Smart Security Solution For Women Using IOT

Harshitha.N[1], Ishwarya.S2, Pravallika.R[3], Jayalakshmi.K.V[4], Saroja Maralabhavi[5]

[1]8th sem Students, Department of Electronics and Communication Engineering, Rajarajeswari College of Engineering, Bangalore, Karnataka, India.

[2]8th sem Students, Department of Electronics and Communication Engineering, Rajarajeswari College of Engineering, Bangalore, Karnataka, India.

[3]8th sem Students, Department of Electronics and Communication Engineering, Rajarajeswari College of Engineering, Bangalore, Karnataka, India.

[4]8th sem Students, Department of Electronics and Communication Engineering, Rajarajeswari College of Engineering, Bangalore, Karnataka, India.

[5] Assistant Prof., Department of Electronics and Communication Engineering, Rajarajeswari College of Engineering, Bangalore, Karnataka, India.

ABSTRACT

Today in the current global scenario, the prime question in every girl's mind, considering the ever rising increase of issues on women harassment in recent past is mostly about her safety and security. The only thought haunting every girl is when they will be able to move freely on the streets even in odd hours without worrying about their security. This paper suggests a new perspective to use technology for women safety. "848 Indian Women Are Harassed, Raped, Killed Every Day!!" That's a way beyond HUGE number! We propose an idea which changes the way everyone thinks about women safety. A day when media broadcasts more of women's achievements rather than harassment, it's a feat achieved! Since we (humans) can't respond aptly in critical situations, the need for a device which automatically senses and rescues the victim is the venture of our idea in this paper.

Keyword: *Safety, Harassment, Situation, Raped, Killed.*

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1. INTRODUCTION

This paper focuses on a security system that is designed merely to serve the purpose of providing security to women so that they never feel helpless while facing such social challenges. An advanced system can be built that can detect the location and health condition of person that will enable us to take action accordingly based on electronic gadgets like IOT, body temperature sensor , GSM, Pulse rate sensor, buzzer and node MCU.

We can make use of number of sensors to precisely detect the real time situation of the women in critical abusive situations. The heartbeat of a person in such situations is normally higher which helps make decisions along with other sensors like motion sensors to detect the abnormal motion of the women while she is victimized.

The idea to develop a smart device for women is that it's completely comfortable and easy to use as compared with already existing women security solutions such as a separate garment, bulky belts and infamous mobile apps that are just very abstract and obsolete.

2. Related Work

It consists of Smart phone connected to a Smart Band through WI-FI. The device communicates with smart phone through IOT that acts an interface between the embedded device and the phone. The data directed by the smart band such as the pulse rate, temperature of the body along with the motion of the body is continuously monitored by the application which is pre-installed in the smart band/embedded module. In cases of abuse, the app directs the device to perform the following tasks such as:

- Sends message to the family members along with the co-ordinates.
- Co-ordinates is sent to nearest police station requesting immediate action.
- Also sends information to people in near vicinity requesting public attention.

The app is programmed in such a way that it uses the GPS of the device to track the co-ordinates and monitor the movement for easy track ability! The help message is sent to the family members and the nearest police station through the IOT facility that is inbuilt in the IOT software.

3. Diagram of Smart Security solution for Women

The block diagram of smart security solution for women is shown in fig.1. The block diagram consisting of three sensors such as Heart rate(MAX30100), Temparature sensor(DS18B20), IR sensor(IRSv 3.2), Node MCU(ESP8266EX), Power supply, LCD, IOT(ubidot), GPS(LS20030), Buzzer.

DS18B20 Programmable Resolution 1-Wire Digital Thermometer measures temperatures from -55°C to +125°C. Fahrenheit equivalent is -67°F to +257°F. Power supply range is 3.0V to 5.5V. ESP8266EX offers a complete and self-contained Wi-Fi networking solution; it can be used to host the application or to offload Wi-Fi networking functions from another application processor. When ESP8266EX hosts the application, it boots up directly from an external flash. In has integrated cache to improve the performance of the system in such applications.

The IR Sensor-Single is a general purpose proximity sensor. Here we use it for collision detection. The module consist of a IR emitter and IR receiver pair. The high precision IR receiver always detects a IR signal. The module consists of 358 comparator IC. The output of sensor is high whenever it IR frequency and low otherwise. The LCD display requires data in a serial format, which is detailed in the user guide below. The display also requires a 5V power supply. Complete Pulse Oximeter and Heart-Rate Sensor Solution Simplifies Design Integrated LEDs, Photo Sensor, and High-Performance Analog Front -End Tiny 5.6mm x 2.8mm x 1.2mm 14-Pin Optically Enhanced System-in-Package . LS20030-3 series products are complete GPS smart antenna receivers , including an embedded antenna and GPS receiver circuits, designed for a broad spectrum of OEM system applications.

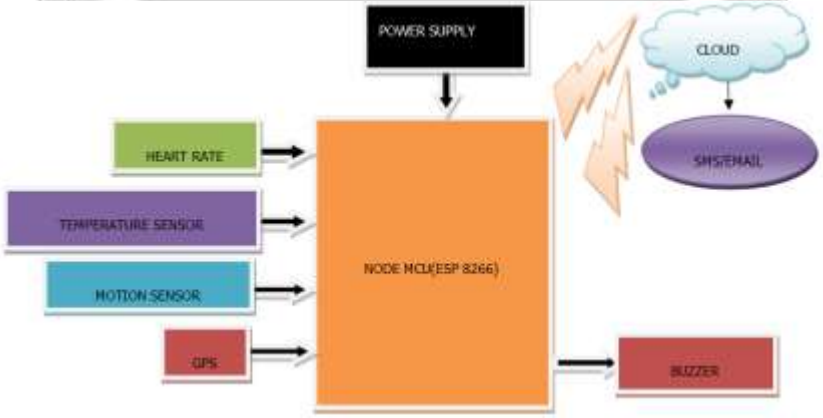

Fig-1 : Block diagram

4. Experimental Results

Sensors data will be uploaded to the IOT so that variations in the sensors, means the the sensors value goes beyond the threshold value at that time from internet only messages/email will be sent concerned persons/police station.

5. CONCLUSION

This type of an idea being the first of its kind plays a crucial role towards ensuring Women Safety in the fastest way possible automatically. The proposed design will deal with critical issues faced by women in the recent past and will help solve them through technologically sound gadgets. With further research and innovation, this project can be implemented in different areas of security and surveillance. The system can perform the real time monitoring of desired area and detect the violence with a good accuracy.

6. REFERENCES

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