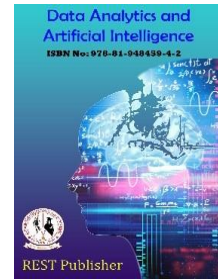




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Automatic Speed Control of Vehicle

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Abstract: *Safety is concern to reduce the occurrence of accidents through worldwide it minimizes the loss of property and life of a person. A accident near the restricted zones have increased tremendously, mainly reasons for accidents are of because to reach the targeted place soon A person thinks that he/she can leave source place late and reach destination early. This paper aims to build up a programmed vehicle speed control framework, which must be get executed at zones to diminish the quantity of mishaps. This robotized speed controlling framework is fabricated utilizing the microcontroller-based foundation of the Arduino Uno board. The transmitter unit which transmits the signs, and it was gotten by the collector in the vehicle utilizing Zigbee remote correspondence innovation and the speed of the vehicle was consequently constrained by the beat width balance or DC engine controlling fuel handle*

Keywords: *Internet of Things, Arduino uno, Accident Sensor, Alcohol Sensor, vibration sensor, android app.*

1. INTRODUCTION

Automatic speed control of vehicle project aims to provide safety for vehicle rider. In the city's accidents are a major problem. Most of the accidents are due to over speed, and drunken drive. But the traffic department check whether the driver has consumed alcohol or not, it is difficult to check each and every driver on the road. To overcome the mentioned problem, we are designing a system that controls vehicle speed in particular zone. And detects alcohol consumption and also detect the accident and sends the accident location to the family person. This Usage of wireless RF technology to detect the areas where speed should be controlled. Speed of the vehicle is decreased while in smart zone. Designed system has speed reduction system and obstacle detection system. This system is useful for smart zones like Hospital, School, Colleges etc. One RF transmitter will be placed in front of the smart zone. One RF receiver attached with the microcontroller will be placed inside the vehicle.

2. OBJECTIVES

To design a minimal cost system that will control the speed in limited zone and also identify alcohol consumption and preventing road accidents for security and safety. Our system will inform to the owners about the speed zones. Design a circuit, that the vehicle automatically reduce the speed in the particular zone. If the driver increases the vehicle speed than the our module will inform it to police station that he/she violated the rules. And in case of accident, using GSM system that will inform it to family members and also nearest hospital about location of accident.

3. PROPOSED SYSTEM

The main objective of this system is to reduce the accident rates in the speed restricted zones like school zone, hospital zone due to the negligence of the driver to reduce the vehicle speed to limited speed as mentioned in the signboard in that zone. In this automatic vehicle speed control system, When the vehicle enters the speed limiting zone the transmitter block starts to work and transmit the signal to the vehicle receiver which is placed in the vehicle, the Zigbee receiver which is connected with microcontroller process the signals and compares the speed of vehicle with the predefined speed of that particular zone. The implementation of 'Automatic Speed Control Of Vehicles In The Restricted Area' Using Arduino Uno, Dc motor, Zigbee module, sensor and pulse width modulation where the speed of the vehicle is reduced automatically. This speed control system assures that the number of accidents near the school and another specific zone to reach its minimum speed. this system requires

very low cost, durable, low power, and gives maximum safety to the public and simple design to implement in the specific areas. This system will protect the public from the rash drivers, alcoholics.

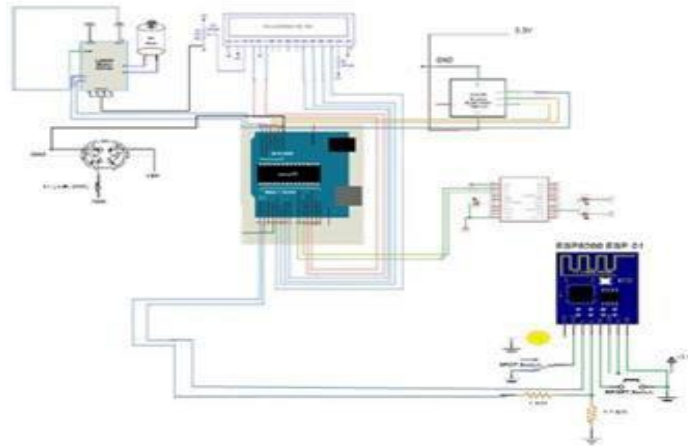


FIGURE 1. Architecture of proposed system

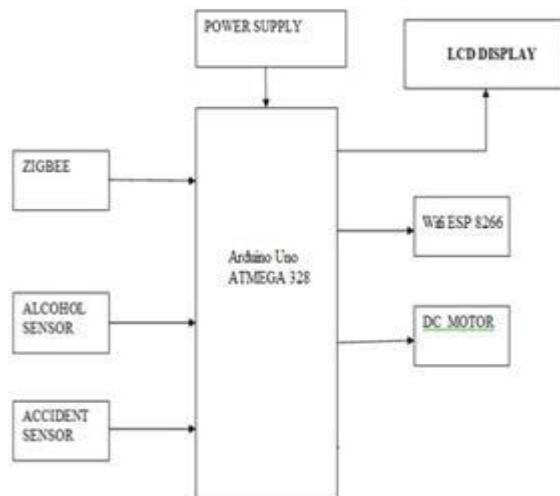


FIGURE 2. Flow Chart

4. HARDWARE & SOFTWARE DESCRIPTION

Arduino uno:



FIGURE 1. Arduino uno

Arduino is a microcontroller board dependent on the AT mega328P. It has 14 digital input/output pins (of which 6 can be utilized as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button.

LCD Display:



FIGURE 2. LCD Display

16*2 LCD demonstrates contains two lines likewise; there are 16 characters for each line. Each character is appeared by 5x7 pixel lattice. This LCD has two registers, Order and Data.

Alcohol Sensor:



FIGURE 3. Alcohol Sensor

The MQ-135 liquor sensor is comprising of a tin dioxide (SnO_2), a point of view layer inside aluminum oxide smaller scale tubes (estimating anodes) and a warming component inside a rounded packaging. The end face of the sensor is encased by a tempered steel net and the rear holds the association terminals

XBee module:



FIGURE 4. XBee module

XBee – As indicated by Digi "XBee modules are inserted arrangements giving remote end-guide network toward gadgets. These modules utilize the IEEE 802.15.4 systems administration convention for quick point-to-multipoint or shared systems administration. They are intended for high-throughput applications requiring low idleness and unsurprising correspondence timing. "So essentially, XBee is Digi's own Zigbee based convention.

Wi-Fi module:



FIGURE 5. Wi-Fi module

The ESP8266 ESP-01 is a Wi-Fi module that permits microcontrollers access to a Wi-Fi arrange. ... This makes the ESP8266 exceptionally adaptable, and it can set aside you some cash and space in your tasks.

5. FUTURE SCOPE

This system can be more effectively used for any kind of automobiles such as heavy vehicles etc. And we can modify the system with the help of additional components to identify the zones. In the upgraded version the modifier can attach camera to the existing system and capture pictures.

6. CONCLUSION

Our project is “Automatic speed controlling of vehicle “. So, it has a great importance in termination and reduction to a large extent of an accidents and casualties in cramped areas. This system can be applied to any kind of vehicles. The system can checks the speed of vehicle using speed sensor and sends the message to the driver to lower down the speed .if speed is higher than the that area in case, driver doesn’t reduce the speed then within seconds our system will be take over the control automatically and reduce the speed of vehicle. Hence, this project is a great lifesaving framework in substantial rush hour gridlock and speed limit regions. In this way, the AUTOMATIC SPEED CONTROL OF VEHICLE is planned so that to limit the speed of vehicle in confined territories. By utilizing this framework we can get the data about the speed furthest reaches of that specific zone, this undertaking is valuable for the ordinary citizens to walk securely in the streets of speed confined zones and furthermore drivers can ride their vehicles securely.

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