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كلية الهندسة

Smart Automated Plants Watering System Using Internet of Things

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Abstract

The importance of plants extends far beyond aesthetics and decoration. They truly form the foundation of life on Earth, playing crucial roles in our environment, health, and survival. Watering plants is a job that farmers and plant lovers need to do in caring for plants. Watering plants with the appropriate volume of water is important because it has a direct impact on plants. In this smart and automated world, everything has become intelligent due to the development of advanced devices. The project shows how can make the plants also smart with the use of some technical components so that they can maintain themselves without any human help. The productivity of plant cultivation can be increased through intensive care and maintenance. Maintenance consists of applying fertilizers or nutrients, weeding, pruning, and watering. Watering systems affect crop yields it's important in maintaining lost moisture during the day, and at night as a substitute for the moisture lost at night. This study aims to design a watering tool for plant cultivation using the help of digital Internet of Things (IoT) technology. To make plant cultivation where there is no lack or excess of use water, the system is built using an ESP8266 Node MCU board and moisture sensor, the tool can do watering remotely and can monitor moisture conditions via a smartphone device. Apart from helping farmers, this tool can be installed in plantations, nurseries, city parks, hotels, offices, and homes.