# DOOR LOCKING SYSTEM USING ANDROID MOBILE DEVICE BASED ON ARDUINO MICROCONTROLLER

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## ACKNOWLEDGEMENT

First and foremost, my deepest gratitude goes to the Almighty who gave me strength and blessing to complete this final year project successfully. Without His gracious and mercifulness, I probably will not complete this project.

Special thanks to my project supervisor, Prof. Madya Aisah Mohamed for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my final year project.

Not forgotten, my appreciation to my beloved parents who always stand by me since I was a kid up until now. They, who brought me up, spent thousands just to let me have a great life. What a huge sacrifice had they made and now it is my turn to stand by them.

Last but not least, thanks to all my lecturers who had thought me a lot during my undergraduate years and to all of my friends who colored up my world. Without you guys, I do not think I can complete my first degree in a beautiful way.

Thank you.

# ABSTRACT

Smartphone has become a very influential and vital device as it can do almost everything. Most of us would probably hate to carry a lot of things in their pocket when leaving the house. In this project, a door locking and turning off home appliances system using Android smartphone connected via Bluetooth connection protocol developed based on Arduino microcontroller was developed. The developed keyless system is hoped to assist user to lock and unlock the door without using keys and able to switch off or on the home electrical appliances by exploiting their smartphone. This system use an Android application which is specially designed to be connected via Bluetooth to the main system located in the house. Thus, the system developed is expected to help reduce the electricity bills and ease the user by just bringing their smartphone rather than having to carry a bunch of keys when leaving their house. User will find it much more convenience to lock the door just using smartphone rather than bringing keys.

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# CHAPTER 1

# INTRODUCTION

## 1.1 OVERVIEW

This chapter introduce about the study background. The problems that lead to conducting this project is properly stated with the solution identified as the objectives of this project. Moreover, the boundaries of this project are clarified in the scope of work and the benefits of conducting this project is stated in significance of study.

## 1.2 BACKGROUND OF STUDY

Today, wireless technology has been used extensively. It is developed for a lot of purposes that will ease mankind. It all starts with Hertz and Marconi. They start experimenting with radio transmission in $19^{th}$ century. The demand for the wireless service is massive but the only thing that restricts the fast growth is cost [1]. An example of the use of wireless technology is for home automation and security system [2]-[8].

In the security system field especially door lock system, the use of wireless technology has been widely developed. Nowadays, digital door locking system has become a trend. It is because this technology makes life easier. There are many types of digital door lock already exist in the market. For example, digital door lock using biometric, RFID [2], and also using application in smartphone [3]-[4].