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SMART SOS SYSTEM

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ABSTRACT

According to the National CrimeRecords Bureau of India, reported incidents ofcrime against women increased 6.4% during 2012,and a crime against a woman is committed every three minutes. According to the National Crime Records Bureau, in 2011, there were greater than 228,650 reported incidents of crime againstwomen, while in 2015, there were over 300,000 reported incidents, a 44% increase. Of the women living in India, 7.5% live in West Bengal where 12.7% of the total reported crime against women occurs. Andhra Pradesh is home to 7.3% of India's female population and accounts for 11.5% of the total reported crimes against women. India, a nation of 130+ billion population,faces many problems regarding the safety of women. Even today in many places, the safety of women is not assured at any point of time. The crimes like Rape, Molestation, Physical assault etc., against women are increasing day by day. Crime against women despite the existence of a number of legislations for providing protection to women, crime against women has increased. A total of 327,234 crimes against women were reported in 2016 compared to 296,312 during 2015, recording an increase of around 11%. At present we have many security systems like GPS Tracker to track women in danger. But our systemnot only tracks the women in danger but also alertsthe guardian or nearby policestation by an alert message and the location of the woman is tracked every two minutes and is sent to the above said recipients. Our developed system is 100% secure and will try to overcomethe majority of the abovesaid crimes, thereby ensuring the safety of women.

INTRODUCTION

It is extremely painful to watch the status of women's safety in India, especially in a country where women are given the stature of goddesses. Although the list of crimes is very long, we can take measures to ensure women's safety in our country. According to the National Crime Records crime against women increased 6.4% during 2012, and a crime against a woman is committed.

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sexual violence against women. Rape is one of the most common crimes in India. Criminal Law(Amendment)Act,2013defines rape as penile and non-penile penetration in bodily orifices of a woman by a man, without theconsent of the woman. According to the NationalCrime RecordsBureau, one woman is raped every 20 minutes in India. Incidents of reported rape increased3 %from 2011 to 2012. Incidents of reported incest

rape increased 46.8% from 268 cases in 2011 to 392 cases in 2012. Despite its prevalence, rape accounted for 10.9% of reported cases of violence against womenin 2016. At present we have many security systems like GPS Tracker to track women in danger. But our system not only tracks the women in danger but also alerts the guardian or nearby police station by an alert message and the location of the woman is tracked every two minutes and is sent to the above said recipients. We developed a GPS based women safety system that has dual security feature. This device consists of a system that ensures dual alerts in case a woman is harassed or she thinks sh e is in trouble. Thissystem can be turned on by a woman in case she eventhinks she would be in trouble. It is useful because

once an incident occurs with a woman she may ormay not get the chance to press the emergency button. In a button press alerting system, in case awoman is hit onthe head from behind, she may never get the chance to press panic button and no one will know she is in trouble. Our system solves this problem. This device is to be turned onin advance by a woman in case she is walking ona lonely road or some dark alley or any remote area, once she presses the button, buzzer will be on and people in the vicinity will be alerted. Also amessage saying "I AM IN DANGER" along with her current location will be sentto people in her close contact list. In case of emergency she can also give electric shock to othersfor her safety. She will be able to see all the routing messages topeople in her close list. Our developed system is 100% secure and will try to overcome the majority of the above said crimes, thereby ensuring the safety of women.

Literature Survey

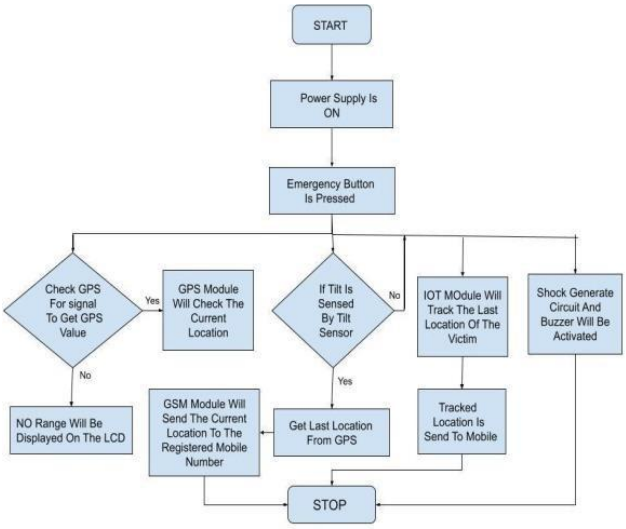
Smart Girl Security System

Basavaraj Chougule[1] proposed "**Smart Girl Security System**". This paper focuses on a security system that is designed solely to serve thepurpose of providing security to women so that they never feel helpless while facing such social challenges. The system consists of various modules such as GSM shield (SIM 900A), Arduino ATMega328 board GPS (GY- GPS6MV2), screaming alarm (APR 9600), a set ofpressure sensors for activation and power supply unit.

Women Employee Security System using GPS And GSMBased Vehicle Tracking

Poonam Bhilare [2] proposed "**Women Employee Security System using GPS And GSM Based Vehicle Tracking**". This paper 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 vehicles location as well as provide alerts and messages with an emergency button trigger. The information of vehicle positionprovided by the device can be viewed on google maps.

A Mobile Based Women Safety Application



Dr. Sridhar Mandapati, Sravya Pamidi, Sriharsha Ambati[3] proposed "**A Mobile Based Women Safety Application**". The I Safety (women security apps) mobile based application is not only necessary to use but also plays a pivotal role with android software.

VithUapp

"**Vith Uapp**" .It is a mobile application used in smart phones in which, when the power button is pressed two times, a helping message regarding the location of women(user) will be sentto already stored contacts. Sent information(location) is updated after every two minutes.

"**SHE**"(Society harnessing Equipment).Threeengineers designed clothing which has anelectric circuit. 3800kV of current generated by circuit. It will generate 82 electric shocks whichwill help women to get rescue from the situation in case of multiple attacks. It will not harm the women(user)because the clothing is made up of two layers. Including buzzers in the system to grab attention of nearby people so that she will get help f rom them. Today's demand is to be safe and secure. Sothe women need a gadget which is small in size andcan be carried easily with her, which helps herin the crime incident

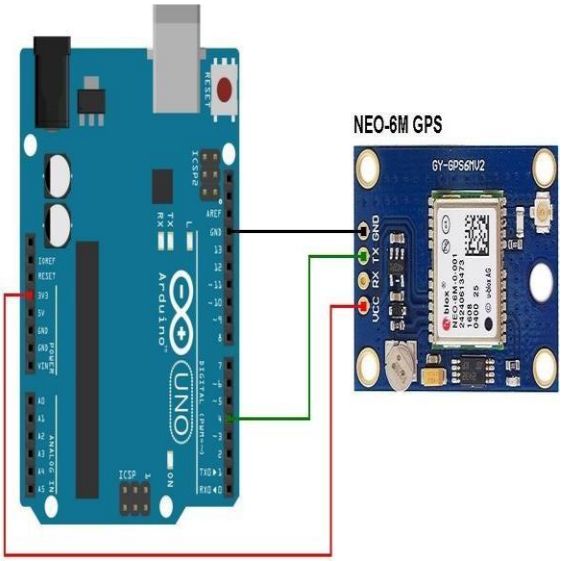
METHODOLOGYWORKING

When the Touch sensor is pressed the circuit is switched on. Arduino and the library may be used to sense human touch through more than a quarter of an inch of plastic

,wood ,ceramic or other insulating material (not any kind of metal though), enabling the sensor to be completely visually concealed. A 9 volt battery is used as a power supply. We use two of these batteries, oneto supply voltageto the Arduino board and the other to supply the voltage tothe GSM kit. GSM is an ultra compact and reliable wirelessmodule. The SIM900A is a complete Dual- band GSM/GPRS solution in a SMT module which can be embedded in the customer applications. GSM module is a hardware device that uses GSM mobile telephone technology to provide a data link to a remote network.

GPS devices can retrieve from the GPS system location and time information in a ll weather conditions, anywhere on or near the Earth. A GPS reception requires an unobstructed line of sight to four or more GPS satellites, and is subject to poor satellite signal conditions. In exceptionally poor signal conditions, forexample in urban areas, satellite signals may exhibit multipath propagation where signals skip off structures, or are weakened by meteorological conditions.

HARDWARE DESCRIPTION



GSM & GPRS Modems:

A GPS device can retrieve from the GPS system location and time information in all weather conditions, anywhere on or near the Earth. A GPSreception requires an unobstructed line of sight to four or more GPS satellites, and is subject to poor satellite signal conditions. In exceptionally poor signal conditions, for example in urban areas, satellite signals may exhibit multipath propagation where signals skip off structures, or are weakened by meteorological conditions. Here a SIM Com SIM28ML GPS Module is using to receive the GPS data. Using the module the received data can be displayed directly on any serial terminals

GPS MODULE

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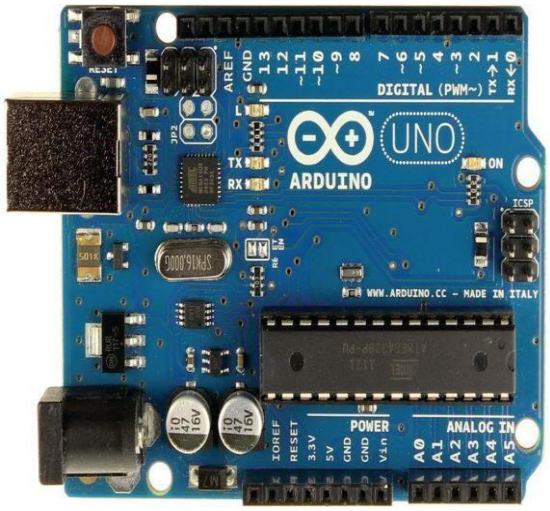
Push Button Switch

A power supply is an electronic circuit that converts an ac voltage to dc voltage.It is basicallyconsisting of the following elements: transformer, rectifier, filter and regulator circuits. Power supply units (PSU) are used in computers, amateur radio transmitters and receivers, and all other electronicequipment that use dc voltage as an input. Uninterruptible power supply is a must forcomputers which holds volatile data from time to time. This

prevents corruption of data due to power failure and low voltage.

Power supply unit

A power supply is an electronic circuit that converts an ac voltage to dc voltage. It is



basically consisting of the following elements: transformer, rectifier, filter and regulator circuits. Power supply units (PSU) are used in computers, amateur radio transmitters and receivers, and all other electronic equipment that use dc voltage as an input. Uninterruptible power supply is a must for computers which holds volatile data from time to time. This prevents corruption of data due to power failure and low voltage.

ARDUINO

Arduino is an open source computer hardware and software company, project, and user community that designs and manufactures single-board microcontrollers and microcontroller kits for building

digital devices and interactive objects that can sense and control objects in the physical and digital world. The project's products are distributed as open-source hardware and software, which are licensed under the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL), permitting the manufacture of Arduino boards and software distribution by anyone. Arduino boards are available commercially in preassembled form, or as do-it-yourself (DIY) kits. Arduino board designs use a variety of microprocessors and controllers. The boards are equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards or Breadboards (shields) and other circuits. The the messages with the location.

This system can overcome the fear that scares every woman in the country about her safety and security. With further research and innovation, this project can be implemented in different areas of security and surveillance.

The system can perform the real time monitoring of the desired area and detect the violencewith a good accuracy. models, which are also used for loading programsfrom personal computers. The microcontrollersare typically programmed using a dialect of features from the programming languages C and C++. In addition to using traditional compiler tool

chains, the Arduino project provides an on the Processing language project.

ADVANTAGES

Provides Safety for women's

I. Monitors hazards situations forwomen's
II. Alerts police, family members andnearby hospitals
III. Easy to operate
IV. Reliable system
V. Simple design and can easy towear.

APPLICATIONS

- Used for the safety of women
- Used for the safety of children.
- Used for the safety of physically challenged people
- Used as a legal evidence of crime with exact location information forprosecution

CONCLUSION

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ShirlyEdward.A.,Viyayakumari.S.Gand

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This type of an idea being the first of its kind plays a crucial role towards way possible automatically. The proposed design will deal withcritical issues faced by women in the recentpast and will help solve them.

The paper presents designs about the critical issues f aced by women at present daysand will help to solve them technologically with compact equipment and ideas. In the system it includes mechanisms like tear shock release, screaming alarms and also alerting and sending Safety Device. *International Journal o Pure and Applied Mathematics, Volume-119,915-920.*