

ABSTRACT

Telkom University, as an educational institution that applies the latest technology, faces challenges in maintaining the beauty and health of ornamental plants at Tel-U Florist. With a focus on efficiency and accuracy of watering, the development of an Internet of Things (IoT) system is the right solution to monitor and regulate this watering process automatically. The main goal of this research is to implement technology that not only increases the efficiency of resource use, but also supports environmental sustainability by reducing excessive air consumption and ensuring optimal health of ornamental plants. The proposed system will consist of a soil temperature sensor, soil moisture sensor, air humidity sensor, and automatic watering actuator connected via an IoT network. The soil temperature sensor is used to determine the temperature conditions in the soil, the soil humidity sensor will be used to measure the level of soil moisture, while the air humidity will maintain the environmental conditions around the plant so that we can determine the effect of air humidity on the soil. Data collected by these sensors will be processed and analyzed in real-time via the IoT platform. By utilizing IoT connectivity, users can monitor plant conditions remotely via the Blynk application. The system will also notify users of soil moisture levels, soil temperature, and air humidity. Automatic watering will turn on when the soil moisture is brought to 25% and will turn off automatically at 70% humidity and beyond. This automatic plant watering is done in an effort to minimize water use and be able to properly care for the plants. Because ornamental plants really need sufficient air, because ornamental plants are very sensitive, if ornamental plants lack or excess air, there is a very big possibility that the plants will develop disease. By implementing this system, based on the test results on the tool system that has been created, it can be concluded that water use is efficient because the watering system works according to the needs of ornamental plants. And this system supports the health and sustainability of ornamental plants based on plant conditions which are accurately controlled by an IoT system that provides real-time information on the Blynk application.

Keywords: *Internet Of Thing (IoT), Tel-U Florist, monitoring, Watering Ornamental Plants.*