ALCOHOL DETUCTION SYSTEM BASED ON IoT

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INTRODUCTION

- The purpose of this project is to avoid drunken driving accident by the method of alcohol detector.

- The alcohol detection system is used for road transportation safety in smart city using Internet of things (IoT) technology.

OBJECTIVE

- Two Blood Alcohol Content(BAC) thresholds are set and monitored with the use of a microcontroller.
- When the first threshold is reached, the developed system transmits the BAC level of the driver and the position coordinates of the vehicle to the central monitoring unit .
- At the reach of the second BAC threshold , the IoT - enabled alcohol detection system shuts down the vehicle engine, triggers an alarm and puts on the warning light indicator.

PROBLEM IDENTIFICATION

- In present times, the cases of traffic accident caused by drunken driving has increased rapidly.
- Drivers with high BAC are at expanded danger of auto crashes , roadway wounds and vehicle passing.
- To avoid drunken driving accident , a MQ3 sensor (alcohol sensor) is used .

BLOCK DIAGRAM OF THE SYSTEM

MQ3 SENSOR

- MQ3 is appropriate for recognizing liquor, this sensor can be utilized as apart of a breathalyzer.
- It has a high sensitivity and fast response time.
- Sensor provides an analog output based on alcohol concentration.
- The sensor needs 5V power supply to operate.

LCD DISPLAY

- The LCD screen used to display the BAC levels and coordinates of the vehicle.

- If alcohol is detected it displays the message indicating “alcohol detected”.

ARDUINO UNO

- Arduino is the central unit of the system.
- Arduino uno is a microcontroller board based on the ATmega 328P.
- It is a programmable microcontroller for prototyping electromechanical devices.

GPS MODULE

- GPS module used to monitor location.
- The GPS provides the coordinates of the driver's location.

EXPECTED RESULT

- A drunk person tries to take control of the vehicle, the alcohol sensor will detect the presence of the alcohol .

- If presence of alcohol is detected by the sensor, it will shut down the vehicle's engine and sound an alarm thereby alerting the nearby people.

COST ESTIMATION

PRODUCT	QUANTITY	AMOUNT
MQ-3 Gas sensor	1	350
GSM Module	1	400
Gps Module	1	750
16*2 LCD Display	1	301
Arduino uno	1	1099
	TOTAL	2900

COMPONENTS PURCHASED

THANK YOU