UNIVERSITI TEKNOLOGI MARA

PROJECT TITLE

IOT ALCOHOL SENSE ENGINE LOCK AND GPS

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ABSTRACT

By combining cutting-edge technology, the Smart Driving Safety System tackles the urgent problem of alcohol-impaired driving. Real-time alcohol level and position monitoring is provided by the system, which consists of a MQ-3 alcohol sensor, GPS module, SIM 900A communication module, LCD display, LEDs, L298 motor driver, and DC motor. Increased alcohol levels cause visual alerts, information to appear on the LCD, and the SIM 900A module to start performing functions including engine immobilization. The research is focused on precise sensor calibration, sophisticated GPS functionalities, and machine learning-driven adaptive responses for precision and responsiveness. Two-way communication and a multicolor LED feedback system improve user interaction, and security measures protect user information. In keeping with the overarching objective of lowering accidents brought on by drunk driving and encouraging appropriate road behavior, the system's proactive approach and preventive measures are designed to make driving safer. In order to reduce the hazards associated with driving under the influence of alcohol, the suggested Smart Driving Safety System offers a user-centric solution that combines real-time monitoring, alarms, and intervention mechanisms.

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INTRODUCTION

This chapter will cover the project's beginning, including what it is about and whether anyone can contribute. And what may be achieved by achieving the goal, and lastly, the extent of the labor required to complete this project

1.1 1ntroduction

Vehicle accidents have become a distressing and frequent occurrence in the modern environment of road transportation, endangering lives, property, and societal well-being. Due to this urgent problem, engineers and manufacturers have been working nonstop to improve the safety systems in automobiles and have created a wide range of cutting-edge solutions. These safety features, which range from lane departure warning to forward collision warning and blind spot recognition, have been painstakingly built to increase driver awareness and considerably reduce the likelihood and severity of accidents [1]. For instance, blind spot detection uses ultrasonic sensors to find things close to the car and warn the driver of potential dangers. Similar to forward collision warning systems, which use radar sensors to determine how close a vehicle is to those in front of it and issue timely alerts or, in some cases, initiate automatic braking, lane departure warning systems use auditory or visual cues to warn drivers when their vehicles veer off designated lanes. By preventing accidents and lessening their effects, these technologies constitute an important step in enhancing road safety.

Nevertheless, despite these admirable developments, accidents resulting from the risky practice of drunk driving continue to pose a significant threat to our society. Driving while intoxicated continues to be a serious problem, endangering not only the life of the driver but also placing other road users at serious risk [2]. Alcohol negatively affects a driver's behavior by making them more relaxed and less focused on the task of driving, which greatly increases the likelihood of accidents [3]. To lessen the negative effects of drunk driving, this disturbing development calls for creative solutions. A unique device, the IoT-Based Alcohol Sense Engine Lock and GPS, is on the horizon of technology as a solution to this urgent problem.