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SAFETY DEVICE WITH LIVE LOCATION, LIVE VIDEO, BULKING AND ALARM SYSTEM

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Abstract- In our Country, even though it has super power and an economic development, but still there are many crimes against women. The atrocities against the women can be brought to an end with the help of our product "Safety Device with Live Location, Live Video, Bulking and Alarm". This device is a security system, specially designed for women in distress. The hardware device is the most efficient and it consumes less power. We use hidden cameras. Findings: We analysed that there are no security device for our total safety. The user has to carry multiple devices. We found an ALL-IN-ONE security device which has all the features in one click. We can give an alert call and message to the pre-set contacts with the instant location every 2 minutes and can be tracked live using our application. Hidden camera detector is also a distinct feature using which we can ensure our privacy.
Keywords: Arduino, GPS, GSM, ESP-32.

1. INTRODUCTION

The modified system is to design portable device for the security of women. It consists of power supply, Arduino, touch sensor, tear gas, GPS and GSM modem. represents the methodology used in our paper. The device can be activated by just merely pressing the emergency button once. The location is located using GPS. This device gets activated and sends instant location with a distress message to the police pre-set numbers through a GSM module It share the current location and a message to the cops and the emergency contacts, so that disastrous circumstance can be avoided. Emergency alert can prevent the victim from any physical or sexual assault . The basic approach of the use of arduino is sending and receiving data by the GSM shield provided in the arduino board. RS232 can be used to send and receive SMS4 or make/receive voice calls. The hidden camera detector works with the help of RF signal interface. The system that which resembles normal cloves which when turned on it tracks the location of victim using GPS services to necessary emergency contacts and police control room. Thus this helps the victim against attacker for self defence. It is an unfortunate observation that there has been a substantial increase in crimes against women in the past decade. With a variety of software applications now in action, to help women, the statistics have not lowered. According to the National Crime Records Bureau (NCRB), in India, 93 women were raped everyday in the year 2014.Also 3,37,922 cases of crime against women were reported in year 2014. . The basic approach of the use of arduino is sending and receiving data by the GSM shield provided in the arduino board. The current location of the object is identified by the GSM network using Arduino UNO by initiating the user's smart phone At once the Arduino UNO gets the directs of the current location the Arduino transfers the coordinate details to the user's smart phone via Arduino GSM shield. The SOS light is a signal used to alert . This device helps to identify the critical situation of women. Women safety has become major issue in day to day world. They can't have real freedom as the men as since they are not physically strong enough. Thus in dangerous situations this will act as protecting hand. This uses GPS and GSM module with Arduino device. When a woman feels insecure in any situation she can press the wireless key which provides the location from GPS and GSM. This design helps to handle the dangerous situation faced by women. This paper also helps for the further development of the design by providing the basic and the technical information.

2. OBJECTIVE

Security is a condition for protection against accidents or losses. In general, security is a concept similar to security. The difference between the two is an additional emphasis on protecting from external accidents. Individuals or activities that violate the terms of protection are liable for any breach of security. The word "safety" is a general term for "safety", but a "safety" technique means something not only true but also safe. This project was designed by Arduino This project demonstrates women's security systems using the GPS and GSM modules. The system can connect to the alarm and warn neighbors. This messaging and messaging system has a GPS receiver, an umbrella controller, and a GSM modem. GPS receivers get location information from satellites in latitude and longitude. The microcontroller processes this information, and this processing information is sent to the user through the GSM modem

3. COMPONENTS

3.1 Power Supply

The Arduino can be powered either by the external source or by the USB. And the way it should get powered is selected automatically. Peripheral power can come one and the other from a battery. The connection of a 2.1mm center-positive plug connected by additive into the power jack of the board. Leads taken from a battery can be embed in Vin pin headers of the power supply and ground.
The board can function on an peripheral supply of the range 6 to 20 volts. If the supply is less than 7v, the 5v pin

may supply lower than five volts. The board may be unstable. If it exceeds 12v, the voltage regulator may be overheated and dart the board. The prescribed range is 7 to 12volts.

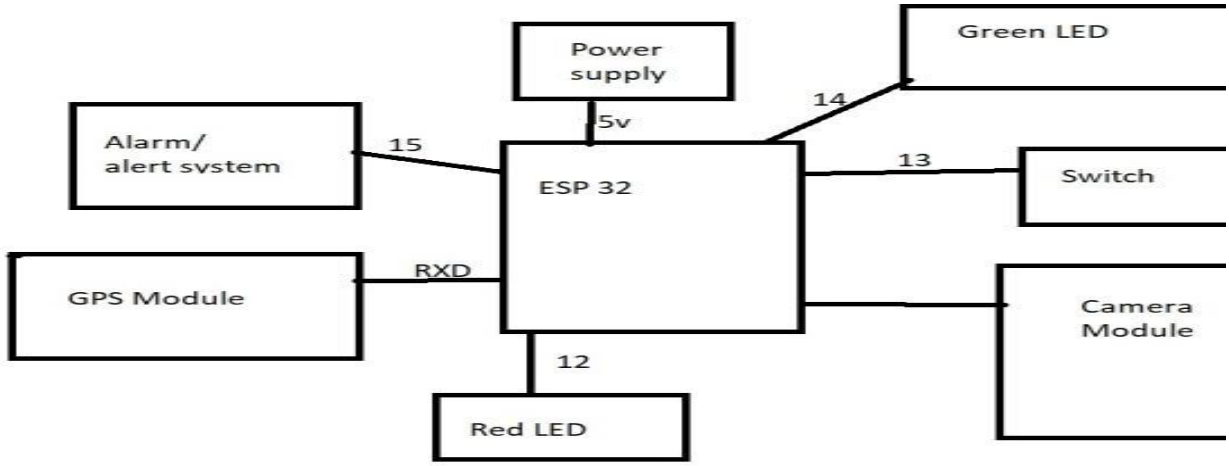

Fig. 3.1 Methodology with pin number

3.2 Buzzer

Based on contra of the piezoelectric effect the sound is produced by the piezo buzzer. The main principle of the piezo buzzer is the generation of pressure variation which is based on the application of electrical potential across the piezoelectric. The buzzer can also be used in the alarm circuits etc.

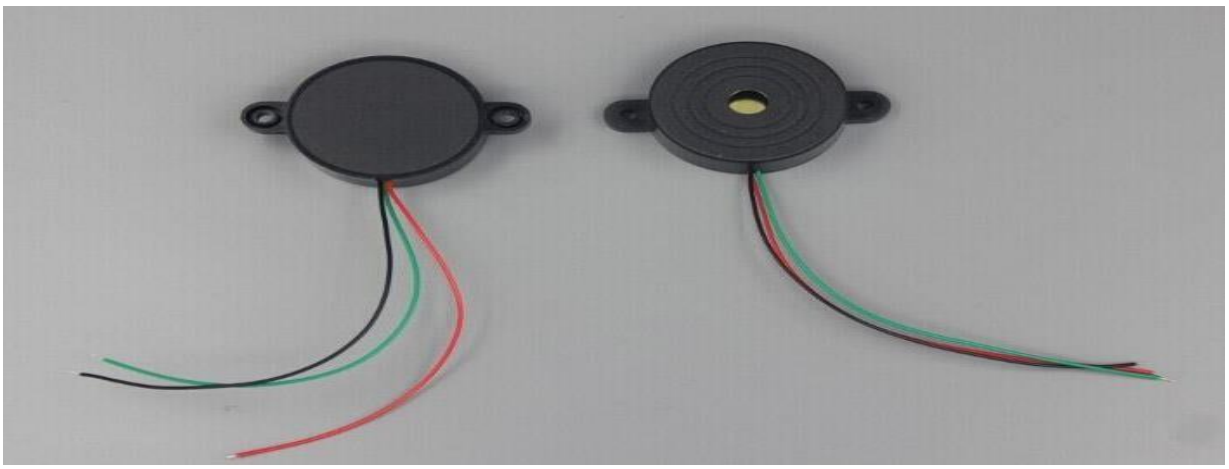

Fig. 3.2 Buzzer

3.3 ESP 32

ESP32 is a series of low-cost, low-power system on a chip microcontroller with integrated Wi-Fi and dual-mode Bluetooth. ESP32 is created and developed by Espressif Systems, a Shanghai-based Chinese company, and is manufactured by TSMC using their 40 nm process. It is a successor to the ESP826microcontroller.

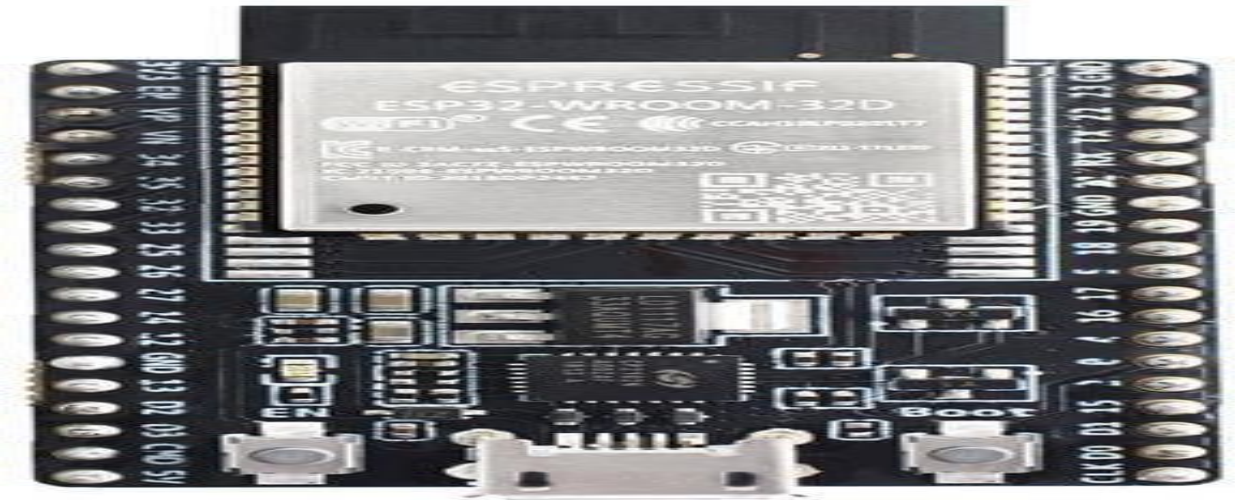

Fig. 3.3 ESP 32

3.4 Global Positioning System

GPS module acts as the satellite and receives the data frequently and transmits similarly to the RS32.It is developed by US department of defense (DOD) .The antenna input of the module receive the GPS signals, and a complete sequential data message with area , acceleration, and time information is pressed at the serial line. The module provides the current date, time, longitude, latitude altitude, speed, and travel direction among other data and can be used in many applications including navigation, fleet management, tracking system, mapping and robotics.

3.5 Camera Module

A camera module is an image sensor integrated with a lens, control electronics, and an interface like CSI, Ethernet or plain raw low-voltage differential signaling.

Fig. 3.4 Camera Module

3.6 GSM Modem

Global system for mobile communication (GSM) is a worldwide accepted standard for digital cellular communication. GSM is the name of a standardization group recognized in 1982 to create a common European mobile telephone standard that would formulate conditions for a panEuropean mobile cellular radio system operating at 900 MHz.Whenever someone sense unsafe, GSM (Global System for Mobile communication module) sends extremity message to chosen contacts and the police control room.

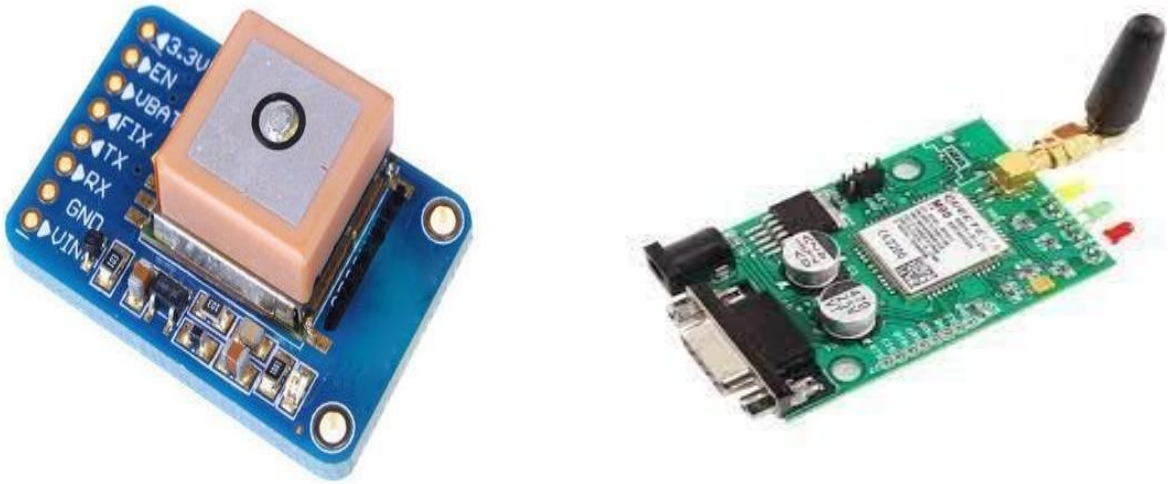

Fig. 3.5 GSM Module

Table-3.1 Requirements

Hardware Specifications	Software Specification
GPS module(GYGPS6MV2) GSM (SIM9OO) ARM 7 board with controller (LPC2129) Bluetooth PCB design	Platform: Windows XP Front End Java JDK1.5 Back End: MS SQL server Embedded Kit

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 Figure 5. Output – message alert from the device when triggered. 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. “Safety Device with Live Location, Live Video, Bulking and Alarm ”. 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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