

ELP 725

Wireless Communication Lab

Project Synopsis

Intelligent Tracking and Alerts using GSM and GPS



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22th February 2019

GPS & GSM Based Tracking and Alerts

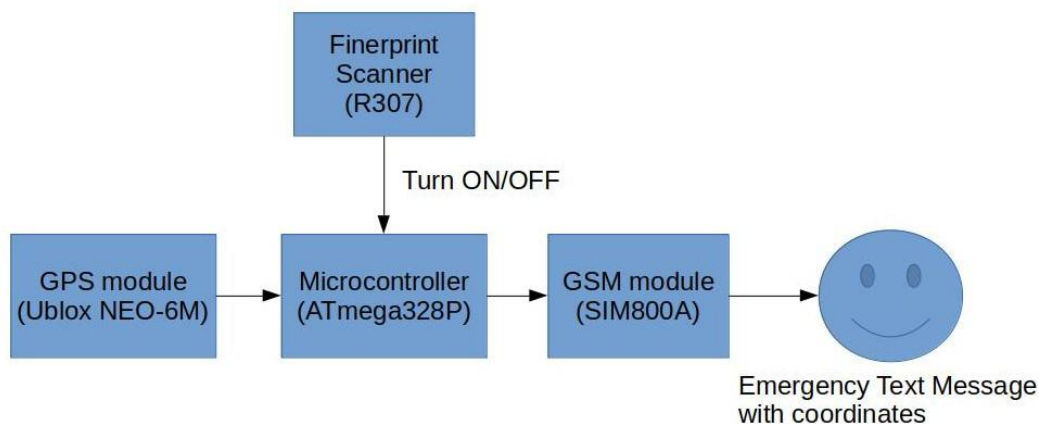
1 Abstract

Safety is a very important issue due to rising crimes against people of all ages. To help resolve this issue we propose a GPS and GSM based tracker. The children or women having this device can inform their guardians in case they sense any trouble. This system can be turned on by a woman/child in case he/she even thinks he/she would be in trouble. It is useful because once an incident occurs with a child/woman may or may not get the chance to press the emergency button. In a button press alerting system, in case a woman is hit on the head from behind, she may never get the chance to press panic button and no one will know she is in trouble.

Our system solves this problem. This device is to be turned on in advance by a woman/child in case he/she is walking on a lonely road or some dark alley or any remote area. Only the person authenticated to the devices can start the system by fingerprint scan. Once started the device requires the person to constantly scan their finger on the system every few minutes, else the device automatically sends the location of the person to an emergency contact number through SMS message as a security measure and also sounds a buzzer continuously so that nearby people may realize the situation. This device will prove to be very useful in saving lives as well as preventing atrocities against women and children alike.

The above device uses a GPS module to track the current location, a GSM module to send message in case of emergency. To make sure the security system is turned on/off by only authorized person we will a finger print scanner.

2 Block Diagram



3 Hardware Specifications

1. Arduino Uno
2. GSM Module (SIM800A)
3. GPS Module (Ublox NEO-6M)
4. Fingerprint Scanner (R307)
5. Power supply
6. Buzzer
7. LED
8. Switch
9. Crystal
10. Finger Print Scanner (R307 Optical Scanner)
11. Push Buttons
12. Capacitors
13. Resistors

4 Applications

- Can be used as a Women Safety device for ladies working late light.
- Can be used by parents to track children going for school and outings as an extension to the project.
- Can be helpful to keep track of elderly people when they go out for walks and reach them in case of any help needed.