



A Report on

## **“Alcohol Sensing Alert with Engine Locking System”**

A technical project work submitted in partial fulfilment of requirement for the award of the degree  
of

**Bachelor of Technology**

**In**

**Computer And Communication Engineering**

**By**

NEHA A	20181CCE0061
SUJATA SHIVANAND GOTYAL	20181CCE0088
SUUNDESH	20181CCE0091
T.AFZAL MOHAMMED	20181CCE0094
YOGITA SINGH	20181CCE0104

Under the guidance of

**Mr. Afroz Pasha & Mrs Amreen Ayesha**

Professor, Dept.Of CSE

## **Table Of Content**

- 1.Aim
- 2.Components
- 3.Abstract
- 4.Introduction
- 5.Architecture
- 6.Components Connection
- 7.Code
- 8.Model Screenshots
- 9.Individual Contribution
- 10.Concclusion
- 11.Appreciation
- 12.Reference

**Aim :**

To design and create a “Alcohol Sensing Alert with Engine Locking System” using Arduino that detects the alcohol intake and lock the vehicle for the safety of the driver.

**Components Used :**

- > Arduino uno
- > Alcohol sensor
- > Relay module
- > 9Volt battery
- > DC motor
- > Jumper wire
- > LCD display

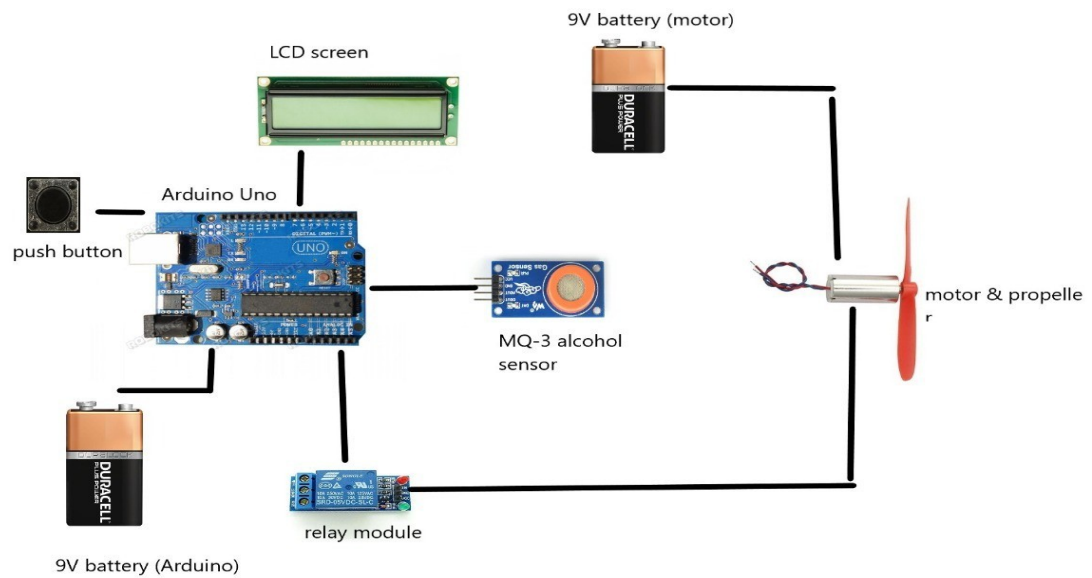
**Abstract :**

- > The main aim of our projet is to make human driving safe and to over come accidents caused by drink and drive.
- > This project is developed by intergrating alcohol sensor with Ardunio board.
- > The alcohol sensor used in this project is MQ3 which is used to detect the alcohol content in human breath.
- > Since, sensor has the fine sensitivity range around 2 meters, it ca suit to any vehical and can easil be hidden from the suspect. This project can be fitted inside the vehical.
- > This project is designed for thr safety of sriver, pedestrians, and the drivers on the road.

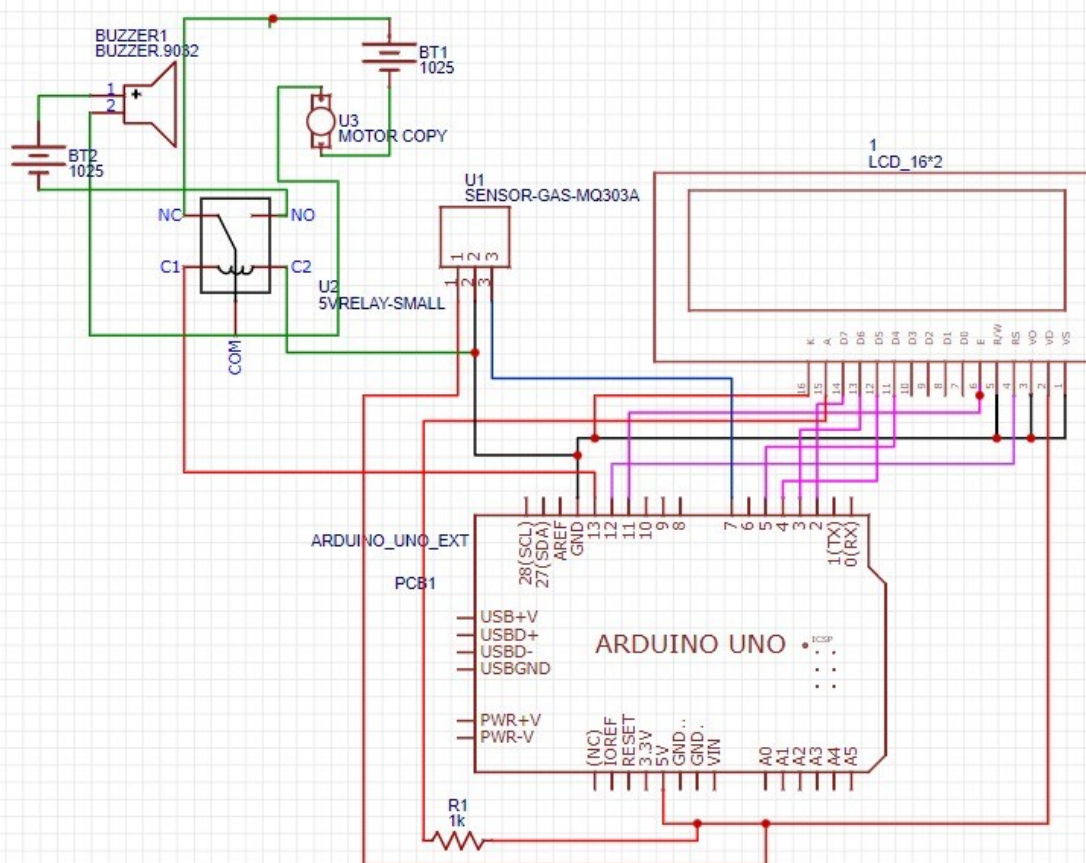
**Introduction :**

- > Drinking and driving is already a serious public health problem, which is likely to emerge as one of the most significant problem in near future. The system implemented by us alams at reducing the road accidents in the near future due to drink and drive.
- > This devices sense a change in the alcoholic gas content of the surroundings air these devices is more commonly referred as abreath analysis as it analysis the alcohol content from persons breath.

## Architecture and Pin Diagram:



### alcohol sensing alert with engine locking system



## **Components Connection :**

### **> LCD 16\*2**

<b>VSS</b>	power pin of Arduino uno GND
<b>VDD</b>	power pin of Arduino uno 5V
<b>V0</b>	power pin of Arduino uno GND
<b>RS</b>	Arduino digital pin number 12
<b>RW</b>	power pin of Arduino uno GND
<b>E</b>	Arduino digital pin number 11
<b>D4</b>	Arduino digital pin number 5
<b>D5</b>	Arduino digital pin number 4
<b>D6</b>	Arduino digital pin number 3
<b>D7</b>	Arduino digital pin number 2
<b>A</b>	1k Resistor
<b>K</b>	power pin of Arduino uno GND

### **> DC MOTOR**

<b>TERMINAL 1</b>	Relay module COM
<b>TERMINAL 2</b>	Negative (-) of first battery

### **> BUZZER**

<b>POSITIVE(+)</b>	Positive (+) of Second battery
<b>NEGATIVE(-)</b>	Relay module COM

### **> RELAY MODULE:**

<b>NC</b>	Positive (+) of first battery
<b>NO</b>	Negative (-) of second battery
<b>COM</b>	DC motor terminal 1
<b>C1</b>	Arduino digital pin number 13
<b>C2</b>	power pin of Arduino uno GND

### **> ALCOHOL SENSOR :**

<b>TERMINAL 1</b>	power pin of Arduino uno 5V
<b>TERMINAL 2</b>	power pin of Arduino uno GND
<b>TERMINAL 3</b>	Arduino digital pin number 7

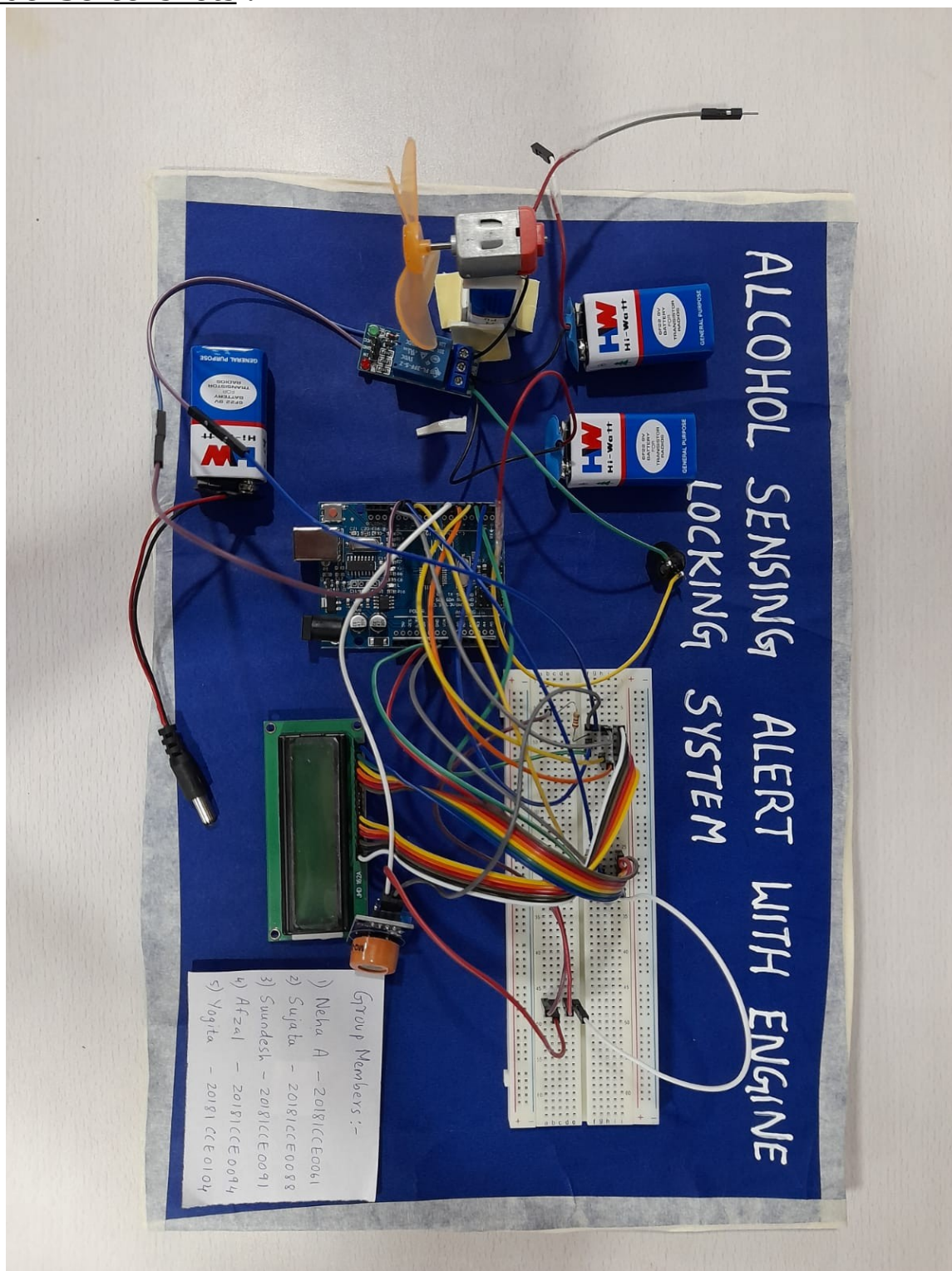
## **Code :**

```
#include<LiquidCrystal.h>
LiquidCrystal lcd(12,11,5,4,3,2);

int motor_out = 13;
int mq_sensor = 7;
int value = 0;

void setup()
{
  Serial.begin(9600);
  lcd.begin(16,2);
  pinMode(motor_out, OUTPUT);
  pinMode(mq_sensor, INPUT);
}
void loop()
{
  value = digitalRead(mq_sensor);
  Serial.println(value);
  if (value == 1)
  {
    Serial.println("No ALCOHOL detected...");
    lcd.clear ();
    lcd.setCursor(0,0);
    lcd.print("No alcohol detected");
    lcd.setCursor(0,1);
    lcd.print("engine on");
    digitalWrite(motor_out, LOW);
  }
  else
  {
    Serial.println("ALCOHOL detected.");
    lcd.clear ();
    lcd.setCursor(0,0);
    lcd.print("alcohol Detected");
    lcd.setCursor(0,1);
    lcd.print("Engine off");
    digitalWrite(motor_out, HIGH);
  }
}
```

## Model Screenshots :





### **Individual Contribution :**

NAME	ROLL.NO	CONTRIBUTION
NEHA A	20181CCE0061	Code and Designing working model
SUJATA SHIVANAND GOTYAL	20181CCE0088	PPT and Report
SUUNDESH	20181CCE0091	Pin diagram and Report
T.AFZAL MOHAMMED	20181CCE0094	Code, designing working model and assembling components
YOGITA SINGH	20181CCE0104	Pin diagram and Report

### **Conclusion :**

- > We have provided a very effective solution to develop an intelligent system for vehicles for alcohol detection whose core is Arduino.
- > Future scope of this system is to control the accidents caused due to alcohol consumption.
- > This system improves the safety of human being and hence providing the effective development in the automobile industry regarding in reduce the accidents caused due to alcohol.

### **Appreciation :**

Thank You everyone for bringing the ideas and experience around the table and engaging in such fruitful, constructive and open exchanges throughout the project.

SPECIAL THANKS to the faculty in-charge **Mr. Afroz Pasha & Mrs Amreen Ayesha** for their leadership and support.

### **Reference :**

- > Recorded Video of the project : <https://clipchamp.com/watch/eIE1uPIkKsf>
- > <https://lastminuteengineers.com/mq3-alcohol-sensor-arduino-tutorial/>
- > <https://www.arduino.cc/en/Guide/ArduinoUno>
- > <https://www.elprocus.com/buzzer-working-applications/>
- > [https://www.tutorialspoint.com/arduino/arduino\\_dc\\_motor.htm](https://www.tutorialspoint.com/arduino/arduino_dc_motor.htm)
- > <https://elearn.ellak.gr/mod/book/view.php?id=4568&chapterid=2440>
- > <https://easyeda.com/search?wd=arduino%2Buno%2Bschematics>