

EE/CprE/SE 492 Bi-Weekly Report

09/14/2019 – 09/27/2019

Group Number: sddec19-23

Project Title: Network Arcade Platform

Client: Joseph Zambreno

Team Members:

- *Evan Mandle: Team Lead*
- *Alex Carpenter: Chief Engineer – Hardware*
- *Bryan Johnston: Chief Engineer – Software*
- *Alexander Schneider – Chief Design*
- *Zach Serritella – Meeting Facilitator*
- *Brian Shanders – Report Manager*

Bi-Weekly Summary:

During the two weeks, the team worked on building one of the cabinets to near completion(Fig. 1) to see how the structure will hold up and start planning on hardware/software integration. Completed running Dragon's lair on the Daphne Emulator and started work on the other two games. Updated collections to include each Daphne game, cooperative and competitive games. LED parts arrived and installed to the cabinet, still need to program different settings for games. Continued net play aspect by filter games on both systems to have the exact same files, and running each with the same configuration for better communication.



Figure 1: Current Woodframe of Cabinet

Past Week Accomplishments:

- **Evan Mandle:** Constructed cabinet and added Dragon's Lair 1,2, and Space Ace to the machine.
- **Alex Carpenter:** Assisted with the construction of the first cabinet. Continued working on solutions for switching between controllers seamlessly (attempting to find solutions to get the teensy board to work or looking into other potential fixes).
- **Bryan Johnston:** Researched logic sifters (5V -> 3.3V). Wired and tested the addressable LEDs. Tested the mounting hardware for the computer motherboard. Created a schematic for disassembly(waiting on new GPUs). Assisted others in the construction of one of the cabinets.
- **Alexander Schneider:** Researched more aspects of netplay + debugging. Wired several aspects of the cabinets. Assisted in the assembly of the first cabinet and repairs of the cabinet elbows.
- **Zach Serritella:** Ran errands to get small pieces in order to put together the cabinet. Helped place and screw in pieces in order to build the cabinet. Helped research the teensy problem and how to potentially fix it. Laid out meeting agendas and scheduled meetings for team and client. Assisted other team members with research if needed help.
- **Brian Shanders:** Research prices and types of wires. Updated the collections on computers to include a competitive and cooperative selection of games. Also, dedicated collections for all the Daphne games: Dragon's Lair, Dragon's Lair 2, and Space Ace. This included making new thumbnails for the collections. Assisted in net-play work, getting it to run. Worked on the bi-weekly report.

Pending Issues:

- **Evan Mandle:** Waiting on GPUs and determining whether the cabinets should be paint or vinyl.
- **Alex Carpenter:** N/A
- **Bryan Johnston:** Waiting on new GPUs to arrive.
- **Alexander Schneider:** Additional exams looming. Some parts are not present at the lab, preventing completion of wiring and construction.
- **Zach Serritella:** Teensy problem and or alternatives to teensy.
- **Brian Shanders:** Forgot to order wires since didn't know what kind of gauge is necessary for the cabinet. Some games won't run at all, so need to get rid of them.

Individual contributions:

Name	Individual Contributions	Hours this week	Cumulative Hours
Evan Mandle	See past two weeks accomplishments	8	128
Alex Carpenter	See past two weeks accomplishments	8	103
Bryan Johnston	See past two weeks accomplishments	12	18
Alexander Schneider	See past two weeks accomplishments	11	24
Zach Serritella	See past two weeks accomplishments	18	30
Brian Shanders	See past two weeks accomplishments	15	30

Plans for the Upcoming Week:

- **Evan Mandle:** Determine prices on vinyl and paint with Zach.
- **Alex Carpenter:** Continue working towards finding a solution for seamless control switching.
- **Bryan Johnston:** Create a wood platform for computer mounting on the cabinet. Finish the deconstruction and installation of one of the computers. Build an acrylic window. Install/manage power cables inside the cabinet.
- **Alexander Schneider:** Assist Brian Shanders with full clearing of defective games and finish wiring for cabinets.
- **Zach Serritella:** Help aid in any research. Help Bryan with the computer layout. Help Alex C with the hardware setup. Start wiring up the controls and speakers.

- **Brian Shanders:** Ordered the wires over the weekend, finish up the configuration of all the games on both systems to match up, test if systems are communicating. Assist in any other areas when completed.

Summary of Weekly Advisor Meetings:

Week 1: The team updated the advisor with the project and aftermath of the first peer review-instructor meeting (PRIM). One question/concern the team received involves how to end the game and bring it back to Retropie. The advisor suggested something similar to a previous arcade cabinet project and have a button combination to reboot the system back to the selection screen. Also, for dealing with sound, add in a mute button on the machine in case if the device is being too distracted. Finally, the layout of the buttons and joystick should be reevaluated to see if the layout is too close or too far apart from other designs.

Week 2: The team showcased the progress of the cabinet construction. The advisor suggested a new design of the button layout to have it at an angle to avoid shoulder bumping. Also, suggested having a clear panel for controls portion, to showcase wiring, and ways to open machine in case of errors (maintainability). Finally, look into wood edging/ T-molding to smooth out the sides to avoid splinters.