ABSTRACT

Aquascape becomes a new hobby and lots of people interested to the decorative of ornamental plants. Due to a high demand in this field, aquascape becomes a great business opportunity. However, the cultivation of ornamental aquatic plant and aquarium fish is quite difficult because there are a lot of things that have to be considered, such as oxygen, water circulation, water temperature, and water acidity. All these days, the people who love aquascape only use manual method that keep one of the most important components in a good condition, control water quality.

In this final research, a tools that can control water quality using Arduino UNO microcontroller as a controller for water pump and heater is created. A sensing microcontroller input for temperature monitoring to keep water temperature in stable is IC LM35. DO sensor uses to detect Oxygen level, pH sensor to monitor water acidity, and ammonia sensor to monitor ammonia level in the water.

The results of these sensors shows that each sensors i working properly and the error rate is 1.2% at 25^{0}C for LM35, 0.12% at pH 7 for pH Kit Meter, 9.06 mg/L dissolved oxygen of freshwater for DO sensor, dan 1 ppm of fresh air for TGS2602. Those results is also appeared on LCD 16x2 and become the input of Arduino UNO microcontroller that will be used to control water circulation pump and water temperature based on the kinds of ornamental aquatic plants.

Keywords:*: aquascape, automatic, quality, water*