UNIVERSITI TEKNOLOGI MARA

AUTOMATED PLANT WATERING SYSTEM FOR VARIOUS USE OF THE ENVIRONMENT

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ABSTRACT

This project is a Arduino programmed machine that is used to water any plant that is having trouble on their dry soil. This is also having to use moisture sensor to detect any of dry soil. This machine is decided to build to give farmers faster time for them to water all of their farm and for consumer for their indoor plant without breaking a sweat.

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INTRODUCTION

1.1 Background of Study

Watering plants is the process of giving them water to support their development, health, and vitality. For a variety of physiological functions like photosynthesis, food intake, and cell expansion, water is required for plants. In order to properly water a plant, the soil or growing medium must have the right amount of moisture to suit the demands of the plant without oversaturating the root zone, which can result in issues like root rot and suffocation. Depending on the specific needs of the plant species, the environment in which it is growing, and the type of soil or growing media utilized, the frequency, duration, and method of watering will vary.[1]Water makes up to 95% of a plant's tissue, making it a critical nutrient for plants. A seed needs water to sprout, and as a plant grows, water transports nutrients throughout the entire organism. Water is in charge of various crucial processes in plant tissues.[2]

1.2 Problem Statement

Many individuals frequently forget to water their plants during daily activities, making it difficult for them to maintain the health and life of their plants. In times of water scarcity, it might be difficult for farmers to maintain their fields and control plant irrigation.[3]

It may appear that people are overwatering plants, which prevents them from getting enough oxygen. This causes the plant's roots to decay, can turn its leaves yellow or brown and cause them to fall off, and will also draw pests like fungus gnats.[1]

Uneven watering occurs when the water is not correctly distributed to the soil and plant roots. This results in some of the soil on the plant being either too moist or too dry, which may cause the plant to lack sufficient nutrients.[1]