

**Universiti Teknologi MARA**

**Smart Aquarium Monitoring using  
Mobile Application over Cloud**

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## **ABSTRACT**

Nowadays, having a pet is just like a trend .The most popular pet is dog and cat and not to forget the freshwater pet which is fish. Most of the people, keep the fish as pet and also decoration in their home and office. To maintain the fish healthy in the aquarium, we need to take care the fish everyday such as maintain their pH, food, temperature, clean up the aquarium and so on. Most of the aquarist uses manual system that requires a short distance and need more time. The maintenance to care the fish everyday it is just like difficult task itself and there worried to keep on asking their neighbours to take care of the fish in their absence. We need to power off the aquarium's power head or air pump and feed manually and power on the air again after an hour. Aquarist also needs to check fish food frequently to maintain their fish is healthy. Most of the problem is people always done the steps manually. They do not have time to take care their aquarium every day. Thus, this project is proposed in order to ease the care taker of fish in handling his or her fish tank. The condition of the aquarium, specifically pH, fish food availability and water temperature can be monitored via smartphone. This project will be using Arduino Uno, Wi-Fi shield and sensors for functionality in this system. The aquarium will monitored remotely by the owner using mobile phone.

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# **CHAPTER 1**

## **INTRODUCTION**

This chapter provides the background and rationale for the study. It also gives details of the significance of privacy over the Internet, the issues and problems that led to this research.

### **1.1 BACKGROUND STUDY**

Nowadays, having a pet is just like a trend. The most popular pet is dog and cat and not to forget the freshwater pet which is fish. Most of the people, keep the fish as pet and also decoration in their home and office. To maintain the fish healthy in the aquarium, we need to take care the fish everyday such as maintain their pH, food, temperature, clean up the aquarium and so on. Most of the aquarist uses manual system that requires a short distance and need more time. The maintenance to care the fish everyday it is just like difficult task itself and there worried to keep on asking their neighbours to take care of the fish in their absence. We need to power off the aquarium's power head or air pump and feed manually and power on the air again after an hour. Aquarist also needs to check fish food availability frequently to maintain their fish is healthy. Most of the problem is people always done the steps manually. They do not have time to take care their aquarium every day. Thus, this project is proposed in order to ease the care taker of fish in handling his or her fish tank. The condition of the aquarium, specifically pH, fish food availability and water temperature can be monitored via smartphone. This project will be using Arduino Uno, Wi-Fi shield and sensors for functionality in this system. The aquarium will monitored remotely by the owner using mobile phone.