

ABSTRACT

The Arowana Fish/ Dragon Fish (Scleropages formosus) is one of the species that have an origin environment in Indonesia. The fish is well known as a commodity that have a huge fan because the high economic value. Unfortunately, the Arowana fish treatment is not as easy as other fish in the tank. For a newbie who start to have an Arowana will be so messed up with the caring technique which is should give a serious attention.

To solve that problem, in this final project have built a Smart aquarium telekontrol system which is implement the IoT concept. This telecontrol system integrated to the embedded sensors on the tank. Telecontrol have a task to be a gateway who control the data traffic from the hardware to server or from the other side using internet. Device to be used in this project is a Raspberry Pi B Model board with an additional WiFi Dongle as the interface for connecting the board to the internet network. This system use the MQTT Protocol for the data exchange protocol, as the protocol is the most reliable protocol wit IoT concept.

The result from the system testing is show the response time are 1.608 s to execute the instruction from the client using their smartphone for capturing image, 1.174 s to check the tank temperature, and 0.492 s for the water replacement. The average delay in the data transfer process to the cloud are 0.120375 s.

Keywords : *telecontrol, raspberry pi, internet of things, smart aquarium*