

## A Review on Smart IOT Car for Accident Prevention

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Article Received: 27 January 2018

Article Accepted: 23 February 2018

Article Published: 15 April 2018

### ABSTRACT

Car automation is an IoT innovation by which we can control distinctive things or can keep a track on a vehicle for the (I) Security, (ii) solace and (iii) proficiency. The ease liquor sensor is prepared in the auto for liquor location to stay away from mishaps because of liquor utilization controlling the speed of the auto utilizing sonic sensor while confronting the hindrances. The safety belt comprises of an inbuilt heart beat sensor to mechanize the start of the auto amid therapeutic crises. Edge restrict is set by the age of the drivers which are gathered while enrollment itself. All controls are accessible in auto proprietors' dash board accessible both in auto and furthermore in versatile application. The intermittent information is sent through web and put away in cloud for advance investigation and basic leadership. The Dash board comprises of ON/OFF switch with the goal that the start is controlled remotely amid burglaries and break disappointments. Keyword: Heart Beat Sensor, Liquor Sensor, Sonic sensor.

### 1. INTRODUCTION

Drunk driving is the reason behind most of the deaths, so the Drunk Driving Detection with Car Ignition Locking Using Raspberry Pi aims to change that with automated, transparent, non-invasive alcohol safety check in vehicles. The system uses raspberry pi with alcohol sensors, dc motor, lcd display circuit to achieve this purpose. System uses alcohol sensor with, raspberry pi with dc motor to demonstrate as vehicle engine. System constantly monitors the sensitivity of alcohol sensor for drunk driver detection. If driver is drunk, the processor instantly stops the system ignition by stopping the motor. If alcohol sensor is not giving high alcohol intensity signals, system lets engine run. The raspberry pi processor constantly processes the alcohol sensor data to check drunk driving and operates a lock on the vehicle engine accordingly.

An android phone which is equipped with the accelerometer and an orientation sensor to know whether driver is drunk or not and during den braking then app gets activated start alarm. "Alcohol detector paper" can be used in the various vehicles for detecting whether the driver as consumed alcohol or not. The entire system adopted the Arduino UNO microcontroller board.

### 2. LITERATURE REVIEW

1. Bhumit Patel 2017 has proposed "Iot based computerized car - Now daily web of things has been awesome consideration, since it is enables articles to be detected and controlled remotely and institutionalization are as a rule effectively led. System of physical things, which impart and trade the information with each other. An entire cluster of physical "things" – from individuals and places through autos and PCs to local apparatuses and generation hardware – is being furnished with installed gadgets frameworks, programming and sensors. As we can see that now daily's auto computerization makes parcel of consideration in IoT. There are numerous test produced amid implantation of system. In this paper we are controlling the distinctive auto work like over the web. Client can control his auto anyplace in world, simply fundamental

2G web network required. In the wake of finishing this framework auto client can get adaptability since utilize can access his auto over around the world.

2. Suvarnanandyal 2017 has proposed "Smart car parking system using arduino uno"- In the early circumstances the idea of savvy urban areas has increased extraordinary prominence. The proposed Smart Parking framework comprises of an on location organization of an IOT module that is utilized to screen and signalize the condition of accessibility of single parking spot. This paper present an IOT based facilitated structure for productive and simple method for stopping the vehicles by checking the accessibility of openings. The proposed Smart Parking structure involves an IOT module that is used to screen and signalize the state of openness of single parking space. The paper also portrays an anomalous state point of view of the structure building. Towards the end, the paper looks at the working of the system in kind of a usage case that exhibits the rightness of the proposed appear. The Ultrasonic Range Detection Sensor is used with Arduino to demonstrate the vacant opening .By estimating the separation utilizing ultrasonic sensor drivers can locate the vacant space in stopping to stop the auto and help the driver to discover the opening effectively and diminish the looking time. As the stopping place is observed to be vacant it is distinguished utilizing ultrasonic sensors which raeport it further. We accomplished this by programming the sensors and Arduino.
3. Rohit Dhall 2017 has proposed "An iot based predictive connected car maintenance approach"---Internet of Things (IoT) is fast emerging and becoming an almost basic necessity in general life. The concepts of using technology in our daily life is not new, but with the advancements in technology, the impact of technology in daily activities of a person can be seen in almost all the aspects of life. Today, all aspects of our daily life, be it health of a person, his location, movement, etc. can be monitored and analyzed using information captured from various connected devices. This paper discusses one such use case, which can be implemented by the automobile industry, using technological advancements in the areas of IoT and Analytics. 'Connected Car' is a terminology, often associated with cars and other passenger vehicles, which are capable of internet connectivity and sharing of various kinds of data with backend applications. The data being shared can be about the location and speed of the car, status of various parts/lubricants of the car, and if the car needs urgent service or not. Once data are transmitted to the backend services, various workflows can be created to take necessary actions.
4. Younsun Kim 2017 has proposed "Proof of concept of home iot connected vehicles"- - The manner by which we cooperate with our autos is changing, driven by the expanded utilization of cell phones, cloud-based administrations, and progressed car innovation. Specifically, the prerequisites and market interest for the Internet of Things (IoT) gadget associated vehicles will persistently increment. Furthermore, the advances in distributed computing and IoT have given a promising chance to creating vehicular programming and administrations in the car area. In this paper, we present the idea of a home IoT

associated vehicle with a voice-based virtual personal aide included a vehicle operator and a home specialist. The proposed idea is assessed by actualizing a Smartphone connected with home IoT gadgets that are associated with an infotainment framework for the vehicle, a Smartphone-based characteristic dialect interface input gadget, and cloud-based home IoT gadgets for the home.

### 3. MATERIALS AND METHOD

Heart beat sensor, Alcohol sensor, Sonic sensor, Arduino board, DC motor, RPM motor, Mobile.

#### 3.1. Drunken detector Module

Drunk Driving Detection With Car Ignition Locking Using Arduino is proposed. It aims to change that with automated, transparent, noninvasive alcohol safety check in vehicles using alcohol sensor. If driver is drunk, the processor instantly stops the system ignition by stopping the motor. If alcohol sensor is not giving high alcohol intensity signals, system lets engine run.

#### 3.2. Obstacle finder Module

It uses sound propagation to detect object. An ultrasonic sensor on one of the rear wheels helps keep track of the movements of the car. It sends the signal to the arduino and reduces the speed of the car to avoid accidents.

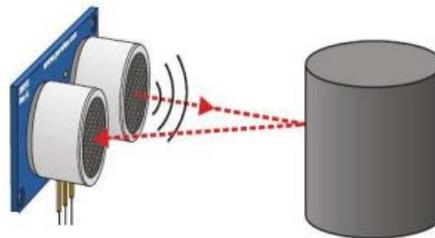


Figure 1: Obstacle finder module

#### 3.3. Heart Beat Monitoring of the driver Module

It senses the person's pulse rate whether its normal condition or not. Pulse rate sensor is used to detect heart beats. It can be wearing on the seat belt and connected to Arduino via cables. If it receives the positive signal it stops the ignition of the car.

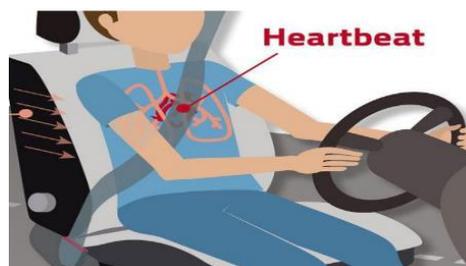


Figure 1.2: Heart beat monitoring of the driver module

### **3.4. Automatic ON/OFF through Dash Board Module**

All controls are available in car owners' dash board available both in car and also in mobile application. The periodic data is sent via internet and stored in cloud for further analysis and decision making. The Dash board consists of ON/OFF switch so that the ignition is controlled remotely during thefts and break failures.

## **4. RESULT DISCUSSION**

An android phone which is equipped with the accelerometer and an orientation sensor To know whether driver is drunk or not and during Sudden braking then app gets activated start alarm. "Alcohol detector paper" can be used in the various vehicles for detecting whether the driver as consumed alcohol or not. The entire system adopted the Arduino UNO microcontroller board (Based on ATMEGA 328).



Figure 1.3: The proposed system

### **ALCOHOL SENSOR**



Figure 1.4: Alcohol sensor

## **5. CONCLUSION**

Now-a-days crucial problem facing in the world is an unnatural death due to drunk driving and driving under the influence. Drunk driving is the only one reason behind most of the unnatural deaths in the world. In this age of automation, human efforts are reduced at such a huge level. Deaths due to sudden medical emergencies while

driving also found to be increased. Car automation during break-downs and thefts are addressed by many car manufacturers.

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