

EMERGENCY ALERT SECURITY SYSTEM FOR HUMANS

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ABSTRACT

This project is all about security system. In today's world as there are many cases reported about women and children harassment in our country, it is necessary to build an android based security system which is already out in the market. But this project involves developing a system based on sensors. When the victim gives pressure to the device, red light glows as the intensity of the LED light is received, the GPS tracks down the location of the victim and the GSM system will send the alert messages with the tracked place details to the concerned phone number and the voice of the victim is recognized by voice recognition board. This device can be fixed with any garments when converted into an embedded system. Using this project if timely actions are taken misfortunes can be avoided.

Keywords: *Pressure sensor, Voice recognition board.*

INTRODUCTION

We are living in the society where this modern culture seems to be worst for women and children security. [1] There is a device, called "Suraksha" is a monitoring system specifically designed for women who facing problems. The device is very simple and easy to carry with generous functionality. The basic approach is to intimate current area and a security messages to the cops and registered number. It can play a dominant role in the upcoming projects such as CCTNS (Crime and Criminal Tracking Network and System) in which all the police manuscript all over India are digitized and all the police house throughout the country will be integrated. [2] In Today's current global scenario, the basic question in every people's mind, considering the continuous increase of issues on human safety in the recent past is mostly spoken about their safety and security. We project an idea which wills changes the way that everyone thinks about their safety. This project aims in making women and children feel stronger enough to fight against the precarious condition of our society, bold enough to fight the odds, bold enough to protect themselves against any sexual assaults. This project idea is to design and develop a system which will make every place and every moment safer for women and children. This system will send SMS alert to included contacts, track down the location and also gives a voice alert, when the pressure is

given. Our idea is to make up for the time it takes people to arrive at the location.

Proposed System

A block diagram of the prospective system is represented in the Fig.2. This system is divided into three sections namely sensing, transmitting and processing. These three systems are important for the module to work efficiently. In this system a voice module is interfaced with the controller. Along with this module Force sensitive resistor, GSM and GPS are used and interfaced with microcontroller.

Sensing

Sensing part consists of a pressure sensor. The pressure sensor in the system is used to detect the pressure of the victim while they are under dangerous condition. This sensor gets the analog value as input sends that information to the microcontroller for further processing.

Pressure Sensor

Pressure sensors basically a resistor that changes its resistive value depending on how much pressure is given. The output from the sensors is given as input to the controllers. These sensors accept the analog value as input. they is low in cost, and easy to use. These sensors are also used in detecting weight.

Transmitting

Transmitting part consist of a microcontroller(PIC16F877A) for gathering the details obtained from the sensing unit and send that information to the GSM and the location is tracked using GPS. An LCD is interfaced with the microcontroller to display the sensor parameters, and the phone number of the person.



Fig 2.1 - Pressure sensor

Microcontroller (PIC16F877A)

PIC16F877A is a 40 Pin Microcontroller IC. It consists of one 16 bit and two 8 bit timer. It can be write-erase as many times as possible because it uses flash memory technology. A 16x2 character LCD is interfaced with a microcontroller in 8 bit mode to display the contact information.

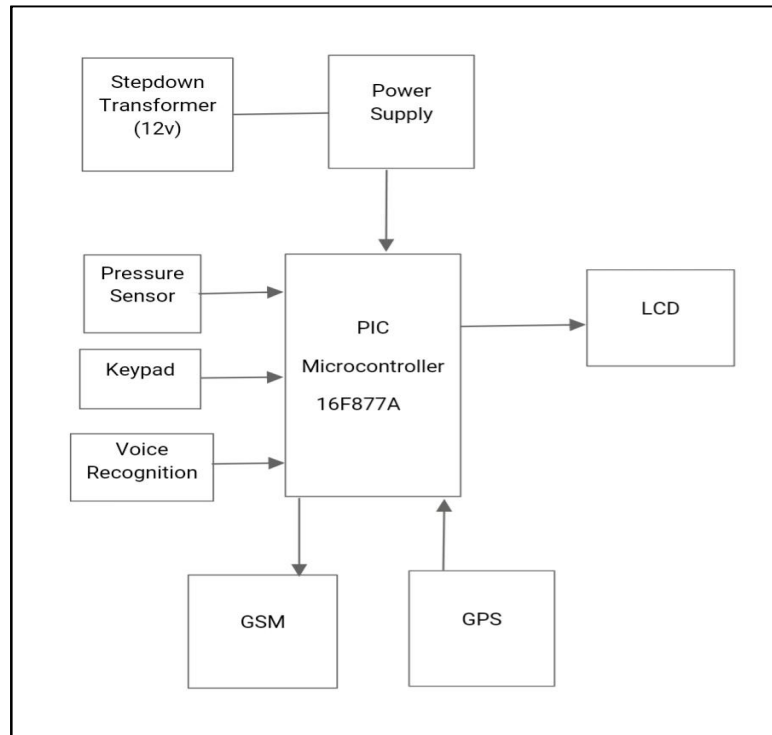


Fig 2 : Block Diagram of Proposed System

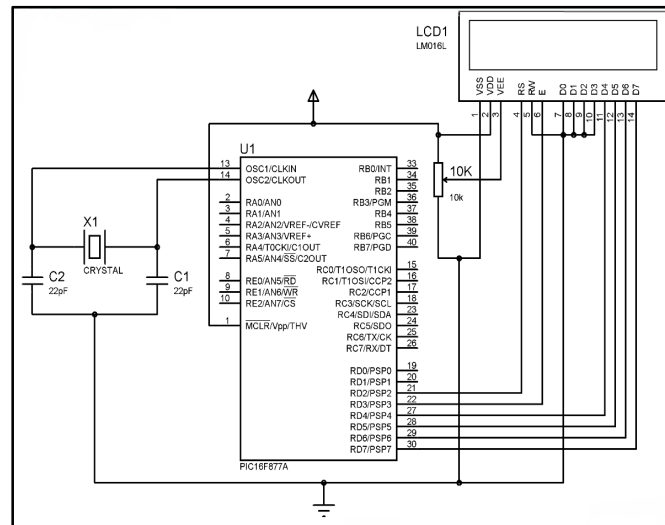


Fig 2.2 - PIC16F877A interfaced with LCD

Voice Recognition Module V3

This module is a people's individual voice acceptance module. This module will support 80 voice commands. This can be controlled using serial port method. Here commands are stored in a single library form and in this module 7 voice commands are imported. The user has to train the module. While training the module the two led on this module indicates the training process. This module gets the voice from human as input and analysis its features from human and delivers that to the machine or computer through mic.

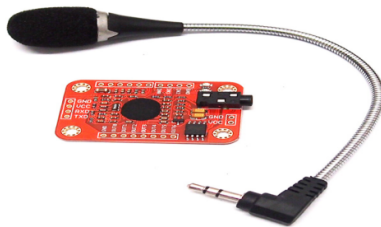


Fig 2.3 -Voice Recognition Module V3

Processing

The processing part consists of receiving pressure value from the sensor, and sending that information to the controller and the voice from the victim is processed in voice recognition module and sent as message using GSM and location is tracked.

D.GSM (SIM800)

The purpose of GSM Module is to send message and to make calls and several operation with the help of AT command using controller and PC. The is interfaced using RS232 cable to microcontroller and

PCs. The module has LED in order to check the working condition of Sim card. it contains antenna to increase the efficiency. it has five kinds of cell size. It acts as a safety wireless system.GSM provides voice, data, roaming services.



Fig 2.4 GSM SIM 800L

E.GPS

This is a navigation system for determining the position of an object. In this system patch antenna is used. GPS receiver is used to locate exact position and it provides a solution to locate high position and speed with accurate accomplishment. It has very good tracking capacity in village, metropolitan area and gives standard mode of working any "raw" controller. it is mainly used to find the present time, date, latitude, longitude etc., and used in lot of application like satellite communication, weather forecasting, automobile etc.. The main advantage of GPS is flexibility, efficiency, faultlessness. It is used

to find the orbit of satellite.



Fig 2.5-GPS UBLOX NEO 6m v

Working

The proposed system provides security to the humans from various threats which they are facing in real time. In order to reduce the power supply step down transformer is used which reduces 230V ac supply to 12V ac supply. The Power supply module consists of bridge rectifier, capacitor and voltage regulator. The bridge rectifier converts the 12V ac to 12V dc supply. In order to reduce the noise and other unwanted signals, capacitor is used. The voltage regulator divides the supply into 12V and 5V to respected modules as per the requirement. Whenever the victim is under dangerous condition he/she can give the pressure using sensor and the warning message is sent to respective contact number through GSM only if the pressure is above the given threshold value, then the location which can be tracked using longitude and latitude value using GPS and there is a separate application to track a location by using this received longitude and latitude value using GPS. In case, if the victim is unable to give pressure he/she can give voice with a code word which is recognized using voice recognition board and if the code word get matches with word what we have given in the coding then the further process is done using controller and the message is sent using GSM and location is tracked using GPS.

Experimental Results

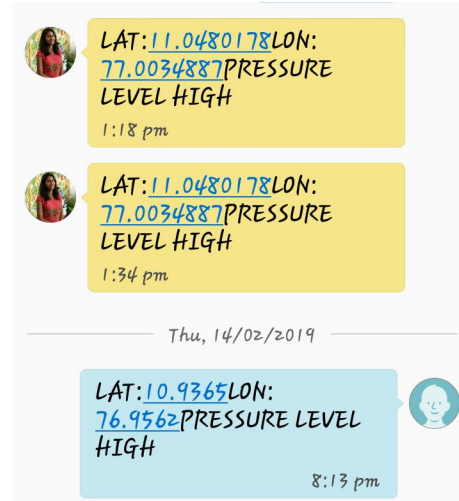


Fig 4: Experimental Output

Conclusion

The proposed system provides gender equal parity and ensures safety and security to the people. The person who is involved in any misdeed activity will be stopped. So that the violation against the victim can be reduced. This is a safety application with dynamic highlights utilizing GPS. This portable application is especially useful for any human. Since when a person is in risk position then she/he essentially touches this Safety portable pressure sensor and that makes notification to the respective phone numbers. This portable application is useful in future when any issue emerges in voyaging or any sort of circumstances. As the technology grows, it is credible to redesign the structure and can be functional to wanted condition. Since it depends on challenged positioned outline, any upcoming changes can be effortlessly all-around.

Future Work

Since the technology and the innovation are getting transformed, advanced requirements are needed to upgrade the performance of the product. Even though the proposed system is efficient and outright we should come up with more advanced innovation without adding major alteration to the whole system by maintain this capacity of system, an additional development can be used to develop the system In future, the system can be interfaced with the Camera for capturing image and recording live video. In future, system can be interfaced with the Camera for capturing image and recording live video and it can be directly monitored from control room.

References

1. Nishant Bhardwaj and Nitish Aggarwal,-DESIGN AND DEVELOPMENT OF "SURAKSHA"-A WOMEN SAFETY DEVICE,Department of Electronics and communication,ITM UNIVERSITY,Huda Sector 23-A gurgaon,Delhi(NCR),India. International Journal of Information & computer Technology.ISSN 0974-2239 VOLUME 4,Number 8(2014),pp. 787-792 International research publications House <http://www.irphouse.com>
2. Toney G, Jaban F, Puneeth S. et al.Design and implementation of safety armband for ladies and kids mistreatment ARM7.2015 International Conference on Power and Advanced management Engineering (ICPACE); urban center.2015 Aug 12-14.
3. MAGESH KUMAR.S and RAJ KUMAR.M, —IPROB – EMERGENCY APPLICATION FOR WOMENI, Department of Computer science Sree Krishna College of Engineering Unai village Vellore (TN) India, ISSN 2250-3153 International Journal of Scientific and analysis Publications, on-line at the link [web.ijsrp.org](http://www.ijsrp.org) , Volume 4, Issue and Applications on-line at the link web.ijera.com, Volume 4, Issue 3(Version 1), pp.823-826, March 2014. Areas in Communications,Vol 27, Iss4, May 2009.
4. Prof. Basavaraj Chougula, Archana Naik, Monika Monu, Priya Patil and Priyanka Das —SMART GIRLS SECURITY SYSTEMI, Department of Electronics and telecommunication KLE's College of Engineering and Technology Belgaum India, ISSN 2319 – 4847 International Journal of Application or Innovation in Engineering & Management (IJAIEM) Web Site: www.ijaiem.org, Volume 3, Issue 4, April 2014.
5. Remya George, Anjaly Cherian.V, Annet Antony, Harsha Sebastian, Mishal Antony and Rosemary Babu.T, —An Intelligent Security System for Violence against human in Public PlacesI, ISSN: 2249 – 8958 International.
6. Pantelopoulos A, Bourbakis NG.A survey on wearable sensor-based systems for health observance and prognosis.IEEE Transactions on Systems, Man and information processing - half C: Applications and Reviews.2010 Jan.
7. Vigneshwari S, Aramudhan M.Social info retrieval supported linguistics annotation and hashing upon the multiple ontologies.Indian Journal of Science and Technology.2015 Jan.