UNIVERSITI TEKNOLOGI MARA (UiTM)

ARDUINO KEYLESS DOOR LOCK SYSTEM WITH KEYPAD AND LCD

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ABSTRACT

Living in this modern era, it is undeniable that most of us rely on technology to connect with the ones far from us or even surviving on a daily basis, working from home and to study from home in this pandemic period. Security become the most aspect that we need to concern about. Security is freedom from, or resilience against, potential harm (or other unwanted coercive change) caused by others. Beneficiaries (technically referents) of security may be of persons and social groups, objects and institutions, ecosystems or any other entity or phenomenon vulnerable to unwanted change. Today, there are many people that affected in economical aspect due to the lockdown implemented around the world and people desperate to go on with life. This can lead to insecurity. Therefore, due to the conditions mentioned above, I have come up with a plan to make an Arduino Keyless System with Keypad and LCD.

This project aims to enhance the security of the people using it. This project uses a 4X4 keypad to enter the keys and a DC lock to open or close the door. A 16X2 LCD will be used for display. The Proteus software and Arduino UNO controller will be the major parts in making this project a successful one. I also being able to increase my skills in terms or programming using this software. After that, I proposed the ideas to my supervisor, writing a report of my project and constructing the hardware for prototype of the system. The main components of this project are Arduino UNO microcontroller, 4X4 keypad, LCD for display, DC Lock, relay, 9V battery, 10k potentiometer and 220-ohm resistor. In conclusion, I hope this project will turn out well, successful and give benefit to the society out there in future.

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INTRODUCTION

1.1 PROJECT BACKGROUND

Security is the main target and objective in this project. The goal of security is to protect the assets, devices and services from being disrupted, stolen or exploited by unauthorized users, otherwise known as threat actors. These threats can be external or internal and malicious or accidental in both origin and nature. Security mostly refers to protection from hostile forces, but it has a wide range of other senses, for example, as the absence of harm, as the presence of an essential good, as the resilience against potential damage or harm, as the secrecy, as the containment and as the state of mind. To provide a good security and safety system, a Keyless Door Lock System with Keypad and LCD were proposed.

The main goal of this project is to enhance and protect people from unwanted harm and threats by getting a good security and safety as the world changed due to this pandemic period. By using this new technology, we can assure that the security and safety is increased in our daily life.

Whenever the keys are pressed, they are matched with the keys already stored. If the keys that are pressed match the initial password stored in the EEPROM which is '1234', then the lock will open up. If the