

ABSTRACT

The use of digital door locks in Indonesia is still rarely heard. Indonesia is still a traditional country in terms of door security. Although there are claims that conventional locks are safe and practical door locks, in reality conventional door locks are more troublesome when compared to digital door locks. The purpose of designing this tool is to make it easier for users to monitor the condition of the door of the house in real time. With a notification when someone tries to enter, it is hoped that it will reduce the possibility of an unwanted door breaking.

Through this research, a smart door lock system based on the Internet of Things (IoT) is created which will be integrated with a telegram service bot that allows users to receive notifications when someone tries to open the door. This system is designed using several components consisting of a 4x4 Matrix Keypad, Raspberry Pi Camera Rev 1.3, Raspberry Pi, Adapter Cable, MicroSD and Servo Motor. For this reason, the user is required to verify by entering the registered pin as a substitute for a conventional key in the step of opening the door. As an added security, the notification will display photos obtained from the Raspberry Pi Camera Rev 1.3 when someone tries to input the pin.

The design of this tool succeeded in sending notifications to Telegram 30 times from 30 trials with an average speed of 8.67 seconds. This happens because the tool is in good condition but the internet connection is unstable so the speed fluctuates. Tests of delay and throughput were also carried out on sending packets via Raspberry Pi to Telegram bots and vice versa, with an average delay of 144 ms and a throughput of 408.730 Kbps.

Keyword: Door Lock, Internet of Things (IoT), Real Time, Matrix Keypad 4x4, Raspberry Pi Camera Rev 1.3, Raspberry Pi, Servo Motor