## SELF-WATERING PLANT

# NURISHA HANIA BINTI KAMARUDIN SITI NUR SYAFIRAH BINTI ROSHDI

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

We would like to express our deepest appreciation to all those who provided us the possibility to complete this report. First and foremost, we would like to thank Allah SWT for His blessing as we have completed this final year project successfully. A special gratitude I give to our final year project supervisor, Puan Nurhani binti Kasuan, whose contribution in stimulating suggestions and encouragement, helped us to coordinate our project especially in writing this report.

Furthermore I would like to thank with much appreciation to our course mate, who gave motivation and support throughout completing this project. Last but not least, many thanks to our parents who endless gave support especially the financial support for us to complete our project. I 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 thanks to their comment and advices.

#### ABSTRACT

Self-watering plant is an alternative method to watering plant. Soil moisture sensor is used to sense the condition of soil. When soil in dry condition, water will flow out to the plant till the plant received enough water then water will stop flowing through the tube that placed around the flower pot. We are using 3 type of water source which are from rain barrel, sink such water from washing dishes, vegetables, and rice and finally direct water. Water from rain barrel and sink will flow to the tank which placed a stir that function to prevent water from precipitate. Water from direct pipe will use only when there is no water flow from both sources. Finally, water pump is used to pump water out from the tube to the plant. If there is no water source, a water level detector will buzz an alarm to inform users that the tank needs to be refilled water. If there is no alarm buzzed on that is mean water is continuously flow from rain barrel or washing dishes or pipe water. This project will function only if the plant in dry condition which to allow water flow and prevent plant from withered and died. Besides that, the purpose of our project is watering for systematic way and managing water resources which save energy. It also creates to help people manage their time, money and energy.

· - - **-**

ΡΡΡΟΥ/ Ι ΟΊΤ ΔΝΠΙΝΑΤΕ ΝΕΟΊ Α ΟΚΝΟΥ/ΓΕΝΟΈΛΦΕΝΤΟ RSTRΔΟΤ ARI Ε ΟΕ ΟΟ ST ΟΕ Ι ΙΟΊ ΙΝΕ ST ΟΓΤΆ ΡΙ ΕΘ

Rackaround atud-Fire hlam statements Cih entiva See ne of stud

Dro pot contail- "or

Nater monogenes 4 11 Peol nique of write '

meral procedure - C meral procedure - C minmonte (m. - -

### **CHAPTER 1**

#### **INTRODUCTION**

In this chapter, the topics that will be discussed are the background study of this project and some problem statement. It includes all the objectives of this project, scope of study and the project contribution for this project.

#### 1.1 BACKGROUND STUDY

Nowadays, as we know that plant are not too important to people than other things. But differ from plants lover which they really appreciate the existence of this things. For them, plants make their life more cheerful with its own identity, colour and its design. But there have some problems they faced which they could not prevent from happened. For example, people plan their trip on vacation so there is no one to care their plants. We create these self-watering plant system is to solve the problem faced by many people. This self-watering plant system function by using water from three sources which are from rain barrel, water from washing dishes, vegetables and fish and from pipe water [1]. This system shows that we can save an environment by recycle water used. Water from tank will flow towards the plant through water tube that connected to water pump. We are using soil moisture sensor to sense the condition of soil to watering the plant and prevent it from withered. As a solution, condition of soil affects the condition of plant.