

Protection Circuit for Girls

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ABSTRACT:

In global scenario, the prime question in every girl's mind is about her safety and the harassment issues. The only thought haunting every girl is when they will be able to move freely on the streets even in odd hours without worrying about their security. Especially for those women who work at late night. So now a days there is a fear in each girls mind is about their safety.

This project suggests a new technology to protect women. The system resembles a normal jacket which when activated, tracks the location of the victim using GPS (Global Positioning System) and sends emergency messages using GSM (Global System for Mobile communication), to three emergency contacts and the police control room. The system also incorporates a memory card module at which we store our voice message and a speaker and it will act as a alarm to call out for help. It also generates an electric shock using shock circuit to injure the attacker for self defense and a camera on jacket.

The main advantage of this system is that the user does not require a Smartphone unlike other applications that have been developed earlier. The components which we are going to use are very accurate and reliable. The jacket has all those features which will save the victim in any emergency cases. The use of jacket is very easy and no one will be able to know that there is any circuit in the jacket.

Keywords: ATmega328 Controller, GSM, GPS, Security Modules.

1. INTRODUCTION:

The status of women in India is having a large history. There is a father dominating system in India. In older days women used to stay in home for the household work. But now a days the present scenario is that the women are working equally as of men. In each field there is a special impact of women. Like sports, dance, education, business, in politics also. Women are leading in each and every field. But still there is a safety issue of women.

Are the girls in India are really safe? Always we get the answer No. However, women in India continue to face social challenges and are often victims of abuse and violent crimes.. So we are going to design safety circuits for women in our project. This project

focuses on a security for women so that they will never feel helpless. The system consists of various modules such as GSM shield (SIM 900A), Arduino ATmega328 board, GPS(GY-GPS6MV2), trigger switch, memory card module, shock circuit, a set of pressure sensors for activation, camera and power supply unit. The Delhi Nirbhaya case that triggered the whole nation was the greatest motivation for this system. It was high time we women needed a change.

2. Existing System

Many people worked on the same issue i.e for girl's safety. For that purpose some has developed various applications. Some of those applications are as follows:

2.1. TellTail: A creation of DIMTS (Delhi Integrated Multi-Modal Transit System Ltd.), the application allows the user to be tracked through the GPS on their phone or the vehicle. The user can send instant alerts to a chosen group of contacts as well. The app lets your location be known even if there is no GPS on your cell phone as location can be monitored using the vehicle's GPS.

2.2. bSafe : The app's motto is "Never Walk Alone". The app lets you create a net of 'Guardians' who will receive your SOS message. In the free version, the designated guardian can be called also. The SOS message also includes your location via GPS.

2.3. Himmat app: Himmat app is a women safety app which is introduced by Delhi Police. As there are number of cases regarding the safety, harassment of girls so Delhi police launched the himmat app. Same as of this app Uttar Pradesh police is planning for a Nirbhaya app which is currently launched in Noida by Noida police station.

3. Proposed Design

The proposed system is to design a portable device which resembles a normal jacket. It consists of ATMEGA 328, GSM/GPS modules, Audio alarm, shock circuit and pressure sensors. When the threshold of the pressure sensor crosses, the device will get activated automatically. Immediately the shock circuit gets activated for self defense. After that the location of the victim will be tracked with the help of GPS and emergency messages will be sent to three contacts and one to police control room every two minutes with updated location. The audio alarm

unit will be activated and will send out sirens to call out for help.

4. Block Diagram:

Block diagram consist of microcontroller ATMEGA 328, Power supply, GPS,GSM, Memory card module, shock circuit, pressure sensor(FSR), reset circuit, trigger switch, clock circuit. Trigger switch used in circuit is to activate circuit manually through switch , if pressure sensor fails then we can activate circuit through switch.

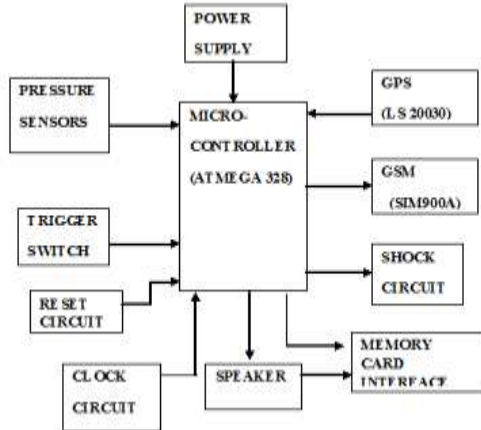


Fig. 1 Block diagram

- I. **Microcontroller:** Here we are using ATMEGA 328 microcontroller IC. We are using 28 pin IC. The IC itself contains ADC and DAC converter, which we require in our project. We are going to perform arduino programming in this controller IC. Operating voltage of IC is 5V.
- II. **Pressure Sensor:** Here we are using Force Sensing Resistor (FSR). The FSR will sense the pressure, if the pressure is more than the assigned value then the FSR will gets activate and it will give trigger to microcontroller. According to that circuit gets ON.
- III. **GSM Shield (SIM 900a):** The main function of GSM is to send message. It is a dual band GSM/GPRS 900/1800MHz. It has built in network status LED. So in our project we assigned three numbers which are either your friends or relatives and police station number. So it will give the message to police station.
- IV. **GPS Module:** This is a GPS Receiver (5V Serial) with high gain having 4 Pin 2.54mm pitch strip. The 4 Pins of gps are 5V, TX, RX, and GND. The GPS smart antenna will acquire up to 66 satellites at a time while providing fast time-to-first-fix, one-second navigation update and low power consumption. The gps will show the output i.e location in the form of latitude and longitude.
- V. **Memory Card Module:** The memory card module is used to store the message which we

want to use as alarm. It can store long messages also. Suppose if we want “Help Me” as alarm then it will rang that ,message through speaker. So we are using Micro SD Card adapter as a memory card module.

- VI. **Shock Circuit:** For self defense we are using shock circuit. The shock circuit consists of mosquito killing bat circuit. We will take out two terminals outside for giving shock.
- VII. **Camera:** In this system we are attaching a camera on jacket which will capture the image of culprit. So that it will be easy for police to search the culprit.

5. Conclusion: The proposed design will help the girl when she is danger. She can make rescue of herself in danger situations. And this circuit will use to remove or decrease the tension of girl when she walk alone in night hour also, so that she will never feel helpless at any situation and can protect her by herself. And the culprits face will be captured by camera so that police will be able to catch him easily.

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References

- [1] Campbell, J.C., Rose, L., Kub, J., Nedd, D. Voices of strength and resistance: a contextual and longitudinal analysis of women's responses to battering. Journal of Interpersonal Violence. 1998;13:743–762.
- [2] Chiu, M.Y.L. Why Chinese women do not seek help: a cultural perspective on the psychology of women. Counselling Psychology Quarterly. 2004;17:155–166.
- [3] Constantino, R.E., Bricker, P.L. Social support, stress, and depression among battered women in the judicial setting. Journal of the American Psychiatric Nurses Association. 1997;3:81–88.
- [4] Dobash, R.E, Dobash, R.P. Violence Against Wives: A Case Against Patriarchy. Free Press, New York; 1979.
- [5] Moser, c. and c. mcilwaine (2006), “Latin American urban Violence as a development concern: towards a framework for Violence reduction”, World Development, Vol. 34, no. 1, pp.89-112.
- [6] Hill, r., J. temin and L. Pacholek (2007), “Building Security where there is no Security”, Journal of Peacebuilding and Development, Vol. 3, no. 2, p. 38-51.