ABSTRACT

In this final project, a water quality measuring system based on an integrated IoT sensor has been designed. In water quality measurement technology which is still conventional, there are often obstacles in collecting data from quality, as well as dependence on human labor in operating these conventional tools. This becomes important to develop, considering water quality is an important factor in the development and productivity of a plant.

With the integrated IoT sensor system, it can make it easier to measure field data, and provide a more effective water quality measurement system, because it can be done at long distances, and without cable intermediaries. Other reasons for using IoT-integrated sensor technology include flexibility in remote communication from the point of location of the sensor and continuous improvement in overall accuracy (real-time). This irrigation water quality monitoring application has been made and tested with good results. To find out the accuracy of the algorithm used, it is proven by producing a data accuracy value between the application and the device of 96.667%, based on the results of alpha testing, the application can run well and as expected with an accuracy value of 100%, and based on the results of beta testing, this application has an average reusability value of 30 respondents with an accuracy value of 78.14%.

Keywords: *IoT, water quality, plant development and productivity, integrated sensor system.*