

DESIGN AND DEVELOP A VAULT ACCESS CONTROL SYSTEM WITH MICROCONTROLLER BASED QR CODE SECURITY

Rangga Kurniawan

Electrical Engineering Study Program, Faculty of Science & Technology

University of Technology Yogyakarta

Jl. Ringroad Utara Jombor Sleman Yogyakarta

E-mail : ranggakurniawn1@gmail.com

ABSTRACT

A safe is a locked storage room that is used to store valuables. Most safes still use a security system with a combination lock. Such a security system is very ineffective because it allows the user to forget the pin of the combination lock security system used. So in this study a prototype security system for safe access using QR codes will be developed. This system uses the Arduino Mega 2560 microcontroller to store QR Code data which will later be displayed by the Nextion LCD. The microcontroller is linked to an android application so that the system can perform the access process to open the safe by scanning a QR code. This system will verify the QR Code through the scanner application if it is appropriate, the safe will open. Based on the results of the system testing carried out, the results obtained were the level of the ability to read the QR code with a distance of 10 to 30 cm. For a distance of more than 30 cm, the application could not read the QR code. As for testing the alarm system and the overall system of the tool has a success rate of 100%.

Keywords : *Safe, Microcontroller, QR Code and Security.*