



Women safety and security system using GSM and GPS

¹ K.Latha, ²G.Vinay Kumar, ³P.Naveen ⁴B.Srikanth ⁵K.Vijay srinivas

¹Assistant Professor, ²student, ³student ⁴student ⁵ student

¹Electronics communication Engineering Department,

¹QIS Institute of Technology, Ongole, India.

Abstract: Women have the right to be free from violence, harassment and discrimination. Removing the barriers of an unsafe environment can help women fulfil their potential as individuals and as contributors to work, communities and economies. But the World Health Organization estimates that about 1 in 3 (35%) of women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime. In this paper “WOMEN SAFETY AND SECURITY SYSTEM USING GSM AND GPS” is defined to protect the women by herself. This paper proposes a quick responding mechanism that helps women during trouble. When someone is going to harass, she can just press the button and the location information is sent as an SMS alert to few pre-defined numbers in terms of latitude and longitude. The purpose of this paper is to feel safe the women.

Keywords: Arduino Uno, GSM Modem GPS Modem, Relay Driver and Shock Circuit

I. INTRODUCTION

Safety of Women in India has become a major issue in India now. The crime rates against women in the country have only risen to a great extent. Women think twice before stepping out of their homes, especially at the night. This is, unfortunately, the sad reality of our country that lives in constant fear. There cannot be real inclusion of women in society if women are subject to violence and harassment. We have a duty and opportunity to use our influence to expose and drive out intolerable behaviours and work together to promote a respectful environment,

We can add a camera and microphone to the Arduino ATMEGA. By using this we can capture the images and record the audio of the person, who are in trouble and these information will transmitted by using the GPM & GPS modules. The GPS module find out the position or location in terms of latitude and longitude, then it will send the information to some predefined numbers by using a GPS module.

Basavaraj Chougula proposed a SMART GIRLS SECURITY SYSTEM is to design a portable device which resembles a normal belt. It consists of Arduino Board, GSM/GPS modules, screaming alarm and pressure sensors.

Poonam Bhilare describes a “GPS and GSM based vehicle tracking and women employee security system” that provides the combination of GPS device and specialized software to track the vehicle’s location as well as provide alerts and messages with an emergency button trigger. R.A.Mahajan designed a paper on A SURVEY ON WOMEN’S SECURITY SYSTEM USING GPS AND GSM. In this application the security system is done using the actual location tracing and SMS, Audio to text Transmission module. The system send the emergency SMS by two category online and offline if the victim don’t have the internet availability then they can directly transfer the offline SMS to particular emergency contact number. The application also send the actual location related information of victim to emergency contact number.

Ms Sonali proposed WOMEN SECURITY SYSTEM USING GPS AND GSM. This paper proposes a quick responding mechanism that helps women during trouble. When someone is going to harass, she can just press the button and the location information is sent as an SMS alert to few pre-defined numbers in terms of latitude and longitude.

C. Priya explain One Touch Alarm for Women’s Safety Using Arduino GPS is connected to ARM controller. The capacitive sensor need to be pressed for fraction milliseconds to alert locate, and can send emergency message to the emergency contacts with intent location and the buzzer will alert to nearby people for help, then the tear gas will be released after the touching sensor is touched. Thus the victims can have enough time to escape from stranger using our application.

Mohamad Zikriya illustrate Smart Gadget for Women Safety using IoT system gives first priority on self-defence by providing the tolerable electric shock to culprit that reduces the excited state and help women to escape the critical situation, we also tend to implement the device that is triggered without any manual aide that provides safety for women in public places transport vehicles such as cabs, taxi, bus, auto rickshaw and working places.

Aim of the Study

Even in this modern era women are feeling insecure to step out of their house because of increasing crimes in our country like harassment, abuse, violence etc., The corporate and IT sector are currently in boom. Many women are working in corporate even in night shifts. There is a feeling of insecurity among the working women. The proposed device is more like a safety system in case of emergency This device can be fitted in a jacket (similar to a blazer for women). It is an easy to carry device with more features and functions. The emergency push button is held to one of the buttons of the jacket. The main purpose of this device is to intimate the parents and police about the current location of the women buzzer is used as an alarm to alert the nearby people so that they may understand that someone is in need shock circuit generates an electric shock to injure the attacker for self defense

II .EXPERIMENTAL SETUP

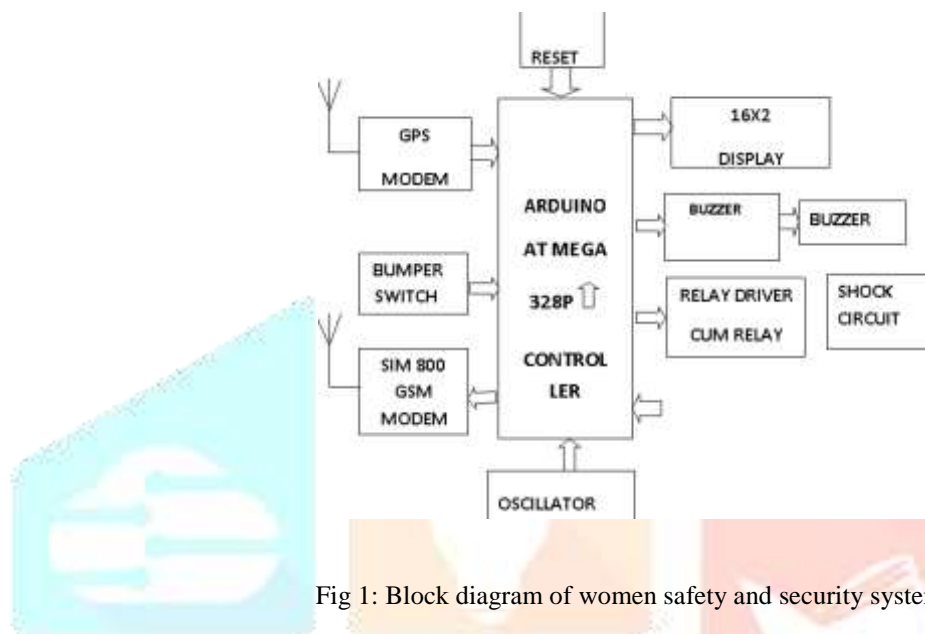


Fig 1: Block diagram of women safety and security system

In this proposed method, the women was in danger position then the women goes for self defense like we add a shock circuit. By using the shock circuit, she used to touch the person who is going to harm her then the person gets shocks but she won't gets shocks. In this application the security is done by using the actual location tracing and SMS. The particular location of the victim was traced with longitude and latitude without any delay. The system sends the emergency SMS and location information to the predefined numbers. In addition to location tracking it also provides some safety and security to women like giving electric shock to the attacker.

The above block diagram gives an overview of the project in the pictorial form. With the help of the block diagram we will create pre model of the project and analyze the function of the project .The explanation of the project with block diagram over view is given as follows.

POWER SUPPLY

This section is meant for supplying Power to all the sections mentioned above. It basically consists of a Transformer to step down the 230V ac to 12V ac followed by diodes. Here diodes are used to rectify the ac to dc. After rectification the obtained rippled dc is filtered using a capacitor Filter. A positive voltage regulator is used to regulate the obtained dc voltage.

MICROCONTROLLER SECTION

This section forms the control unit of the whole project. This section basically consists of a Microcontroller with its associated circuitry like Crystal with capacitors, Reset circuitry, Pull up resistors (if needed) and so on. The Microcontroller forms the heart of the project because it controls the devices being interfaced and communicates with the devices according to the program being written.

LCD DISPLAY SECTION

This section is basically meant to show up the status of the project. This project makes use of Liquid Crystal Display to display / prompt for necessary information.

BUZZER SECTION

This section consists of a Buzzer. The buzzer is used to alert / indicate the completion of process. It is sometimes used to indicate the start of the embedded system by alerting during startup.

GSM MODULE SELECTION

A GSM module is a chip or circuit that will be used to establish communication between a mobile device or a computing machine and a GSM system. The modem (modulator-demodulator) is a critical part here. These modules consist of a GSM module powered by a power supply circuit and communication interfaces (like RS-232, USB 2.0, and others) for computer. A GSM modem can be a dedicated modem device with a serial, USB or Bluetooth connection, or it can be a mobile phone that provides GSM modem capabilities.

GPS MODULE SELECTION

Global Positioning System (GPS) is a satellites based system that uses satellites and ground stations to measure and compute its position on Earth.GPS is also known as Navigation System with Time and Ranging (NAVSTAR) GPS.GPS receiver needs to receive data from at least 4 satellites for accuracy purpose. GPS receiver does not transmit any information to the satellites. This GPS receiver is used in many applications like smart phones, Cabs, Fleet management etc.

BUMPER SWITCH SELECTION

When it is pressed then it will send GPS signal to the controller, then controller will send the GPS co-ordinates via GSM to the pre-defined numbers.

RELAY DRIVER CIRCUIT SELECTION

It is a mechanical switch which is operated electrically to turn ON or OFF current in an electrical switch.

III.CIRCUIT DIAGRAM

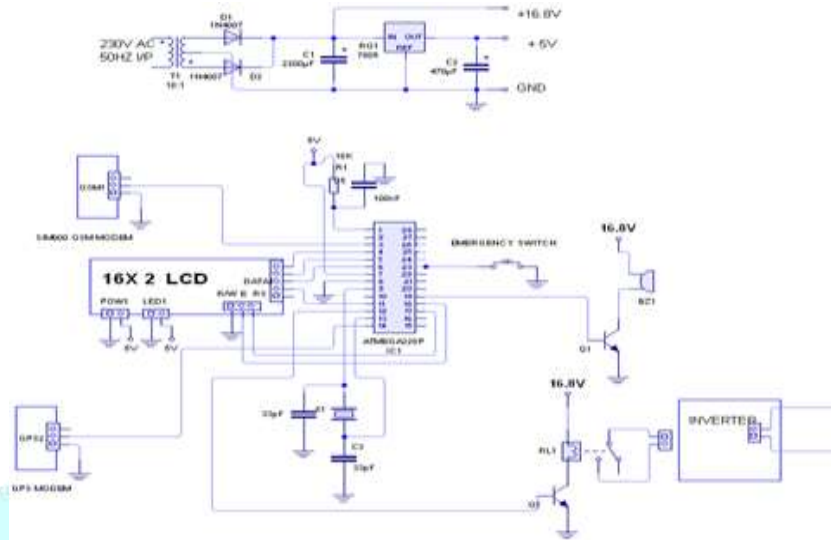


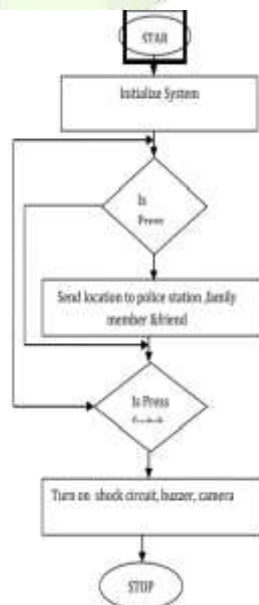
Fig 2: Circuit Diagram of women safety and security system

WORKING

The power supply consists of a step down transformer 230/12V AC which is converted to DC using a Bridge rectifier. The ripples present are removed using a capacitive filter and it is then regulated to +5V using a voltage regulator 7805 which is required for the proper operation of the microcontroller and other components.

When someone is going to harass, she can just press the button and the location information is sent to as an SMS alert to few pre-defined numbers in terms of latitude and longitude. The controller used is ATmega 328p. It is interfaced with a push button, a GPS module, a GSM modem and a 16X2 LCD display. If the switch is pressed the controller take the current location information from the GPS module and send those data to pre- defined numbers using a GSM modem. The program is developed in a 'C' language. The purpose of this project is to feel safe the women.

FLOW CHART



these information will transmitted by using the GPM & GPS modules. The GPS module find out the position or location in terms of latitude and longitude, then it will send the information to some predefined numbers by using a GPS module.

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