

Battleship Legends Scenario 2

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Battleship Legends is based on the popular board game *Battleship*. The board game revolves around the idea of 2 players competing with each other, using strategy and information gathering to find where their enemy ships are placed. The winner is whoever destroys all the opponent's ships first. Battleship Legends takes this a step further and brings in the ability for more than just two players to compete against each other in this reimagination of a classic board game.

A key feature for this scenario is the UI which allows the player to visualize the board and gather information about the player's own board and the opponent's board. Another key feature is the implementation of the board at the backend. Having the board setup will allow us to use the board to place ships and attack in the future releases.

As of the First Scenario, we have successfully implemented the foundation of the game in its Data Structure, that holds all the information about each instance of a Player's Board. The front end has been properly implemented to work the backend, calling Class methods to modify boards of each player/client instance. The player is able to place their ships onto a board and proceed to the battle scene, but no combat has actually been implemented.

Scenario "Battle At Sea"

The player starts by entering the join lobby page when they enter the URL to the game's website. The user will either create a lobby or join a lobby. The user will then choose their display name and will proceed to the game's lobby page where the game will start when there is sufficient number of players that are ready to begin.

The match will start and the player will be able to see a board; players will be able to place their own ships on the board. Once they are ready they will be able to confirm their placement of their ships and once everybody has their ships placed the match will begin.

The screen will change and players will be able to see their own boards and one other opponent's boards. Since players can only see one other board, there will be an option to switch to a different opponent's board.

Since the round has begun, players will be able to choose a coordinate to attack. The server will receive this coordinate and send a response to everybody in the lobby on whether the attack was successful or not; the server will then mark the action on everybody's board. The game will be run in a turn-based system, where the starting player will be chosen at random. Then it will continue in a loop in the order that players have joined the lobby, for example: if the first player's turn was the second player to join the lobby, the second turn will be the third player to have joined the lobby.

This release will focus on the attacking abilities of other ships as well as more communication features such as chat during the lobby and 'emotes/pre-canned chats' during gameplay. We want to clearly identify hits and misses between players and limit any logical flaws in the gameplay via test-driven development. A large feature of the game is the identity of players, so during this release the players will be able to know who is attacking by assigning different colors to each player. This is important for strategic purposes, with possible alliances or to simply know the enemy, this is made possible because the game is designed for four players.

The implementation of the turn-based gameplay loop will give a boolean value named turn to each player, whose default value is false. Once the frontend posts to the backend to begin the game, a player at random will be chosen to have the turn boolean set to true, after the player chooses a location to attack, their boolean will be set to false and the next player will be set to true and it will wrap around to cause the loop. While each player has the ability to click on an enemy board, their click will only be registered if their turn attribute is true, so the board will not be clickable for the client if it is not the client's turn. Each player will be given 5 seconds to choose an opponent to target and a coordinate on their board, if they fail to attack in the allotted time, they will be punished, or skipped (A timer will show up on the frontend and an arrow will point to whose turn it is).