

# Chapter 16

## Security–Based Real Solution to Sense and Detect Alcohol Consumption Level for Drunken Driver Using a Smart Engine Locking System Using an IoT Enabled Device

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### ABSTRACT

*Drinking and driving events are common; drunk drivers collide with their cars, causing property damage and fatalities. Therefore, we are now offering a revolutionary solution to eliminate these circumstances. Here, we provide a cutting-edge approach to solve a serious infraction that may make use of an IOT device, LED, microcontroller, alcohol detection sensor (MQ3), and other parts. Our real-time model can lock the engine right away if a drunk driver tries to operate a car. Our proposed system could track the driver's breathing continuously by putting it on the seat or wherever else it can continuously monitor the driver's breath. As a result, if a drunk driver tries to start a car, the system will detect the alcohol in their breath and lock the engine, making it impossible for the car to start. Body Sensor Networks (BSNs) represent a novel and rapidly expanding trend in the creation of everyday applications.*

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## 1. INTRODUCTION

One of the main causes of the increase in traffic fatalities is drunk driving. Drink and drive not only puts other drivers in risk on the road, but it also jeopardizes the driver's personal safety. Drunk driving is the primary cause of accidents outside of cities, and no testing protocol has been implemented as of yet to reduce the number of road deaths. Our method prevents drunk driving by automatically controlling the vehicle and prohibiting driving after intoxication. For traffic safety, a driver's conduct is crucial. In addition to impairing a driver's competence and ability to make assessments, fatigue, alcohol, emotional state disorders, and on-road distractions can result in loss of control of a vehicle and traffic accidents. One of the main contributing factors to traffic accidents is drowsiness. According to the American Automobile Association (AAA), sleepy driving is to blame for 12% of crashes that need hospitalization of either the driver or a passenger and 23% of fatal traffic accidents.

## 2. LITERATURE SURVEY

1. To prevent the mishap of drunken driving writer have used PIC16F877A microcontroller which is an outdated system and expensive one also which restrains its use to only certain class of society whereas we are using Arduino and Uno microcontroller which is advanced as well as economical. (M.H. Mohamad et.al.,2013)
2. Concerned about inebriated riding, the author presents a solution; however, the application of the mQ2 alcohol sensor has backfired. While we have a MQ3 alcohol sensor that is quite real, the MQ2 alcohol sensor is not real and raises the risk of a false alarm.(Dhivya M et.al,2013)
3. The writer has put forward a technique that utilizes GPS and GSM to ascertain alcohol but this technique is very expensive, but the expenses can be cut off to a great extent. In this project a siren is being used which is highly economical, and can keep people in close proximity vigilant.(P Baskett et.al.,2013)
4. When an obstacle was spotted, the vehicle halted. The IR sensor was utilized to identify obstacles that came in front of the vehicle. It was also keeping an eye on the harmful gasses coming from the inside of the car, like CO<sub>2</sub>, LPG, and alcohol. Only approved individuals were notified by SMS if there was a high gas content. (MUGILA.G,et.al.,2016)
5. Composite fitness tracking and sensors primarily based totally on infrared are applied to check alcohol as mentioned via way of means of author however the threat of fake alarm cannot be prevented on this device, due to the fact minute alternate in a some cases can bring about false alarm however in our take exception to use of required generation makes it extra actual. (Altaf, S.et.,al 2017)
6. To cope with helmet negligence and alcohol detection simultaneous the writer proposed a system which is very complicated and use of P89V57RD2 microcontroller makes it highly expensive also this system can only be equipped with 2 wheelers whereas Aurdino uno microcontroller is economical as well as can be equipped with any class of vehicle making it more authentic and successful. (Babor, T.et.,al 2001)
7. Wearing clever helmet to save you any mishap is usually recommended via way of means of author that have positive deficiencies. Firstly regulations on the usage of helmets to most effective 2 wheelers. Secondly, microcontrollers are software program primarily depend totally on mega gadget in consideration to the reasonable siren which are open supply hardware. (L. A. Navarro,et.,al.2016)

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