

## ABSTRACT

Aquascape is the art of arranging or arranging aquatic plants, rocks, coral, coral, and driftwood to look naturally beautiful in the akuarium so that it gives an effect like real nature underwater. The problem that is often faced by aquascape users is that many people only change the water in the akuarium when the water looks cloudy without paying attention to good water quality and limited time to monitor water conditions which causes failure in making aquascapes.

This study aims to make it easier for users to monitor water conditions in aquascapes by creating a design system using Arduino IDE software which includes temperature sensors, turbidity sensors, PH sensors, CO2 sensors, Light Emitting Diodes (LED), cooling fans, and solenoids. These sensors will be connected to the WeMos D1 R2 ESP8266 and Arduino Nano microcontroller programmed using Arduino IDE with parameter provisions, Aquascape water temperature is 24°C-28°C, PH levels are between 6.0-8.0, turbidity levels 0-25 NTU and CO2 levels 14ppm-33 ppm.

By making a smart akuarium for aquascaper based on the Internet of Things (IoT), it has succeeded in helping and making it easier to monitor water conditions in aquascapes by showing PH levels of 6.99-8.31, CO2 levels of 400-590 ppm, turbidity 0-6,25 NTU and the temperature is 25°C-26°C, so there is no need to buy manual measuring devices one by oneto monitor water conditions and so that there is no failure in making aquascapes.

**Keywords:** Aquascape, IoT, monitoring, water condition