ABSTRACT

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INTERNET OF THINGS BASED DOOR SECURITY SYSTEM PROTOTYPE
WITH ESP32-CAM, PIR SENSOR AND MAGNETIC SENSOR

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(xiii + 45 + Attachments)

This research discusses the design and build of a prototype Internet of Things (IoT) based door security system using ESP32-CAM, PIR sensors, and magnetic sensors. The main goal is to design and implement a door security solution that can detect human movement and monitor the status of the door in real-time via the internet network. The method involves the design, implementation, and testing stages. The prototype successfully integrates the ESP32-CAM, PIR sensor and magnetic sensor in the designed electronic circuit schematic. The software was developed in C and Arduino IDE, using Telegram as the IoT medium. The test results show that the prototype is able to detect movement with good accuracy and provide real-time notifications to users via Telegram. The success of the prototype demonstrates the potential to enhance security and environmental monitoring of the door, technology-based solutions. It is hoped that the results of this research can become the basis for further development in the field of security and IoT.

Bibliography (2016 – 2023)