iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 6 **Issue:** XII **Month of publication:** December 2018

DOI:

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 6.887
Volume 6 Issue XII, Dec 2018- Available at www.ijraset.com

Review On: Vehicle Accident Avoidance System and Signal Management System

Mr. Saurabh Patil[1], Mr. Sandip More[2], Mr. Vaibhav Dang[3], Mr. Yash Madikunt[4], Prof. Sayali Shivarkar[5]
[1, 2, 3, 4]*B.E. Students, Dept. of Computer Engineering, Dhole Patil College of Engineering, Wagholi, Pune, Maharashtra, India*
[5]*Asst. Professor, Dept. of Computer Engineering, Dhole Patil College of Engg, Wagholi, Pune, Maharashtra, India*

Abstract: ***The proposed system helps to avoid accidents occurring due to not maintaining breaking distance between two vehicles and Signal jumping at traffic signals though it is red. By applying this Vehicle Accident Avoidance System we can maintain proper breaking distance between two vehicles by controlling break system of vehicle with the help of distance measurement sensor and break controlling motor. In this process Arduino microcontroller is use as controller which will sense the distance with the help of Ultrasonic sensor, as distance between two vehicle will reduce less than breaking distance, break of vehicle is applied more and more with the help of stepper motor by Microcontroller. System will release the break when distance between two vehicles will be greater than breaking distance. One the other hand, at the traffic signal, as far as the traffic signal is red break of vehicle is compulsorily applied by system to avoid signal jumping hence accidents occurring will be avoided. This is achieved by using colour sensor attached at the top of the vehicle. Sensor will sense the red signal and admit it to Arduino, Arduino will control the stepper motor and apply vehicle break fully. Along with this ambulance detection system is also embed in this project that will clear the ambulance way by getting indication in our vehicle.***
Keyword: Smart vehicle, Color sensing technology, Arduino, Ambulance detection IR sensor, Ultrasonic Sensor.

I. INTRODUCTION

According to the world accident report, India has the very highest number of road accidents within the world. Road accidents have earned India a dubious distinction. With over 130,000 deaths annually, the country has overtaken China and now has the worst road traffic accident rate worldwide. As many as 1, 39, 091 people lost their lives in 4, 40,042 road accidents in the country last year. The statistics released by the National Crime Records Bureau (NCRB) 1, 18, 533 of the victims were male. They include 11,571 pedestrians. The 28 States together accounted for 1, 36, 771 deaths and the seven Union Territories for the remaining. Tamil Nadu tops the list of with 16,175 deaths in 67,757 accidents, followed by Uttar Pradesh with 15,109 deaths in 24,478 accidents. Andhra Pradesh is third with 14,966 deaths in 39,344 accidents and Maharashtra fourth with 13,936 deaths in 45,247 accidents. The Capital city of Delhi accounts for about 1,866 deaths in 6,937 accidents.

II. LITERATURE SURVEY

A. Advanced Accident Avoidance System for Automobile

Proposed method the relative speed and distance of all the vehicles around a particular vehicle is estimated using IR sensors and Ultrasonic sensors and based on those results the speed of that particular vehicle is controlled to avoid early collisions.

1) *Advantage:* The accident is detected and the information of accident location will be sent to already predefined numbers.
2) *Disadvantage:* This System is Not check whether the person is drunken or not by using the sensor.

B. Intelligent Automobile Accident Avoidance System

The aim of this system is to prevent accidents occurring on highways because of drowsiness or over consumption of alcohol. The main working of this system is to park the vehicle safely at the side of road by changing the lanes, for this they use IR Sensors and ultrasonic sensors to detect surrounding vehicles. If objects detected then system will alert the driver, such system useful to get judgement over vehicle driving.

1) *Advantage:* This system uses ultrasonic sensors which correctly measures the distance of the vehicle ahead and to the left so that driver will get the judgment of other vehicles.
2) *Disadvantage:* Ultrasonic sensor sense the threshold distance of the object, breaking system control by manually.

©IJRASET: All Rights are Reserved

C. Automatic Breaking System

This system proposed to detect objects and stop vehicle accordingly. System implemented with IR and Ultrasonic Sensors which detect object and measure distance and control breaking system automatically when object detected.

1) Advantage: Uses ultrasonic sensor to detect object, Control vehicle breaking system automatically

2) Disadvantage: No traffic signal is detected by system.

D. Automatic speed control and accident avoidance of vehicle using multi-sensors.

The main aim of the project to develop a system automatic speed control of vehicle and accident avoidance using eye blink sensor vehicle stop the automatically.

1) Advantage: Automatically control the speed of vehicle.

2) Disadvantage: Doesn't support to detection of traffic signal. Also eye blink sensor not work well at night time.

III. PROPOSED SYSTEM

The vehicle accident avoidance system helps to avoid the regular accidents that will normally occurring on highways and in city traffic. These accidents are mainly happened by distraction, unconsciousness, and distance unknown between our vehicles. So let us consider the Indian roads and we will have 2 ultrasonic sensors where one is placed in the front and another one behind the car. Due to this sensor, we can calculate the distance of other automobiles nearing us. Thus we can locate other cars and we can protect ourselves from accidents.

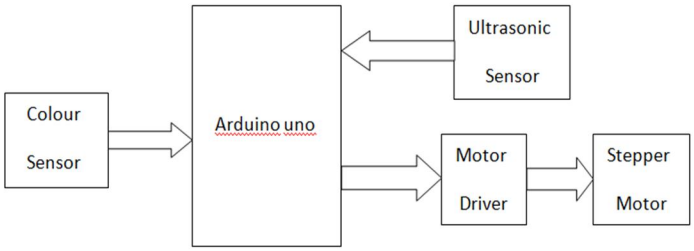


Fig:1 Block Diagram

A. Goals And Objectives

1) To reduce the accident rates occurring at high ways.

2) Traffic signal jumping and traffic jams at signals will be avoided.

3) To avoid Accidents due to accelerator and brake confusion.

4) Designing a system that can control the braking system of a vehicle.

5) Follow the Traffic rules and avoid traffic signal jumping.

IV. CONCLUSION

By using our system the decrease in number of accidents can be expected, Basic traffic rule such as traffic signal will be followed by everyone, and most importantly no accidents will occur with a reason where in emergency situation a passenger depressed the accelerator instead of the break.

REFERENCES

[1] M. Prabha, M. Seema, P. Saraswathi, "Distance based Accident Avoidance System using Arduino", International Research Journal of Engineering and Technology (IRJET), 2015.

[2] Mbachu, C. B. & Onuora, O. N., "Vehicular Accident Detection and Avoidance System for Protecting Passengers and Vehicles", European Journal of Engineering and Technology, 2014.

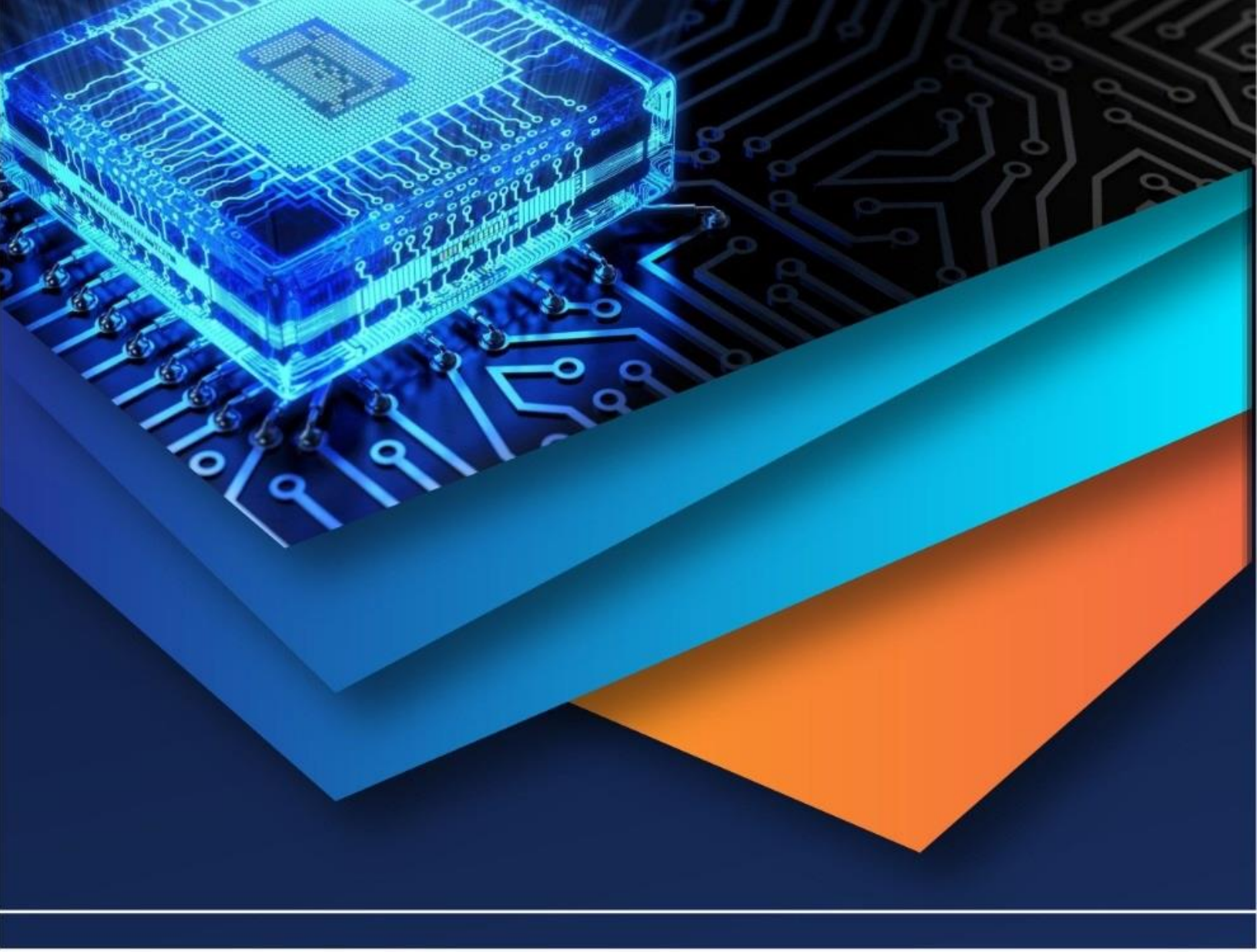
[3] Asmita H, Jathin Sreenivas, Nandini S Kannan, Saritha, "Accident Avoidance and Detection", IJLTEMAS, 2016.

[4] S Nagakishore Bhavanam, Vasujadevi M, "Automatic Speed Control and Accident Avoidance Of vehicle using Multi Sensors", Proceedings of International Conference on Innovations in Electronics and Communication Engineering (ICIECE 2014).

[5] Priya Mohan, Sanjana Vijayan, Lavanya Ravi, Gohila Balakrishnan, "Intelligent Accident Avoidance System", International Journal of Advances in Electronics and Computer Science, ISSN: 2393-2835, 2015.

[6] T. U. Anand Santhosh Kumar, J. Mrudula, "Advanced Accident Avoidance System for Automobiles", International Journal of Computer Trends and Technology (IJCTT) – volume 6 number 2– Dec 2013.

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)