



- (51) International Patent Classification:
G08B 21/02 (2006.01)
- (21) International Application Number:
PCT/IB2013/059095
- (22) International Filing Date:
3 October 2013 (03.10.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
3104/CHE/2013 11 July 2013 (11.07.2013) IN
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— with international search report (Art. 21(3))

(54) Title: A NOVEL SAFE GUARD DEVICE AS INSURANCE FOR LIFE

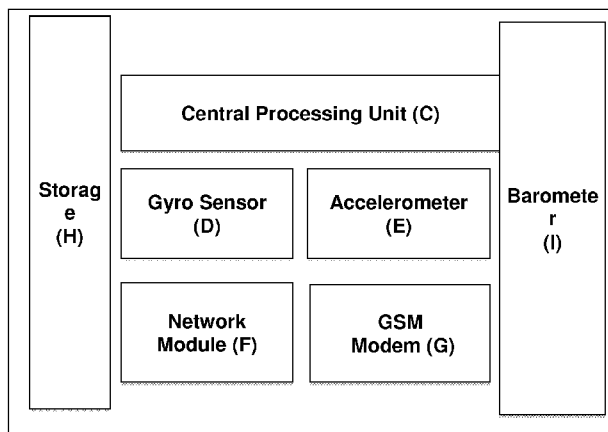


Figure 1

(57) Abstract: The present invention discloses methods, devices, and systems for enabling various mechanisms for help during distress or for tracking of valuables in terms of location tracking or panic detection combinations thereof. Methods include detecting rigorous vibration of the device continuously until a time it is thought to be abnormal. Methods also include detecting high frequency loud shouting sounds frequent enough to be thought abnormal. Methods include detecting rapid fall in altitude to be thought abnormal. Methods include detecting off-city limits or off-route wandering to trigger a panic. Methods include detecting a heart beat signal from a cloud server. Methods also comprise of detecting the absence of the heart beat signal for a time enough to be thought abnormal. Methods include sending and receiving location specific and configuration data to and from a cloud server or a locally connected computer.

WO 2015/004510 A1

A NOVEL SAFE GUARD DEVICE AS INSURANCE FOR LIFE

INTRODUCTION

Are women, children and/or vulnerable citizens safe in India. Most will say no. According to recent statistics, India is the fourth most dangerous place in the world for women. A woman is a companion of man. She is gifted with equal rights, mental ability, liberty and freedom as that of man. If so, why does she feel so unsafe? A woman in Vedic era about 3000 years ago was regarded as 'Shakti' – meaning strength. Now a days there is an exponential rise violence against women or minority groups who do not feel secure or safe in India. This problem is not just restricted to India. 40% of American women feel unsafe when alone in night. Violence/crime is a major factor, which makes women and other minority groups threatened and unsafe even when at home.

Many national initiatives, commissions are set up to curb and punish the culprits but none of them have been successful. Legal remedies may not be the right solution for such a heinous act of violence on women. Various projects are in pipeline such as Telephonic helpline, Sahiyogin, Crisis Innovation Centre, Rape Crisis Calls, Mahila Panchayat, 24 hour helpline, etc. Yet the atrocities, instead of reducing/subsiding, are on the rise. Clearly, these methods have failed for various reasons. On record approximately 20 hundred thousand women go missing every year in India.

Ideally, prevention and precautions are the best measures for these kinds of atrocious acts rather than punishing the victims which takes years or months if not days as we have seen in many recent cases. We are of opinion that prevention is better than cure. Spundhan Softwares Private Limited, India has made an attempt to achieve a breakthrough invention that will act as a trend-setter for a major reform with 100% assurance to prevent, help and/or punish the culprit with enough evidence. M/s Spundhan Softwares Private Limited has designed a mobile device with an application called FikrFREE that includes many features to protect women, children, old people and/or vulnerable citizens who are in distress or need help.

The mobile device with application may be useful to protect against rape/molestation /theft/crimes, trafficking of women and children, any kind of harassment, domestic violence, attempt of torture, general tracking for well being and to perform investigate activities or combinations thereof.

A simple and handy mobile device with friendly application will save you from dangers and inculcate confidence. It is primarily useful to women, children, parents and old age people who would need help/assistance in helpless situations. This will be a break through measure in the prevention of atrocities in our society and make people live safe and carefree life using our affordable, perfect/complete gadget.

A few core features of our invention may involve continuous location tracking described in figure 2; coupled with GPS or similar location tracking technology; Location tracking only after calling for help in panic situations; The User of the device can choose his/her most trusted Guardians, called as Guards in FikrFREE; The User can choose to send an SMS and/or make phone calls to the Guards automatically in panic situations. The Guards will be intimated of your location when in panic. The User can manage his/her route history on a cloud App. The User may turn-off location tracking when in safe location. The device allows user to automatically trigger panic situations using special sensors.

Many devices have previously been developed which are designed to transmit messages or signals from a remote location to a receiving device such as a pager. For example, U.S. Pat. No. 5,247,293 relates to a wireless device allowing a user to remotely control and listen to a cassette player in communication therewith. US Pat. No. 4,998,095 relates to an emergency transmitter system comprising a plurality of fixed transceivers located at various locations within a predetermined geographic area, which communicate with various portable transmitters issued to selected individuals.

US Pat. No. 4,924,211 relates to a personal monitoring system designed for people under house arrest comprising a plurality of local units for transmitting signals to a corresponding mobile unit.

US Pat. No. 5,640,147 relates to a child monitoring system comprising a device attachable to a child's clothing having a sensitive audio microphone thereon in communication with a receiver unit allowing the holder of the receiver unit to periodically listen to activity proximal the child unit.

US Pat. No. 5,557,259 relates to a proximity alert and direction transmitter mounted on a person's shoe which communicates with a receiver bracelet. The receiver has a proximity detector with a threshold set that emits an audible sound when the distance between the subject and the observer exceeds a preset distance.

US Pat. No. 5,245,314 relates to a location and monitoring system comprising a radio frequency transmitter and receiver in which the receiver sounds an alarm at a predetermined time after failure to receive a transmitter signal. The device is capable of scanning for several transmitter signals so that one person with the receiver can monitor the location of several children.

EP 2320678 discloses the microphone and a method for manufacturing the same is presented. The microphone comprises a substrate die and a microphone and an accelerometer formed from the substrate die. The accelerometer is adapted to provide a signal for compensating mechanical vibrations of the substrate die.

US 6,313,733 disclose the child pager system including a transmitter unit which may transmit one of a plurality of messages to a select one of a plurality of pager units. The transmitter unit has a plurality of channel selection switches each pre designated for a particular pager. The transmitter unit also has a plurality of transmission buttons each in communication with a separate light means on a pager unit whereby each transmission button transmits a signal indicating a different level of urgency to the pager carrier.

WO 2009062176 relates to a computer-implemented method includes storing a plurality of acceleration profiles in a mobile device; receiving accelerometer data from an accelerometer in the mobile device; correlating the accelerometer data with one accelerometer profile in the plurality of accelerometer profiles; and activating a user application of the mobile device that is associated with the correlated accelerometer profile.

US 2013 090881 discloses a system for pedestrian use includes an accelerometer having multiple electronic sensors; an electronic circuit operable to generate a signal stream representing magnitude of overall acceleration sensed by the accelerometer, and to electronically correlate a sliding window of the signal stream with itself to produce peaks at least some of which represent walking steps, and further operable to electronically execute a periodicity check, to compare different step periods for similarity, and if sufficiently similar then to update, a portion of the circuit substantially representing a walking-step count; and an electronic display responsive to the electronic circuit to display information at least in part based on the step count.

EP 2020647 discloses the invention concerning an automatic system for localization, alarm and personal emergency, operating in multi-standard mode, wherein the system comprises a remote control base and a remote sensing unit wherein the sensing unit comprises a GPRS/GSM modem (with a SIM card) and preferably a WiFi modem (standard 802.11) and a Wi-MAX modem (standard 802.16) and wherein the unit is also provided with a screen for visualizing information received from the central unit.

WO 2006098930 discloses the invention tracking system includes a global positioning system (GPS) module and a modem for mobile communications both attached to a pet (or other trackee), and a virtual fence (which includes a base station sending a signal to a certain range and a receiver attached to the pet (or other trackee) and receiving the signal sent by a base station when the receiver is within the range of the base station). A portable virtual fence system includes a signal-sending base station, and a signal-receiver worn by a to-be-fenced pet or other trackee.

EP 0688125 discloses the invention a mobile telephone includes a vibrating alarm arranged in a module (VIBMOD), which is detachably connectable to the telephone. The module may be a changeable battery pack. The operating mode of the alarm device and the alarm signal is controlled from the operating menu of the telephone. Operation of the vibrating alarm is enabled or disabled through detection means and software in the telephone depending on whether the module is connected to the telephone or e.g. when the telephone is connected to a car kit or a charger.

WO 2003011638 discloses the invention concerns a vibration alarm device for warning a vehicle driver, comprising means for generating a vibration under the effect of a control signal from a sensor in response to a specific external event, requiring a reaction from said driver. The invention is characterized in that said vibration is generated at a specific point of the driver's seat, enabling him to feel said vibration in a specific zone of his body and to identify the origin as well as the location the event.

EP 2263220 discloses apparatus for detection of human falls, comprises: an acceleration detector, for detecting vibration events, typically placed on a floor, a microphone, located in association with the acceleration detector for detection of corresponding sound events, and a classification unit to classify concurrent events from the microphone and the acceleration detector, thereby to determine whether a human fall is indicated. If the event appears to be a human fall, then an alarm is raised.

EP 1785964 discloses a panic alarm system is provided for installation in a motor vehicle, the system aiding in thwarting criminal attacks against vehicle occupants as well as car hijacking of an occupied vehicle. The system triggerable by occupant use of activation switches in multiple vehicle locations, or via occupant speaking a programmed voice alarm activation phrase, or alternately remotely activated from a mobile cellular device within limited close range of the vehicle.

US Pat No 6970795 disclose device includes a barometric pressure sensor and a GPS receiver. A processor calculates barometric and GPS derived altitudes and, based on a difference there between, corrects barometer altitude readings that would otherwise include drift errors. The processor uses a filter, such as a state feedback loop, to determine correction factors. The state feedback loop is adjustable to operate with different time constants. An error drift model is empirically determined and used to set the time constant.

US Pat No 6054477 discloses a method for combining a GPS unit and a barometric pressure sensor, in which an altitude sensor is used to augment availability of GPS location fixes. It also provides GPS-assisted determination of location coordinates of a mobile user or selected position on or adjacent to the earth's surface.

US Pat No 7692583 discloses a GPS position-measuring device includes a altitude-information memory for storing altitude information of a moving object, a combination determining unit for determining GPS-satellite combinations from GPS satellites that can be tracked, a position measuring unit for measuring a GPS based or GPS derived three-dimensional position of the moving object for each GPS-satellite combination, and a difference extracting unit for determining a difference in altitude between GPS derived altitude information contained in the measured GPS related three-dimensional position and the altitude information supplied from the altitude-information memory.

US Pat No 8274935 disclose invention provides for a system and method for communication between a mobile communication device and an auxiliary processing interface. Remote interfacing with an auxiliary processor enables the provision of services available to a mobile communication device through a more user friendly interface, for example, a larger display for visual ease, a full keyboard for quick and easy typing, or mouse for quick maneuvering.

US Patent publication 20130145447, disclose three levels of security are provided where user master passwords are not required at a server. A user device may register with a storage service and receive a user device key that is stored on the device and at the service. The user device key may be used to authenticate the user device with the storage service. As data in the storage service is encrypted with a master password, the data may be protected from disclosure.

US Patent publication 20130144939, disclose discloses methods, devices, and systems for enabling a personal cloud-computing environment with ubiquitous mobile access and source-independent, automated data aggregation. Methods include the step of: upon receiving at least one file-selection notification from at least one computing device operationally connected to the personal cloud-computing environment, determining, based on at least one file-selection notification, whether to perform a local file-access operation on at least one computing device or to perform a remote file-access operation on a remote storage element in the personal cloud-computing environment.

WO 2005/050463 disclose the synchronize time between network devices equally capable of accurately maintaining an indication of current time, one of the network devices is deemed to be a reference for time and the other network devices synchronize their indications of current time to the reference. To synchronize copies of data at multiple network devices, each network device maintains a counter representative of the passage of time but not necessarily of current time.

However, in spite of above devices/alarms presence in the market, there is drastic increase in crimes such as rape/molestation, kidnapping/abduction, murder, theft and the lack of Law enforcement has made the common man and woman more vulnerable today than before. The recent tsunami of rape cases reported in India and several other countries; Kids of well-to-do family get kidnapped for a ransom; men/women: old or young get murdered for theft/contract killing or other family conflicts. Owing to the above problems, today's parents or kith-n-kin want to keep a close eye on their loved ones: young and old to ensure their safety at all times. Safety at all levels from a Guardian's point of view or from a victim's point of view is a must and cannot be compromised.

There are several existing solutions to address the above issues. However, they are limiting in their use-case, are lacking in certain aspects and do not provide a high degree of safety provided by our invention.

There exists a very urgent unmet need related to the development of this multifunctional, user friendly, customer complaint safe guard device which can be a solution to all above problems, precisely in emergency situations. The existing solutions disclosed in prior art are not very user-friendly and lack the capability of our invention. The forgoing device plays a vital role in exhibiting evidence in those crucial instances i.e. last ground route taken by the victim, any pictures taken by the victim, recording of sound and/or video. The main surprising and differentiating factor in the present invention basically works on the principle related to the triggering mechanisms that will help victims to call for help irrespective of mood of the customer, and not by the usual pressing a button and call for help scenario. The present invention as said has a unique feature that differs completely from existing devices, per se can be utilized to detect panic vibrations, victim shouting, shaking, change in altitude as automatic detection

techniques along with the usual pressing the button feature as well. Thus, it makes more unexpected one to be invented by former software/hardware inventors.

SUMMARY OF THE INVENTION

An embodiment of the present invention relates to a device comprising at least one GPS sensor which sense movements, computes distances or calculates its position on earth between the receiver and acceptor based on transit time of each message.

An another embodiment of the present invention relates to a device comprising GPS sensor and at least one gyro sensor which measures rate of rotation around a particular axis and or accelerometer which measures orientation of a stationary platform relative to earth's surface or combinations thereof.

An embodiment of the present invention relates to a device comprising GPS sensor, a microcontroller or processor and at least one gyro sensor which measures rate of rotation around a particular axis and/or an accelerometer which measures orientation of a stationary platform relative to earth's surface or combinations thereof.

An embodiment of the present invention relates to a device comprising processor that is connected to memory, display, barometric pressure sensor, GPS sensor and at least one gyro sensor which measures rate of rotation around a particular axis and or accelerometer which measures orientation of a stationary platform relative to earth's surface or combinations thereof.

An embodiment of the present invention relates to a device, comprise of an in-built GPS sensor and central processing unit and/or a GSM modem and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect to a cloud server and/or a computer in the Internet or combinations thereof.

An embodiment of the present invention relates to a device connected externally through wire or wireless using Bluetooth, ZigBee, or any such wireless technology.

An embodiment of the present invention relates to a device connected externally through wire or wireless using Bluetooth, ZigBee, or any such wireless technology that may act as a remote trigger for the application.

An embodiment of the present invention to trigger a panic happens automatically by a cloud heart beat signal when the device does not respond or goes out of coverage area.

An embodiment of the present invention to provide a novel safeguard device which may selectively communicate with any one of a plurality of receiver units.

It is yet another embodiment of the present invention to provide a safeguard device having a GPS sensor with receiver which can selectively determine the relative distance of any one of a number of corresponding mobile devices in communication therewith.

The details of one or more implementations are set forth in the accompanying drawings and the description below. Other features, objects, and advantages will be apparent from the description and drawings, and from the claims.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 depicts the combination of GPS sensor, Audio/video, Central processing unit, Gyro sensor, Accelerometer, Network module, GSM modem, barometer and storage according to the present invention.

FIG. 2 depicts the location tracking part

FIG. 3 depicts the panic detection part

DETAILED DESCRIPTION

Aspects of the present application provide a device to trigger for help during distress/panic situations: (a.) Rigorous vibration of the device continuously until a time it is thought to be abnormal. To use this trigger the victim need not take out the device out of a bag/enclosure (if any) but can simply shake the bag/enclosure itself rigorously. (b.) Continuous key presses on the device for long enough to be abnormal. (c.) Shout at a very high pitch repeatedly. (d.) Rapid change in altitude of the device i.e. the victim can throw the bag containing the device to trigger for help.

The invention uses a device, which has an in-built GPS sensor and central processing unit and/or a GSM modem and/or a microphone/audio/video device and/or network capability either, Wi-Fi or Bluetooth or Ethernet and/or 3G or 4G modem,

and/or any network communication capability to connect to a cloud server and/or a computer in the Internet.

Other methods include the steps of: utilizing a phone-network infrastructure for maintaining operational connectivity to a cloud server wherein the cloud server may reside in a local network, and wherein the operational connectivity includes connectivity with at least one foreign network; and further includes the module to detect altitude of the device accurately based on the sea level. Methods also include the above former process may also comprise the external interface which provide the trigger for initiating the device connected to a AC or DC power supply circuit or combinations thereof.

Primarily the invention relates to multicomponent assembly comprising processor or microcontroller, GPS sensor, microphone, audio speakers, video camera, still camera, memory unit, GSM modem, accelerometer, gyro sensor, network module, barometer and external interface or combinations thereof connected to suitable power supply unit.

In another preferred embodiment, the present invention relates to a method for the use of an automatic system for localization, calculation of distance, and personal emergency, operating in multi-standard mode, wherein the system comprises a GPS sensor and a gyro sensor, wherein the sensing unit measures at regular intervals the position and the other parameters related to the sensor present in the unit, and transmits these data to a central unit which is connected to the sensing unit through a (network module) connection established through the GSM-GPRS/EDGE network, but also, in the absence of this signal, through other available communication network, such as UMTS, Ethernet, dialup, ISDN, PSTN, broadband, optic fiber, Bluetooth, XBee, ZigBee, WiFi and/or WiMAX; wherein the central unit is programmed in such a way that, when the values of the measured parameters overcome a threshold value i.e. vibrations, change in altitude, high pitch sound, shaking the device an information is activated will be sent to respective Guardian to whom it has to get received .

Central Processing unit: CPU will be loaded with special firmware to perform certain runtime checks during the device operation. The exact details are presented

later in the form of an algorithm. The CPU could be a microcontroller such as AVR, PIC, etc. or a full processor such as Intel ATOM, ARM, etc. A microcontroller can be considered a self-contained system with a processor, memory and peripherals and can be used as an embedded system.

Microcontrollers must provide real time (predictable, though not necessarily fast) response to events in the embedded system they are controlling. When certain events occur, an interrupt system can signal the processor to suspend processing the current instruction sequence and to begin an interrupt service routine (ISR, or "interrupt handler"). Micro-controllers may not implement an external address or data bus as they integrate RAM and non-volatile memory on the same chip as the CPU. The present invention provides a storage helpful integration with peripherals.

The preferred embodiment relates to a central processor in the present invention comprising volatile/non-volatile memory for data storage, preferably it contains RAM,ROM, EPROM, EEPROM or flash memory and includes analog-to-digital converters, some include digital-to-analog converters or combinations thereof

GPS Sensor: A GPS receiver calculates its position by precisely timing the signals sent by GPS satellites high above the Earth. The receiver uses the messages it receives to determine the transit time of each message and computes the distance to each satellite using the speed of light. Each of these distances and satellites' locations define a sphere. The receiver is on the surface of each of these spheres when the distances and the satellites' locations are correct. These distances and satellites' locations are used to compute the location of the receiver using the navigation equations. This location is then displayed, perhaps with a moving map display or latitude and longitude; elevation or altitude information may be included. Many GPS units show derived information such as direction and speed, calculated from position changes.

This component in the invention is used to obtain GPS location of the device. The sensor communicates with GPS satellites and obtains its current location on earth in terms of NEMA standard which provide following data/metric:

a. Latitude, b. Longitude, c. Speed, d. Direction, e. Altitude & f. Location accuracy

The present inventor has recognized that usage of reliance entirely upon GPS-tracking for tracking missing pets, missing people and missing personal property is possible by mixed-use of GPS and GSM-tracking, namely, as a first resort using GPS tracking whenever available and, when GPS tracking is not available, automatically resorting to GSM tracking.

In a first preferred embodiment, the invention provides a tracking system, comprising: a global positioning system (GPS) module attached to a trackee (such as, e.g., a human, etc.); an inanimate object (such as, e.g. a stolen possession)); a modem for mobile communications (such as, e.g., a modem for a GSM protocol; a modem for a CDMA protocol, etc., preferably, a GSM modem) attached to the trackee; and, a virtual fence comprising a base station sending at least one signal (such as, e.g., at least one radio frequency (RF) signal) to a certain range and (2) a receiver attached to the trackee and receiving the at least one signal sent by a base station when the receiver is within the range of the base station. The signals will be thus spread through network module through a cloud server point.

In another preferred embodiment, the invention provides a portable virtual fence system, comprising: a signal-sending base station, wherein the base station is portable; and a signal-receiver worn by a to-be-fenced trackee.

In the invention, a modem for mobile communications is used. Modems for mobile communications are known, such as, e.g., a GSM modem or a CDMA modem. GSM is the preferred modem for mobile communications (e.g., GSM tracking under the trade name Cambridge Positioning Systems and MATRIX). CDMA is a GSM-alternative and also is commercially-available. Where GSM has been mentioned herein, CDMA also may be alternately substituted even if not expressly recited. If a further substitute to GSM and CDMA is developed, that also may be suitable for use in the present invention.

In the present invention, use of GSM (or CDMA) is selective and as a second-resort, namely, when GPS coordinates are not available. When GPS coordinates are available, the GPS route is used. In inventive methods, devices, systems, and products, it is preferred to switch from a GPS mode to a GSM mode only when the GPS mode is not operational. Using GSM in such a non-preferential way as a second resort provides

unique advantages, especially the ability to track a missing pet or other missing trackee when a GPS-only tracking system otherwise would be "blind" to the missing trackee. It is also to be noted that the GPS or GSM based location tracking may or may not be ON all the time.

A Gyro sensor & Accelerometer: The accelerometer will preferably be formed so as to be sensitive to mechanical vibrations in the growth direction (i.e. perpendicular to the plane of the layers) of the structure (as the microphone is sensitive to mainly vibrations in this direction) and also insensitive to sound. The present invention comprises one of the components gyro sensor or accelerometer and combinations thereof.

It may also be advantageous to form the accelerometer so that it has frequency of resonance above the intended acoustical bandwidth of the microphone (typically 20kHz). This provides a linear response in the audible frequency range. In addition, the resonance frequency may be limited because a higher resonance frequency provides a lower sensitivity to accelerations/vibrations. A preferred range of resonance frequencies for the accelerometer may therefore be in the range of between 25kHz and 100kHz.

GSM Modem: GSM Modem - 81GR is a wireless cellular connection for 2-way data communication with a wide variety of remote equipment and Utility applications. The present invention comprises one of the components as GSM modem which acts as connector between the mobile and receiver. GSM modem of generic type will be used to connect to the mobile network. The network could be using GSM connection, GPRS, EDGE, 2G, 3G, 4G, or any other mobile/wireless technology. Data recorded and calculations made will be transmitted over this network to be synched with cloud server. This setting is optional and the user may choose to switch the sync operation off.

In one of embodiment, the possible option of GSM modem is connected to a computer. This allows the computer to use the GSM modem to communicate over the mobile network. While the GSM modems are most frequently used to provide mobile internet connectivity, many of them can also be used for sending and receiving SMS and MMS messages.

In the present invention, GSM modem can be a dedicated modem device with a serial, USB or Bluetooth connection, or it can be a mobile phone that provides GSM

modem capabilities. For the purpose of this invention, the term GSM modem is used as a generic term to refer to any modem that supports one or more of the protocols in the GSM evolutionary family, including the 2.5G technologies GPRS and EDGE, as well as the 3G technologies WCDMA, UMTS, HSDPA and HSUPA.

Barometer: This module is used to, accurately and quickly, determine the altitude of the device from ground/sea level. This is used to provide altitude input to GPS sensor/ This method allows the GPS sensor to lock on a location much faster.

In the past, the vertical measurements performed by a GPS system have been found to be less accurate than desired with respect to altitude or horizontal measurements. Thereby a need arose to connect with barometric altimeter typically provides a more stable measurement of altitude than a GPS system over short periods of time. However, over longer periods of time, pressure variations may be of such magnitude that the barometric altimeter measurement becomes less accurate than GPS derived altimeter measurements.

The present invention is focused on utilization of barometer and GPS sensor; so that both function to fullest extent, & will be use full over shorter and longer periods.

The present embodiment comprises a device which includes a processor that is connected to memory (storage), and a barometric pressure sensor. Additionally, a GPS receiver with GPS modem along with gyro sensor or accelerometer further connected to external interface with network module or combinations thereof.

An another embodiment relates to a whole device mentioned above connected to a power source, such as a battery, battery pack, AC/DC adapter and the like are provided to supply power to the various electronic components.

Device Configuration and Operation: Figure 1 describes the present invention, that relates to a device which can be configured in different ways selected from (a), performed using the either the external interface of the device (involving the keys or a display with touch screen) or through a connection to an external PC via a communication medium or through a cloud server app (b), Performed with the use of GPS location tracking 24x7 or intermittently to save battery if running on portable battery power or can be set to turn ON location tracking only when in Panic situations performed by panic detection part described in figure 3 (c), by enabling/disabling

vibration based panic situation detection and triggering (d) by enabling/disabling sound frequency based panic situation detection and triggering methods or combinations thereof.

Another aspect of device can be configured following ways selected from (a), by enabling/disabling rapid button press based panic situation detection and triggering (b), to enable/disable rapid altitude change based panic situation detection and triggering (c), to enable/disable tampering based panic situation detection and triggering methods or combinations thereof

Another aspect of device can be configured by tampering when the device is in the wrong hands and he/she tries to open it up or tamper it or try to damage it or can be configured to enable/disable off-city panic situation detection and triggering methods or it can be taken out of the city limits it will automatically trigger a panic or combinations thereof.

Another aspect of device can be configured to enable/disable off-route panic situation detection and triggering or use a fixed route on go and come from somewhere or when taken on an abnormal route, it will automatically trigger a panic or combinations thereof.

Another aspect of the device can be configured to answer call automatically when in panic mode. This way the caller can listen to the crime activities and take evasive action and/or use it as evidence later. Another aspect of device can be configured to setup multiple guards. Guards are people who the user trusts in the times of panic. A guard can also be a public servant like police inspector or a police emergency hotline or any such similar helpline. When in panic the device will contact the guards.

Another aspect of device can be configured to send out location coordinates to the guards when in panic mode or either send SMS or call the guards or both when in panic mode or can be configured to send multiple SMSs to each guard to create a sense of panic at the receiver end or can be configured to generate temporary login IDs for the guards to logon to the cloud server to access the user's location profile for investigation purposes or combinations thereof.

Another aspect of device can be configured to synchronize location data with a remote cloud server via any existing network communication medium or cloud server can be configured to automatically start panic mode when it does not receive a heart beat signal from the device after a certain set period of time or combinations thereof.

Another feature of the device can be able to configure and keep track of nearby users having the same device. When configured for this feature, in panic mode the device will also contact for help to the nearby users. A certain area on earth can be configured as bad area. When in bad area whether inside the city or outside, the device will automatically panic.

Another aspect of the device can be configured to perform audio or video recording of the sequence of events happening on panic. This audio or video can later be used as evidence against the crime. Another aspect of the device can also be setup to transmit the audio/video recording to the cloud server if the network communication link is established or can be configured to setup a login PIN to be used when changing its configuration or when turning off a panic mode.

Another aspect of the device can perform following operations in panic mode selected from SMS is enabled, then send SMS containing location tracking link to each guard or multiple SMS are configured, then send the configured number of SMS to guards one after the other or call guard is enabled then start calling one guard after another in the order set. If the guard answers the phone, then he can listen into the sequence of events happening on the panic end and take evasive actions for rescue or help or send cloud login is enabled, then create a temporary ID and send to each guard so they can access the panic user's location profile and history information online via the cloud server app or combinations thereof.

Another aspect of device can perform following operations in panic mode selected from nearby user tracking is enabled, then send SMS and/or call the nearby user device for help or nearby user is treated as a guard or audio/video recording enabled, then start recording or audio/video streaming enabled, then start streaming to the cloud server or call-receive enabled, then when a guard calls the user device receive the call automatically or someone other than the guards calls, then disconnect the call automatically.

Another aspect of device can perform following operations in panic mode selected when he/she will use a stop button either in the external interface or on touch screen. Pressing this button, if a PIN is setup, the user is requested to enter the right PIN. On correct PIN entry the panic mode is switched off.

Another aspect of the device relates to connection externally through wire or wireless using Bluetooth, ZigBee, or any such wireless technology. The wireless technology may act as a remote trigger for the application. Use of an external device either connected through wires or wireless using bluetooth, ZigBee, or any such wireless technology that acts as a remote trigger for the application. Using this device, either commercially already available or custom manufactured, the user can trigger panic remotely without touching the actual device. This is very useful in cases where the user has left the main device on a desk or in a purse and there is no time to get to it. This device under discussion could potentially be very small and minute in nature that can be easily carried around as a body accessory such as ear ring (as is the case of bluetooth headset), necklace, wrist band, waist band, shoe lace, etc.

An aspect of the present invention relates to trigger a panic happens automatically by a cloud heart beat signal when the device does not respond or goes out of coverage area. A cloud heart beat signal can be used to automatically trigger a panic when the App does not respond or goes out of coverage area. This feature is particularly useful when the user is unable to get to the device to trigger a panic. In cases where the victim is tied together, the device will receive a fake call from the cloud service. This call needs to be answered and/or authenticated by the user using a unique pass code. If not answered within a stipulated time, the cloud server shall initiate a panic trigger on behalf of the victim and call or send SMS or intimate the guards of the victim by any such similar means.

Software configuration and its operation: The software is often called as firmware was installed in device central processor, which may be actual responsible for executing various system programs to provide computing and processing operations for safeguard device in connection with various components of the devices GPS sensor, GSM

modem, video, radio processor, internet/Ethernet, and connected to external interface or combinations thereof.

The host central processor may be configured with firmware to provide processing or computing resources to device. For example, the host processor may be responsible for executing various software programs such as application programs and system programs to provide computing and processing operations for device. Examples of application programs may include, for example, an algorithm to determine location tracking, algorithm to determine the panic, or algorithm to determine abnormal condition, which further may trigger to motivate the switch the automatic location sync interval or location tracking with a ON/OFF or by panic button with a ON/OFF switch or combinations of above activities.

The present invention also relates to a software for a device which can be configured following ways selected from (a), Performed using the either the external interface of the device (involving the keys or a display with touch screen) or through a connection to an external PC via a communication medium or through a cloud server app (b), Performed with the use of GPS location tracking 24x7 or intermittently to save battery if running on portable battery power or can be set to turn ON location tracking only when in Panic situations (c), by enabling/disabling vibration based panic situation detection and triggering (d) by enabling/disabling sound frequency based panic situation detection and triggering methods or combinations thereof.

Other objects, features and advantages of the present invention will become readily apparent from the following detailed description of the preferred embodiment when considered with the attached drawings and the appended claims. This disclosure describes systems and techniques for automatically activating applications on a device based on a comparison of current real-time acceleration data measured by the mobile device and acceleration profiles that are stored in the mobile device.

Other variations to the disclosed embodiments can be understood and effected by those skilled in the art in practicing the claimed invention, from a study of the drawings, the disclosure, and the appended claims. In the claims, the word "comprising" does not exclude other elements or steps, and the indefinite article "a" or "an" does not

exclude a plurality. Any reference signs in the claims should not be construed as limiting the scope.

We claim:

1. A safeguard device comprises of an in-built GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect to a cloud server and/or a computer in the Internet or combinations thereof.
2. A device according to claim 1, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof
3. A device according to preceding claims comprises at least one of the components connected to external interface, and further connected to power supply.
4. A safeguard device comprises of an in-built GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect to a cloud heart beat signal will trigger a panic automatically.
5. A device according to claim 4, further it may trigger panic automatically by a cloud heart beat signal when the device will not respond or out of coverage or combinations thereof.
6. A safeguard device comprises of an in-built GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect externally through wire or wireless using Bluetooth, ZigBee, or any such wireless technology.
7. A safeguard device comprises of an in-built GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect externally through wire or wireless

using Bluetooth, ZigBee, or any such wireless technology which may further act as remote trigger.

8. A device according to claims 6 & 7 may get connected to any kind of wireless less technology which may act as remote trigger.
9. A device according to figure 1
10. A device according to claim 9, further comprise at least one of the components selected from plurality of gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof
11. A device according to claim 1, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, plurality of accelerometer, barometer or combinations thereof
12. A device according to claim 9, comprise an plurality of GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect to a cloud server and/or a computer in the Internet or combinations thereof.
13. A device according to claim 9, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, plurality of barometer or combinations thereof
14. A device according to claim 1, further comprise at least plurality of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof
15. A device according to claim 1, further comprises at least one of the components connected to external interface, and further connected to power supply.
16. A safeguard device comprises of an in-built software put in central processing unit connected to GPS sensor and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication

capability to connect to a cloud server and/or a computer in the Internet or combinations thereof.

17. A device according to claim 16, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof
18. Device software according to preceding claims comprises at least one of the components connected to external interface, and further connected to power supply.
19. Device software location tracking part is as shown in figure 1
20. Device software panic detection part is as shown in figure 2
21. A device according to claim 19, further comprise at least one of the components selected from plurality of gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof
22. A device according to claim 20, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, plurality of accelerometer, barometer or combinations thereof
23. A device according to claim 19, comprise an plurality of GPS sensor and central processing unit and/or a GSM modem and/or microphone/audio/video camera and/or network capability WiFi/ Bluetooth/Ethernet and/or 3G/4G modem, and/or any network communication capability to connect to a cloud server and/or a computer in the Internet or combinations thereof.
24. A device according to claim 19, further comprise at least one of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, plurality of barometer or combinations thereof
25. A device according to claim 20, further comprise at least plurality of the components selected from gyro sensor, microphone, audio, video/still camera, accelerometer, barometer or combinations thereof.

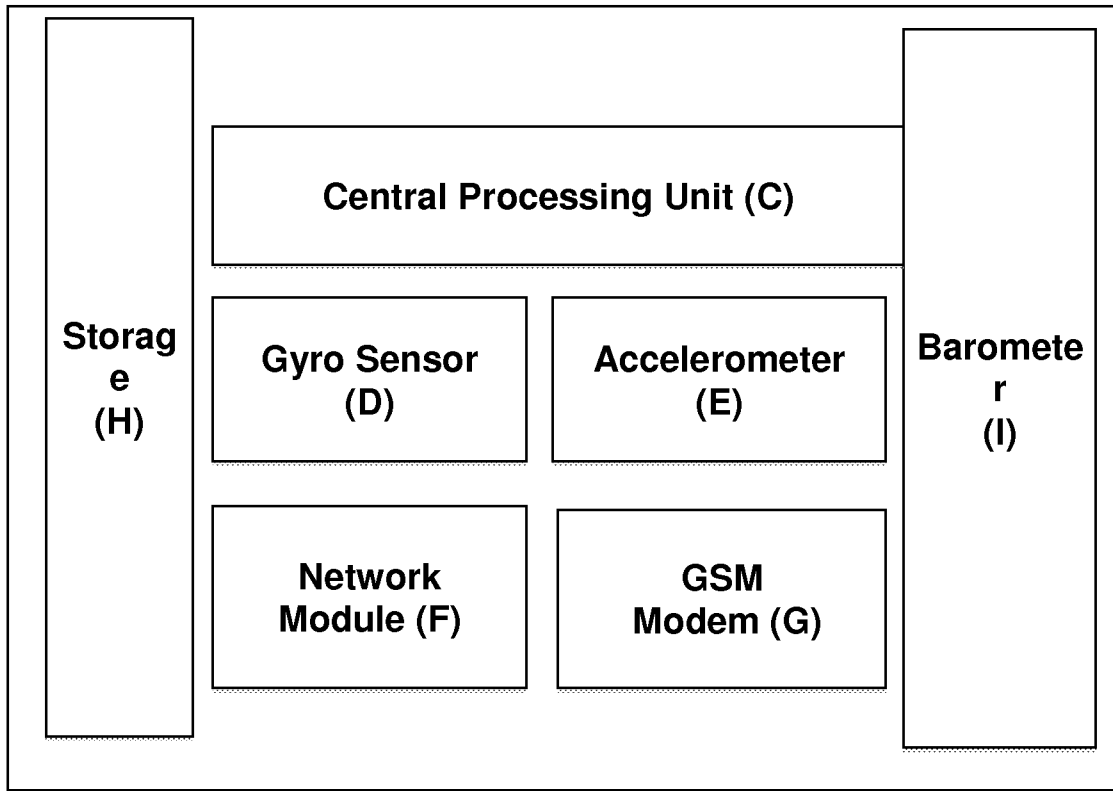


Figure 1

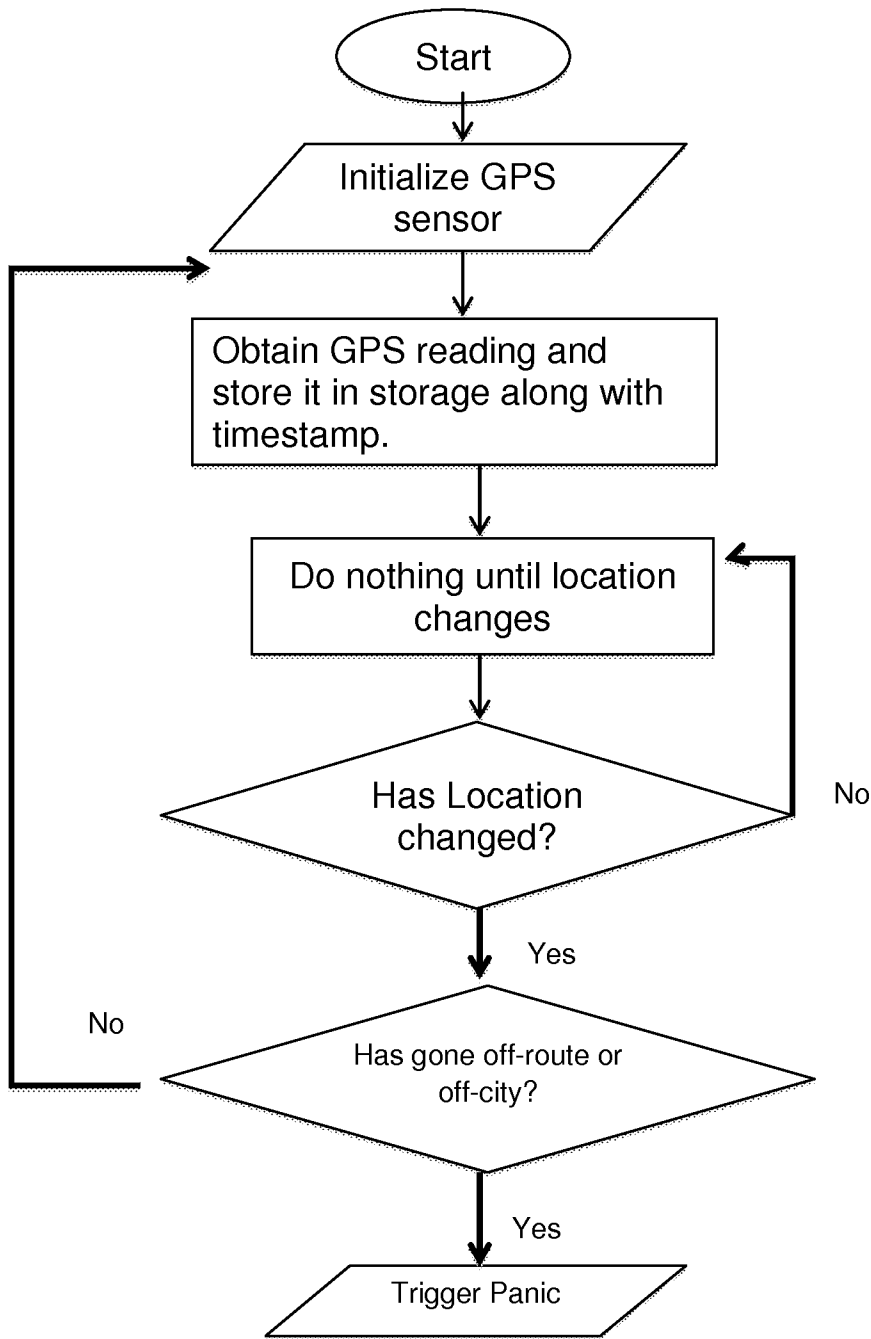


Figure 2

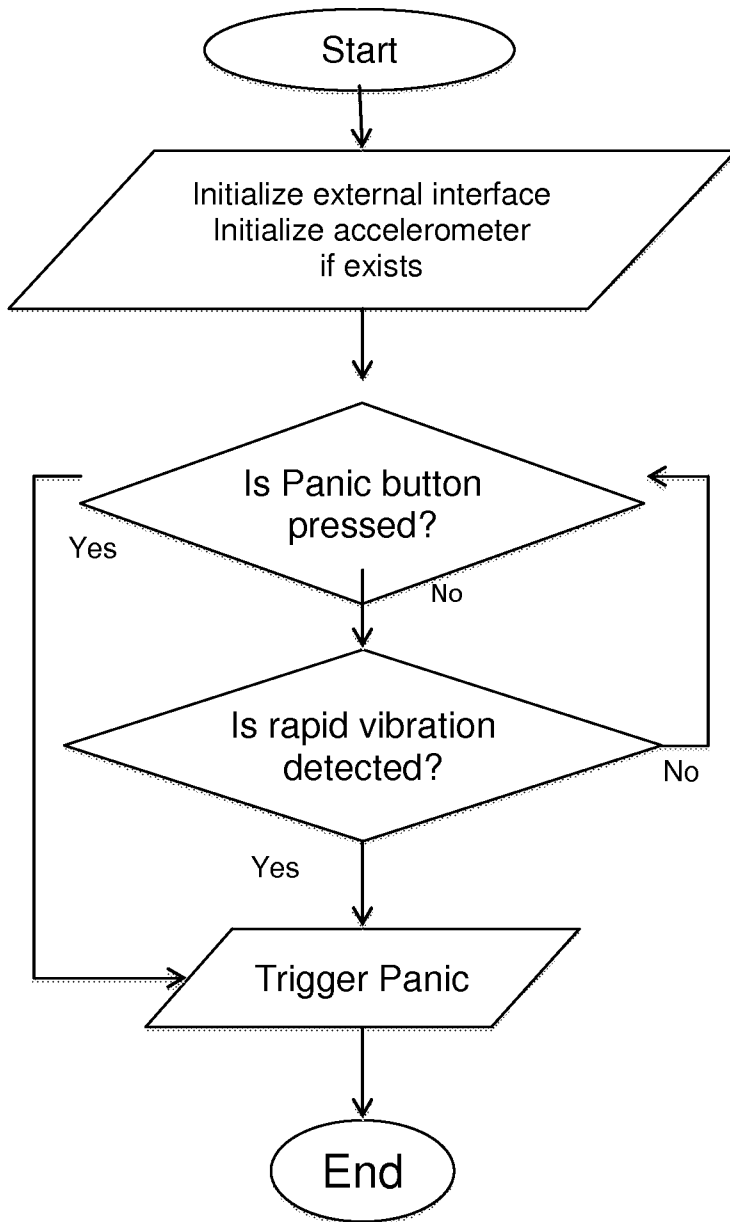


Figure 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB2013/059095

A. CLASSIFICATION OF SUBJECT MATTER G08B 21/02(2006.01)i 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) H04W; H04Q; H04B; H04L; H04M; G08B 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) WPI; EPODOC; CNKI; IEEE; CNPAT: warn+, alarm+, safe, guard, GSM, WiFi, bluetooth, Ethernet, zigbee, GPS, GPRS, 3G, 4G, process+, microphone, speaker, cloud, sensor, accelerometer, gyro, heart, camera, barometer.		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 202956857U (KUNMING YINGDI'ER SOFTWARE TECHNOLOGY CO., LTD.) 29 May 2013 (2013-05-29) description, paragraphs [0017]-[0038]	1-25
PX	CN 103310585A (KUNMING YINGDI'ER SOFTWARE TECHNOLOGY CO., LTD.) 18 September 2013 (2013-09-18) description, paragraphs [0010]-[0026]	1-25
X	CN 202904808U (XI'AN CHINASTAR M&C LTD.) 24 April 2013 (2013-04-24) description, paragraphs [0030]-[0038] and figure 1	1-25
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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	“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
“E”	earlier application or patent but published on or after the international filing date	“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
“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)	“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
“O”	document referring to an oral disclosure, use, exhibition or other means	“&” document member of the same patent family
“P”	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 19 March 2014	Date of mailing of the international search report 08 May 2014	
Name and mailing address of the ISA/ STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA(ISA/CN) 6,Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 China	Authorized officer HE,Linlin	
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/IB2013/059095

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 202956857U	29 May 2013	None	
CN 103310585A	18 September 2013	None	
CN 202904808U	24 April 2013	None	