Intelligent Vehicle Accident Identification by Using GPS and GSM

Anuja Goge[1], Tanuja Goge[2], Pooja Thorat[3] , Prof.R.M.Dixit[4]

[1]Anuja Goge from Ahmedpur dist-Latur
[2]Tanuja Goge from Ahmedpur dist-Latur
[3] Pooja Thorat from Nigadi dist-Pune
[4]Prof.R.M.Dixit,Department of Electronics &Telecommunication Engineering, Universal college of engineering &research pune , Maharashtra, India .

Abstract - *Recently technological and population development, the usage of vehicles are rapidly increasing and at the same time the occurrence accident is also increased. Hence, the value of human life is ignored. No one can prevent the accident, but can save their life by expediting the ambulance to the hospital in time.*
A new vivid scheme is introduced called Intelligent Transportation System (ITS) . to minimize the delay caused by traffic congestion and to provide the smooth flow of emergency vehicles is the objective of this scheme .
The major problems in urban areas are Road accidents and traffic congestion are the. Todays there is no technology for accident detection. Due to the delay in reaching of the ambulance to the accident location increases the chances of the death of victim. The new system should be introduced to reduce the loss of life due to accidents and the time taken by the ambulance to reach the hospital.

Key Words: GSM module, GSM Module, Accelerometer ADXL335,ATmega328, Temperature sensor LM35,FSR&SIM

1.INTRODUCTION

To recognize the location of the accident and easily to reach the location automatic accident detection system is used. Every second is valuable for the ambulance vehicle. There is loss of life due to the delay in the arrival of the ambulance to the hospital in the golden hours. This delay is mainly caused by the waiting of ambulance in the traffic signals. So time places an important role in this task. The traffic signals are also controlled automatically by using a Radio Frequency module (RF module). To save the human life an ambulance will reach the nearest hospital at the exact time. It locates the accident spot exactly because this project is fully automated .

Figure no.1.1 Accident identifier using GPS & GSM

1.1 Accident

Automobiles are important to go to workplaces, meet family and friends and to deliver goods. But often they pave the way to big disasters. According to Wikipedia, accidents are is an unforeseen and unplanned event or circumstance, often with lack of intention or necessity. The most unwanted thing to happen to a road user is road accident, though they happen quite often. The most unfortunate thing is that we don't learn from our mistakes on road. It is necessary for a road users to quite well aware of the general rules and safety measures while using roads but it is only the laxity on part of road users, which cause accidents and crashes. Main cause of accidents and crashes are due to human errors. Following are the major reasons of accidents:

1. Over Speeding

2. Drunken Driving

3. Distractions to Driver

4. Red Light Jumping

5. Avoiding Safety Gears like Seat belts and Helmets

6. Non-adherence to lane driving and overtaking in a wrong manner

1.2 Accident Prediction System

There are 2 types of accident prediction system:

1. Traditional accident prediction system
2. Real time accident prediction system

1. Traditional Accident Prediction System

-It uses long-term traffic data such as annual average daily traffic and hourly volume.

2. Real Time Accident Prediction System

-It relates accident occurrences to real-time traffic data obtained from various detectors such as induction loops, infrared detector, camera etc.

2. SYSTEM MODELLING

2.1 Working Principle:

The user can send a STATUS message from his cell phone and as soon as the GSM module gets the message, it will check for the user's authentication and if found to be valid , it will immediately send the details of the locations like the latitude and the longitude using GPS module. The vehicle can be locked/unlocked by sending a message to the system; say 'L' or 'U'.In this system we use of an embedded system based on GSM technology. The designed & developed system is installed in the vehicle. The introducing the mobile communications into the embedded system is the main concept of these design.

2.2 BLOCK DIAGRAM:

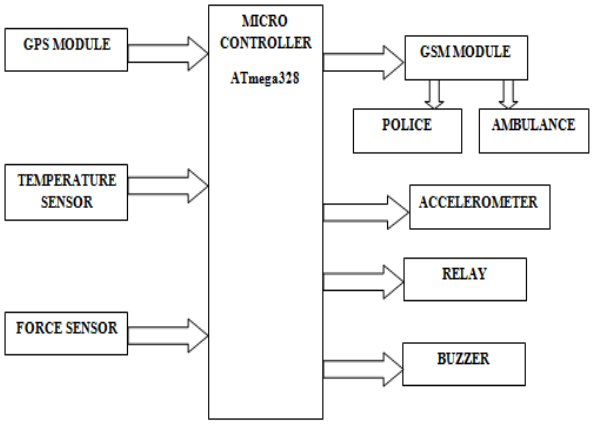

Figure no. 2.2 System Block Diagram

3. CONCLUSIONS

The most significant causes of an accident is speed. Nowadays, GPS receiver has become an integral part of a vehicle. Besides using in other purposes, the GPS can also monitor the speed and detect an accident. To send the accident location to the Alert Service Centre it can use a very cheap and popular GSM modem. To helps to assess the severity of the accident and can initiate a voice call it can also send the last speed before accident . Beside the automatic detection system, By pressing the Manual Detection Switch the vehicle occupant will be able to manually send the accident situation. A rescue measures in time with sufficient preparation at the correct place can save many life. Thus, the proposed system can serve the humanity by a great deal as human life is valuable.

REFERENCES

[1]SONIKA1, Dr.K.SATHIYASEKAR2, S.JAISHREE3 Intelligent accident identification system using GPS, GSM modem, PG Scholar, S.A.Engineering College, Chennai, India1,3 Professor, Dept of EEE, S.A.Engineering College, Chennai, India2

[2] ARM 7 Based Accident Alert and Vehicle Tracking System Salas K Jose, X. Anitha Mary, Namitha Mathew

[3] Various Accident Detection Technologies and Recovery Systems with Victim Analysis Ch. Ramya Keerthi1, G.Shanmukh2, Dr. R. Sivaram3 1St.Mary's Women's Engineering College, India,

[4]Sathe Pooja, "*Vehicle Tracking System Using GPS*", International Journal of Science and Research (IJSR), India Online ISSN: 2319-7064.

[5]Vehicle Tracking and Locking System Based on GSM and GPS
R.Ramani1, S.Valarmathy1 Department of ECE, V.M.K.V.Engineering College, TN, India .

BIOGRAPHIES

Anuja goge is studying in BE E&TC in the Universal college of Engg. & Research pune Under the SPPU. She had completed HSC in MGM college Ahamdapur under the Latur Board.

Tanuja goge is studying in BE E&TC in the Universal college of Engg. & Research pune Under the SPPU. She had completed HSC in MGM college Ahamdapur under the Latur Board and completed diploma in E&TC, Govt.polytechnic Hingoli under theMSBTE.

Pooja Thorat is studying in BE E&TC in the Universal college of Engg. & Research pune Under the SPPU and completed diploma in E&TC, wadia college pune.

Prof.R.M.Dixit working as assitant professor in E&TC department at Universal college of engineering and research , She completed her masters in electronics at RIT Sakharale.