GPS & GSM Based Tracking System for Women's

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ABSTRACT

Women all over the world are facing much unethical physical harassment. Women and girls experience and fear various types of sexual violence in public spaces, from sexual harassment to sexual assault including rape and femicide. It happens on streets, public transport and parks, in and around schools and workplaces, in public sanitation facilities and water and food distribution sites, or in their own neighbourhoods. This acquires a fast pace due to lack of a suitable surveillance system. So that our project is use to resolve this problem. The systems consist of GPS, GSM & ARM7. In which when any woman is in the critical condition then she press emergency key and at that time ARM7 starts working and GPS will trace the location of that woman and with the help of GSM message will be send to the number which we are already registered in SIM. We really believe that this endeavour will make a difference in the life of many and dream about seeing this world with individuals walking fearlessly.
Keywords: ARM7, GPS (global positioning system), GSM (global system for mobile communication), Emergency Switch.

I. INTRODUCTION

Security and safety are similar in concept; security in the organization is one of the most persistent problems that organization needs to address. Major consideration for security management is the organization's policy.

Here we are introducing an intelligent women security system to inform about an emergency situation faced by women to the authorized people. We are using the GSM technology for the intimation to allocate the women. A GSM modem is used to send the position of the women from a remote place.

This security system can be provided to the women. A manual switch called the emergency switch is attached with our system. During an emergency situation the women can press this switch. If the emergency switch is pressed, the microcontroller controls the function of the GSM modem for the intimation to the concerned person via SMS.ARM7 takes the value of latitude and longitude from the GPS receiver and transfer it to the pre-programmed mobile number via SMS through GSM modem. GPS module trace the position of mobile number from which SMS was sends.

II. PROPOSED SYSTEM

The Aim of this project is to provide security to working and nonworking Women's. In this system, the security of women can be done with the help of the GPS and GSM. In this system, the GPS trace the location of woman which is in dangerous condition and with the help of GSM we can send the data to the number which is already save in the sim. The entire control is resided with the microcontroller. In addition to this, there is one emergency key [3].When we press the trigger of this key then at that time the microcontroller start working and at the same time the current will give to the misbehaviour. The controller start working, in that the first GPS is trace the location of the woman and with the help of GSM the message will send to the number which is save in the sim. The block diagram of this system shown below. Transmitter:
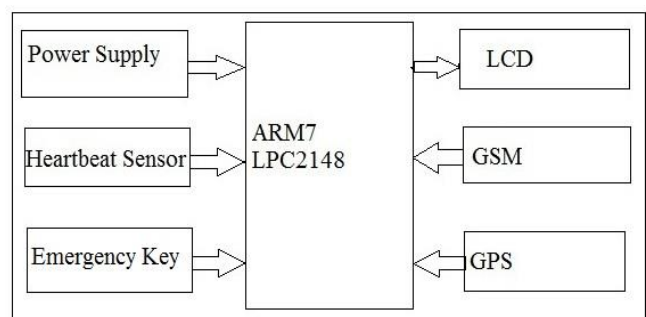

Figure 1. Block Diagram of tracking system

Receiver:

Figure 2. Mobile Unit

The system basically consists of:
1. Power supply
2. ARM7 Microcontroller
3. LCD Display
4. GPS
5. GSM Modem
6. Emergency key
7. Heartbeat Sensor

1. Power Supply

The power supply is designed to convert high voltage AC mains electricity to a suitable low voltage supply for electronic circuits and other devices. So the a.c. input i.e., 230V from the mains supply is step down by the transformer to 12V and is connected to an ARM7 Board.

2. ARM7 Microcontroller

LPC 2148 belongs to ARM7 (Advance Risc Machine) family. It has high clocking speed and provides enhanced interfacing features with external devices. It needs low power for its functioning thus suiting for this project. The embedded microcontroller has the knowledge to give AT commands to initiate and send the woman information message to Mobile phone through GSM module [5].

3. LCD Display

A liquid crystal display (LCD) is a flat panel display, electronic visual display, based on Liquid Crystal Technology. In this system, LCD display device (LM016L) is interfaced with the microcontroller unit .It shows the message on LCD screen whenever a woman is in danger or system is working or not.

4. GPS

In our women safety system the GPS acts as a receiver as it takes the signal from the satellite. The GPS receiver is used to get accurate geographical location by receiving information from satellites. It receives information from satellites and gives location information in terms of latitude and longitude. It gives latitude and longitudes with accuracy of degree-minute-second. Using this latitude and longitude co-ordinates one can easily track the location of the women in case of any mishappening [2].

5. GSM Modem

Global System for Mobile communication (GSM) SIM card is inserted inside the mobile device to send and receive the messages using GPRS. The GSM SIM card number is registered with the system.Whenever women is in danger she pressed emergency key then the message sends through the GSM modem to the receiver.

6. Emergency key

Whenever the woman feels that she is in danger, she presses the emergency key. By pressing the emergency key the message get forwarded to parents mobile and detects the location of women and send it as text message to parent's mobile [4].

III. CONCLUSION

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.

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