

1. Estimate of Person-Hours

- **Group Discussion/Planning (Sept 6th, 3-5 pm):** 2 hours for all members
 - **Breakdown of Roles:** Andrew and Xavier (Lead Coders), Deborah (Documenter), Victor (Commenter), Ellia (Demo Lead)
- **Coding:** Each lead coder (Andrew, Xavier) might work around 10-15 hours during the project.
- **Documentation:** Deborah may spend around 5 hours.
- **Commenting:** Victor may spend 3-5 hours reviewing and adding comments to the code.
- **Demo Preparation:** Ellia might spend around 4-6 hours preparing for the demo.

Details on How We Estimated Person-Hours:

- **Group Discussion/Planning (2 hours for all members):**
 - The beginning planning of a project is crucial, and getting everyone on the same page usually takes a bit of time. We set aside two hours for our first meeting to make sure we could thoroughly discuss our goals, decide on the coding language, and assign roles without rushing. It's just the right amount of time to ensure we cover all bases but keep things moving.
- **Coding (10-15 hours per lead coder):**
 - Coding requires thinking through problems, experimenting with solutions, and fixing unexpected issues. From projects we each did in the past; we've found that a couple of days per coder is a realistic timeframe. It gives us enough wiggle room to handle challenges that pop up while coding complex features.
- **Documentation (5 hours for the documenter):**
 - Creating effective documentation is key to ensuring that everyone can understand and use the project long after we're done. Allocating about five hours lets us produce clear, thorough documents that not only explain how everything works but also why we made certain choices. This helps future

users and maintainers navigate and adapt our project without any guesswork.

- **Commenting (3-5 hours for the commenter):**
 - Comments in the code make it easier for someone else (or ourselves in the future) to understand what's going on. We estimate 3-5 hours based on the complexity of the code and how much explanation it needs. This ensures our code is not just functional but also accessible.
- **Demo Preparation (4-6 hours for the demo lead):**
 - A smooth demo takes careful planning, a few run-throughs, and tweaks to make sure everything looks right on the day. Allocating 4-6 hours gives our demo lead enough time to prepare thoroughly, ensuring we present our project in the best possible light.

2. Actual Accounting of Person-Hours (Day-by-Day)

Friday, September 6th

- **Group:**
 - **Time:** 3-5 pm (2 hours)
 - **Activity:** Initial meeting to discuss coding language, division of roles, and planning next steps.
- **Xavier:**
 - Time: 30 Minutes
 - Activity: Working with team to schedule.
- **Ellia:**
 - Time: 40 Minutes
 - Activity: Began working on code outline
- **Deborah:** N/A
- **Victor:** N/A
- **Andrew:** N/A

Saturday, September 7th

- **Group:** N/A
- **Xavier:** N/A
- **Ellia:** N/A
- **Deborah:** N/A
- **Victor:** N/A
- **Andrew:** N/A

Sunday, September 8th

- **Group:** N/A
- **Xavier:** N/A
- **Ellia:** N/A
- **Deborah:** N/A
- **Victor:** N/A
- **Andrew:** N/A

Monday, September 9th

- **Group:**
 - **Time:** 4:35PM-4:55 pm (**20 minutes**)
 - **Activity:** Second meeting to discuss coding progress, review the rubric together, and work on the technical details such as our GitHub.
- **Xavier:**
 - **Time:** 1 Hour
 - **Activity:** coding basic game loop and logic, proof of concept in terminal
- **Ellia:** N/A
- **Deborah:** N/A
- **Victor:** N/A
- **Andrew:**
 - **Time:** 30 Mins

- **Activity:** Setup the GitHub repository for the group, inviting all members.

Tuesday, September 10th

- **Group:**
 - **Time:** 12:15PM-12:25 pm (**10 minutes**)
 - **Activity:** Met with the GA to discuss progress on project
- **Xavier:**
 - **Time:** 3 hours
 - **Activity:** Added raylib/graphics, menu and ui to the codebase
- **Ellia:** N/A
- **Deborah:**
 - **Time Spent:** 2 hours
 - **Activity:** Worked on the 'Documentation' document, organizing its format, detailing the document structure, and providing team members with access instructions.
- **Victor:**
 - Time Spent: 1 hour
 - Activity: Updating the comments of the code to match the updates from the lead coders to ensure readability and consistency for better understanding.
- **Andrew:**
 - **Time Spent:** 2 hours
 - **Activity:** Wrote code for more object-oriented/'Pythonic' game core with support for ship placement changes and reorientations. This was later scrapped as the work required to merge into the evolving code base would not be an efficient use of development time.

Wednesday, September 11th

- **Group:** N/A

- **Xavier:**
 - **Time: 1.5 Hrs**
 - **Activity:** Coded mouse position on board info, and col-row denotations, merged Andrew's code. Added remaining ships to be placed visualization. Added different color when in place mode and hovering over an invalid cell.
- **Ellia:** N/A
- **Deborah:** N/A
- **Victor:**
 - Time Spent: 1 hour
 - Activity: Formatting the comment structure for every file within the battleship game file to ensure each line code is properly explained to ensure each team member understood the logic of the code and to ensure better understanding.
- **Andrew:**
 - **Time Spent:** 3 hours
 - **Activity:** Adding finishing touches to the codebase, including adding row letters & column numbers, adding the ability to place ships both horizontally and vertically, adding new font face for all the text, and re arranging some of the user interface elements.

Thursday, September 12th

- **Group:** N/A
- **Xavier:**
 - Time: 1 Hour
 - Activity: Added ship sunk cell visuals and message when player sinks a ship. Fixed bug where player could attack a cell they previously sunk/hit/missed.
- **Ellia:** (Pending information)
- **Deborah:** (Pending information)
- **Victor:**

- Time: 1 hour
- Activity: Updated the comments of the code to match every bug fix or code change that was performed by the lead coders to ensure consistency throughout the coding process.
- **Andrew: N/A**

Friday, September 13th

- **Group: N/A**
- **Xavier:**
 - Time: 10 minutes
 - Activity: Added documentation to the repository
- **Ellia:** (Pending information)
- **Deborah: N/A**
- **Victor:** N/A
- **Andrew:** (Pending information)

Saturday, September 14th

- **Group: N/A**
- **Xavier:** N/A
- **Ellia:** (Pending information)
- **Deborah:** (Pending information)
- **Victor:** (Pending information)
- **Andrew:** (Pending information)

Sunday, September 15th

- **Group: N/A**
- **Xavier:**
 - Time: N/A
 - Activity: Update Documentation

- **Ellia:** (Pending information)
- **Deborah:** (Pending information)
- **Victor:** (Pending information)
- **Andrew:** (Pending information)