AUTOMATIC LOCKING OF MOTOR UPON ALCOHOL DETECTION USING AT89S52 AND EMBEDDED SYSTEMS

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Abstract: Now days, many accidents are happening because of the alcohol consumption of the driver or the person who is   driving the vehicle.The device which I have designed is works simply on driver's position whether he is in the capable of driving the motor or car which means whether he consumed the alcohol or not.If he driving car after consuming alcohol than limited then device comes into work by locking the motor or car.This project here we designed is based on consideration of safety measures of people who is sitting inside the car or outside the car as both are in the end of effecting because due to alcohol consumed driver some innocent people who are in their way may also effect due to his uncontrollable driving. By using this program in the car, Safe travel is possible which will reduce injuries during accidents and reduce the risk of accidents due to alcohol consumption driving drunk. Drunk drivers will not be in good condition so reckless driving becomes a distraction for some road users and there are questions about the health and death of a drunk driver and others.With the use of a microcontroller namely AT89S52 and an MQ3-based sensor and system inputs are derived from sensors of receiving or breathing alcohol or otherwise.The system keeps watching the output of the mq3 ,if it exceeds the limit then my project comes in to work by locking the system.The effect of this paper is to prevent or reduce alcohol and driving accidents.

KEY WORDS:

Alcohol detection system, Vehicle controlling system, Accidents prevention system, Drunkand driving detection, Microcontroller AT89S52, Embedded Programing

1. INTRODUCTION

We now hear of numerous accidents caused by drunk driving. Drunk drivers will no longer be strong.The situation   and therefore reckless driving is a distraction for some road users and also poses health and death. In this project, we built a car/motor lock gadget. Gadget Input fromsensors to receive or from an alcohol respiratory analyst or other method. Controller savessensor tracking, once the limit has been met then system warnings the system and it will automatically lock the engine. The engine will work with transmission and complete method is under the control of microcontroller 8051

2. LITERATURE SURVEY:

Here a system is proposed to prevent the accident by conducting a breath analysis of the driver to see if he is capable of driving the car. This is done by taking the input through the MQ3 alcohol sensor and processing it using the raspberry pi module. The alcohol detection system is connected with the raspberry pi processor to obtain the status of the person who operates the car. The status is determined when the driver takes the alcohol detection test. The system detects alcohol content in the driver by using MQ3 alcohol sensor attached to the steering the car. The sensor outputs its values in terms of varying voltage (analog output); therefore, the data needs to be obtained using a microcontroller with built-analog-to-digital converter [1].

This proposed method uses Arduino. We detected the driver's position in the real-time location and suggests that alcohol be detected using an Arduino-connected alcohol detector so that when the alcohol level exceeds the permissible level, the motor will shut down and the GPS module will capture the motor's existing location. And the GSM module will automatically send a message to the police or family members. An initiative solution has been Initiated to develop the motor system in a more smarter way which works by checking the various values of the car, through Core Arduino hardware platform, Alcohol sensor, GPS&GSM module [2].

To measure the increase in drug and drug use where drivers are drunk during the driver's license renewal process. The validity of one or more illegal drugs in the hair or urinary tract is confirmed by LC /MS methods. Chi-square tests, Fischer's direct tests and the Cochran-Armitage Trend were used to study the correlation between the typical characteristics of the tested sample and the presence drug/polydrug use. The implementation of this procedure can improve awareness of the magnitude of the problem, provide powerful ways to redue alcohol and drug abuse[3].

Accidents are a major problem worldwide.Many people have been killing due to driving the vehicle at high speeds,not wearing helmets and drunk and driving,more over among these huge number of people effecting with drunk and driving.it isa systematic analysis, consideration of methods used in the field of study. Usually, it includes concepts such as paradigm, theoretical model, categories and measurement or quality techniques. An effective auto accident protection system has been proposed with an alcohol detector.Itcontains PIC 16F877,mq3 and lcd display, equipping all these designs a device which won't allow the drive to drive the car by taking alcohol .Finally this paper helps in reduction in number of accidents[4].

Emergency status is available using the Bluetooth module and can be detected on android phones using sensors that measure these changing parameters. There are certain limitations that change during the emergency information details. Whenever a person sits in the driver's seat, various system parameters are considered. Alcohol sensor - tests whether a person drinks alcohol or not RF transmitter is used for data transfer at a rate of 1 to 10 kbps.The RF transmitter is mounted and the RF receiver is mounted on the vehicle. The RF receiver also works with the same frequency. The transmitted data sent by the RF transmitter is received by the recipient and verified. A vibration sensor is connected to port A, which will provide an analog value to the ADC control port. Ordinary person, the car would burn. The optic nerve ensures that the occupant of the driver's seat does not fall asleep. When the car arrives at the scene, it will slow down. In the event of an accident, the piezoelectric sensor provides a high value and indicates the occurrence of an accident not.MQ6 sensor is ready to detect alcohol concentration in air pilots[5].

3. SUGGESTED ACTIVITY:

BLOCK DIAGRAM
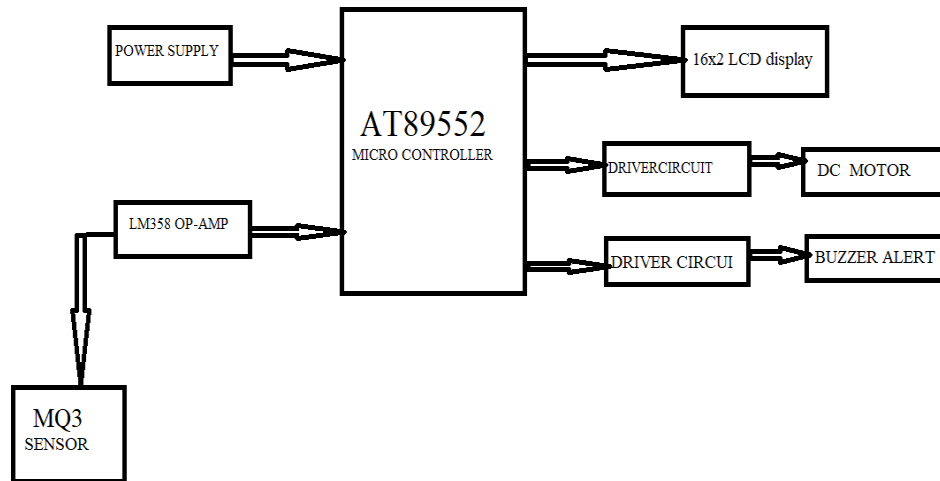
Here the main motto of this project is to reduce the accidents due to drunk and driving.Here my device which is equipped with mq3 detects the alcohol content in driver's breathe and gives this information whether he drank or not as a input to microcontroller.Based on that input system controls.The system therefore reduces the number of road accidents and fatalities due to alcohol consumption accidents in future driving.

If alcohol content is available at the time,
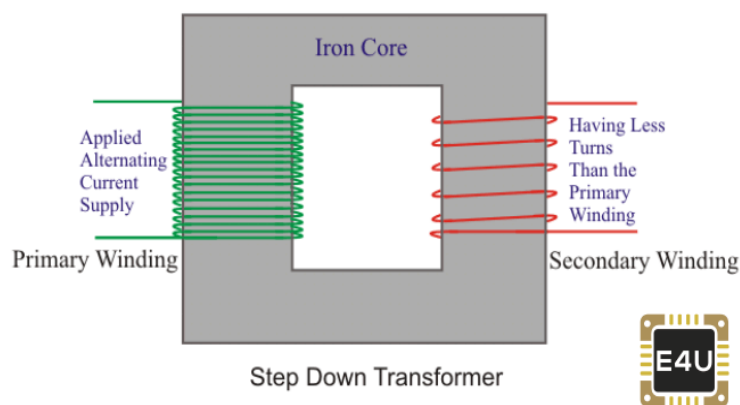
1) LCD displays "ALCOHOL IS DETECTED"

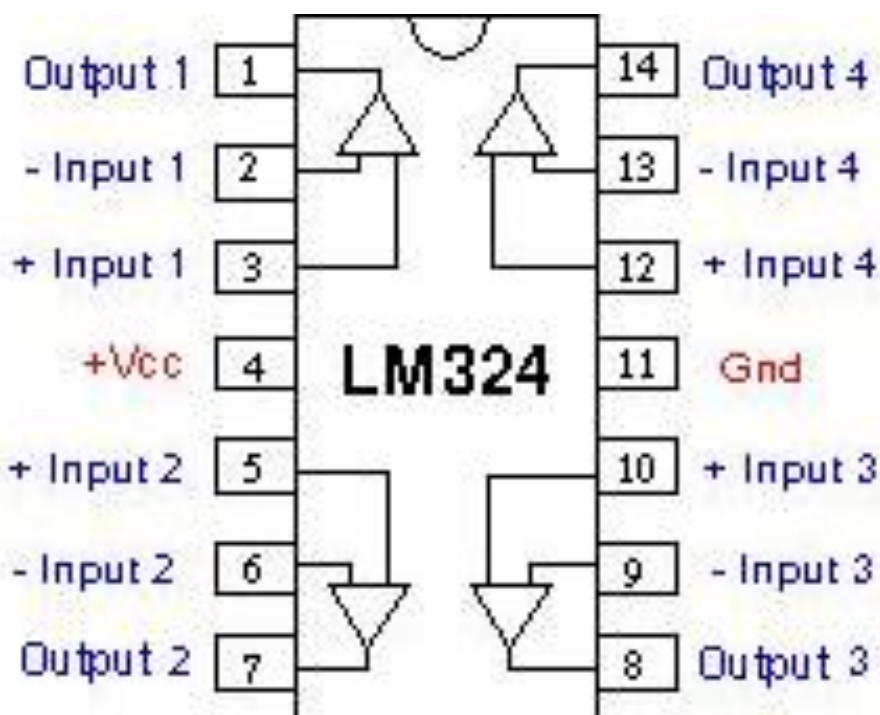2) The car stops working automatically.

3) Buzzer Sounds.

This application is located in embedded applications. An embedded program is a combination of computer and software, which can be configured or programmed, designed specifically for a specific task.

4.COMPONENTS

A.TRANSFORMER

Step Down Transformer

B. LM 324 OPERATONAL AMPLIFIER

C. LCD DISPLAY:

1. LCD (Liquid Crystal Display) screen is an electronic display module and find a wide range of applications.

2. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits.

3. **16x2 LCD DISPLAY** means it can display 16 characters per line and there are 2 such lines

D.MOTOR

1)The speed of a DC motor is directly proportional to the supply voltage.

2)we reduce the supply voltage from 12 Volts to 6 Volts, the motor will run at half the speed

E.MQ3 ALCOHOL SENSOR

The alcohol detection sensor used in our project is MQ-3 SENSOR

F.MICROCONTROLLER

➢ It is an 8 bit cmos microcontroller with 8k flash memory and 256 bytes of ram
➢ The main advantage of this is
➢ 1)low power consumed devics
➢ 2)high performance
➢ NUMBER OF PINS=40PINS
   OPERATING VOLTAGE=4 TO 5.5 V

G. BUZZER

Buzzer or beeper is an audio signalling device, which may be mechanical,   electromechanical, or piezoelectric (piezo for short).

5. RESULT AND DISCUSSION:

After the person who consumed alcohol enters into the vehicle then the alcohol sensor starts it's work and detects the level of alcohol which is followed by the buzzer ring and the LCD displays the content of alcohol after that the relay comes into action and will turn off the ignition by which the vehicle won't move which is the main aim of our project. An intelligent system in which MICRO CONTROLLER is the main base has been created by us as Innovative system. Also we have used sensors which has range of 2 meters such that they can suit for any vehicle and also can be hidden form some people. The main advantage of the proposed work is that it is small in size and also has higher reliability and efficiency. Now-a-days people idea on transport safety is changing, public safety is given more importance by which our project can be made successful and useful to public Future vision of the project is that it can be made inbuilt in the vehicles manufacturing it will be a new innovation to the technology in automobiles by adding safety feature, there by bringing a new development in the automobile industry.

6.Conclusion:

We had proposed a system that detects the alcohol from the breath of the vehicle driver there by stopping the vehicle to move and reduce the danger of people's lives. The system came alive by using effective microcontroller and sensors.Testing the device for many times and the evaluations showed that the sensors and the relays are giving a fast response when the content is detected. The other feature of the system is that the alcohol sensor can operate for longer duration and also can detect from a 2 meters range as well. By using embedded systems we have created a road safety feature which can be implemented in a smart city or of course a village. The proposed system not only shut down the vehicle if drunk and drivers but also shows the police authorities the location of the shutdown vehicle with the addition of a GSM. The proposed system is good enough that it can shut down and also locate to pick up the drunk and drive vehicle.

7.REFERENCES

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