

ALCOHOL SENSING ALERT WITH ENGINE LOCKING SYSTEM

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ABSTRACT--Driving under the influence of alcohol has affected and killed countless of people's lives. If you drink and drive, not only do you possibly put yourself at risk, but your passengers, and other pedestrians, who were on road every thirty minutes and someone's life is cut short and families are devastated...So here we implemented a prototype version Alcohol detection system in order to control drunk and driving as much as we can. This alcohol detection system works on a simple principle, if a driver has been drinking, the alcohol is in the driver's breath and if it crosses a set threshold, an alert will come and the vehicle engine speed reduces gradually and stop immediately. In between the stopping time and alert ringing time, it is safe to steer off the vehicle aside. This project is designed for the safety of the people seating inside/outside the vehicle.

Keywords—alcohol, alert, engine, system.

I. INTRODUCTION

In this project, we are developing an auto lock system. In addition to this an android application for unlocking the vehicle are developed. The input for the system is from detection sensors either from alcohol breath or any other mechanism. The controller keeps looking for the output from the sensors. If there are any traces of alcohol above the set limit, then the speed of the vehicle reduces, the system will lock the engine and gives a buzzer so that we can avoid accidents on the road.

Here a simulating process is activated using a dc motor through the relay and the complete process is under the supervision of an intelligent 89S52 microcontroller.

While alcohol wafers smelled by the sensor, sensor sends the input voltage to microcontroller.

II. ADVANTAGES

- Low cost.
- Automated operation.
- Low power consumption.
- It provides an automatic safety system for cars and other vehicles.

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III. APPLICATIONS

Applications of alcohol detector in car:

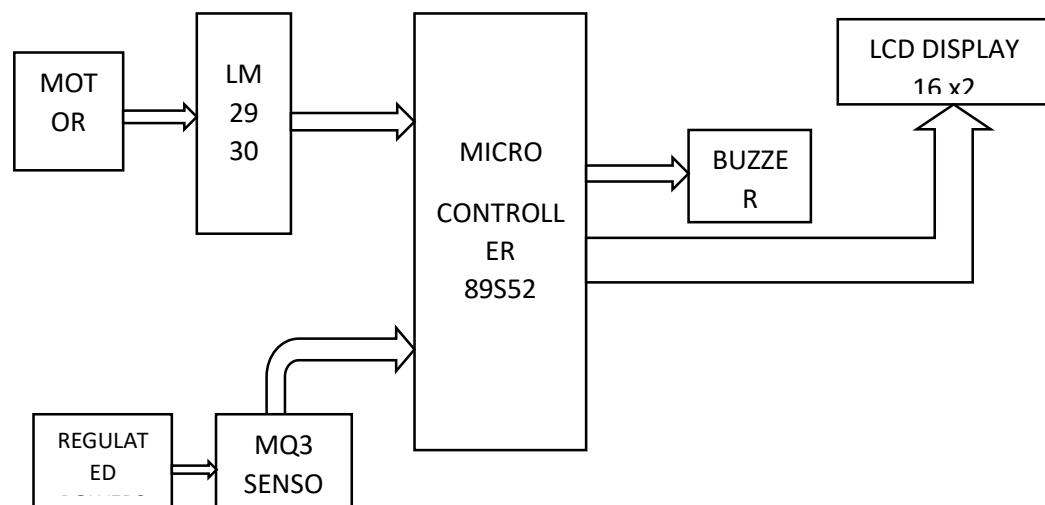
1) "Alcohol detector project" can be used in the various vehicles for detecting whether the driver has consumed alcohol or not.

2) This project can also be used in various companies or organizations to detect alcohol consumption of employees.

IV. HARDWARE COMPONENTS DESCRIPTION

- MQ3 sensor(4pin)
- 89S52 microcontroller
- 40pin IC base
- Crystal oscillator(11.0592Mhz)
- Capacitors:
 - *33pF
 - *0.1microF,16V
 - *100microF,50V
- Resistors
 - *10k Ohm SIP
 - *1 K Ohm
 - *10K Ohm preset.
- Ignition lock
- BC547 transistor
- Red LED
- 16×2 LCD
- Transformer(9V,1A)
- DB107 rectifier
- IC regulator (7805)
- LM 293D
- Buzzer
- DC motor 5V, B O
- Push button switch

V. BLOCK DIAGRAM



VI. WORKING

MQ3 sensor is basic sensing element used for alcohol detection. When alcohol is detected, it gives logic high (1) as per the program and remaining circuit run simultaneously.

When MQ3 sensor goes to logic 1, it sends a high signal to microcontroller 89S52. The microcontroller sends this signal to engine circuit driving through LM293D driver IC, i.e.; As per the program and our aim is that, when alcohol is detected, then the engine speed start decreasing ultimately and engine stops through this process i.e.; engine is locked.

Along with this operation, 16*2 LCD connected to microcontroller, it displays the engine status as well as sensor status with respect to above operation. When alcohol detected, the buzzer starts ringing at the same time.

The power supply requirements are arranged along with a reset switch is placed at pin-9 of microcontroller 89S52 to reset the process.

If the sensor is in condition logic low (0), then LCD displays no alcohol detected. So, engine is in unlocked state and runs by the above process.

VII. FUTURE ENHANCEMENT

1) We can implement GSM technology to inform the relatives or owners of the vehicle about the alcohol consumption.

2) We can implement GPS technology to find out the location of the vehicle.

3) We can install a black box to record actions of people inside the car so that reason for accident occurrence will be clear

VIII. CONCLUSION

In this project, we have developed a real time model that can automatically lock the engine when a drunken driver tries to drive a car. Now-a-days car accidents are mostly seen. By fitting this alcohol sensor into the car, we can save guard the life of the driver and also the remaining passengers. It is very simple application. The life time of the project is high. It has low or zero maintenance cost and of course low power consumption.

This is a developed design to efficiently check drunken driving. By implementing this design, a safe car journey is possible by decreasing the accident rate due to drinking. By implementing this design, drunken drivers can be controlled so are the accidents due to drunken driving.

Government must enforce laws to install such circuit in every car and must regulate all car companies to preinstall such mechanisms while manufacturing the car itself. If this is achieved the deaths due to drunken drivers can be brought to minimum level. In this type of system, future scope can be safely landing of car aside without disturbing other vehicles.

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