

ABSTRACT

Plants are living things that need water and soil as a growing medium. One thing that distinguishes plants from one another is the need for water. Aglaonema plant or commonly called Sri fortune is one of the ornamental plants which if too much water will make the leaves turn yellow and wither. Aglaonema plants have characteristics like moisture so soil moisture in aglaonema growing media needs to be considered. If monitoring of this plant is carried out automatically, it will increase the effectiveness and simplify the process of treating this aglaonema plant.

In this study, the authors designed an automation system for monitoring air temperature, soil moisture, and air humidity. This monitoring variable is used to maximize the process of treating aglaonema plants. This study aims to be able to help control plants remotely using Node-RED and can facilitate the cultivation of ornamental plants.

The results of the research on Designing an Automatic Watering System Using Node-Red Based on IOT get several results that we have examined including, the accuracy of the humidity sensor compared to the room humidity sensor is 96.02 percent, the accuracy of the DHT 11 temperature sensor compared to a room thermometer is 92.78 percent, the results of the implementation of the soil moisture sensor or soil moisture sensor can be used to set the minimum and maximum parameters for the pump to turn off and on, i.e. the pump will turn on at 50 percent humidity and turn off at 90 percent humidity. In addition, this final project also applies the Node -Red and MQTT systems, by using Node-Red we can configure communication using MQTT easily, and by installing MQTT on a VPS server, the MQTT network can be captured by web or hardware in the form of microcontrollers such as the NodeMcu ESP8266.

Keywords: *Node-RED, IoT, Humidity, Decorative Plants, Monitoring*