

ABSTRACT

Security technologies currently in development, such as fingerprint recognition and retina recognition, require individuals to position themselves correctly in front of a camera. However, efforts are underway to develop a more flexible and automated identification system to prevent theft.

In this Final Project, a design for the implementation of a warehouse door lock security system for entry access has been created using a Raspberry Pi-based warehouse door lock security system that utilizes face recognition technology. This project represents an innovation that integrates face recognition technology with Raspberry Pi hardware to enhance security in sensitive warehouse or storage environments.

The results of face recognition testing conducted on the warehouse security key system using a Raspberry Pi yielded the highest registered confidence value of 76-80%, with the lowest registered confidence value being 70-75%. Meanwhile, the confidence value for unregistered users ranged from 22-35%. The Accuracy Testing results obtained are 80% for well-lit conditions and 40% for low-light conditions. These results indicate that the face recognition system implemented in this final project operates effectively, allowing registered facial data to be recognized by the system, and the system functions properly, enabling the solenoid door lock to open.

Keywords: *Raspberry Pi 3 B+, Solenoid Door Lock, camera, Relay*