

ABSTRACT

This project is about emergency alarm system in car. The emergency here refers to car accident. When accident is happen, the system will send the information to police station to alert the police that there is an accident happens in a particular road. The information send contains: place of accident, time and date. The device used to receive and display such information is a computer.

To demonstrate this project, a TINY 2313 microcontroller is used to receive accident signal from accident sensor and send the information via SMS to the cell phone. Here, the cell phones will be treated as a computer which helps to display the information of the accident. The push button switch will be used as an accident sensor and it will be installed at the front part of a vehicle. In this project a small toy car will be used as a prototype.

A GSM modem, MOD 9001D is used to receive signal from microcontroller and send the information via SMS to a particular cell phone.

Two SIM card will be used in this project, one is in the cell phone and the other one is in the GSM modem. The basic circuits consists of, LM78705 voltage regulator, TINY 2313 microcontroller, LCD display, MAX232, DB9 Female port, cell phone and push button switch.

The technical operation of this project is the connection of microcontroller with the push button switch at pin 11. Pin 2 and 3 of microcontroller are connected to GSM modem via MAX 232 and DB9 port. The LCD display is used to confirm the text display on the cell phone. Whatever display on the LCD will be displayed on the cell phone's screen through SMS.

The component LM7805 provides voltage of 5V DC to the PIC TINY 2313 microcontroller and MAX232 IC. The function of TINY2313 is to interface in between GSM modem and the accident sensor (push button switch). When the push button switch is pressed, a short rectangular pulse of magnitude 5V will be fed into pin 11 of PIC TINY 2313 microcontroller. By using suitable programming, the microcontroller will send the information of accident to the MAX232 at pin 11 and 12, then forward the signal to DB9 at pin 2 and 5.

If the SIM card is installed, the GSM modem will be able to dial the number and directly send the SMS to the particular cell phone. Two things are programmed in the PIC TINY 2313 microcontroller, one is the location of accident, time and date and the second one is the phone number. The information of accidents can be stored as data based. The total capacity that microcontroller can store is up to 128kB. The phone number is the number store in the SIM card. This is important because without the number the system cannot send information.

At the end of this project, an expected model of project will be demonstrated. The cell phone will be treated like a computer and it will be installed inside a model police station. A toy car will be used to demonstrate the accident when it hit or crash with anything. By doing this, reader will see how the system can send emergency message to second or third party.