Battleship: Team Crossover Edition
RETROSPECTIVE

Team

- Chase Stump
- Marco Borth
- Jack McClure
- Rachel Elting
- Jarod Davis

Log of all meetings

Meeting 1 Summary

Date: 9/30/2019

Location: Eaton 2

All members present

We discussed how to approach the continuation of the other team's battleship project. Options considered were using a shuffled array of string inputs for AI randomized firing. Given that Lab assignments were concurrent with this project, members were encouraged to research the previous team's project when available. Given each team member's experience with C++, all work on the project will officially begin after Lab assignments have been completed.

Meeting 2 Summary

Date: 10/7/2019

Location: Eaton 2

All members present

At this stage, one bug appeared in CodeWalker's original project version that didn't allow ships to be placed on the H column, but that has been resolved some of the basic components have been made. Tasks have been broken up for some members to work on the AI feature additions while other work on the custom additions for the project. These custom additions include a loot-box system to allow players to use a different shot type during the PvP games when a loot-box has been successfully acquired by a player. Other additions include an inventory system to allow users to use multiple shot types other than standard shot as well as sound effects for PvP and PvAI gameplay.

Meeting 3 Summary

Date: 10/9/2019

Location: Eaton 2/Fishbowl

All members present

Board class has been given some code additions to inform the players how many ships are active on the player's board and which ships are active during gameplay. Complications have arisen with technology in that the use of the inherited code onto other Operating systems is slowing down some members abilities to accomplish tasks. Help will need to be given out to team members struggling with Virtual Machine complications.

Meeting 4 Summary

Date: 10/11/2019

Location: Eaton 2/Fishbowl

All members present

Executive class now has a Select Game method to allow the user to input the number of players needed for a Player versus Player game (PvP) or a Player versus AI game (PvAI). AI Class and Player Interface has been created. Board class Status Report code includes messaging to Players for ships active and sunken, but the code is reported to be functioning incorrectly. Additional code changes are being made to improve code readability.

Meeting 5 Summary

Date: 10/16/2019

Location: Eaton 2/Fishbowl

All members present

Inventory system was implemented allowing for reading and writing to text files for saving the amounts of the various shots available to the player as the shot system for use between games. Also what defined a shot was ironed out such as the removal of the "power" variable. Shuffled Array Prototype has been created and tested, need to decide whether to use array indexing or array popping to call each array value for AI Random target coordinates use for Easy and Medium Modes. AI now can randomly place ships on its board correctly.

Meeting 6 Summary

Date: 10/18/2019

Location: Eaton 2/Fishbowl

All members present

Sound Effects feature was decided to be dropped as there wouldn't be enough time to include this feature as part of this sprint. All AI modes: Easy, Medium, and Hard, have been fully written and tested, however Hard AI is producing errors that need to be resolved. Loot-box system tested and functional, Inventory system needs additional work over the weekend to become fully integrated into Team Project.

Meeting 7 Summary

Date: 10/20/2019

Location: Discord/Online

Members present: All

Final sprint to complete the game and all required documentation. Retrospective was was updated to include a works cited. Bug testing took place over these two days and most were fixed. Hard AI errors have been resolved. Loot-box and Inventory System now fully operational.

Along with the major meets, communication took place in class and in Discord.

Work Split

- **AI: Easy, Medium, Hard** - Jack McClure, Marco Borth, Rachel Elting
- **Custom Feature 1: Loot-box System** - Chase Stump & Jarod Davis
- **Custom Feature 2: Inventory system** - Chase Stump & Jarod Davis
- **Documentation** - Set-up completed by Rachel Elting, all members added proper comment formatting.
- **Git** - Repository forked from CodeWalkers' team into Team Crossover Repository. All members committed and pushed to the forked repository.
- **Existing Code Improvements** - Enhancements to CodeWalkers original code primarily done by Jack McClure, Marco Borth, and Jarod Davis.

- **Bug Finding and Testing** - Primarily playtested by Rachel Elting, Marco Borth, JackMcClure and Jarod Davis.

Challenges

- The previous team did not use pointers to simplify the player's board classes to use one 2D array instead of two 2D arrays. This caused confusion in determining how to use the previous code for the new features, but eventually the features were accomplished with better understanding of the code.
- Hard AI mode often creates errors for the program that tend to break the program sometimes but not others. These errors have been resolved, but their causes will remain a mystery.
- Code inherited used OS specific libraries, slowing initial development for members using windows and Mac OS machines. Code inherited also contained a complex use of code to achieve functionality, such as avoiding pointers to suppress memory leaks, and issues with user inputting that had to be resolved externally.

Features that didn't make it

- Initially planned to include sound effects as part of list of custom additional features, but delays in development resulted in too little time to implement this idea.

What we would have done differently

- Scheduling more in-person meetings, especially in the earlier stages of development. Communication is much more clear in person.
- Maintain communication especially with other commitments such as individual projects outside team project. With many midterms and projects due around the timelapse of the sprint, a written schedule would help communicate one's availability to work on the project at the times most convenient.