ABSTRACT

This final project aims to create an IoT-based ornamental fish feeding tool that is accurate, efficient, and effective in the field of aquaculture. The problems faced in fish feed management in aquariums are low accuracy and nutritional imbalance for fish. The use of existing automatic feeding devices also faces obstacles, such as the inability to monitor aquarium conditions in real-time. The developed tool uses hardware components such as ESP8266 microcontroller, Turbidity sensor, ultrasonic sensor, servo motor, and integrated with Firebase service. The test results show that this tool succeeds in providing feed accurately according to the plan, with an accuracy rate of 95%. In addition, this tool is also able to monitor conditions in the aquarium in real-time through a mobile application with an average response speed of only 2 seconds. Thus, this research succeeded in creating an effective solution to the problem of feeding ornamental fish in aquariums. This automatic fish feeding tool has the potential to improve the quality of fish management in the field of aquaculture and provide convenience for users in caring for ornamental fish at home.

Keywords: application,fish, feed, hardware