

ABSTRACT

Some people are very easy to open the door lock with just a small wire. This causes the house to be vulnerable to burglary and theft. In previous studies, there were still shortcomings such as the accuracy of facial recognition was not good, the time for the facial recognition process was very long and no action was taken if the camera caught an unknown person. This raises the need for solutions related to security systems that can monitor homes when something suspicious happens so that it can be prevented immediately. This study aims to create a home door security system using ESP32-CAM as face recognition. This face recognition can unlock the door automatically and if someone is caught on camera who is not known, the system will send a notification to the owner to follow up on this. The results of the face detection test using the Haar Cascade Classifier method that can distinguish a known face and an unknown face. The results of facial accuracy at a distance of 30 cm, 40 cm, and 50 cm with a light intensity of 130 lux obtained an average accuracy of 96.6%. The result of the average time required from the face sampling process until the face is recognized by the system is 21,50 seconds.

Keywords: *ESP32-CAM, face recognition, Haar Cascade Classifier.*