SMART AQUARIUM

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ABSTRACT

This project is design a system of semi-automatic aquarium which includes the care and cleaning of aquarium fish. Fish care system consists of fish feeder, fan, bulb with light sensor and pH sensor. The cleaning system consists of water level sensor, water exchanger, and turbidity sensor. This project was developed on the basis of convenience to the users of the aquarium and small-scale fish farmers. It also stabilizes the water quality in the aquarium besides saving costs, time and manpower. This system uses a PIC16F877A microcontroller to control the sensors and have been simulated using the software Proteous. Button and liquid crystal display board (LCD) is used as the input and display all information related to the system. With the advantages of low cost and portable, this system is suitable for small and medium-sized aquarium for fish.

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CHAPTER 1

INTRODUCTION

1.1   Introduction

The busy life of aquariums' users with today's lifestyles, cause they did not have enough time to take care the needs of the fish and a proper aquarium cleaning schedule. With these problems instances of ideas 'Smart Aquarium' where users do not have to worry about the fish care and periodic cleaning as it will be done automatically. This is because the aquarium has some control device that is controlled automatically to convert water, feeding, detecting water pH, water and locate the light to turn on or off the lights of the aquarium.

1.2   Problem statement

Most aquariums' users often face the same problems in maintenance and ensure the fish are in good condition. One of the problems is that users find it difficult to change dirty water because the process of changing the aquarium water takes a long time. Consequently, users are also have difficulty in controling the turbidity of aquarium water in even harder to control the water level. Finally, they also can not ensure a regular fish feeding due to the busy work.