

## ABSTRACT

*Today, technological developments have contributed greatly to many aspects of life . One example of such technology is a system that can control and monitor by utilizing Internet Protocol connectivity in accessing and controlling the device remotely using applications on the Smartphone. This concept is called the Internet of Things (IoT), and can be used to facilitate human activities, one of them for the discus fish hobbyist.*

*In this study the authors have developed a system of controlling and monitoring the Aquarium by using smartphone applications. In this research work there are 2 parts of Software and Hardware, but here the author only do the Software only, while the hardware will be done by other authors. In monitoring this application can see the value of pH, turbidity, temperature in the aquarium and for controlling this application can control the cleanliness of aquarium water. This application is connected to the internet so that the system of control and monitoring can be done without limitation of distance during smartphne connected to internet.*

*Android applications that have been tested have a pretty good performance for each control function. This is indicated by the average delay value when controlling the water pump on the 4G network 4.8776 seconds, the 3G network is 7,652 seconds, and the 2G network is 10,162 seconds. Delay at the time of control is caused by internet network connection*

**Keyword:** *Android, Firebase, Internet of Things, Ikan Discus*