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(54) **Title:** METHOD, APPARATUS, AND COMPUTER PROGRAM PRODUCT FOR PROVIDING INFORMATION REGARD-
ING AN EVENT

(57) **Abstract:** A method may include receiving an indication of an event; initiating a session with a service provider; providing sig-
nals from at least one sensor to the service provider; and causing the service provider to be alerted to stored signals from the at least
one sensor captured prior to the event in response to the indication of the event. Methods may include: receiving signals from at least
one sensor; storing signals received from the at least one sensor; and causing the stored signals received from the at least one sensor
to be provided to the service provider in response to the indication of the event. Methods may include: establishing a position of the
apparatus; determining one or more devices within a predefined distance of the established position; and providing signals from the
at least one of the one or more devices to the service provider.



METHOD, APPARATUS, AND COMPUTER PROGRAM PRODUCT FOR PROVIDING INFORMATION REGARDING AN EVENT

TECHNOLOGICAL FIELD

An example embodiment of the present invention relates generally to communicating information regarding an event to a service provider, and more particularly, to providing information from a sensor of an apparatus to a service provider in response to determining that an event has occurred, providing sensor information acquired prior to the event, and optionally sourcing sensor information from other devices proximate the apparatus.

BACKGROUND

The modern communications era has brought about a tremendous expansion of wireline and wireless networks. Computer networks, television networks, and telephone networks are experiencing an unprecedented technological expansion, fueled by consumer demand. Wireless and mobile networking technologies have addressed consumer demands while providing more flexibility and immediacy of information transfer.

In order to provide easier or faster information transfer and convenience, telecommunication industry service providers are continually developing improvements to existing communication networks. As a result, wireless communication has become increasingly more reliable in recent years. Along with the expansion and improvement of wireless communication networks, user terminals used for wireless communication have also been continually improving. In this regard, due at least in part to reductions in size and cost, together with improvements in battery life, computing capacity, and functionality, user terminals have become more capable, easier to use, and less expensive to obtain, making them a very common part of modern life. Further, many user terminals now include a variety of sensory devices and memory which enables the user terminals to capture and record sensory information and content such as audio and video.

Due to the now ubiquitous nature of user terminals, people of all ages and education levels are utilizing user terminals to communicate with other individuals or user contacts, receive services and/or share information, media and other content. The

portability of mobile terminals, together with their multitude of functions make mobile terminals a common accessory for users to have with them throughout their day.

BRIEF SUMMARY

5 A method, apparatus and computer program product are therefore provided to determine the occurrence of an event that is in some way remarkable, and to provide information regarding the event to a service provider.

In an example embodiment, an apparatus comprises at least one processor and at least one memory including computer program code, the at least one memory and the
10 computer program code configured to, with the processor, cause the apparatus to: receive an indication of an event; initiate a session with a service provider; provide signals from at least one sensor to the service provider; and cause the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event. The apparatus may optionally be caused to:
15 receive signals from the at least one sensor; store the signals received from the at least one sensor; and cause the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event. The apparatus may optionally be caused to establish a position of the apparatus; determine one or more devices within a predefined distance of the established position; and cause signals from
20 at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider.

According to some embodiments the apparatus may be caused to retrieve stored signals captured prior to the event by the at least one sensor from at least one of the one or more devices within a predefined distance of the established position; and cause the
25 stored signals captured prior to the event by the at least one sensor from the at least one of the one or more device within a predefined distance of the established position to be provided to the service provider. In response to determining that one or more device are within the predefined distance of the established position, the apparatus may optionally be caused to provide a request to the one or more devices for access to signals from at
30 least one sensor of each of the respective one or more devices. Causing the apparatus to cause signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider may be performed in response to receiving access to the respective signals.

According to some embodiments, causing the apparatus to provide signals from
35 the at least one sensor to the service provider may include causing the apparatus to provide streaming signals from the at least one sensor to the service provider as they are received by the respective sensor. The stored signals received from the at least one

sensor may include signals received from the at least one sensor for a predetermined period prior to the event. The apparatus of some embodiments may be caused to determine one or more devices within the predefined distance of the established position, and initiate a session with one or more of the one or more devices determined to be within a predefined distance of the established position.

Embodiments may provide a method including: receiving an indication of an event; initiating a session with a service provider; providing signals from at least one sensor to the service provider; and causing the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event. Methods may optionally include: receiving signals from at least one sensor; storing signals received from the at least one sensor; and causing the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event. Methods may optionally include: establishing a position of the apparatus; determining one or more devices within a predefined distance of the established position; and causing signals from at least one sensor from at least one of the one or more device within a predefined distance of the established position to be provided to the service provider.

According to some embodiments, methods may include retrieving stored signals captured prior to the event by the at least one sensor from at least one of the one or more devices within a predefined distance of the established position; and causing the stored signals captured prior to the event by the at least one sensor from the at least one of the one or more devices within a predefined distance of the established position to be provided to the service provider. In response to determining that one or more of the devices are within the predefined distance of the established position, methods may optionally include: causing a request to be provided to the one or more devices for access to signals from at least one sensor of each of the respective one or more devices; wherein causing signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider may be performed in response to receiving access to the respective signals. Causing signals to be provided from the at least one sensor to the service provider may include causing streaming signals to be provided from the at least one sensor to the service provider as they are received by the respective sensor.

Embodiments may provide a computer program product including at least one non-transitory computer-readable storage medium having computer-executable program code portions stored therein, the computer-executable program code instructions may include: program code instructions for receiving an indication of an event; program code instructions for initiating a session with a service provider; program code instructions for

providing signals from the at least one sensor to the service provider; and program code instructions for causing the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event.

The computer program product may optionally include: program code instructions for receiving signals from at least one sensor; program code instructions for storing signals received from the at least one sensor; and program code instructions for causing the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event.

According to some embodiments, the computer program product may include:

program code instructions for establishing a position of the apparatus; program code instructions for determining one or more devices within a predefined distance of the established position; and program code instructions for causing signals from at least one sensor from at least one of the one or more devices within a predefined distance of the established position to be provided to the service provider. Embodiments may optionally include: program code instructions for retrieving stored signals captured prior to the event by the at least one sensor from at least one of the one or more devices within a predefined distance of the established position; and program code instructions for causing the stored signals captured prior to the event by the at least one sensor from the at least one of the one or more devices within a predefined distance of the established position to be provided to the service provider.

According to some embodiments, in response to determining that one or more devices are within the predefined distance of the established position, the computer program product may include: program code instructions for causing a request to be provided to the one or more devices for access to signals from at least one sensor of each of the respective one or more devices; and wherein causing signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider may be performed in response to receiving access to the respective signals. The program code instructions for providing signals from the at least one sensor to the service provider may include program code instructions for causing streaming signals to be provided from the at least one sensor to the service provider as they are received by the respective sensor.

Embodiments may provide an apparatus including: means for receiving an indication of an event; means for initiating a session with a service provider; means for providing signals from at least one sensor to the service provider; and means for causing the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event. Apparatuses of example embodiments may optionally include: means for receiving signals from at least one

sensor; means for storing signals received from the at least one sensor; and means for causing the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event. Apparatuses may optionally include: means for establishing a position of the apparatus; means for determining one or more devices within a predefined distance of the established position; and means for causing signals from at least one sensor from at least one of the one or more device within a predefined distance of the established position to be provided to the service provider.

According to some embodiments, an apparatus may include: means for retrieving stored signals captured prior to the event by the at least one sensor from at least one of the one or more devices within a predefined distance of the established position; and means for causing the stored signals captured prior to the event by the at least one sensor from the at least one of the one or more devices within a predefined distance of the established position to be provided to the service provider. In response to determining that one or more of the devices are within the predefined distance of the established position, an apparatus of example embodiments may optionally include: means for causing a request to be provided to the one or more devices for access to signals from at least one sensor of each of the respective one or more devices; wherein causing signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider may be performed in response to receiving access to the respective signals. Causing signals to be provided from the at least one sensor to the service provider may include causing streaming signals to be provided from the at least one sensor to the service provider as they are received by the respective sensor.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Having thus described embodiments of the present disclosure in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

FIG. 1 illustrates a schematic block diagram of a system according to an example embodiment of the present invention;

FIG. 2 illustrates a schematic block diagram of an apparatus configured to provide information regarding an event according to an example embodiment of the present invention;

FIG. 3 depicts a schematic block diagram of a system configured to provide information regarding an event according to an example embodiment of the present invention; and

FIG. 4 illustrates a flowchart of the operations performed in providing information regarding an event to a service provider according to an example embodiment of the present invention.

5

DETAILED DESCRIPTION

Some embodiments of the present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which some, but not all embodiments of the invention are shown. Indeed, various embodiments of the invention may be embodied in many different forms and should not be construed as limited to the
10 embodiments set forth herein. Like reference numerals refer to like elements throughout. As used herein, the terms “data,” “content,” “information” and similar terms may be used interchangeably to refer to data capable of being transmitted, received and/or stored in accordance with embodiments of the present invention. Moreover, the term “exemplary”, as may be used herein, is not provided to convey any qualitative assessment, but instead
15 merely to convey an illustration of an example. Thus, use of any such terms should not be taken to limit the spirit and scope of embodiments of the present invention.

As used herein, the term ‘circuitry’ refers to (a) hardware-only circuit implementations (for example, implementations in analog circuitry and/or digital circuitry); (b) combinations of circuits and computer program product(s) comprising software and/or
20 firmware instructions stored on one or more computer readable memories that work together to cause an apparatus to perform one or more functions described herein; and (c) circuits, such as, for example, a microprocessor(s) or a portion of a microprocessor(s), that require software or firmware for operation even if the software or firmware is not physically present. This definition of ‘circuitry’ applies to all uses of this term herein,
25 including in any claims. As a further example, as used herein, the term ‘circuitry’ also includes an implementation comprising one or more processors and/or portion(s) thereof and accompanying software and/or firmware. As another example, the term ‘circuitry’ as used herein also includes, for example, a baseband integrated circuit or applications processor integrated circuit for a mobile phone or a similar integrated circuit in a server, a
30 cellular network device, other network device, and/or other computing device.

As indicated above, some embodiments of the present invention may be employed in methods, apparatuses and computer program products configured to provide information regarding an event. In this regard, for example, FIG. 1 illustrates a block
diagram of a system that may benefit from embodiments of the present invention. It
35 should be understood, however, that the system as illustrated and hereinafter described is merely illustrative of one system that may benefit from an example embodiment of the

present invention and, therefore, should not be taken to limit the scope of embodiments of the present invention.

As shown in FIG. 1, a system in accordance with an example embodiment of the present invention may include a user terminal 10. The user terminal 10 may be any of multiple types of fixed or mobile communication and/or computing devices such as, for example, personal digital assistants (PDAs), pagers, mobile televisions, mobile telephones, gaming devices, laptop computers, personal computers (PCs), cameras, camera phones, video recorders, audio/video players, radios, global positioning system (GPS) devices, or any combination of the aforementioned, which employ an embodiment of the present invention.

In some embodiments the user terminal 10 may be capable of communicating with other devices (e.g., Device #1 20 and/or Device #2 25), either directly, or via a network 30. The network 30 may include a collection of various different nodes, devices or functions that may be in communication with each other via corresponding wired and/or wireless interfaces. As such, the illustration of FIG. 1 should be understood to be an example of a broad view of certain elements of the system and not an all inclusive or detailed view of the system or the network 30. Although not necessary, in some embodiments, the network 30 may be capable of supporting communication in accordance with any one or more of a number of first-generation (1G), second-generation (2G), 2.5G, third-generation (3G), 3.5G, 3.9G, fourth-generation (4G) mobile communication protocols, Long Term Evolution (LTE), and/or the like. Thus, the network 30 may be a cellular network, a mobile network and/or a data network, such as a local area network (LAN), a metropolitan area network (MAN), and/or a wide area network (WAN), for example, the Internet. In turn, other devices such as processing elements (for example, personal computers, server computers or the like) may be included in or coupled to the network 30. By directly or indirectly connecting the user terminal 10 and the other devices to the network 30, the user terminal and/or the other devices may be enabled to communicate with each other, for example, according to numerous communication protocols including Hypertext Transfer Protocol (HTTP) and/or the like, to thereby carry out various communication or other functions of the user terminal and the other devices, respectively. As such, the user terminal 10 and the other devices may be enabled to communicate with the network 30 and/or each other by any of numerous different access mechanisms. For example, mobile access mechanisms such as wideband code division multiple access (W-CDMA), CDMA2000, global system for mobile communications (GSM), general packet radio service (GPRS) and/or the like may be supported as well as wireless access mechanisms such as wireless LAN (WLAN), Worldwide Interoperability for Microwave Access (WiMAX), WiFi, ultra-wide band (UWB),

Wibree, ZigBee®, Bluetooth® techniques and/or the like and fixed access mechanisms such as digital subscriber line (DSL), cable modems, Ethernet and/or the like. Thus, for example, the network 30 may be a home network or other network providing local connectivity.

5 The system may additionally comprise a service provider 40. In some embodiments the service provider 40 may be embodied as a server, server bank or other computer or other computing device or node configured to provide services in response to an event, such as an emergency or accident, as will be explained below. The service provider 40 may have any number of functions or associations with various services. As
10 such, for example, the service provider 40 may be a platform such as a dedicated server (or server bank), or the service provider may be a backend server associated with one or more other functions or services. Thus, the service provider 40 may establish a communication link with the user terminal 10 in order to provide service and assistance in response to an event or emergency. An example embodiment of the service provider 40
15 is described herein as an emergency dispatch center, such as a 911 dispatch center or fire department/law enforcement/emergency medical technician dispatch center. The service provider 40 may be embodied as a server, server bank, or other computing device at one or more of these dispatch centers, such that any user interaction on the side of the service provider may be a person interacting with the service provider 40
20 hardware.

 According to some embodiments the user terminal 10 may collaborate directly with devices 20, 25 to provide information to the service provider 40, and/or to be communicated with from the service provider 40. For example, user terminal 20 may communicate with devices 20, 25 via a peer-to-peer network in some embodiments. As
25 will be described further below, the user terminal 10 may gather sensor information from device #1 20 and device #2 25, and communicate that sensor information to the service provider 40 via network 30. Alternatively, device #1 20 and device #2 25 may communicate with the service provider 40 directly via network 30.

 FIG. 2 illustrates an apparatus 50 according to an example embodiment that may
30 be employed by devices performing example embodiments of the present invention. The apparatus 50 may be embodied, for example, as any device hosting, including, controlling or otherwise comprising the user terminal 10. However, embodiments may also be embodied on a plurality of other devices such as for example where instances of the apparatus 50 may be embodied on the network 30. As such, the apparatus 50 of FIG. 2 is
35 merely an example and may include more, or in some cases less, than the components shown in FIG. 2.

With further regard to FIG. 2, the apparatus 50 may be configured to determine an event. The apparatus 50 may include or otherwise be in communication with a processor 70, a user interface 72, a communication interface 74 and a memory device 76. The memory device 76 may include, for example, volatile and/or non-volatile memory. The memory device 76 may be configured to store information, data, files, applications, instructions or the like. For example, the memory device 76 could be configured to buffer input data for processing by the processor 70. Additionally or alternatively, the memory device 76 could be configured to store instructions for execution by the processor 70. Optionally, the memory device 76 may store sensor data received from sensory device 80, which may be one or more sensors, such as an image sensor (e.g., a camera), an audio sensor (e.g., a microphone), a motion sensor (e.g., an accelerometer), temperature sensor, or the like.

As mentioned above, the apparatus 50 may, in some embodiments, be a user terminal or a fixed communication device or computing device configured to employ an example embodiment of the present invention. However, in some embodiments, the apparatus 50 may be embodied as a chip or chip set. In other words, the apparatus 50 may comprise one or more physical packages (e.g., chips) including materials, components and/or wires on a structural assembly (e.g., a baseboard). The structural assembly may provide physical strength, conservation of size, and/or limitation of electrical interaction for component circuitry included thereon. The apparatus 50 may therefore, in some cases, be configured to implement embodiments of the present invention on a single chip or as a single "system on a chip." As such, in some cases, a chip or chipset may constitute means for performing one or more operations for providing the functionalities described herein and/or for enabling user interface with respect to the functionalities and/or services described herein.

The processor 70 may be embodied in a number of different ways. For example, the processor 70 may be embodied as one or more of various processing means such as a coprocessor, a microprocessor, a controller, a digital signal processor (DSP), processing circuitry with or without an accompanying DSP, or various other processing devices including integrated circuits such as, for example, an ASIC (application specific integrated circuit), an FPGA (field programmable gate array), a hardware accelerator, a special-purpose computer chip, or other hardware processor. In an example embodiment, the processor 70 may be configured to execute instructions stored in the memory device 76 or otherwise accessible to the processor. Alternatively or additionally, the processor 70 may be configured to execute hard coded functionality. As such, whether configured by hardware or software methods, or by a combination thereof, the processor 70 may represent an entity (for example, physically embodied in circuitry) capable of performing

operations according to embodiments of the present invention while configured accordingly. Thus, for example, when the processor 70 is embodied as an ASIC, FPGA or the like, the processor 70 may be specifically configured hardware for conducting the operations described herein. Alternatively, as another example, when the processor 70 is embodied as an executor of software instructions, the instructions may specifically configure the processor to perform the algorithms and/or operations described herein when the instructions are executed. However, in some cases, the processor 70 may be a processor of a specific device (for example, a user terminal or network device such as a server) adapted for employing embodiments of the present invention by further configuration of the processor by instructions for performing the algorithms and/or operations described herein. The processor 70 may include, among other things, a clock, an arithmetic logic unit (ALU) and logic gates configured to support operation of the processor.

Meanwhile, the communication interface 74 may be any means such as a device or circuitry embodied in either hardware, software, or a combination of hardware and software that is configured to receive and/or transmit data from/to a network and/or any other device or module in communication with the apparatus 50. In this regard, the communication interface 74 may include, for example, an antenna (or multiple antennas) and supporting hardware and/or software for enabling communications with a wireless communication network (for example, network 30). In fixed environments, the communication interface 74 may alternatively or also support wired communication. As such, the communication interface 74 may include a communication modem and/or other hardware/software for supporting communication via cable, digital subscriber line (DSL), universal serial bus (USB), Ethernet, High-Definition Multimedia Interface (HDMI) or other mechanisms. Furthermore, the communication interface 74 may include hardware and/or software for supporting communication mechanisms such as Bluetooth®, Infrared, UWB, WiFi, Zigbee® and/or the like, which are being increasingly employed in connection with providing home connectivity solutions.

The user interface 72 may be in communication with the processor 70 to receive an indication of a user input at the user interface and/or to provide an audible, visual, mechanical or other output to the user. As such, the user interface 72 may include, for example, a keyboard, a mouse, a joystick, a display, a touch screen, a microphone, a speaker, or other input/output mechanisms.

The processor 70 may comprise user interface circuitry configured to control at least some functions of one or more elements of the user interface 72, such as, for example, a speaker, a ringer, a microphone, a display, and/or the like. The processor 70 and/or user interface circuitry comprising the processor 70 may be configured to control

one or more functions of one or more elements of the user interface 72 through computer program instructions (for example, software and/or firmware) stored on a memory accessible to the processor 70 (for example, memory device 76, and/or the like).

In some embodiments the apparatus 50 may further include an event detector 78.

5 The processor 70 or other circuitry may be embodied as, include or otherwise control the event detector 78. The event detector 78 may be configured to receive an indication of an event, such as an accident. An event, as used herein, may refer to any event that is in some way remarkable, for example, an automobile accident, a bicycle accident, a pedestrian accident, a crime, a newsworthy event, etc. In this regard, as will be explained
10 below, an event detector 78 may be configured to determine that an event has occurred for initiating a session with a service provider regarding the detected event. While illustrated separately from the processor 70, according to some embodiments, the functionality of the event detector 78 may be performed by processor 70.

Detection of an event may in various embodiments take different forms. In this
15 regard, for example, the user of the apparatus 50 may be configured to detect an event through sensory device 80, such as through an image/video sensor, audio sensor, or motion sensor, for example. The event detection may include an abrupt movement, such as an acceleration of the apparatus 50 at a rate that is commensurate with a fall, an impact, or other acceleration that is not conventionally encountered in routine daily
20 activities. Event detection may include detection of a loud sound by the audio sensor in excess of a certain predefined decibel level, such as a gunshot, explosion, auto accident, etc. Event detection may further include detection of an image or video with visual cues indicative of a noteworthy or remarkable event. The sensors of sensory device 80 may communicate directly or indirectly with event detector 78 to determine what sensor input
25 constitutes an event. According to some embodiments, the event detector may be embodied by software, for example, operating using processor 70, which may be configured to detect events through an image sensor or audio sensor, or a combination thereof, such as detecting a fast-moving object impacting a stationary or slow-moving object with an abrupt change in the speed or acceleration of both objects, indicative of an
30 impact such as an automobile crash. Thus, event detector 78 may use various means for detecting that an event has occurred, whether operating as separately from the processor or being embodied on the processor 70. In an embodiment in which the event detector 78 is separate from the processor 70, the event detector may inform the processor 70 of the detection of an event, as detailed further below.

35 In some embodiments the apparatus 50 may further include a sensory device 80. The processor 70 or other circuitry may be embodied as, include or otherwise control the sensory device 80. The sensory device 80 may be configured detect one or more

conditions, such as motion, acceleration, sound, temperature, images, etc. The sensory device 80 may therefore encompass one or more of image sensors, motion sensors, temperature sensors, audio sensors, etc. The sensory device 80 may be configured to communicate the sensed information, such as motion, temperature, images, audio, or the like, to the processor 70.

FIG. 3 illustrates an example embodiment of a method for providing information about an event. According to the illustrated embodiment, a user terminal 10 may be located proximate to an event 100 that is occurring. That event 100 may be any of the aforementioned events or any event that is in some way remarkable. The user terminal 10 may detect, for example using sensory device 80, a loud noise exceeding a predetermined decibel level and/or a rapid deceleration exceeding a predetermined rate. The sensory device 80 may communicate this sensed information to processor 70, which may determine that an event has occurred or which may communicate with the event detector 78 to determine if an event has occurred. While noise and acceleration are described as sensed parameters according to the illustrated embodiment, any sensed information determined through various sensors of sensory device 80 may be configured to sense an event, as determined at processor 70. The processor may interpret the sensed information from one or more of the sensors and, based on the sensed information, may determine that an event has occurred. The processor 70 may interpret information from multiple sensors, or from a single sensor. For example, a loud noise above a first decibel level, but below a second decibel level, may not be sufficient to be considered an event. However, that noise combined with a rapid deceleration may be interpreted as an event.

Referring back to FIG. 3, upon determining, at the processor 70 and/or at the event detector 78, that an event 100 has occurred, the user terminal 10 may communicate to the service provider 40 via network 30 that an event has occurred. This communication may include any information known about the event, such as the information sensed through various sensors of sensory device 80. The communicated information may include information from sensors that failed to detect any sensed information, the absence of which may further facilitate event identification and severity detection. For example, upon detection of an event, the user terminal 10 may send sensed information about a rapid deceleration and a loud noise to the service provider 40, but may also send the current sensed temperature and one or more images captured from an image sensor at the user terminal, regardless of whether that sensed information contributed to the determination of an event occurrence.

In addition to sending sensed information regarding the event 100 via signals from the sensors to the service provider 40 via network 30, the mobile terminal may stream

sensor signals to the service provider. For example, a video stream from an image sensor may be sent to the service provider to help the service provider identify the event type and severity. The user terminal may also establish a voice call with the service provider 40 in response to detecting the event 100, enabling a user of the user terminal 10 to communicate with the service provider 40.

According to some embodiments, the service provider 40 may be granted permissions for controlling the user terminal 10 in response to receiving the indication of an event. For example, the service provider 40 may wish to determine if the user terminal 10 is moving, or determine the location of the user terminal 10. In such an instance, the service provider 40 may solicit the information from the user terminal 10. The user terminal 10 may be configured to allow a service provider 40 access to such information in response to detection of an event, or the user terminal may have privacy settings set such that information is unavailable to the service provider 40 unless a request is provided by the service provider and approved by the user of the user terminal.

While information relevant to the event including sensor signal information causing the determination of an event and sensed information after the event has occurred may be beneficial to the service provider, sensor signal information from a time period prior to the event may also be useful to the service provider for them to identify the event type and severity. Thus, according to some embodiments, sensor signal information from a time period prior to the detected event may be provided to the service provider 40.

According to some example embodiments, a user terminal 10 may be configured to store or buffer sensor signal information for a window of time. A user terminal may store in memory device 76 sensor signal information received over the previous minute, hour, day, etc. This buffered sensor signal information may be a rolling window of time, such that the sensor signal information received a time period greater than the window of time is overwritten as the new, most recent sensor data is acquired. The window of time of sensor data that is buffered may be a fixed length window of time, or the window of time may be dynamic based on the amount of memory available in memory device 76. For example, if memory device 76 has a large amount of memory available, the window of time may be very long, such as days or weeks. If memory device 76 has only a small amount of memory available, the buffered window of time may be shortened to a few minutes or less.

According to some embodiments, sensor signal information gathered at a user terminal 10 may be buffered or stored on a separate device, such as data hub 130 of FIG. 3. The data hub 130 may function as cloud-type storage for a user terminal 10 to buffer sensor signal information without consuming large amounts of memory of memory device 76.

Upon event determination at user terminal 10, the service provider may be informed of the event 100. The user terminal 10 may provide buffered sensor information for a predetermined time period prior to the event detection. The buffered sensor information may be provided automatically to the service provider 40. The amount of sensor signal information provided to the service provider may be dependent upon the type of event determined and the severity of the event. For example, if an event is determined or interpreted to be a gunshot, the severity of the event is interpreted as being high. Consequently, a greater amount of buffered sensor signal data may be provided to the service provider 40, such as one minute, five minutes, thirty minutes, etc. If the event type is determined to be a car accident, while the severity may still be very high, the amount of buffered sensor data provided to the service provider 40 may be substantially shorter since car accidents tend to occur in a very finite amount of time, with only a short amount of time prior to the car accident being typically indicative of the reason or context of the car accident. The user terminal 10 may determine the event type and the event severity, or the service provider 40 may interpret the sensor signal information provided from the user terminal 10 and then make the determination of the event type and severity. Further, while user terminal 10 may provide the buffered data in response to detection of the event and determination of the type and severity, according to some embodiments, the service provider 40 may request the buffered sensor signal information from the user terminal 10 or the data hub 130. The service provider 40 may also request additional buffered sensor signal information if the buffered sensor information originally provided to the service provider is insufficient, or if the service provider determines that the amount of buffered sensor signal information is inadequate for the type and severity of event determined.

According to some embodiments described herein, the service provider may be, for example, an emergency dispatch operator or service, where sending an indication of the event to the service provider functions as an emergency call to an emergency dispatch operator such that they can establish the correct course of action. The emergency dispatch operator or service may determine the event is a car accident, and that the severity is high based on the sensor signal information received at the service provider 40. In response, the emergency dispatch operator or service may dispatch the fire department, police, and an ambulance to the scene. The location of the event may be reported together with the user terminal 10 notifying the service provider of the event. The location may be determined through a global position satellite (GPS) sensor in the user terminal 10, and reported to the service provider as sensed information. This may facilitate appropriate dispatch of emergency personnel to an accident. While some embodiments may include a person interpreting the sensor signal information received at

the service provider 40, according to some embodiments, the service provider 40 may automatically interpret the sensor signal information and determine the type and severity of the event, such as with a processor, in order to determine the proper response to the event.

5 While the service provider 40 may be provided with sensor information from a user terminal 10, that sensor information may be limited. For example, if the user terminal 10 is in the pocket of a user who is involved in a vehicle accident, a motion sensor such as an accelerometer of sensory device 80, possibly in combination with an audio sensor, may detect the event. While the user terminal 10 may report the event to the service
10 provider 40, the service provider may lack any images or visual information from the user terminal 10 if it remains in the user's pocket. According to some embodiments, communication may be established with devices in proximity to the user terminal 10 to solicit sensor information from those devices. As shown in FIG. 3, devices may include a camera 110 and a microphone 120. The camera 110 may, for example, be a traffic
15 monitoring camera belonging to a business or a local department of transportation, or the camera 110 may be that of another user terminal. Further, the camera may be a body-worn camera of a law-enforcement officer or other emergency personnel, or the camera may be a security camera for a nearby business. The microphone 120 may be coupled to the camera 110 in one or more of the above-noted examples, or the microphone may be
20 a wireless headset for a user device, such as a Bluetooth® headset for a user terminal 10.

User terminal 10 may, upon event 100 detection, send a request to devices within a predetermined radius of the user terminal 10 for access to sensor information of those devices. The radius may be, for example, fifty feet, fifty yards, or any distance for which a
25 device may be reasonably be determined to offer some sensor information relevant to the detected event 100. The request may be an emergency event alert to the devices 110, 120. The devices 110, 120, may be configured with security settings which may permit the user terminal 10 to access the sensor information of the device. Alternatively, the security settings may be configured such that a user of the device 110 may be required to
30 authorize the request from the user terminal 10 before any sensor information is accessed. Upon allowing access to sensor information, the devices 110, 120, may provide streaming sensor information to the mobile terminal 10, or to the service provider 40 through network 30. The service provider 40 and/or the user terminal 10 may optionally request buffered sensor information from the devices 110, 120, and may
35 request a predetermined amount of buffered sensor information, as described above with respect to the retrieval of buffered sensor information from user terminal 10. This additional sensor signal information from the devices 110, 120, may be sent to service

provider 40 enabling the service provider to better understand the context, severity, and extent of the event 100.

The above-described embodiment describes the user terminal 10 determining devices 110, 120 that are in proximity to the user terminal 10, and requesting the sensor signal information from those devices. However, according to some embodiments, upon user terminal 10 detecting an event 100 and alerting the service provider 40 of the event while also providing sensor information, the service provider may determine the devices 110, 120, that are proximate to the user terminal 10. The service provider 40 may determine a location of the user terminal 10, and may use that location to determine other devices 110, 120, within a predefined distance of the user terminal location. Optionally, the user terminal 10 may report to the service provider 40 the identity of devices 110, 120, that are found to be proximate user terminal 10. The service provider 40 may then contact devices 110, 120, through network 30 to request sensor information from the devices 110, 120, be provided to the service provider.

The owners or users of devices 110, 120, may have security and privacy concerns when sharing sensor information. As such, the service provider 40 may include a privacy policy to provide assurances to the users of devices 110, 120, that the sensor information provided to the service provider 40 will be used in a manner consistent with establishing the event 100 type and severity, and that the sensor information may be used for safety, security, or law enforcement purposes as needed, without the sensor signal information being publicly available. Alternatively or additionally, the sensor signal data information from neighboring devices of the user terminal 10 may be anonymized to protect the identity and privacy of users of neighboring devices. While generally a user of a device 110, 120 may be able to configure security settings such that permission is requested before a service provider can access sensor information from the device, according to some embodiments, under certain circumstances, a service provider may be able to access sensor information without permission of the user device. Such scenarios may entail where there is a reasonable likelihood of a person being in danger.

Service providers 40 of example embodiments may also be configured to provide alerts to devices that are proximate a user terminal 10 that has indicated an event has occurred. For example, if the event 100 is potentially hazardous to others that are proximate to the user terminal 10, such as if there is a vehicle accident and the service provider has detected, via a sensor of the mobile terminal 10, that fuel is leaking from the vehicle, then devices located proximate the user terminal 10 may be alerted to move away from the area.

Service providers 40 of example embodiments may further be configured to help emergency responders. According to some embodiments, emergency responders 140

responding to an event 100 detected by user terminal 10 may receive sensor information from the service provider 40 to help the emergency responders better understand the event that they are responding to. Sensor information, such as camera feeds, audio feeds (e.g., an open communication line to a device user), temperature sensors, gas sensor (e.g., carbon monoxide, hydrocarbons, etc.), motion sensors, etc., may prove valuable for an emergency responder to have available. The emergency responders 140 may have sensor information from the user terminal 10 and/or the devices 110, 120, to help them in the endeavor. The buffered sensor information may also be available to the emergency responders 140 through service provider 40 to provide additional context to the event 100.

In terms of methods associated with embodiments of the present invention, the above-described apparatus 50 or other embodiments of apparatuses may be employed. In this regard, FIG. 4 is a flowchart of a system, method and program product according to example embodiments of the invention. It will be understood that each block of the flowchart, and combinations of blocks in the flowchart, may be implemented by various means, such as hardware, firmware, processor, circuitry and/or other device associated with execution of software including one or more computer program instructions. For example, one or more of the procedures described above may be embodied by a computer program product including computer program instructions. In this regard, the computer program instructions which embody the procedures described above may be stored by a memory device and executed by a processor of an apparatus. As will be appreciated, any such computer program instructions may be loaded onto a computer or other programmable apparatus (for example, hardware) to produce a machine, such that the resulting computer or other programmable apparatus embody means for implementing the functions specified in the flowchart block(s). These computer program instructions may also be stored in a computer-readable memory that may direct a computer or other programmable apparatus to function in a particular manner, such that the instructions stored in the computer-readable memory produce an article of manufacture the execution of which implements the function specified in the flowchart block(s). The computer program instructions may also be loaded onto a computer or other programmable apparatus to cause a series of operations to be performed on the computer or other programmable apparatus to produce a computer-implemented process such that the instructions which execute on the computer or other programmable apparatus implement the functions specified in the flowchart block(s).

Accordingly, blocks of the flowchart support combinations of means for performing the specified functions. It will also be understood that one or more blocks of the flowchart, and combinations of blocks in the flowcharts, can be implemented by special purpose

hardware-based computer systems which perform the specified functions, or combinations of special purpose hardware and computer instructions.

In this regard, with reference to FIG. 4, one embodiment of a method includes receiving an indication of an event, as shown at 300. The indication of the event may be through information received at one or more sensors of sensory device 80, such as motion sensors, light sensors, temperature sensors, image sensors, audio sensors, or any combination thereof. The signals from these sensors may be processed by processor 70, which may establish that an event has occurred; thereby the user terminal 10 receives the indication of an event. A session may be initiated with a service provider at 310. This session may be a data session conducted via network 30 and/or a voice call. The service provider may be, for example, an emergency dispatch center. Signals may be provided from at least one sensor to the service provider at 320. These signals may be from any sensors of sensory device 80 and may provide images, audio, video, environmental or other information to the service provider 40. These signals may be provided as they are received at the sensory device 80 via the processor 70 and communication interface 74 to service provider 40 via network 30, such as streaming signals from user terminal 10 to service provider 40. The service provider may be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event at 330. The presence of stored data from the sensors of sensory device 80 may be provided to the service provider such that the stored information may be retrieved by the service provider and used in helping to determine the type of event and severity thereof.

In some embodiments, certain ones of the above-described operations (as illustrated in solid lines in FIG. 4) may be modified or further amplified. In some embodiments additional operations may also be included (some examples of which are shown in dashed lines in FIG. 4). It should be appreciated that each of the modifications, optional additions or amplifications may be included with the above-described operations (300-330) either alone or in combination with any others among the features described herein. As such, each of the other operations as will be described herein may be combinable with the above-described operations (300-330) either alone or with one, more than one, or all of the additional operations in any combination.

For example, the method may further comprise establishing a position of the apparatus as shown at 340. The position may be established through a sensor, such as a Global Positioning Satellite antenna/sensor, or via any other locationing means, such as cellular network triangulation, wireless signal fingerprint determination, access point identification, etc. This location may be used to provide the service provider with an indication of the location of the event; however, this location may also be used to crowd-

source information from devices proximate the apparatus. Methods may optionally include determining one or more devices within a predefined distance of the established position as shown at 350. Signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position may be caused to
5 be provided to the service provider at 360. These signals may be provided directly to the service provider 40, or indirectly via the user terminal 10.

In an example embodiment, an apparatus for performing the method of FIG. 4 and other methods described above may comprise a processor (for example, the processor 70) configured to perform some or each of the operations (300-360) described above.

10 The processor may, for example, be configured to perform the operations (300-360) by performing hardware implemented logical functions, executing stored instructions, or executing algorithms for performing each of the operations. Alternatively, the apparatus may comprise means for performing each of the operations described above. In this regard, according to an example embodiment, examples of means for performing
15 operations 300-360 may comprise, for example, the processor 70, the user interface 72, the communication interface 74, the event detector 78, the sensory device 80, and/or the position determiner 82, as described above. However, the above-described portions of the apparatus 50 as they relate to the operations of the method illustrated in FIG. 4 are merely examples, and it should be understood that various other embodiments may be
20 possible.

Many modifications and other embodiments of the inventions set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the inventions are not to be limited to the specific
25 embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Moreover, although the foregoing descriptions and the associated drawings describe example embodiments in the context of certain example combinations of elements and/or functions, it should be appreciated that different combinations of elements and/or functions may be provided by alternative
30 embodiments without departing from the scope of the appended claims. In this regard, for example, different combinations of elements and/or functions than those explicitly described above are also contemplated as may be set forth in some of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

THAT WHICH IS CLAIMED:

1. An apparatus comprising at least one processor and at least one memory including computer program code, the at least one memory and the computer program
5 code configured to, with the processor, cause the apparatus to:

receive an indication of an event;

initiate a session with a service provider;

provide signals from at least one sensor to the service provider; and

10 cause the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event.

2. The apparatus of claim 1, wherein the apparatus is further caused to:

receive signals from the at least one sensor;

store signals received from the at least one sensor; and

15 cause the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event.

3. The apparatus of claim 1, wherein the apparatus is further caused to:

establish a position of the apparatus;

20 determine one or more devices within a predefined distance of the established position; and

cause signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider.

4. The apparatus of claim 3, wherein the apparatus is further caused to:

retrieve stored signals captured prior to the event by the at least one sensor from at least one of the one or more devices within a predefined distance of the established position; and

30 cause the stored signals captured prior to the event by the at least one sensor from the at least one of the one or more devices within a predefined distance of the established position to be provided to the service provider.

5. The apparatus of claim 3, wherein, in response to determining that one or
35 more devices are within the predefined distance of the established position, the apparatus is further caused to provide a request to the one or more devices for access to signals from at least one sensor of each of the respective one or more devices; and

wherein causing the apparatus to cause signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider is performed in response to receiving access to the respective signals.

5

6. The apparatus of claim 1, wherein causing the apparatus to provide signals from the at least one sensor to the service provider comprises causing the apparatus to provide streaming signals from the at least one sensor to the service provider as they are received by the respective sensor.

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7. The apparatus of claim 6, wherein the stored signals received from the at least one sensor comprise signals received from the at least one sensor for a predetermined time period prior to the event.

15

8. The apparatus of claim 1, wherein the apparatus is further caused to: determine one or more devices within a predefined distance of the established position; and initiate a session with one or more of the one or more devices determined to be within the predefined distance of the established position.

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9. A method, comprising:
receiving an indication of an event;
initiating a session with a service provider;
providing signals from at least one sensor to the service provider; and
causing the service provider to be alerted to stored signals from the at least one sensor captured prior to the event in response to the indication of the event.

25

10. The method of claim 9, further comprising:
receiving signals from at least one sensor;
storing signals received from the at least one sensor; and
causing the stored signals received from the at least one sensor to be provided to the service provider in response to the indication of the event.

30

11. The method of claim 9, further comprising:
establishing a position of the apparatus;
determining one or more devices within a predefined distance of the established position; and

35

causing signals from at least one sensor from at least one of the one or more devices within the predefined distance of the established position to be provided to the service provider.

- 5 12. The method of claim 11, further comprising
retrieving stored signals captured prior to the event by the at least one sensor
from at least one of the one or more devices within a predefined distance of the
established position; and
causing the stored signals captured prior to the event by the at least one sensor
10 from the at least one of the one or more devices within a predefined distance of the
established position to be provided to the service provider.

13. The method of claim 11, wherein, in response to determining that one or
more devices are within the predefined distance of the established position, the method
15 further comprises:
causing a request to be provided to the one or more devices for access to signals
from at least one sensor, of each of the respective one or more devices; and
wherein causing signals from at least one sensor from at least one of the one or
more devices within the predefined distance of the established position to be provided to
20 the service provider is performed in response to receiving access to the respective
signals.

14. The method of claim 9, wherein causing signals to be provided from the at
least one sensor to the service provider comprises causing streaming signals to be
25 provided from the at least one sensor to the service provider as they are received by the
respective sensor.

15. A computer program product comprising at least one non-transitory
computer-readable storage medium having computer-executable program code portions
30 stored therein, the computer-executable program code portions comprising:
program code instructions for receiving an indication of an event;
program code instructions for initiating a session with a service provider;
program code instructions for providing signals from at least one sensor to the
service provider; and
35 program code instructions for causing the service provider to be alerted to stored
signals from the at least one sensor captured prior to the event in response to the
indication of the event.

16. The computer program product of claim 15, further comprising:
program code instructions for receiving signals from at least one sensor;
program code instructions for storing signals received from the at least one
sensor; and

5 program code instructions for causing the stored signals received from the at least
one sensor to be provided to the service provider in response to the indication of the
event.

17. The computer program product of claim 15, further comprising:
10 program code instructions for establishing a position of the apparatus;
program code instructions for determining one or more devices within a
predefined distance of the established position; and
program code instructions for causing signals from at least one sensor from at
least one of the one or more devices within the predefined distance of the established
15 position to be provided to the service provider.

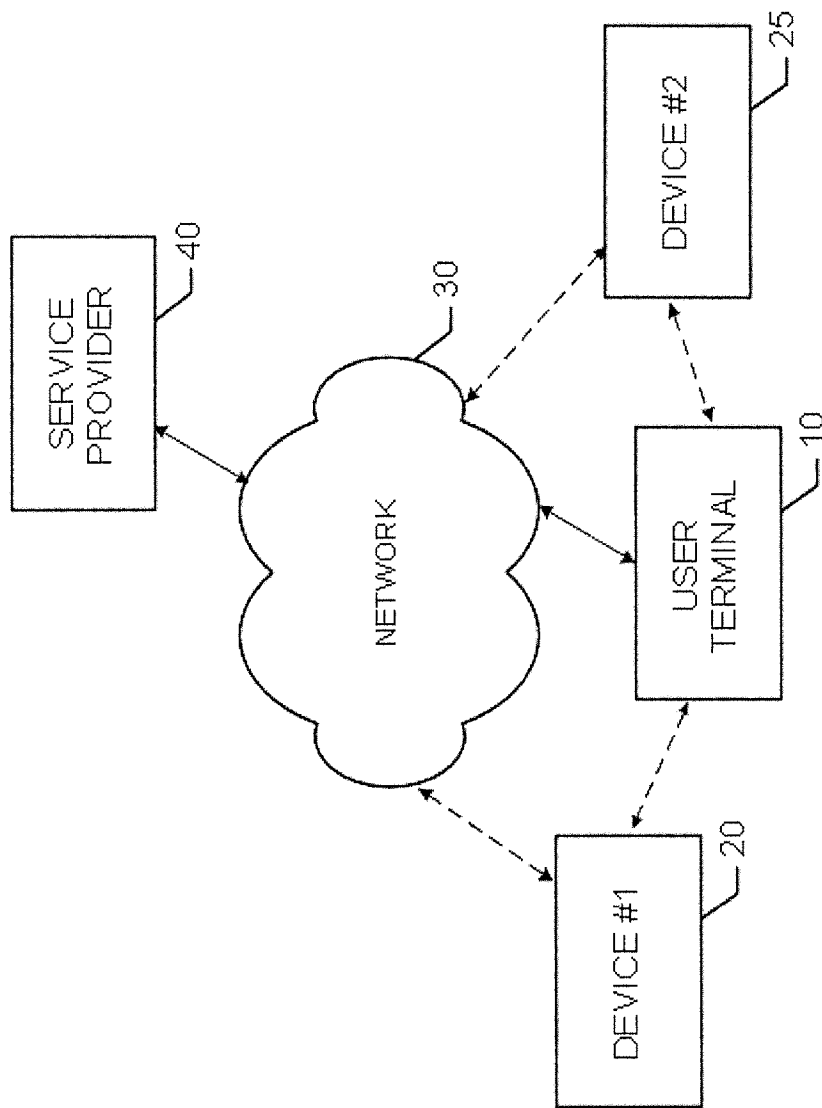
18. The computer program product of claim 17, further comprising:
program code instructions for retrieving stored signals captured prior to the event
by the at least one sensor from at least one of the one or more devices within a
20 predefined distance of the established position; and
program code instructions for causing the stored signals captured prior to the
event by the at least one sensor from the at least one of the one or more devices within a
predefined distance of the established position to be provided to the service provider.

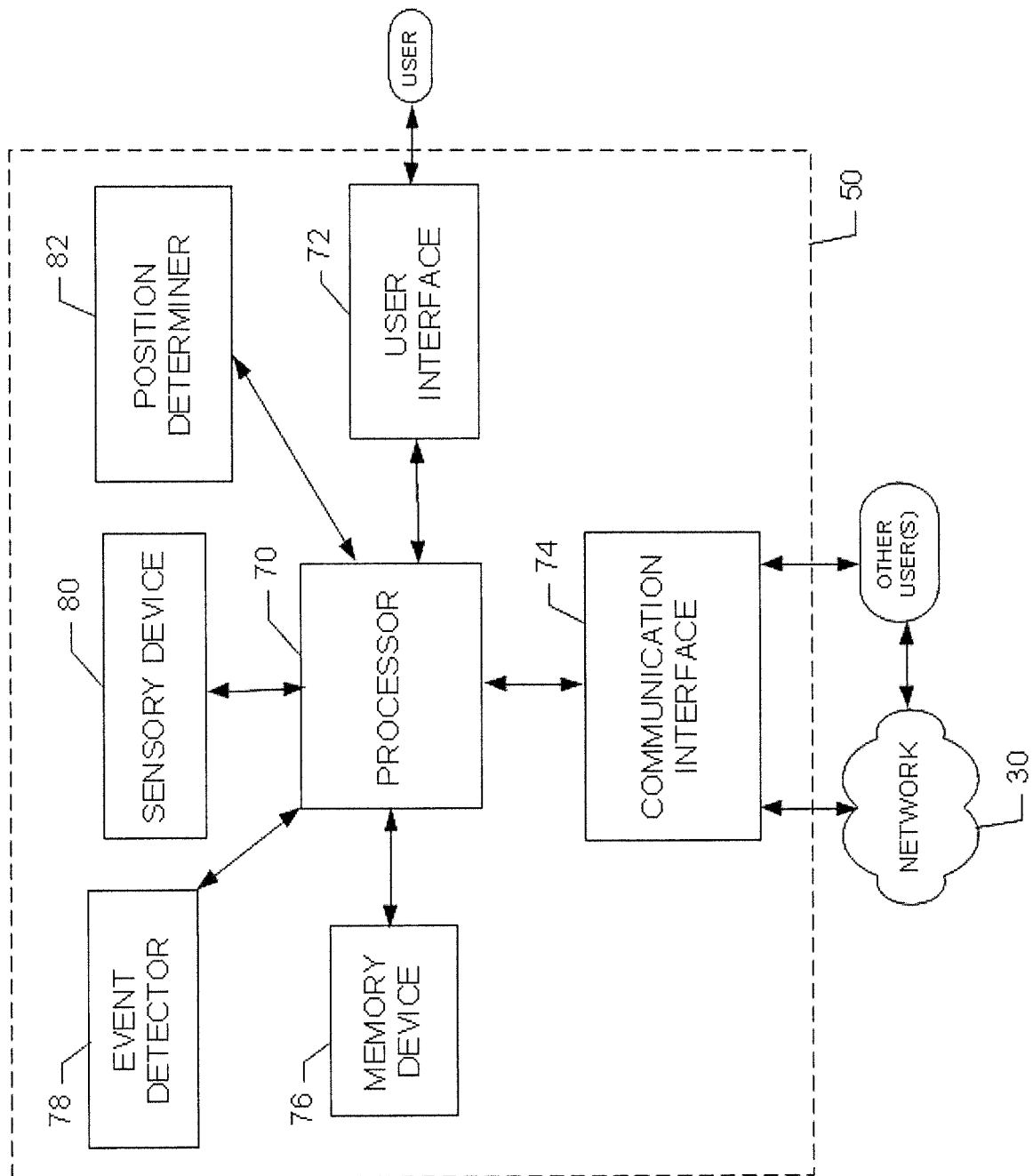
25 19. The computer program product of claim 17, wherein, in response to
determining that one or more devices are within the predefined distance of the
established position, the computer program product further comprises:
program code instructions for causing a request to be provided to the one or more
devices for access to signals from at least one sensor of each of the respective one or
30 more devices; and

wherein causing signals from at least one sensor from at least one of the one or
more devices within the predefined distance of the established position to be provided to
the service provider is performed in response to receiving access to the respective
signals.

35 20. The computer program product of claim 15, wherein the program code
instructions for providing signals from the at least one sensor to the service provider

comprises program code instructions for causing streaming signals to be provided from the at least one sensor to the service provider as they are received by the sensor.

FIG. 1

FIG. 2

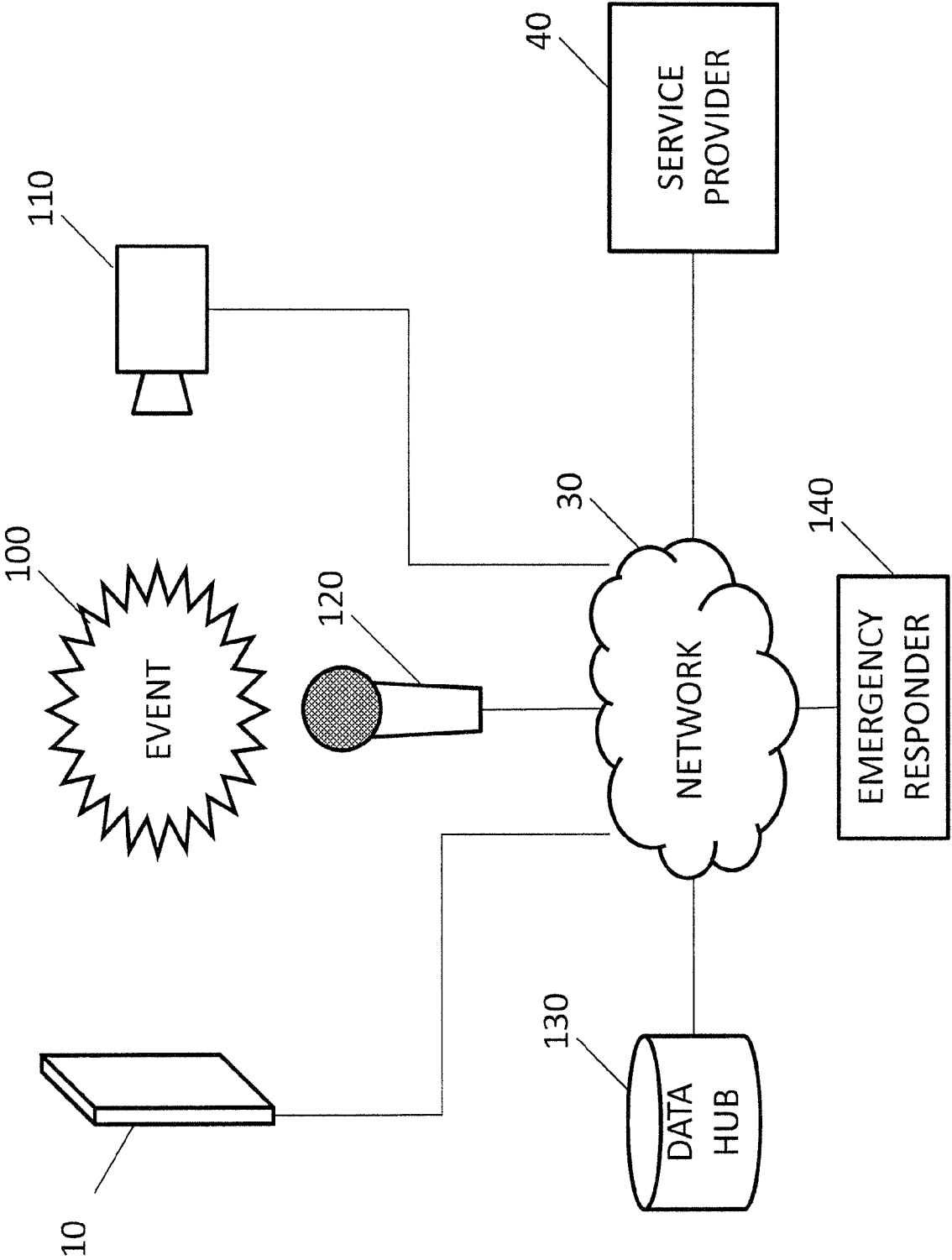
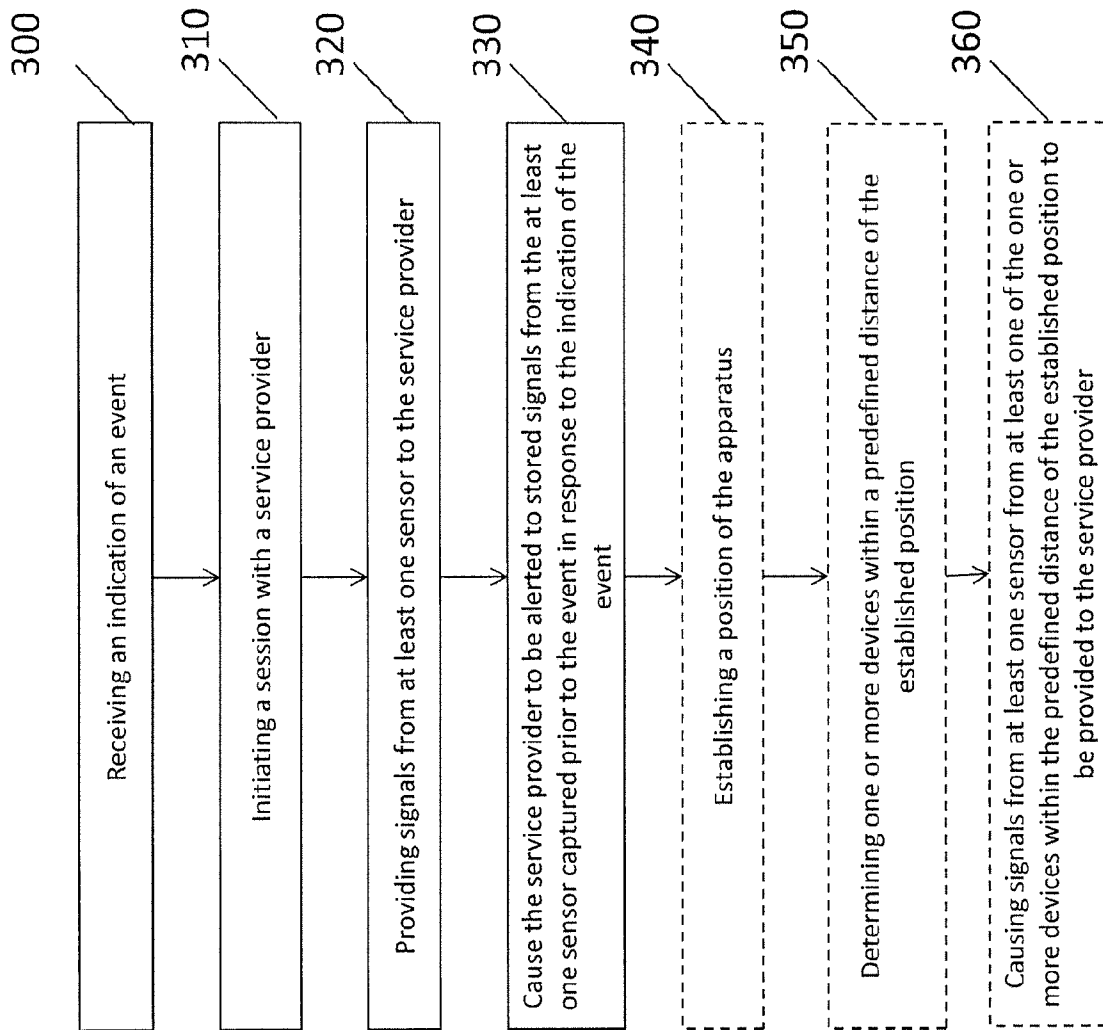


FIG. 3

FIG. 4

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2015/054098

A. CLASSIFICATION OF SUBJECT MATTER

INV. G06F9/54

ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F

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

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

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Anonymous: "eCall", 20 May 2015 (2015-05-20), XP055242840, Retrieved from the Internet: URL:https://en.wikipedia.org/w/index.php?title=ECall&oldid=663303211 [retrieved on 2016-01-19]	1,2,9, 10,15,16
Y	the whole document	3-8, 11-14, 17,19,20
Y	----- US 2013/120159 A1 (STAEHLIN ULRICH [DE] ET AL) 16 May 2013 (2013-05-16) abstract paragraph [0053] - paragraph [0055] ----- -/--	3-8, 11-14, 17,19,20



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

4 May 2016

Date of mailing of the international search report

18/05/2016

Name and mailing address of the ISA/

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Authorized officer

Archontopoulos, E

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2015/054098

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2015/065832 A1 (MANION PAUL [US]) 5 March 2015 (2015-03-05) abstract paragraph [0030] paragraph [0033] - paragraph [0034] paragraph [0037] - paragraph [0038] paragraph [0040] - paragraph [0041] paragraph [0063] - paragraph [0064] paragraph [0067]	1-20
A	----- EP 1 814 093 A1 (DEUTSCHE TELEKOM AG [DE]) 1 August 2007 (2007-08-01) abstract paragraph [0003] paragraph [0010] - paragraph [0012]	1-20
A	----- US 7 277 028 B1 (JANKE GARTH [US]) 2 October 2007 (2007-10-02) abstract column 1, line 46 - line 49 column 5, line 9 - line 29 -----	1-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2015/054098

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

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

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2, 9, 10, 15, 16

Event-driven data interpretation and transmission.

2. claims: 3-5, 8, 11-13, 17-19

Location-initiated data transmission.

3. claims: 6, 7, 14, 20

Data streaming.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2015/054098

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US 2013120159	A1	16-05-2013	CN 103125109 A 29-05-2013
			DE 102010038640 A1 02-02-2012
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			US 2011173279 A1 14-07-2011
