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Real-Time Implementation of Hybrid Personal Tracking System for Anomaly Detection

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Abstract— *In this system, we use two panic switch it's a main component of the system, the global positioning (GPS) system modem are used to track the position of the target, and use the heartbeat rate sensor to sense the pulse rate, GPS is an open digital cellular technology use for transmitting data service. In this system, if any mankind is in trouble the press the panic switch, then all data is sent to the Arduino, and at that time, GPS finding the position through GPS satellite, and we use the Wi-Fi Router\Hotspot for the internet. The cloud sends the real-time location to the Google map and Facebook, and it also sends the notification on Blynk, Gmail at that time our smartphone gets vibrated.*

Keywords— *GPS, Heartbeat rate sensor, Wi-Fi Router/Hotspot.*

I. INTRODUCTION

In recent years, humankind's threats are found to be increasing, which demands a customized personal tracking system. The various applications identified include child monitoring and tracking, women's safety, and saving the people who are in trouble; if they need help, this proposed system is beneficial.

In this paper, real-time implementation of the hybrid personal tracking system for anomaly detection is proposed. Nowadays, the demand for personal tracking systems is increasing. Using the advancement in the current technology, it becomes a favorable solution to meet the above requirement. In this research, an attempt is made to GPS technologies to detect and track the position of Mankind, especially women, Childs, and those in trouble. Initially, the position of the target is tracked by the authorized caretaker using GPS technology. The proposed hybrid tracking system is implemented in real-time using a customized embedded device[4].

II. PROBLEM STATEMENT

The problem is that the overall cost of continuously sending data for tracking Systems is very high because of packet size transmission.

- In our country, even though it has a superpower and economic development, there are still many crimes against women.
- The atrocities against the women can be brought to an end with the help of the proposed project. This device is a security system specially designed for women in distress.

III. METHODOLOGY

Here we attempted to use GPS technologies to detect andtrack the position of Mankind, especially women, Child's, and those who are in trouble.

- Real-time implementation of a hybrid personal tracking system for anomaly detection is proposed. For future day's demand for personal tracking systems is increasing. Using the advancement in the current technology, it becomes a favorable solution to meet the above requirement.
- Initially, the position of the target is tracked by the authorized caretaker using GPS technology. The proposed hybrid tracking system is implemented in real-time using a customized embedded device.

In this project, Fig. 1 Shows the Block diagram of the system & Fig.2 shows the Architecture. Here We utilize the GPS (Global Positioning System) module, Arduino, Battery, Two emergency switches, Wi-Fi router, and pulse rate sensor. The battery is utilizing for the power supply; it gives the 5V supply. The emergency switch or the panic switches are the key parameters of this system. The GPS module is the transceiver device capable of receiving information from GPS satellite, and then it calculates the geographical position and passes the data through Arduino. Arduino stores the data and receives the input, and it also receives the signal from the panic switch 1 and 2.

The Arduino stores information from different parameter which should be observed. The Wi-Fi router \ Hotspot is utilized for the internet. Arduino store the information gathered by the GPS, and this data pass to the Blynkcloud. We store the information on the cloud, and the cloud sends the data to App. And one more motive of this system is the pulse rate sensor utilize in our system. This sensor gathered the pulse rate if the pulse rate is larger than the mark, so the chances of heart attack increase so; to save these people from a heart attack, we make this system. If

the rate is so high, send location on the ambulance and the relatives for those needs, we make this system[1-3].

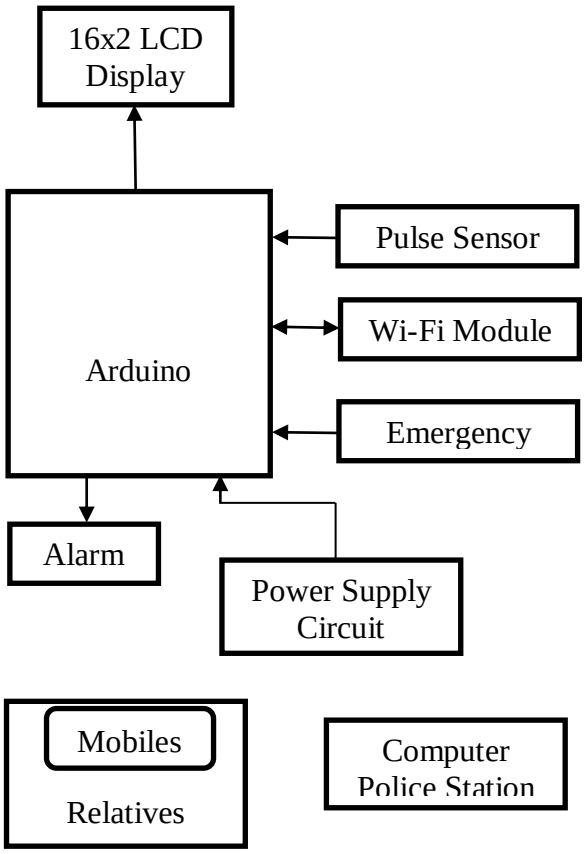

Fig.1 Block Diagram

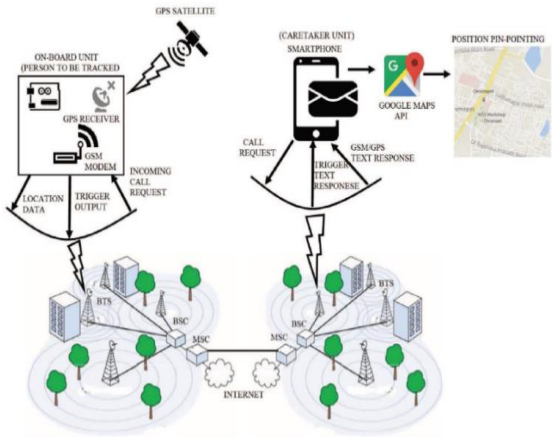

Fig.2Architecture of our project

IV. RESULTS & DISCUSSION

The work's main purpose is to provide safety and security to women and children in dangerous situations. The button is pressed by a woman when she feels insecure. Once the button is ON, the microcontroller gets the commands, and the GPS will calculate the current latitude and longitude values of the victim. IoT module will track the victim's current location, and it will update the location on the Blynk[5]. The microcontroller will switch ON the buzzer in the device so that nearby people may know that someoneis in danger and come to rest. The results were displayed on an LCD screen. Fig.3 shows the various results observed, and Fig. 4 shows the message received on the Blynk App.

Fig.3 Results on LCD Screen

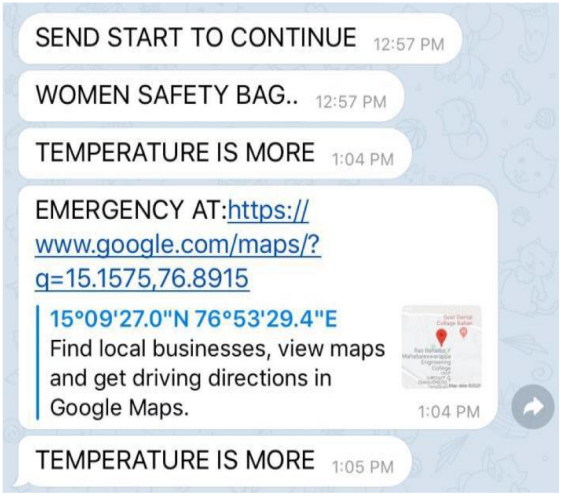

Fig.4 Message received on Blynk App

V. CONCLUSION

The project grants designing about the women faced the lot of critical situation at present days and will help clarify them scientifically with compressed kit and concept. Using the wrist band and spectacles, the mechanism like tear gas release loud messages with the location. The product mentioned above can run over every woman's suffering in the world about her assurance and security.

VI. FUTURE SCOPE

As the main aim in the world is to ensure women's security, this model we can achieveour aim also slowly reach the rural areas and the women in can benefit themselves at a low price and women can leave their houses without any worries. This system can be more advanced by adding a calling feature also; the location can also be sent to the nearest police station. Images can be clicked in the advanced system

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