



# ALCOHOL DETECTION WITH VEHICLE IGNITION LOCKING

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## ABSTRACT

"Prevention is better than cure." This quote perfectly summarizes the purpose of the alcohol engine lock system with MQ3 sensor. This system is a proactive approach to prevent accidents caused by drunk driving, rather than waiting for an accident to happen and then trying to remedy the situation. The use of technology in preventing drunk driving has proven to be an effective tool in saving lives and preventing injuries on the road. The implementation of the alcohol engine lock system with MQ3 sensor has been met with some resistance from those who feel that it infringes on their personal freedoms. However, it is important to remember that the safety of all road users should be a top priority. The use of the system can help reduce the number of accidents caused by drunk driving and ultimately save lives. It is a small price to pay for the safety of all road users. In conclusion, the alcohol engine lock system with MQ3 sensor is a critical technology in preventing alcohol-related accidents on the road. This system has been successfully implemented in various countries around the world and has proven to be an effective tool in reducing the number of accidents caused by drunk driving. As the famous saying goes, "Safety doesn't happen by accident." It is up to all of us to take proactive measures to ensure the safety of ourselves and others on the road.

## INTRODUCTION

The alcohol detector and engine locking system is designed to prevent drunk driving, which is a major cause of accidents and fatalities on the road. It has been implemented in various forms in different countries, and in some places, it is mandatory for certain drivers, such as those with prior DUI convictions or commercial drivers. Drunk driving is a serious problem in many countries around the world. According to the National Highway Traffic Safety Administration (NHTSA), in 2019, 10, 142 people died in alcohol-impaired crashes in the United States alone. To address this issue, various technologies have been developed to prevent drunk driving, including the alcohol detector and engine locking system. This report will discuss the working principles, advantages, and limitations of this technology.

## LITERATURE SURVEY

Alcohol sensors play a vital role in safety systems, especially for drunk driving prevention, industrial safety, and health monitoring. Researchers have studied different

sensor types (e.g., semiconductor, fuel cell, infrared) to improve accuracy, response time, selectivity, durability, and cost-effectiveness. This system is based on the Arduino and alcohol sensor. When the sensor detects alcohol in the atmosphere, it will give digital output 1 and if gas is not detected the sensor will give digital output 0.

Arduino will receive the sensor output as digital input. If the sensor output is high, then the buzzer will start tuning and LCD show that will show that alcohol detected Yes and if the sensor output is low then buzzer will not be tuning, and the LCD will show that alcohol detected No. The buzzer mainly consists of a number of switches or sensors connected to control unit that determines which button was pushed or whether a preset time has lapsed, and usually illuminates a light on the appreciate button or control panel, and sounds a warning in the form of a continuous or intermittent buzzing or beeping sound.

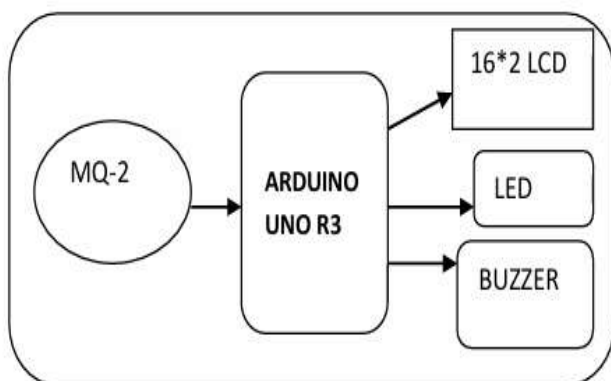


FIG3.1: Existing system block diagram

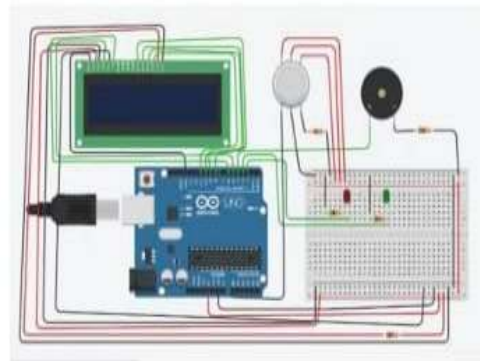
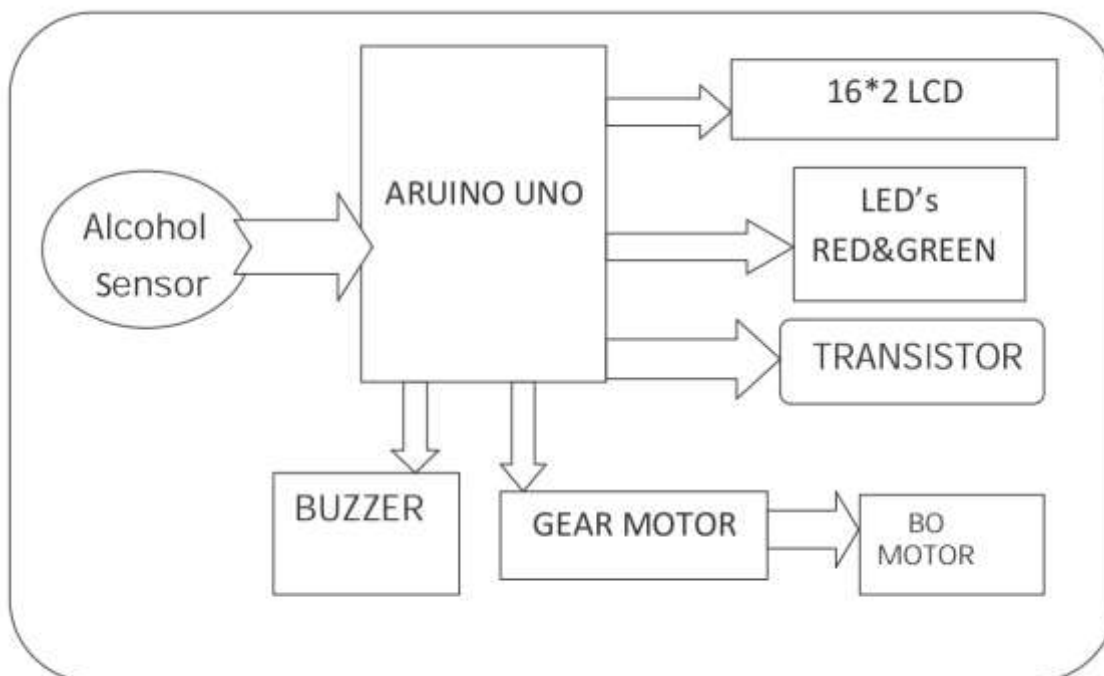


FIG3.2: Circuit Diagram of Existing system



## Block diagram of ALCOHOL DETECTION

### ABOUT BLOCK DIAGRAM:

When the sensor detects alcohol in the atmosphere, it will give digital output 1 and if alcohol is not detected the sensor will give digital output 0. Arduino will receive the sensor output as digital input. If the sensor output is high, then the buzzer will start tuning along with the LCD that will show that "alcohol detected: Yes". If the sensor output is low then buzzer will not be tuning, and the LCD will show that "alcohol detected: No". The buzzer most

commonly consists of a number of switches or sensors connected to control unit that determines which button was pushed or whether a preset time has lapsed, and usually illuminates a light on the appreciate button or control panel, and the ignition will be not taken place. Then the primary number given to the system will be an alert message. If the alcohol is detected while the vehicle in moving state then the vehicle will get slowly speeds down and vehicle stops.

## REFERENCES

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