

ABSTRACT

Vannamei shrimp (Litopenaeus vannamei) is an introduced shrimp species that has high economic value and relatively fast growth. Good water quality is the key in vaname shrimp cultivation. Temperature, salinity, pH, and water level are important parameters that need to be controlled regularly and routinely. Lack of control over changes in water quality is one of the reasons why many shrimp are stressed and die. However, monitoring of pond water conditions in several areas such as Kalitengah sub-district is still done manually and not done intensely.

By utilizing internet of things technology, the author will create a Vaname Shrimp Pond Monitoring System consisting of temperature, pH, tds, turbidity and ultrasonic sensors as well as early wemos d1 which is installed in the first plot of the pond. This system can make it easier for pond owners to control pond water quality if there is a significant change so that monitoring can be done from anywhere without having to come to the pond location.

The system is built using the NodeMcu Wemos D1 mini microcontroller and uses a pH sensor SEN0161 to measure pH levels, a DS18B20 temperature sensor to measure temperature, and an ultrasonic sensor HC-SR04 to measure water levels. Then the data will be sent and displayed in the MIT application. Based on the results of testing the system that has been implemented, it is found that each sensor has a fairly good level of accuracy with a percent error sensor pH 1.94%, temperature 0.66%, turbidity 2.49% and tds 2% so that the system has great prospects and can used for vaname shrimp culture.

Keywords: *Translator, Optical Character Recognition, android.*