

## Sistem Monitoring Kualitas Air Untuk Tanaman Kangkung pada Sistem Akuaponik Dalam Ember Berbasis Internet Of Things (IoT)

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### Abstract

The decrease in agricultural land in Indonesia causes a decrease in production in the agricultural sector, while the need for vegetable and animal protein continues to grow. Aquaponics in this bucket is a potential solution for fisheries and agriculture in narrow areas by using water that is efficient and able to meet the needs of the community. Aquaponics in a bucket is also a way to cultivate fish and grow vegetables in the same medium, namely a bucket. And the cultivators always check the water quality in a bucket, because good quality water is not only from new water but by reusing water that has been used like an aquaponics system. This system is also implemented using Blynk IoT applications, NodeMCU, TDS sensors, and Ultrasonic sensors. So in this final project, a system that utilizes IoT is designed with intelligent capabilities using Fuzzy Logic which aims to automatically monitor water quality and water level so that it remains stable for kale plants. The design of this system has resulted in a test taking into account the parameters of dissolved substances in water to observe the stem height of the kale. The results of the analysis show that the TDS sensor can measure according to the prototype being tested based on dissolved substances in or ppm. And for the ultrasonic sensor shows that it can measure the distance of the ultrasonic sensor with the water in the bucket to stabilize the water. And the results of the two sensors can be monitored through the Blynk IoT application to make it easier for cultivators.

**Kata kunci:** IoT, Aquaponic, Fuzzy Logic, TDS, Ultrasonic, Blynk IoT Application

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