

SMART SECURITY SYSTEM

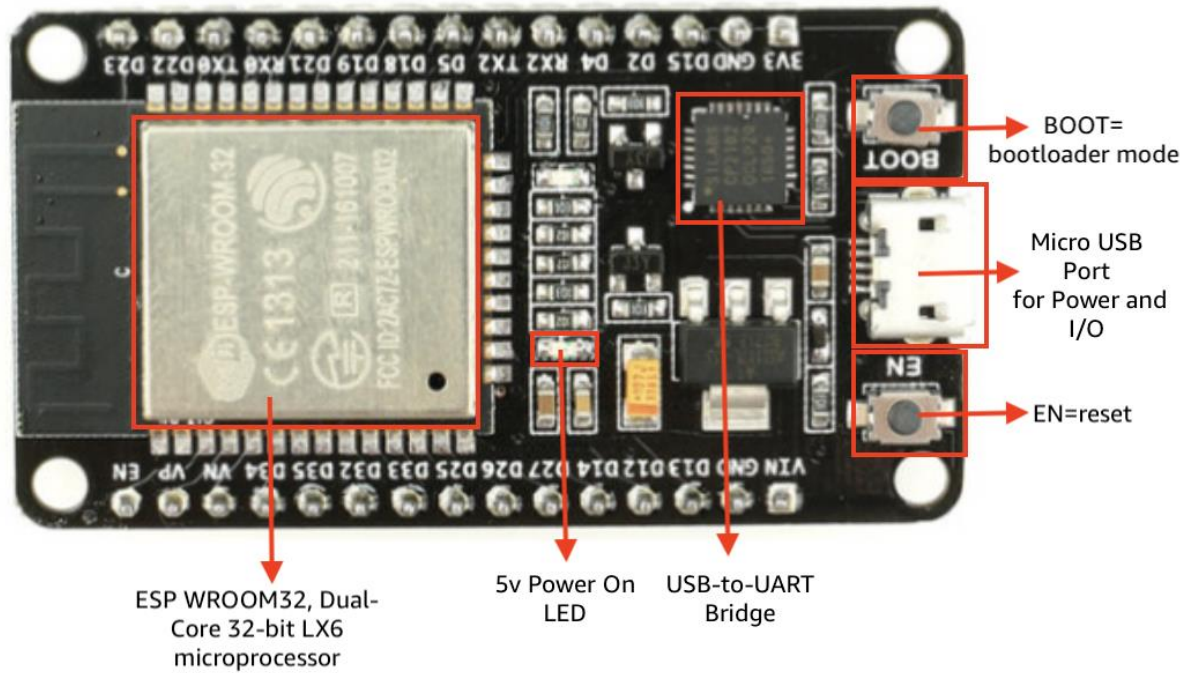
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Abstract: A person may be concerned about being assaulted, in any remote area of a city. Smart security system is a wearable gadget to make safe, and serve as solution in this regard. This is a smart card system with integrated microprocessor. Here Internet of Things can be used, using built-in sensor. Using this system, we can sense and respond to surroundings. The sensors used here, will be able to detect sudden unusual movement, say like a loud noise, it will then send signal to the system. Data analysis is then followed. The system will then send alert to say security personnel or make calls to the numbers specified in it. An emergency panic button is used. There is also use of GPS, to track the location of the user, and further send alert to the concerned person. Here cloud-based monitoring is used. The system uses Machine Learning Techniques, the behavior and level of safety can thus be determined. By this way Real-Time Monitoring can be done. Predictive alarms are also actuated here.

KEYWORDS: Identification system, Patient tracking, Safety system, IoT safety, smart card based embedded system, GPS Safety;

1. INTRODUCTION: Here IoT device used is powered by ESP32 Controller. It transmits data to a central database system. It has many sensors. By this a person is secure. Raspberry Pi is associated here with a temperature sensor, GSM, GPS and camera modules. Voice, temperature and heart rate data is collected and uploaded to Raspberry Pi. A button is used to activate the system [3]. Communication is established using internet. Each device is given a unique ID. This application sends SMS along with location of the user. A website is used to record the event, along with the photo. In this way accidents, molesters etc., can be recorded. This system can be useful in schools, and remote areas where lone wolf attack can be expected. Here accelerometer, humidity sensors can also be used to record data in real time. The state of the user can also be displayed. The database station monitors and analyses data sent by the user, in real time. This system is also useful to track the time of an individual at work time. It is helpful in paying the extra hours they work. Similarly potential risk of an individual can be checked by the concerned authority [6]. Following is the ESP32 controller which has microcontroller which is the brain of the whole system here: ESP and raspberry are connected through Wi-Fi and can communicate easily to establish the security system needed for this purpose. ESP helps working as a Publisher. Sensors read temperature and related data. Mosquito command line client is used here



2. LITERATURE SURVEY: This system can track mental and physical health. Continuous speech recognition can also be used here. Transcription of recorded speech can be done here. Hidden Markov Model is also useful here. To start the system first the Panic button is pressed. Alerts are given to the individuals programmed in form of SMS, along with location. The police are also alerted, and they are dispatched. IOT based security can be implemented by using smart bands [10]. GPS Tracking system is implemented here. Authors of [11] have proposed use of special spectacles for implementing this security system. Live streaming video is utilized here. Authors of [12] have proposed using sensor for detecting heartbeat of the victim. The heart rate goes high, when the victim is in danger. It can generate alarm to the help team. The device automatically makes a call. Use of BP sensors are also proposed in [13].

3. BLOCK DIAGRAM:

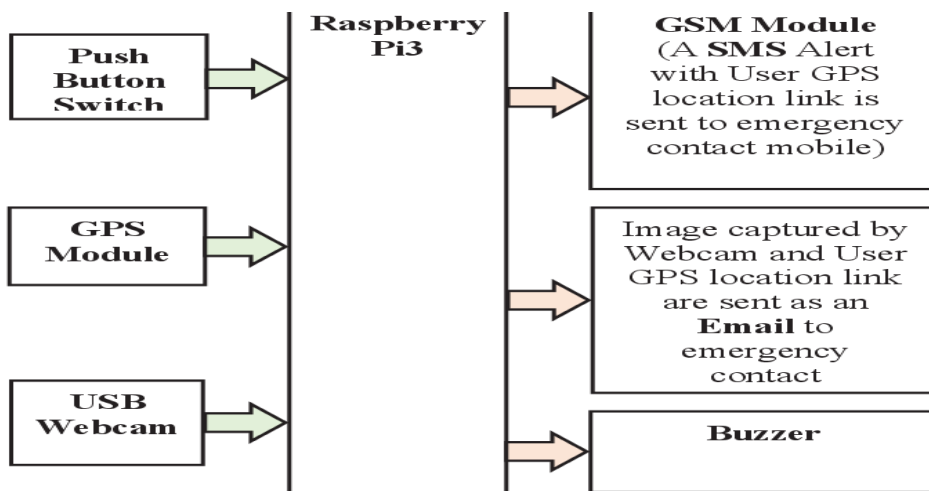


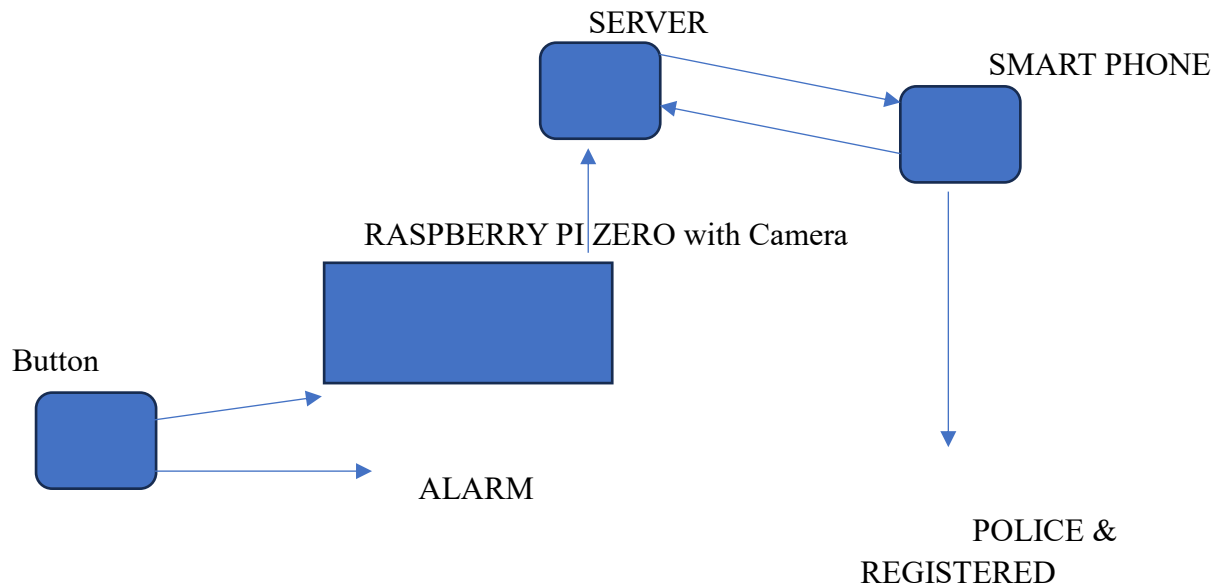
Fig. 1. Block Diagram of Smart Wearable Device System



Fig 2. GPS Receiver system

IOT based security can be implemented by using smart bands [10]. GPS Tracking system is implemented here. Authors of [11] have proposed use of special spectacles for implementing this security system. Live streaming video is utilized here. Authors of [12] have proposed using sensor for detecting heartbeat of the victim. The heart rate goes high when the victim is in danger. It can generate alarm to the help team. The device automatically makes a call. Use of BP sensors are also proposed in [13].

3. ARCHITECTURE OF THE SYSTEM:



CONTACTS

High frequency Alarm is emitted using a Buzzer. Camera takes the picture of the criminal. Automatic message is sent to the Police and registered numbers. The smart Phone uses location-based GPS, to send the place of crime. An application is designed to have user interface with emergency contacts. The captured image is stored in the server. The image is automatically fetched from the server, and message is sent for calling for help.

4. CONCLUSION:

The proposed system is fast, and of low cost. It has accurate tracking system. The main limitation of this system is that the victim should have smart phone along with him. Using GPRS the system can be further advanced in its performance. Easily criminal identification can be done by this. It is portable and can be carried in the pocket. Senior citizens can use it for medical help. It can also be used for child safety. Thus, child abuse and child trafficking can be also be avoided, and emergency services called instantly.

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