

## **ABSTRACT**

Vaname shrimp farming is one of the most promising solution. Vaname shrimp are shrimp that live in the sub-teropian region. However, to cultivate these shrimp need a tighter supervision of other cultivation that can overcome this crisis and stable the conditions of 7.5 to 8.5 for pH and 28 to 32 degrees for temperature. Routine feeding every four times a day requires stable levels of oxygen in the air (4-6 parts per million).

In this final project has been designed device for automatic feeding with the sensor that used for measure water quality base on pH and temperature both are Sen0161 and DS18B20, NTP for synchronization time of automatic feeding. This project use Arduino Uno as Microcontroller for controlling sensor and NodeMCU for connecting to the internet, the data read by sensor and status feeding can be presented at web browser so that the manual and Less efficient feeding can be replaced.

From the results of testing that has been done from AFOS (Automatic Feeder of Vannamei Shrimp) system proved that AFOS works well. The schedule system has done well at 100% accuracy, portion that given by user has tolerance of 5.1% error, maximum throwing feeding distance as far 3m, upload delay 1.07s on 3G network, download delay 6,45s on 3G network, upload delay 6,21s on 4G network, download delay 1.19s on 4G network, temperature tolerance error at 0,88% and tolerance error of pH measure at 1.27% to the data that retrieved by database has accurate with the data that sends from microcontroller.

Keywords: Arduino Uno, Node MCU, water quality, vaname shrimp,