

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

SMART HOME CONTROL

MOHAMAD AIMAN HAKIM BIN AHMAD

08DJK19F2014

JABATAN KEJURUTERAAN ELEKTRIK

SESI 2 2021/2022

POLITEKNIK

SULTAN SALAHUDDIN ABDUL AZIZ SHAH

SMART HOME CONTROL

MOHAMAD AIMAN HAKIM BIN AHMAD

08DJK19F2014

This report submitted to the Electrical Engineering Department in fulfillment of the requirement for a Diploma in Electrical Engineering

JABATAN KEJURUTERAAN ELEKTRIK

SESI 2 2021/2022

CONFIRMATION OF THE PROJECT

The project report titled "Design a SMART HOME CONTROL" has been submitted,
reviewed and verified as a fulfills the conditions and requirements of the Project

Writing as stipulated

Checked by:

Supervisor's name : PUAN FA'IZAH BINTI YA'ACOB :

Supervisor's signature:

Date :

Verified by:

Project Coordinator name :

Signature of Coordinator :

Date

“I acknowledge this work is my own work except the excerpts I have already explained to our source”

1. Signature :

Name : **MOHAMAD AIMAN HAKIM BIN AHMAD**

Registration Number : **08DJK19F2014**

Date :

DECLARATION OF ORIGINALITY AND OWNERSHIP

TITLE : SMART HOME CONTROL

SESSION: SESI 1 2021/2022

1. I, **1. MOHMAD AIMAN HAKIM BIN AHMAD**

is a final year student of Diploma in Electrical Engineering, Department of Electrical, Politeknik Sultan Salahuddin Abdul Aziz Shah, which is located at Persiaran Usahawan, 40140 Shah Alam Selangor Darul Ehsan. (Hereinafter referred to as 'the Polytechnic').

2. I acknowledge that 'The Project above' and the intellectual property therein is the result of our original creation /creations without taking or impersonating any intellectual property from the other parties.
3. I agree to release the 'Project' intellectual property to 'The Polytechnics' to meet the requirements for awarding the Diploma in Electrical Engineering to me.

Made and in truth that is recognized by;

a) **MOHAMAD AIMAN HAKIM BIN AHMD**)
(Identification card No: - 08DJK19F2014))
.....
MOHAMAD AIMAN HAKIM BIN AHMAD

In front of me, **PUAN FA'IZAH BINTI YA'ACOB** (750212-04-5482))
As a project supervisor, on the date:)
PUAN FA'IZAH BINTI YA'ACOB

ACKNOWLEDGEMENTS

I have taken efforts in this Project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to PUAN FA'IZAH BINTI YA'ACOB for their guidance and constant supervision as well as for providing necessary information regarding the Project & also for their support in completing the Project.

I would like to express my gratitude towards my parents & member of (Organization Name) for their kind co-operation and encouragement which help me in completion of this Project. I would like to express my special gratitude and thanks to industry persons for giving me such attention and time.

My thanks and appreciations also go to my colleague in developing the Project and people who have willingly helped me out with their abilities.

ABSTRACT

The project was inspired by the observation of technological change out there. Where this project is used to facilitate the people out there. But half the parties only take lightly above the need to use the “Smart Home Control”. This is because not many people out there know the benefits of using this system in their homes. The objective of this project is to provide convenience to users of “Smart Home Control” where it is combined with electrical appliances at home. The use of this system is focused on Android and IOS users by using the application. The use of this tool is only designed to facilitate users with the use WIFI and internet signal to be an intermediary smartphone with “Arduinio WIFI”. Smart Home Control where it is combined and made into a product. Based on these results, the result of analysis, and discussions that have been conducted, it can be concluded that the system developed has achieved the objectives that have been discussed.

Commented [FAP1]: The abstract must be simple, written in one paragraph and not more than 200 words in one page. The abstract should be written in single spacing. The abstract should contains, an introduction, problem statement, research objectives, results and conclusion (optional)

ABSTRAK

Projek ini diilhamkan oleh pemerhatian perubahan teknologi di luar sana. Di mana projek ini digunakan untuk memudahkan orang ramai di luar sana. Tetapi separuh pihak hanya mengambil ringan di atas keperluan untuk menggunakan "Kawalan Rumah Pintar". Ini kerana tidak ramai orang di luar sana mengetahui kebaikan menggunakan sistem ini di rumah mereka. Objektif projek ini adalah untuk memberi kemudahan kepada pengguna "Smart Home Control" di mana ia digabungkan dengan peralatan elektrik di rumah. Penggunaan sistem ini tertumpu kepada pengguna Android dan IOS dengan menggunakan aplikasi tersebut. Penggunaan alat ini hanya direka untuk memudahkan pengguna dengan penggunaan WIFI dan isyarat internet untuk menjadi telefon pintar perantara dengan "Ardunio WIFI". Kawalan Rumah Pintar di mana ia digabungkan dan dijadikan produk. Berdasarkan keputusan tersebut, hasil analisis, dan perbincangan yang telah dijalankan, dapat disimpulkan bahawa sistem yang dibangunkan telah mencapai objektif yang telah dibincangkan

TABLE OF CONTENTS

CONFIRMATION OF THE PROJECT	i
DECLARATION OF ORIGINALITY AND OWNERSHIP	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
ABSTRAK	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF SYMBOLS	xi
LIST OF ABBREVIATIONS	xii
CHAPTER 1	1
1 INTRODUCTION	1
1.1 Introduction	1
1.2 Background Research	1
1.3 Problem Statement	2
1.4 Research Objectives	2
1.5 Scope of Research	2
1.6 Project Significance	2
1.7 Chapter Summary	3
CHAPTER 2	4
2 LITERATURE REVIEW	4
2.1 Introduction	4
2.2 Motor Skill Challenges in Autistic Children (Literature Review Topic 1)	Error!
Bookmark not defined.	
2.2.1 Previous Research (Subtopic Literature Review Topic 1)	Error!
	Book
	mark
	not
	define
	d.
2.3 Control System (Literature Review Topic 2)	Error! Bookmark not defined.
2.3.1 Microcontroller	Error!
	Book
	mark
	not
	define
	d.
2.3.2 Programmable Logic Control (PLC)	Error!
	Book
	mark
	not
	vii

2.3.3	Arduino	define d. Error! Book mark not define d.
2.4	Chapter Summary	Error! Bookmark not defined.
CHAPTER 3		6
3	RESEARCH METHODOLOGY	6
3.1	Introduction	6
3.2	Project Design and Overview.	6
3.2.1	Block Diagram of the Project	7
3.2.2	Flowchart of the Project 2	8
3.2.3	Project Description	Error! Book mark not define d.
3.3	Project Hardware	8
3.3.1	Schematic Circuit	9
3.3.2	Description of Main Component	9
3.3.2.1	Component 1	Err or! Bookmark not defined.
3.3.2.2	Component 2	Err or! Bookmark not defined.
3.3.2.3	Component 3	Err or! Bookmark not defined.
3.3.3	Circuit Operation	Error! Book mark not define d.
3.4	Project Software	11
3.4.1	Flowchart of the System	11
3.4.2	Description of Flowchart	12
3.5	Prototype Development	12
3.5.1	Mechanical Design/Product Layout	12
3.6	Sustainability Element in The Design Concept	Error! Bookmark not defined.
3.7	Chapter Summary	12
CHAPTER 4		13

4	RESULTS AND DISCUSSION	13
	4.1 Introduction	13
	4.2 Results and Analysis	13
	4.3 Discussion	Error! Bookmark not defined.
	4.4 Chapter Summary	15
	CHAPTER 5	16
5	CONCLUSION AND RECOMMENDATIONS	16
	5.1 Introduction	16
	5.2 Conclusion	16
	5.3 Suggestion for Future Work	16
	5.4 Chapter Summary	16
	CHAPTER 6	17
6	PROJECT MANAGEMENT AND COSTING	17
	6.1 Introduction	17
	6.2 Gant Chart and Activities of the Project	17
	6.3 Milestone	18
	6.4 Cost and Budgeting	18
	6.5 Chapter Summary	19
	REFERENCES	20
7	APPENDICES	21
	APPENDIX A- DATA SHEET	21
	APPENDIX B- PROGRAMMING	22
	APPENDIX C- PROJECT MANUAL/PRODUCT CATALOGUE	44

LIST OF TABLES

TABLE	TITLE	PAGE
Table 2.1:	Treatments to Improve Motor Skills in the Market.....	Error! Bookmark not defined.
Table 3.1:	Sequence of Finger Model Blinking	Error! Bookmark not defined.
Table 3.2:	Means and Standard Deviations (In Brackets) Of Strength Scores (In Pounds Force) For Each Hand Of Males. Right Hand.	Error! Bookmark not defined.

LIST OF FIGURES

FIGURE	TITLE	PAGE
Figure 2.1:	Block diagram of open loop and closed loop system	Error!
	Bookmark not defined.	
Figure 3.1:	Flow chart of operation of the system	8
Figure 3.2:	Circuit Diagram	9
Figure 3.3:	Front view of the project	Error! Bookmark not defined.

LIST OF SYMBOLS

Commented [FAP2]: if not relevant, can remove this page

LIST OF ABBREVIATIONS

Commented [FAP3]: if not relevant, can remove this page

CHAPTER 1

1 INTRODUCTION

1.1 Introduction

A “smart home” can be defined as a residence equipped with computing and information technology which anticipates and responds to the needs of the occupants, working to promote their comfort, convenience, security and entertainment through the management of technology within the home and connections to the world beyond. The full-blown concept of the smart home is the acme of domestic technology we can envisage at present. The concept, at one time only encountered in science fiction, has moved closer to realization over the last ten years. Although the gap between reality and fantasy is still wide, it is important that we start to give proper consideration to the implication this technology holds for the way we will live in our homes in the future

1.2 Background Research

This Smart Home control serves as a link to make it easier for users to manage electrical appliances at home, especially in large areas without using a switch. This model only uses the INTERNET AND WIFI available on the model. Users only need to download the app available on the play store to give instructions to the electrical appliance

Commented [FAP4]: This section contains the introduction to the issues which the research/project is concerned

1.3 Problem Statement

Home is the place where people live and individuals invest their most of the time at home. Walking along with the revolution industry, smart home is an emerging innovation, which has changed the way individuals live. Currently, there are various design of smart home which consist of multiple control system can be choose from. However this smart home can be categorized into two main categories which is local control and remotely controlled systems. The different between local control and remotely control systems is the way for operation. Basically, the remotely control can use internet connection by using their electronic devices for long distance while the local control using in-home controller with a stationary or wireless communication technology to connect to the central hub or gateway.

1.4 Research Objectives

- Never walk into a dark home again
- Have the porch light automatically turn on when open the front door after dark. Lighting and audio control can make a vacant home look and sound occupied
- You could set your Omni home control system to automatically call you at work when your child comes home from school and keys in his security code into the security system

1.5 Scope of Research

1. This Project is focusing to control the security of home and get the saving electrical.
2. The main controller is using application in play store or apple store with using the blynk

Commented [FAP5]: This section contains clear scopes and limitations that you have considered in the project.

1.6 Project Significance

The importance of this study needs to be done to collect data before undertaking a new project. This is because the successful process of this project runs smoothly without any problems. Resources can be found on the internet or ask a more skilled person

Commented [FAP6]: This section contains the significance of the proposed project/research. You should cite previous research in this area. You should cite those who had the idea or ideas first, and should also cite those who have done the most recent and relevant work. You should then go on to explain why more work was necessary (your work, of course.)

1.7 Chapter Summary

The conclusion that can be made is that this system is in demand in people who have a large home area. It is easier for them to manage electrical appliances at home and in line with current technology. In addition, the importance of installing this model is also taken into account if it should be present or not in their home space.