ABSTRACT

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Crimes against property without using violence in this case are theft and burglary is the type of crime that is most common every year, so we need a security system that is more efficient and practical. To overcome this, an Internet of Things (IoT) is needed.

In this Final Project, the proposed use of Internet of Things (IoT) using Radio Frequency Identification (RFID) sensors, sensor PIR, Buzzer, solenoids, E-KTP as RFID tags and also applications made with Android Studio are connected to *NodeMCU V3 ESP8266* as storage data and connect with firebase as real-time database.

The results of testing and analysis show that the PIR sensor can detect movement around the device and RFID can detect E-KTP with a maximum distance of 4 cm. The use of a barrier shows that E-KTP is strongly influenced by electromagnetic induction, the thicker the barrier the less the detection distance. E-KTP detection affects the angle used. In the application, the *lock* and *open* features get an average *throughput* value of 18366,667 b/s, *packet loss* is worth 0,03%, *delay* is worth 65,268 ms, and *jitter* is worth 65,028 ms. For the *alert* feature the sender of the notification produces an average value of *throughput* 18066,667 b/s, *packet loss* is 0,09%, *delay* is 67,235 ms, and *jitter* is 67,561 ms.

Keywords:*Internet of Things*, *Solenoid, Radio Frequency Identification, Android Studio*, *NodeMCU V3 ESP8266*, E-KTP, Sensor PIR, *Buzzer,relay*.