Accident Prevention for Vehicle Safety

Jadhav Samruddhi Bhausaheb

Dept.of Computer Technology

Rajashri Shau Maharaj Polytechnic Nashik,India
samruddhijadhav897@gmail.com

Pawar Dipali Dilip
Dept.of Computer Technology
Rajashri Shau Maharaj Polytechnic Nashik,India

pawardipali606@gmail.com

Guided By Mrs.M.R.Patil

Dept.of Computer Technology

Rajashri Shahu Maharaj Ploytechnic Nashik ,India

mayura.patil@rsmpoly.com

Tupe Vaibhavi Vinay

Dept.of Computer Technology

Rajashri Shau Maharaj Polytechnic Nashik,India
vaibhavitupe5@gmail.com

Hyalij Tejas Ashok

Dept.of Computer Technology

Rajashri Shau Maharaj PolytechnicNashik,India
tejashyalij09@gmail.com

Abstract: Speed is one of the primary wellsprings of vehicle disasters. Many lives could have been saved on the off chance that emergency organizations had gotten the setback information and contacted them on time. This venture manages a mishap recognition framework. In case of a mishap, it involves different parts to call heroes for help. Effective programmed mishap identification with programmed warning of salvage administrations with data about the area of the mishap is a central prerequisite to saving significant living souls. The proposed framework manages mishap cautioning and recognition. Peruse the specific scope and longitude of the mishap vehicle and send this data to the closest crisis administrations. The motivation behind this undertaking is to perceive mishaps and ready salvage administrations on time. As of late the vast majority of the mishap happen because of laziness of drivers in vehicles and trucks. Yearly 1200 passings and 76000 harmed. This methodology incorporates examination of police detailed accident information, top to bottom nearby examinations promptly following an accident of the general driving populace. The present examination was intended to give additional data to traffic wellbeing and others could use in their endeavors to decrease the quantity of sleepy related accidents. than anywhere else in the world, including the more populous China. Calling road fatalities an "epidemic" that will become the world's fifth biggest killer by 2030, the report said while rich nations had been able to lower their death rates, these were sharply on the rise in the third world. It said 90% of deaths on the world's roads occur in low and middle-income countries (21.5 and 19.5 per lakh of population, respectively) though they have just 48% of all registered vehicles. The statistics for India are chilling. At least 13 people die every hour in road accidents in the country, the latest report of the National Crime Records Bureau reveals. However, road safety experts say the real numbers could be higher since many of these accident cases are not even reported. "There is no estimate of how many injured in road accidents die a few hours or days after the accident," points out RohitBaluja, member of the UN Road Safety Collaboration and Commission of Global Road Safety representing Asia. Based on the records, India will become the world number 1 in Road Deaths due to the poor record of average 13 die every hour, which is 1.14 lakh per year. This will make India to be the first place. This causative information about the accidents is the intent to develop the proposed technology as scientific traffic engineering wings to reduce the fatalities due to accidents. This proposed methodology is the automatic system which will provide the solution for identifying the accident location. Nowadays accidents are increasing at an alarming rate. Speed is the cause of most numberof traffic accidents. In this project, we first applied Eclat algorithm

Keywords— Eclat algorithm, clustering, classification,GPS to group the crime locations into 0 level, 1 level, 2 level accident tracking, Accident.

1. INTRODUCTION

The number of deaths due to traffic accidents is very high. Looking at the number of deaths and injuries due to road traffic accidents shows the global crisis of road safety. Nearly 1.3 million people are killed every year and about 50 million injured worldwide due to road accidents, which averages to 3,287 lives lost every day. More than 50 percent of road traffic deaths affect young adults between the age of 15-44. Around 400,000 individuals under the age of 25 dies in road traffic accidents every year. Even in countries with very good road safety measures, the number of road accident deaths is getting higher every year. More than 90% of road traffic deaths occur in middle-income countries. In low-income countries the figure is even higher. In India, the World Health Organization (WHO) has revealed in its first ever Global Status Report on Road Safety that more people die in road accidents in India location. Eclat algorithm takes accident level count as a factor to cluster the locations.
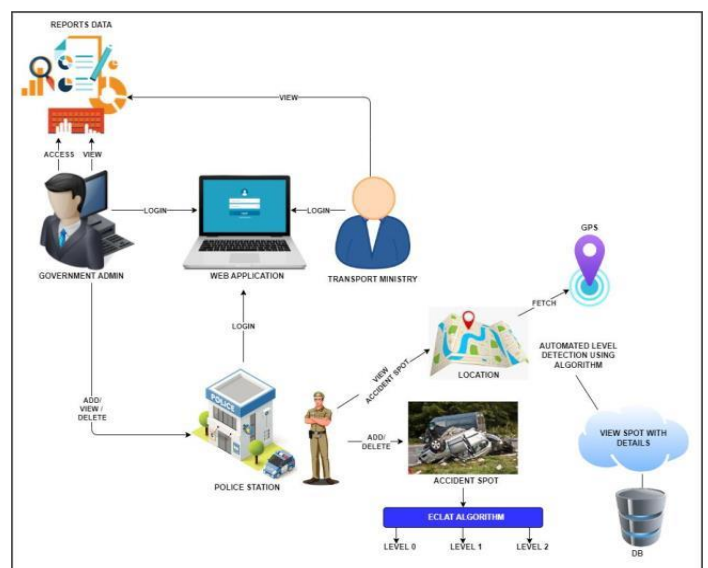
2. Proposed System

The purpose of an accident prevention system is to identify potential hazards and implement measures to eliminate or minimize the risk of accidents. The goal is to create a safe working environment for employees, prevent injuries and fatalities, reduce property damage, and improve operational efficiency. By proactively addressing safety concerns and implementing preventive measures, accident prevention systems help organizations comply with regulations, protect their workers, mitigate financial losses associated with accidents, enhance productivity, and maintain a positive reputation. option is also there. Need: There are several reasons why an accident prevention system is needed: 1. Safety: The primary reason for having an accident prevention system is to ensure the safety of people. Accidents can cause

injuries, fatalities, and property damage. By implementing a prevention system, the risk of accidents occurring can be minimized or eliminated, thereby increasing overall safety. 2. Cost savings: Accidents can result in significant financial costs for individuals and organizations. This includes medical expenses, property damage repairs, legal fees, loss of productivity due to injuries or deaths, and increased insurance premiums. By preventing accidents from happening in the first place, these costs can be avoided. The main elements of the prototype model of an Accident prevention system using IOT for car safety messaging are GSM module and Arduino UNO. The working of this model will be made in Accelerometer: It is used to measure speed of vehicle. If there is any change in the acceleration and beyond the threshold value. The Microcontroller of the

hardware gets activated and at the same time, GPS module is triggered ON. It detects the latitude and longitudinal position of the car. GPS means Global Positioning System. It is used to get the longitude and latitude to find the exact location. We have used a GPS. It has high sensitivity for the various indoor applications, which makes it more reliable to use. The latitude and longitude position of the car is sent as a message through the Global System for Mobile Communication(GSM)to the pre-saved numbers. This is used to send exact accident location via SMS. When High Speed is detected system will display message on LCD to inform driver about the speed of vehicle. If speed is high then buzzer will be ON.

3. SYSTEM ARCHITECTURE

The proposed system is discover the google map using web application . It can be devided intovarious module:

i. **Government Admin:** Government Admin add the police station, police station can addallaccident spot like crime location on map. Government Admin can view all data.

ii. **Police:** Police will integrate the accident spot of accident's and then decide the level of accident according to admin's police decided the danger level of that spot level wise. All spots are to be declared as level wise like Level 0, Level 1, Level 2. These levels are define by using Eclat Algorithm, using this algorithm the accident's spot will be define in above three level of dangerous zone from which people can be alerted and safely choose their path of travelling.

iii. **Transport Ministry:** View all Reports.

4. CONCLUSIONS

We have proposed system for accident prevention and making the world a much better and safeplace to live. The outcome of the project is basically has two applications. One is to prevent and control the vehicle from the accidental situations. Second is to detect the accident occurred area,which is helpful to track and rescue.The proposed system is developed to provide the informationabout the accident occur and the location of the accident .It helps to easily provide the assistantand help to the victim of the accident. This system uses GPS module to locate the vehicle. GSM is used to provide the information of accident. The results of the proposed systems are satisfactory. Main motto of the accident prevent system project is to decrease the chances of losing life in such accident which we can't stop from occurring. Whenever accident is alerted, the paramedics are reached to the particular location to increase the chances of life. Thus this work ensures the reduction of death ratio and fatalities in the country like India and also which will have a greater importance in day to day life.

5. REFERENCES

[1]   Sadhana B Shabrin, Bhagyashree Jagadish Nikharge, Maithri M Poojary and T Pooja, "Smart helmet-intelligent safety for motorcyclist using raspberry pi and open CV", proc.IEEE,vol.03, no.03 pp.2395-00562016

[2]   Sarika R. Gujar and Prof. A. R. Itkikar has focused on "Advanced Embedded System of Vehicle Accident Detection and Tracking System", Proc-
IEEE, vol.5, no.2, pp- 2277 128X 2015

[3]Smart Helmet with Sensors for Accident Prevention Mohd Khairul Afiq Mohd Rasli, Nina Korlina Madzhi, Juliana Johari Faculty of Electrical Engineering University Tecnology MARA40450 Shah Alam Selangor, MALAYSIAjulia893@salam.uitm.edu.my)

[4]   Vijay J, Saritha B, Priyadharshini B,Deepeka S and Laxmi R (2011), "Drunken Drive Protection System", International Journal of Scientific & Engineering Research, Vol. 2, No. 12, ISSN: 2229- 5518.

[5]   Harish Chandra Mohanta, Rajat Kumar Mahapatra and Jyotirmayee M uduli(2014)", Anti-TheftMechanism System Accidental Avoidance and Cabin Safety System for Automobiles", International Refereed Journal of Engineering and Science (IRJES), Vol. 3, No. 4, pp. 56.

[6]   Sudarsan K and Kumaraguru Diderot P (2014), "Helmet for Road Hazard Warning with Wireless Bike Authentication and Traffic Adaptive Mp3 Playback", International Journal of Science andResearch (IJSR), Vol. 3, No. 3,ISSN (Online): 2319-7064.