

## ***ABSTRACT***

Water is the most basic need for humans and a source of livelihood for humans. Lack of human awareness to maintain air quality, causing air to become polluted. The cause of air pollution is waste disposal and disposal of waste into the river or sea. Air pollution causes the death of ecosystems in the air. The impact of water pollution is for example poisoning and skin disease.

With this problem, the authors are interested in discovering to overcome this problem, by creating a system that utilizes the Internet of Things (IoT) technology that can facilitate river quality by measuring parameters such as pH and turbidity. This system uses ATmega328P-AU as a controller, pH sensor to measure acidity, turbidity sensor to measure turbidity level, LPWAN LoRa as data transmission communication, and Antares as a cloud service to store data that will be sent on Android.

From the test results, the percentage error of the pH sensor was 99,73% and the turbidity sensor was 92,98%. The delivery of test results through LPWAN LoRa requires an average interval of 9,7 seconds. The results of sensor data are stored in the Antares cloud and stored on Android.

**Keywords:** *Internet of Things (IoT), LPWAN LoRa, Antares, Cloud, Android.*