

Development of Houseplant  
Automated Watering System based on  
Moisture and Temperature Humidity  
Condition

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## ABSTRACT

In this paper, the project is set up to find a viable and cost effective way of minimizing the use of water consumption. Impending scarcity wastage of this renewable resources, has led people to consider the use develop a system to preserve this natural resources. Using the controlled motor pump to watering the plant it is one of the ways to implement water management. Controlled motor pump is based on the input data from the soil sensor and temperature humidity sensor. This project therefore involves the design and implementation microcontroller using Atmega 328P based on Adurino Uno. The soil moisture sensor used to collect the analog reading of the soil moisture to ensure the soil is in moist condition whereas the temperature humidity sensor will record the reading of surrounding. All the reading will display on LCD as the information to user. The prototype's operation is achieved by connecting sensor to a microcontroller such that the motor pump will wait for input signal from the microcontroller. The programmed microcontroller hence delivers motor pump signal in periodical time intervals for the motor to pump water to the soil.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 INTRODUCTION

Malaysia had the world's highest rate of forest loss from year 2000 to 2012, according to a latest global forest map developed in partnership with Google.[1] Human activities are, the major cause of climate change through the continuous release of greenhouse gases and aerosols into the atmosphere, the alteration of land surfaces, and depletion of the stratospheric ozone layer.[2] In total Malaysia have of 7,346,910 housing units, of which Detached 2,416,210, Semi-detached 528,408, Terrace/link 2,570,317, Townhouse 32,682, Cluster 63,345, Flat 744,187, Apartment or condominium 716,729, few more housing types do exist (as 2010).[3] Apartment type of house usually built near or in the city. This type of housing is popular choice among second class citizen as the price is lower than terrace house. Unfortunately, apartment comes with disadvantages to the gardening fans, they are not so likely to make peace with the idea that they don't have a garden, and there is no way to plant flowers or vegetables. In addition of that, due to less of open air at apartments kind of building, plant couldn't get water directly from rain. Also when the rainfall is not sufficient, the plants would need additional water to survive. Watering the plant is essential but the amount that needed by the plant cannot be measured accurately by human. During watering the plant, people only can assume how much of water needed by the plant. If it is more than needed, the plant may die. Other than that, these excessive water will also may cause other problems such as dengue, puddles in house and many more.