Women Security Scheme by Aurdino With Gsm and Gps

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Abstract

Women's safety represents a very important task nowadays due to increasing crimes against women. To help resolve this problem, we recommend a GPS based women's security method with a dual security feature. Working women are considering risky due to growing crimes. This paper recommends a fast-responding tool that supports women while in trouble. When someone is going to attack, she can push the button, and the place information is transferred as an SMS alert to some pre-defined saved numbers in terms of latitude and longitude. The recommended method consists of dual alarms that are buzzer and message is sent by GSM. This method can be applied by a woman in case she still believes she would be in trouble. In this proposed method, the controller utilised is ARDUINO UNO. It is interfaced with a push button, a GPS module, a GSM modem and an LCD Display (16×2).

Keywords: GPS, GSM, ARDUINO UNO, Women security system, Mems sensors.

1. INTRODUCTION

Security is a condition of protection from chance or loss. In general, protection is a concept like security. The subtle difference between the two is an additional emphasis on protection against risks arising from the outside. Persons or actions that breach the security situation are responsible for the breach. The phrase "protection" in general usage is synonymous with the word "protection"; however, as a technical term "protection," the thing is not only safe but insured. This project introduces women's security detection device using GPS and GSM modems. This detection and messaging machine consists of a GPS receiver, a microcontroller and a GSM modem. The GPS receiver receives proximity data from satellites in the form of latitude and longitude. The device can interact with the alarm and alert the neighbours [1].
Microcontroller tactic these processed facts and statistics are sent to the consumer using a GSM modem. The GSM modem sends an SMS to the pre-set mobile phone number. When a woman is in danger and needs self-protection, she will pay the assigned transfer. When the urgent transfer is made, the device can be fully activated and immediately send an SMS to challenge the man or woman using GSM and GPS [2].
The inconvenience of sexual harassment at the paintings site is becoming more and more evident by the day. Sexual harassment in the workplace is an unwanted behaviour of a person that otherwise causes discomfort, abuse or distress [3]. The authorities have taken many preventive measures to prevent such misbehaving activities, but the growing number of such crimes is now unaffected and unaffected. Women are kidnapped every 44 minutes, raped every 47 minutes, 17 present deaths every day. Most of these cases are passed on to women through men who play important roles in the agency. They are not physically healthy compared

to men, so if they need a helping hand, it Students face child trafficking and kidnapping while waiting to get on or off a university bus [4]. In such conditions, a person will not be talented to talk about the situation he is opposite. They do not realize the simple and useful information from the first source and do not recognize the accident's personality. Currently, there

REVIEW OF LITERATURE

Many researchers were implemented various techniques to provide security for the women's using hardware systems

Manchala Sreeja et al. [2020] In today's world, girls are much less secure and have many problems regarding their protection. They have to go through various difficult situations, and they must always show themselves in all basic situations. Therefore, for safety and security, the government has provided security to society through rules and regulations. Although there are many protection systems, the need for a sophisticated, intelligent protection device is increasing. An intelligent safety system for girls is implemented to overcome these problems. This task describes a women's safe electronic device with an Arduino controller and sensors, including temperature, pulse rate, and sound. The buzzer, LCD screen, GSM and GPS are used for this task. A string can be placed on the victim's body. So when a woman is in danger, the tool detects body parameters such as carrying heartbeat and temperature change and the victim's voice is detected by the sound sensor. When the sensor crosses the boundary, the device activates and tracks the victim's surroundings using a GPS unit. Using the GSM module, the patient's area is transmitted to the recorded wide touch range.

Azhaguramyaa et al. [2017] In recent years, acts of aggression and violence against girls have escalated at a threatening price. With the rise in the number of women working in industries and other sectors, miles are now necessary for

can be a blessing for them.
are several advanced apps and strategies for girl's safety through a smartphone that can be activated simply by a hint, click or shake the cell. Loaded with security apps for women, your smartphone allows you to send emergency alerts to select specific people and lets humans know where you are if something goes wrong.

women to travel late at night and go to remote, isolated locations as part of their paint regimen. However, the accelerating rise in assaults, violence, and assaults on women in recent years poses a threat to women's growth and improvement. Defence is not the simplest degree that can be sufficient to deal with this growing violation. A protective response that creates a sense of security among a woman's desires. In cases of assault, women have essentially been declared paralyzed. For this reason, there is a need for a less complex protection response that can be activated virtually via RFID and GSM and can instantly send signals to the participating victim's family members' circle. The device can be applied as mobile and microdevice, and the statistics are bypassed to the RFID reader, which connects to the PIC microcontroller and the "help" message is sent via GSM to pre-selected contacts (mom, dad, and police)

Trupti Rajendra et al. [2017] the mobile will be helpful in women security which, can be controlled from anywhere else. It is also exceptionally inexpensive and less luxurious; Therefore, GSM is the maximum required for this control mode. In this tool, we keep the switch. In the worst case, when you press the panic key at that moment, the place area will be sent to your ARM7 registered Android phone, and you should receive a message with the help needed. We use the LCD to display on the screen while sending a message like (Someone has problems; please click on the link below.

Vahini et al. [2017] Women play an important role in our society from start to

finish in their lifestyle. In recent years, crimes against women have expanded to an impressive number. According to the survey, Miles found that eighty-four years old, consistent with the percentage of girls who were bullied, were within the institution between the ages of 25 and 35, usually working full-time and college students. Most women also don't care about their fitness due to their busy schedules. The protection and protection of women is a critical and larger social issue, affecting significantly half the population of the country. In all components that you urgently want to repair. Since no one can respond adequately to the underlying conditions, we advocate an intelligent device that mechanically discovers facts and empowers women at "every step of existence." The device is a multi-device integration, fits with a wearable smart bracelet and a mysterious Bluetooth-related webcam that constantly tracks facts and communicates with network-accessing smartphones. The application is programmed and integrated to track the girls' records, such as recording names, messages, movement, pulse volume, blood oxygen phases, coronary heart rate, and data continuously within the network. When the SOS on the smart bracelet is pressed and held, it mechanically generates signals to the pre-selected smartphones, and the nearest police station, along with location coordinates and a secret webcam inside the locket, takes a picture of the offender, which is instantly uploaded to the server.

Natarajan et al. [2015] Steganography (which means writing) is a work of art and a technique for embedding a secret message into a supposedly harmless message. Shorthand is an ancient exercise in which people in historical Greece used wooden blocks to write secret facts, cover history with wax and write an ordinary message. Today, shorthand is used in various fields such as multimedia, networking, medicine, the military, and many others. With the rise of technological features, the science of steganography is becoming more and more superior, as humans are now fascinated not only by hiding messages in multimedia stats (hood information) but also tending to get the original cover information without distortion afterwards. This article will talk about some of the irreversible data masking techniques and some of the recently proposed reversible statistics masking techniques, including the use of pixels.

AntoBennet et al. [2015] This paper advocated a new robust RH graph to model the waveform sub-band element coefficients and give a new image signature based on the supervised tissue type RH model. Their RH uses a phase operation with exponentially growing intermissions to issue the graph of the element coefficients and the sequence of parameters of the RH model for all sub-bands of bureaucratic waves, known as the RH signature. First, to explain the benefit of the RH signature, they have examined and studied some of its statistical properties. Then, we follow the RH signature to classify the texture using known databases. Finally, these houses will show the adequacy of the signature to represent the waveform's sub-band statistics.

Geetha Pratyusha et al. [2016] this project describes a smart security machine for women. Women around the world face a great deal of unethical physical harassment. This is taking place at a rapid pace due to the loss of a suitable monitor. Our company mission is to solve this problem. We use bracelets and glasses that can be used in daily life. The system resembles an integrated wrist strap with a voltage switch as an input that, when activated, indicates the result. Tear Fuel Mechanism and Video Streaming: The use of a webcam embedded in goggles acts as a weapon for the smart generation. We believe this effort will make a difference in women's lives. Keywords: women's safety,

live video streaming, GSM, GPS, ARMV7-A, Raspberry pi 2.

Abhijit Paradkar et al. [2015] According to WHO reviews, 35% of NCRB Social Government employer's women worldwide experience a great deal of unethical physical harassment in public places such as train stations, buses, footpaths, etc. Women's safety. The authors felt the need for a sophisticated safety machine for girls that would provide a degree of protection in public places and travel alone on public transportation (school buses, cars, companies, etc.). This document proposed a new formula for women's safety in public places that aims to provide 100% safe environment.

2. METHODOLOGY

This proposed work generates a women's safety method which supplies the present location particulars of the women in trouble using GPS and GSM modules. The IoT module will track the target's present place and revise the webpage. Also, location tracking provides protection and safety to women, like providing electric stupefaction to the attacker. The suggested method of this scheme is shown in Fig.1.
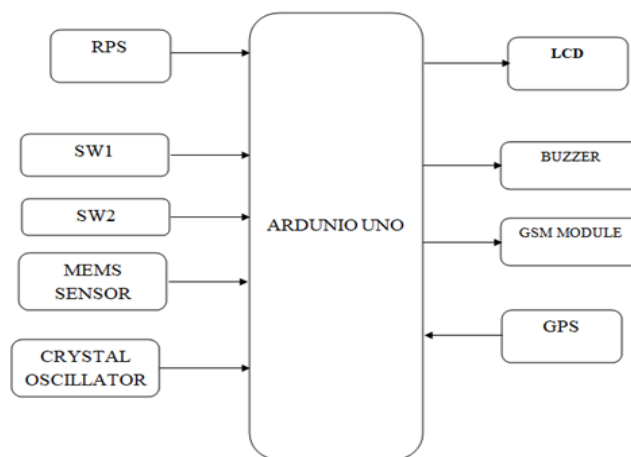

Fig.1 Block diagram of proposed women security system

This system consists of following component which are listed below:
- Arduino Uno
- RPS
- SWITCH BUTTONS
- MEMS SENSOR
- CRYSTAL OSCILLATOR
- LCD
- BUZZER
- GSM MODULE
- GPS

Arduino Uno
It is the most popular board in the Arduino board family. In addition, it is the best board to get started with electronics and coding. Some boards look a bit different from the one given below, but most Arduinos have majority of these components in common.
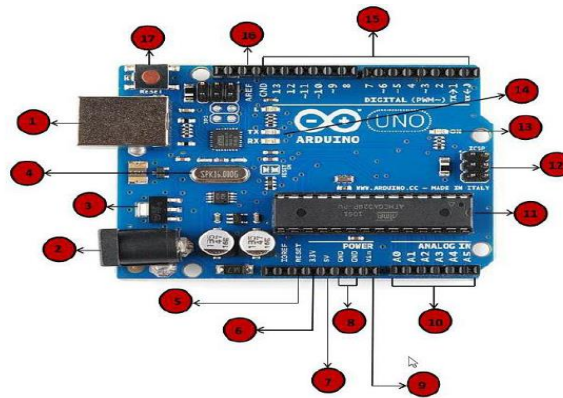
Fig.2 Arduino Uno

RPS

- This is the most effective type of ingredient, as seen in the diagram. The half-wave rectifier is made more effective than the diode.
- If the AC mark is carried out sometime in the useful half cycle, the diode is biased, and current flows through it. But sometime in the bad half of the cycle, the diode is reverse biased, and no cutting edge flows through.
- Since only half of the inputs reach the output, it is useless to use energy resources.

Filter purpose we are using Capacitance filter with 1000UF

MEMS SENSOR

MEMS is a chip-based technology known as a Micro-Electro-Mechanical System. Sensors are formed of a delayed mass among a pair of capacitive plates. When the attack is applied to the sensor, the suspended mass produces a variation in magnetic potential. The variety is estimated as a change in capacitance.

CRYSTAL OSCILLATOR:

Crystal oscillator is used to produce oscillated pulses which is given to the microcontroller

LCD Display

This display holds two internal byte resistors, one for commands (RS = 0) and a second d for characters to display (RS = 1). It also consists of a user-programmed area of RAM (random access memory with a character) that can be programmed to produce any desired individual that can configure with a dot matrix. To distinguish between these two areas of information. Viewing takes varying amounts of time to perform the functions. Pin D4-D7 is connected to pin D2-D5 of the Arduino. The display's RS and EN pin is connected to pins D6 and D7, respectively, to ensure correct delivery, and the system's lower LCD is ready to display data.

BUZZER

Buzzer is used to alert the passer by about the incident and initiate the first help for the victim. Apart from these functionalities, the integrated safety app is used by the women if no one is present for the first help.

GSM MODEM:

The Global System for Mobile Communications (GSM) is a global standard for the virtual voice exchange of a mobile phone. GSM is a name of a standard formed in 1982 to create a common European mobile smartphone that could formulate specifications for a pan-European mobile cellular system operating on 900MHz.

GPS RECEIVER:

GPS, a fully global positioning system, is an area-based wireless navigation device that announces highly accurate navigation pulses to users on or near the ground. In the US Navstar GPS, 24 predominant satellites orbit the Earth every 12 hours. In addition, Russia maintains a constellation called GLONASS (Global Navigation Satellite System).

Work flow of proposed Algorithm
ALGORITHM
Step 1: Initialize GPS sensor with 9600 baud rate
.
Step 2: Connect GPS TX Pin connected to aurding RX pin0.
Step 3: Once power is on it takes 2 min to 3 min to activate GPS sensor.
Step 4: GPS sensor is giving different data like GPGGA, GPGSV, GPGSA.
Step 5: In that we require GPGMC.
Step 6: From that we have to extract the required data.
Step 7: Finally the required message is sent to the mob

3. RESULTS AND DISCUSSIONS

The work's main purpose is to protect girls in risky scenarios. The womens press the button while they feel insecure. Once the button is triggered, the microcontroller receives instructions, and GPS calculates the victim's recent latitude and longitude values.
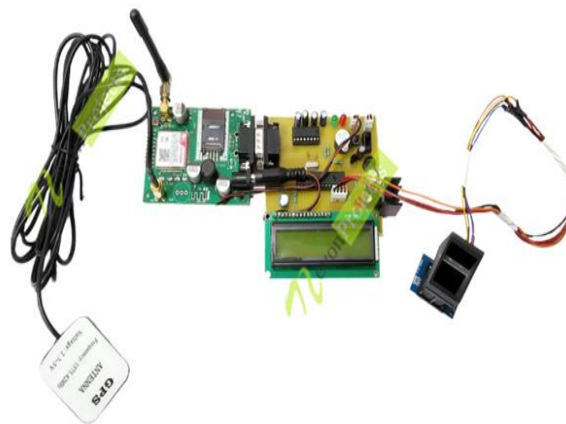

Fig.3 Hardware setup of the system

The calculated values are recognized in Figure 4. The GSM module sends short messages containing latitude and longitude values to numbers already stored in the microcontroller and near the police station. In addition, GSM sends an SMS to registered mobile numbers every second. The sending of SMS to registered mobile numbers is demonstrated in Figure 5. The display message is shown on the LCD screen in Figure 6. The Internet of Things (IoT) module tracks the most recent area of the affected person and replaces the one on the web page. The microcontroller operates the buzzer in the device, so people nearby may also know that someone is in danger and will come to the rescue. The microcontroller also turns on the neural simulator, which electrically surprises the attacker.
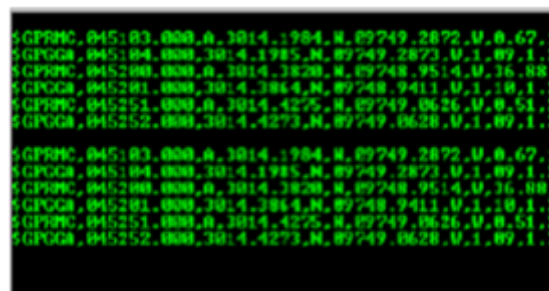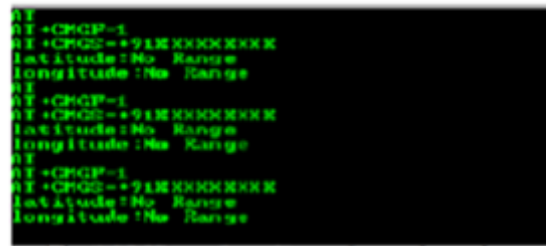

Fig.4 GPS tracking

Fig.5 SMS sent to the registers numbers

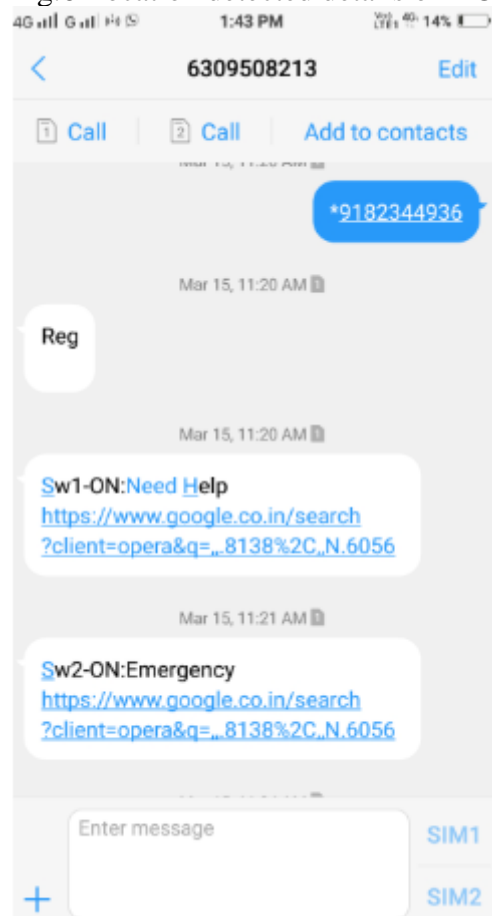Fig.6 Location detected details on LCD

Fig. 7 tracking location message

4. CONCLUSION

In most of the papers, the authors have proposed various approaches in their appearance to provide a solution to the women safety. The presented method will deal with women's essential problems and support solving them with technologically good equipment and conceptions. The merit of this work is that it provides safety and security using self-defence mechanisms. The criminality against the women can be now obtained to an end with the benefit of real design performance of the suggested model. The results show that the system ensures complete women

safety during public transport. And system provides self-defence to the women by giving shock to the attackers. The paper would aid in enhancing the safety and security of all despondent and badgered women and children.

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