



# AN INEXPENSIVE PORTABLE ALCOHOL BREATH TESTER FOR ANYWHERE USE

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## BACKGROUND

Drinking too much alcohol is harmful not only put one's life at risk but also effect one's surroundings. It could have effect on mental stability, behavior and eye vision. While in road, he may be at heightened risk causing major injury or even death. For this reason, Law Enforcement Organizations (LEO) often test alcohol consumption levels to the drivers. Previously, the alcohol is being tested from different areas like, blood, saliva, hair. Unfortunately, those techniques are time consuming. Although, now-a-days, to avoid time consumption, people are using breathalyzer techniques, they are very costly.

For this reason, an inexpensive breath alcohol tester has to be designed which can be used to get the level of alcohol consumption by the help of different colored LEDs from very less consumption to intoxicated.



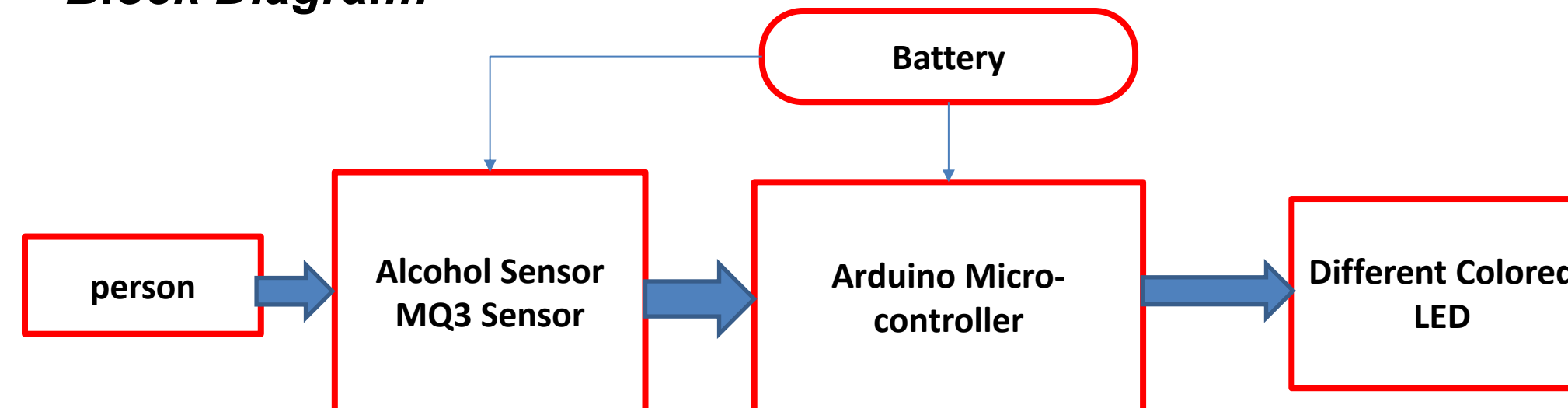
## OBJECTIVES

An inexpensive breath alcohol tester has to be designed which can be used to get the level of alcohol consumption by the help of different colored LEDs from very less consumption to intoxicated. This project includes 1 gas sensor, 1 Arduino Micro-controller and 5 different colored LEDs to detect the alcohol consumption. The objectives of this project is–

1. Be portable and can be used anywhere.
2. Detect any kind of alcohol.
3. Have quick response time.

## SYSTEM DESIGN

### Block Diagram:



### Major Components:

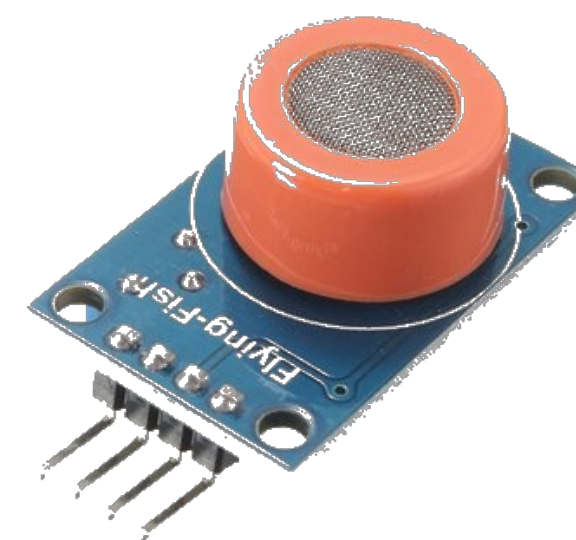
Three major components are being used in this project. They are–

1. Arduino Micro-controller
2. MQ3 Gas Sensor
3. Different Colored LEDs.

The different concentration of alcohol can be determined by body spray, energy drinks, beer, cooking wine. To make low concentration, water can be added with the sample.

### MQ3 Sensor:

MQ3 sensor is basically an alcohol gas sensor. It is a low cost semi-conductor sensor which can detect the presence of alcohol gases at concentrations from 0.05 mg/L to 10 mg/L. The sensitive material used for this sensor is SnO<sub>2</sub>, whose conductivity is lower in clean air.



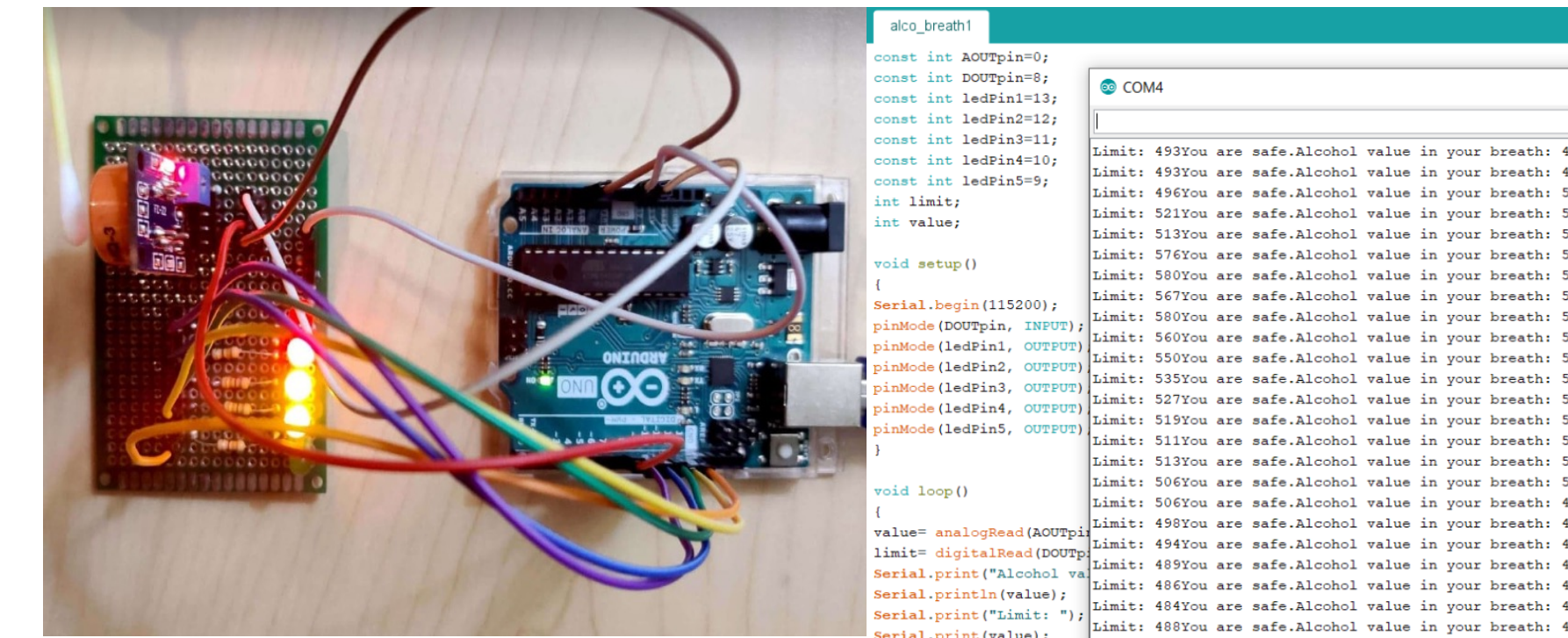
## FUTURE DIRECTION

- The consumption level can be observed in LCD display.
- A sensor can be used that will tell what to do after detecting the consumption level.

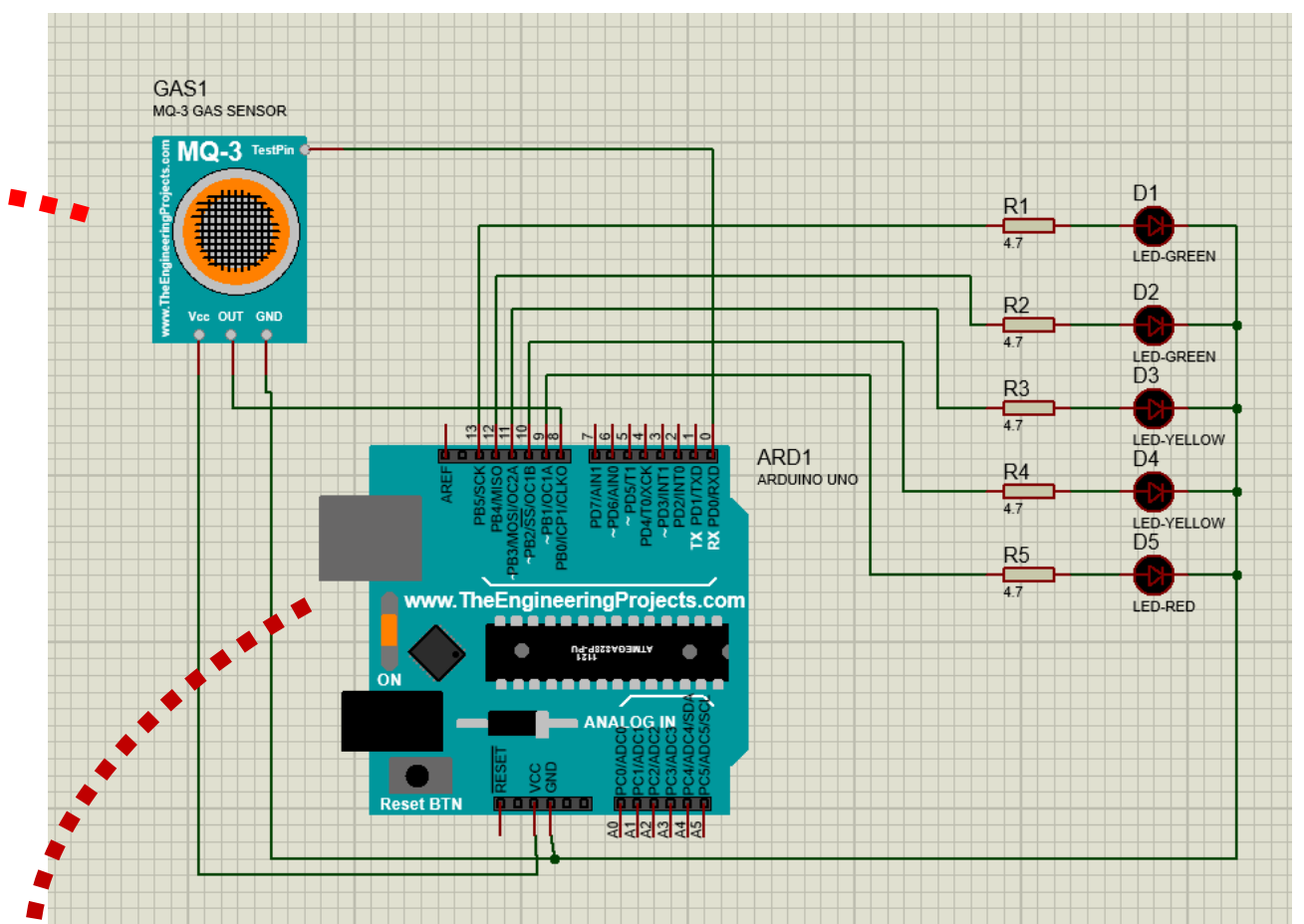
## CONCLUSION

The main reasons for checking blood alcohol levels are due to other alcohol treatments such as the suspected legal intoxication. Law Enforcement Organizations often use alcohol testers to find consumption levels of alcohol by drivers. This technique can be used to check them as early as possible.

### Workable Prototype and OUTPUT:

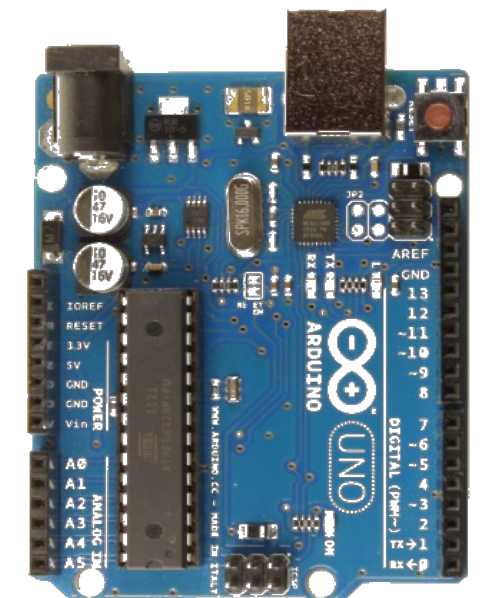


### Circuit Design:



### Arduino Micro-controller:

Arduino, which is an open-source platform used in different electronics, consists of both a physical programmable circuit board, also referred as microcontroller and a piece of software, or Integrated Development Environment (IDE) that runs on computer.



## CONTACT INFORMATION

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