DESIGN AND CONSTRUCTION OF AUTOMATIC FISH FEEDING DEVICE AND MEASUREMENT OF TEMPERATURE, HEIGHT AND PH OF WATER BASED ON IOT

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ABSTRACT

Manual feeding is often not on time and the quantity is inconsistent, which can affect fish growth and feed efficiency. An automated feeding system can ensure that fish are fed at the right time and in the right amount. In an effort to improve the efficiency and effectiveness of fish pond management, an automation system has been designed and built that integrates an automatic fish feeder with Internet of Things (IoT)-based water temperature, height, and pH measurements. This system uses a servo motor to control fish feeding and a DS3231 RTC sensor to ensure that feeding occurs on time. In addition, measurements of water environmental conditions are carried out using a DS18B20 temperature sensor, an HC-SR04 ultrasonic water level sensor, and a 4502C pH sensor. Data collected by these sensors are sent in real-time to the IoT platform, allowing for remote monitoring and continuous data analysis. The results of the system implementation show that this tool can automatically provide fish feed according to a predetermined schedule, and is able to monitor water conditions accurately. The integration of IoT technology allows fish pond owners to monitor and manage their ponds remotely, improving operational efficiency and fish welfare.

Keywords*: Fish Feed Automation, IoT, DS18B20 Temperature Sensor, HC-SR04 Ultrasonic Sensor, 4502C pH Sensor, DS3231 RTC, Fish Pond.*