

Alcohol Engine Locking with SMS Alert using Arduino and GSM

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Abstract: *It aims to prevent drunk driving by integrating an alcohol sensor with the vehicle's ignition system. When the driver breathes near the sensor, it detects alcohol levels using the MQ-3 sensor. If alcohol is detected above a predefined threshold, the Arduino microcontroller disables the engine ignition, effectively locking the vehicle. Simultaneously, a GSM module sends an SMS alert to a predefined mobile number (e.g., a family member or fleet manager) with the driver's status and location. This system provides real-time monitoring and proactive prevention. It enhances road safety, especially in commercial or personal vehicles. The design is cost-effective and easily integrable into existing vehicles. Overall, the project merges sensor technology, microcontroller logic, and wireless communication to create a smart, safety-oriented solution.*

Keywords: Arduino Uno, GSM Module (SIM800/900), Sensor Integration, Analog to Digital Conversion, Relay Control via Arduino, GSM AT Commands, Mobile Alert System, SMS API (GSM module)

