Smart Vehicle

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Abstract
In the year 2014, the amount of road mishap passing's in India extended to 92,618. Thinking about the gravity of the conditions, there is accord that purposeful measures are essential for decreasing this strange condition of setback going's and wounds through improved safety efforts and development organization. The vulnerable side is additionally a significant reason for the mishaps. So today we will share a portion of our plans to keep away from mishaps.
To stay away from mishaps, we are intending to carry out certain highlights like vulnerable side discovery, front crash cautioning. This presents a mishap alarming framework that cautions the individual who is driving the vehicle. To avoidance of accidents, the safety system consists of ultrasonic sensor. It can measure the distance from the front and back of vehicle & send alert, to drive vehicle at safe distance from the other vehicles & objects. The system also tracks the vehicle by GPS system & sends continuous information to driver
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I.INTRODUCTION

The main purpose of the proposed system is to add some new features in vehicle for prevention from accident and also to provide safety for not only for driver but also pedestrians. This system is mainly designed for two-wheeler vehicle. To avoidance of accidents, the safety system consists of ultrasonic sensor. It can measure the distance from the front and back of vehicle & send alert, to drive vehicle at safe distance from the other vehicles & objects. And also give alert for Ghat section, accidental zone & hospitals, school areas. Here we are using GSM/GPS for showing the zones. To provide fuel efficiency, by measuring the speed of vehicle it will suggests the gears & to change appropriate gears of vehicle.

II.BLOCK DIAGRAM
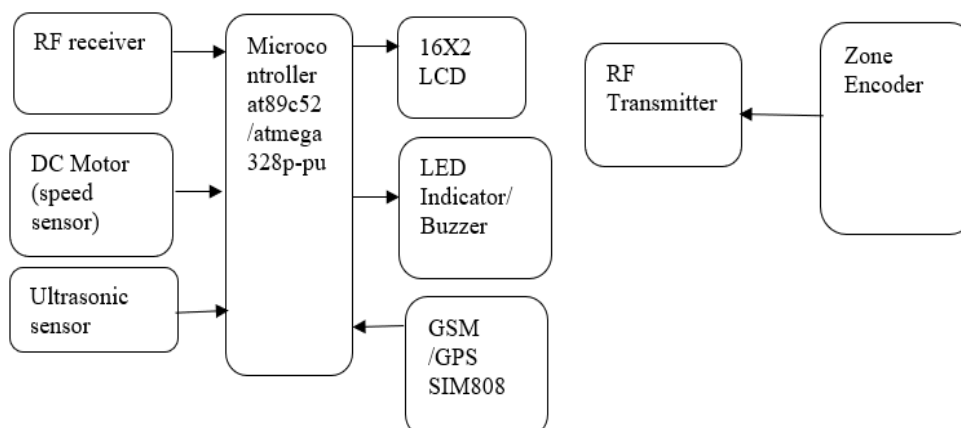
III.WORKING

This system looks for the safety of the vehicle & the driver. This system is specially designed for two-wheeler vehicle. Initially the system is divided in the parts,

Ultrasonic sensor:

The sensors in the vehicle would be capable of detecting even in the poor conditions and would inform the driver distance from the various objects in front & back of the vehicle which will help the driver to drive safely in such poor conditions. When any object or vehicle came in front vehicle the sensor detects it & alarms the buzzer. Also, it shows the distance on the LCD display. Same as the front, when any object or vehicle came near the sensor at back of vehicle alarms the buzzer & shows the distance on the LCD display.

RF Transmitter & Receiver:

We are utilizing two fundamental IC parts which are HT12E and HT12D. HT12E is fundamentally Encoder IC executed for transmission of the signal. HT12D is a decoder IC that we carried out on the Vehicle to get the communicated signal. By utilizing the combined HT12E encoder and HT12D decoder we communicate 12 bits of information sequentially. In the Highways or Ghats areas, there could be some incidental zones. To forestall these sorts of mishaps we can utilize Radio Frequency signs to caution the vehicle and drive cautiously. At the point when the vehicles come into an accidental zone, the RF transmitter conveys the message to the vehicle and the system gets an alarm signal to drive the vehicle carefully.

DC Motor:

Here motor will work as dynamo when it is attached to vehicle so generated voltage is measured accordingly converted to rpm and gear level is indicated. If speed of vehicle is less than 20 it will suggest for gear first. If speed is between 20 to 30 it will suggest the second gear. If speed of vehicle is less than 30 to 40 it will suggest for gear third. For speed more than 40 it will suggest for forth gear.

LCD Display:

LCD is used to display the distance of any object from the sensor on the vehicle. If front ultrasonic sensor detects object it will alarm buzzer & show on the LCD as "FRONT=…." the distance of that object from vehicle. Similarly, it shows the sensor at the back of the vehicle. Also, the speed of the vehicle is showed on the display. As per the speed of the vehicle, the appropriate gear for the vehicle is showed on the display. When we are going from different zones/areas the name of the area is shown on the display. For example, if we are entering in hospital area "Hospital! Go slow" message is displayed on the LCD display.

GSM/GPS Module:

GSM/GPS module is used for tracking the vehicle. Whenever the vehicle approaches the zone or area the module track it & sends the signal. It will show it on the LCD.

IV. CONCLUSION

In this project, we made a system that can prevent accidents & alerts the driver. The purpose of such a system is to advance a system to detect fatigue symptoms in drivers and control the speed of vehicles to avoid accidents. In view of road safety, there is a much need for the system which at most prevents accidents. This can be achieved by implementing some of the features which are mentioned above. This helps in reducing the number of accidents in real-time scenarios. We have successfully implemented the system on the bike.

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