

ABSTRACT

DEVELOPMENT OF AN AUTOMATIC WATERING SYSTEM OF ANTHURIUM PLANTS BASED ON IOT

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Ornamental plants are types of plants that are cultivated to provide additional aesthetic value. One of the commercial ornamental plants known in Indonesia is the wave of love or Anthurium plowmanii. This type of Anthurium has a high selling value because of special care, one of which is regular and not excessive water supply. One of the technologies that can help humans in automatically watering anthurium plants is the Internet of Things (IoT). ThingSpeak IoT platform connected with NodeMCU ESP8266 is used as artificial intelligence to control and determine watering time, watering automatically takes place when plants need water. This research was conducted to design an IoT-based automatic anthurium plant watering system and collect data on soil moisture and anthurium temperature from the installed IoT sensors. The method in this research is prototyping which is used to produce certain products, and test the effectiveness of these products. This IoT-based automatic watering system for anthurium plants is calibrated by making comparisons with standard measuring instruments to determine the accuracy of the sensor measurement results. The results of this study are a prototype of an IoT-based automatic watering system for anthurium plants by achieving an average level of sensor accuracy in reading anthurium plant conditions reaching 98.1% for soil moisture sensors while for temperature sensors reaching 98.8%.

Keywords – Internet of Things, Prototyping, Calibration