

# ALCOHOL DETECTION WITH VEHICLE CONTROLLING SYSTEM

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**Abstract:** The purpose of this paper is to develop vehicle accident prevention by method of alcohol detector in an effort to reduce traffic accident cases based on driving under the influence of alcohol. This project is developed by integrating the alcohol sensor with the microcontroller 16F877A. The alcohol sensor used in this project is MQ-2 which detects the alcohol content in human breath. An ignition system which will produce spark plugs is built up as a prototype to act like the ignition starter over the vehicle's engine. The ignition system will operate based on the level of blood alcohol content (BAC) from human breaths detected by alcohol sensor. The main purpose is "Drunk driving detection". Nowadays, many accidents are happening because of the alcohol consumption of the driver or the person who is driving the vehicle. Thus, Drunken driving is a major reason for accidents in almost all countries all over the world. The Alcohol Detector in Car project is designed for the safety of the people seating inside the car.

**Keywords:** Arduino, L293D Motor Driver.

## 1 Introduction

Driving under the influence of alcohol continues to be one of the nation's most serious problem faced by the general public. It is a known fact that under the influence of alcohol the driving skills is impaired and the risk of involvement in accidents increases exponentially. India had earned the questionable qualification of having a greater number of fatalities because of street mishaps on the society. Street wellbeing is rising as a noteworthy social worry far and wide, particularly in India. Drinking and driving is as of now a genuine general medical issue, which is probably going to rise as a standout amongst the most critical issues sooner rather than later. The primary reason behind this task is "Drunk driving detection". Since numerous mishaps are increasing due to the liquor utilization of the driver or the individual who is driving the vehicle. Subsequently Drunk driving is a noteworthy reason of mischances in all nations everywhere throughout the world. Thus, the framework diminishes the quantum of street mischances and fatalities because of drunk driving in future.

### 1.2 Objective

The main Objective is to reduce the road accidents in the near future due to drunken driving. The system detects the presence of alcohol in the vehicle and immediately locks the engine of the vehicle.

## 2 Overview

Alcohol Detector in car is designed for the safety of the people seating inside the car. Alcohol Detection with Vehicle Controlling project helps to control the vehicle in case the driver has consumed the alcohol. An Alcohol breathe analyser project should be fitted/instaled inside the vehicle. Driving under the influence of alcohol continues to be one of the nation's most serious problem faced by the general public. It is a known fact that under the influence of alcohol the driving skills is impaired and the risk of involvement in accidents increases exponentially.

## 3 Methodology:

The target of this projects to give an idea and inventive method for avoiding drunken driving of a Motorcar by locking the car. Likewise, to permit man who is not alcoholic to drive a same Motorcar. To broaden this thought with more innovative headways and make it accessible in a financially effective way. We need to plan a sort of framework which can recognize the alcohol content in the cars to prevent the conduct of alcoholic driving. The sensor will be fixed close to the driver's seat. The driver should breathe to the system before the individual begins the car. On the off chance that the alcohol level identified is underneath the permissible standard, the car can be started regularly.

#### 4 Block Diagram:

The block diagram in figure 1 explains the concept of alcohol detection and ignition locking system. Here lpc2148 is used as the heart of the project. MQ3 sensor is used for detection of alcohol. If the concerned person is drunk then the ignition system will not be activated. Another feature of this system is the auto theft detection if any one tries to steal /deactivate the system then a message is sent to the concerned person with GPS. The vehicle is shown in the form of a DC motor.

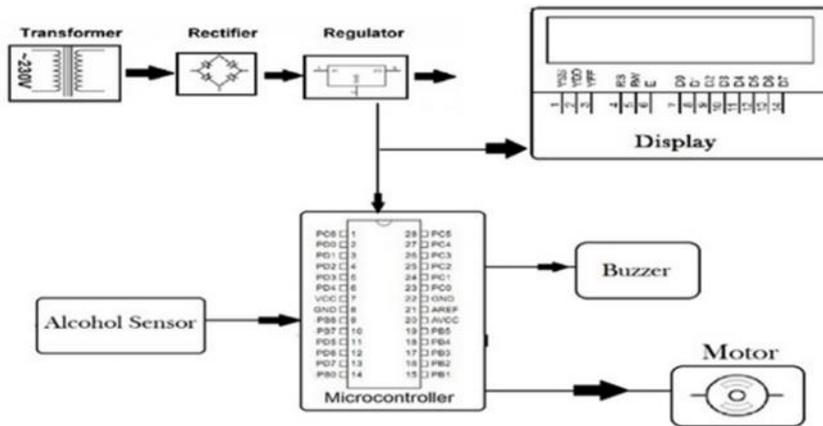


Fig. 1. Block Diagram of System

#### 4.1 Hardware Developed:

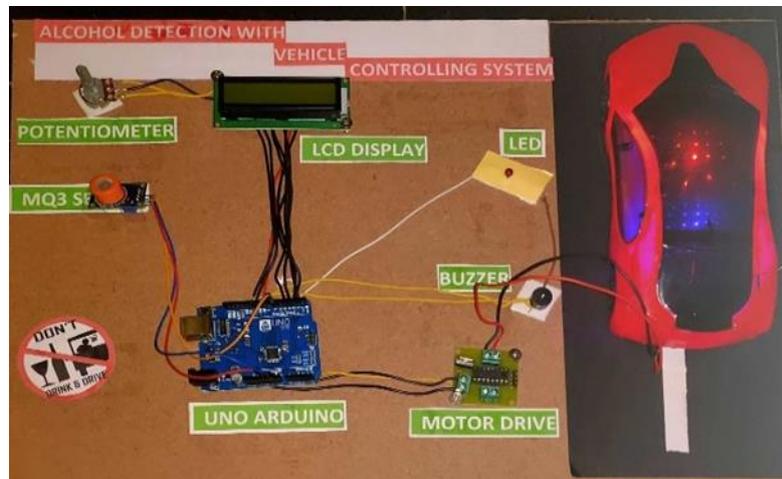


Fig. 2 Hardware Developed

The main purpose of this paper is to detect them “Drunk driving detection”. Nowadays, many accidents are happening because of the alcohol consumption of the driver or the person who is driving the vehicle. Thus, Drunk driving is a major reason for accidents in almost all countries all over the world. Alcohol Detector in car project is designed for the safety of the people seating inside the car. Alcohol Detection with Vehicle Controlling project helps to control the vehicle in case the driver has consumed the alcohol. An alcohol breath analyzer project should be fitted/ installed inside the vehicle. If the person inside the car has consumed alcohol, then it is alcohol detection is done by the sensor. The sensor gives this signal to a comparator IC. The output of the comparator is connected to the microcontroller. The microcontroller is the heart of this paper.

#### 4.2 Result Analysis:

- The MQ3 Alcohol Sensor and the 16x2 LCD Display is interfaced with ARM-7 (LPC2148) Microcontroller.
- MQ3 Sensor senses alcohol and indication of high Alcohol content is through the external LED Light present on the sensor board.
- The LCD display is used to display the results given by the MQ3 Sensor.
- The Switch is used to ensure the driver does not tamper with the system if high alcohol content is detected, the LCD displays 'Alcohol Detected'.



Fig 4.2.1 When Alcohol is not detected



Fig 4.2.2 When Alcohol is detected

#### 5. Conclusion:

In this paper a real time model is built that can automatically lock the motor engine when a drunken driver tries to drive a car. These days, car collisions are mostly observed. By fitting this alcohol sensor into the car, we can save the life of the driver and furthermore the rest of the travelers. The life time of the task is high. It has low or zero support cost and obviously low power utilization. This is a developed system to check drunken driving. By executing this outline, a safe car travel is possible decreasing the mishap rate because of drinking. By executing this outline, drunken drivers can be controlled so are the mishaps because of drunken driving.

#### 6. Future Scope:

Government must authorize laws to introduce such circuit in each car and must manage all car organizations to preinstall such systems while manufacturing the car itself. If it is achieved, the death rate because of drunken drivers can be brought to least level. In this kind of system, securely landing of car aside without disturbing other vehicles can also be added as a future extensi

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