

ABSTRACT

Hydroponics is a method of growing crops without having to use soil. The planting medium used is replaced with water or materials that do not contain nutrients, such as husks, gravel and coconut fiber. Hydroponics is a very profitable growing medium because it can be managed in small areas of land. However, using hydroponic media requires sufficient care and monitoring so that plants can grow well. So, to help farmers streamline monitoring of plant needs, technological assistance is needed so that monitoring can be carried out automatically and can monitor monitoring results remotely to monitor room temperature, humidity and nutrient levels in plant media, without having to carry out manual measurements one by one. Therefore, as a solution to the problems found in hydroponic plant cultivation, innovation is needed. Thus, the IoT-based Temperature, Humidity and Plant Nutrition Monitoring System was created to make monitoring easier so that hydroponic plants can be easily monitored so that they grow optimally with a monitoring system that can be monitored via smartphone. This system was created using an Arduino Uno microcontroller which will later be integrated with the Arduino Studio application and the test results of this system can show temperature, humidity and nutrition values via the LCD available on the tool and via the display on the Simonic application.

Keywords: *Hydroponics, Monitoring, Temperature, Humidity, Nutrition, and IOT*