

A NOVEL APPROACH TO PROVIDE PROTECTION FOR WOMEN BY USING SMART SECURITY DEVICE

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Abstract - In today's world women are less secure and have many issues regarding their security purpose. They have to undergo among various difficult situations and have to prove themselves every time in all critical conditions. So, for their security and safety purpose government has provided security through rules and regulation to the society. Although there are many existing systems for security purpose need of advanced smart security system is increased. In order to overcome such problems smart security system for women is implemented.

This project describes about safe and secured electronic system for women which comprises of an Arduino controller and sensors such as temperature, pulse rate sensor, sound sensor. A buzzer, LCD, GSM and GPS are used in this project. A wire it can be placed to the body of the Victim. So, when the woman is in threat, the device senses the body parameters like heartbeat rate, change in temperature, and the voice of the victim is sensed by sound sensor. When the sensor crosses the threshold limit the device gets activated and traces the location of the victim using the GPS module. By using the GSM module, the victim's location is sent to the registered contact number.

Keywords: Women safety, Arduino controllers, GPS module, GSM module.

1. INTRODUCTION

Safety is the most wanted power for everyone in today's world. Technology is the best way to achieve it. That's the reason to develop this project that can act as a rescue device and protect at the time of danger. The purpose of this project is to provide security to women who are feeling helpless while facing such social challenges. An advanced systems can be built and detect the location as well as health condition of the person. So that we can act accordingly based on electronic gadgets like GPS receiver, GSM, pulse rate sensor. Not only these we can use number of sensors to protect women from a critical abusive situations. The heartbeat of a person in such situations is normally higher which helps make decisions to detect the abnormal motion of the women while she is victimized.

This security tracking system is composed of a GPS receiver, Microcontroller and a GSM Modem. When woman need help that time she will press security alert switch then GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller

processes this information and this processed information is sent to the certain person using GSM modem.

The presented application is a low cost solution for woman in risk. The proposed solution can be used in other types of application like child security, woman security, where the information needed is requested rarely and at irregular period of time (when requested)

2. EXISTING SYSTEMS

In this type of security system project the victim has to press the emergency button, in some cases it may not be possible. Using smart phone, the child cannot send its location by itself.

Someone else has to send the message to the child's system to know their location.

In "Mobile Tracking Application for Locating Friends", a tracking application software must be installed in the mobile phones. In order to track the location of their friends they have previously registered in the friend's group of application.

The main drawback of above type and previous applications is that the initial action has to be triggered by the victim. It may not happen at that particular situation.

This paper presents new method to provide protection for women or children by ringing the buzzer and send the location with latitudes and longitude directions to the registered mobile number where the victim is present.

3. BLOCK DIAGRAM

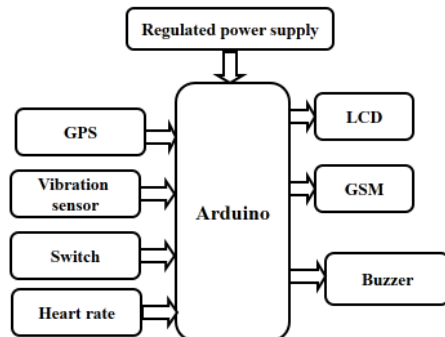


Fig 1: Block diagram of the system

The above figure consists of Arduino controller receives input signals from the sensors, where the sensors receives input signals from human who are in danger. To display body parameters of the victim an output used is LCD 16*2 display, also a buzzer, GSM is used to send messages, GPS is used to send location to registered mobile number.

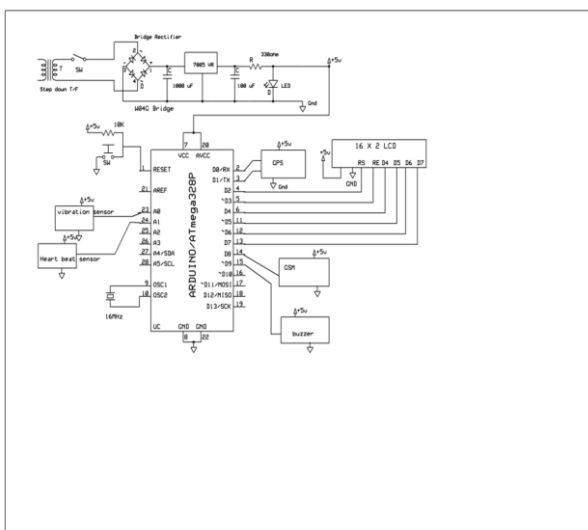


Fig 2: Line diagram of women security system

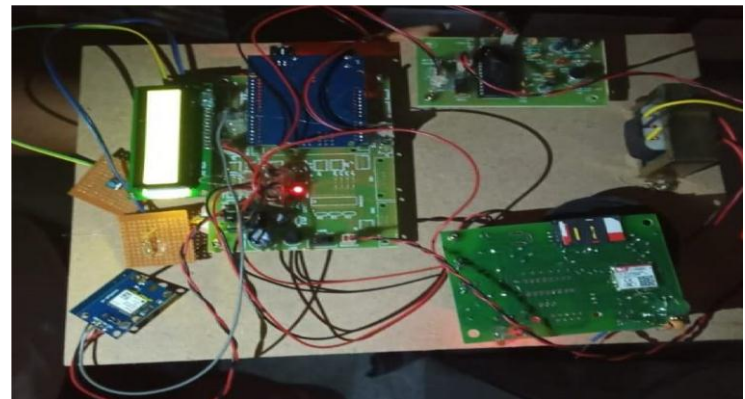


Fig 3: Women security system kit

4.WORKING PRINCIPLE

The purpose behind this principle is to detect the body parameter signals from the respective Sensors which are in contact with the women who are in abnormal conditions. When detecting signals, the sensors transmits the output signals to the controller. The Arduino receives the signals from the sensors as an analog input and generates output parameters and display it on LCD display.

The sensors used in this project is used to detect signals of the victim who are in abnormal situations. If any value of the sensor crosses the threshold limit indicating that the women is in threat the buzzer is activated. Hence the GPS transmits the location to the Arduinos and the Arduino transmits signals to the GSM. Finally the alert message "I am in danger" along with latitude and longitudinal location is send to the registered contact number and the buzzer is activated.

5. SOFTWARES USED:

This project is implemented using following software's:

- Express PCB – for designing circuit
- PIC C compiler - for compilation part
- Proteus 7 (Embedded C) – for simulation part

6.1 ADVANTAGES

1. Efficient and low cost design.
2. Low power consumption
3. Easy to operate.
4. Fast response

6.2 DISADVANTAGES

1. Interfacing GSM and GPS to microcontroller is highly sensitive

6.3 APPLICATIONS

This system will be an efficient solution for real time applications to track the location of vehicle

7. RESULT

The project “**Arduino based GPS AND GSM BASED SMART WOMAN SECURITY SYSTEM**” was designed to is mainly intended to applications to track the location of vehicle

8. CONCLUSION

Integrating features of all the hardware components used have been developed in it. Presence of every module has been reasoned out and placed carefully, thus contributing to the best working of the unit. Secondly, using highly advanced IC's with the help of growing technology, the project has been successfully implemented. Thus the project has been successfully designed and tested.

9. FUTURE SCOPE

Our project “**Arduino based GPS AND GSM BASED SMART WOMAN SECURITY SYSTEM**” is mainly intended to applications to track the location of vehicle.

This project can be extended using a GPRS technology. GPRS is used to applications to track the location of vehicle in web links.

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