

WOMEN SAFETY JACKET

Deltan fernandis¹, Kavya P², Pravan Melkar³, Preethi M R⁴, Sulthan Mohyuddin⁵

¹⁻⁴student, EEE Department, SIT, Mangalore

⁵Associate Professor, Department of EEE, SIT, Mangalore

Abstract - Women safety is a very big concern in a country like INDIA where women are playing an outstanding role in each and every field. India is a peace loving country and one of the safe destinations for the tourists across the world. However, a few incidents in recent past brings to attention that there is a need for women safety. Many women's in developed countries still fear to go outside alone due to number of cases of violence against women. To make women safety safer many attempts have been made but, still a safer and secure system is needed that can ensure safety during public transport and in general. This, paper presents a system that is capable of providing more security and safety

1. INTRODUCTION

The status of women in India has gone through many great changes over the past few millennia. From equal status with men in ancient times through the low points of the medieval period to the promotion of equal rights by many reformers, the history of women in India has been eventful. In modern India, women have adorned high offices in India including that of the President, Prime Minister, Leader of the Opposition and Speaker of the Lok Sabha. However, women in India continue to face social challenges and are often victims of abuse and violent crimes and, according to a global poll conducted by Thomson Reuters, India is the fourth most dangerous country in the world for women, and the worst country for women among the G20 countries.

2. Working

The proposed system works on Raspberry Pi B module designing a portable device which resembles a jacket with gloves. It consist of GPS, GSM, Buzzer, camera and shock circuit. We have used a single button in this system. After pressing that button the hole system activates and deactivates at a time. When the system starts, first the raspberry pi module gets activated then starts the GPS and GSM through which it sends location and the message that the person is in danger to the predefined number. Those three predefined numbers may be of police station, friend and parents. Location is send to that three numbers in the form of latitude and longitude and also GSM alert message "MY LIFE IS IN DANGER SITUATION". At the same time buzzer will be on which will alert the nearby peoples

3. Constituent Elements

3.1 Sim 800

SIM800 is a complete Quad-band GSM/GPRS solution in a SMT type which can be embedded in the customer applications. SIM800 support Quad-band 850/900/1800/1900 MHz, it can transmit Voice, SMS and data information with low power consumption. With tiny size of 24*24*3mm, it can fit into slim and compact demands of customer design. Featuring Bluetooth and Embedded AT, it allows total cost savings and fast time-to-market for customer applications.

3.2 RASPBERRY-PI 3-MODEL B+

The Raspberry Pi 3 Model B+ is the latest product in the Raspberry Pi 3 range, boasting a 64-bit quad core processor running at 1.4GHz, dual-band 2.4GHz and 5GHz wireless LAN, Bluetooth 4.2/BLE, faster Ethernet, and PoE capability via a separate PoE HAT.

The dual-band wireless LAN comes with modular compliance certification, allowing the board to be designed into end products with significantly reduced wireless AN compliance testing, improving both cost and time to market. The Raspberry Pi 3 Model B+ maintains the same mechanical footprint as both the Raspberry Pi 2 Model B and the Raspberry Pi 3 Model B.



Fig 3.1 Raspberry-Pi 3-Model B+

3.3 Power Supply Unit

The power supply unit has to provide a regulated d c supply to all sections of the system. As it is essential to operate the instrument on batteries since it is used with the person while moving. It consists of rechargeable batteries, filter capacitors and voltage regulators. Modern personal computers universally use switched -mode power supplies. Some power supplies have a manual switch for selecting

input voltage, while others automatically adapt to the mains voltage.

3.4 Liquid Crystal Display

This system uses a LCD display of mobile for displaying various prompts and status information of the system. It is also used display the title messages and other messages while communicating with the system. The microcontroller sends the signals to LCD module through its port pins.



Fig 3.2 Liquid Crystal Display

3.5 CAMERA

Smart camera module 5MP 2 cameras are used in this system. We are attaching a camera on a jacket which will capture the image of the attacker and a live video is sent to the emergency contacts when the link is activated. So that it will be easy for police to search the attacker with the minimum time.

3.6 GPS

GPS (Global Positioning System) technology is used to find the location of any object or vehicle to monitor a child continuously using satellite signals. Three satellite signals are necessary to locate the receiver in 3D space and fourth satellite is used for time accuracy. GPS will give the information of parameters like longitude, latitude and attitude. With the help of these parameters one can easily locate the position of any object. In this GPS technology, the communication takes place between GPS transceiver and GPS satellite

3.7 GSM

GSM (Global System for Mobile communications) is the technology that underpins most of the world's mobile phone networks. The GSM platform is a hugely successful wireless technology and an unprecedented story of global achievement and cooperation. GSM has become the global achievement become the world's fastest growing communications technology of all time and the leading global mobile standard, spanning 218 countries. GSM is an open, digital cellular technology used for transmitting mobile voice and data services. GSM operates in the 900MHz and 1.8GHz bands GSM supports data transfer speeds of up to 9.6 kbps, allowing the transmission of basic data services such as SMS.

3.8 Buzzer

The alarm is designed to assist in alerting somebody in case of emergency situations

3.9 TRACING LOCATION ON THE MAP

System user can see the vehicle position. The user can see the reports of vehicle speed, ignition status and travelling report. The user must enter the username and password provided at the time of authentication. An internet connection is necessary for reading the vehicle information and the reports of the tracking. A strong communication network is necessary for maintaining the efficiency of the system. To show tracking of the vehicle and position Google maps system is used. An appropriate geographical location is plotted on the basis of available coordinates this will help company unit and police to trace the location.

3.10 Jacket

The design implemented is an electronic jacket for women safety. This jacket consists of three buttons. At the time when first button is pressed the system starts it's working. When second button is pressed the GPS and GSM starts and after pressing third button the shock circuit is activated which provides shock to an oppressor through jacket.

4. SOFTWARE

4.1 Raspberry pi

The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote teaching of basic computer science in schools and in developing countries. The original model became far more popular than anticipated, selling outside its target market for uses such as robotics. It now is widely used even in research projects, such as for weather monitoring because of its low cost and portability. It does not include peripherals (such as keyboards and mice) or cases. However, some accessories have been included in several official and unofficial bundles

According to the Raspberry Pi Foundation, more than 5 million Raspberry Pis were sold by February 2015, making it the bestselling British computer. By November 2016 they had sold 11 million units, and 12.5 million by March 2017, making it the third best-selling "general purpose computer". In July 2017, sales reached nearly 15 million, climbing to 19 million in March 2018. By December 2019, a total of 30 million devices had been sold. Most Pis are made in a Sony factory in Pen coed, Wales, while others are made in China and Japan.

4.2 Arduino

Arduino is an open-source hardware and software company, project and user community that designs and manufactures

single-board microcontrollers and microcontroller kits for building digital devices. Its products 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.

4.3 GSM SIM800A

Set Baud And Enable Charging Function

It is recommended to execute this process when first time to use the module. In the Serial Monitor columns of following tables, input of AT commands is in back, module returns values are in orange.

5. Conclusion

The proposed design will help the girl when she is in danger zone. She can make rescue of herself in danger situation and this circuit will used to decrease the tension of girl when she walks alone in night hours also, so that she will never fill helpless at any situation and can protect her by herself sand the culprit face will be captured by camera so that police will be able to catch him easily end itemize.

This paper reviewed the emergency response system which is helpful for women in the incidents of crime. The key objective is to develop a low cost system which can store the data of the members in the particular locality and provide immediate alert in case of crime against women. This provides women security. . Being safe and secure is the demand of the day. Our effort behind this project is to design and fabricate a gadget which is so compact in itself that provide advantage of personal security system. This device will probably be very useful for the women. It is certainly a short term and preventive solution. . This will be proved as a multi- pronged strategy with the participation of multi stake holders of society. The creation of a hardware and software prototype has achieved two objectives: validation of the proposed architecture and checking whether the utilized technology is Appropriate for the system. This system will help its users in difficult situation. This system would be highly sensitive and easy to handle. Its quick action response will provide safety and security to individual user.

REFERENCES

1. Poonam Bhilare¹ ,Akshay Mohite ², Dhanashri Kamble³, Swapnil Makode⁴ and Rasika Kahane⁵ WOMEN EMPLOYEE SECURITY SYSTEM USING GPS AND GSM BASED VEHICLE TRACKING in international journal for research in emerging science and technology, volume-2, issue-1, january-2015
2. H. A. Abdallah Dafallah DESIGN AND IMPLEMENTATION OF AN ACCURATE REAL TIME GPS TRACKING SYSTEM in e-Technologies and Networks for Development (ICEND), 2014 Third International Conference.
3. P. A. Shinde ; ; Y. B. Mane ; P. H. Tarange REAL TIME VEHICLE MONITORING AND TRACKING SYSTEM BASED ON EMBEDDED LINUX BOARD AND ANDROID APPLICATION in Circuit, Power and Computing Technologies (ICCPCT),
4. prof.Amol C Bhosale ,Swapnil N Gadwe, saloni D kale, ELECTRONICS JACKET FOR WOMEN SAFETY, International research journal of engineering and Technology(IRJET), Volume 4 may2017
5. Niti Shree , A review on IOT BASED SMART GPS DEVICE FOR CHILD AND WOMEN SAFETY APPLICATION, International journal of engineering ,Research and general Science ,Volume 4may-june2016
6. S.Shambhavi, SMART ELECTRONICS SYSTEM FOR WOMEN SAFETY, Iternational journal of innovative research in Electronics volume 4,issue 3March2016
7. Madhuri Mahajan, DESIGNED AND IMPLEMENTATION OF RESCUE SYSTEM FOR SAFETY OF WOMEN, IEEE WisPNET 2016 conference