IJARCCE

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

Vol. 8, Issue 4, April 2019

Mobile Application for Detecting Vehicle Accident and Tracking System using GPS/GSM

Mr. Shubham Ingle[1], Miss. Ankita Shendkar[2], Mr. Sanjay Chavan[3], Prof. Avinash Palave[4]

Student, Comp Dept, KJEI's Trinity College of Engineering and Research, Pune, India[1,2,3]

Guide, Comp Dept, KJEI's Trinity College of Engineering and Research, Pune, India[4]

Abstract: Our lives became easier with the Quick access of technology and infrastructure. The advent of technology has also rise the traffic hazards and the road accident take place repeatedly which causes massive loss of life and property because of the poor emergency facilities. Recently, intelligent transportation systems have emerged as an efficient way of improving usage of transportation systems and enhancing travel safety. Accident detection systems are one of the most effective tools. The accident detected system which based on Global Positioning System (GPS) and Global System for Mobile communication (GSM) can be accomplish though one or several sensors, the system can gathers the information and coordinates of accident place then send this data to the rescues services center over a network link in short time, It represented as an instance helping system. . This application is integrated with an external pressure sensor to extract the noticeable force of the vehicle body. It will calculate speed and change of tilt angle with GPS and accelerometer sensors respectively on Android phone. And checking conditions, this application also capable of reducing the rate of false alarm. The use of GPS technologies and sensors allows the system to track vehicle and provides the most instant and accurate information about the vehicle accident spot.

Keywords: Global System for Mobile communication (GSM), Global Positioning System (GPS), Short Message Service (SMS), Raspberry Pi controller (RPi)

I. INTRODCTION

The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic

has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people’s living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people’s living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people’s living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% Statistics show that the leading cause of death by injury is road traffic accidents. A survey report by World Health Organization highlights that every year more than 30,000 people in Pakistan are died due to road traffic accidents [1]. There are number of causes for which an accident can occur, some of them are; lack of training institutes, use of mobile phone while driving, unskilled drivers, driving while intoxicated, bad road condition, overloading, and poor traffic management [2]. However, most of the time it has been observed that the deaths occured in the road accident are due to the late arrival of the ambulance to the accident spot. Although in most cases the injury is not severe and we could save the affected lives, however, due to late arrival of the rescue team, the injuries turn fatal

The rapid development of economic construction and people’s living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has

become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as
road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6%The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

IJARCCE

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

Vol. 8, Issue 4, April 2019

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6%

The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3]. An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and

property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country. A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% Ther The rapid development of economic construction and people's living standard continues to improve. As well as road traffic accident take place frequently this caused huge losses of life and property to the country and people. Traffic has become an important event in the national interest. It will be serious consequences if people cannot send weft to the outside for help when traffic occur. Poor emergency incident is a major cause for the high number of traffic fatalities and the death rate in our country.

A number of technological and sociological improvements have helped reduce traffic fatalities during the past decade, e.g., each 1% increase in seatbelt usage is estimated to save 136 lives [2], Moreover, each minute that an injured crash victim does not receive emergency medical care can make a large difference in their survival rate, i.e. Analysis shows that reducing accident response time by 1 min correlates to a six percent difference in the number of lives saved [3].

An effective approach for reducing traffic fatalities, therefore, is to reduce the time between when an accident occurs and when first responders, such as medical personnel, are dispatched to the scene of the accident. Accident detection system use sensors embedded in a car to determine when an accident has occurred. These systems immediately dispatch emergency medical personnel to serious accidents. Eliminating the time between accident occurrence and first responder dispatch reduces fatalities by 6% Statistics show that the leading cause of death by injury is road traffic accidents. A survey report by World Health Organization highlights that every year more than 30,000 people in Pakistan are died due to road traffic accidents [1]. There are number of causes for which an accident can occur, some of them are; lack of training institutes, use of mobile phone while driving, unskilled rivers, driving while intoxicated, bad road condition, overloading, and poor traffic management [2]. However, most of the time it has been observed that the deaths occured in the road accident are due to the late arrival of the ambulance to the accident spot. Although in most cases the injury is not severe and we could save the affected lives, however, due to late arrival of the rescue team, the injuries turn fatal Statistics show that the leading cause of death by injury is road traffic accidents. A survey report by World Health Organization highlights that every year more than 30,000

people in Pakistan are died due to road traffic accidents [1].

There are number of causes for which an accident can occur, some of them are; lack of training institutes, use of mobile phone while driving, unskilled drivers, driving while intoxicated, bad road condition, overloading, and poor traffic management [2]. However, most of the time it has been observed that the deaths occured in the road accident are due to the late arrival of the ambulance to the accident spot. Although in most cases the injury is not severe and we could save the affected lives, however, due to late arrival of the rescue team, the injuries turn fatal Statistics show that the leading cause of death by injury is road traffic accidents. A survey report by World Health Organization highlights that every year more than 30,000 people in Pakistan are died due to road traffic accidents [1].

There are number of causes for which an accident can occur, some of them are; lack of training institutes, use of mobile phone while driving, unskilled drivers, driving while intoxicated, bad road condition, overloading, and poor traffic management [2].

However, most of the time it has been observed that the deaths occured in the road accident are due to the late arrival of the ambulance to the accident spot. Although in most cases the injury is not severe and we could save the affected lives, however, due to late arrival of the rescue team, the injuries turn fatal Statistics show that the leading cause of death by injury is road traffic accidents. A survey report by World Health Organization highlights that every year more than 30,000 people in Pakistan are died due to road traffic accidents [1].

There are number of causes for which an accident can occur, some of them are; lack of training institutes, use of mobile phone while driving, unskilled drivers, driving while intoxicated, bad road condition, overloading, and poor traffic management [2].

However, most of the time it has been observed that the deaths occured in the road accident are due to the late arrival of the ambulance to the accident spot. Although in most cases the injury is not severe and we could save the affected lives, however, due to late arrival of the rescue team, the injuries turn fatal A large number of precious lives are lost due to road traffic accidents every day. The common reasons are driver's mistake and late response from emergency services. There is a need to have an effective road accident detection and information communication system in place to save injured persons. A system that sends information messages to nearby emergency services about the accident location for timely response is absolutely in need. In research literature, a number of automatic accident detection

systems are proposed by numerous researchers. These include accident detection using smartphones, GPS technologies, vehicular ad-hoc networks and mobile applications. The implementation of an automatic road accident detection and information communication system in every vehicle is very crucial. This paper presents a brief review on automatic road accident detection techniques used to save affected persons. An automatic road accident detection technique based on following contribution.

Therefore, our contribution can be listed as follows:
• Construction of an efficient automated vehicle accident detection system using Android.
• Develop a framework for reducing false alarm of vehicle accident detection.
• Dispatch automatic emergency accident alert message to relative, nearest police station and hospital.

II. LITERATURE SURVEY

Title: Automobile black box system for accident analysis[1]

Author: Monisha J Prasad ; S Arundathi ; Nayana Anil ; Harshikha ; B. S. Kariyappa

Description: Automobiles and computing technologies are creating a new level of data services in vehicles. The Automobile Black Box has functions similar to an airplane black box. It is used to analyze the cause of vehicular accidents and prevent the loss of life and property arising from vehicle accidents. This paper proposes a prototype of an Automobile Black Box System that can be installed into vehicles. The system aims to achieve accident analysis by objectively tracking what occurs in vehicles. The system also involves enhancement of security by preventing tampering of the Black Box data. In addition, the Black Box sends an alert message to a pre-stored mobile number via Short Message Service (SMS) in the case of occurrence of an accident. The proposed system makes use of 12 sensors to record the various driving data parameters. The Raspberry Pi controller (RPi) and Arduino controllers are used to regulate these sensors. The data received from the sensors are stored on the SD card mounted on RPi for retrieval after the accident. The system uses external sensors such as camera and Global Positioning System (GPS) to collect video and location data.

Title: -A review on road accident data analysis using data mining techniques[2]
Author: - Apeksha V. Sakhare ; Prajakta S. Kasbe
Description: Road accident analysis plays an important role in transportation system. This paper shows a survey of road accident analysis methods in data mining. In the data mining there is no. of techniques available for clustering and classification, from those techniques k-mean, association rule, SVM, Weka tool was used in previously research for road accident analysis. In our daily life there are no. of accident increases and it is big problem to us because no. of people death and injured for that improve the road transportation system is needed. In this research self organization map (SOM) is used for find a no. of pattern to analysis the road accident data which help to find prediction of accident reasons and improve the accuracy of analysis compare to k-means clustering algorithm. With the help of SOM, clusters are created and analyze them. Self Organizing map method is based on neural network, it is used as an unsupervised learning method. It will help to improve analysis accuracy..

Title: -Accident prevention system based on semantic network[3]
Author:-Jian-Xiong Yang ; Junzo Watada
Description: -As humans handle huge and dynamic information in their daily life, such information is structurally complex and ever growing. Nowadays, the most typical information should be the World Wide Web. It is a fertile knowledge sea which humans encounter in their life individually as well as in business. Therefore, Web mining is one of most important techniques. A new generation of Web mining techniques is developed to analyze Web information by means of searching, recommending, surfing and visualizing the Web. A semantic network is one of new ways for Web content mining which takes advantage for both of a fuzzy logical search and semantic analysis. The objective of this paper is to build an accident prevention system by means of the semantic network. The system is built from a number of ranking algorithms based on generality and novelty measures extracted from an accident database.

III. PROPOSED SYSTEM

In Proposed system we are using the sensors, GPS and GSM modules. And We also make Android application and, in that user, can register the application. And registration successful then Login the application. Similarly, admin can login the application. So, admin using application see the user details. so, hardware module is following: -

1. **Sensor**s: - In that two type of a sensor are used:
SW420: - This sensor is used for detection of vibration.

IJARCCE
ISSN (Online) 2278-1021
ISSN (Print) 2319-5940
International Journal of Advanced Research in Computer and Communication Engineering
Vol. 8, Issue 4, April 2019

ADXL335: - This sensor is used for measure the static acceleration of gravity in tilt-sensing applications, as well as dynamic acceleration resulting from motion, shock, or vibration.

2. GPS module

It is a global navigation satellite system that gives geolocation and time information to GPS. A GPS receiver anywhere on the Earth where there is an open line of sight to four or more GPS satellites. GPS systems are extremely adaptable and can be found in almost any sector. GPS systems are used in military applications and by emergency band to locate people in need of assistance. It has three parts: satellites, ground stations, and receivers. And receiver calculates the distance from four or more satellites, it knows exactly where you are.

3. GSM module

GSM is used as a media which is used to control and monitor the transformer load from anywhere by sending a message. It has its own deterministic character. Thereby, here GSM is used to monitor and control the DC motor, Stepper motor, Temperature sensor and Solid State Relay by sending a message through GSM modem. Hence no need to waste time by manual operation and transportation. Hence it is considered as highly efficient communication through the mobile which will be useful in industrial controls, automobiles, and appliances which would be controlled from anywhere else. It is also highly economic and less expensive; hence GSM is preferred most for this mode of controlling.

IV. SYSTEM ARCHITECTURE

Following diagram is our system's architecture diagram:

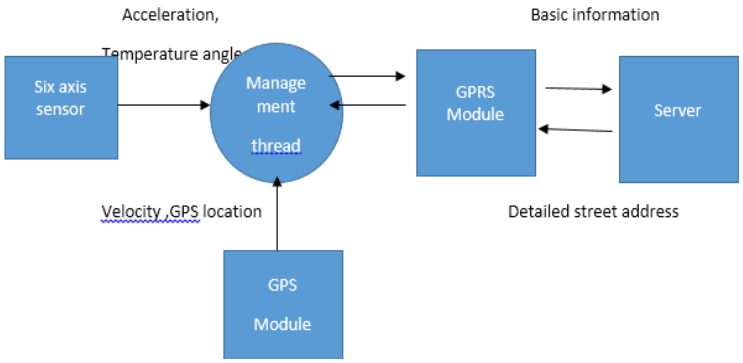

Figure 1: system architecture

These applications include road conditions survey, traffic conditions monitoring and accident detections. All of these abilities are essential to an Intelligent Transport System, which aims to reduce traffic problem and enhance traffic safety. Real-time traffic accident prediction importance is change of traffic conditions, while traffic incident detection studies are concerned with the change of traffic conditions after an incident happened. However, the performance of these detection and prediction system is greatly restricted by the number of monitoring sensor, available fund, the algorithms used to confirm an accident, weather, traffic flow etc. There are possibilities of false alarm in the system and also does not guarantee the occurrence of an accident. S. Amin et al. proposed a method of accident detection using GPS, GPRS and GSM. Accident Detection We have considered three parameters to detect a situation as an accident. As we know, when an accident occurs velocity of vehicle decrease rapidly. But in this application, we do not detect the situation as an accident, only when the speed decreases rapidly.

V. METHODOLOGIES

A. Accident Detection: In case 1, if the speed of vehicle dropped down rapidly and a change of tilt angle with road surface increases much, then it detects as an accident. Actually, it means when the threshold values of speed and change of tilt angle of vehicle exceed, then our application considers the situation as an accident. And, this time two flag bits change and flag number tum into '023'. In case 2, when the threshold values of speed and pressure of vehicle exceed, it considers the situation as an accident.

B. Alarm and Emergency Alert Message: When any one of our proposed accident detection method happen, then an alarm arises. User can press 'Cancel' button and no emergency alert message will send. This kind of situation is considered as a false alarm. Otherwise, an emergency alert message will send to user's emergency contact number, nearest police station and hospital.

IJARCCE

ISSN (Online) 2278-1021
ISSN (Print) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

Vol. 8, Issue 4, April 2019

VI. CONCLUSION

This project represents vehicle accident detection and alert system with SMS to the user defined mobile numbers. The GPS tracking and GSM alert based algorithm is designed and also implemented in embedded system domain. The proposed system Vehicle accident detection system can track geographical information automatically and sends an alert message regarding accident. In this paper, we have shown that road accident can be detected efficiently by using some particular parameters. Our proposed approach capable of deciding whether a situation is an accident or not and if so, then immediately traces nearest police station as well as hospital and send emergency alert message for help. we presented a fusion of infrastructure-based system with an ad-hoc communication network which enables a wide variety of use cases for enhancing traffic safety.

REFERENCES

[1]. Automobile black box system for accident analysis Monisha J Prasad ; S Arundathi ; Nayana Anil ; Harshikha ; B. S. Kariyappa
[2]. A review on road accident data analysis using data mining techniques- Apeksha V. Sakhare ; Prajakta S. Kasbe 2016.
[3]. Accident prevention system based on semantic network:-Jian-Xiong Yang ; Junzo Watada
[4]. Adnan Bin Faiz, Ahmed Imteaj, " Smart Vehicle Accident Detection and Alarming System Using a Smartphone " 2015.
[5]. Asad Ali, Mohamad Eid "An Automated System for Accident Detection." 2015
[6]. Home Affairs, Govt. of India. 2007. Sonkin B, Edwards P, Roberts I, Green J. Walking, cycling and transport safety: an analysis of child road deaths. J R Soc Med 2006;99(8);402-405
[7]. Bannon MJ, Carter YH, Mason KT. Causes of fatal childhood accidents in North Staffordshire 1980-1989. Arch Emerg Med 1992;9:357-366
[8]. Sharples PM, Storey A, Aynsley-Green A, Eyre JA. Causes of fatal childhood accidents involving head injury in northern region 1979-86. BMJ 1990;301(6762):1193-7