ABSTRACT

Urban farming is a concept of gardening that utilized limited space on urban environment. With such method, the yields obtained are healthier because the planting process is carried out organically. However, this method also has drawbacks, namely the level of water use is quite large due to the large number of areas that need to be drained. Irrigation using a drip system is one way to regulate the volume of water that flows. In order for irrigation with this drip system to function more efficiently, a soil moisture sensor is needed.

In this final project, the application of a soil moisture sensor in irrigation with a drip system has been carried out. By using the YL-69 soil moisture sensor to determine the level of soul moisture in the planting media used. With the Internet of Things (IoT) the humidity level data obtained from the measurement results is sent to the database, the data is used for irrigation automation with the drip system that has been created.

The result of the drip irrigation system on the medium that already been made is perform functionally well and the system also can water the plant automatically as per schedule that has been set. For soil moisture sensor YL-69 that were used and calibrated has a level accuracy of 97.4%. From this testing were also found that the system needed 66.412 liter of water on every watering session to avoid moisture level of medium drop below NORMAL level.

Keyword: Urban Farming, Drip Irrigation, IoT, Sensor YL-69