SISTEM KENDALI DAN MONITORING KUALITAS AQUAPONIK BERBASIS INTERNET OF THINGS (IOT)

RIZKY IFANDRIYANI PUTRI
Program Studi Teknik Informatika, Fakultas Bisnis dan Teknologi Informasi
Universitas Teknologi Yogykarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : putrir052@gmail.com

ABSTRACT

Aquaponics is a system of plant cultivation combined with fish cultivation in one container which can be a pond or aquarium. According to data from BBP2TP, the range of good nutrition is 560-840 ppm and the pH range for lettuce is 6.0 to 7.5. When the pH value is below 6.0 or above 7.5 farmers must add a solution to lower the pH (pH down) or a solution to raise the pH (pH up) so that the pH returns to normal, namely 6.0 to 7.5. To overcome these problems, it is created an Internet of Things-based aquaponic quality control and monitoring system. In this study, the parameters used were reading the level of acidity (pH) and dissolved solids (ppm) contained in the aquarium and plants where the reading of these values used a pH sensor and a TDS sensor. The system utilizes the ESP8266 as a microcontroller as well as a link to the internet which will display output results via the Blynk application. The results show that the system can work as expected where the pH sensor only has an error of 10.197% and the TDS sensor has an error of 1.14%, then the results of the pH sensor are calibrated because the sensor reading value can still be corrected by calibration or so that the results are accurately measured.

Key words: *Aquaponics, Internet of things, pH sensor, TDS sensor*