

Smart Band for Women safety

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Abstract: Women safety has always been an issue even in these modern times with so much advancement in technology. Women are not safe anywhere and are most vulnerable while travelling alone into lonely roads and deserted places. Women suffering violation are even denied of the basic human right. Gender based violence has become a national as well as international agenda because of decades long struggles by civil society accompanied by women's movements. Even there are unprecedented number of laws against domestic violence, sexual assault and other forms of violence to protect their female citizen, they are facing major challenges in implementing such laws. Thus making the society unjust and insecure for the women as in majority of cases the violator remains unpunished. In sexual act violence the aggressors are confident of the power they exercise. The defense strategy used by females need to be revolutionized by adopting modern technology and gadgets to protect from their oppressor. The system can be activated by the user added to the system to ensure optimum efficiency. This article is to use technology to offer a new perspective of the women to safety. This device is an answer to all the women who deserves a safe and secure world.

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I.INTRODUCTION

Women safety always been an issue even in these modern times which so much advancement in technology .Women are not safe anywhere and are most vulnerable when traveling alone into lonely roads and deserted places . In a country like India where the growth rate of crime is considered to be more than a growth rate of population, which includes burglary, murders, rapes and many more women's safety is believed to be one of the most important issues. Most of the attacks on women happen when they are travelling alone or in a remote area where they are not able to find any help or proper assistance. This paper proposes a IoT based solution to address the problem of women's safety and that overcomes the shortcomings of existing device.

II.MODULES

1.INPUT MODULE:

- ❖ **Pulse Rate Sensor:** Pulse rate sensor is designed to give digital output of heart beat. This digital output can be connected to micro-controller directly to measure the beats per minute rate(BPM).
- ❖ **Temperature Sensor:** Temperature sensor enables accurate non-contact temperature measurement. The temperature sensor is measuring ear temperature, forehead temperature or skin temperature.
- ❖ **Watch Wear Detection Sensor:** Watch wear detection sensor is directly with the body in order to help monitor health and provide clinically relevant data.
- ❖ **Panic Switch:** Panic switch is a device usually a button that is used to call for help by someone in dangerous situation.

2.PROCESSING MODULE:

- ❖ **Arduino:** Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read input as light on a sensor , a finger on a button and turn it into an output as turning on an LED . This project is based on microcontroller board designs, produced by several vendors, using various microcontrollers.

3.OUTPUT MODULE:

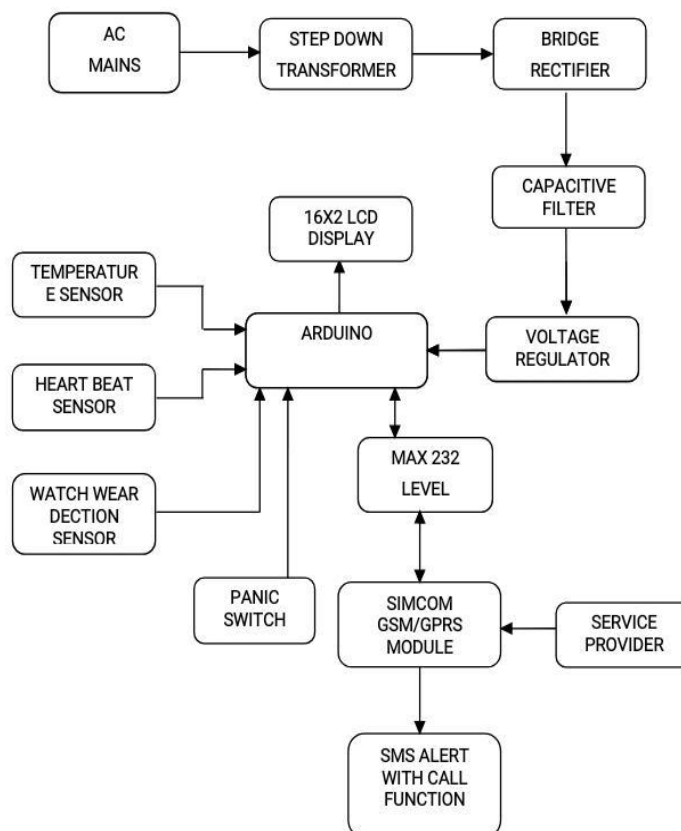
- ❖ **Global Positioning System(GPS):** GPS module is used for location tracking device, here we can use to find women's location tracking when the women presses the panic switch, it will track the live location.
- ❖ **Global System for Mobile Communication(GSM):** GSM is a open and digital cellular technology used for transmitting mobile voice and data services. It is used to send a message to the parent and informs to the police by using the microcontroller.

❖ **LCD Display:** Liquid crystal display(LCD) is a type of a flat panel display which uses liquid crystal in its primary form of operation. It is used to monitor the heartbeat, temperature level and location.

III.SYSTEM IMPLEMENTATION

- Initially our project is taking power supply from the EB main source.
- Step-down Transformer is converting higher voltage AC signal to lower voltage AC signal.
- Then the AC signal is passed to the Bridge Rectifier converts 12v AC signal to 5v DC signal.
- This converted DC voltage is used for further implementation of our project.
- In our project we are using 3 sensors namely :
 1. Heart beat sensor
 2. Temperature sensor
 3. IR sensor(Watch wear detection)
- These above mentioned sensors measure heart beat , temperature of body and whether the watch is wore or removed is calculated respectively.
- These sensors will pass the calculated values to the microcontroller, and when the women is in danger the victim have to press the panic switch.
- As soon as the panic switch is pressed it will take them readings from the heart beat sensor and temperature sensor.
- Then it will be sent to the concern person or nearby police control room, along with that the link of location will also be sent in SMS.
- After the concern person received the SMS about the location, health condition, the status of watch is wore or not and it will be followed by a call to notify that the victim is in danger.
- Here we are using SIMCOM 800 GSM Modem to send messages and placing call to the concern person.
- And the overall process of the project is displayed and monitored in 16-bit LCD display.

IV.SYSTEM FLOW



V.CONCLUSION

The objective of devising the women's safety and security system is proposed and designed in this paper. This small and light weight device can be easily carried out by women and young one's while travelling on road, work place and wherever they want. By using this alert device with self defense mechanism of women will certainly reduce the harassment rate. The proposed mechanism locates the current location of victim in terms of Latitude and Longitude. These crimes should be brought to an end with the help of our proposed system. The paper presents the prototype of a smart device for women's safety, performance metrics have to be considered for further analysis to prove its efficiency.

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