

EE/CprE/SE 491 Weekly Report

02/09/2019 – 02/15/2019

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*

Weekly Summary:

On Saturday, February 9th, the team met up and discuss the second reflection assignment. Then, on February 12th, the team had another meeting to discuss the specifics on the design: portability, what will be inside the cabinet, how much power is necessary to run the cabinets/unit, what specific games to include, etc. Also, created a CAD model of the arcade machine, with changes in the previous design. Finally, worked on the project plan. The following day, Alex Carpenter visited the surplus store on campus to gather supplies for testing for the project. Finally on Friday, February 15th, had a meeting with the team's advisor to provide an update to the project as well as feedback.

Past Week Accomplishments:

- **Evan Mandle:** Designed and created the CAD drawing for the shell of the arcade machine. Assisted with the project plan, specifically, section 3.
- **Alex Carpenter:** Researched the legal issues that could arise from download ROM's. Researched more about the hardware (pricing for computers, LCD screens, and MDF board). Purchased a test computer from the ISU Surplus store to begin testing ASAP. Assisted with sections 2 and 3 of the project plan.
- **Bryan Johnston:** Requested access to use the ECpE machine shop. Assisted others on the project plan. Researched arcade designs.
- **Alexander Schneider:** Bulk of pricing research for games list and budget in relation to controllers completed. GANTT Chart drafted and completed. Completed Section 1 of the Project Plan with Brian and assisted with Sections 2 and 3.
- **Zach Serritella:** Agenda, helped with sections 2 and 3 on the project plan.

- **Brian Shanders:** Research on average size and dimensions of a typical arcade machine to set our standard for our project. Completed Section 1 with Alexander S. and assisting team with sections 2 and 3

Pending Issues:

- **Evan Mandle:** Need to determine the approximate weight of the cabinet and what material it will be made of. Determine what casters to research and purchase.
- **Alex Carpenter:** Move test computer into the senior design lab and begin installing emulators to determine functionality. Figure out a list of parts that will need to be ordered before spring break. Study for upcoming midterms during the end of next week and the beginning of the following week.
- **Bryan Johnston:** Determine where and how the safety obtain the various ROMs and emulators for the arcade system.
- **Alexander Schneider:** Figure out benchmarks of the computer to determine what additional and more complex games may not be feasible; decide budget in terms of costs of certain control methods; balance out schedule with exams.
- **Zach Serritella:** Need to figure out many things, such as what code language to use for network and how to get the main menu built?
- **Brian Shanders:** Figure out more details about Bluetooth/wifi networking between multiple devices, work on upcoming midterm exams.

Individual contributions:

Name	Individual Contributions	Hours this week	Cumulative Hours
Evan Mandle	CAD Design, project plan	9	12
Alex Carpenter	Researched legal issues, purchased test hardware and assisted with sections 2 and 3 of the project plan	8	11
Bryan Johnston	Researched arcade designs and worked on the project plan	5	10
Alexander Schneider	Project Plan Section 1 (parts of Sections 2 and 3), GANTT Chart, Games List & Game control research	7	11
Zach Serritella	Agenda, sections 2 and 3	8	11
Brian Shanders	Project Plan Section	7	10

	1, assisting in section 2 and 3, research on size and dimensions of the cabinet, and weekly report		
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Plans for the Upcoming Week:

- **Evan Mandle:** Start building/testing a rough prototype of the system and identify any potential problems that can occur.
- **Alex Carpenter:** Continue researching hardware costs to determine appropriate prices to purchase materials. Finish the project plan and look into pricing and ordering parts.
- **Bryan Johnston:** Upload emulator software to the machine and plan on testing some games
- **Alexander Schneider:** Revise the project plan, figure out an avenue to order parts.
- **Zach Serritella:** Finish the project plan, make new agenda and meetings
- **Brian Shanders:** Finish the project plan and look into connectivity between multiple independent machines

Summary of Weekly Advisor Meeting:

This week, the team talked with the advisor and provided an update to the project and discussed the design. The advisor liked the design but brought concerns to security, user case, and maintainability of the design after it is finished. Also, concerned about the difficulty of the machine running 2 different games on one unit. Recommended the team to use Acrylic to give the arcade machine a more polished look and having 2 players/controllers on one cabinet. An emphasis that, even though the budget can be modified slightly, look to making the complete project within the budget, not for one unit. After discussing the list of potential games, talked about the legality of using ROM's and rating of games.