

ABSTRACT

Chili is the main commodity that has become the daily consumption of the people of Indonesia. Because of this large need for chilies, it must be accompanied by consistent yields each year. Several factors can lead to crop failure, including a lack of water content in the chilli crop and erratic weather, so it is important to implement an effective agricultural system to overcome these factors.

In this study, an automatic watering system using a soil moisture sensor and a rain sensor module was designed. This system will use the Arduino Development Board as a microcontroller. This tool will be integrated with the internet and can be accessed via a smartphone because it is based on the Internet of Things (IoT). This automatic watering system is called Waterinc, which consists of several steps including taking soil moisture data as a reference for watering and weather conditions to monitor conditions around the plants. These data serve as input for watering automation. Then the data will be synchronized in the Antares database. After synchronization, this data is forwarded to the Android application so that it can be monitored remotely.

This study aims to implement a prototype of an effective watering system for chili plants. This research also combines the watering process with technology integrated by the internet to ease the work of the chili farmers. In the test phase, the YL-69 soil moisture sensor had an average difference of 0.4525 with conventional humidity tools. Each of the average delay at a distance of 5,10,15 meters is 0,2414s, 0,3497s, 0,4912s. Each of the average throughput at a distance of 5,10,15 meters is 64,3618 kbps, 23,313 kbps, 6,6719 kbps. Hopefully is that this research can help the harvest process of chili plants get better every year.

Keywords: Chili, Internet Of Things (IoT), Automatic Watering, Soil Mosture, Rain Sensor Module, Antares, Android.