

## Optimasi Kendali PH pada Akuarium Menggunakan Metode FuzzyPID Niko Novian Pratama<sup>1</sup>, Aji Gautama Putrada<sup>2</sup>, Maman Abdurahman<sup>3</sup>

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### Abstract

Maintaining aquarium clarity is the main thing in maintaining ornamental fish. This can be optimized using a measurement system that takes into account the variables in the parameters of ideal water conditions. Therefore it is important to implement a system of measuring the parameters of the device. The Internet of Things at this time is very useful to help human needs in everyday life. Therefore, this aquarium uses an Internet of Things-based system that can control the pH quality in aquarium water which is then able to provide information on pH levels and temperature and whether or not the aquarium water is normal to the user. This final project aims to monitor and control the water conditions in the aquarium directly or telemetry as long as the device is connected to the internet, to make it easier for aquarium users. Parameters that can be observed include pH conditions using the FuzzyPID method. The fuzzy PID logic output will determine the proportional constant value and the derivative constant in the PID control which determines whether the final result is normal or not. The results of this study prove that the pH control in an aquarium that previously had a pH of 5.52 which is considered abnormal can be controlled to a normal condition, namely pH 7. Based on the results of this study, it can be concluded that the algorithm applied has worked well and correctly according to the test.

**Keywords :** *Internet of Things, Monitoring, Controlling, pH, FuzzyPID.*

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