DESIGNING AND TESTING AUTOMATIC DOOR SAFETY SYSTEM USING *FACE RECOGNITION* BASED ON ESP32-CAM MODUL

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ABSTRAK

In the modern era, image processing technology is developing rapidly to help and facilitate human work. Human faces can be used in image processing as a security key because faces include different facial characteristics, although some people have the same characteristics. With the image processing using face, the researcher used it as a security lock on the door of the house, because the door lock in general only uses a padlock or a swivel key. A padlock or a swivel key is often used by everyone, but it easily breaks. In this final project, the researcher aims to implement real face detection based on image processing on the door lock design. This face detection system used ESP32-CAM which already had a face recognition feature on the system. The key as a security door used as a magnetic door lock solenoid and relay module for the switch. The result of this final project concluded that the door lock security system using face recognition succeeded in detecting and recognizing someone's face by capturing 4 times the recorded ESP32-CAM face as a sample of a face in the database. This system worked if the ESP32-CAM was connected to Wi-Fi device that operated on the web.

Kata kunci : *face recognition, image processing, ESP32-CAM*