

ABSTRACT

Current crime cases in Indonesia, especially theft with violence 0.62-14.23 percent and non-violent theft are in the range 11.42-73.76 percent [1]. This was triggered by the declining economy due to the Covid-19 outbreak. From these data, non-violent theft is a high percentage, this is because access to the house is quite easy, the ease of entering the house is because almost all houses use manual door locks that can be easily opened or duplicated. Therefore, a smart door lock is needed to be safe and awake.

In a previous study by Atikah Hazarah in 2017 with the title Design and Build Smart Door Lock using QR Code and Solenoid. In this study, only the QR Code and solenoid were used as system security on the smart door lock. In this final project, the development of an internet of things-based smart door lock with a microwave proximity sensor has the advantage that the circuit is more compact and has a wide enough range in collaboration with the PIR sensor. Equipped with keypad and RFID as personal access for certain users who enter the room. The results of the data from the condition of the door, detecting the presence of an object or user, pin password data, RFID data, entry access, notifications in the form of buzzers, LCDs and notifications on the antares web.

The results of the development of an internet of things-based smart door lock with a microwave proximity sensor regarding testing the accuracy of the RCWL-0516 sensor readings, the results obtained are successful in detecting the presence of an object or user with a distance of 50cm-650cm can detect the presence of an object or user if it is more than 650cm then the RCWL sensor does not can detect the presence of objects or users. Testing the accuracy of PIR sensor readings shows that the results are successful in detecting the presence of an object or user with a distance of 50cm-500cm can detect the presence of an object or user if it is more than 500cm then the RCWL sensor cannot detect the presence of the object or user. In testing the accuracy of RFID readings, the registered RFID is attached to the RFID sensor and the RFID data is read with the access status accepted so that the door lock solenoid will open while the unregistered RFID is attached to the RFID sensor and the RFID data is not read with the access status denied so the solenoid door lock does not open. It can be concluded that every test of RFID reading that has been carried out is declared successful. In the Delay Antares web test, it is done by

tapping a registered RFID and tapping an unregistered RFID then the solenoid door lock will open or remain locked. From this test, the average delay is 1.51 seconds.

Keywords : Mikrokontroller, Internet of Things, Smart Door Lock.