ABSTRACT

At this time a source of electricity has become mandatory for every settlement, but not a few in remote areas of Indonesia there are still many villages with lack of access to electricity. With the construction of hydropower in villages with limited electric current, it is necessary to monitor and control electrical power so that all villagers can feel the same source of electric current and reduce energy distribution in the community, with the design of an IoT-based website application for monitoring and control of hydropower plants. assist in the distribution of electricity which is limited to the village office and gazebo with this application which is responsible for the village staff to operate it.

In this research, a visualization process of electrical power data is carried out which can be used as reference data for monitoring and controlling electrical power at the village office and gazebo which will be displayed on this website application. With this website application, you can turn on and turn off the desired electricity flow to the village office and gazebo. Then there are also notifications that will help staff in monitoring the flow of electricity that uses excess electricity. And there is also an application guide for using this website application.

With the website application that has been created, the speed of incoming data will be tested in real-time which can be visualized on the website application page with the results of testing delay monitoring with an average of 319 miliseconds and control delay with an average of 10,983 seconds. By doing alpha and beta testing, the results from alpha according to the design of this website application can be "As Expected" and Beta Validity testing gets "Valid" results then Reliability gets results r11 = 0.912 then gets "Very High" Reliability

Keywords: *Website application, IoT, internet of things, monitoring and control, hydropower*