Smart Security Device for Women using IoT

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Abstract: In present days' women harassment is increasing and women's life is at high risk. To overcome this problem, this paper approaches the IOT concept such as measuring the body temperature by temperature sensor, heart beat rates using pulse sensors to monitor their conditions and it alerts the mobile numbers which has been stored as emergency contact before. Since, there are already some web and mobile applications for women safety and for emergencies purposes, it does not adhere at all situations. Women cannot always be vigilant and carry huge devices with them. Instead, she could be monitored by wearing smart watches and other wearable devices, etc. It could be accessed and monitored by wireless technologies like GPS, GSM, GPRS for better results.

Keywords : Raspberry ,IOT, Sensor.

I. INTRODUCTION

Current scenario of our country shows that women are facing a lot of inconvenience and are not secure during late night travels. Meanwhile, Women are working equal to men like in IT sectors, as Doctors, Engineers, Business Women, Police, Nurse, Teacher, Army, Air Force, etc. When they are travelling alone they face issues like jewelry theft, eve-teasing, public harassment, etc.

Crimes Against Women:

Domestic Violence: Bass beat, Kicking, Biting, Shoving, Preventive Circumstances, Push Back, Throwing Objects, etc.

Criminal Violence: Intimidation, Sexual Abuse, Control and domineering, Rape Seizure, Kidnapping and Slay, Acid attack.

Social Violence: Eve-teasing, Might Wife/Daughter-in-law may go to feticide, etc.

To overcome these types of women security, issue and ensure their safety some mechanism are needed in the society. This paper illustrates how the IOT (Internet of Things) technology is used to provide women safety.

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I. EXISTING SYSTEM

After much research we have known that many such projects have been implemented in regards to women security and to safeguard their virtue. These applications work or rather do their job in a single click.

But there may be circumstances in which the user may not be able to use the application in the mobile phone to click the button at the time of requirement.

SHE(Social Harassing Equipment): This is a very famous safety providing equipment. But it was not as successful as it was envisioned to be. This does let the user escape but, the attacker could never be identified as it was just a device to escape. No immediate information was sent to the family of the user, nor the police, neither the hospital.

VithU App: This application was initiated by the TV series called "Gumrah" hosted on channel V. This application necessitates the user to double click on the power button of the phone, which will in turn send the location of the user to the contacts in the phone.

IOT (Internet Of Things): IOT also known as Internet of Things, which means that it can be connected to physical devices like embedded hardware, smart systems, electronic homes appliances to the software aspect of the world, like cloud, database, sensor, readers, etc.

II. PROPOSED MODEL FOR WOMEN SECURITY

The Wearable device like smart watch or smart chains can respond in the critical situation that send the alerting signals with GPS(Global Positioning System) location to the nearest guardian, hospital, police station. An Raspberry pi is used with IOT, that communicates with the smart phone of the receivers.

Various sensors are used to analyses the real time situation of a human being. Some sensors like pulse sensor are used to monitor health condition, and sensors like GPS/GSM are used to identify the location. We could also identify the critical situation of women in the real time scenario by combining all these sensors at its threshold levels. It also produces shocks for defense. It also takes photos and uploads it to the cloud to catch the perpetrator at the act of his crime.

Pulse Rate Sensor: Heart rate sensor gives digital output of heart beat. This digital output will be connected to microcontroller directly to calculate the beats per minute (BPM) rate.

GSM Module: GSM is usually used to send collected information from control unit to base unit. The GSM module can operate up to a speed of 900MHz. The link bands varies from 890MH to 915MHz. It has a down link band of 935MHz to 960MHz. It combines the advantages of FDMA and TDMA.
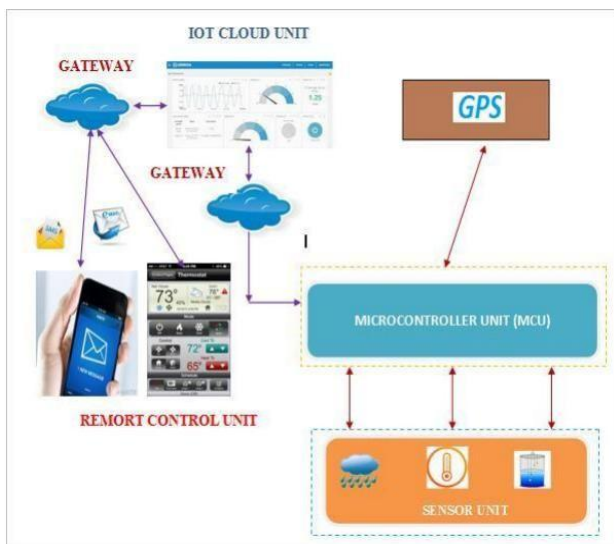
Temperature Sensor: Human body temperature helps in maintenance of health. We need to monitor it regularly to find any discrepancy in them. We can measure the temperature using various sensors. In cases of emergency the body temperature will show large discrepancies which can trigger the module for rescue.

GPS Module: Global Positioning System is very critical aspect of the project. It helps in identifying the accurate position of the victim and culprit to the accuracy of latitude and longitude positioning. It sends signals to the various satellites in the space with the time difference in calculation nd transmits the information to the required parties involved in helping the victim . It monitors each pulse moment of the blood flow through skin contact for atomic clocks to keep sending the live positioning of the victim to the satellite.

Shock Transfer: As we have already seen in the existing system , those applications only help the victim escape by pressing button. In this component we send a few voltages of shock to the attacker through the smart watch to knock him unconscious for a few minutes. This component gives the victim the head start required to escape the scene before the attacker regains his conscience. This gets triggered only when the pulse rate sensor and the temperature sensor show discrepancy.

Camera Module: This component is what makes this proposed system more adaptable to current times of need. This module helps capture the image of the attacker which can be sent to police, which helps in safeguarding the society. This module can be used even after the attacker is rendered unconscious. Or in certain situations it will capture it before sending the shock module into action.

III. RESULT

This proposed system can implement the eminence shelter device for women, the pulse rate sensor and the GPS tracking device can have used to find the person location and one of the ultimate usage of this system is the shock transfer device. It is identical valuable to protect from victim at that critical circumstance. The final camera module used to capture the face of victim to take further actions. So finally it is one of the best smart security device for women safety.

IV. CONCLUSION

This type of proposed system where the victim is also safe guarded and also the attacker is caught makes the system more adaptable and more appropriate for women safety and security. This system helps in achieving all the flaws the previous existing systems could not achieve. This can be further implemented in other fields with research and better understanding of gadgets available for us.

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