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AUTOMATIC STOPAGE OF VECHICLE WITH DRUNKEN DRIVER

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ABSTRACT
The main objective of this research is "Drunk Driving Detection." Nowadays, a large number of accidents are caused by drivers or those who operate automobiles. As a result, in nearly every nation on earth, drunk driving is a significant contributing factor to accidents. The goal of the Alcohol Detector in Car project is to verify the security of passengers. If a driver has consumed alcohol, the Alcohol Detection with Car Controlling project helps to keep the car under control. An alcohol breath analyzer project needs to be installed inside the vehicle. In a different instance, if the driver starts the car and is not intoxicated when doing so, the sensor will detect alcohol on their breath and the vehicle will start. An LCD display, a dc motor, and an alcohol sensor are interfaced with an Arduino uno family microcontroller to demonstrate the concept. In this instance, the microcontroller receives data from the alcohol sensor, which is used to continuously check the user's breath. In order to demonstrate engine lockup, the microcontroller stops the tiny DC motor and displays an alcohol detection note on the LCD display in response to a high alcohol signal from the alcohol sensor. The technology requires a push button in order to start the engine. The engine won't start at all if alcohol is found while starting it. The device locks the engine if alcohol is found after it has started.

KEYWORDS-*Arduino, Valve,Relay*

I.INTRODUCTION

Increasingly, street safety is becoming a global social concern, with India leading the way. Drinking and driving is a real, widespread problem that will probably become one of the most important ones in the future. This challenge's main driving force is "drunk driving detection." because there are a rising number of accidents that are the result of the driver or the person operating the vehicle. Because of this, driving while intoxicated is a major factor in accidents in every country on earth. Thus, the framework lowers the number of incidents involving drunk driving on the roads and the number of fatalities resulting from it in the future.

Since the implementation of car ignition locking and drunk driving detection The majority of fatalities are caused by intoxicated driving; Arduino wants to address this by implementing automated, straightforward, noninvasive alcohol health tests in automobiles. The car's ignition and motor are turned off when the amount of alcohol within reaches a permitted breaking point, and an alcohol sensor is mounted on the steering wheel. Despite the fact that driving while intoxicated is illegal and punishable in practically every nation, many adults and young people nevertheless feel pressured to break the law and drive after drinking.

The primary objective of this project is to develop an alcohol detection system that can lower the frequency of accidents brought on by irresponsible driving. The project begins with the use of an alcohol sensor (MQ-3) to detect intoxication by estimating blood alcohol content and functioning as a Breathalyzer. The amount of alcohol in a person's body is determined by their breath alcohol concentration. An interface is used to link MQ-3 to the Arduino board. Relay and buzzer are examples of exterior parts. Arduino keeps track of the air's alcohol content.

Determines the alcohol concentration in percentage using the matching data. The driver receives notification through both an alert and a relay if the estimated percent surpasses a predetermined threshold.

II.METHODOLOGY

Figure 1 shows the block diagram of the parts that make up the driver's alcohol detecting system. The main part that regulates the model's general operations is the Arduino UNO. The alcohol sensor uses a person's breath to detect alcohol, so if the driver has consumed alcohol, the sensor's green LED will blink and the microcontroller will receive an analog signal. The alcohol sensor will record both digital and analogue measures; however, we will use the analogue readings since we need to set a threshold.

This research proposes a real-time driver monitoring system to measure alcohol consumption. The brains behind the whole idea are the Arduino UNO, which powers every aspect of the system. Using digital data from an external ADC, the Arduino UNO determines whether the alcohol concentration is above or below the threshold. The output of the driver indicates its state. The buzzer activates, the red light LED begins to shine, and a message is sent to the selected recipient when the driver is found to be

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operating their vehicle recklessly. The main purpose of the relay is to cut off the engine's power supply in the event that the driver is discovered to be inattentive.

First, the alcohol sensor measures the driver's blood alcohol content as soon as they get in and start the engine. If the driver's blood alcohol content is higher than the threshold, a relay immediately cuts off the car's power supply, preventing the driver from starting the engine. The car's engine starts and moves forward if the MQ-3 sensor initially finds no alcohol content.The driver receives a buzzer warning if, after starting the car, it is found that there is any alcohol present. The car gradually reduces its speed until it stops entirely. When this process occurs, the message alert is sent to the authorized user through the Twilio application. To inform the authorized user of the driver's current status, this is done.

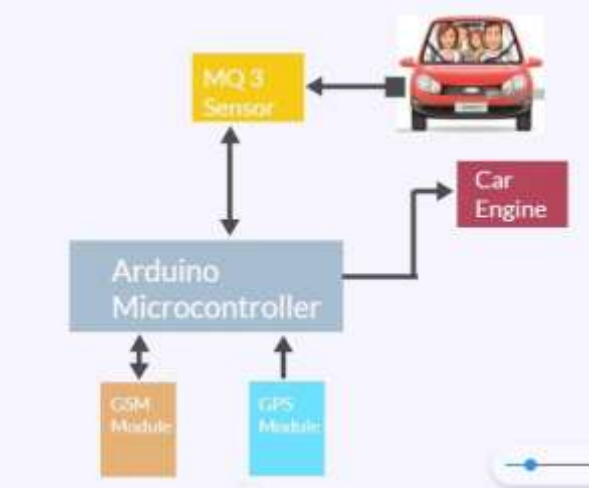

Fig.1.Block Diagram

III. HARDWARE DESCRIPTION

As seen in fig. 2, the project's block diagram makes it evident how the project operates. In the stated algorithm, the car's ignition is turned on first by the driver or anybody else attempting to start it, and then the alcohol sensor, or MQ3, measures the amount of alcohol in the vehicle. The car operates without any problems if the driver or someone else who maintains safety sets the threshold value for alcohol consumption.

When the car's alcohol level exceeds the threshold, a buzzer will first sound and then a red led will glow for a while. This is the only functional component of the other hand GSM apparatus The technology allows you to send an SMS to the owner. It also uses GPS to determine the latitude and longitude of the car's actual position.

Fig.2.Prototypical Model

The flowchart of the proposed system is shown in Fig.3.

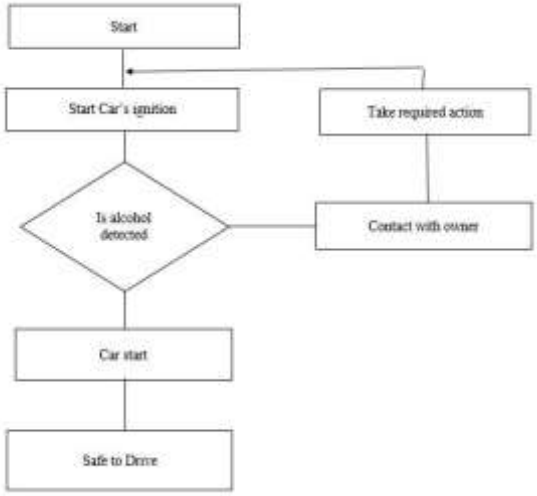

Fig.3.Flowchart

In the event that the MQ3 sensor detects no alcohol, logic is low (logic 0). Conversely, if the automobile is in operating condition by default, logic is high (logic 1) and the red-light LED indicator is dark, logic is low (logic 0). when the system detects alcohol The car is automatically halted, making logic Low (logic 0), and the red-light LED indicator is dark, making logic High (logic 1) if the MQ3 sensor detects alcohol (logic 1).
Fig.4 shows the position of sensor.

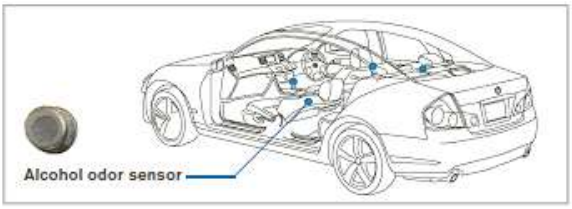

Fig.4.Sencor Position

IV. RESULTS

A extremely sensitive alcohol sensor that detects the presence of alcohol in the driver's breath as they attempt to start driving is integrated between the gear knob and the area in front of their face, directly above the steering wheel. The technology

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immediately locks the transmission and stops the vehicle when the amount of alcohol detected is higher than the predetermined threshold. In addition, a car navigation system and a "drunk-driving" buzzer alert are offered.

Extra alcohol sensors are positioned in close proximity to the driver's and passenger seats in order to identify the presence of alcohol in the interior air. The vehicle is stopped by the system when alcohol is detected.

Fig.5.Output

V.CONCLUSION

The apparatus used in this study can be thought of as an alcohol detection breath analyzer. This method is crucial for preventing "Drunk and Drive" incidents. The instant alcohol is detected, this device cuts the car's engine. The administrator of the car must initiate a master reset before the system will boot up. Both driving safety and road safety would be greatly enhanced by this.

VI. FUTURE SCOPE

The idea introduced in this project work can be expanded to produce autonomous vehicles and provide cloud-based vehicle control. By doing the breath analysis, the autonomous car can be switched between manual and auto mode. We can add more sensing devices to the system to reduce malfunctions. For example, we can mount a camera above the steering wheel to track a driver's eye blinks and assess their level of tiredness.

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