ABSTRACT

TELEMETRY OF WATER QUALITY SENSOR BY APPLYING MESSAGE QUEUING TELEMETRY TRANSPORTT (MQTT) PROTOCOL

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Water is one of the natural resources that has a very important function for the life of living things. Citarum River is a source of water for living things that live around the Citarum river basin. However, with the rapid growth of industry in Indonesia, the Citarum River is polluted with industrial waste which is dumped carelessly into the Citarum River. This makes the need for clean water for humans difficult to obtain. The use of Wastewater Management Installation (WPI) is also not successful in handling this problem, seen from the still contaminated Citarum River water at this time. In monitoring water quality and controlling water pollution, the government is still manual, which is to go directly to the field in collecting data on water quality in the Citarum River. Based on these problems and to support the open data system of Citarum river, this final project will make water quality sensor telemetry by applying the Message Queuing Telemetry Transport (MQTT) protocol. With this telemetry, water quality data collection becomes more efficient because it can be done remotely.

The Internet of Things (IoT) is a concept that can expand the benefits of internet connectivity that is connected continuously by making a device have the ability to share data, and can be controlled. The internet of things is certainly always associated with cloud computing, because it doesn't require large data storage. And with cloud computing, users can also access wherever and whenever. So, it's easier for users to exchange information. With the application of the mqtt protocol to telemetry devices, the client can set the output he wants.

In completing this research, the author adopted several artifacts on the scrum method. Because in the Scrum method there are product backlogs and sprint backlogs, where the tasks that will be carried out in making this device are more structured and clearer so that this method makes the process clearer and easier to go to the next stage.

Keywords: Internet of Things, Telemetry, Water Quality, Protocol, MQTT.