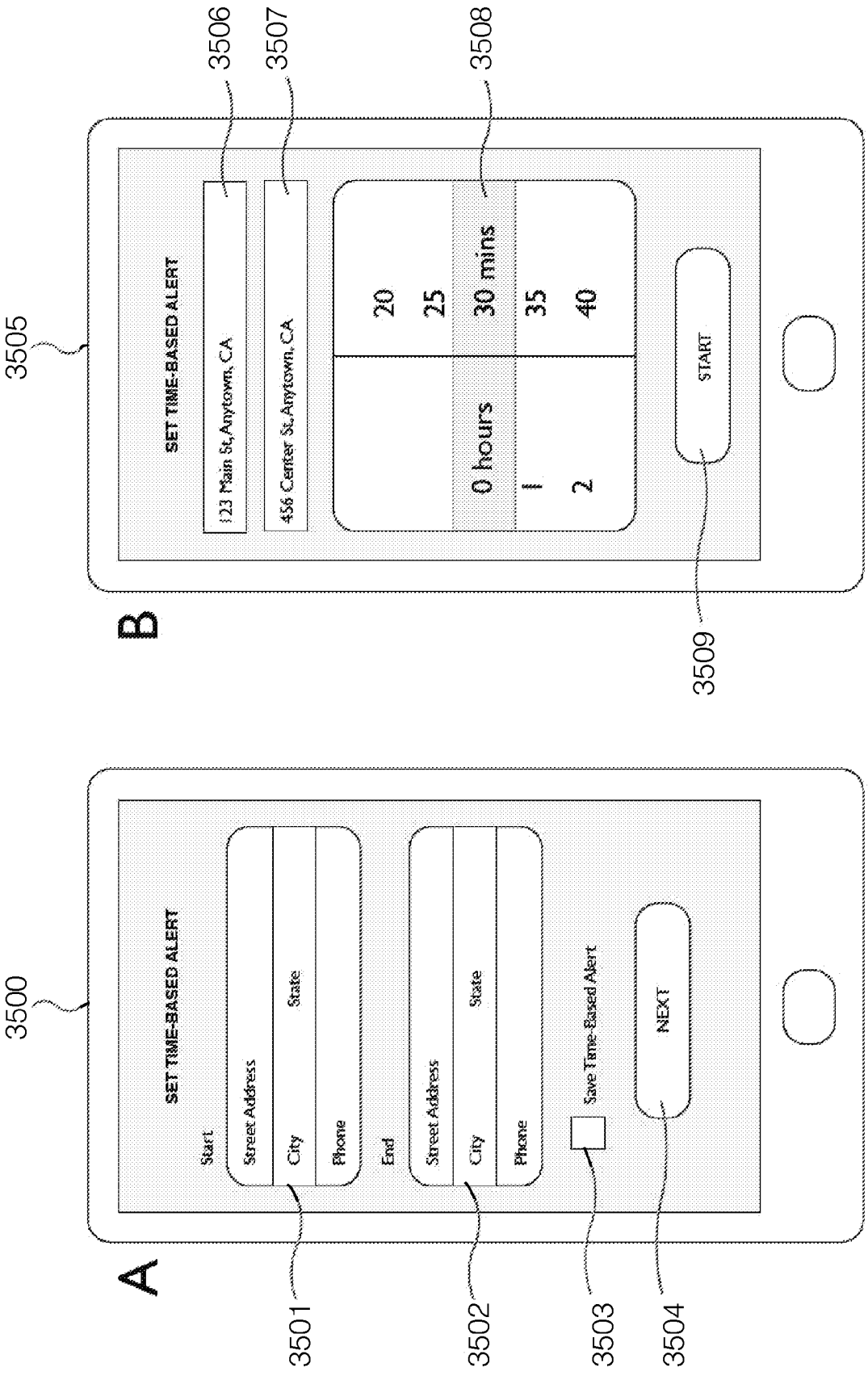

A
3500
SET TIME-BASED ALERT
Start
Street Address
City
State
Phone
End
Street Address
City
State
Phone
Save Time-Based Alert
NEXT
3501
3502
3503
3504
B
3505
SET TIME-BASED ALERT
123 Main St, Anytown, CA
456 Center St, Anytown, CA
3506
3507
3508
0 hours
1
2
20
25
30 mins
35
40
START
3509

FIGURE 36

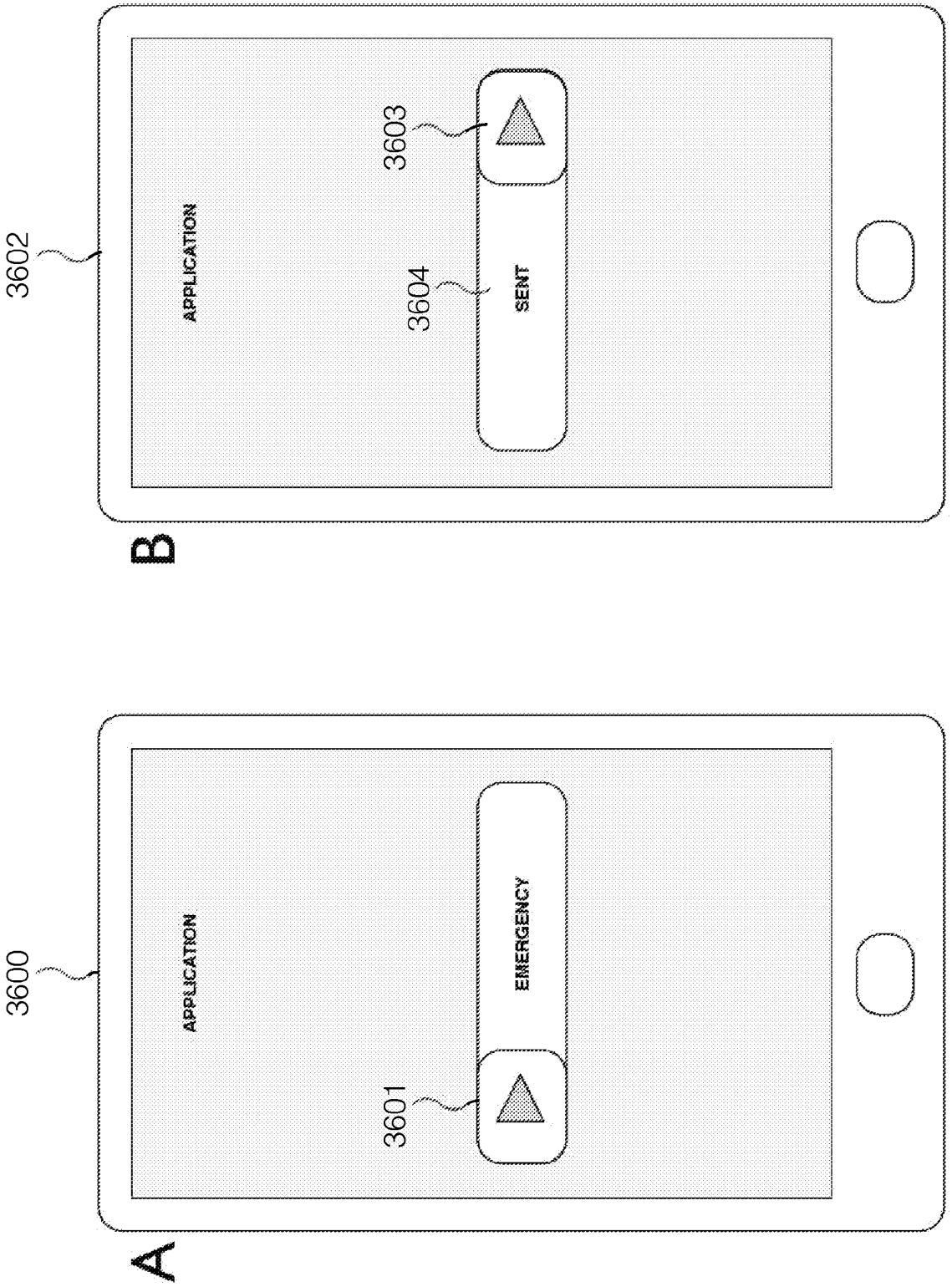

3602
APPLICATION
3603
3604
SENT
B
3600
APPLICATION
EMERGENCY
3601
A

FIGURE 37

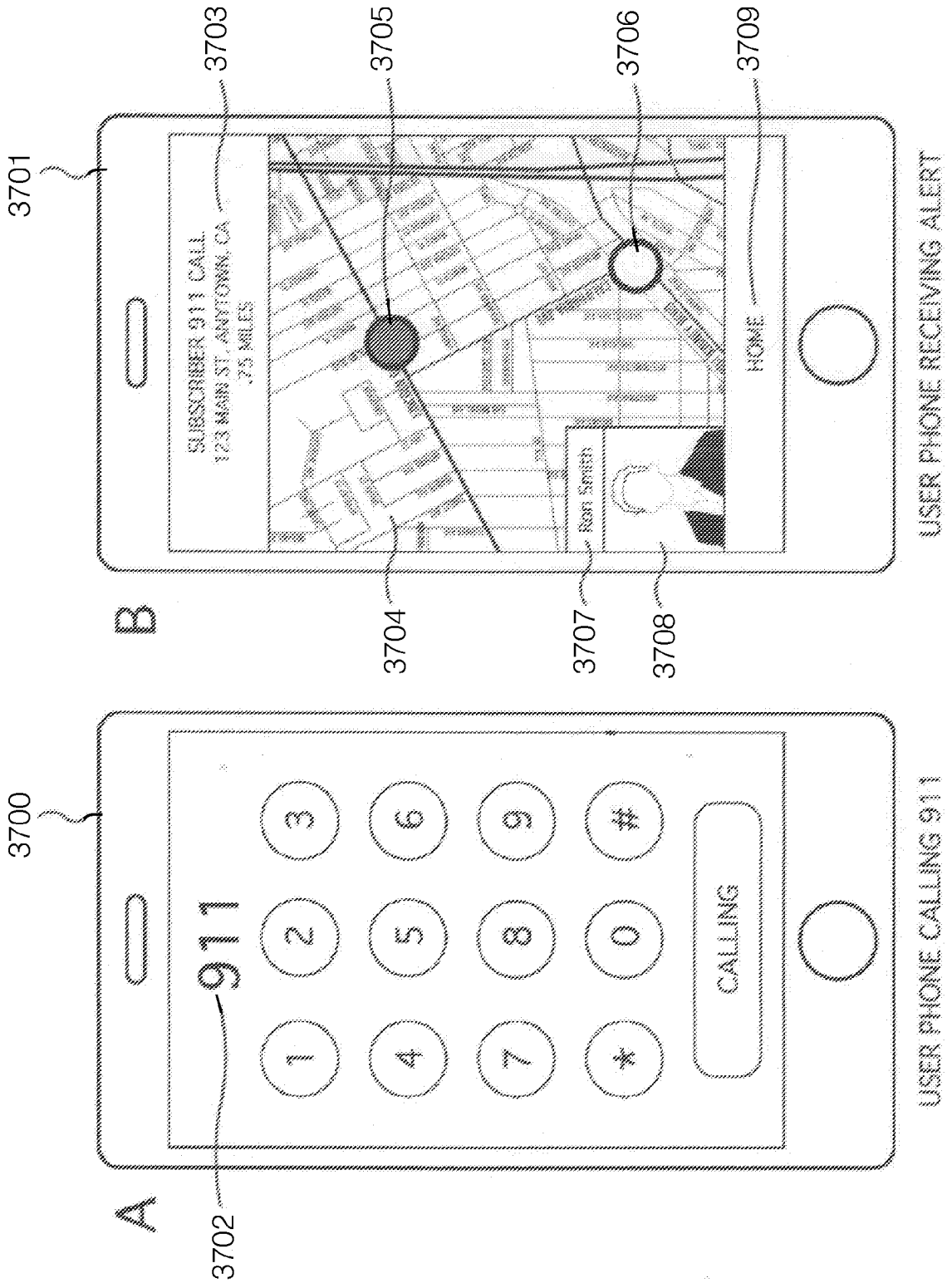

A
B
3700
3701
3702
3703
3704
3705
3706
3707
3708
3709
911
1
2
3
4
5
6
7
8
9
*
0
#
CALLING
SUBSCRIBER 911 CALL
123 MAIN ST, ANYTOWN, CA
.75 MILES
Ron Smith
HOME
USER PHONE CALLING 911
USER PHONE RECEIVING ALERT

FIGURE 38

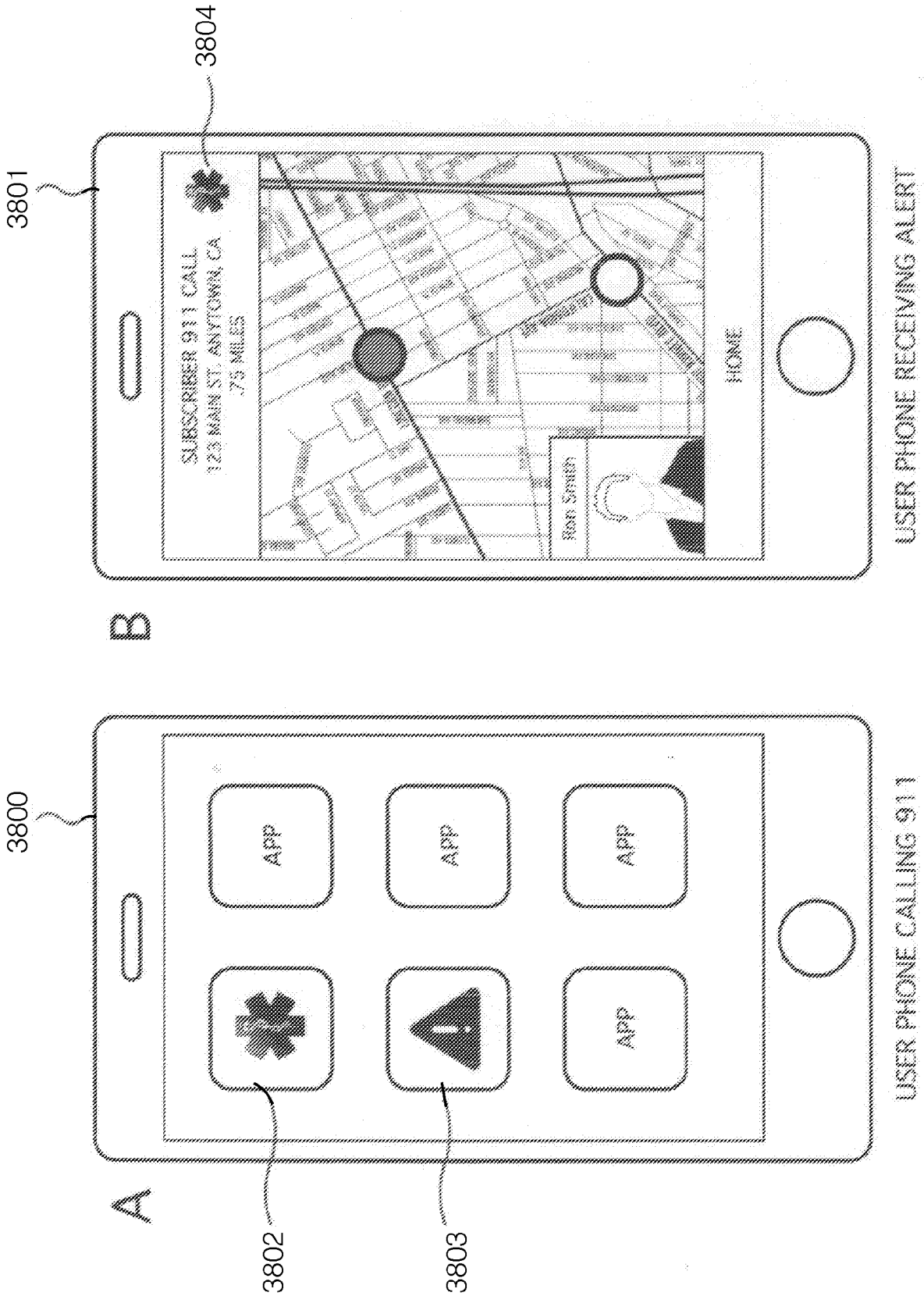
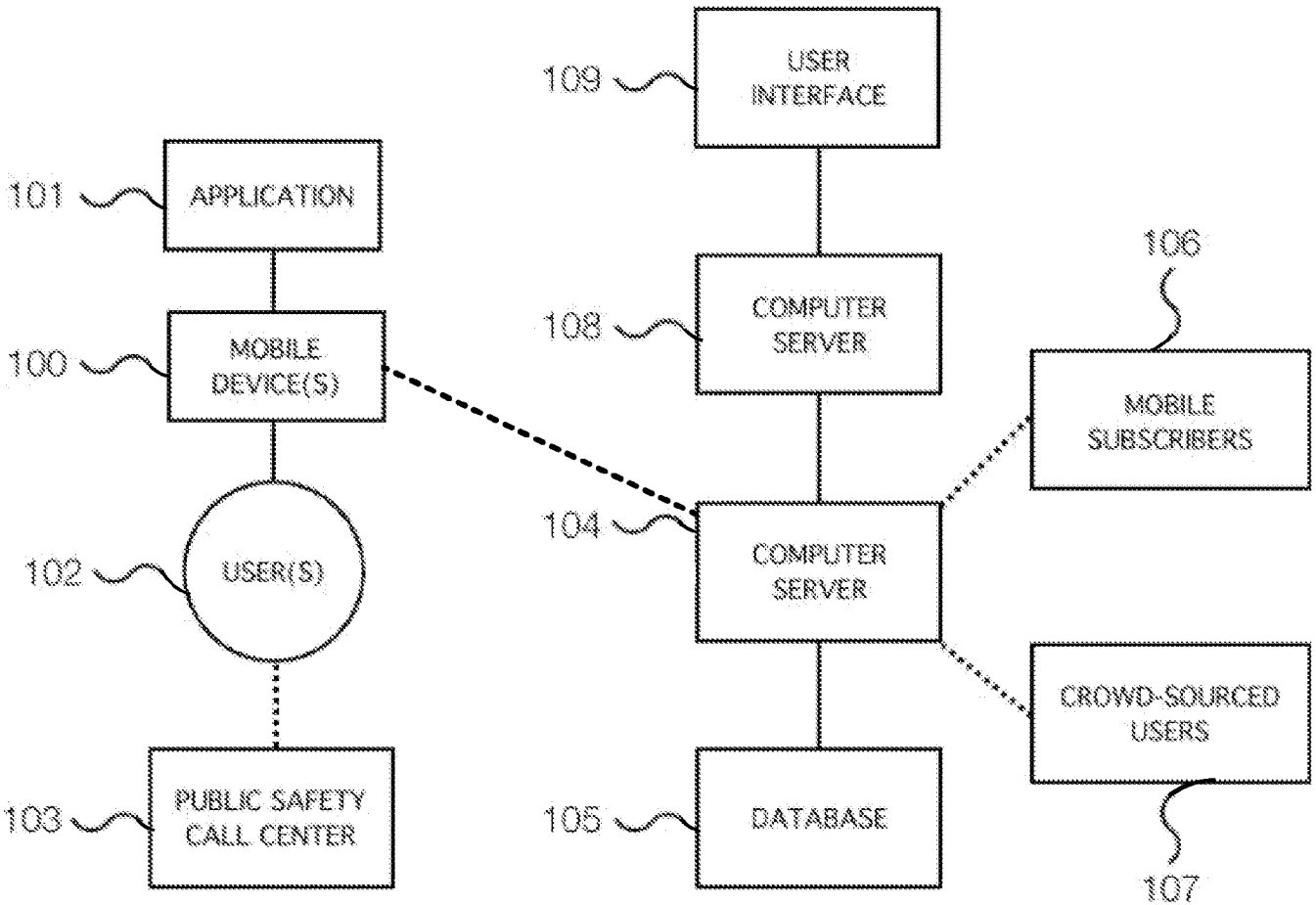

A
B
3800
3801
3802
3803
3804
APP
APP
APP
APP
SUBSCRIBER 911 CALL
123 MAIN ST. ANYTOWN, CA
.75 MILES
HOME
Ron Smith
USER PHONE CALLING 911
USER PHONE RECEIVING ALERT

FIGURE 1


109
USER INTERFACE
101
APPLICATION
108
COMPUTER SERVER
106
100
MOBILE DEVICE(S)
MOBILE SUBSCRIBERS
104
COMPUTER SERVER
102
USER(S)
CROWD-SOURCED USERS
103
PUBLIC SAFETY CALL CENTER
105
DATABASE
107