

ABSTRACT

Water is a very rich and important natural resource for the life of living things on earth. One of the water sources is the river. However, the current river conditions, especially in Indonesia, are already highly polluted. One of the most polluted rivers is in West Java, the Citarum River.

The lack of monitoring device cause the monitoring of water quality in traditional way by directly monitor it and bring the water samples to the laboratory . Therefore, in this research creates a monitoring system that uses Internet of Things technology. The system is implemented as a prototype with various sensors, pH, temperature and turbidity sensors that can easily detect water quality according to legal quality standards. The user can monitor the water quality displayed on the website using internet connection.

In this research, the data is taken in Dayeuhkolot area. The accuracy of the sensors used is 98.72% for pH sensors and 99.58% for temperature sensors. The tool readings are processed by Wemos Lolin D32 as main microcontroller and sent to Firebase. The results can be viewed on the website. The time it takes to send data to your website is subject to delays. The farther the device is from the access point, the longer the delay. The delay at a distance of 1 meter is 3,052 seconds, the delay at a distance of 5 meters is 6,866 seconds, and the delay at a distance of 10 meters is 7,506 seconds.

Kata Kunci: Microcontroller, Prototype, System, Firebase, Water Quality, Internet of Things.