

ABSTRACT

The establishment of the Citarum river as the dirtiest river in the world in 2013 prompted the government to take an action to improve the river. One of countermeasures that can be done is by placing a river monitoring devices that can check the water and ecosystem automatically. However, the condition of the river will make it difficult to carry out the monitoring process because of the waste that also floating in the river, which can carry along the sensors that have been placed.

This final project will focus on how to control the sensor position with an automatic monitoring system in the form of a drifting buoy. The control method that will be used, is the fuzzy logic control, and the data that's going to be obtained and controlled is the location in the form of coordinates (latitude and longitude). The data is obtained by checking the location using GPS. The coordinate will then be used as a reference for the movement of the buoy so that it can reach the specified coordinates.

The final result of this project is a prototype of a drifting buoy that can maintain the set point position if there is an error due to external interference. The accuracy is around 81,66 percent with average error of 2,75 meters.

Keywords : *drifting buoy, GPS, fuzzy logic, Position Control.*