Alpha Testing

For our initial Alpha tests, we carried out various rounds of the game which together covered at a minimum all of the following scenarios:

1. Main Menu
    - 1.1. Rules popup
    - 1.2. Check that if you start a networking game you cannot start another game without cancelling
    - 1.3. Check that you can cancel a networking game
        - 1.3.1. Start another networking game
        - 1.3.2. Start a single player game
2. Networking
    - 2.1. Ensure connection can be made both locally and externally
    - 2.2. Manually place ships
        - 2.2.1. Attempting to place illegally (out of bounds, over another ship, etc.)
        - 2.2.2. Log output is correct
    - 2.3. Randomly place ships
        - 2.3.1. Check legality
        - 2.3.2. Check that ships can't be placed
    - 2.4. Reset after manual placement
        - 2.4.1. Partial and full boards
    - 2.5. Reset after random placement
    - 2.6. Randomly place after manually placing
    - 2.7. Click play game button
        - 2.7.1. No
            - 2.7.1.1. Everything is disabled appropriately
            - 2.7.1.2. Check that you can still reset
            - 2.7.1.3. Check that you can randomly place
        - 2.7.2. Host answers yes when client is ready
        - 2.7.3. Host answers yes when client is still placing ships
            - 2.7.3.1. Check board still disabled
    - 2.8. Play game
        - 2.8.1. Board updated properly
        - 2.8.2. Log output correct (specifically enemy guesses)
        - 2.8.3. If you win
            - 2.8.3.1. Check that you actually won (did the board update)
            - 2.8.3.2. Check for win message
            - 2.8.3.3. Check log for win message
        - 2.8.4. If opponent wins

2.8.4.1. Check that enemy actually won (did the board update)

2.8.4.2. Check for lose message

2.8.4.3. Check log for lose message

2.8.5. Play again

2.8.5.1. Check that everything is reset

2.8.5.2. Check that everything is appropriately enabled and disabled

2.8.5.3. Check that client waits for host and vice versa

3. Single Player

3.1. Manually place ships

3.1.1. Attempting to place illegally (out of bounds, over another ship, etc.)

3.1.2. Log output is correct

3.2. Randomly place ships

3.2.1. Check legality

3.2.2. Check that ships can't be placed

3.3. Reset after manual placement

3.3.1. Partial and full boards

3.4. Reset after random placement

3.5. Randomly place after manually placing

3.6. Click play game button answer no

3.6.1. Everything is disabled appropriately

3.6.2. Check that you can still reset

3.6.3. Check that you can randomly place

3.7. Play game

3.7.1. Board updated properly

3.7.2. Log output correct (specifically enemy guesses)

3.7.3. If you win

3.7.3.1. Check that you actually won (did the board update)

3.7.3.2. Check for win message

3.7.3.3. Check log for win message

3.7.4. If opponent wins

3.7.4.1. Check that enemy actually won (did the board update)

3.7.4.2. Check for lose message

3.7.4.3. Check log for lose message

3.7.5. Play again

3.7.5.1. Check that everything is reset

               3.7.5.2. Check that everything is appropriately enabled and disabled

Beta Testing

Various testing groups (consisting of family and friends as well as the members of group 1) were given the product along with the following instructions:

"Please use this product as you would any other online game. Test out all the features and try as many odd situations or scenarios as you would like. If you find anything that does not work how it should, or if anything you find is confusing to use, please let me know as soon as possible either via email or text message. The more detail you can give me about what went wrong the better, pictures/screenshots of anything visually wrong would be especially helpful."

As we received bugs we entered these into Trello as new cards with the descriptions that were given by the users. Based on users expressing confusion in their feedback feedback, especially at the ship placement phase, we implemented several changes and features in order to improve the user experience through more feedback and visibility throughout the game.