

ABSTRACT

Internet of Things (IoT) is expanding widely and has become an essential to follow modernization. The demand of society for convenience in accessing the internet is raising and caution towards security could be handled with the use of IoT. Security needs for home is very important as for the increase of theft and robbery cases. The use of conventional key has very high risks in home safety system.

Therefore, this research aims to create a prototype of a digital smart lock associated with Two Factor Authentication (2FA) which aims to increase security and convenience in controlling door control. The prototype is an implementation of IoT.

In the prototype, the door lock uses an Arduino UNO microcontroller as the main controller which has a token authentication system synchronized with Google Authenticator. The One Time Password (OTP) code obtained is then inputted into the 4x4 Keypad Matrix. When the inputted code is correct, the microcontroller will then send a command to the Metal Oxide Field Effect Transistor (MOSFET) to turn on the solenoid.

The designed prototype is categorized as an IoT implementation with the purpose of using it on the door of a house without using a key to open or close the door.

Keywords: *2FA (Two Factor Authentication), Google Authenticator, Arduino UNO, One Time Password (OTP), Keypad Matrix 4x4, Internet of Things (IoT), Metal Oxide Semiconductor Field Effect Transistor (MOSFET)*