

ABSTRACT

The development of technologies and innovations in the field of electro or hardware on today's society have a lot of manufacturing and hardware development tools that are up to the automation of control systems that have very diverse uses. One of the example is the automation of watering system and lighting system for farming tools inside or outside the house.

The watering system and automatic lighting system that will be used as a farming tool, will be using a humidity sensor (Soil Moisture Sensor) and DHT11 Sensor. Thus, when the resistance of the ground at a certain measurement will trigger the watering system automatically and the lighting system to help give lighting aids to the plants by using LED Growth lights that have been timed to be turned on by DHT11 Sensor. This system will work after the Soil Moisture Sensor measures soil moisture in the wet or dry state, and then the microcontroller will send a command to the relay to turn on the water pump to make the process of watering and the lighting, the lamp will be lit LED Growth in accordance by DHT 11 Sensor.

From the results of these studies are expected smart tool garden with watering system and automatic lighting can help in the growth of plants to obtain more effective results.

Key Word : Soil Moisture Sensor, Watering System, Microcontroller Lighting System, DHT11.