ABSTRACT

Oyster mushroom (Pleurotus Ostreatus) is a type of plant that is often cultivated in agriculture in Indonesia. Oyster mushroom cultivation has been widely practiced and many have succeeded, not a few have failed to harvest due to erratic weather changes. Ideally, the room temperature is 22 – 28ºC, the room humidity is 60-70%, and the humidity of the growing media is 60 – 65%.

In this final project, an automatic watering device for monitoring and controlling oyster mushrooms is designed in real time based on Internet of Things (IoT) technology which integrates the DHT11 room humidity and air temperature sensor, the FC-28 growing media humidity sensor and the NodeMCU 8266 as a microcontroller with test results. will be sent to the Firebase database. In addition, a water pump is installed in this system to maintain the humidity of the growing media for oyster mushrooms.

The results of the Firebase database test show the results of reading the condition of the oyster mushroom from the sensor with the smallest delay amounting to 117.74 ms at a distance of 1 meter, while the largest delay magnitude is obtained at a distance of 15 meters 177.12 ms. For throughput, the best value is at a distance of 1 meter with an average value of 14927.2 bps, while the worst value is at a distance of 15 meters with an average of 9271.8 bps. At the conclusion of QoS, the best distance is 1 meter, while the worst distance is 15 meters from the access point.

Keywords : *Oyster mushroom, IoT, humidity of planting media, room temperature, Quality of Service, Firebase.*