

ABSTRACT

Currently, boarding room door security still uses a manual locking system, namely conventional keys, so it is less efficient for boarding houses with many rooms because there are too many keys that must be kept by the boarding house guard, besides conventional locks are easily opened by thieves and are also easy to lose. So, a more practical and efficient key is needed. To overcome this, the Internet of Things (IoT) is needed. Internet of Things (IoT) is a technology that uses the internet as a connecting medium without the need to monitor or control objects directly.

From this problem, the author had the idea to produce a safe and practical IoT-based boarding room door security device using RFID E-KTP and keypad as boarding room door security. The research method used is research and development. This Automatic Door is programmed by the Arduino application by creating a security system using Radio Frequency Identification (RFID) as a data carrier frequency radio wave that will be received by the receiver and membrane keypad as a replacement for the E-KTP RFID Card if the boarding house user/resident does not bring the boarding room key/card RFID E-KTP.

Testing is carried out qualitatively and quantitatively. Qualitative test results show that the success indicators used such as LED, LCD, solenoid, and Telegram notifications can work by displaying different forms of success. Meanwhile, quantitative test results show that the furthest distance between an RFID reader and an RFID tag is 4.5 cm and an E-KTP is 3 cm. Then, keypad testing showed 100% accuracy by providing access to registered pins and not providing access to unregistered pins.

Keywords: *IoT, RFID, E-KTP, Keypad, Telegram*