

ABSTRACT

In the current era of digitalization, technological developments are growing rapidly. With the development of this technology, it encourages the emergence of a system that is useful for human life, one of which is the Internet of Things (IoT). IoT is a system that can control a device remotely using a smartphone. This technology has been applied in several sectors, one of which is in the treatment of caladium plants. In carrying out treatment on caladium plants, good care is needed, such as sufficient soil moisture and good watering. Therefore, a Smart Garden tool was created that can help in caring for caladium plants.

The Smart Garden system is used for monitoring and controlling. In the smart garden system there are several electronic components, sensors and microcontrollers. The Smart Garden system uses ESP8266 as a microcontroller, Soil Moisture Sensor to measure soil moisture, and a DHT-11 sensor to measure air temperature and humidity. In addition there are other components such as Relay, LCD 16x2 and Mini Pumps. In monitoring, you can use the Blynk application that is available on the smartphone.

Based on data obtained from various sources, the ideal soil moisture for caladium plants is 30% - 50% and the ideal temperature is 21°C - 29°C. In this smart garden system, controlling for soil moisture is also made where when the soil moisture is less than 30%, the mini pump will turn on. The data obtained from the sensor will be displayed on the blynk application and users can carry out the monitoring and controlling process in real time

Keywords: *Monitoring, Soil Moisture Sensor, Blynk, Smart Garden*