

### Overall User Experience:

-Intro Menu has logo at the top with options “Classic” or “Modern” (bonus: background image showing naval battle or some shit)

-After choice of Classic or Modern, user chooses to play against computer or play against someone else locally

- The game begins by user placing their own ships, map is grid of clearly defined squares. The user should be able to see all the ship options in a toolbar and drag and drop ships on the map. The user should be able to alternate from horizontal placement or vertical. User is given a confirmation message when all ships are placed.

- Then the user is shown the hidden enemies map (ya know without showing the enemy ships) and chooses where to attack by clicking on a square. If the user is playing modern version there will be a toolbar of extra weapons on the top. When the user clicks on the map it will show a red highlight on the square/s the user wants to attack and will be asked a confirmation to confirm the placement.

-The user will then be shown whether their attack hit something or not. If a miss, the square should turn to grey or if we're adventurous some splashing image to show that it hit water. If the user hits a part of the enemy's boat, the square has a red X through it. If the user hit's all parts of an enemy's boat, the full boat is then shown with X marks through it.

-If the user is playing locally, then it is the next persons turn. If playing against the computer, the user can see the computer guessing a square on the user's map and seeing if the computer hit's or not. During this phase the user should be able to see their own ships on the map.

-The user and enemy alternate plays until all ships are destroyed on either player's side. Then a menu will appear saying either "Victory" or "Defeat" with the option to play again or not. If not, it will return to the main menu.

-At any given time during the game, there should be an options button in the top left corner which gives the user the ability to exit the game.

### Graphical Items

We need the following things:

- Carrier[5 units], Battleship[4 units], Cruiser[3 units], Submarine[3 units], Destroyer[2 units]
- Standard ocean tile (without hit or miss (I guess they never miss huh?) signified)
- Hit marker that can overlayed on top of ocean tile or ship tile
- Toolbar with images for each weapon if playing Modern version
- Rotate button that alternates from horizontal to vertical placement of ships
- Logo
- Modern and classic version buttons for main menu
- Options button
- Victory and Defeat messages
- Red highlight to confirm attack
- Confirmation button
- Overall map grid for ocean (10x10) (I think the modern version should have a larger grid but that can be discussed)

- **Remember:** The them is pirates

### Processing Notes

- It will be easiest to think of the user as cycling through different “states” (i.e. Main menu state, attack state)
- Consider the map as a matrix of (let’s say) 0’s, and 1’s signify where a ship is.
- The game needs to keep track of not only the overall number of ship tiles left for each player, but also the remaining tiles left for each ship so it can reveal the ship when it is destroyed
- If the user is playing against a computer, it should be random for most things. When placing boats, it should cycle through the boats and randomly choose a spot still open when placing it. When attacking it randomly chooses tiles until it hits a ship. Then it randomly chooses a direction from the hit marker (i.e. top, bottom, left ,right) until it hits another ship tile and then it continues in that direction. (i.e. it hits another ship tile in the right direction so it continues going right). Note: if it goes in one direction and hits an empty tile before destroying a ship, it starts going in the opposite direction starting from the original hit point. When it finishes off a ship, it returns to randomly guessing on the whole map. Note: There may be instances where it hits tiles from multiple ships either from a special weapon or from two ships being placed right next to each other. In that case it will eventually finish off one ship but it still has another lead for the next ship. So instead of returning to randomly guessing after finishing off one ship, it should start working on the next one. I would say the best way to do this having an array of hit coordinates and remove coordinates from the list when a ship is complete.

### Coordination

We need a demo by **the week of May 1<sup>st</sup>**. That's not a lot of time so we need to have significant communication with each about when we need things by (give definitive dates). Figure out your own overall plan and determine what exactly you are going to need from other people and let them know as soon as possible. For the graphical side we have some wiggle room on the minute details because we can put placeholder graphics in for temporary use and still have the app run. **It is everyone's job to make sure we are always on the same page**, but I will help with coordination and scheduling. The worst thing that could happen is that it's the weekend of the 27<sup>th</sup> and 2 people try combining code and they find out they did entirely different things.

### Things to Do

We still need to flesh out the exact details and formats of all of the variables involved in the game. The best way we can do this is making everything very modular. **And please dear god comment your code and push to github whenever you change things.**

Finally, if you haven't used GitHub before, here is a video I found:

<https://www.youtube.com/watch?v=0fKg7e37bQE>

I don't know how good it is lol but I hope it helps!