

Women's Safety device with GPS Tracking &GSM Alerts system

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1.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. This project suggests a new technology to protect women. This project focuses on a security for women so that they will never feel helpless. The system consists of various modules such as GSM, GPS, memory card, shock circuit, buzzer, and Arduino microcontroller.

Keywords: GPS,GSM,BUZZER,

ARDUINO.

2. INTRODUCTION

Today there is many cases which are happening about women. It was high time where we women needed a change. This project is based on women security where women feel protected. This paper describes about safety electronic system for women, built in public transport vehicles such as cars, buses and auto-rickshaws as nowadays women are being molested, kidnapped and harassed by the drivers. In each field there is a special impact of women Like sports, dance, education, business, in politics also. Women are leading in each field. Are the girls in India are really safe? Always we get the answer No. Hence implemented electronic system is fitted in the jacket which has GPS, GSM, Shock circuit, Buzzer, memory card which are interfaced with Arduino board to control all of the above.

2.1 Existing system

In the existing system, woman's safety used by the mobile phone GSM location take after the 4 hours processed take by the time

2.2 Proposed system

In the proposed system, The we give the shock supply to the person and the also give the alarmed to the surrounding and also the message to the relative person and also the GPS location on the same time give the safety to the woman's

3. BLOCK DIAGRAM

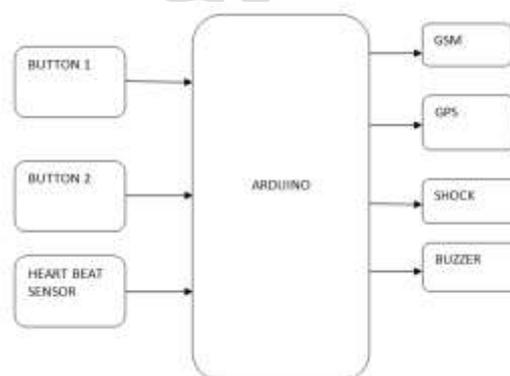


Fig3.1 blockdiagram for women safety

3.1 Block diagram description

In this project we are use ARDUINO module is main part. In our project we are using two buttons. Out of that two buttons first button is used for circuit on/off. Second button is used for on GPS, GSM & buzzer. Third button is used for shock circuit.

Once first button is pressed that time circuit is on. When second button is pressed that time GSM is on & GPS is also on. It sends location to predefined numbers. We save three numbers that three numbers are police station, neighbor's, and parents. Location is send to that three numbers in the form of latitude and longitude also using GSM alert message "MY LIFE IS IN DANGER SITUATION". At that also buzzer will be on .When third button is pressed that time shock circuit will be on. when attacker attack to women

that time shock circuit is used to injure attacker for self defence

4. REQUIRMENTS OF PROJECT

4.1 Hardware Tools

- Arduino
- Shock circuit
- GSM
- GPS
- Buzzer
- Heart sensor
- Two switch

4.2 Software Tools.

- Arduino idle
- Embedded c

5 HARDWARE COMPONENTS

5.1 Arduino



Fig 5.1:- Arduino UNO Board

Arduino is a software company, project, and user community that designs and manufactures computer open-source hardware, open-source software, and microcontroller-based kits for building digital devices and interactive objects that can sense and control physical devices [3]. The project is based on microcontroller board designs, produced by several vendors, using various microcontrollers

These systems provide sets of digital and analog I/O pins that can interface to various expansion boards (termed shields) and other circuits. The boards feature serial communication interfaces, including Universal Serial Bus (USB) on some models, for loading programs from personal computers. For programming the microcontrollers, the Arduino project provides an integrated development environment (IDE) based

on a programming language named Processing, which also supports the languages C and C++.

The first Arduino was introduced in 2005, aiming to provide a low cost, easy way for novices and professionals to create devices that interact with their environment using sensors and actuators. Common examples of such devices intended for beginner hobbyists include simple robots, thermostats, and motion detectors.

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board.

5.2 HEART BEAT SENSOR



Fig 5.2:- Heart rate sensor

Heart beat sensor is designed to give digital output of heart beat when a finger is placed on it. When the heart beat detector is working, the beat LED flashes in unison with each heart beat. ... It works on the principle of light modulation by blood flow through finger at each pulse.

5.3 GPS



Fig 5.3:- GPS

GPS is a system of 30+ navigation satellites circling Earth. We know where they are because they constantly send out signals. A GPS receiver in your phone listens for these signals. Once the receiver calculates its distance from four or more GPS satellites, it can figure out where you are.

The working/operation of Global positioning system is based on the 'trilateration' mathematical principle. The position is determined from the distance measurements to satellites. From the figure, the four satellites are used to determine the position of the receiver on the earth.

5.4GSM



Fig5.4:- GSM

GSM is combination of TDMA (Time Division Multiple Access), FDMA (Frequency Division Multiple Access) and Frequency hopping. Initially, GSM use two frequency bands of 25 MHz width : 890 to 915 MHz frequency band for up-link and 935 to 960 MHz frequency for down-link. Later on, two 75 MHz band were added.

A GSM modem is a wireless modem that works with a GSM wireless network. ... The main difference between them is that a dial-up modem sends and receives data through a fixed telephone line while a wireless modem sends and receives data through radio waves. A GSM modem can be an external device or a PC Card / PCMCIA Card.

5.5BUTTON



Fig 5.5:- BUTTON

A push-button (also spelled pushbutton) or simply button is a simple switch mechanism to control some aspect of a machine or a process. Buttons are typically made out of hard material, usually plastic or metal.

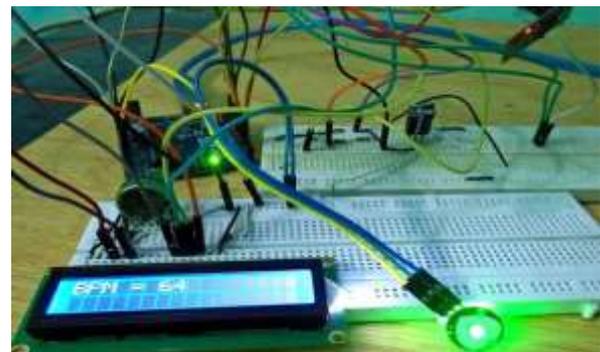
A **push button switch** is a small, sealed mechanism that completes an electric circuit when you press on it. When it's on, a small metal spring inside makes contact with two wires, allowing electricity to flow. When it's off, the spring retracts, contact is interrupted, and current won't flow.

6 Software Components

6.1 Arduino IDE

The Arduino Integrated Development Environment - or Arduino Software (IDE) - contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions and a series of menus. It connects to the Arduino and Genuino hardware to upload programs and communicate with them.

7 Results:



8 CONCLUSION

Our primary goal of this project is to ensure every woman in our society to feel safe and secured. According to the survey in India 53% of working women are not feeling safe - Women is working in night shift (Bangalore-56%, Chennai-28%,

Hyderabad-35%, Mumbai-26%). In Overall 86% of working women in India, women facing hurdles are high in Delhi, Mumbai, Hyderabad, Kolkata and Pune comparatively to other places. This project can play a major role by providing women a safe environment in all situations for example (detecting hidden camera, physical threatened, harassed, robbery, stalked). Implementing real time application and a device, we can solve the problems to an extent. With further research and innovation, this project is used as a small wearable device like watch, pendent etc.

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