DESIGN OF AN IOT-BASED MONITORING AND AUTOMATIC WATERING DEVICE FOR ORNAMENTAL PLANTS

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ABSTRACT

This study aims to increase the productivity of ornamental plant cultivation by implementing Internet of Things (IoT) technology. The developed system is capable of real-time monitoring of soil moisture levels, air temperature, and air humidity. The data collected is processed by the NodeMCU microcontroller and transmitted to the Blynk platform. These results are subsequently utilized to control the automatic watering system. Users can monitor the conditions of their plants and establish watering schedules via a mobile application. The Blynk application is designed to trigger the irrigation automation function when soil moisture levels fall below 25%. Furthermore, the trial of the automatic watering through Blynk commands, as per user preferences, was also successful. The outcomes of this trial affirm the effectiveness of the plant irrigation system based on soil moisture data and demonstrate the capability of the Blynk application to facilitate remote commands for the operational system.

Keywords: Internet Of Things, ESP-8266, Capacitive Soil Moisture, DHT11, DS18B20, Blynk