

# GSM Based Car Security System

Ruchita J. Shah, Anuradha P. Gharge

**Abstract**— The revolution of Mobile and Technology has made ‘GSM based car security system’. The car security system is prominent worldwide. But it is not so much secure system. Every car owner wants maximum protection of his car; otherwise thief can easily trap the car. So, by combining the idea of mobile and car security system I m talking about GSM based car security system. Aim of the project is to try the save the car. The name project itself suggests that it is based on GSM. So this GSM based car security system is works when someone try to steal your car immediately this security system be alert and send sms on your mobile through GSM modem and buzzer will also make sound ,so you getting the information immediately and you can save your car. In this system it sense five parameters for security: (1) Vibration sensing,(2)Obstacle sensing,(3) Revolution sensing, (4)Micro switches(door1 and door2 open )and (5)Battery sensing .This system send sms through GSM modem and generate sound at every sensing point. Microcontroller AT89S52, which is a low-cost and highly-reliable system, is used in this project. By making necessary changes in the software we can alter the working of the system. A BUZZER has been incorporated in this project, which sounds when any parameter sensed. With all these above mentioned features, this GSM base car security system is more advantageous as compared to the simple car security system.

**Index Terms**— Wireless Technology, GSM Modem, Microcontroller, LCD, Micro IDE, Revolution Sensor, Optical Sensor, Vibration Sensor, Battery Sensor.

## I. INTRODUCTION

Other security system prevent from unwanted and give information to the nearer or recorded security system give late information, while GSM based car security system give information at a time and this system also inform the nearer people .This is GSM based car security system (GBCSS) so it is send the sms and also generate the alarm when this security system is break .So we can save our car and thief is failed. That’s why this system is latest system up till now.

### Features of the Model

The features of the GSM Based Car Security are as follows: This device will take a maximum current of 4 amps and 230 V AC

- LCD Display
- AT89S52 microcontroller
- Vibration detector
- Optical detector
- Revolution detector

Sending the sms when anybody try to steal the car of owner.

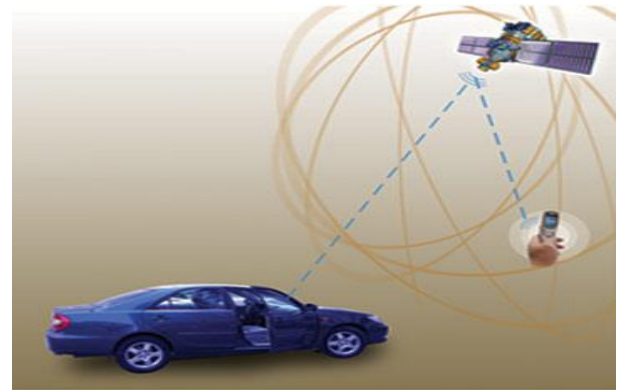


Fig 1. Main out Look of GSM Based Car Security System

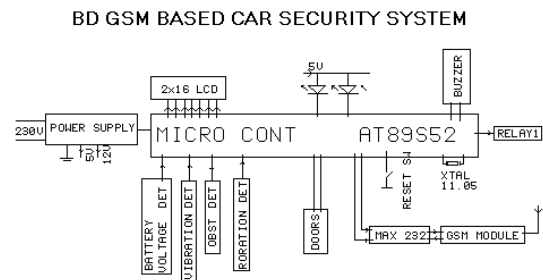


Fig 2: Block Diagram of GBCSS

### Function of Each Basic Block

#### A. Power Supply

The AC voltage that comes from the 230V step-down transformer is converted into regulated 5V DC here using 7805 IC, which is fed to the microcontroller and the energy measurement IC.

#### B. Microcontroller

AT89S52 microcontroller is used here to which are attached an LCD, Buzzer, Micro switches, Obstacle detector, Vibration detector, MAX 232, Revolution detector and a relay.

#### C. LCD

A 2x16 LCD is used for displaying the message when any one of the parameter is detected.

#### D. Buzzer

It sounds when any one of the four parameter is detected.

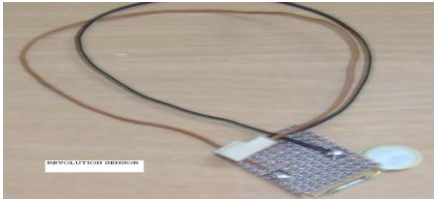


#### E. Relay

This part is for the purpose of on-off.

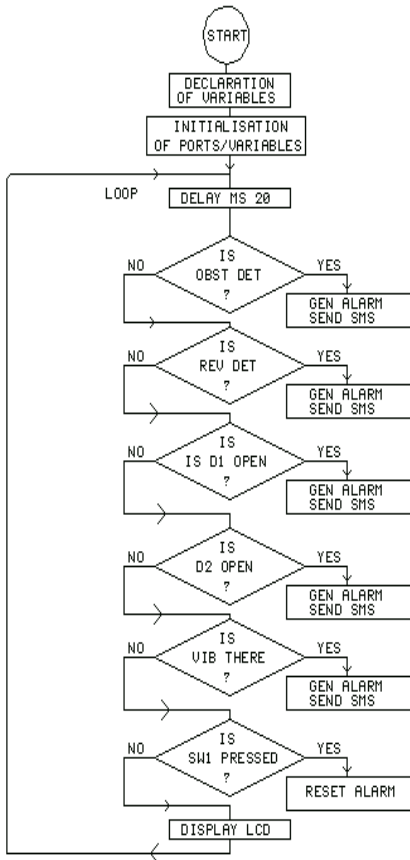
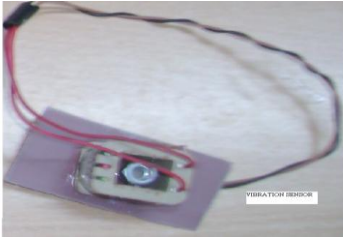
#### F. Revolution Detector

This block is used for detecting revolution of car.



**G. Vibration Detector**

This block used when vibration detected in car.



**Fig 3: Flow chart**

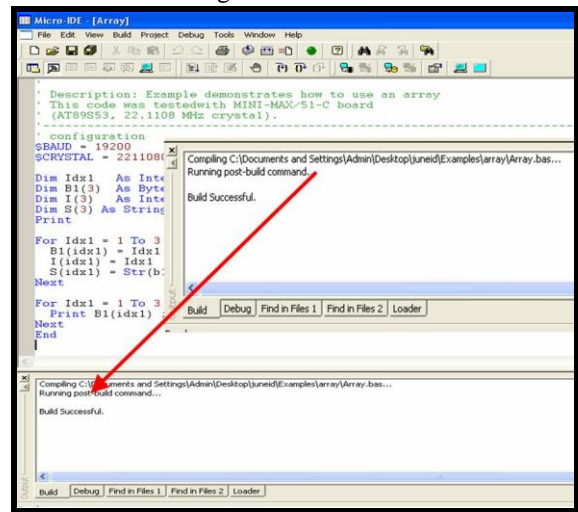
➤ for simulation we are using MICRO IDE SOFTWARE

**II. MICRO-IDE COMPILER**

Micro-IDE is a Windows-based Integrated Development Environment for micro-controller application development. Micro-IDE integrates essential components of software development including:

➤ Multi File Editor with C, Basic and Assembly language syntax coloring.

- Integration with toolkits including command line compilers, assemblers, linkers.
- Easy customization for use with different compiler/assembler toolkits.
- Full-featured debugging with step-by-step execution, variable, memory and call stack views.
- Project Manager.
- Tools: Terminal program, Calculator, ASCII Chart.
- Download capability to target micro-controller boards.
- Microcontroller simulators to simulate program execution without having the actual hardware.



**Fig: 4 Out-put window for Micro-IDE**

When we are compile successfully on that time we are getting this type of window (shown as above).

**A. Advantages:**

It goes without saying that the use of GSM BASED CAR SECURITY SYSTEM encourages the used of latest wireless technology, hence in India it is not known so much. Besides, they also have the following additional benefits:

**Improved Security:** From this system we can try to save our car by anywhere we are in this global world. As this system gives us the information about the our car's front doors (open/close), anyone on the font sit, any type of vibration on the car, anyone try to start the car and anyone take car by pushing or revolving. If anything is happened we can get the information about all parameters including detected parameter. So this system is more advanced and useful than the simple car security system which available in today's Indian market.

**Better Customer Service:** Here wet better service plus also benefited with cost wise because its cost is very less compared to car cost.

**B. Disadvantages:**

- ✓ We can't save our car if our mobile is not in working condition anyhow.
- ✓ If car's owner's mobile is out off coverage area on that time also we can't save the car.

✓ Sometimes also happen that we get information about car's trapping but we are unable to reach there or can't inform to other to save our car.

**C. General Working of GSM Based Car Security System**

Put system in working mode (make system on).

After that 'HELLO' will print on the LCD that means system is now ready to work.

This system detects five parameters: Any of the front doors open, Vibration occurs, Revolution happen, Optical detected if any one seat in the car on driving seat and battery got ignition.

If any one of these parameters is detected the system will generate alarm means buzzer will sound and at a time this GSM based car security system will send the sms through GSM modem.

So when we get sms on that time we may anywhere but we can try to save our own car.

In sms we get the information not only about the one parameter which is detected, but remaining all the parameters status information also we get.

**D. Applications:**

➤ Car security system finds many applications in this modern world.

➤ It is useful in all type of security system.

➤ Like in any vehicles tracking system – scooter, car, bike, etc.

➤ In is also use full in Bank security.

➤ It means it is useful in everywhere .Whenever you require you can implement by changing some of programming and function according to your requirement

➤ Simple security system is used to save important items. In place of simple security system we can implement this GSM based security. So that we get sms immediate when ever system disturb and alarm will also generate. So it is use full in every type of security system and we can make more secure our things.

**SNAP SHOT OF THE WORK CARRIED OUT:**

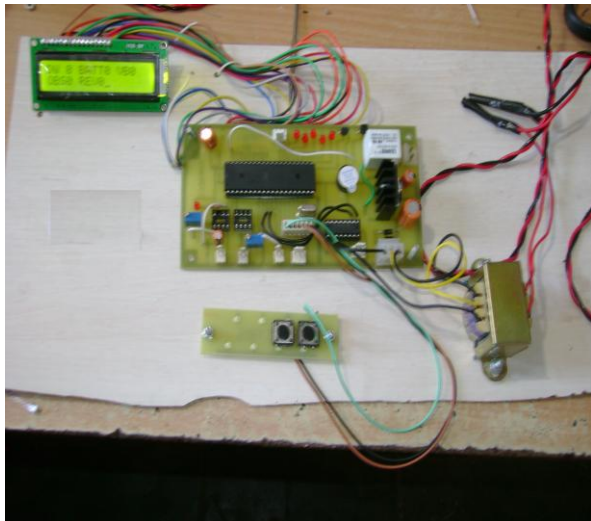


Fig 5: Final Outlook of Hardware



Fig 6: Display on LCD: Initially all are Zero.

**ACKNOWLEDGMENT**

This is the great opportunity to get paper prationtation for doing and from stating of project undertaking this was a great Learning Experience. I certainly encountered difficulties at various stages of implementation. However, by challenging and achievement that filled us so completely after overcoming all the awe-inspiring odds is inexplicable in words. The unending guidance, inspiration and support that we received from various quarters are truly what actually kept me going. With deep sense of gratefulness, I hereby take this opportunity to give my genuine and hearty thanks to all the people who helped me realize this.

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