Smart Vehicle Driving Sensors with Chat Bot System

[1]Dayanand Sharma, [2]Prof.LavinaJadhav
[1,2] Mumbai Educational Trust

ABSTRACT

In this paper we will learn about different types of sensors and about chatbot system implemented on vehicles. Sensors such as Alcohol sensor, Eye scanning sensor with notify and buzzer, Fuel Level Sensor etc are used in the vehicles. Chatbot system is also used in it. A Chatbot is a computer program that can interact with humans in natural language. Chat bot uses Artificial Intelligence Markup Language (AIML) to represent knowledge. A chatbot is also known as internet bot, web bot or www robot or generally bot that run automatically based on software application Chat. Bots are expected to dominate the market, so for a developer, it is important to understand what the bot will offer and what types/category the bot falls into. A chatbot can be converted into a talking bot by implementing new ideas and software application, and artificial intelligence. Basically without typing a single word or a sentence the user can give the command or an instruction to the bot for executing the task on real time and there are also different sensors in cars which are used to detect drowsiness and sleepiness of driver while driving the vehicle. This helps in avoiding the road accidents .It is a necessary step to come with an efficient technique to detect drowsiness as soon as driver feels sleepy. This could save huge number of accidents to occur. Therefore including all these measures of safety and combining them into one system is the main aim of building this system.

1. INTRODUCTION

The increase in a number of high accidents due to driver's negligence or not following safety measures makes it important to develop a system which ensures safe driving which will, in turn, ensures the safety of driver as well as co-passengers. Drowsiness has a different feature that researchers over the decades have found difficult to define. It is one of the biggest factors in traffic accidents all over the world. A system which will start ignition only if the driver passes the test for driver authentication, alcohol consumption, and seat belt. The driver will be allowed to start ignition only after he validates himself while the vehicle is in motion it will capture values for speed control, it will ensures engine temperature is maintained and the touch sensor ensures driver is holding steering while driving another feature of the system is the drowsiness sensor which starts a buzzer or starts interaction with the driver so he does not feel sleepy to access diagnostics data of the vehicle as early as possible is important to avoid serious faults. Early detection and correction will increase safety up to a very large extent using GPS the location of the vehicle can be obtained with the help of longitude n longitude values. Once the right defects are obtained then instruction can send to the driver as to how to handle the situation. SMS will be sent to relatives in case of accidents. There are also some of the others sensors which are included with special chatbot system too.

2. TECHNIQUES

2.1 Android Based Vehicle Diagnostic System

The above system is low-cost hardware for vehicle diagnostics and is very user-friendly. The Android-based mobile device helps in creating an onboard vehicle diagnostic system. The application interacts with the hardware unit with Bluetooth and it acquires vehicle parameters through ECU of the vehicle. This value is viewed by the driver and also the server from which the vehicle can be handled by the owner of the vehicle and it can also be stored in a database.

2.2 Vehicle speed limit alerting and crash detection system

This paper is design in order to avoid accidents and alert the drivers about the speed limit. Many Systems provide road safety and has proposed various methods for speed limitation and accident avoidance but in reality, controlling the vehicles speed in real time is very difficult so instead of controlling the speed the driver is alert about his speed so that he can reduce his speed to a safe limit.

2.3 Eye blinking based technique

In this technique eye blinking rates and eye closing duration are measured to detect driver's drowsiness. Because when driver feels sleepy at that time his/her eye blinking and gaze between eyelids are different from normal situations so they easily detect drowsiness. In this system the position of eyes are monitored through time to estimate eye blinking frequency and eye close duration. Using these eyes closure and blinking ratio one can detect drowsiness of driver.

2.4 Yawning Based Technique

Yawn is symptoms of fatigue. In paper, they detect yawning based on opening rate of mouth and the amount changes in mouth contour area. Yawn is detected by the system and it is notified by buzzer or by other means to driver.

2.5 SWM

SWM is measured using steering angle sensor and it is a widely used vehicle-based measure for detecting the level of driver drowsiness.

3. ANDROID PHONE AND SENSOR SYSTEM.

The Android phone use to display all the data the android phone will have application which helps driver to authenticate himself and view details of the vehicle.

3.1 Speed sensor

The speed sensor will track speed of vehicle and ensures it does not exceed a particular limit. If exceed a particular limit will raise or some kind of notification will be given to the driver to reduce speed.

3.2 Fuel Level Sensor

The fuel level sensor makes sure that the fuel level is maintained and the level is not under a particular level this sensor makes sure the driver fills in amount of fuel as said by owner.

3.3 Seat Belt Sensor

The seat belt sensor is based on push button .This sensor makes sure driver is using his seat belt and if not he will be notified to do so.

3.4 Alcoholic Sensor

It helps in detecting alcohol concentration level which is highly sensitive and it gives us a fast response in time breathing. It gives us faster output based on alcoholic concentration which is seen in driver whether he or she has taken it or not.

3.5 Buzzer Sensor

If this sensor detecting any drowsiness in driver or a lot of alcohol consumption then it will start buzzer with the help of eye scanning sensor.

3. CHAT BOT

The bot is an online human-computer system, which contains natural human language. Traditionally to answer a question a program involved using a search engine or manually filled out the form by typing it. User asks a question to bot in a simply same manner as they are addressing to a human begin. The interesting feature of the bot is they learn from past interactions and become intelligent and smarter over the time. ChatBot helps the driver a lot drivers just have to talk to it about any query and chatbot will assist by its voice the driver does not have to type or text will driving chat bot can to many thing it will notify driver about the stability or any internal problems of car such as car battery level inner wires of the car functioning or not and many other things such as car wiper working or not any outer body dent or detection will be notified to driver and also talk about the inside air level in car and fire safety measures of the car it also help driver to call any person while driving the car.

4. CONCLUSION

This developed system is a prototype vision system for the real-time monitoring of a driver's vigilance. This paper tells about various safety measure related to vehicle and the drivers. The sensors with the chatbot helps the driver if we need we can add more new things in this current system

5. REFERENCE

[1]Murata, A.; Hirmatsu, Y. Evaluation of Drowsiness by HRV Measures—Basic Study for Drowsy DriverDetection. Proceedings of 4th International Workshop on Computational Intelligence & Applications, IEEE SMC Hiroshima Chapter. Hiroshima, Japan, 10–11 December 2008.

[2]www.google.com

[3]https://en.wikipedia.org/wiki/Chatbot

[4] https://chatbotslife.com/a-chatbot-abstract-1cd002e7a480

[5]https://www.happiestminds.com/Insights/chatbots/

[6]https://www.botflux.com/bots/apple-siri-bots/

[7]http://botnerds.com/types-of-bots/https://www.shieldsquare.com/what-are-the-different-types-of-bots/