Smart Security Solution For Women Based On Internet Of Things

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Abstract- *Today in the current worldwide situation, the prime inquiry in each young lady's psyche, considering the regularly rising increment of issues on ladies badgering in later past is generally about her wellbeing and security. Now a day's ladies cannot go out in the city in odd hours. So we need to provide a security system such that they can move freely. "92 women raped in India Every Day!!". We build a thought which changes the way people think about women. Since we (people) can't react apropos in basic circumstances, the requirement for a gadget which naturally faculties and salvages the casualty is the wander of our thought in this paper. We propose to have a gadget which is the joining of various gadgets, equipment includes a wearable "Savvy band" which ceaselessly speaks with Smart telephone that approaches the web. The application is modified and stacked with all the required information which incorporates Human conduct and responses to various circumstances like outrage, dread and tension. The product or application approaches GPS and Messaging administrations which is pre-modified such that at whatever point it gets crisis flag, it can send help ask for alongside the area co-ordinates to the closest Police station, relatives and the general population in the close span who have application. This activity empowers help immediately from the Police and Public in the close sweep who can achieve the casualty with incredible precision.*

Keywords- Smart Band, GPS/GSM, Smart phone application.

I. INTRODUCTION

This paper speaks about the security system that is developed for the safety of women in day to day life. A propelled framework can be manufactured that can recognize the area and wellbeing state of individual that will empower us to make a move as needs be founded on electronic devices like GPS recipient, body temperature sensor, GSM, Pulse rate sensor.

We can make utilization of number of sensors to absolutely identify the ongoing circumstance of the ladies in basic damaging circumstances. The pulse of a man in such circumstances is typically higher which helps settle on choices alongside different sensors like movement sensors to identify the anomalous movement of the ladies while she is misled.

The plan to build up a keen gadget for ladies is that it's totally agreeable and simple to use as contrasted and right now existing ladies security arrangements, for example, a different article of clothing, cumbersome belts and scandalous versatile applications that are simply extremely unique and outdated.

The Smart band coordinated with Smart telephone has an additional favorable position to decrease the cost of the gadget and furthermore in lessened size. The GPS and the GSM can be utilized of an advanced cell. This additionally empowers in decreased power utilize and that the watch can be introduced with Bluetooth 4.0 BLE (Bluetooth Low Energy) which proves to be useful for a few days on a solitary shot of charge.

II. EXISTING SYSTEM FOR WOMEN SECURITY

Having this concern in mind many developers have come up with creative applications. Some of such applications are:

Codes like *91# is used to provide emergency services, which will alert police control. Free mobile application 'Help me on mobile' to ensure safety of women was launched to assist those who need emergency. These applications need a single click to do this task. But when a girl is in trouble, there can be times that the girl is not capable of taking the phone and pressing button.

A. SHE (Society Harnessing Equipment)

It is an article of clothing implanted with an electronic gadget. This article of clothing has an electric circuit that can produce 3800kV which can help the casualty to get away. If there should be an occurrence of different assaults it can send around 80 electric stuns.

B. ILA Security

The prime supporters of this framework, have composed three individual cautions that can stun and bewilder potential assailants and henceforth safeguard the casualty from unsafe circumstances.

C. AESHS (Advanced Electronics System for Human Safety)

It is a gadget that helps track the area of the casualty when assaulted utilizing GPS office.

D. VithU app

This is a crisis application started by a mainstream Indian wrongdoing TV arrangement "Gumrah" circulated on Channel [V]. At the point when the power catch of the Smartphone is squeezed twice successively, it starts sending ready messages with a connection of the area of the client at regular intervals to the contacts.

E. Smart Belt

This framework is composed with a compact gadget which takes after a typical belt. It comprises of Arduino Board, shouting caution and weight sensors. At the point when the limit of the weight sensor crosses, the gadget will be enacted consequently. The shouting caution unit will be actuated and send sirens asking help.

The fundamental downside of these applications and administrations is that the underlying activity must be activated by the casualty which frequently in circumstance like these doesn't occur. So, the accentuation is to assemble an answer that works self-governing in circumstances experienced.

III. PROPOSED MODEL

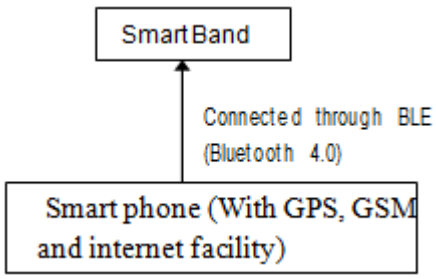

Fig. 1. Main Block Diagram

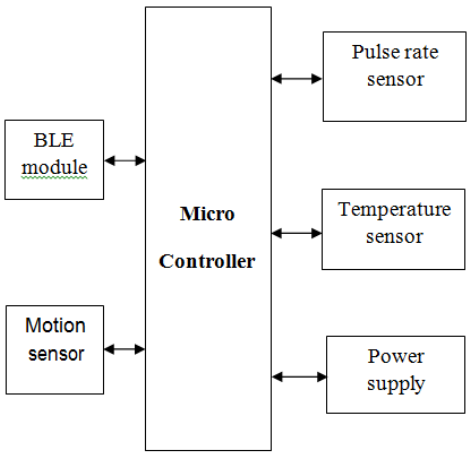

Fig. 2. Smart Band Module

As found in Fig. 1 comprises of Smart telephone associated with a Smart Band through Bluetooth Low Energy (BLE). The gadget speaks with advanced cell through an uncommonly composed application that demonstrations an interface between the gadget and the telephone. The information coordinated by the savvy band, for example, the beat rate, temperature of the body alongside the movement of the body is ceaselessly observed by the application which is pre-introduced in the telephone. In instances of manhandle, the application guides the advanced mobile phone to play out the accompanying errands:

- Sends message to the relatives alongside the co-ordinates.
- Co-ordinates is sent to closest police headquarters asking for quick activity.
- Also sends data to individuals in close region asking for open consideration.

The application is customized such that it utilizes the GPS of the PDA to track the co-ordinates and screen the development for simple track capacity! The assistance message is sent to the relatives and the closest police headquarters through the GSM office that is inbuilt in the telephone.

The application likewise gives a social stage where the general population who have this specific application introduced get the messages promptly with the goal that they also can contribute in equity being conveyed without a moment to spare. This element is executed by utilizing web offices of the telephone of the client.

Control Unit gathers data from brilliant wrist unit and GPS recipient. GSM module will then send all these data from control unit to base station. Wrist unit gathers the information

from human utilizing body temperature sensor, beat rate senor and switches. RF module is utilized to send information from wrist unit to the control unit.

The Smart Band unit as observed in Fig.2 comprises of different units that absolutely screen the circumstance and makes important move as needs be.

A. Pulse Rate Sensor

Heart beat sensor gives advanced yield of heart beat. At the point when heart beat indicator is working the drove flashes for each heartbeat. This advanced yield will be associated with microcontroller straightforwardly to ascertain the beats every moment (BPM) rate. It chips away at the guideline of light balance of arranged satellites and are followed to uplinks information for synchronization. The framework utilizes four frequencies in the L-band which ranges from 1.2 to 1.6 GHz.

B. GSM Module

GSM is utilized to send information from control unit to base unit. We can utilize GSM 300 which works at recurrence 900MHz. It has up interface band of 890MHz to 915MHz and down connection Band of 935MHz to 960 MHz GSM takes focal points of both FDMA and TDMA. In 25MHz BW, 124 transporters are created with channel dividing of 200 KHz (FDMA). Every bearer is part into 8 schedule vacancies (TDMA). At any given example of time 992 discourse diverts are made accessible in GSM 300.

C. Dual Technology Motion Sensor

A Motion Sensors a device that detects moving objects. A motion detector is often integrated as a component of a system that automatically performs a task or alerts a user of motion in a specified area. Motion sensors form a vital component of security.

Many modern-day motion sensors use combinations of various technologies. While combining multiple sensing technologies into one detector reduces false triggering, it does at the expense of reduced detection probabilities and increased vulnerability factor.

D. BLE (Bluetooth Low Energy)

BLE is intended to interface gadgets with low power utilization. An examination by Beacon programming, Aisle labs, detailed that peripherals, for example, vicinity reference points, for the most part work for a year with a 1,000mAh coin cell battery. This is conceivable because of the power effectiveness of Bluetooth Smart convention which just transmits little bundles when contrasted with Bluetooth Classic

which was compatible for sound and high transfer speed information.

E. Temperature Sensor

Human body temperature is of crucial significance to keep up the wellbeing and in this way, it is important to screen it consistently. We can quantify the body temperature utilizing different temperature sensors. For example, LM35 arrangement are accuracy incorporated circuit sensors whose yield voltage is straightly corresponding to the Celsius temperature. It works straightly +10.0mV/°C scale factor with 0.5°C accuracy. In crisis case body temperature changes definitely, which can trigger module for save.

F. GPS Module

Worldwide situating framework (GPS) can decide the scope and longitude of a recipient on Earth by computing the time distinction for signals from various satellites to achieve the beneficiary. In six unique circles roughly 12,500 miles over the earth, 24 MEO (Medium-Earth Orbit) satellites rotate around the earth 24 hours and transmit area consistently and in addition display time from nuclear timekeepers and by observing blood course through skin when is in contact with the wrist band at each heartbeat.

IV. SOFTWARE ALGORITHM

The accompanying advances are started when once the bizarre conduct of the client is identified. The choice is made by the data sources given by the different sensors like heartbeat rate sensor, temperature sensor and bizarre movement identified by the movement sensor. The circumstances are pre-customized into the framework in view of which the gadget settles on the choice and is taken care of by the advanced mobile phone application.

1. Dole out the transmitter and receiver pins of GPS module.
2. Set the serial support with baud rate 9600 and bit rate 4800.
3. Now set a circle which will then trigger the accompanying activities:

    a) Scan the contact number from SIM.
    b) Get information from GPS module.

c) Convert the longitude and scope got from GPS into a Goggle URL.
d) Attach this URL with an alarm message.
e) Send this message to pre-chosen ICE (In Case of Emergency) numbers from SIM memory intermittently until the point that gadget is reset.

V. CONCLUSION

This sort of a thought being the first of its kind assumes a significant part towards guaranteeing Women Safety in the speediest way that could be available naturally. The proposed configuration will manage basic issues looked by ladies in the current past and will help fathom them through mechanically solid devices.

With additionally research and advancement, this task can be actualized in various regions of security and observation. The framework can play out the continuous checking of wanted region and distinguish the savagery with a decent exactness.

VI. FUTURE SCOPE

A day when media communicates a greater amount of ladies' accomplishments instead of badgering, it's an accomplishment accomplished! Since we (people) can't react apropos in basic circumstances, the requirement for a gadget which consequently faculties and salvages the casualty. We propose to have a gadget which is the reconciliation of various gadgets, equipment contains a wearable "Savvy band" which constantly speaks with Smart telephone that approaches the web. The application is customized and stacked with all the required information which incorporates Human conduct and responses to various circumstances like outrage, dread and nervousness. This creates a flag which is transmitted to the advanced mobile phone. The product or application approaches GPS and Messaging administrations which is pre-customized such that at whatever point it gets crisis flag, it can send help ask for alongside the area co-ordinates to the closest Police station, relatives and the general population in the close span who have application. This activity empowers help momentarily from the Police and also Public in the close sweep who can achieve the casualty with incredible precision

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