

RAIN ALARM

SYARIFUL AFIQI BIN ABDUL MANAFF

2013840416

MUHAMMAD FADHIL BIN AHMAD IBRAHIM

2013811368

A project report submitted to the Faculty of Electrical Engineering,
Universiti Teknologi MARA in partial fulfillment of requirements for the award
of Diploma of Electrical Engineering.

FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

MALAYSIA

SEPTEMBER 2015

ACKNOWLEDGEMENT

We would like to express my deepest appreciation to all those who provided us the possibility to complete this report. A special gratitude we give to our FYP supervisor Mrs. NurSa'adah Binti Muhamad Sauki whose contribution in stimulating suggestions and encouragement, helped us to coordinate our project especially in writing this report to rigorous scrutiny and much improved its quality.

Furthermore, we also like to acknowledge with much appreciation to Mr. Rozi Bin Rifin (our subject coordinator), Mr. Muhammad Muzamil Bin Mustam (1st panel), Mr. Saiful Izwan Suliman(2nd panel) and the anonymous referees for their helpful comments. We would also like to thank other members for the guidelines and seniors who provide Proteus 8 Professional (software)and involved in the initial discussions of the design. A special thanks each other as team mate whose have invested full effort in guiding the team in achieving the goal.

Finally never enough thanks to someone who doesn't want to be named but they knows who they are and so do we. We have to appreciate the guidance given by other supervisor as well as the panels especially in our project presentation that has improved our presentation skills.

ABSTRACT

The idea of using sun to do laundry has been around thousands of years. Everyone had their own individual hanger outside their house to do laundry process and storage as rain water was collected for domestic use. Most of people will face difficulty to pick up hang clothes when it comes to unforeseen circumstances such as rainy day. For example, when they were so busy doing other important works or fall asleep, suddenly it is rainy and the clothes will get wet. The objectives of this project is to develop and simulate rain alarm using Arduino microcontroller and create a circuit for better and easier flow of daily activity. This project use water sensor as input to detect water. Then, using arduino UNO as microcontroller to control LED and buzzer as output to notify or alert the user when the sensor sense water while DC motor convert electrical power into mechanical power for cover and uncover all the clothes. This project expected to change the life of humanity to be a better life and modern.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	APPROVAL SHEET	
	DECLARATION OF ORIGINAL WORK	ii
	ACKNOWLEDGEMENT	iii
	ABSTRACT	iv
	TABLE OF CONTENT	v-vi
	LIST OF FIGURE AND TABLE	vii
	LIST OF TABLE	viii
1	INTRODUCTION	1-5
	1.1 BACKGROUND STUDY	1
	1.2 PROBLEM STATEMENT	2
	1.3 OBJECTIVES	3
	1.4 SCOPE OF STUDY	4
	1.5 PROJECT CONTRIBUTION	5
2	LITERATURE REVIEW	6-16
	2.1 Water Sensor	8
	2.2 Breadboard	9
	2.3 Light Emitting Diode (LED)	10-11
	2.4 Buzzer	12
	2.5 Perfboard	13-15
	2.6 5V DC Motor	16
3	METHODOLOGY	17-27
	3.1 Flow Chart	17-18
	3.2 Circuit Diagram	19
	3.3 Arduino UNO	20-25
	3.4 Desoldering Pump	26
	3.5 Soldering Iron	27

CHAPTER 1

INTRODUCTION

1.1 Background Study

Everyone had their own individual hanger outside their house to do laundry process. On average people do laundry once a day to keep their clothes clean and smell nice. People often forget to lift the clothing during the day rain. For people who working, they don't have to worry about their clothes that have been dried outside. People often don't have time to manage their routine. This project develop for working couple, it is hard to find time to have laundry day where the cloth is dried through the whole day because the weather can change from sunny to rainy days. This projects use Microcontroller Arduino Uno to install all program that will give instructions to conduct this system properly and will automatically cover the clothes when it is the rainy day and oppositely uncover the clothes when it is a sunny day. This part needs DC motor to convert electrical power into mechanical power for cover and uncover all the clothes while LED convert electrical power into light power for blink and buzzer convert electrical power into sound power for alert the user.