An IOT Based Vehicle Accident Detection and Speed Control

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Abstract: An embedded system has been designed to make the journey of the passengers inside a vehicle safe and secure with using the Internet of things. IOT is almost an adjustable technology that is capable of providing relevant information about its own operation. It provides the necessary accident information to the vehicle. In today's world safety and security plays an important role, Vehicles are important in our fast-paced society, hence we move towards intelligent security systems while travelling. There are too many warning systems incorporated in the vehicles to alert drivers about various factors like eye blink, driver's head movement, detecting alcohol consumption. This wireless system monitors the outside environment of the vehicle. This model consists of a node MCU, a motor, an ultrasonic sensor, a PIC controller and IOT. A PIC microcontroller chip is a Peripheral Interface Controller. Distance of vehicles are determined by using an ultrasonic sensor, and the distance is calculated over a simple period of time that detects distance of obstacles outside the vehicle through ultrasonic sensor that continuously sends signals, If any obstacles spotted then the motor turns slow that indicates the speed of a vehicle. All these distances are stored on to the server using the node MCU module. This accident information can be seen through website or application that will enhance the security of the system.

Keywords: IoT, DDoS, Vehicle

1. Introduction

Developed a system to provide the necessary accident information to the vehicle. The main aim to develop the desired system is to prevent accidents by vehicle. The system consists of an ultrasonic sensor, a PIC controller and IoT. This wireless system monitors outside environment of the vehicle. Here we are using ultrasonic reflective obstacle sensor to detect the position of vehicle. Sensors are placed on the four directions; we monitor the front and back sensors thereby to avoid clashes during driving. The position of the obstacles is displayed in LCD. If any obstacles are spotted then the motor turns low that indicates the speed of the vehicle. Node MCU will update these values to the server, this accident information that can be seen through website or application.
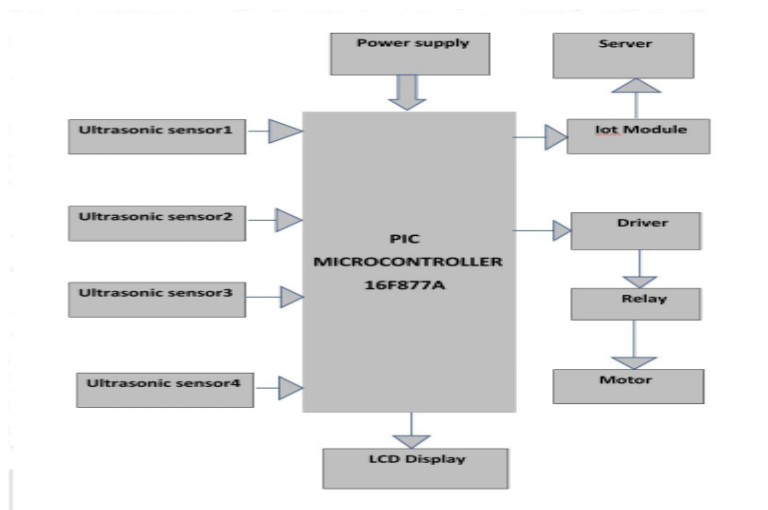

Figure No:1 System Architecture

Now a days due to heavy traffic in and around everywhere accidents are happening every minute to support to those suffered people in technology aspects IoT is a great technology to support public as well as government

to safe the people life this system has four ultrasonic sensors are connected parallel with the microcontroller 16F877A and it is connected to IoT module which as sever and also with driver, relay and motor used in the IoT model and power supply given to the microcontroller and all the output will be displayed using LCD display in the IoT set up

Figure No: 2 Ultrasonic Sensors

2. Implementation

In the implementation part cayenne app was effectively used to identify the front, back side possibility of accident in the form of graph to give more understanding which is shown in the Figure 4. About the accident information for the past month and analysis can be made very effectively

Figure No: 3 LCD Display
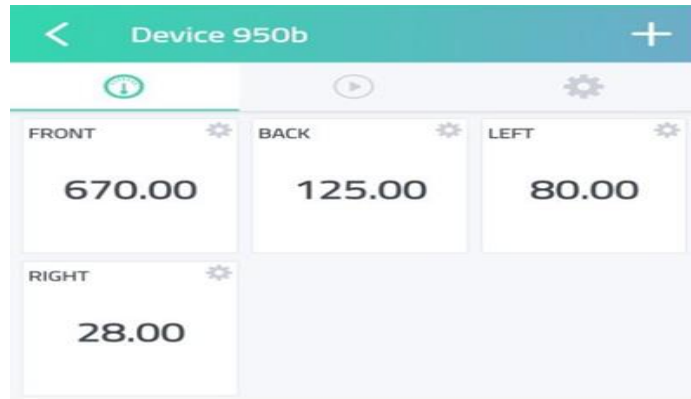

Figure No: 4 Cayenne App
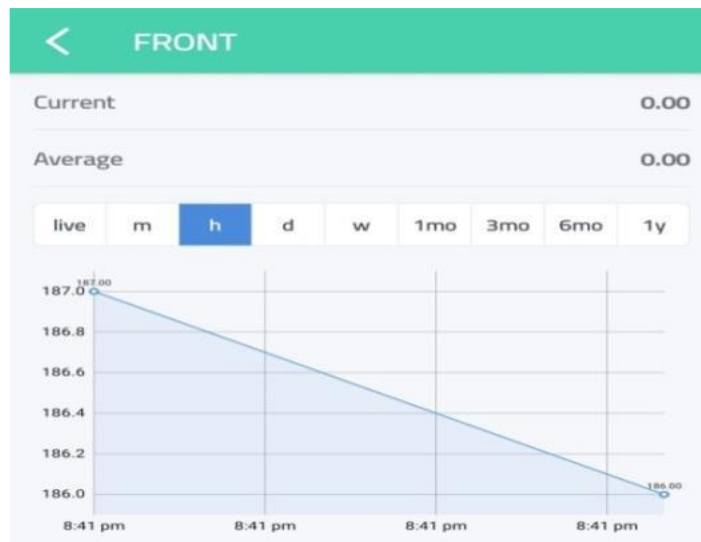
Figure No: 5 Values Display

Figure No: 6 Accident information (Hour)

Figure No: 7 Accident information (1Month)

3.Conclusion

Various systems proposed by different authors help us to cogently in reserving and also annihilating the need of ensuring the safety of a vehicle. Users need to know about the systems which randomly allocate the

scheme for various drivers as mandatory, based on the real-time prevention system. In this paper simplifies the context to all the users to innovating various algorithm to provide solution to all thread. In case of accident occurrence the designed system is equipped with that capability of updating the accident information to the host android device by means of an IOT enabled application.

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