

ABSTRACT

This smart aquarium information system for aquascapers will monitor water conditions in aquascapes via a smartphone application. Aquascaping has become a new hobby for ornamental fish enthusiasts to create an art that arranges plants, rocks, wood, sand, etc. Many aquascape enthusiasts find it difficult to care for aquatic plants because of the various problems they face. The problem that is often faced by Aquascape users is the limited time to monitor water conditions in Aquascape, which causes failure in making Aquascape.

To help with this problem, the existence of an Aquascaper application information system will make it easier for Aquascape users to monitor water conditions in Aquascape by creating a monitoring system that includes temperature sensors, water turbidity, power of hydrogen (pH) levels, carbon dioxide (CO₂), light emitting diode (LED) control, cooling fan control, and solenoid control and has a graphic feature to be able to store the measurement history of each parameter and find out the water quality conditions in the aquascape. The source code used to create the application using the Android Studio software as a medium for compiling the program is Java. Java has features that are useful in creating Android applications. Programmers often use Java because it has advantages that can make applications flexible, has a complete library, and has a simpler coding structure.

With the Aquascaper application, users who have a hobby of making aquascapes can feel comfortable with features that help maintain aquascapes via a smartphone. This application supports Android version 6.0 Marshmallow and above. This application has features such as displaying the values of 4 parameters in real time, conducting online controls (fans, solenoids, and lights), displaying notifications if there is an increase or decrease in the standard parameter value, and having graphs so that you can see the condition of Aquascape water quality through charts in daily and weekly periods.

Keywords: *Android Studio, Application, Aquascape, Java, Monitoring*