Design and Construction of an Internet of Things (IoT)-Based Fish Pond Irrigation System Utilizing a Water Tank Control System

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ABSTRACT

Fish farming has grown rapidly in recent decades, creating numerous business opportunities. Fish production has increased along with population growth and demand for fish in markets and restaurants. The high mortality rate in pond fish is due to dirty and cloudy water, which can cause illness and even death. The Internet of Things (IoT) is a technology that connects objects through an internet network. The application of IoT to fish ponds can help farmers monitor and control conditions in their ponds. For example, using a water clarity sensor to monitor water quality in the flow using a control tank system in the pond water flow. This allows farmers to easily monitor and control the farm through a smartphone connected to the IoT device. The purpose of this research is to create a device that can monitor cloudy water entering a fish pond via a smartphone. This research uses an Android-based microcontroller and water sensors such as turbidity, pH, and temperature sensors to detect water quality in the pond water flow.
Keywords*: Fish Pond, Internet of Things, automatic water flow shutoff, water quality sensor.*