

# Group 20 Project Instructions

## *Prerequisites to running our project:*

- A modern internet browser (like Chrome or Firefox, or in the most dire cases: Edge)
- H2 Database Console - This should be installed when running the .jar files but in case this does not work then you can download it at <http://www.h2database.com/html/download.html>, this is necessary to running our project since all data is saved in the user's machine
- Capability of running .jar files, most (if not all) shells have this capability.
- Node.js : <https://nodejs.org/en/download/>
- Angular CLI: Install using node package manager (npm install -g @angular/cli)

## *How to run our project:*

- Run jar file with `java -jar bshvps-0.0.1.jar`
- In a browser, navigate to `localhost:8080/`

## *Features of the App*

### **Summary**

### **Rules of the game**

#### Original Rules of Battleship

Each player has their own 10 X 10 grid, and has five ships to place on their grid.

The five ships are:

- Carrier, with five squares
- Battleship, with four squares
- Cruiser, with three squares
- Submarine, with three squares
- Destroyer, with two squares

On their turn, each player chooses a position on their opponent's board to make an attack.

- If this chosen space is occupied by a ship, that ship is considered "hit," and if every square a ship occupies is hit, then ship is considered "sunk" and out of the game.
- If there is no ship in that space, then that is considered a "miss".
- A player only has one action per turn.

This pattern repeats until all of an opponent's ships are sunk

#### Special rules we've added

Instead of attacking, users can choose to move one of their ships, however:

- A ship that is hit cannot move
- A ship can only move forward/backward in the direction it is oriented (i.e. horizontal/vertical, no turning).
- If a player attempts to move a ship that cannot move or attempts to move them into an invalid space, the ship does not move and the player's turn is wasted

#### Multiple Bots

The player can choose to play against up to 3 bots instead of the traditional one-on-one game.

- All bots will have the same level AI
- The bots will also try to attack each other
- Once all of a bots' ships are sunk, that bot is out and no longer can make any moves
- The game ends when the user is eliminated or when all other opponents have been eliminated

#### Other Features

- Statistics page: users can see their previous game history listed in a convenient table
- Dark Theme: users can forgo the default color scheme in favor of the dark theme, which changes most of the styles on each page into darker colors
- Timer: users can choose to add a timer to their game while they play