

ABSTRACT

Temperature has a very important role for living things, including air. Survival in the air is very definition by temperature. Metabolism and also all biological activities are strongly influenced by temperature, increase and decrease in temperature which will make good air to breathe that will replace fish cannot survive. The ideal water temperature for breeding and aquaculture is 28° C 30° C . For this reason, pond temperature checking must be done periodically and periodically. Manual temperature checks, namely by going directly to the pool will result in time and cost for the owner who has nothing left.

Therefore the Temperature Monitoring system by realtime is designed to meet this problem. With this system the pool owner does not need to go to the pond to check the pool temperature, the pool owner only has to see the temperature data that has been sent to the database on smartphone with the note that smartphone must be connected to the internet. This system uses a DS18B20 temperature sensor as a tool to protect the temperature of the pond. Furthermore to process temperature data, this system uses a Raspberry Pi processor and also to send temperature data to the database. To view temperature data from the database, a Mobile Application interface has been created as. How to see the temperature value of the database, just by supporting the Button to get the temperature on the mobile application. Then after that, data from the database will appear on the mobile application.

After testing the system, the average achievement level obtained is %. Furthermore, analyzing QoS, the delay value obtained by an average of 0.3 ms includes a very good category. Then the highest throughput value in the morning in Pool D with a Throughput value of 7159,780525 bits/ s, and the lowest throughput value is in Pool A with a value of 6399,194438 bits/ s. While when the highest throughput pain value in the pool F with a throughput value of 6627.664872 bits/ s and the lowest throughput value is in pool A with a throughput value of 6399.194438 bit/ s. And finally the value of packet loss obtained on all pools with all time is 0% which is included in the very good category.

Key words : *Temperature Monitoring, Cloud Computing, QoS, Realtime*