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Mobile App Controlled Gas Detection and Smart Home Integration

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Abstract: *This paper presents the design and implementation of a mobile app-controlled gas detection and smart home integration system utilizing the Node MCU ESP8266 microcontroller, MQ6 gas sensor, DHT11 temperature and humidity sensor, relay module, and the Blynk platform. The system aims to enhance home safety by detecting gas leaks and enabling remote control of home appliances through a mobile application. The methodology involves sensor calibration, threshold setting, mobile app configuration, and relay control logic. The results demonstrate the system's effectiveness in real-time gas detection and appliance control, with user-friendly interface and reliable performance.*
This research contributes to the advancement of IoT-based smart home solutions for safety and automation.

Keywords: Real time gas detection, automatic exhaust fan control, mobile notification alerts, temperature monitoring, smart home automation