

ABSTRACT

In the era of technological advancement, especially in agriculture and plantation, there have been ongoing developments over time. These advancements include irrigation and monitoring of plants. Such activities are carried out to ensure that plants can grow healthily and robustly. Watering And Lighting Tool is a device designed to simplify tasks in the field of gardening. The purpose of creating this device is to assist in plant management; in addition to helping manage plants, Watering And Lighting Tool can also be used to measure soil moisture, room temperature, light intensity, and is equipped with Light Emitting Diode (LED) lights as a substitute for sunlight. The control of this device is designed using the Blynk application. This device is intended to assist in plant control at a personal level, with the potential for future expansion to broader areas. The design of this device includes hardware aspects and IoT device connections to the Blynk application. From the hardware side, the prototype is designed using a soil moisture sensor, Arduino Mega2560 microcontroller, ESP8266 module, DHT11 sensor, Light Dependent Resistor (LDR) sensor, electric valve, and Light Emitting Diode (LED) lights. As for the connection to the application, it is done using ESP8266 and NodeMCU to connect to the internet.

Keywords: Smart Indoor Farming System, Blynk, microcontroller, Internet of Things (IoT).