International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 05 Issue: 04 | April - 2021 ISSN: 2582-3930

Mishap Interdiction System

Saurabhi Chaubey [1]
UG STUDENT
ZCOER PUNE

Shwenta Suresh Biradar[2]
UG STUDENT
ZCOER,PUNE

Chetan Shankar Bhikule[3]
UG STUDENT
ZCOER,PUNE

Sanyukta Sanjay Gogawale [4]
UG STUDENT
ZCOER,PUNE

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Abstract

Transportation has become one of the most important issues in the modern world .Room traffic plays a vital role in economic growth and globally. With increased use of vehicles the risk of accidents has also increased .A large number of precious lives are lost due to road accidents. India is highly protected from road accidents and injuries. Some of the most common causes of accidents are reckless driving, crossing seed boundaries, drunk driving, drowsiness .This research paper aims to study how to detect and prevent accidents first. This study is available in a variety of data resources .Scope to reduce risk and in the event of an accident make a notice so that those in need can get help as soon as possible.

Key words: *Accident, Common Cause, Accident Detection, Accident Prevention, Notification*

I. Introduction

The transport system is very important in our daily lives and it is true that we cannot imagine survival. With increasing transport use there is a rapid increase in road accidents .According to a WHO (1.5 World Health Organization) survey, about 1.5 lakhs of people die in road accidents. Road traffic is the fourth highest in Asia, with a global traffic report published by WHO, 1 out of 11 deaths in India. In terms of resources India

ranks 5th in the world with the highest number of car registrations and more than 3 million vehicles are registered annually.In 2019, according to the report India experienced 4,49,002 road accidents, 1,51,113 fatal and 2,51,361 injured.

There are many reasons behind a road accident but the two main causes of fatal crashes are speeding and drunk driving. There are many steps in the decade to prevent and prevent accidents, and various laws and regulations have been proposed to prevent accidents.

Emerging technology has also proven itself by suggesting various ideas to prevent and detect danger. Io (Internet of Things), ML (Machine Learning), In-depth learning are some of the key domains that have provided the best ideas for blockchain prevention.

II. Objective of the Study

The main purpose of the research is to detect danger and to issue warnings to local authorities such as the ambulance, police station and one of my trusted contacts with the assistance of IoT (Internet of Things), and to prevent accidents due to drowsiness and drunken driving with the help of state-of-the-art ML technology.

III. Research Methodology

This research paper is primarily based on IoT (Internet of Things), Secondary ML (Machine learning) Algorithms are used to collect sample data known as MNIST databases. Various processors and sensors are used to obtain accurate results.

IV. Literature Review

The continued growth of technology provides a global opportunity to prevent accidents and build a transport system that can easily deal with road accidents, with many ideas proposed by various investigators to prevent misconduct with the help of the latest technology. Existing ideas for the purpose of protecting and detecting danger and its limitations as categorized as

a) Smart Car: Accident detection system - In this research proposed by Nagarjun R Vatti ,Prasannal Lakshmi Vatti ,Rambhu Vatti and Chadrashekhar Grade ,The accident was detected by the vibration and gyroscope sensors and immediately a message was sent to the emergency contact numbers using GSM module along with the location identified by the GPS module , The limitation of this research was there was no option for measuring the collision which could result in generation of false alarm .

b) Intelligent Transportation System for Accident Prevention and detection -In this research proposed by DR. D. Selvathi ,P.Pavitra ,T .preeti ,In order to prevent accident monitoring of alcohol in breath of driver was continuously monitored and for two wheelers the motor starts only if the driver wore helmet and in case of accident the notification was sent .The limitation of this proposed idea is in this alcohol in breath is monitored but there are various way in which one can control smell in there breath And also there might be some other reason for one's intoxicated state.

c) Sudden Unintended Acceleration Avoidance And Drowsiness Detector For Accident Prevention -The idea presented by S.Priyanka , G.Hemalatha and C.Saranya ,To detect the accident by detecting any sudden change in acceleration of vehicle and in order to prevent accident they used drowsiness detection technique ,But in there accident they haven't mentioned any thing what if accident happen .

d) IOT Based Intelligent System for Vehicle Accident Prevention And Detection At Real Time – IOT based idea presented by Vivek Kinage and Piyush Patil to detect accident by detecting the Collison and preventing accident by detecting drowsiness got a limitation that there were no notification system to correspond notification in case of mishap and also there were nothing in order to prevent false alarms of accident.

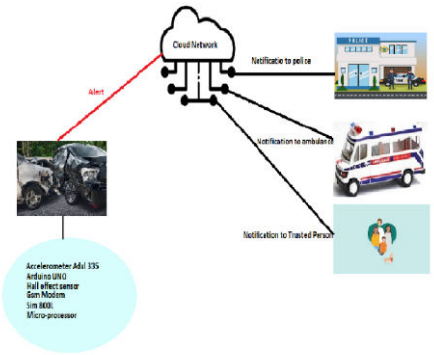
V. Existing System

There are many existing system for accident detection or prevention ,but most of them are different units some are either prevention or detection and the one which is for the both it do not state any thing about notification generation on accident .
In order to overcome this problem we have created a system that will remove the limitation .

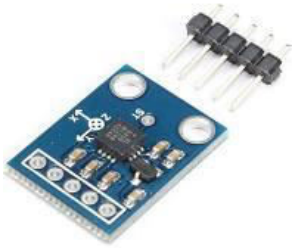
VI. Proposed System

Accident Detection

The system have automatic response to accident ,Whenever accident is detected by sensor and microprocessor a notification will be generated and will strore in cloud database.
From cloud notification is sent to local authorities and family members.



The device is designed in such a way that it immediately detect the Collison using ADXL 335 accelerometer with raspberry pi 3B+.



(ADXL 335 THREE AXIS ACCELEROMETER)

Accelerometer Adxl 335 is three axis accelerometer that detect Collison from Direction that is X(Front),Y(back),Z(Both the sides) .

Whenever there is a rapid position shift or change in velocity collision is noted .The system is three level designed system which means in order to avoid false alarm the Collision will be measure in 3 level ,level 1 being the least level 3 being the most.

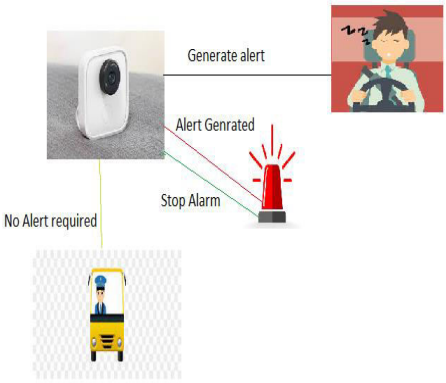
After Collison the device is programmed to find the GPS Coordinates installed in GSM Unit and send the data to the cloud.

(SIM 800L GPRS GSM MODULE)

The GSM module have SIM 800l installed in it to generate the notification.

Accident Prevention

One of the main reason of accident is drowsiness of driver .In order to prevent this the system designed in such a way that it detect the drowsiness , if drowsiness is detected ,alert is generated in order to wake up the driver.
The device is trained with the help of machine learning algorithm tenserflow .The algorithm is trained with a lot of open and close eyes sample image data which is known as MNIST Data set .It is coded in such a way that if the driver closes its eyes for more than 5 sec the alarm will be generated until the driver eyes goes back to open and the system comes to normal state



VII. Conclusion

The proposed system ensure that humans life are not at risk on road by avoiding all major reasons behind road accidents. If the system is implemented properly and effectively many lives can be saved .It will also help the economic of country by increasing the sales of vehicle .

This system have a drawback that in case of no range area the notification will not generate .This is something on which in future work can be done to make system more efficient.

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