ABSTRACT

One type of farming that can be done at home is hydroponics. Hydroponic farming is very effective at home. This is because hydroponics does not need a large area of land in its application. However, the obstacle for most people to plant at home, especially by hydroponics, is laziness. This is because hydroponic farming requires proper nutrient and pH content and water reservoirs must be regularly controlled..

Based on these constraints, in this final project a device design is made that is able to measure nutrient levels, pH and water temperature using TDS, pH and DS18B20 sensors through applications. This tool is also able to control the provision of nutrients and pH manually and automatically through the application.
The test results from the tool made for each sensor get an accuracy of 95.53% for the TDS sensor. The pH sensor is 95.45% and the DS18B20 is 95.37%. In addition, the pump works automatically and manually based on the input given by the application.
Keywords: *ESP32, Hydroponics, MQTT, Nutrition, pH, Water temperature.*