

Accident detection System

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Abstract: Highly populated Countries, everyday people lose their lives due to accidents and poor emergency facilities. These lives could be saved if medical facilities are provided at the proper time. Vehicle accidents are one among the foremost leading causes of fatality. The time between an accident occurrence and therefore the emergency medical personnel are dispatched to the accident location is that the important thing to think about the survival rates after an accident. By eliminating that point between an accident occurrence and therefore the first responders are dispatched to the scene decreases mortality rates in order that we will save lives. One approach to eliminate that delay between accident occurrence and first responder dispatch is to use An Accident Alert and Vehicle Tracking System, which senses when a traffic accident is probably going to occur and immediately notifies emergency services. Vehicle accidents are one among the foremost leading causes of fatality. During this paper, we proposed an Accident detection System meant to offer more easiness to the users that they will add information of accident so quickly. Also for Police and Hospitals, Police headquarters and Hospital can view the message and user uploaded information about Accident.

Keywords: Gps location, sms manager, nearest location.

I. INTRODUCTION

The unavailability of the precise methods for accident occurrence detection beside a reliable locating tool with a fast reporting feature is that the major problem under the research. The accidents also are increasing now days. [1] Thanks to the delay within the arrival of ambulance to the accident spot it causes the loss of human life. So, it's necessary to require the accident victim to the hospital as early as possible. Lifetime of the people is under risk, 1,000,000 of peoples die per annum as results of road traffic crashes. This is often due to the shortage of best emergency facilities available in our country. Lifetime of the people is under risk, 1,000,000 of peoples die per annum as results of road traffic crashes. This is often due to the shortage of best emergency facilities available in our country. [2]

The high demand of vehicles has also increased the traffic hazards and therefore the road accidents. Lifetime of the people is under high risk. This is often due to the shortage of best emergency facilities available in our country. Damages and ripple effects can happen thanks to disasters without notification anytime and anywhere [1]. Disaster break presents many unique logistics challenges, like damage to transportation infrastructure, limited communication, and coordination of multiple agents [2]. To create a solid disaster management system, three fundamental things got to be addressed [3]. The unavailability of the precise

methods for accident occurrence detection beside to a reliable locating tool with a fast reporting feature is that the major problem under the research. The accidents also are increasing now days. Thanks to the delay within the arrival of ambulance to the accident spot it causes the loss of human life. So, it's necessary to require the accident victim to the hospital as early as possible.

II. LITERATURE SURVEY

Paper 1: Smart phone based Vehicle Tracking and Accident Prevention System Author: Gunjan.R.Shete, Swati.D. Shinde

Description: Nowadays, we've seen that automobile thefts are increasing at the faster rate everywhere the planet. Therefore providing the safety to their vehicle is usually a central concern to the people. We are developing an intelligent vehicle tracking and locking system during which the user are going to be ready to interact with the system and to regulate his vehicle through an android based smart phone. Through this technique we will establish the secured communication between the smart phone and therefore the vehicle via the GSM network. The second module of our project is to stop the accidents in order that we will save the precious human Life. Nobody can prevent the accidents, but can save their life by expediting the ambulance to the hospital in time. Therefore we offer this module in our system, when an individual is met with an accident an automatic message is shipped to the nearby hospitals, after receiving the

messages immediately an ambulance is shipped on the accidental spot, in order that the human life are often saved.

• Paper 2: GSM GPS Integrated With ARM Based Event Data Recorder for Accident Detection

Author: P Ravi Kumar1, K Jayasree2

Description: Main concentration of this project is to seek out the vehicle which is met with an accident by using MEMS sensor and GPS, GSM. Vehicle tracking system is one among the recent topics in embedded systems industry. During this project ARM controller communicates with LCD, GPS module and GSM modem. this technique are going to be placed during a moving vehicle. The ARM controller will poll GPS module in prefixed intervals and sends the vehicle location information (Latitude Longitude) to central station over GSM network. When- ever any accident occurs MEMS sensor detects the vibration of the vehicle and sends mechanical force, to ARM, by using GPS, we'll get particular location where accident occurs, then GSM sends message to authorized members 108. One more best feature is whenever any authorized people gives message to GSM at accident location then it sends back the message of the accident location longitude and latitude values.

• Paper 3: Automatic Accident Alert and Safety System using Embedded GSM Interface

Author: Kajal Nandaniya, Viraj Choksi

Description: The system envisioned is an automatic collision detection and warning system counting on GPS module and a GSM modem. The vehicle to be safeguarded is to be fitted with the system sturdily ensuring good mechanical coupling with the whole chassis. Within the case of an accident the system detects it using the very fact that the vehicle would be suddenly decelerated in such a condition. An accelerometer continuously monitors the acceleration of the vehicle and can detect decelerations greater than threshold value and send the info to the microcontroller via an ADC. The controller compares this with the edge set value and immediately sends an SOS message to preset numbers. With this message the controller also transmits the GPS coordinates of the vehicle which it continuously obtains from the GPS module. This technique will highly aid the search and rescue of vehicles that have met with an accident.

• Paper 4: Kalman filtered GPS accelerometerbased accident detection and location system: a low-cost approach

Author: Md. Syedul Amin, Mamun Bin Ibne Reaz, Mohammad Arif Sobhan Bhuiyan and Salwa Sheikh Nasir

Description: A low-cost accident detection system utilizing cheap ADXL345 accelerometers and GPS receiver is proposed during this communication. The accident detection algorithm was developed supported sudden deceleration. The double integration of the acceleration and heading from the lean angles of accelerometers were went to determine the situation. Kalman filter was utilized to correct the accumulated double integration errors with the trusted GPS data. The sector tests demonstrated the right functioning of the accident detection algorithm and site. The proposed low-cost system can save many lives by the automated accident detection and accurate location even during GPS outage.

• Paper 5: Vehicle Accident Detection and Reporting System Using GPS and GSM

Author: Aboli Ravindra Wakure, Apurva Rajendra Patkar, Manisha Vitthal Da- gale

Description:- In highly populated Countries like India, everyday people lose their lives due to accidents and poor emergency facilities. These lives could are saved if medical facilities are provided at the proper time. This paper implies system which may be a solution to the present drawback. Accelerometer sensor are often utilized in car security system to sense vibrations in vehicle and GPS to offer location of auto, so dangerous driving are often detected. When accident occurs, Accelerometer will detect signal and can send signal to AVR controller, microcontroller will enable airbag to blow and message with accident location is shipped to preprogrammed numbers like ambulance, police headquarters, etc. via GSM.

III. EXISTING SYSTEM

It is common scenario that folks die unnoticed during accidents, especially during already dark. Communication is feasible only through telephone calls. There is no such system to tell the rescue forces when the driving force is seriously injured.

Disadvantage

- Communication is difficult to close police headquarters and hospitals in major accident.
- Most of cases no single information received by Police stations.

- Time consuming process to tell near police headquarters and hospital also.

IV. PROPOSEDSYSTEM

The proposed project is a picture base emergency alert system that gives user take accident picture and straightforward way of alerting to close location police headquarters and also near hospital. That point access user current latitude and longitude, and share location to the police and hospital thorough text message also. As shown in figure, the proposed Accident detection System meant to offer more easiness to the users that they will add information of accident so quickly. Also for Police and Hospitals. Police headquarters and Hospital can view the message and user uploaded information about accident.

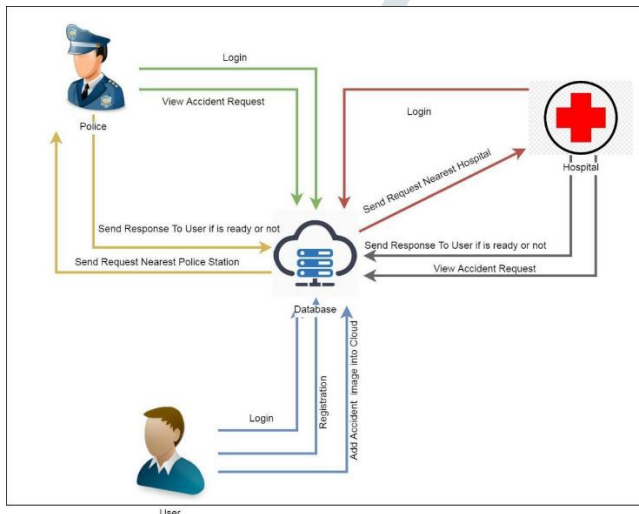


Fig. 1: Architecture Diagram

Advantages:

User can easily inform about accident situation to nearest Police and Hospital

1. To minimizing the delay of ambulance to save the injured.
2. Improve accuracy inresult.
3. It will have a user friendly interface

Hardware required:

- Hardware :Intel core i3 Speed : 2.80 GHz
- RAM : 8GB

Software required:

- Operating System : Windows 7,8,10

- Technology : Java and Android
- Web Technologies : Html, JavaScript, CSS
- IDE : Android Studio 3.5, Eclipse 4.8
- Web Server : Tomcat
- Database : My SQL
- Java Version : JDK1.8

V. CONCLUSION

The proposed system is developed to supply the knowledge about the accident occur and therefore the location of the accident .It helps to simply provide the assistant and help to the victim of the accident. this technique uses GPS module to locate the vehicle. GSM is employed to supply the knowledge of accident. The results of the proposed systems are satisfactory. Further this technique are often implemented by using sound sensor, so as to form it more accurate and efficient to detect an accident. this is often extended with alcoholic detection. If the one that is driving took alcohol then the vehicle are going to be stopped immediately by giving alarm. this will even be developed by interconnecting camera to the controller module that takes the photograph of the accident spot makes tracking easier.

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