

ALERT SYSTEM AND METHOD

FIELD OF THE INVENTION

[0001] The present invention relates to an alert system and method for initiating the transmission of an alert message from a wireless communication device.

BACKGROUND

[0002] The use of wireless communication devices is ubiquitous nowadays. A majority of people in most countries, from young children to the elderly, would own a handheld wireless communication device or cellular telephone. With the increasing dependence on wireless communication devices for everyday tasks, the communication device would be within easy reach for most people. In case of an emergency situation, a user carrying a cellular telephone may be pressed for time to place a call by inputting a desired phone number. Therefore, cellular telephones or applications integrated with cellular telephones having an emergency message sending capability have been developed. To utilize the emergency message sending capability, it is necessary to pre-set the functions in advance, such as the emergency contacts to sent to, the emergency message, etc.

[0003] In a dangerous or emergency situation, some applications have introduced the use of motion-activated transmission, such as vigorous movements or shaking, of the mobile terminal to cause the transmission of the emergency message. Another method is to press a predetermined button multiple times to enable transmission of the emergency message. When the recipient of the emergency message receives the emergency message, the recipient can be made aware of the emergency situation of the sending user. However, such means of causing a transmission of an emergency message may cause undue attention and some attackers may be provoked into causing further hurt or injury to the victim. In addition, motion activated transmission does not provide assurance to the user that the alert has been activated because a minimum threshold level of motion must be

reached before the alert is activated. It could take multiple attempts before a user meets the threshold level.

[0004] The object of the invention is thus to provide a solution that overcomes the above disadvantages or at least provide a novel alert system and method.

SUMMARY OF INVENTION

[0005] According to a first aspect of the present invention, an alert system is described comprising a wireless communication device having an audio socket and a memory storing at least one alert message. The alert system further comprises a connecting device having a pluggable portion, the pluggable portion capable of being plugged into the audio socket. The alert system further comprises at least one recipient wherein in response to unplugging the pluggable portion from the audio socket, the wireless communication device transmits the alert message to the at least one recipient via at least one transmission means.

[0006] Preferably, the wireless communication device will wait for a predetermined waiting period before transmitting the alert message to the at least one recipient.

[0007] Preferably, a GPS location of the wireless communication device is appended to the alert message before its transmission to the at least one recipient.

[0008] In another embodiment, in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates an audio track which is played through a speaker of the wireless communication device.

[0009] Preferably, the audio track is anyone of the following :- a voice recording and a siren.

[0010] In another embodiment, in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates an audio recording module on the wireless communication device for recording surrounding audio.

[0011] In another embodiment, in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates a video recording module on the wireless communication device for recording video images through a camera of the wireless communication device.

[0012] In another embodiment, in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates a camera snapshot module on the wireless communication device for capturing a plurality of images over a predefined time interval through a camera of the wireless communication device.

[0013] Preferably, the connecting device is anyone of the following: headset, headphones, earphones, earbuds, dust plug and design accessory.

[0014] Preferably, the at least one transmission means are anyone of the following :- email, cellular call, SMS, MMS and internet message.

[0015] In another embodiment, the memory further stores contact information of designated contacts and the at least one recipient is the designated contacts.

[0016] In another embodiment, the memory further stores contact information of emergency services and the at least one recipient is the emergency services.

[0017] In another embodiment, the wireless communication device is connected to a wireless network and the at least one recipient is other wireless communication devices that are connected to the wireless network.

[0018] According to a second aspect of the present invention, a method of initiating the transmission of an alert message from a wireless communication device to a recipient, the wireless communication device having an audio socket and a memory storing the alert message, is disclosed having the step of unplugging a pluggable portion of a connecting device from the audio socket.

[0019] Preferably, the wireless communication device will wait for a predetermined waiting period before transmitting the alert message to the recipient.

[0020] Preferably, a GPS location of the wireless communication device is appended to the alert message before its transmission to the recipient.

[0021] In another embodiment, in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates an audio track which is played through a speaker of the wireless communication device.

[0022] Preferably, the audio track is anyone of the following :- a voice recording and a siren.

[0023] In another embodiment, in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates an audio recording module on the wireless communication device for recording surrounding audio.

[0024] In another embodiment, in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates a video recording module on the wireless communication device for recording video images through a camera of the wireless communication device.

[0025] In another embodiment, in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates a camera snapshot module on the wireless communication device for capturing a plurality of images over a predefined time interval through a camera of the wireless communication device.

[0026] Preferably, the connecting device is anyone of the following: headset, headphones, earphones, earbuds, dust plug and design accessory.

[0027] The invention will now be described in detail with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The accompanying figures illustrate disclosed embodiment(s) and serve to explain principles of the disclosed embodiment(s). It is to be understood, however, that these drawings are presented for purposes of illustration only, and not for defining limits of the application.

[0029] Figure 1 is a schematic view of a wireless communication device.

[0030] Figure 2 shows a wireless communication device with an audio socket and a connecting device with a pluggable portion.

[0031] Exemplary, non-limiting embodiments of the present application will now be described with references to the above-mentioned figures.

DETAILED DESCRIPTION

[0032] Figure 1 is a schematic view of a wireless communication device 101 for providing a method operative to transmit an alert message in an emergency situation in

accordance with an embodiment of the invention. The wireless communication device 101 can include control circuitry 102, memory 103, input/output circuitry 104 (I/O circuitry) and communication circuitry 105. The wireless communication device 101 also includes motion detection components, a location detection component, a visual display and input mechanisms. The wireless communication device 101 can operate within a wireless network. The wireless network may implement any one of a variety of communication standards known as Global System for Mobile Communications (GSM), Wideband Code Division Multiple Access (WCDMA). As new standards are likely to evolve in the future, the enumeration of particular standards is not intended to be limiting.

[0033] The wireless communication device 101 can include any suitable type of communication device such as a cellular telephone, a digital media player, a personal data assistant (“PDA”), a handheld gaming device, a digital camera and the like. A further example can also include a laptop or desktop computer.

[0034] Control circuitry 102 or processor includes any circuitry necessary to control the operations and performance of the wireless communication device 101. For example, control circuitry 102 can be used to run operating system applications, firmware applications, media playback applications, media editing application, or any other application. The control circuitry 102 can also process inputs from a user interface.

[0035] Memory 103 can include cache memory, volatile memory such as RAM, a hard-drive, flash memory, permanent memory such as ROM, any other suitable type of storage medium, or any combination thereof. Memory 103 can store media data (e.g., music and video files), application data, firmware, user preference information data, authentication information, wireless connection information data, calendar information data. Memory 103 can also be used for storing contact information data (e.g. telephone numbers and email addresses) including a list of preferred or designated contacts to be notified in case of an emergency, and one or more individual pre-recorded message for each designated contact. In addition, memory 103 stores the necessary software to implement the alert message function.

[0036] I/O circuitry 104 can be operative to convert (and encode/decode, if necessary) analog signals and other signals into digital data. In some embodiments, I/O circuitry 104 can also convert digital data into any other type of signal, and vice-versa. For example, I/O circuitry 104 can receive and convert physical contact inputs (e.g., from a multi-touch screen), physical movements (e.g., from a mouse or sensor), analog audio signals (e.g., from a microphone), or any other input. The digital data can be provided to and received from control circuitry 102, memory 103, or any other component of the wireless communication device 101.

[0037] Figure 2 shows a wireless communication device 201 having an audio socket 202. A connecting device 203 has a plugging portion 204 at its end that can connect or plug into audio socket 202. Connecting device 203 can be any loudspeaker such as a headset, headphones, ear phones, earbuds or the like. Connecting device 203 can also be a design accessory or a dust plug or the like. Plugging portion 204 can be a TRS (tip, ring, sleeve) connector or the like.

[0038] When plugging portion 204 of connecting device 203 is connected or plugged into audio socket 202, wireless communication device 201 can detect that a device has been connected or plugged into audio socket 202. Therefore, when plugging portion 204 of connecting device 203 is disconnected or unplugged from audio socket 202, wireless communication device 201 can detect that a device has been disconnected or unplugged from audio socket 202.

[0039] The present invention provides a method for initiating the transmission of an alert message. In the event of an emergency, a user disconnects or unplugs plugging portion 204 of connecting device 203 from the audio socket 202 of wireless communication device 201, which prompts the wireless communication device 201 to send the alert message.

[0040] The alert message can be transmitted to designated contacts to notify them of the emergency situation the user is in. Designated contacts include spouse, children, parents, family members, guardian, care giver, home health monitoring service, doctors or other licensed practitioners such as a mid wife or groups.

[0041] The alert message can be transmitted through a variety of transmission means. The transmission means include via email, cellular call, SMS (short message service), MMS (multimedia service), social network medium (for example twitter, facebook), internet text message (for example WhatsApp) etc, or a combination of them. The alert message can be in the form of a pre-recorded text or audio message. The alert message can also include the GPS (global positioning system) location of the wireless communication device 201 at the time when the alert message is sent.

[0042] In a further embodiment, once the alert message has been successfully sent and received by the designated contact, the wireless communication device 201 will display a confirmation message informing the user of this.

[0043] The alert message can also be transmitted to emergency services. Emergency services refer to the hospital, police or any private security firm that the user engages. The user can preset which emergency service he wishes to notify. In the case where the emergency service is a private security firm which has been pre-engaged by the user, the private security firm may call the user to verify the authenticity of the distress. Verification may be by a predetermined password. In the event that a wrong password has been entered, or a wrong password has been entered after a certain number of attempts, or the verification call is not answered, the private security firm will call the police on the user's behalf to report the whereabouts of the user (as the GPS location of the wireless communication device 201 of the user had been sent in the alert message), and that the user is possibly in distress.

[0044] In addition to sending the alert message to designated contacts and emergency services, the alert message can also be sent as a broadcast message to other

wireless communication devices within range, with the intention of seeking help. In this embodiment, the contact numbers of the other wireless communication devices are not known. Instead, the alert message is sent to any wireless communication devices within Bluetooth range or are connected to the same Wi-Fi network. This alert message can include the GPS location of the wireless communication device 201 of the user and the contact number of the user.

[0045] In the event of an emergency, a user disconnects or unplugs plugging portion 204 of connecting device 203 from the audio socket 202 of wireless communication device 201 so as to send the alert message. Preferably, there is a predetermined delay or waiting period from the time of the unplugging action to the time the alert message is sent from the wireless communication device 201.

[0046] This predetermined delay or waiting period is to allow the user some time to deactivate on the wireless communication device 201 the transmission of the alert message in the event of a false alarm. The predetermined delay or waiting period can be in the range of between 1 to 60 seconds. The user can also select the predetermined delay or waiting period. During the predetermined delay or waiting period, the wireless communication device 10 will display a prompt for the user to key in user input for the deactivation. The user input is a pre-selected user identifier which has been saved in the memory. Once the user input has been entered, the wireless communication device 201 will authenticate the user input and once authenticated, the alert message will be deactivated accordingly. If the user input is incorrect, a predetermined number of attempts will be allowed before the wireless communication device 201 sends the alert message.

[0047] There are advantages of initiating the transmission of an alert message by this unplugging action. Firstly, it provides the user, particularly one that is subjected to an attack, a discreet and inconspicuous way of enabling transmission of the alert message without drawing attention as to how one activated the alert. A teenager subject to bullying from a group of bullies or gangsters may not shout for help for fear of further

endangering himself. The invention addresses this problem as the unplugging of the plugging portion 204 of connecting device 203 from the audio socket 202 provides an inconspicuous way for calling for help.

[0048] Further, this unplugging action is a simple and definite action and can provide assurance to the user that the transmission of the alert message has been initiated. This is a marked improvement over the prior art (identified in the background) whose complicated motion-activated alerts can make it hard to ascertain if the sending of the alert has indeed been initiated and sent. Moreover, a user would have to remember how to activate the motion-activated alert as opposed to a simple unplugging action as described by this invention. The invention is thus particularly advantageous for elderly folk who may struggle with motion-activated alerts and user interfaces of software applications.

[0049] Further still, the act of unplugging is a quick action. In situations where women are subject to robbery, ambush, molest or rape, it is imperative that the call for help be quick and definitive.

[0050] In other embodiments, the unplugging of the plugging portion 204 of connecting device 203 from the audio socket 202 can also cause a loud audio track to be played from the speakers of the wireless communication device 201. This is with the intention of fending off a potential assault or robbery. The audio track can be saved into the memory 103 of the wireless communication device 201. The audio track can be a loud siren or variations thereof. The audio track can also be a voice recording. The voice recording can repeat the words “The police has been informed and will be here any moment”.

[0051] In other embodiments, the unplugging of the plugging portion 204 of connecting device 203 from the audio socket 202 can also activate an audio recording module in the wireless communication device 201 to record the surrounding audio. The

benefit of recording the audio is to provide evidence in cases where criminal acts are involved.

[0052] In other embodiments, the unplugging of the plugging portion 204 of connecting device 203 from the audio socket 202 can also activate a video recording module in the wireless communication device 201 to record video images with a camera of the wireless communication device 201. The benefit of doing so is to provide video evidence where criminal acts are involved. Alternatively, a camera snapshot module in place of a video recording module can be activated to capture images over a predefined time interval (for example, one image every 5 seconds over a one minute period).

[0053] It will be apparent that various other modifications and adaptations of the application will be apparent to the person skilled in the art after reading the foregoing disclosure without departing from the spirit and scope of the application and it is intended that all such modifications and adaptations come within the scope of the appended claims.

[0054] In the application, unless specified otherwise, the terms "comprising", "comprise", and grammatical variants thereof, are intended to represent "open" or "inclusive" language such that they include recited elements but also permit inclusion of additional, non-explicitly recited elements.

CLAIMS

1. An alert system comprising :
 - a wireless communication device having an audio socket and a memory storing at least one alert message;
 - a connecting device having a pluggable portion, the pluggable portion capable of being plugged into the audio socket;
 - at least one recipient;
 - wherein in response to unplugging the pluggable portion from the audio socket, the wireless communication device transmits the alert message to the at least one recipient via at least one transmission means.
2. The alert system of claim 1 wherein the wireless communication device will wait for a predetermined waiting period before transmitting the alert message to the at least one recipient.
3. The alert system of claims 1 or 2 wherein a GPS location of the wireless communication device is appended to the alert message before its transmission to the at least one recipient.
4. The alert system of anyone of the preceding claims wherein in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates an audio track which is played through a speaker of the wireless communication device.
5. The alert system of claim 4 wherein the audio track is anyone of the following :- a voice recording and a siren.
6. The alert system of anyone of the preceding claims wherein in response to unplugging the pluggable portion from the audio socket, the wireless

communication device further activates an audio recording module on the wireless communication device for recording surrounding audio.

7. The alert system of anyone of the preceding claims wherein in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates a video recording module on the wireless communication device for recording video images through a camera of the wireless communication device.
8. The alert system of anyone of claims 1 to 6 wherein in response to unplugging the pluggable portion from the audio socket, the wireless communication device further activates a camera snapshot module on the wireless communication device for capturing a plurality of images over a predefined time interval through a camera of the wireless communication device.
9. The alert system of anyone of the preceding claims wherein the connecting device is anyone of the following: headset, headphones, earphones, earbuds, dust plug and design accessory.
10. The alert system of anyone of the preceding claims wherein the at least one transmission means are anyone of the following :- email, cellular call, SMS, MMS and internet message.
11. The alert system of anyone of the preceding claims wherein the memory further stores contact information of designated contacts and the at least one recipient is the designated contacts.
12. The alert system of anyone of the preceding claims wherein the memory further stores contact information of emergency services and the at least one recipient is the emergency services.

13. The alert system of anyone of the preceding claims wherein the wireless communication device is connected to a wireless network and the at least one recipient is other wireless communication devices that are connected to the wireless network.
14. A method of initiating the transmission of an alert message from a wireless communication device to a recipient, the wireless communication device having an audio socket and a memory storing the alert message, the method comprising the step of:
unplugging a pluggable portion of a connecting device from the audio socket.
15. The method of claim 14 wherein the wireless communication device will wait for a predetermined waiting period before transmitting the alert message to the recipient.
16. The method of claims 14 or 15 wherein a GPS location of the wireless communication device is appended to the alert message before its transmission to the recipient.
17. The method of anyone of claims 14 to 16 wherein in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates an audio track which is played through a speaker of the wireless communication device.
18. The method of claim 17 wherein the audio track is anyone of the following :- a voice recording and a siren.
19. The method of anyone of claims 14 to 18 wherein in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates an audio recording module on the wireless communication device for recording surrounding audio.

20. The method of anyone of claims 14 to 19 wherein in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates a video recording module on the wireless communication device for recording video images through a camera of the wireless communication device.
21. The method of anyone of claims 14 to 19 wherein in response to unplugging the pluggable portion of the connecting device from the audio socket, the wireless communication device further activates a camera snapshot module on the wireless communication device for capturing a plurality of images over a predefined time interval through a camera of the wireless communication device.
22. The method of anyone of claims 14 to 21 wherein the connecting device is anyone of the following: headset, headphones, earphones, earbuds, dust plug and design accessory.