

Report Details:

Timeframe: week 9-10

Group number: 21 (*sdmay26-21*)

Project Title: A Smart Aquatic Ecosystem

Client &/Advisor: Md Maruf Ahamed

Team Members/Role:

Griffin Urban — Frontend Developer

Daniel Pender — Hardware

Aden Koziol — AI Population Tracking

Ryan Holden — Backend/Frontend Developer

Marina Mannan — Embedded Systems Engineer

Carson Irving — Backend/Frontend/AI

Max Purvis — Hardware

Weekly Summary

Continued revising physical equipment mounting and getting the front end caught up with required features.

Past Week Accomplishments

Aden: Started looking at camera solutions as well as some frontend/backend minor updates.

Marina: Finished the temperature sensor holder model; will add spots for additional sensors once I can print and test this prototype. Was unable to print this week so far due to printer availability. Researched mounting strategies for the remaining sensors and have preliminary dimensions ready for their holders once the prototype is validated.

Carson: Siphoned Water and Cleaned Rocks, added new water and chlorine remover, Added Websockets that can target specific users with notifications, Installed new camera lens and adjusted for focus, and used python testing tool to get the approximate location of the camera.

Max: Set up the pH, temperature, and dissolved oxygen sensors in the fish tank to run over break. I also soldered the pins onto the Arduino RTC shield.

Danny: Tested the initial feeder design. Make some early modifications to the feeder. Begin initial servo mount design.

Ryan: Built a sign up page for new users to create their login.

Griffin: Researched multiple accessibility options used in other webpages and began implementing multiple color options and text reading options.

Pending Issues

- N/A

Individual Contributions

<u>NAME</u>	<u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Aden	• Camera solutions • Frontend/backend updates	6	37
Marina	• Temperature sensor holder CAD model • Researched sensor mounting strategies • Gathered dimensions for the pH, dissolved oxygen, and turbidity sensors	6	36
Carson	• Cleaned Fish Tank • Exchanged Water • Installed New Camera Lens and Tested With Python Tool • Implemented per-user websocket	6	38
Max	• Set up sensors in the tank • Soldered RTC shield pins	6	32
Danny	• Tested the first prototype. • Begin servo mount design	5	35
Ryan	• Created Sign up page for new users	6	30
Griffin	• Researched accessibility features for the frontend and began implementing coloring and text for readers.	6	31

Comments and Extended Discussion

- N/A

Plans for Upcoming Week

- **Aden:** Continue working on camera solutions and make more updates to the

frontend/backend.

- **Marina:** Print and test the temperature sensor holder prototype. Validate fit on the tank's wall and with the sensor. Design and model holders for the remaining sensors based on prototype findings.
- **Carson:**
- **Max:** I will probably set up the circuit in the tank again, but try to organize it in the enclosure so it takes up less space and is neater.
- **Danny:** Print the servo mount and ensure stability with the first feeder prototype. Make modifications to the feed holder and discuss them with Carson to improve the feeder's efficiency. Also Modify the cap to the first prototype.
- **Ryan:** Create a list of active user devices on the settings page. Update the pairing new device page, make it refresh when a new device is successfully paired.
- **Griffin:** Continue working on accessibility for the frontend

Summary of Weekly Advisor Meeting

- We were unable to meet with our advisor this week due to scheduling issues. We plan to meet next week to discuss the final deliverables.