## PROTECTED BLUETOOTH DOOR LOCK USING PHONE

# WAN NUR HIDAYAH BINTI WAN OMAR WAN NUR FATIHAH BINTI MUSTAFA NURUL HAYANIS FITRI BINTI IDRIS

A project report submitted to the Faculty of Electrical Engineering,

Universiti Teknologi MARA in partial fulfillment of the requirements for the award of

Diploma of Electrical Engineering.

# FACULTY OF ELECTRICAL ENGINEERING UNIVERSITI TEKNOLOGI MARA MALAYSIA

SEPTEMBER 2015

### **ACKNOWLEDGEMENT**

Firstly, we are grateful and thanks to Allah S.W.T for blessing we during finishing our final year project that finally lead us to finish our report. We are so grateful and thank you for all of them who helps us in finishing our projects. It such a great experience and honor to work and learn with them. We hope someday we are able to work with all of them again and gain more knowledge.

Secondly, we would like to give a big thank to electrical engineer who have experience work in industrial area, Mr. Mustafa Bin Mohd Saad for guiding us in doing our final year projects and being such great friends during finishing our project. It a pleasure to work with him and I appreciate every advise and knowledge that he gives to us. We hope someday, we are able to work with him again as an engineer and learn from him.

Also we would like to give a big thank to our supervisor, Miss Mastura Binti Omar and all lecturers for helping and guiding us to finish our final year project successfully. They always spent time with us to see progression in our project week by week and they also do some research about our project to helps us improve this final year project.

Lastly, we would like to thank you our colleagues for sharing the information and helps us finish this final year project successfully. They always give full cooperate while doing this final year project. They such a good friends and good teammates and its honor to work with them. It's a great experience and hope someday we are able to become teammates again for the next project.

### **ABSTRACT**

The protected Bluetooth door lock using phone is a project that provides safety for neighborhood area and industrial area. This project is more suitable in housing area because its provide safety from robbery or housebreaking that may be threaten for the family members. Lately, rate of crime has been increase so this project was built up provide safety and reduced the number rate crime and some worries from family members. The concept of this project is more to secure system. The system provides a user – friendly interface on the host side, so that the devices can easily set up, monitor and control. If there any trespassers try to enter the house while the owner was not in the house or while they are sleeping, it can be avoided. In other hand, it helps us who might lose the key or forgot to lock the door when they leave the house. In any rate, the protected Bluetooth door lock using phone is a secure system.

# TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	APPROVAL SHEET	iii
	CANDIDATE DECLARATION	111 1V
	ACKNOWLEDGEMENT	vi
	ABSTRACT	V1 V11
	TABLE OF CONTENTS	viii
	LIST OF FIGURE	X
	LIST OF TABLES	X1
1	INTRODUCTION	
	1.1 Introduction	1
	1.2 Background Study	1
	1.3Problem Statement	2
	1.4 Objectives	2
	1.5 Scope of Study	3
	1.6 Project Contribution	3
2	LITERATURE REVIEW	
	2.1 History	4
	2.2.1 Arduino Uno	9

CHAPTER	TITLE	PAGE
	2.2.2 Bluetooth Module	11
	2.2.3 Phone	11
3	METHODOLOGY	
	3.1 Flow Chart	14
	3.2 Circuit Diagram	16
	3.3 Coding	17
	3.4 List of Components	19
	3.5 Bill of Materials	20
	3.6 Concepts of Project	22
	3.7 Gantt Chart	23
4	RESULT AND DISCUSSION	
	4.1 Simulation Result	25
	4.2.1 Connection from Phone to Bluetooth	27
	4.2.2 Hardware Connection Result	30
	4.3 PCB Layout and Board	32
	4.4 Discussion	34
5	CONCLUSION	
	5.1 Conclusion	36
	5.2 Recommendation	36
	REFERENCES	38
	APPENDICES	39