Team Members:

Name

Name

Name

Kim Johnson

## What game are you going to build?

Battleship

## What rules will you implement?

We will be implementing all of the rules that are established in *How to Play*:

* One player game -vs- AI
* Two Grids
* Each ship occupies a certain number of adjacent squares on the grid, horizontally or vertically.
  + The ships cannot overlap.
  + Ship corners also cannot touch.
  + There must be at least one space between ships.
* Player 1 and AI take turns.
  + Player continues with another turn if the previous turn is a ‘hit’.
  + Play alternates on ‘missed’ shots.
* Hits and Misses are recorded on players’ boards after each shot
  + red “X” for a hit.
  + white “O” for a miss.

## How to Play

The Battleship game board instructs 1 aircraft carrier (5 squares), 1 battleship (4 squares), 2 cruisers (3 squares), 2 destroyers (2 squares) and 3 submarines (1 square).

***Battleship game goal***

Sink all the opponent’s ships by taking turns at guessing the locations of the other player’s ships on a grid.

***Set up***

Each player takes two grids. On one grid, the player arranges ships and records the shots taken by the opponent. On the other grid the player records their own shots against their opponent’s ships.

***Each player’s fleet consists of the following ships:***

* 1 x Aircraft carrier – 5 squares
* 1 x Battleship – 4 squares
* 1 x Cruiser – 3 squares
* 2 x Destroyers – 2 squares each
* 3 x Submarines – 1 square each

Each ship occupies a certain number of adjacent squares on the grid, horizontally or vertically. The ships cannot overlap (i.e., only one ship can occupy any given square in the grid). Ship corners also cannot touch. There must be at least one space between ships.

***Gaming***

During the game, the players take turns in taking a shot at the opponent, by calling out the coordinates of a square (example: H4). The game responds with “hit” if it hits a ship or “miss” if it misses. If the player hits the ship, that player gets another turn. If it’s a miss, it is the other players (computer’s) turn.

During the game, the player’s and opponent’s shots are recorded as a red “X” for a hit and a white “O” for a miss. When every square of a ship is hit, that ship is considered “sunk” (again, each team has 5 ships on their grid).

Game play ends when all ships are sunk. Player who sinks all of opponent’s ships is the winner.

Summary of the Final Product and Design: We are going to implement a command line Battleship game that will be turn based. There will be simple AI that the player will play against. The user will be prompted to place their pieces on the board, and then choose a place on the board to “strike” the other team. If the strike is a “hit” then that square on the board will become a red X, the square will be a white O if it is a miss; hits and misses will be recorded on the corresponding board after each turn. The AI will take its turn…