DEVELOPMENT OF A MICROCONTROLLER BASED SELF-MAINTAINING AQUARIUM SYSTEM

Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
Cavite State University
Indang, Cavite

In partial fulfilment
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Bachelor of Science in Electronics Engineering

BENJO L. MANGANA
ELDRIN JAMES OLAES
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ABSTRACT

OLAES, ELDRIN JAMES and MANGANA, BENJO L. Development of Microcontroller-Based Self Maintaining Aquarium. Undergraduate Design Project. Bachelor of Science in Electronics Engineering. Cavite State University, Indang, Cavite. December 2018. Adviser: Engr. Michael T. Costa.

The study aimed to develop a microcontroller-based self-maintaining aquarium. The design project displays all the parameters being controlled by the system through a LCD module. It shows the real-time clock for feed dispensing, number of fish inside the aquarium, set and real-time pH level, set and real-time temperature, and water level of the aquarium. All data gathered by the device will be stored in a memory card. The pH level and temperature of the automated and manual aquarium were compared and recorded. The system was able to perform its functions to control the pH level, temperature, and feeding time set by the user. The temperature and pH sensors from the device was also able to gather accurate data when compared to the manual obtaining of temperature and pH level. Based on the results of the evaluation, the design project was able to meet its objectives and prove its accuracy, control, and functionality.

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