Project 4 Specifications – Derek Fritz

For this project, I plan on developing a version of the game Battleship where two players take turns guessing at the coordinates of the opponent’s hidden ships. For my implementation, it will be a single-player game which is played against an A.I. opponent. The primary interface of the game will be displayed in a GUI which will present all of the possible coordinates that you can guess at, as well as the positions of your ships. I plan on building this interface through a combination of the swing and graphics libraries.

By clicking on a specific coordinate cell, you can make your guesses. If one of the enemy’s ships is located in the cell you guess, then the cell will change its appearance to inform you that your guess was correct. If it is an empty cell, it will similarly change appearance in a way to let you know there was nothing there. After every one of your turns, the A.I. will make its turn. I plan on making the A.I. semi-adaptive so when it guesses correctly it will continue to make guesses at the cells around the cell that was correct until it successfully sinks your ship. Between “finding” your ships, it will make random guesses. There will be a counter running in the background keeping track of how many ships still live for both the player and the A.I., and once one side looses all of their ships then the game will end. In normal Battleship each player can decide where on the game-board to place their ships, but for the sake of simplicity both sides’ ship placements will be randomized every match.

I plan on working on this project alone, and my goals are to develop a better understanding coding graphic elements and creating interactive interfaces.