Fishmo
Problem Statement

Capstone 4ZP6

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Problem Statement

All around the world millions of people[1] are involved in caring for marine fish, whether it be in the home or a designated facility such as an aquarium. The list of species that live within aquarium tanks range widely from Angelfish to the Yellowhead Jawfish. The problem many often encounter is accurately providing care and monitoring for the species inside the aquarium in an effective manner. Following these methods for effective care becomes a time consuming, repetitive task, and in most cases leads to the death of the fish. This opens an opportunity to expand our search for a better method to take care of our fish.

Project Description (Solution to Problem Statement)

Fishmo is a completely automated system for monitoring your fish tank. Using just your mobile device or computer (via web interface), you will have complete access to the status of your fish tank. Everything from correct water temperature to water flow, pH levels, oxygen levels, lighting, feeding, and even a micro-camera feed will be available via this application. You will be able to monitor your fish tank from anywhere in the world. All you need is a device and an internet connection!

Technical Challenges

- Creating a database that will store the optimal settings for many of the most common fish sold in North America

- Create a mobile and/or web software interface for the device that controls every aspect of the system, including sensor and visual feedback

- Develop the device itself using the Raspberry Pi and other necessary hardware components

    - Sensors, wires, motors, lights, etc...

Real World Impact

Fishmo allows consumers to better monitor and tend to their fish's needs. This allows the owner to not only provide better care to their fish, but frees up time that would be taken away performing the remedial tasks to take care of their fish. The most important benefit of **Fishmo** is that it allows the user to distance themselves from their pets at home without the worry of leaving them alone. As most pet owners struggle to decide who will care for their pets if they go on vacation, **Fishmo**'s end goal is to eliminate the need for that decision.

Revisions

Revision 0 - September 24th 2014: Initial Problem Statement

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[1] http://www.americanpetproducts.org/press$_i$ndustrytrends.asp