ABSTRACT

Aquarium (aquarium) is part of a small ecosystem that is adapted from the actual natural environment, with the existence that exists in an environment that can live. But in the era of globalization and the level of busyness of someone who has a penchant for difficulties getting home from work. Therefore, fish keepers do not have much time to maintain them. This is a problem for ornamental fish keepers. With this Smart Aquarium, it will help everyone to monitor and control the aquarium easily.

In this final project, a system that can monitor and control the aquarium through remote control is used and uses lighting (LED) as the sender of the data and the light-to-voltage sensor as the receiver of the data for which data is purchased from several sensors. And sensors used to display input data are temperature and air turbidity. The sensor serves as an aquarium condition monitoring tool and to control who can adjust the distance and regulate aquarium conditions using the application. This Smart Aquarium uses the Visible Light Communication system.

The winning parameters that will be tested are all sensors that can support using the Visible Light Communication system and can be monitored and controlled using the application.

In this final project testing, it can be concluded that the distance and angle of placement of the LED and TSL 251 affect the data received and the environmental factor of the water affects data reception.

Keywords: *Visible Light Communication, Light to Voltage Sensor, monitoring, controlling*