Women Security Gadget

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Abstract — In today’s competitive world women have proved their talent in almost all fields. In this globalized world with the growing competition women’s are a tough competitor to men in all aspects. Inspite of abundance of talent, progress of women is hampered due to several reasons. Various social problems like rapes, abusement or women harassment are prevailing in our society. These issues are affecting the social development on women in our society. Here security becomes the key factor to be considered with utmost priority. There is the need that security measures should be taken up for women so that they feel themselves safe and secured. This paper gives a technological solution over these issues, which can prove to be a cost effective and a reliable system for women in trouble. The aim of this project is to secure the safety of women with a simple handy device. Women Security Gadget is a simple model with GSM and GPS facility. This system provides a smart watch with an emergency switch. When a woman finds herself in trouble she can press the switch implemented on the system. This will trigger the GPS system, which will track the location of the victim and send a SMS to the emergency contacts listed to the SIM. From her tracked location, help can reach the victim immediately. This system also has the provision for loud alarm that can call out for the help from anyone nearby. This system will ultimately help women in any emergency situation with immediate help, ensuring safety and security at any time.

Keywords-LCD, GSM, GPS, Buzzer, ARM LPC2148

I. INTRODUCTION

Over the past history, we have seen that the social status of women in our society is rising. All over the world women are progressing in various sectors. We can see women participating in every fields giving a tough competition to men. Now we talk of equal status of women in the society. We see women at high official positions proving their capability. Inspite of this, now a days, security of women has become a matter of concern. All over the world, women security is now an alarming issue. We come across various issues that today women are facing through media such as women abusement, molestation, rapes etc. There is a serious need to stop this so that women can feel safe and secured over their workplace or anywhere they go.

This paper focuses on a security based system that will ensure an immediate help whenever a woman feels that is in trouble. This device provides an emergency button on a bracelet or a watch. A woman in danger can press the emergency button. This system provides the message with the location of the victim to the police and the other contacts of family members so that any bad incident can be warded off. Also a loud screaming sound will be produced that will let the nearby people know that someone needs help. This system can one way help to reduce such evil attacks and provide women with a safe and sound society to live in.

II. LITERATURE SURVEY

Various other systems are available in the market. Some of the systems are listed below:

1. VithU app:
   This is an emergency app. It was initiated by a popular Indian crime television series Gumrah aired on channel [V]. In this app when the power button of the Smartphone is pressed twice consecutively, it will begin sending out alert messages with a link to the location of the user every two minutes to the contacts fed into the app.

2. SHE (Society Harnessing Equipment):
   It is a garment designed by three engineers from Chennai. This garment has an electric circuit that can generate 3800kv of current which can help the victim to escape. In case of multiple attacks it can send up to 82 electric shocks. Since the fabric is bilayer, the user is not affected. It can also send emergency messages.
3. ILA security:
The co-founders of this system, McGivern, James Phillips, and Neil Munn, have designed three personal alarms that can shock and disorient potential attackers and draw attention to dangerous situations.

Proposed system:
System designed by us will be handy and easy to use. In with you app we can send signal by first tuning to destination app and then pressing button twice. Here, we have bracelet already in hand and just need to press it once. Society Harnessing Equipment (SHE) releases shocks in case of danger. This is a nice concept but it is not handy and difficult for daily use. ILA is a alarm device, but a costly one. So we are designing a device that can be cost effective, handy and efficient so that all classes of society are benefited from it.

III. IMPLEMENTATION

The system consist of a button which will be implemented on a bracelet or a watch. The button when pressed, the signal will be encoded using an encoder IC HT12E. This encoded signal is then transmitted by RF transmitter. At the receiver side, this received signal is decoded back using a decoder IC HT12D. This decoded signal is then send to the microcontroller LPC2148. The microcontroller is programmed in such a way that when the interrupt is received it will immediately turn on the GPS tracker. The GPS will track the current location of the person. Simultaneously the GSM will generate a message as “HELP” and will send this message and the tracked location information to the nearest police station and also to the listed contacts such as to family members. This will alert the cops and the family members that the women is in danger and they can immediately head to the location for the help.

Along with this there is the provision for a loud screaming alarm. When this is turned on the loud sound is generated. This can be easily heard by the people passing nearby indicating that someone is in danger and the people nearby can help the victim. This system gives a preventive solution for the various women harassment issues. this system can turn out to be very useful and helpful for women as it will help provide immediate help at the location.

IV. BLOCK DIAGRAM

![Figure 1. Women Security System](Transmitter section)

![Figure 2. Women Security Gadget](Receiver section)
Microcontroller:
Microcontroller is the most important part of the whole system. The microcontroller used for this project is ARM LPC2148. It is a 16/32 bit microcontroller with all the necessary devices within only one MCU. It provides 2 UART so that other subsystems like GPS and GSM are easily controlled.

Encoder and Decoder IC:
The encoder used is HT12E encoder which is a 8 pin DIP. Decoder used is IC HT12D. It is a low power IC and also provides high noise immunity in CMOS technology. The IC works on 2.4 V to 12V supply. This IC is compatible with the RF transmitter.

GSM SIM900:
SIM900 is a complete Quad-band GSM/GPRS solution in a SMT module which can be embedded in the customer applications. The SIM900 delivers GSM/GPRS 850/900/1800/1900MHz performance for voice, SMS, Data, and Fax in a small form factor and with low power consumption. This GSM module is connected to the microcontroller using the MAX 232 serial communication.

GPS module:
GPS634R is used in the project. The antenna is connected to the module via an LNA. The module is with 51 channel acquisition engine and 14 channel track engine, which be capable of receiving signals from up to 65 GPS satellites and transferring them into the precise position and timing information that can be read over either UART port or MAX232 serial port. The smart GPS antenna module can be offered for OEM applications with the versatile adaptation in form and connection.

Radio frequency transmitter:
The TX is an ASK transmitter module. The TX is designed specifically for remote-control, wireless mouse and car alarm system operating at 315/433.92 MHz. The RX is a miniature receiver module that receives On-off keyed modulation signal and demodulated to digital signal for the next decoder stage. The RX is designed specifically for remotecontrol and wireless security receiver operating at 315/434Mhz. UART TTL o/p - Baud Rate – 4800.

V. FLOW OF THE PROPOSED SYSTEM

![Flowchart of Software Implementation](image-url)
VI. APPLICATION

1. Now-a-days every institution needs automation. As a part of college automation, we have decided to do a project.
2. Hostels and Hotels: Tracking your exact location can provide better safety.
3. Used for women’s security: issues of women safety is of great concern. Women working anywhere can be traced at anytime from any place. This provide security to women at any place. This will help to provide actions on right time. This will help reduce the crimes against women in the society and let the women live a dignified life with full safety.
4. It can be used for safety of childern.
5. It can be used as evidence of crime for exact location.

VII. CONCLUSION

This system gives an immediate response which helps women when they are in danger. The main aim was to develop a low cost, reliable, safe and secure system that will provide immediate help whenever required. This system will help provide security to the working women by using alerts and emergency buttons in order to avoid any hurdles faced by them. It will help to avoid problems faced by women which will help to boost up the confidence in women. This device will be very helpful for women. Though it is a preventive solution over such issues but can provide proper safety. It is easy to handle and gives very good reliability with a quick response.

VIII. ACKNOWLEDGEMENT

We take this opportunity to express our gratitude to the support and encouragement extended by our project guide without whom this project would never have been possible. I am grateful to our project guide Ms. P. M. Chavan for valuable suggestions during all the stages of the work. She has always extended a helping hand at every moment. We are thankful to her for all her efforts to bring professionalism to this into project.

REFERENCES