

**EE/CprE/SE 492 WEEKLY REPORT 05**

**4/8 – 4/21**

**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:**

*In this week our group finalized enclosure design, added implementations for loading our app onto the users phones, finished up setting the needed firmware calibrations, updated our fields in our real time database, and met with our client to show what the final design of the app and enclosure on the tank will look like.*

- **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.***

- Ryan
  - Over the past two weeks, I spent time analyzing some of Ethan's code and making changes so that we would have a functional prototype on my board for our demo. This included restructuring the pH sensor code to avoid issues with passing strings and arrays of characters between the main file and the header file and inserting accurate WiFi credentials. In addition, I obtained info for my board's MAC address so that Ethan could register our boards with ETG.
- Devin
  - This past week I went about printing more device enclosures for testing. I printed a couple complete prototypes and tested them thoroughly. On the prototypes I noticed a jamming issue that occurred when the device was full of fish food. This made me go back to SOLIDworks and redesign the enclosure to not allow for this. I then printed a final enclosure prototype that is fully functional and works as intended.
- Ethan
  - These past two weeks, I finalized the feeding schedule implementation for the tank as well as registered our two board's MAC addresses with ETG. I also added implementation in the firmware for a manual feeding button used in the frontend.
- Brian
  - Fixed some error message errors that they weren't showing up for login attempts. Figured out the component for uploading images and did more work into setting images for tanks.
- Drake
  - Worked on and finished the schedule for the feeding timer. The app now has full functionality for creating scheduling dates and times for a feeding. Continued tweaking the application to add a couple of small fixes to make for a better user experience.
- Josh
  - Removed some unnecessary features from the application such as adding new tanks. This should make it simpler for long time use as all new accounts will have access to the two tanks we make. Fixed some issues with converting data from the database to frontend. Added manual feeding functionality. Some general styling updates.
- Hunter

- Further developed the B enclosure and worked on getting a print but faced some challenges with the printers. Working on the schematic designs for our final report and expo poster.

○ **Pending issues**

- Trying to get the App on the clients phones

- **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.)***

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Devin	<ul style="list-style-type: none"> <li>- Edits to enclosure design</li> <li>- Printing of multiple prototypes</li> <li>- Finalizing of enclosure design with testing</li> </ul>	10	40
Brian	<ul style="list-style-type: none"> <li>- Fixed login error messages</li> <li>- Got image button to select photos from photo library to work</li> <li>- Research/work into storing images and display for individual tanks</li> </ul>	10	34
Ethan	<ul style="list-style-type: none"> <li>- Finalized the implementation for the feeding schedule</li> <li>- Registered MAC addresses with ETG for the ISU network</li> <li>- Implemented firmware support for manual feeding button from frontend</li> </ul>	9.5	35
Hunter	<ul style="list-style-type: none"> <li>- Further advancing the B enclosure design and printing</li> </ul>	12	38
Ryan	<ul style="list-style-type: none"> <li>- Restructuring pH code to avoid the incorrect passing of an array of characters when a String is expected in the main file</li> <li>- Obtained MAC address information</li> </ul>	8	33

	for registration of our boards with ETG - Prepared and tested the firmware code thoroughly in preparation for the demo		
Drake	- Created functionality for setting dates with time and storing them into the backend that way the firmware can then read them.	12	35
Josh	- Removed unnecessary features - Added manual feed functionality - Fixed database -> display conversions	12	56

○ **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.)*

- Ryan
  - I will be working with Ethan to put the finishing touches on the Firmware code so that we are able to have a functional product by the end of next week. This will include final testing of motor timing and scheduling so that the proper amount of food is dispensed at the appropriate time.
- Devin
  - I will be printing and assembling at least one more complete enclosure in order to have two fully functional devices. Then I will be looking into the looks of the device to ensure that all cables are managed well and the device hangs on the tank well.
- Ethan:
  - I will be doing extensive testing on the feeding aspect of the device. To do this, I will be verifying that the motor is turning on during the correct time as well as working with the enclosure team to ensure that our full physical device is working properly.
- Brian:
  - Finishing the image upload component and the image storing capabilities. Refining the overall application and add some tests.
- Drake
  - Still need to get the application onto the users phones and allow for the ability to see when the most recent feedings take place. Also need to start finalizing the application and maybe the app onto a website to avoid having to get the app directly onto the phone.

- Hunter
  - Work on our final report and presentation information for one of the enclosure designs.
- Josh
  - Planning to finalize the app and work on loading it onto our phones as well as the clients. Do final testing for the app making sure everything works as expected.
- **Summary of weekly advisor meeting** (*If applicable/optional*)
  - This week we had an in-person advisor client meeting. We demonstrated our functional prototype to the clients and the application as well. Showed the device dispensing fish food. We then talked with our advisor about next steps towards finishing up the deliverables for 492 as a complete class. We also set up a time for us to hand the final product off to the client and a time to have a practice presentation with our advisor.

### **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.