

Design of Real Time Health Band for Alerting and Tracking for Human Being

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Abstract: Now-a-days Health-care Environment has developed science and knowledge-based on wireless-Sensing node technology oriented. Patients face a problematic situation of unforeseen demise thanks to the precise reason for heart problems and attack which is due to the nonexistence of excellent medical maintenance to patients at the needed time. This is for especially monitoring the old age patients and informing doctors and loved ones. So we are proposing an innovative project to dodge such sudden death rates by using Patient Health Monitoring that uses sensor technology. According to the reports of WHO, NCRB-social-government organization 35% of girls everywhere the planet face tons of unethical physical harassment publicly places like railway-bus stands, footpaths, etc. This project has reviewed various existing systems on women's security. The project has felt a requirement for advanced women security systems to provides safety measures publicly places also as traveling alone through public transports (school buses, company vehicles, etc.). This project a new model for women security in public places which aims to provide a 100% safe environment.

Keywords: Arduino, GPS, GSM, Heart beat sensor, Temperature sensor.

1. Introduction

According to international worldwide data on the global effects of hypertension heart diseases, the analysis study demonstrates that blood pressure or hypertension affects more than 1 billion people worldwide. Rather than hypertension heart diseases, high blood is often an element and attribute to cause many other disorders, like stroke aneurysms, ischemic heart, and renal disorder. The risk of heart failure, due to Hypertension is almost increased by factor two or three-fold and may account for about 25% of all heart failure cases.

India which sees itself as a promising superpower and an economic hub can achieve its goal if and only if large numbers of women participate in the development process. This project presents an analysis review on the principal need of the intelligence security system with technology requirements and challenges to build the system. Since the prediction of such an incident is possible hence to minimize the possibility of

physical violence (robbery, sexual assault, etc.) by keeping all the help tools ready to safely escape from a violent situation. This reduces risk and brings assistance when needed.

In many cases of missing women, girls are reported and conveyance vehicles like Cars, Buses, and auto-rickshaws. Nowadays women are being molested, kidnapped and harassed by the drivers and identified much misbehaving activity in urban and ruler parts of our country.

The main purpose of our band is to send the alert message to predefined contact numbers for security and safety.

2. Block Diagram

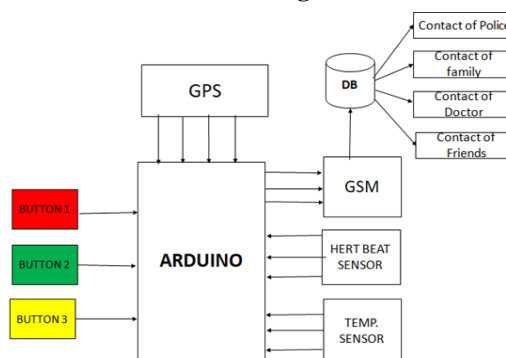


Fig. 1. Block diagram

3. Working

- Various sensors are connected to the Arduino microcontroller which controls the signals from the temperature sensor, pulse sensor, and accelerometer sensor. With the assistance of Arduino software, the signal from the sensor is recorded and sent.
- GSM stands for Global System for Mobile communications. it's wont to send messages to family and friends to tell them about any emergency condition.
- The GPS model is employed to detect the present location, this location and trouble message are going to be sent by using the GSM to the Police, family, and friends.
- Heartbeat sensor is employed to live the heartbeat rate of the

physical body and provides the detection of a high pulse, low pulse, normal pulse.

- An LM35 temperature sensor is employed to live the blood heat of an individual. LM35 device is rated to work over a -55°C to 150°C temperature range.

Buttons:

- *Red buttons:* Red button is having the highest priority. The GPS module is used to detect the location of this location and trouble message will be sent by using the GSM to the police, family, Doctor, and friends.
- *Green button:* Green button is having the average priority. The GPS modules detect the location and the message will be sent by using the GSM to the family, Doctor, and friends.
- *Yellow button:* Yellow button is having the lowest priority. The GPS module detects the location and the message will be sent by using the GSM to the family and friends.

4. Components

- Arduino
- GSM
- GPS
- Temperature Sensor
- Heart Beat sensor
- Switches

5. Future Scope

We completed our project successfully with the offered sources. However, the results and modifications don't seem to be up to the expectations. In the future, the system often interfaces with the Camera for capturing images and recording live video also. In the future, we will integrate various services like e-mails, voice messages from physicians /nurses/patients, to the Patient's family. With further technology, we will build Wireless Long Distance [WiLD] Clinical Applications to deliver expertise to anywhere within the world.

6. Application

- Location tracking application.
- It will be used in patients.
- It will be used for safety of women's.
- It will be used for child tracking during school time.
- It will be used in vehicle tracking & safety system.
- It will be used for safety of elderly aged people.

7. Advantages

- Real time identification and Actions
- The health monitoring system is used to transfer the data from the TX section to the RX section wirelessly.
- Operation of this device is very simple.
- The message can be sent to mobile phones by using GSM module
- In addition to the system can also provide more than

one numbers so that more than one user can receive emergency message.

8. Result

- At normal conditions, no indication is going to be produced. At an abnormality, a sign is going to be produced.
- If yellow button is press is having the lowest priority, Green button is having the average priority and Red button is having the highest priority.
- The most purpose of the work is to supply safety and security to women during a dangerous situation.
- The button is pressed by women when she feels insecure. Once the button is ON, the Arduino microcontroller gets the commands and therefore the GPS sends the live location.
- GSM module will send SMS to the numbers already stored within the Arduino and nearby police stations. GSM will send SMS to the registered mobile numbers for each 1 second.

9. Conclusion

In a health monitoring system using ARDUINO is usually implemented in hardware using different kinds of sensors to detect the health conditions of the patients. ARDUINO was found to be more compact, user-friendly and fewer complex, which could readily be utilized to perform several tedious and repetitive tasks.

The proposed design will affect critical issues faced by women within the near past and can help to unravel them with technical equipment and concepts. this technique can overcome the fear that scares every woman within the country about her safety and security. It is often concluded that the system helps to supports gender equality by providing a safe environment to women within the society, and allows them to figure till late nights. Anyone before doing any crime against the ladies is going to be deterred and it helps to reduce the rate against the ladies.

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