

## **ABSTRACT**

### ***AUTOMATIC CONTROLLING SYSTEM AND IOT BASED MONITORING FOR WATER NUTRITION ON AQUAPONIC SYSTEM***

*Aquaponics is an activity to cultivate plants and fish. Giving the organic liquid fertilizer as a nutrient enhancer will improve the quality of catfish and lettuce yields. However, giving it causes the water to become more dirty. The deteriorating water is characterized by the TDS value in aquaponic ponds exceeding 500 PPM. If it exceeds 500 PPM, water drainage will be applied. Seeing the treatment of aquaponic experts, the control is work manually. The system is designed to solve it.*

*The method used in this Final Project is the study of literature to find the basic theory in aquaponic. Furthermore, it is necessary to analyze the problem that arised on farming activities using aquaponic system. The next thing to do is to design the system, starting from the design of automatic control systems to remote monitoring systems. Testing tools is the last thing to do to see the system is running well.*

*Based on the test results, the system can running well. However, a number of deviations were found, including the RTC test showing a delay time for 00.02.10 of RTC which compared to the national standard time and an error of 2.4% found on a calibrated TDS sensor testing. The success rate of sending monitoring data is 100% of Antares connectivity testing.*

**Keywords :** *Aquaponics, Organic Liquid Fertilizers, TDS Sensor, RTC, Antares.*