

ABSTRACT

Roses are plants that are often found in Indonesia, some of the growth factors of rose plants such as water, soil, light and temperature and humidity. The problem of growing roses is the lack of water and light that enters the rose plant so that many roses are not maintained by more than 1 factor. *Internet of Things* is something that is often encountered in the current era, many Iot systems are used in various fields, especially in Iot in agriculture because it makes it easier for users in gardening so that this system is made. This *Smartgarden* is to help multifactor maintenance on rose plants. This design includes hardware and Internet of Things-based aspects with a simple designed application. Hardware designed using NodeMCU microcontroller with various sensors used, namely *soil moisture sensor*, *LDR (Light Dependent Resistor)*, DHT11. The data obtained by the sensor is stored in the antares database and to display the data using an android application. From the results of the accuracy of *soilmoisture* get an average deviation value of 2.5 which we can conclude that the error that occurs is quite minimal. The results of the LDR sensor at sunrise time between 05.00-06.00 there is a change in the status of the LED *OFF* and at sunset time between 17.00-18.15 there is a change in the status of the LED *ON* it can be concluded that the work between the sensor and the LED works well so that there is minimal error. The results of multifactor treatment of rose plants with 3 different treatment methods so as to get the results if one of the factors is removed then the rose will not grow well.

Keywords: *Soil moisture sensors, Roses, Internet Of Things, multifactor.*