DRUNK DRIVING PREVENTATION SYSTEM WITH IGNITION LOCK & IOT

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ABSTRACT

Driving under the influence of alcohol are harmful for society. This kind of behaviour can cause a lot of damage which surely effect many people, physically and psychologically. This behaviour also increases the road accidents that occur each year. A prototype of drunk driving preventation system will be build that will help drunk driver's attempt driving while under influence of a alcohol. In this prototype will be used LCD, LED, Microcontroller Arduino UNO and esp-32, alcohol sensor MQ-03and buzzer. This system will operate as such the car ignition will remain off after alcohol sensor detect a high level of Blood Alcohol Content (BAC) in the user breath and send information to microcontroller and microcontroller will communicate with Blynk server and send notification to user's relative toward Telegram. This system can be useful in enforcing legal alcohol limit.

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INTRODUCTION

1.1   Research Background

The drunk driving preventation system with ignition lock & IoT is a smart system which has capability to sense user's Blood Alcohol Content (BAC) level in their breath before their start drive their car. In this system the sample of user breath will be taken from the air through the air when user breath through the alcohol sensor which the microcontroller processes the data from sensor and system will send Telegram to user relative, collect data in Blynk and BAC result will be displayed on the Liquid Crystal Display (LCD).

For notification system it will send message through the Telegram message via the communication ESP32 to mobile phone. In the message also will include the warning to and the level of sober user which are sober, having alcohol and drunk. This system will be attached to the car's dashboard to prevent the drunken people from driving their car. This project enhances the usage of IoT for safety aspect that can be interface to be respond well to smart system of security technology. Also, it is to prevent user who consumed excess alcohol from drive their car which can help to reduce the number of road accident that cause by drunk driver.

According to Malaysia Institute of Road Safety Research (MIROS), the number of road accident in Malaysia are increasing. [1] Datuk Seri Liow Tiong Lai, the Minister of Transport at that time said in 2015 recorded 489,606 cases of road accidents compared to previous year which are 476,196 cases. The cause of the increasing of cases are because of dangerous driving, uncontrolled speed when driving, not focusing, and driving in the alcohol influence.

There is state that police have arrested 1,558 individuals for various of traffic offences which include driving under the influence of alcohol, through various operations held around the national capital. [16] According Supt Zulkafli Chek Lah, Deputy Head of Jabatan Siasatan dan Penguatkuasaan Trafik (JSPT) Kuala Lumpur said drunk drivers recorded the highest number of offenses with 1,157 cases. The investigated in accordance with section 45A Akta Pengangkutan Jalan 1987.