

DESIGN OF A DOOR SECURITY SYSTEM USING FINGERPRINT AND CAMERA BASED ON THE INTERNET OF THINGS

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ABSTRACT

Home door security systems are important to guard against and anticipate unwanted events such as theft. This study aims to design and develop a security system design using fingerprint sensors and cameras based on the Internet of Things. By using fingerprints to open the door and equipped with a camera, it is hoped that the door will be safer than using conventional security systems such as padlocks. The designed door security system consists of an ESP32 CAM Wrover microcontroller, fingerprint sensor, OLED, solenoid door lock, and buzzer. From the results of testing the fingerprint sensor reading, testing the OLED screen display, testing the buzzer output, sending notifications and images, running commands from the application, and testing new fingerprint registration, a success rate of 100% was obtained. The results of these tests indicate that the designed door security system can work well, but the Internet of Things process is greatly influenced by the internet network used.

Keywords: *Internet of Things, Door Security System, Fingerprint Sensor*