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Alcohol Based Engine Locking System using ESP – 32

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Abstract: *Drunk driving is a major cause of road accidents worldwide, posing serious threats to both drivers and the public. This paper proposes an effective, low-cost solution to prevent such incidents through an alcohol-based engine locking system powered by the ESP-32 microcontroller. The system employs an MQ-3 alcohol sensor to detect the presence of alcohol in the driver's breath. If alcohol concentration exceeds a predefined threshold, the ESP-32 activates a relay to disable the engine ignition, thereby preventing the vehicle from starting. The system may also incorporate visual or audio alerts to warn the driver. Designed with affordability and real-world application in mind, this system can be integrated into both personal and commercial vehicles to promote safer roads and reduce drunk driving-related fatalities.*

Keywords: Drunk driving

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