ABSTRACT

Fish farming is very promising and provides big profits because of the high market demand for fish, especially in catfish farming. The current process of catfish farming is still manual and the lack of good cultivation information, for example, counting fish is still done manually, sometimes errors occur. The quality is difficult to control because there is still lack of information for pond water, and late feeding makes the quality of the fish harvested decline. Based on the above problems, in this Final Project, an Android Smart Fish Pond (Smafid) application is made which can monitor and control remote fish ponds. This application is integrated with the Smart Fish Pond microcontroller tool and is connected to the internet network using Firebase in real time sensor data is displayed on the application. This application features monitoring of fish seed counters, water turbidity, feed availability, controlling automatic and manual feeding, feed settings, and data loggers. So from the design carried out black box testing, it was concluded that the application 100% all functions went well. The average time to open the application menu using the Telkomsel 4G network provider with an uplink speed of 5.08 Mbps and a downlink of 6.41 Mbps, the average delay is 0.286 seconds. The delay control test resulted in an average click on/off delay of servo 1 which was 1.11 seconds while servo 2 was 1.09 seconds and the manual feed control delay test from the application to the database using Telkomsel provider resulted in 1.06 seconds and provider 3 got 1.97 seconds. The results of application testing using the MOS method obtained a final value of 3.4.

Keywords: *Fish Farming, Smart Fish Pond, Firebase, Realtime, Application, MOS.*