ABSTRACT

The parameters that make a good fish pond one of them is the ideal oxygen solubility level. Barriers that affect the ideal oxygen solubility one of them is polluted water. One example of water pollution in the cultivation of fish ponds is the result of fish feed sediment from excessive feeding fish. The solution that can be done is to regulate air circulation in water by knowing the condition of water quality in the pond.

In this final project has been made a water actuator prototype that aims to regulate the air circulation in fish ponds automatically by applying the technology of the Internet of Things. Prototype built system integrated with server platform using microcontroller by utilizing wireless communication. Microcontroller transmits data to the platform server. The data already processed by the platform server will be sent back to the microcontroller to perform the order of running the waterwheel actuator.

From the measurement results obtained water wheel actuators able to maintain the oxygen levels worth ≥ 3ppm and ≤ 5 ppm in 2 pond conditions, the fish pond with regular feeding and feeding irregular fish so that it becomes polluted.

Keyword: *dissolved oxygen, Internet of Things, prototype, microcontroller, server platform.*