

TEMPERATURE AND PH CONTROL SYSTEM OF AUTOMATIC ORNAMENTAL FISH FARM BASED ON IOT

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ABSTRACT

Ornamental fish is one type of living creature that has an adjustment to a certain water temperature and pH. Ornamental fish will die if the water PH is not standard and the water temperature is not suitable. Usually the temperature and PH of the water used for freshwater fish farming uses a temperature of 27°C-32°C and the PH of fresh water uses a PH of 6.5-8.5. The purpose of this research is to create a system that can monitor and control the PH and water temperature of IoT-based automatic ornamental fish farms. In general, checking the temperature and PH of fish farm water is done manually. With advances in technology process control can be done automatically and remotely. The Internet of Things is connectivity between devices that do the job of making them communicate with each other. The Internet of Things turns objects into intelligent systems by utilizing internet networks that can communicate with each other and exchange data. The hardware used in this system, namely NodeMCU ESP8266, DS18B20 temperature sensor, PH sensor, relay, water heater, DC water pump, LCD I2C 16x2.

Keywords: *Ornamental Fish, DS18B20 Temperature Sensor, PH Sensor, NodeMCU ESP8266, IoT.*