

VEHICLE SAFETY DEVICE

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ABSTRACT

This project presents a noble system to detect and locate vehicle thefts. If an unauthorized person tries to steal the vehicle as well as with rising technologies and developed automobiles with high end motor vehicles with increase horsepower and accessible speed, it is easier than ever to come in contact with accidents. People are able to drive recklessly, affecting the safety of common people. Although speed limits and other prevention laws were implemented, road accidents continue to happen every day. Some of the main contributing factors leading to motor vehicle accidents are Drowsy driving, rash driving and drunk driving.

Feeling sleepy while driving could cause hazardous traffic accident. However, when driving alone on highway or driving over a long period of time, drivers are inclined to feel bored and sleepy, or even fall asleep.

Nowadays most of the products of driver anti-sleep detection sold in the market are simply earphone making intermittent noises, which is quite annoying and inefficient. As such, there is a high demand for cheap and efficient driver sleep detection. Therefore, we came up with an idea and successfully developed a sleepy detection and alarming system, which could effectively meet this demand.

I. INTRODUCTION

The number of deaths on the road is alarming especially during the festive seasons. One of the reasons that an accident happens is because the driver falls asleep while driving. Due to one careless person, many innocent lives are lost. Such instances like express buses with many passengers crashed head-on with other vehicle. This innovative project is to be undertaken based on highly involved electronic engineering principles and application. Human body signal transmitted and detected in relation to the state of consciousness will be analyzed and correlated for the purpose of the system design and application.

II. OBJECTIVES

1. The main objective of this project is to avoiding the accidents and save the life of drowsy driver.
2. Providing security from thefts and accessing permission to enter in vehicle.
3. To detect an alcohol drunken user.
4. The implementation of this project helps the driver. This system alerts the user if he/she falls asleep at the wheel thereby, avoiding accidents and saving lives. This system is useful especially for people who travel long distances and people who are driving late at night.
5. To study and understand the symptoms of fatigue driver that can cause of accident and implementation.
6. To design the anti-sleep alarm system that is capable for fatigue driver.
7. To develop anti-sleep alarm system by using alcohol detection and fingerprint sensor that is connected to Arduino.

III. METHODOLOGY

To achieve the goal that has been set in the objectives of this project, there are so many works that need to be done. The first stage is learning the concept of fatigue driver and human body characteristics and how the implementations. The second stage will be more on choosing the best algorithm that been used for fatigue detection. Finally, to develop anti-sleep alarm system by using alcohol detection and fingerprint sensor that is connected to Arduino.

Finger Print

This module provides user's fingerprint to unlock the door of the vehicle. Once the user is unlocking the car by using fingerprint they can enter in the vehicle. A fingerprint sensor is an electronic device used to capture a digital image of the fingerprint pattern. The captured image is called a live scan. This live scan is digitally processed to create a biometric template (a collection of extracted features) which is stored and used for matching.

**Alcohol Sensor**

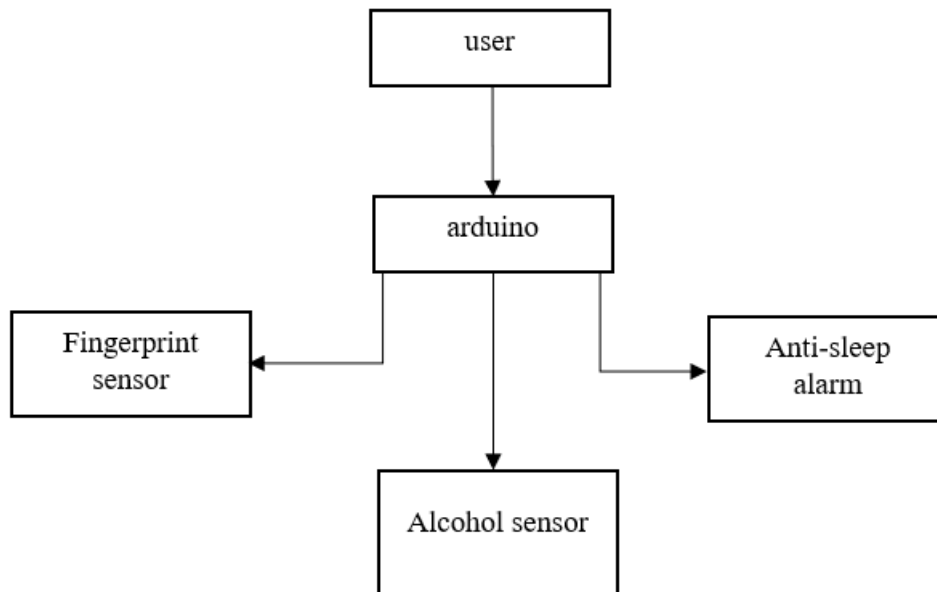
When the user of the system has drink alcohol the msg will display on the LED present in front of the user. The alcohol sensor is technically referred to as a MQ3 sensor which detects ethanol in the air. When a drunk person breathes near the alcohol sensor it detects the ethanol in his breathe and provides an output based on alcohol concentration.

**Sleep Alarm**

stop on the place. There are two types of anti-sleep alarms. The first type of alarm is built right into the car and uses sensors, cameras and other high-tech tricks to discern a driver's fatigue and correct the problem accordingly. The second type fits over the driver's ear and sounds an alert when the driver starts to fall asleep.



IV. MODELING AND ANALYSIS



V. CONCLUSION

All the main purpose to make this project is to help the drivers who drive their vehicles day and night without sleep they feel drowsiness while driving so this device will help to reduce the accidents which is cause due to drowsiness and added 2 more modules for vehicle and drivers safety.

VI. REFERENCES

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