ABSTRACT

Water is an important factor in the life of all living things on this earth. Without water plants will wither and even die, animals die, land is dry everywhere, as well as human life. Therefore, water needs to get priority for its quality, maintenance and elements contained therein. Actions such as littering, factory waste not being treated properly, excess domestic waste and lack of public awareness cause water pollution to be the main result of these events.

Various kinds of research have been carried out to overcome water pollution, but innovation is still needed so that at least it will make it easier for people to choose water that is suitable and not suitable for use. In this final project, an Internet of Things system is created to monitor water pollution at several locations by utilizing the Wifi concept to determine the feasibility of the content in water at Situ Techno Telkom University. This tool is equipped with mobile apps that make it easy for users to monitor anywhere and anytime. This system can detect water quality with parameters of water pH, nutrients in water and water turbidity.

This final project uses 2 sensor nodes and an access point as a gateway. Each sensor node has 3 sensors, namely a pH sensor, a TDS sensor, and a turbidity sensor. After testing, the first & second pH sensors have an accuracy rate of 97.76% and 99.41%. Meanwhile, the first & second TDS sensors have an accuracy rate of 88.27% and 88.20%. The first & second turbidity sensors have an accuracy rate of 96.95% and 90.952%. The test results of data transmission using a star topology have a delay of 8 seconds from the sensor node to Antares and packet loss of 23.33%.

Keywords : *Water Pollution, Microcontroller, Access Point, Internet of Things, Mobile Apps*