SECURED ANDROID BASED DEVICE FOR ANTI -THEFT APPLICATION

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Abstract—Due to development in the Android mobile phone security is also need to be increased. An antitheft have been already proposed and many software have also been developed. Once their hardware is installed it will work in the background, stores the current SIM number and continuously check for change in SIM. Whenever SIM change occurs mobile GPS will automatically take location information and send to the predefined number. Here a new scheme was introduced by using extra internal battery inside the smartphones. Whenever the mobile phone gets switch off (or) battery removed. The extra internal battery gets triggered and using GPS tracker the location information was fetched and send to the predefined mobile number automatically. This technology will helps in finding the lost (or) theft mobile in switch off condition.

Keywords— Android phone security, Anti-theft, GPS tracker, Smartphones, internal battery.

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1. INTRODUCTION

In modern society each and every one use the smartphone has become very important part of our life. We want most of the thing to be automated. The smartphone are changing the way of live. SMS is commonly widely used way of communication. At present smartphone are acting like a computer,they run an operating systemdata communication has become faster smartphone can send and receive data much faster than old phones.It is easy to handle. It's storage space is to large. It can be used to store the information like documents, text message, contact number, video, music etc., it can be easily shared with everyone. Smartphones are very helpful for business doing people. The office (or) company related documents (or) information are easily shared with anyone. Which is act as a computer in pocket.

2. SYSTEM OVERVIEW

The many device based on android application   like smartphone, tablet etc. An anti-theft have already proposed andmany software have also been developed, but most of the software are not freely. We have to internally connect to the inbuilt hardware components.In this case any illegal user can access this smartphone automatically message will be send to the predefined number without our knowledge of unauthorized person.The GPS will tracking continuously in the smartphone.

A.Microcontroller

In this project we used in pic 16F 877A microcontroller because of its features. It is low power consumption and high performance device. It is faster than other microcontroller like 8051 series and ATMEGA family. Here GPS, GSM, toggle switch, battery are interfaced with this microcontroller unit. It automation is mainly depends on the microprocessor and microcontroller. The

microcontroller are various type Customer we need specific microcontroller. Manufacturer decides which type of microcontroller we used. In this concept we are used in pic 16f877a controller. It is 40 pin controller there are 35 general input and output pins and remaining 5 pins are general power supply and ground. Microcontroller basically produce in 4MHZ frequency in this project pic controller are produce in 10MHZ frequency. But we have externally applied in 32 MHZ.
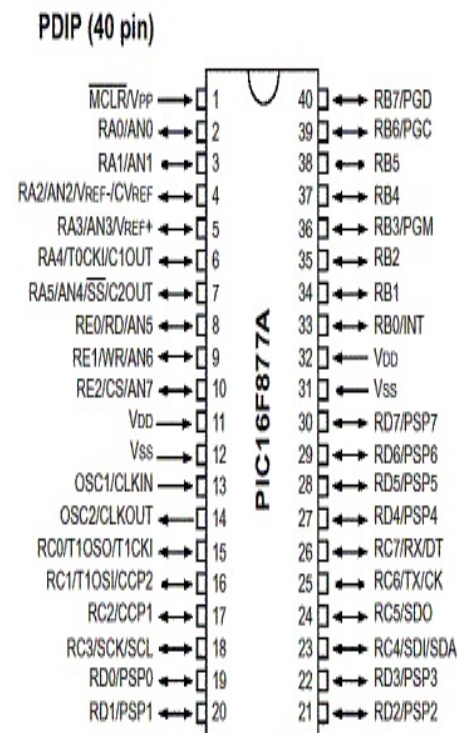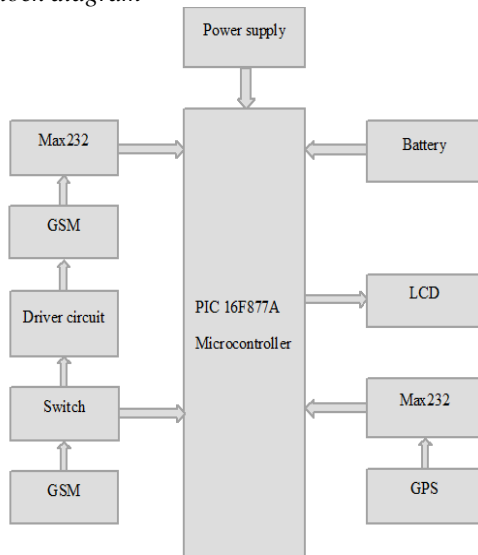

Fig 1.PIC Microcontroller

B.Block diagram

A.   *Driver Circuit*

Interfacing the electrical components with the micro controller could not be done because the controller will be working upon the DC voltage when the AC get enter in to the DC components then the whole system tends to spoil. That is why the driver circuit plays an important role in the electronics.
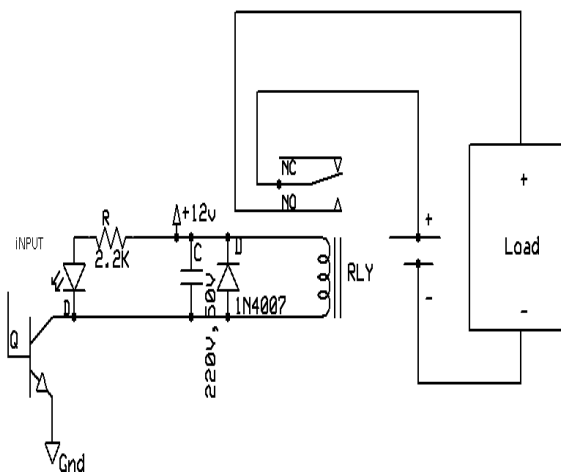

Fig. 2.   Circuit

D.GSM module

GSM module is a module which is widely used for the communication. This module plays an important role in network communication. By using the GSM module the information can be easily transferred to one place to another. Cellular technology needed to be more efficient. In this cellular technology operate on different frequency band like 900MHz-1800MHz. In this system the GSM module is interfaced to the microcontroller in order to transmit the information to the consumer.

Fig. 3.GSM module0

The AT commands are given to the GSM modem with the help of PC or controller.Command is ATD<number>;

E.MAX-232

IC MAX232 is used for serial communication. Remember the GND of the serial cable and circuit should be same. The TX/Rx (transmitter/receiver) pin (pin number 11 and 12) should be connected to our PIC micron roller. In microcontroller 16F877A the receiver line from MAX232 should be connected to P3.0 and the TX from MAX232 should be connected to P3.1. Also GND of all the circuits should be the same.
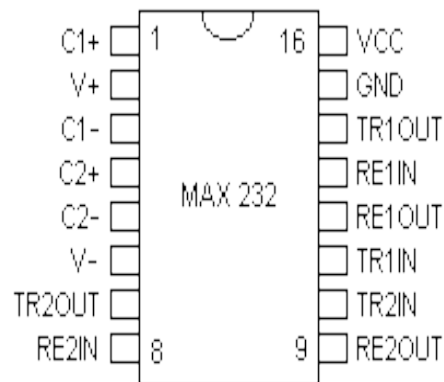

Fig. 4.   MAX 232

3. MONITORING

In order to continuously tracking the theft of mobile phone and there must be adisplay. Alphanumeric 16*2 LCD are used in this concept. Display on alphabets, numbers, symbols.Display on 16 character and there are 2 such line. Inthis LCD each character is display in 5*7 pixel matrix. Data to be send ASCII format. This LCD has two registers namely command and data. The output device here use to display the parameters in the LCD. The LCD stands for Liquid Crystal Display. There are many LCD's that displays various characters according to the number of bits given as the input in the LCD. Whenever SIM change occurs mobile GPS will automatically track location

information and send to the predefined number and there must be display on latitude and longitude range will be appear.

Fig. 5.   LCD Monitor

4.BATTERY

A battery is a device which consists of one are more electrochemical cells. A battery has a positive terminal (cathode)and negative terminal (anode).In this case we used in two rechargeable battery. The primary and secondary GSM are directly connected to the rechargeable battery. We used in two driver circuit. Driver circuit 1 operate in primary GSM any problem can occur primary side suddenly change over the driver circuit 2 is active condition. The unwanted person has access the mobile message will delivered to the predefined number without our knowledge.

5.GPS MODULE

The Global positioning system is a spaced based navigation system that provides location and time information to near the earth. It made up of a network of a minimum 24 and at present maximum 30 satellites place into the orbit. Mobile phone tracking is the ascertaining of the position or location of the mobile phone. To locate a mobile phone using radio signal, it must emit at least the roaming signal to contact the next nearby tower.But the process does not require an active call. The GSM is based on the phone signal strength to nearby antenna. In order to calls a phone, the cell tower listen for a signal send from the phone. Which tower is best able to communicate with the phone.As the phone change the location the antenna tower monitor the signal. When turned on and not active in a telephone call. This result from the roaming procedure that perform handover of the phone from one base station to another station.

Fig. 6.GPS Module

4. CONCLUSION

A new prediction system performing the efficient and effective tracking process of theft or missing mobile phones. This process not only predict the mobile, it also intimate the user to find their mobile location through the implementation SMS Capability.Therefore, incoming SMS format play a vital role.Which will enhance the existing mobile phone tracking System. It different from the existing system, because it not only using the GPS value it also makes use of GSM text message service.

5. FUTURE ENHANCEMENT

- In future, User can get the notification from their mobile while any other changes (removal of battery, and SIM card changes) made in that mobile.
- Lock device memory to keep your data safe.
- Our proposed system only can implemented on smart phones. Further we implement our concept on various types of mobile features.

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