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A Review Paper on Alcohol Detection and Engine Locking System with GPS Tracking System through Mobile Application

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Abstract: *This study aims to analyze the impact of internal factors on road accidents. The paper presents a smart vehicle safety system that integrates alcohol detection, engine locking, GPS tracking, and mobile app notifications through web APIs. The system uses an MQ-3 alcohol sensor to detect alcohol levels in the driver's breath. If the detected level exceeds a set threshold, the NodeMCU (ESP8266/ESP32) processes the data, triggers an engine lock mechanism, and uploads the vehicle's location (via GPS module) to a cloud server using a web API. A mobile application retrieves the data in real-time and displays the vehicle's location on Google Maps, while also sending push notifications. This approach eliminates the need for GSM connectivity, utilizes Wi-Fi/IoT connectivity, and offers a scalable, cost-effective road safety solution.*

Keywords: Alcohol detection, Engine lock, GPS, NodeMCU, IoT, Web API, Google Maps, Vehicle safety

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