

# Smart Car Application

Pooja Giri<sup>1</sup>, Trusha Ghori<sup>2</sup>, Jagruti Chaudhari<sup>3</sup>, Meenal Dhattrak<sup>4</sup>

<sup>1</sup>Department of computer Engineering, Mathoshri college of Engineering and Research centre, Eklahare, Nashik.

**Abstract**— Now day's car accidents of high intensity take place frequently at remote places which causes huge loss of lives. Whenever such accidents take place, no one gets intimated about the accident. Our paper gives the solution to this problem. This paper is useful when high intensity car accidents occur. Injured people on road side would get emergency help under worst circumstances. In this paper we are using GPS and GSM modem. GPS is global positioning system which detects the position and accurate time in all weather conditions. GSM modem works as sim card which provide internet connectivity and can be used for sending and receiving message. So when the car meets an accident at that time GSM modem sends message at 2 places first at emergency center and second at victim's guardian. Our paper can be used to provide fast medical facility to victim who may even save his/her life.

**Keywords**—GPS, GSM Module,Interface Card, Pentium processor,

## I. INTRODUCTION

Intelligent system are in used with every aspect of system,transporting are the critical system which are real time and lives are involved.This paper not only deals with component monitoring, does even more than that like passenger activity monitoring, behaviour analysis,system behaviour,notification and co-ordinate.

Car accident detection is the vital and of great importance from the perspective of passenger safety.Impact detection and notification is also one of the life saving and critical information provider system.

Rash driving is the major reason behind the road accidents, so it is of great importance to notify the excessive speed of the vehicle.vehicle tracing is also possible with the help of GPS monitoring system.

## II. LITRATURE SURVEY

**Sri Krishna chaitanya varma** the author of Automatic vehicle accident detection and Messaging system using GPS and GSM Modem .The features of the system are Security and remote monitoring of vehicles

**C.vidya lakshmi** the author of Automatic accident detection via embedded GSM message interface with sensor technology. The features of the system are Automatic alarm device for traffic accidents

**Srinivasa Rao** the author of GSM and GPS based vehicle location and tracking system.The features of the system are Stolen vehicle recovery

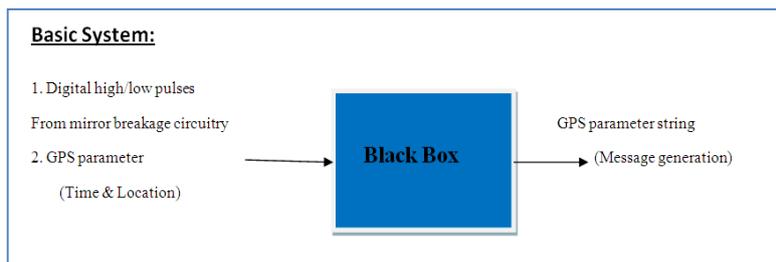
## III. EXISTING SYSTEM

Current system provide alarming and buzzer system in car that draws attention of the nearby peoples.This alarm works only if car gets crashed or rolls over at low intensity. The activates system at moving car with changing velocity.The existing systems are available in expensive cars like Land Cruiser and Land Rover are priced above 45 lakh. Hence the proposed application extends this concept at lower cost affordable by ordinary people.

## IV. PROPOSED SYSTEM

### A. System Architecture

To overcome the problems of existing system, The system develop the car accident detection technique for economy class cars used by ordinary peoples. The aim of our project is to design car accident detection technique using GPS technology with GSM modem to provide medical facility to the victim injured in road accidents. The block diagram of our system is as shown below



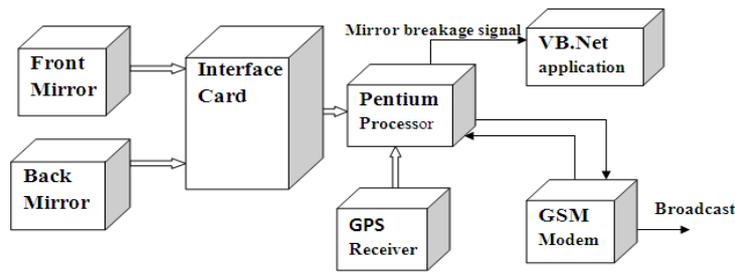


Fig. 1. System Architecture

**B. The parts of the system are**

**1. Global positioning system(GPS)**

The Global positioning system as mentioned in figure 2 is a space-based satellite navigation system which provides the information of date, location and time in all weather conditions, anywhere on or near the earth where there is an unobstructed line of sight to four or more GPS Satellites. The system provides critical capability to military, civil and commercial users around the world. United States government does the maintenance of it and anyone can access GPS. It is designed to overcome the limitations of previous navigation systems, number of integrating ideas from several predecessors, including a number of classified engineering design studies from the 1960s.

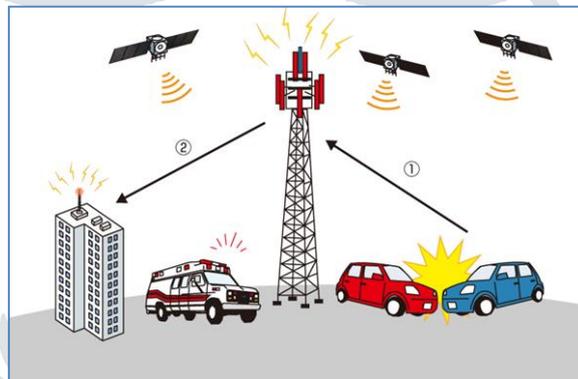


Fig. 2. Global positioning system

**2. Global system for mobile communication**

The GSM is nothing but Global System for Mobile Communication. It is shown in figure 3 and is developed as a replacement for first generation analog cellular networks, and originally described a digital, circuit-switched network optimized for full duplex voice telephony. This was expanded over time to include data communication, first by circuit-switched transport, then packet data transport via GPRS and EDGE.

GSM is a trademark owned by the GSM association. It may also refer to the initially most common voice codec used; full rate. GSM is a cellular network which means that cell phones connect to it by searching for cells in the immediate vicinity. There are five different cell sizes in GSM.

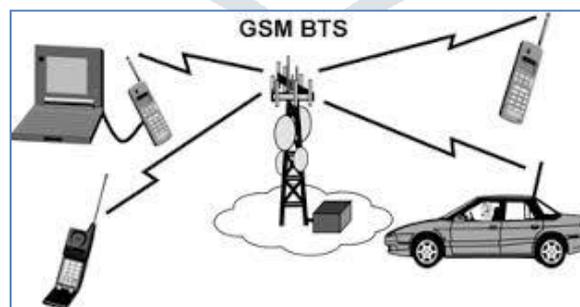
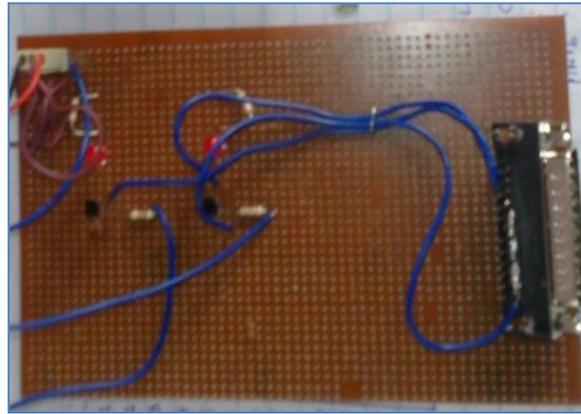


Fig. 3. Global system for mobile communication

**3. Interfacing circuit**

The interfacing circuit includes the LPT Port, transistor, register, Light emitting diode.

All the design is implemented on the bread board.



*Fig.4. Interface card*

#### 4. Toggle switches

The toggle switch is a type of electrical switch that is characterized by the presence of some type of handle or lever that makes it possible to control the flow of electrical power from a power supply to a device of some type. An electrical toggle switch can be used in number of different applications, both in commercial and in residential applications. Considered very easy to operate, switches of this type can last for many years before requiring replacement. Over time, a toggle switch has come to be a collective term for a just above any type of electrical control where a handle, lever or some type of rocking mechanism is used to manage the flow of electrical current.



*Fig.5. Toggle switch*

#### 5. Watch Dog timer

Watch Dog Timer is sometimes called a computer operating properly or COP timer, or simply a watch dog timer is an electronic timer that is used to detect and recover from computer malfunction. During normal operation the computer regularly restarts the watch dog timer to prevent it from elapsing. Watch dog timer is commonly found in embedded system, the computer cannot depend on the human to reboot if it hangs.

## V. FLOWCHART

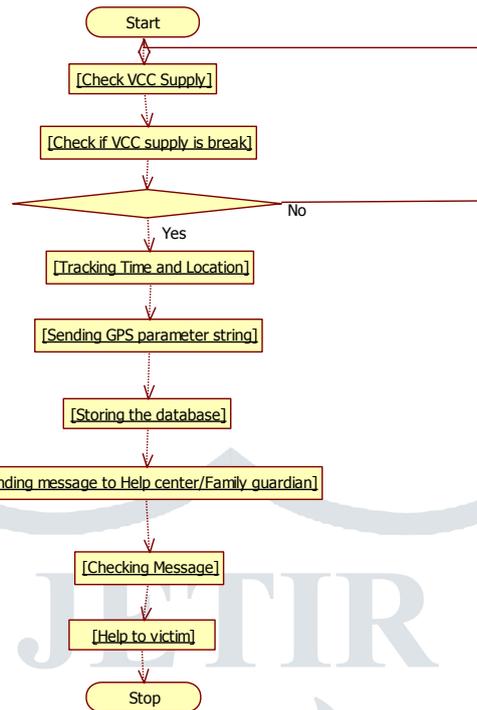


Fig.6 Flowchart

## VI. CONCLUSION

We have designed the Smart Car Application. The system will save the lives of people when fatal accidents occurred at remote places. We studied and completed the literature survey of system. We completed the requirement analysis by gathering requirements for Proposed System. In the design phase we designed the hardware module i.e. interface card. We have also designed the GUI of the project. And now we are working on hardware module. After completing this module we will focus on the software module which contains the programming in VB and .NET framework.

## ACKNOWLEDGMENT

We take immense pleasure in thanking our college management for having permitted us to carry out this project work. Words are inadequate in offering our thanks to our respected co-operation in carrying out project work in the starting phase of the project like requirement analysis and literature survey. We also express our utmost gratitude to **Dr. V.H. Patil** Head of department of Computer Engineering, for this valuable co-operation in selecting the project topic and guiding us stepwise ahead.

Inspiration and guidance are invaluable in every aspect of life, especially in field of education, which we have received from our respected project guide **Prof. Neeta Deshpande** who has helped a lot In first two phase of project like topic selection then information gathering and guide us to throughout the project work and gave earnest co-operation whenever required. We would like to express sincere gratitude towards him.

At last, we would like to take this opportunity to convey thanks to all my staff members, who directly or indirectly encouraged and helped us project work. Finally yet importantly, we would like to express heartfelt thanks to our beloved parents for their blessings, our friends/classmates for their helps and wishes.

## REFERENCES

- [1] Prabakar. S, Samson I.J “An enhanced accident detection and victim status indicating type IEEE Base Paper “India Conference (INDICON), 2012 Annual IEEE.
- [2] Sri Krishna Chaitanya Varma, Tarun varma, Poornesh, Harsha “Automatic vehicle accident detection and messaging system using GPS and GSM modem” 2013.
- [3] C. Vidya Laxmi, J.R. Balakrishnan “Automatic accident detection via embedded GSM message interface with sensor technology”2012.
- [4] Srinivasa Rao, A.V Prabu, V.K Raju “GSM and GPS based vehicle location and tracking system” 2012.

[5] [WWW.Rubicon.au.in](http://WWW.Rubicon.au.in)

[6] Books:

- Beginning Murach publication
- Beginning Rock publication
- Beginning VB.net publication

[7] [http://www.tutorialspoint.com/gsm/gsm\\_base\\_station\\_subsystem.htm](http://www.tutorialspoint.com/gsm/gsm_base_station_subsystem.htm)

[8] <http://telematicswire.net/csr-sirfstarv-architecture-backed-with-galileos-fix-position-technology-to-be-used-in-european-ecall-systems/>

