

EE/CprE/SE 492 WEEKLY REPORT 01

2/4 – 2/18

Group number: Team 25

Project title: Con-Sea-Erge

Client: Cara Fila

Advisor: Dr. Fila

Team Members/Role:

Devin Milligan - Firmware

Ethan Peterson - Firmware

Ryan Hickok - Firmware

Drake Dodson - Frontend/Backend

Hunter Northern - Enclosure Design

Josh Van Drie - Frontend

Brian Tran - Frontend

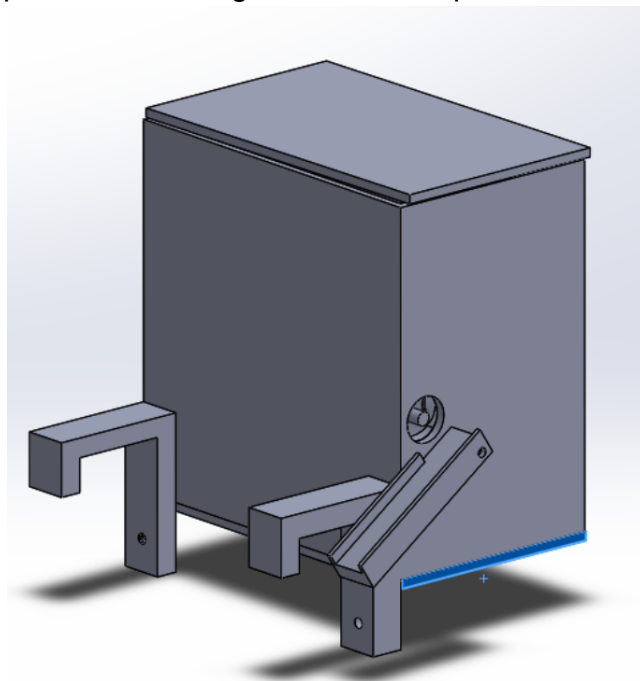
- **Weekly Summary** (Short summary about what the group did for the week. This should be about a paragraph in length. These are just a few questions to help you get started. What was the overall objective for the week? In general, what tasks were completed? Were there any changes made to the project?)

The objective for this week was to continue making progress towards getting a fully functional device. This meant we had to start 3D printing the components and testing the current software that we have. The group is currently working towards implementing a scheduled based time system that will be taken from the frontend and sent to the hardware to deliver food to the fish. Though details still have yet to be ironed out the group has worked towards making sure these connections work properly by getting frontend to backend connections working by pulling and retrieving data. The firmware side has also made progress in further modularizing their code and implementing features to be able to trigger scheduled feedings.

- **Past week accomplishments** *(Please describe/summarize as to what was done, by whom, when and, collectively as a group. This should be about a paragraph or two in length. Bulleted points are acceptable as well. Please keep only your technical details related to your project. Figures, schematics, flow diagrams, pseudocode, and project related results are acceptable, but please ensure that they are legible (clear enough to read) and to provide an explanation. If researching a topic, please add a few details about what was learned and how it is relevant to the project. If two or more people worked on a single task, be sure to distinguish how each member contributed to the task. Specific details relating to the assistance provided to other members may be included here. **Do not include classwork, such as individual reflection assignments, and group meetings as part of your duties.**)*

- Devin Milligan:

- Learned Solidworks to create the design for our second version of the enclosure to test. This version of the enclosure functions by a hopper within it that has a corkscrew spiral dispenser at the bottom to dispense the food out the side of the device. In the bottom of the device is where the electronics and motor will be placed for the functionality of the device. This will be then 3D printed for testing on how it compares to the other version.



- Ethan Peterson

- Implemented grabbing the current time using Wifi NTP time source on the firmware side of things. This will be used heavily with the feeding schedule for the fish. Moving forward, we will be working on pulling the time to feed from the backend and feeding the fish at the correct time.
- Worked on the modularization of the firmware codebase to clean up the code thus making it easier to digest and understand.

- Ryan Hickok

- Met with Ethan to become familiar with firmware progress up to this point and divide up tasks between us. Got everything installed on my personal machine and began working on modularizing the existing code.
- Brian Tran
 - Researched and attempted various ways to implement photo selection for iOS including permissions and photo access management.
- Drake Dodson
 - Was able to send and receive data from the backend via the frontend application. Started working on fixing user login features to make them function better.
- Hunter Northern
 - Continued Designing an enclosure prototype and got an initial print completed. Worked on acquiring the motors and print materials in order to get a finished working prototype and rescaling features on our existing designs to fit the tank correctly.
- Josh Van Drie
 - Implemented login validation to ensure only registered users can sign in. Added feature to add multiple tanks. Fixed user create account. Implemented feed time scheduler.

○ **Pending issues**

- Hunter Northern: Complications with measurements of the tank and the motor itself and found better ways to design the top loader design, print complications.
- Team Member 2:
- Team Member 3:

- **Individual contributions** *(Creating this section is optional, but it is **Required to include the "Hours Worked for the Week" and their "Total Cumulative Hours" for the project for each member somewhere relevant in your report. Your individual weekly hours should be at a minimum of 6-8 hours for this course. So please manage your time well. Also, ensure that individual contributions support your claim to the weekly hours. Be honest with the reports.)***

<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>
Devin	CAD Design	6	6
Brian	Frontend photo feature & research	6	6
Ethan	Time implementation and Modularization of Firmware	6.5	6.5
Hunter	CAD Design and Prints	6	10
Ryan	Familiarized myself with firmware progress and began modularization of code	6	6

Drake	Backend/Frontend database management. Added functions that pull information from database.	5	5
Josh	Added/ created multiple front end features. Login, sign up, feed scheduler, multiple tank creation	12	12

○ **Plans for the upcoming week** (Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)

- Devin Milligan
 - Will be working on the start of the layout of the circuit board for the final design. This will entail compiling a complete BOM, Bill of Materials, for all the required components necessary to interact with the circuit board. Then investigating software to use to start creating the layout files necessary for a PCB to be created by a third party.
- Brian Tran
 - Will be continuing researching and implementing photo selection features for individual tank cards within the application. Will coordinate with other frontend members if needed to flawlessly integrate the features.
- Ethan
 - Will continue to work on implementing the feeding schedule sent from the frontend to the backend. We have just received our motors which control the feeding mechanism so I will also look into implementing the firmware supporting the motor.
- Ryan
 - Continue to work on modularizing the Arduino code and help Ethan with getting the scheduling feature functional with any remaining time. In addition, now that we have motors, begin implementing motor functionality as a stretch goal.
- Drake Dodson
 - Need to add a global state to the frontend application that allows for users to have specific information tied to their account and showcase user specific data.
- Hunter Northern
 - Print out the design Devin made and redo some of the measurements on the upright model.
- Josh Van Drie
 - Add feed schedule custom times that can be changed for each day of the week. Work with backend to get data moving from database to front end. Create a settings page.

○ **Summary of weekly advisor meeting** *(If applicable/optional)*

Advisor meeting this week, we went over the progress that has been made up to that point. This included the production of a completed prototype enclosure, the completed design of another version of the enclosure, front-end application updates, and an overview of the current functionality of the device with regard to the firmware. When talking through the front-end application, we asked the clients for any suggestions they had on some features, and they had input on the scheduling of the feeding. They had requested the looks and functionality of that component, which are now being implemented. We said by the next time we meet that we will have enclosures tested physically on the tank, as well as an application that the users will be able to interact with and test out.

Grading criteria

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10:** Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8:** There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6:** Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.