

ABSTRACT

Most of the diseases that infect arowana fish are diseases created by water quality problems of arowana fish. Diseases such as scales, physical abnormalities of fish (fin shape, tail, and spine), stress and fungus can be caused by the low temperature of the aquarium which causes spores and bacteria to multiply properly. This study aims to determine and analyze the impact that can be caused by different temperatures and pH on adult arowana fish with a water temperature and pH monitoring system with the integration of robotic process automation (RPA) and the internet of things (IoT) as a notification system on the device. From these data temperature and pH affect the physical health of arowana fish. By using three temperature experiments (24°C, 28 C, and 30 C) which were controlled using an automatic heater, the optimal temperature for fish was in the range of 28 C. This is because at a temperature of 28°C there is no significant physical or behavioral change in fish in accordance with the guidelines in the book published by the Ministry of Marine Affairs and Fisheries. In observing changes in pH, the pH was controlled manually by changing the water when the pH exceeded 8. In observing changes in pH, it can be seen that at a pH value of 8.5 arowana fish have a tendency to be more active which indicates stress characteristics in fish. On the performance of the Internet of things in terms of network service quality, the delay is 0.118 s, jitter is 0.059 ms, throughput is 48 kbps, and packet loss is 0.15%. In the RPA specification the fastest time to run the bot is 4 seconds while the longest time it takes is 1 minute 30 seconds. According to the economic value analysis with a rough calculation, the use of a temperature and pH monitoring system based on the integration of RPA and IoT is more efficient at Rp. 220,000, - every month..

Keywords: Arowana fish, Internet of Things, pH, Robotic Process Automation, Temperature.