DESIGN AND CONSTRUCTION OF A SAFETY SYSTEM BASED ON RFID, KEYPAD AND BLYNK APPLICATION

Muhammad Rendy Saputra
Electrical Engineering Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : email.mahasiswa@gmail.com

ABSTRACT

A safe is a place to store valuables such as money, gold, securities. The safe is made of iron and steel and the locking system uses a combination lock or digital lock. Using a combination lock is less efficient because safe users easily forget the safe combination lock. Combination locks are also easy for thieves to break into. Currently, the use of RFID (Radio Frequency Identification) technology in Indonesia is starting to develop, one of which is using cards that already have an RFID chip but their use is still lacking. The working system of this tool, if you want to open the safe door, you have to tap using an RFID card that is registered with the safe's security system. If the tapping is successful, the security system will display information on the LCD and send the information to the Blynk application, and the selenoid will open. The keypad becomes the second safe security system, where if the RFID card is lost, there is a keypad to open the safe door. application on the smartphone to monitor the condition of the safe if someone accesses it, the safe security system tool sends information to the smartphone application. And if you tap a card that is not registered in the security system, the door will not open. In this Rfid safe security system, there is an addition and deletion feature on cards, this makes it easier for users if the card they normally use is lost, they can register it with a new card. On the Keypad there is a pin keypad password change feature where if the user forgets the old password they can easily change the new password. Thus, RFID-based safe security, keypads, and the Blynk application are an efficient, integrated, and safe solution to increase safe security, as well as provide convenience for users in managing and monitoring safe access remotely. The system testing results show satisfactory results with a success rate of 100%. And RFID's ability to read cards is a maximum of 2 cm away.

Keywords*: Safe Security System, RFID, Keypad and Blynk Application*