

Women Safety Device using GSM & GPS

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Abstract— In this paper 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 and GPS technology for the intimation to allocate the women. A GSM modem is used to send the position of the women from a remote place, the microcontroller ATMEGA 328 is used, which controls the function of the GSM modem for the intimation to the concerned person via SMS. Micro control unit 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.

Key words: GSM, GPRS, Microcontroller ATMEGA 328

I. INTRODUCTION

Safety of women in India is a vast topic now-a-days. We cannot say that women are safe in India seeing the last few year crimes against women especially in the national capital. Women generally feel frightened while going alone outside to the home. It is a very sad reality of the country that its women citizens are living with fear all the time personal safety of women as been topic of the importance for every Indian citizens. In order to improve the safety of women in the society a system is designed which will to inform about an emergency situation faced by women to the authorized people. In the designed unit, a GPS system is used to trace the current position of the victim and a GSM modem is use to send the message to the pre define number 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. Microcontroller unit 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.

The popular microcontroller AVR from the MICROCHIP CORORATION is used here as microcontroller unit. An LCD display is used to display the various status of the system.

II. IMPEMENTATION OF ARCHITECTURE

In this project we are using Atmega 328 microcontroller as brain of system. Microcontroller requires 5V DC but we are using 12V battery. Using 7805 voltage regulator IC it converts 12V into 5V. The Output 5V is connected to LED. Atmega 328 microcontroller has three ports Port B,C and D. Port C is ADC port. Emergency key is connected to PC5 pin no 28.

GSM SIM 900 module is used which has four pin vcc, gnd, Txd and Rxd. Vcc pin is connected to 12V, Gnd pin is connected to GND and microcontroller TXD pin is connected to RXD pin of GSM module.

GPS Module has Three pin Vcc , Gnd and TXD. Vcc pin is connected to 12V, GND pin is connected Ground. TXD pin of GPS is connected to RXD pin of microcontroller. A 16*2 LCD display is used for the displaying purpose. LCD display has 16 pin of which the Vss pin is connected to gnd, vcc pin is connected to 5v, Vo pin is connected to 10k potentiometer. Rs pin is connected to PB6 pin, Rw pin is connected to PB5 pin, E pin is connected to PB4 pin of microcontroller. D4,D5,D6,D7 data pins are connected to microcontroller Port PB3,PB2,PB1,PB0 respectively.

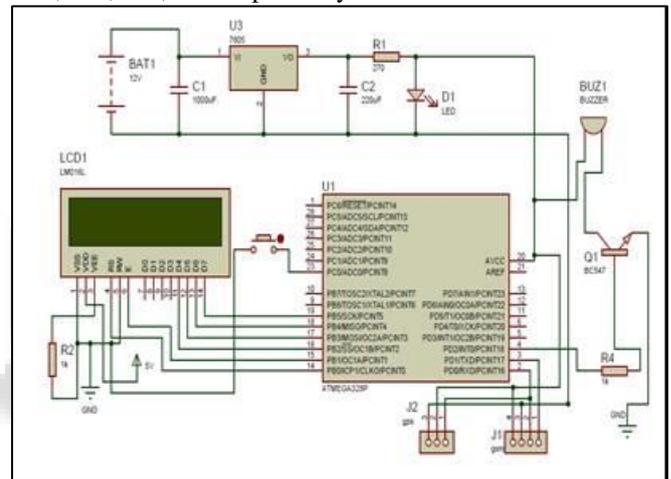


Fig 1: Block Diagram of Transmitter

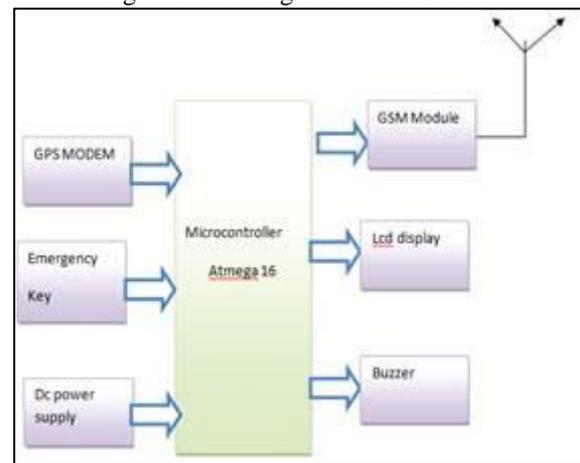


Fig. 2: Block Diagram of Receiver

A. GSM modems:

A GSM modem is a wireless modem that works with a GSM wireless network. A wireless modem behaves like a dial-up modem. The main difference between them is that a dial-up modem sends and receives data through a fixed telephone line while a wireless modem sends and receives data

through radio waves. There are several types of modems out there. Some shown below:

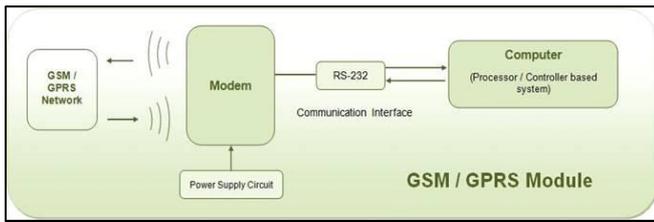


Fig. 4: GSM /GPRS Module

The display used here is 16x2 LCD (Liquid Crystal Display); this means 16 characters per line by 2 lines.

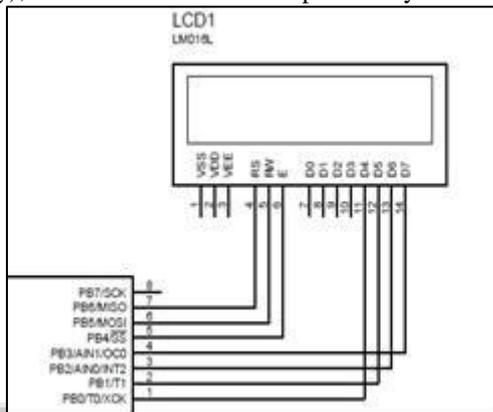


Fig. 4: LCD display:

III. WORKING

In the unsafe situation the women need to press the emergency button to activate the device. As soon as the emergency button is pressed the GPS system will track the location of the girl by the calculating latitude and longitude and help message is send to that respective people. In the emergency list stored in the device.

IV. RESULT & CONCLUSION

In this project,when we press the emergency switch GPS &GSM tracks the location and send the message to the police.

A. Conclusion

We conclude that we have implemented this system and have got the desired output. The efficiency obtained in this system is almost 100%.The message from the GSM was successfully delivered to the contact, just stored in device.

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