(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 April 2008 (17.04.2008)

PCT

(10) International Publication Number
WO 2008/045003 A1

(51) International Patent Classification:
G08B 25/10 (2006.01)

(21) International Application Number:
PCT/SG2007/000341

(22) International Filing Date: 5 October 2007 (05.10.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
200607013-0 9 October 2006 (09.10.2006) SG

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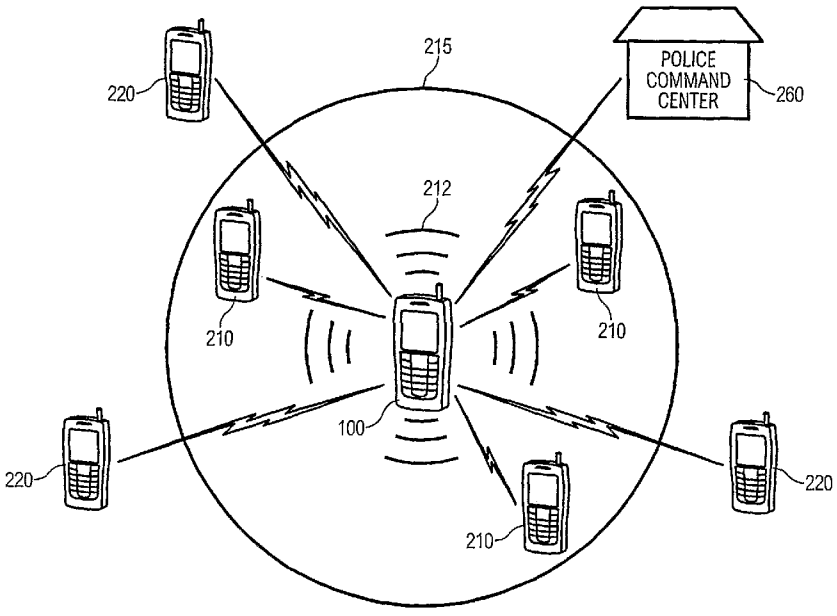
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(54) Title: HANDHELD PERSONAL ALARM DEVICE



(57) Abstract: A personal security system for a mobile communication device is provided. When the personal security system is activated, an alarm can be triggered. The alarm includes sounding a sound alarm, sending community messages to a plurality of mobile device to seek for help and attentions. The personal security system interfaces with a camera of the mobile communication device for triggering the alarm.

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HANDHELD PERSONAL ALARM DEVICE

Field of the Invention

[0001] The present invention relates to handheld device. In particular, the invention relates to a personal alarm device embedded in a mobile communication device.

Background

[0002] Pocket size personal alarm devices are often useful when the user encounters a distress situation. Some of these alarm devices emits loud ear-piercing noise as a first level defense. Such alarm device requires no weapons, training or permits to carry. Such device, when activated, may frighten away the potential assailant, and also draw attention for help. Such devices usually come in a small keychain size with a button to activate its alarm.

[0003] However, as such devices are extra items to carry along with the users and they are seldom used; therefore, users often left them at home, or left them in places where it is difficult to access during distress situation. For example, the device may be hidden inside a female handbag stacked under the other personal items.

[0004] Another limitation of such devices is that its use will not be effective in a secluded area, where the alarm sound is not audible to nearby by-passers.

[0005] EP1679670 provides a handset having a pressurized can integrated therein. The handset provides a mechanical means for actuating spray. It is used as a defensive tool in an emergency situation. However, such spray is only used for short distance attack and it does not alarm the others for help.

[0006] EP1387331 provide a spray can intergraded with a transmitter device. The transmitter device sends out pre-stored message to pre-stored contacts when the

spray can is in used during emergency situation. As mentioned, this is an additional device for used only in distress situation, users often misplace as it.

[0007] US5,712,619 relates to a global positioning system enabled personal alarm integrated with a cellular phone system. When the alarm is activated, the global positioning system identifies the user's position and the cellular phone system sends the position information to a monitoring center for appropriate action. The alarm may be set to generate audible alarm.

[0008] US6,166,639 teaches a personal security system for transmitting distress information to a remote receiver when triggered. Responsive to receiving distress information, a remote receiver connected to a central office via a communication link, such as telephone line, and the personnel of the central office may provide the necessary assistance.

[0009] WO2004/104962 discloses a portable alarm device for communicating a signal indicative of a location of the user with a base station. The communication is established via a mobile phone device.

Summary

[0010] In one aspect of the present invention, there is provided a personal security system for a mobile communication device having a speaker and a messaging service, the personal security system comprises a security device controller operable to trigger an alarm that sounds an sound alarm with the speaker and sends a community message to communication devices within a perimeter based on a location of the mobile communication device and to other communication devices pre-designated with the messaging service; and configuration data repository accessible by the security device controller for defining information for activating and deactivating the personal security system.

[0011] In accordance with one embodiment, the personal security system further comprises a switch for activating the alarm, the switch may comprise a

controller operable to activate a camera of the mobile communication device, wherein, said switch is in a standby mode when the camera is being covered, and uncovering the camera thereafter triggers the switch for activating the alarm.

[0012] It is possible that the controller is adapted to turn on a flashlight of the mobile device upon activating the camera.

[0013] In accordance with an alternative embodiment, the sound alarm may have a sound pressure level in a range of 82-130dB and one of the pre-designated communication devices situated at a police command center.

[0014] It is also possible that the community message may further include the location of the mobile communication device.

[0015] In yet another embodiment, the location of the mobile communication device may be detected based on Location-Based Service. The community message may be a short messaging service (SMS).

[0016] In accordance with another aspect of the present invention, there is provided a method for generating an alarm with a mobile communication device, said method comprises activating a personal security system; and triggering the alarm. Further the alarm includes sounding a sound alarm; detecting a location of the mobile communication device; sending a community message to mobile devices within a perimeter based on the location of the mobile communication device; and sending the community message to mobile devices pre-designated in the personal security system.

[0017] In accordance with one embodiment, the method may further comprise activating a camera of the mobile communication device; covering the camera; and uncovering the camera to trigger the alarm. The method may further comprise prompting for de-activating the personal security system.

[0018] The location of the mobile communication device may be detected based on Local Based Service.

[0019] In accordance with yet another aspect, there is provided a mobile communication device comprising the aforementioned personal security system.

[0020] In accordance with yet another aspect, there is provided a switch for activating an alarm of a mobile device, said device having a camera, said switch comprising a controller operable to activate the camera, wherein, said switch is in a standby mode when the camera is being covered, and uncovering the camera thereafter triggers the switch for activating the alarm.

[0021] In accordance with one embodiment, the controller of the switch may be adapted to operable to further turn on a flashlight of the mobile device.

[0022] It is possible that the controller may prompt to deactivate the alarm before activating the alarm. When the alarm is not deactivated within a prescribed period, the alarm may be activated automatically.

[0023] In accordance with yet another aspect, there is provided a method for triggering an alarm of a mobile communication device, said device having a camera, the method comprising activating the camera; covering the camera; uncovering the camera; and triggering the alarm.

[0024] In accordance with one embodiment, the method may further comprise prompting to deactivating the alarm.

Brief Description of the Drawings

[0025] This invention will be described by way of non-limiting embodiments of the present invention, with reference to the accompanying drawings, in which:

[0026] FIG.1a illustrates a front view of a mobile phone device in accordance with an embodiment of the present invention;

[0027] FIG. 1b illustrates a rear view of the mobile phone device of FIG. 1a;

[0028] FIG. 1c illustrates a schematic block diagram of the mobile phone device of FIGs. 1a and 1b featuring a personal security system in accordance with another embodiment of the present invention;

[0029] FIG. 2 illustrates an overview of the personal security system of the present invention when an alarm is triggered;

[0030] FIG. 3 illustrates a flow diagram showing the operation of a personal security system in accordance with one embodiment of the present invention;

[0031] FIG. 4 exemplifies a screenshot of the mobile phone device of FIG. 1a where the personal alarm function may be turned off;

[0032] FIG. 5 illustrates a flow diagram shown the operation of a armed mode in accordance with one embodiment of the present invention; and

[0033] FIG. 6 exemplifies a screenshot of the mobile phone device of FIG. 1a where shortcuts for various important modes may be activated.

Detailed Description

[0034] In line with the above summary, the following description of a number of specific and alternative embodiments are provided to understand the inventive features of the present invention. It shall be apparent to one skilled in the art, however that this invention may be practiced without such specific details. Some of the details may not be described at length so as not to obscure the invention. For ease of reference, common reference numerals will be used throughout the figures when referring to the same or similar features common to the figures.

[0035] FIG. 1a shows a front view of a mobile phone device **100** in accordance with one embodiment of the present invention. The mobile phone device **100** comprises a speaker grill **110**, a keypad **120**, a screen **130** and an alarm switch **140**. FIG. 1b shows a rear view of the mobile phone device **100**, where a camera **150**, a flashlight **160**, and a battery compartment **170** are provided thereon. As shown in FIG. 1c, the mobile phone device **100** includes a personal security system **101** which provides an alarm when it is triggered. The personal security system **101** may be activated by several ways: (1) accessing the security system through selecting the personal security feature from a menu via the keypad **120**; (2) pressing the alarm switch **140**; or (3) turning on an "armed mode". When the user chooses to activate the personal security system **101** manually, the user selects the personal security feature from the menu on the screen **130** via the keypad **120**. Alternatively, the user may simply press the alarm switch **140** to enter the personal security system **101** directly. The alarm switch **140** is a shortcut button that allow user to skip though the phone menu and selections to allow fast access. To prevent the user pressing the alarm switch by mistake and activate the alarm unnecessarily, the user may be required to pressed and hold the alarm switch for a pre-determined length of time before the personal security system **101** can be activated.

[0036] Referring now to FIG. 1c, the personal security system **101** includes a security device controller **102**, a configuration data repository **103** and an armed mode controller **104**, which are adapted to interface with the speaker **111**, keypad **120**, the alarm switch **140**, the camera **150**, flash **160**, and a messaging features **190** of the

mobile phone device **100**. Briefly, the keypad **120** and the alarm switch **140** are used for activating and deactivating the alarm. The camera **150** and the flash **160** are associated with the armed mode that is controlled by the armed mode controller **104**. The security device controller **102** controls the operation of the Personal security system **101**. When the alarm is activated, the security device controller **102** commands the mobile phone device **100** to sound an alarm and send out distress messages for immediate help. The configuration data repository **103** defines shortcuts for the armed mode; these functions include the options for activating the personal security system **101**, various time intervals for operations of the personal security system **101**, personal identity number (PIN) for activating and/or deactivating the personal security system **101**, pre-defined messages, and etc. The configuration data repository **103** is user configurable.

[0037] The armed mode controller **104** turns on the personal security system **101** into a standby mode during a high alert situation when the armed mode is turned. It is useful when the user is in danger and do not have time/or chance to trigger the alarm and yet the alarm can be triggered automatically. The armed mode works with the camera **150**. When the mobile phone device **100** is switched to the armed mode, the user of the mobile phone device **100** is required to cover the build-in camera **150** while holding the mobile phone device **100**. As the build-in camera **150** is generally in a handheld size, it is possible that the build-in camera **150** can be covered and held with one hand by putting a finger over the build-in camera **150**. As soon as the camera **150** is uncovered, for example when the mobile phone device **100** is dropped from hand, the alarm is triggered if it is not deactivated within a prescribed period of time, which can be pre-set in the personal security system **101** and stored in the configuration data repository **103**. Detail operations of the armed mode will be described later in details.

[0038] In accordance with an alternative embodiment, the armed mode further works with the flashlight **160**. When the armed mode is turned on, the flashlight **160** is also turned on in a continuous manner, or a flashing manner. The user of the mobile phone device **100** has to cover the build-in camera **150** as described in the above embodiment. When the camera **150** is uncovered in a very dark area where the natural

light is not sufficient to activate the personal security system **101**, the light emitted by the flash light **160** aid to activate the personal security system **101**.

[0039] The armed mode controlling by the armed mode controller **104** is a switching means for activating the personal security system **101**. In accordance with an alternative embodiment of the present invention, the personal security system **101** is adapted without the armed mode controller **104**.

[0040] FIG. 2 in conjunction with FIG. 3 shows the operation of activating the personal security system **101** of the mobile phone **100** in accordance with one embodiment of the present invention. When the personal security system **101** is activated/turned on at step **310**, the personal security system **101** prompts the user to confirm whether to proceed further, i.e. to activate the alarm. This step is provided for preventing false alarm. At step **330**, if the user selects to stop the personal security system **101** or no action is taken within a predetermined amount of time, the personal security system **101** is deactivated and the mobile phone device **100** reverts to usual standby mode until the user provides a further command. If, at step **330**, the alarms are required, the user inputs a required command to trigger the alarms upon prompting. The required command may be a set of password pre-set in the mobile device **100**, or a set of combined key pressing for triggering the alarm. When the alarm is triggered, at step **340**, the mobile phone device **100** sounds a sound alarm **212** with high pitch noise. At step **350**, the personal security system **101** then sends out pre-stored Short Message Service (SMS), to other mobile devices **210** which are within a pre-defined distance from the mobile phone device **100**. At step **360**, the personal security system **101** further sends out SMS to mobile devices **220**. The mobile devices **220** are the pre-designated by the user from a contact list/phonebook of the mobile phone device **100**. At step **370**, the personal security system **101** further sends out SMS to police command center **260** for help.

[0041] For easy reference, the SMSs that are sent to the mobile devices **210** and **220**, and/or the police command center **260** may refer to as "community SMS". In addition, the community SMS may not be the only means for transmitting distress signal for seeking for help. It should be understood by one skilled in the art that

Multimedia Messaging Service (MMS), emails and the like, work equally well for the purpose of the present invention. Further, the distress signals are not restricted to text messages only, other multimedia types of messages, like voice messages may be desired.

[0042] Still referring to FIGs. 2 and 3, at the step **320**, when the personal security system **101** is activated, the mobile phone device **100** prompts the user for deactivating the alarm on the screen **130**. If the user does not deactivate the personal security system **101** within a period pre-defined in the personal security system **101** by entering an appropriate command, the alarms will be triggered. The prompt for deactivating the alarm is to further ensure that the personal security system **101** is not activated by mistake. FIG. 4 shows a screenshot **400** of the prompt in accordance with one embodiment of the present invention. The appropriate command to deactivate the personal security system **101** is by entering a personal identification number (PIN) or a password in field **450**. The PIN is a string of code pre-set in the mobile phone device **100** by the user and stored in the configuration data repository **103**. At the step **330**, if a correct code is entered within the pre-defined period, the personal security system **101** will be deactivated and the mobile phone device **100** returns to normal operations. If no correct code is being entered in the field **450** within the pre-defined period, the alarm of the personal security system **101** will be triggered and steps **340** to **370** will be performed.

[0043] Still referring to FIGs. 2 and 3. Once the alarm is triggered at the step **340**, the personal security system **101** commands the mobile phone device **100** to sound the sound alarm **212** with the high pitch noise. The sound alarm **212** serves as a first line of defense for the user and the high pitch noise may draw attention for help. The high pitch noise is emitted via a speaker (not shown) mounted behind the speaker grill **110** of FIG. 1. The speaker is adapted for supporting a wide range of sounds for mobile phone operations, which include vocal, music, ring-tone and etc. The speaker is further adapted to emit the high pitch noise having sound pressure levels of about 85-130dB. Thereafter, personal security system **101** commands the mobile phone device **100** to send out community SMSs automatically for immediate help and attentions. The community SMSs may include a prescribed paragraph that is stored in the

configuration data repository **103**. The community SMSs may further include information regarding the location of the mobile phone device **100**. The location of the mobile phone device can be detected with location-based service (LBS). Once the location of the mobile phone device **100** is identified, the relevant communication service provider establishes a perimeter **215** based on the location of the mobile phone device **100**, and SMSs are sent to all the mobile devices **210** within the perimeter **215** at the step **350**. The perimeter **215** may be in a range from 250-400m from the location of the mobile phone device **100** so that the other mobile device **210** users may reach to help within a short period. The personal security system **101** further sends out SMSs to mobile devices **220** at the step **360**. The mobile devices **220** are a list of contacts pre-designated by the user of the mobile phone device **100**. The mobile devices **220** may or may not be located within the perimeter **215**. Once users of the mobile devices **220** receive the SMS may immediately contact the user of the mobile phone device **100** to offer for help, when necessary. At the step **370**, the personal security system **101** further commands the mobile phone device **100** to send SMS to a police command center **260** for seek for help. To ensure that it is not a false alarm, officer in the police command center **260** may further contact the mobile phone device **100** for verification. The community SMS may also contain the location information of the mobile phone device **100**.

[0044] It is understood to the person skilled in the art that, other than LBS, any location identification methods, such as Assisted Global Positioning System, Cell ID, Enhanced Observed Time Difference (E-OTD), Time Difference On Arrival (TDOA), Agilent's acceSS7 and etc., may be used for detecting the location of the mobile phone device **100**.

[0045] FIG. 5 shows a flow chart of the armed mode in accordance with one embodiment of the present invention. The armed mode is turn on at step **510** and the personal security system **101** is on standby mode. The mobile phone device **100** then prompts the user to cover the camera **150** at step **520**. When the mobile phone device **100** detected that the camera **150** is not covered at step **520**, the personal security system **101** is turned on, and the user of the mobile phone device **100** is prompted to

deactivate the alarm. If the personal security system **101** is not deactivated within a prescribed period in step **540**, the alarm is triggered at step **550**.

[0046] In accordance with an alternative embodiment of the present invention, the mobile phone device **100** may have a specialized alarm speaker which is adapted for producing sound pressure levels between 85-130dB.

[0047] In an alternative embodiment, there is provided a second alarm switch, of which, the alarm can only be activated by simultaneously pressing the alarm switch **140** and the second alarm switch. This reduces the chances of activating the alarm by mistake.

[0048] In yet another alternative embodiment, the mobile phone device **100** uses only the existing keypad **120** for activating the alarm without providing the alarm switch **140**. For example, user may simultaneously press and hold the "*" and "#" key for 3 seconds to activate the personal security system **101**.

[0049] In yet a further alternative embodiment, the user of the mobile phone device **100** may customized buttons for activating the personal security system **101** and store the customized data in the configuration data repository **103**. FIG. 6 exemplifies a screenshot of keys configuration setting for the armed mode and the personal security system **101**. User may "record" a shortcut key for activating the armed mode and the personal security system **101** by selecting a "RECORD" button **640**. When the button **640** is selected, the user may start providing key combinations for activating the respective option by pressing the keypad **120**. The shortcut recording further records a time interval between each key pressed and the length of time that user holding the key. The key or key combinations and the time interval will be shown in a field **610** and a field **620**. Once the user has completed assigning the shortcut keys, he may select the "OK" button **630** for confirmation, and the assigned shortcut keys will be stored in the configuration data repository **103**.

[0050] Still referring to FIG. 6, the user may customize the keys or key combinations manually by defining them in the field **610** and the filed **620** in a

prescribed format. For example, when a string *[*]+[#]+3secs* is inputted in the field **610**, the user is required to press and hold the key "*" and "#" for 3 seconds for activating the armed mode. Similarly, when a string *[5]+8secs* is inputted in the field **620**, the user is required to press and hold the key "5" for 8 seconds for activating the personal security system **101**. Once the keys or key combinations are assigned, user may select "RECORD" button **640** to store them in the configuration data repository **103** and select "OK" button to exit the keys setting screen.

[0051] While specific embodiments have been described and illustrated, it is understood that many changes, modifications, variations and combinations thereof could be made to the present invention without departing from the scope of the invention. For example, the personal security system **101** may be provided as an add-on or upgrade feature the mobile phone device **100**. Further, it is possible that the mobile phone device **100** may be provided with an internal backup battery, which provide sufficient power for sounding alarm and send out SMSs. This internal backup battery may prevent one from deactivating the alarm by removing the main battery compartment **170**.

Claims

1. A personal security system for a mobile communication device having a speaker and a messaging service, the personal security system comprising:

a security device controller operable to trigger an alarm that sounds an sound alarm with the speaker and sends a community message to communication devices within a perimeter based on a location of the mobile communication device and to other communication devices pre-designated with the messaging service; and

a configuration data repository accessible by the security device controller for defining information for activating and deactivating the personal security system.

2. The personal security system according to claim 1, further comprising a switch for activating the alarm, the switch comprising a controller operable to activate a camera of the mobile communication device, wherein, said switch is in a standby mode when the camera is being covered, and uncovering the camera thereafter triggers the switch for activating the alarm.

3. The personal security system according to claim 2, wherein the controller turns on a flashlight of the mobile device upon activating the camera.

4. The personal security system according to clam 1, wherein the sound alarm having a sound pressure level in a range of 82-130dB.

5. The personal security system according to claim 1, wherein one of the pre-designated communication devices situated at a police command center.

6. The personal security system according to claim 1, wherein the community message includes the location of the mobile communication device.

7. The personal security system according to claim 1, wherein the location of the mobile communication device is detected based on Location-Based Service.

8. The personal security system according to claim 1, wherein the community message is a short messaging service (SMS).

9. A method for generating an alarm with a mobile communication device, said method comprising:

activating a personal security system; and

triggering the alarm;

wherein the alarm includes:

sounding a sound alarm;

detecting a location of the mobile communication device;

sending a community message to mobile devices within a perimeter based on the location of the mobile communication device; and

sending the community message to mobile devices pre-designated in the personal security system.

10. The method according to claim 9, further comprising:

activating a camera of the mobile communication device;

covering the camera; and

uncovering the camera to trigger the alarm.

11. The method according to claim 9, wherein the location of the mobile communication device is detected based on Local Based Service.

12. The method according to claim 9, further comprising prompting for de-activating the personal security system.

13. A mobile communication device comprising the personal security system in accordance with any one of claims 1-8.

14. A switch for activating an alarm of a mobile device, said device having a camera, said switch comprising a controller operable to activate the camera,

wherein, said switch is in a standby mode when the camera is being covered, and uncovering the camera thereafter triggers the switch for activating the alarm.

15. The switch according to claim 14, wherein the controller operable to further turn on a flashlight of the mobile device.

16. The switch according to claim 14, wherein, the controller prompts to deactivate the alarm before activating the alarm.

17. The switch according to claim 16, wherein when the alarm is not deactivated within a prescribed period, the alarm is activated automatically.

18. A method for triggering an alarm of a mobile communication device, said device having a camera, the method comprising:

activating the camera;

covering the camera;

uncovering the camera; and

triggering the alarm.

19. The method according to claim 18, further comprising prompting to deactivating the alarm.

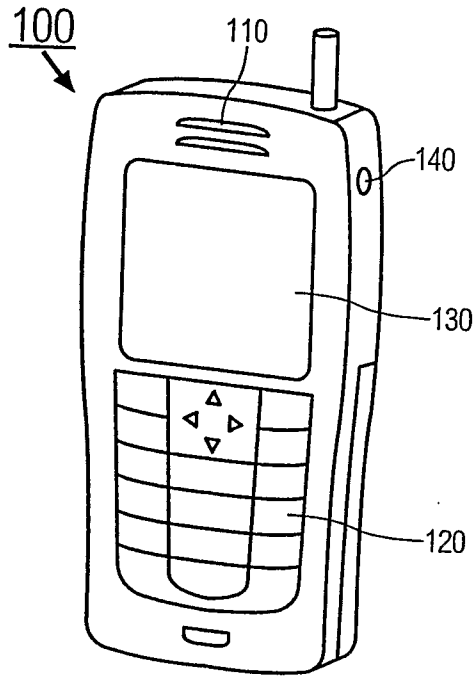

FIG. 1A

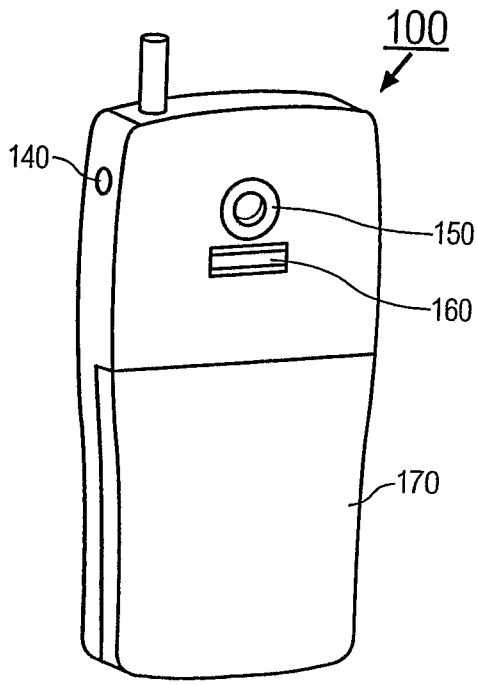

FIG. 1B

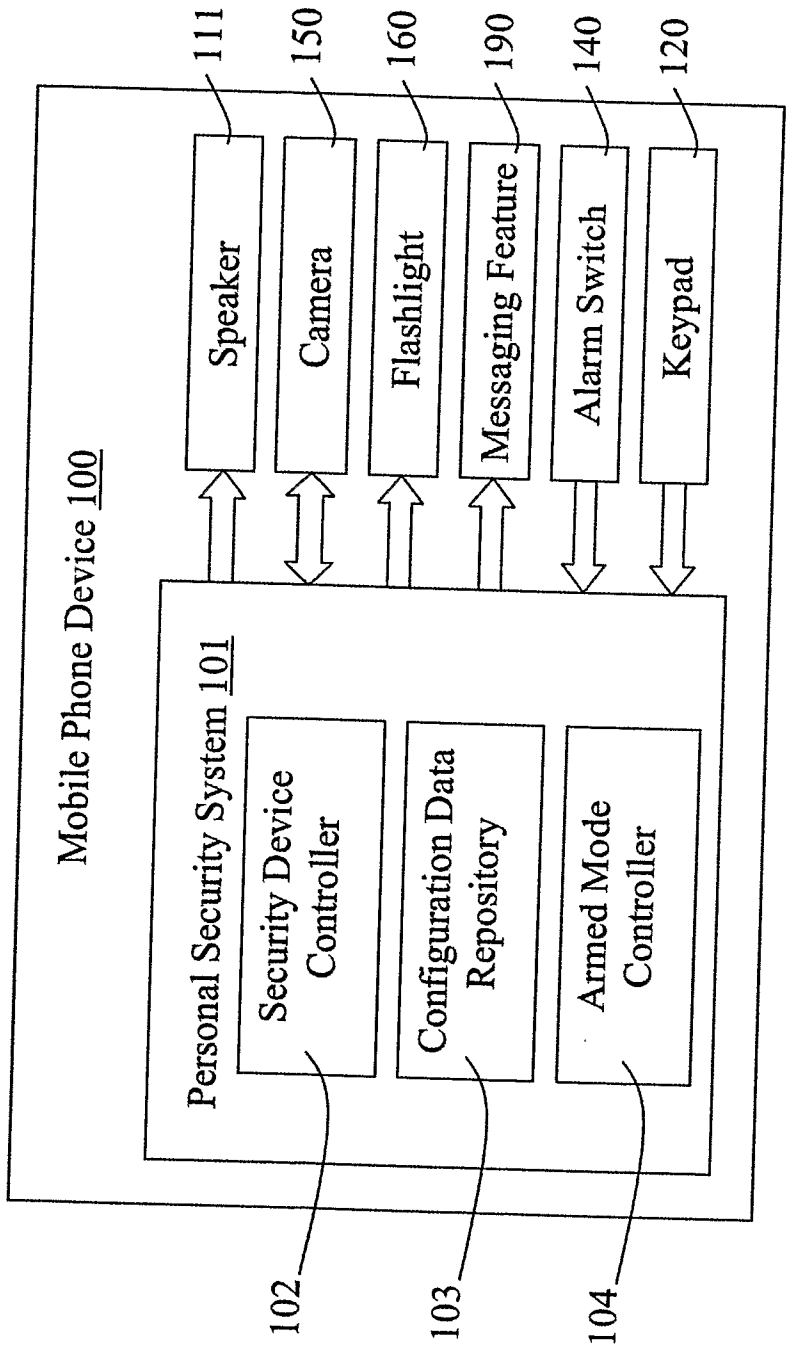
Mobile Phone Device 100
Personal Security System 101
Security Device Controller
Configuration Data Repository
Armed Mode Controller
Speaker
Camera
Flashlight
Messaging Feature
Alarm Switch
Keypad
111
150
160
190
140
120
102
103
104

FIG. 1C

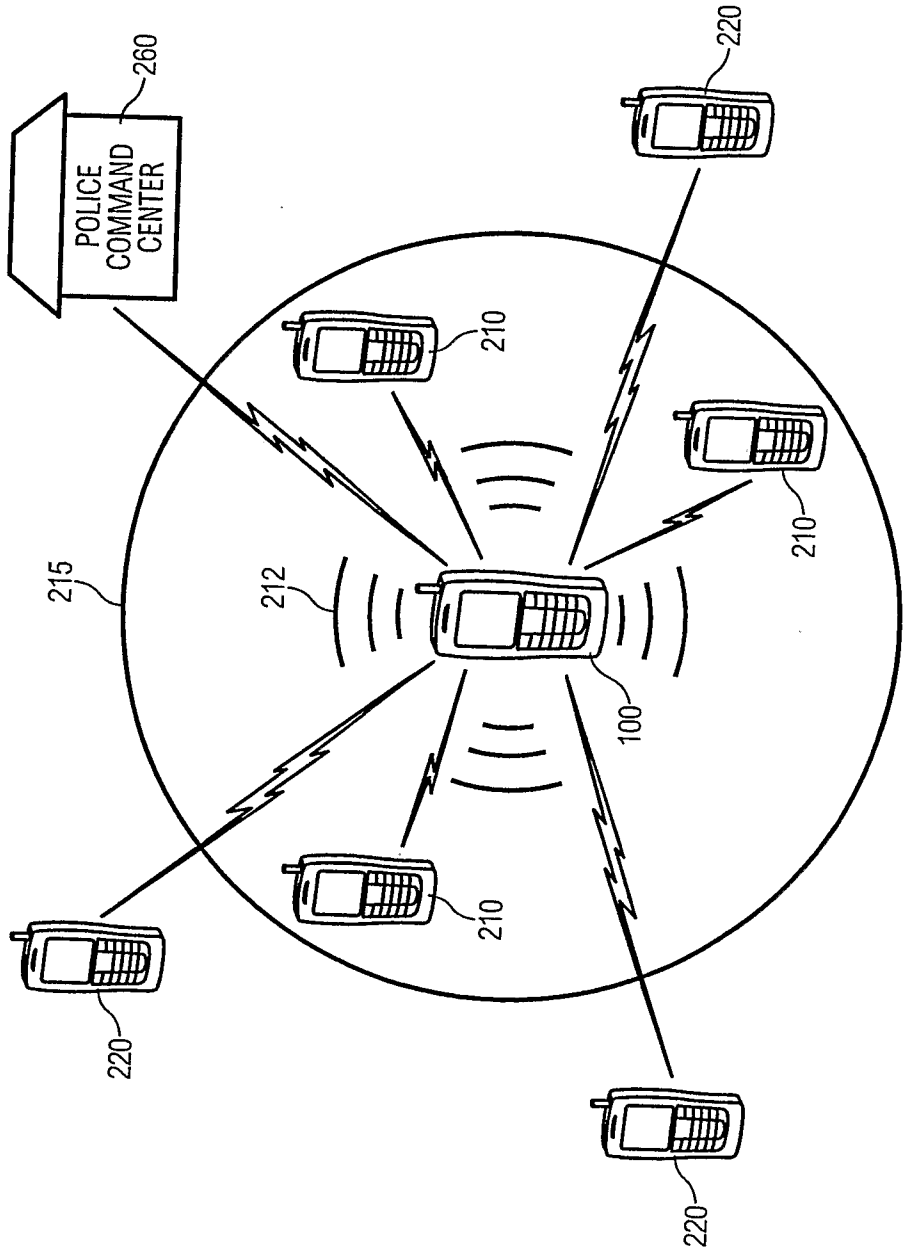

FIG. 2

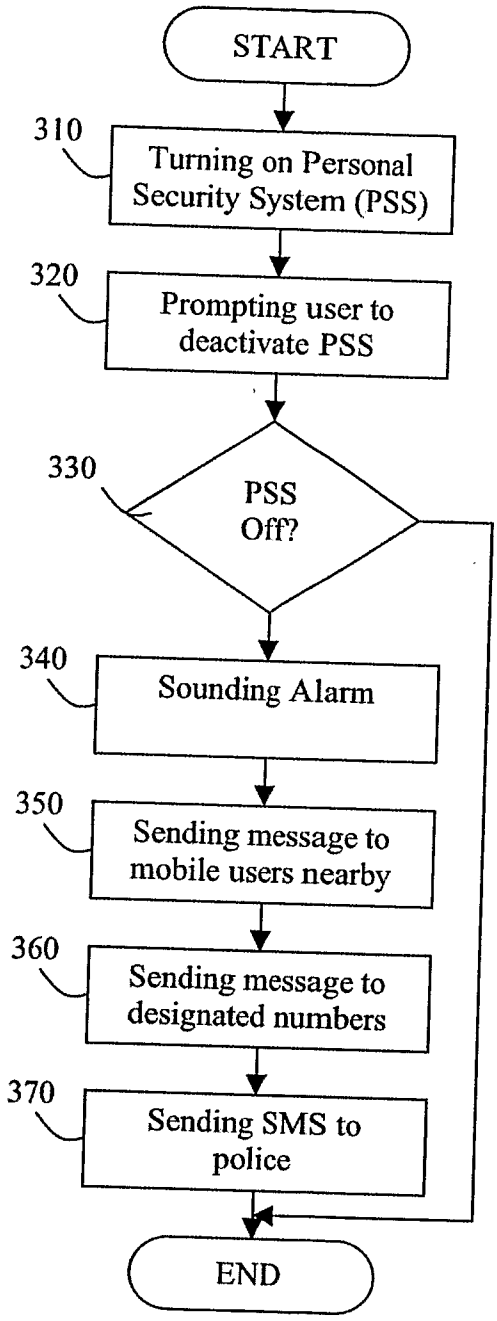
START
310
Turning on Personal Security System (PSS)
320
Prompting user to deactivate PSS
330
PSS Off?
340
Sounding Alarm
350
Sending message to mobile users nearby
360
Sending message to designated numbers
370
Sending SMS to police
END

FIG. 3

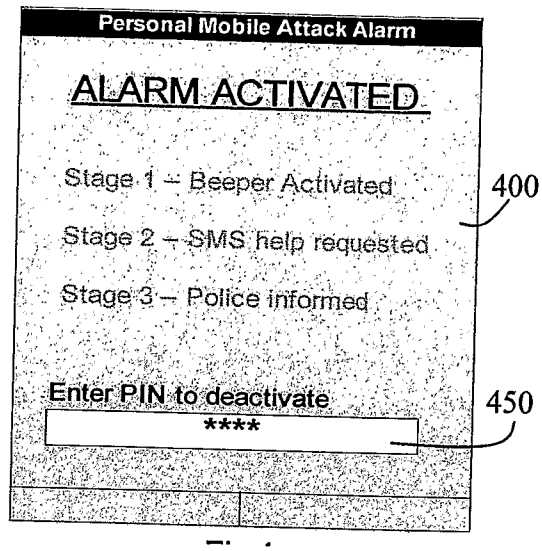
Personal Mobile Attack Alarm
ALARM ACTIVATED
Stage 1 – Beeper Activated
Stage 2 – SMS help requested
Stage 3 – Police informed
Enter PIN to deactivate
****
400
450

FIG. 4

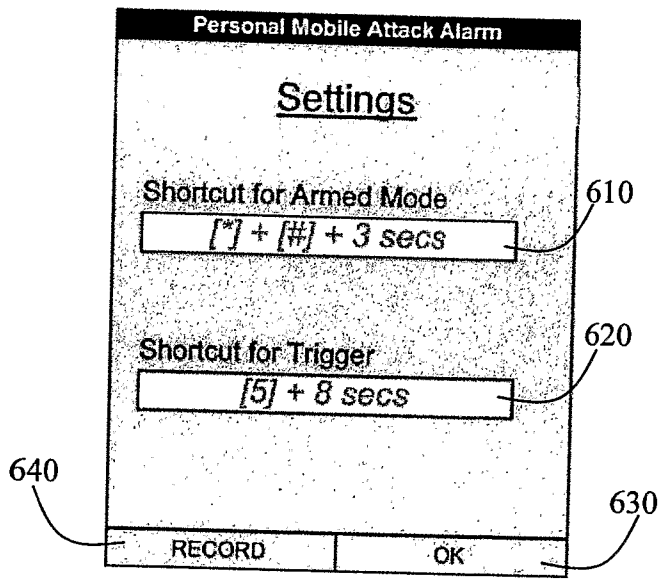
Personal Mobile Attack Alarm
Settings
Shortcut for Armed Mode
[*] + [#] + 3 secs
Shortcut for Trigger
[5] + 8 secs
RECORD
OK
610
620
630
640

FIG. 6

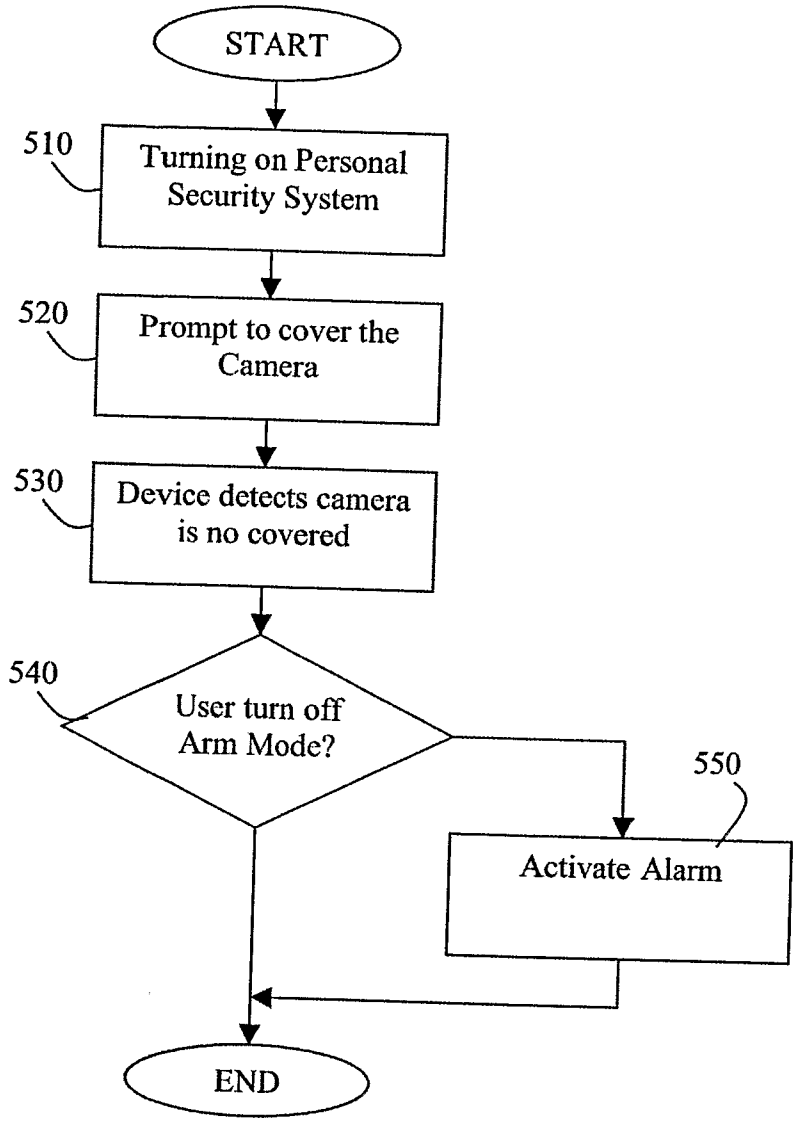
START
510
Turning on Personal Security System
520
Prompt to cover the Camera
530
Device detects camera is no covered
540
User turn off Arm Mode?
550
Activate Alarm
END

FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SG2007/000341

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl.

G08B 25/10 (2006.01)

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)

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)
DWPI, USPTO, Espace – Keywords (mobile, security, alarm, message, location, memory) and like terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2006/0201964 A1 (DIPERNA et al.) 14 September 2006 Abstract, paragraphs 0024, 0026, 0036, 0037, 0039, 0041, 0042	1-13
Y	WO1998031168 A (ERICSSON INC.) 16 July 1998 Abstract, page2 lines 30-33, page 9 lines 33-37, figure 5	1-13
Y	US 2003/0034881 A1 (LINNETT et al.) 20 February 2003 Abstract, paragraphs 0025, 0029, 0030, 0054, 0061, 0071, 0092, 0109, figure 8	1, 8, 9
	Note: For the Y indications, WO1998031168 A can be combined together with either US 2006/0201964 A1 or US 2003/0034881 with relevance to claims 1-13 or claims 1, 8, 9 respectively.	

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

* Special categories of cited documents:

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

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

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

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 December 2007	14 JAN 2008
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. +61 2 6283 7999	Authorized officer **Nikhil Chaubal** AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No : (02) 6225 6138

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SG2007/000341

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 EXTRA 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 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.: 1-13

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.

Supplemental Box
(To be used when the space in any of Boxes I to IV is not sufficient)

Continuation of Box No: III

This International Searching Authority has found that there are 2 different inventions as follows:

- Claims 1-13 are directed to a security device controller within a personal security system for a mobile communication device. It is considered that *"sending a community message to communication devices within a perimeter based on a location of the mobile communication device"* comprises **a first distinguishing feature.**

- Claims 14-19 are directed to a switch for activating the alarm of a mobile device having a camera. It is considered that *"the switch comprising a controller operable to activate the camera, wherein said switch is in a standby mode when the camera is being covered and uncovering the camera thereafter triggers the switch for activating the alarm"* comprises **a second distinguishing feature.**

PCT Rule 13.2, first sentence, states that unity of invention is only fulfilled when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. PCT Rule 13.2, second sentence, defines a special technical feature as a feature which makes a contribution over the prior art.

Each of the abovementioned groups of claims has a different distinguishing feature and they do not share any feature which could satisfy the requirement for being a special technical feature. Because there is no common special technical feature it follows that there is no technical relationship between the identified inventions. Therefore the claims do not satisfy the requirement of unity of invention *a priori.*

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SG2007/000341

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	2006/0201964	NONE					
WO	1998/031168	NONE					
US	2003/0034881	AU	46252/01	CA	2402443	CN	1422416
		EP	1275095	HK	1052787	US	6771163
		WO	0178032				

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX