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***Research Article** (Open Access)*

AUTOMATIC SPEED REDUCTION OF VEHICLES IN ACCIDENT ZONE

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ABSTRACT
In this research paper we discusses about the decrease of accident which is significant issue for expanding in the passing rate by giving some fundamental security system to the vehicles. India is a second position in the vehicles accident overall in the world. The reason of such accidentsare not adhering to some of rules for example, speed limit, No horn at hospital, school zone and so forth. To maintain a strategic distance from accident an automatic speed control and horn disabled system are design by using Alcohol sensor, Ultrasonic sensor, and LDR sensor. Use a hardware and control procedures to control a vehicle parameters. Microcontroller is a brain of the undertaking enacts the specific activity comparing to the input signal. BLDC motor is generally utilized along here as a result of simple turning around control speed guideline and beginning torque is low. Avoid accident by giving an indication through buzzer and LCD display.

***Key Words**: School and hospital zone, Speed control of BLDC, Types of sensor, Transmitter and receiver section, Relays.*

INTRODUCTION
This project is mostly evolved to dodge mishap because of fast vehicles. Indeed in spite of the fact that the traffic police control them however they can't accomplish full reaction for them. Additionally, it is unimaginable to expect to monitor those territories at unsurpassed to direct their speed. Along these lines, this venture clears path for controlling the speed of the vehicles inside certain breaking point in those limited zones without the interference of the drivers. These transmitters are modified to impact the coded signs constantly with certainpostponement in the middle. At whateverpoint the vehicles go into these zones their recipients will get this code and afterward the speed of the vehicles is controlled automatically with the assistance of the microcontroller unit present inside the vehicles.Alcohol sensor continuously monitor the driver's breath to distinguish the presence of Alcohol content. In the event that we start the engine the sensor begins to detect if there is any alcohol content in the dampness engine can't start. LDR (Light Dependent Resistor) sensor are used to detecting the contrary vehicle header light.At the point the light can change dim and bright automatically.GSM (Global System for Mobile communication)which is moving the message to approach by police station andrescue vehicle administration when mishap happens.Curvature road at the instant a greater number of accidents occurs for avoiding the problems, we have to use ultrasonic sensor. It should intimate by LCD display and buzzer.

EXISTING SYSTEM
An Existing system there are number of technics accessible to keep away from accident that are Adaptive cruise control, Antilock braking system, anti-collision system, electronic brake force distribution and supplemental restriction system, air bags and manually control the head light and so forth.At the point when accident occurs in some cases recue vehicle set aside more effect to arrive at the accident point or there is plausibility of loss of human life. Since the time taken by the recuse vehicle to arrive at the clinic.In this way, to maintain a strategic distance from this downside analyst executed a system, a programmed discovery of accident through sensor provide in vehicles.

Figure 1: Existing system

PROPOSED SYSTEM

In a proposed system, we need to survive the issue in existing system. Presently a dayin a fasting moving world all the people are not have self-control. At the point when accident occurs, important human life is losing. We need to maintain a strategic distance from the issue so we built up another system which are automatically speed control in school zone, Horn disable in Hospital area.The controller analyses the speed the controller cautions the driver and controls taken automatically.In the event that they don't react the message and data alongside the vehicle number is transmitter to the nearest police station by the use of GSM.

Alcohol sensor is utilized to recognize the substance of the alcohol in the driver's breath and stop the engine. LDR sensor is utilized to automatically changes the headlight switches dim and dark its sense vehicle drawing closer from the inverse side. The Ultrasonic sensor transmitting the sound waves at a recurrence unreasonably high for people hear and avoiding a collision at rash road.Anaccident control and collision identification utilizing ultrasonic sensor. It shows through the Buzzer and LCD display.

BLOCK DIAGRAM

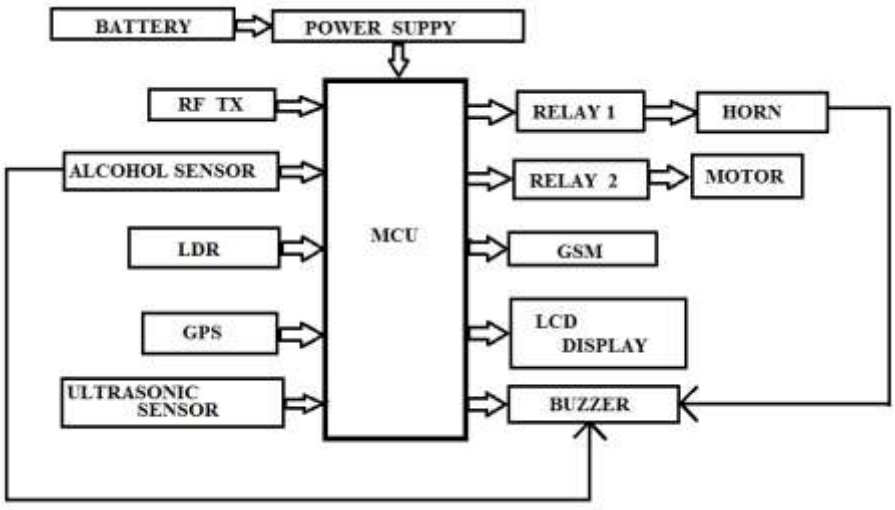

Figure 2: Block diagram for proposed system

Flow Diagram

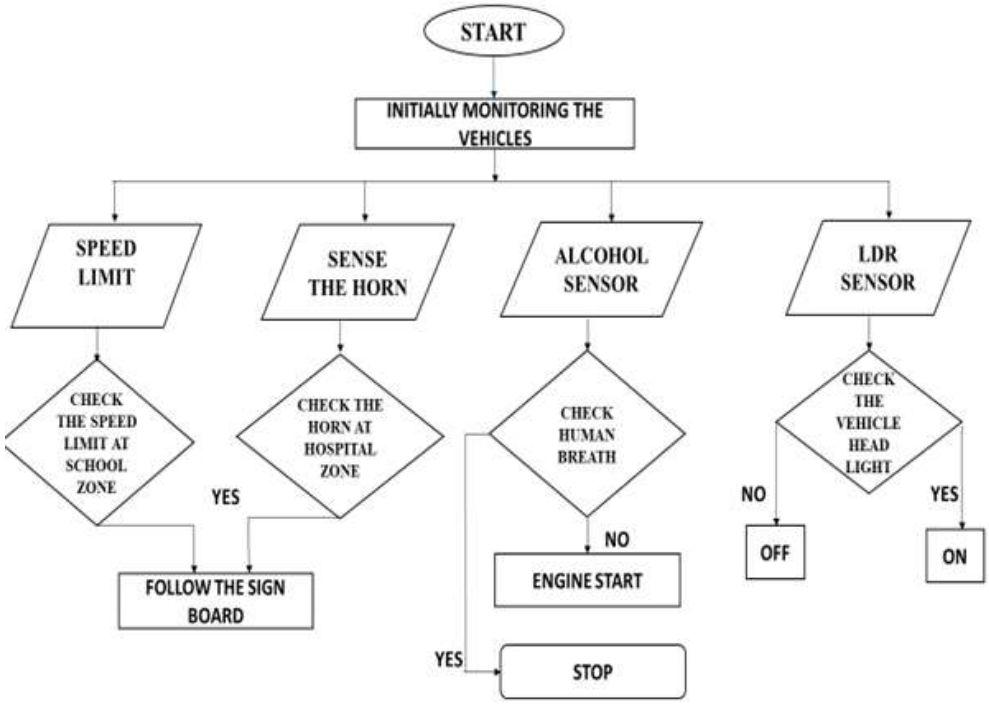

Figure 3: Flow diagram of proposed system

Speed Control

Speed controlled of the vehicle in accident zone, the process is given by:1.It is a signified by driver drive a vehicle our own precise speed.2.It is a signified by driver drive a vehicle has trailed the sign board at accident zone.This paper has automatically speed decreasing in school and college zone, because to avoiding accident.Before 12 meters the sensor has detected to the sign board is signifiedthe 20KM speed, this 20KMspeed has detectedthe vehicle wheel rotation is automatically decreased our specific speed. The vehicles could not increase the speed at particular zone.

Horn Control

It controlled the vehicle in the accident zone, this process is given by:this paperis automatically reduced the horn at inhabited area, because ducking noise. Over all vehicle around set the sound horn is 107-109 Decibels. The horn control is before 12 meters detected to the sign board, to reach the vehicle at hospital zone automatically decreasing the horn sound using relay switch. A hospital zone decreasing the horn in daytime 50dB and night time to decreasing the sound 40dB.

MATERIAL AND METHODS

Alcohol sensor

The system uses MQ-3 alcohol sensor to continually monitor the Blood Alcohol Content (BAC) to detect the existence of liquor in the exhalation of driver. If the sensor detects the content of alcohol in the driver's breath and stop the engine.

Figure 4: Alcohol sensor

LDR Sensor

The system device automatically switches the headlight to low beam when it senses a vehicle approaching from the opposite side using Light Dependent Resistor (LDR).

Figure 5: Light Dependent Resistor

Ultrasonic Sensor

Ultrasonic sensor by emitting sound waves at a frequency too high for humans to hear. Then they collision detection using ultrasonic sensor and wait for the sound to be reflected back, calculating distance based on the time required.

Figure 6: Ultrasonic sensor

Microcontroller

The micro controller used here is PIC which is initially referred is peripherals interface controller. Microcontroller is used to control the input and output units.

Figure 7: microcontroller

Relay

A Relay switch is an electrically operated switch. Many relays use an electromagnet to operate a switching mechanism but other operating principal are also used.

Figure 8: Relay

RESULT AND DISCUSSION

This system is based on speed of the vehicle to achieve a system with control the speed at different zone and reduced the accident to improve the engine performance.

A. System Overview

The wheel motor is controlled by DC source through relay circuits. The output voltage of drive is fed to the BLDC motor which rotates according to the conduction of DC drives. LDR sensor is used to sense the speed of the different zones .

B. Circuit Description

The hardware is based on transmitted and receiver technique. This drives provide desired DC signal by adjusting duty cycle of BLDC motor.Initially applying 100% of duty cycle the output drive is more the motor runs in normal speed. After the signal received in the hospital zone the vehicle horn will be automatically control and vehicle speed also control this zone. If School zone is indicated the vehicle speed is reduced 20KM.

C. Hardware Setup

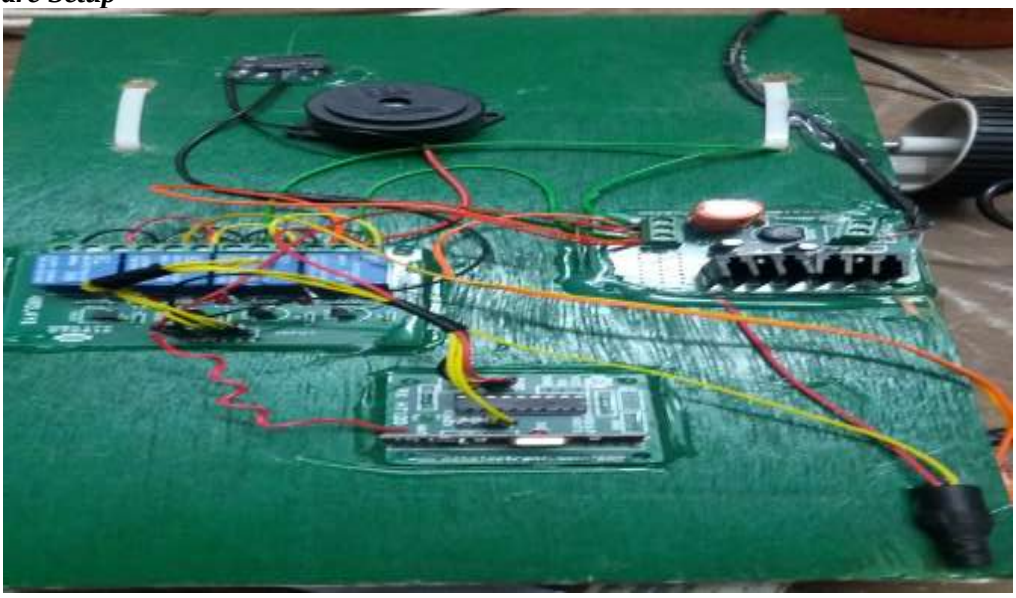

Figure 9: **Hardware overview**

CONCLUSION

In this research paper we had discussedtheAutomatic speed reduction of vehicles in accident zone. Typically publics drive very severely in heavy traffic disposed to areas as they are in a urgency, but in that rapidity they often end in loosing either their life or somebody life on road. It has a great implication in finish and decreasing of total accidents and fatalities in high traffic disposed areas. This paper has a system that checks the speed of the vehicle using IR sensors and microcontroller and directscautionary signals to driver to mediocre down the speed if speed is on higher side. Incase driver doesn'tdecrease the speed then within seconds our system will take control action and will decreased the speed of vehicle automatically. Hence this paper is great public life saving system in heavy traffic zones.

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