ABSTRACT

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Prototype Keamanan Rumah Pintar dengan Deteksi Akses RFID Dan Kebocoran Gas Berbasis Arduino Uno

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This research designs a smart home security system prototype using Arduino Uno to address the risks of burglary and gas leaks. The system integrates an RFID sensor (RC522) and a magnetic sensor (MC-38) for illegal door access detection, as well as an MQ-2 gas sensor to detect LPG leaks. The research methodology includes problem identification, hardware and software design, and system testing. The test results show that the prototype is effective in improving home security, with the magnetic sensor successfully detecting position changes from 0-9 cm, the RFID sensor accurately verifying registered cards from 0-3 cm, and the MQ-2 gas sensor successfully detecting various types of smoke and gas, except for one scenario involving burning plastic below the specified threshold.

Bibliography 2020-2025