Laborbericht - NVS - 5CHIF	
Name: Juri Schreib	**Datum:** 2017-01-01
HW-Beschreibung: Projektpartner Julian Palamanshofer	

Projektinformationen

Arbeitszeit

Julian Palmanshofer 17 Stundedn **Juri Schreib** 23 Stunden

Ein Großteil der Zeit waren wir damit beschäftigt, das Meteor Framework kennen zu lernen und uns mit den Best Practices vertraut zu machen.

Durchgeführte Arbeiten

Julian Palmanshofer

- Graphische Benutzeroberfläche
- Programmlogik

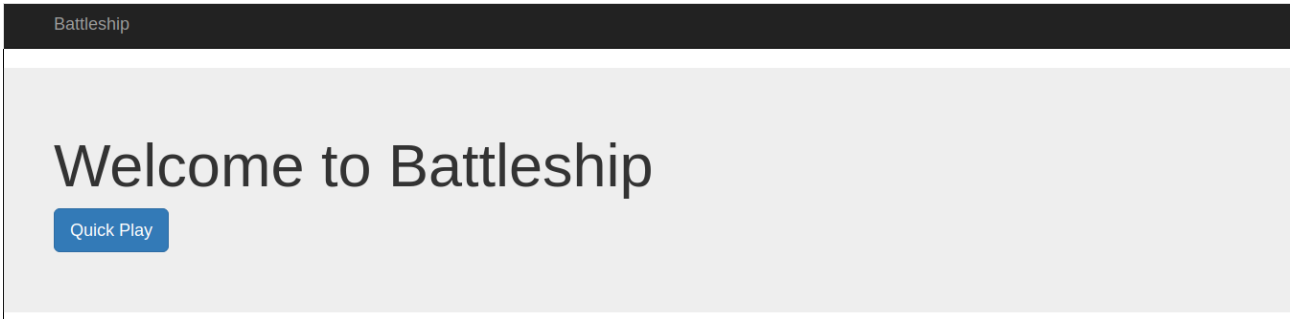
Juri Schreib

- Serverseitige Entwickung
- Programmlogik
- Client / Server SChnitstelle

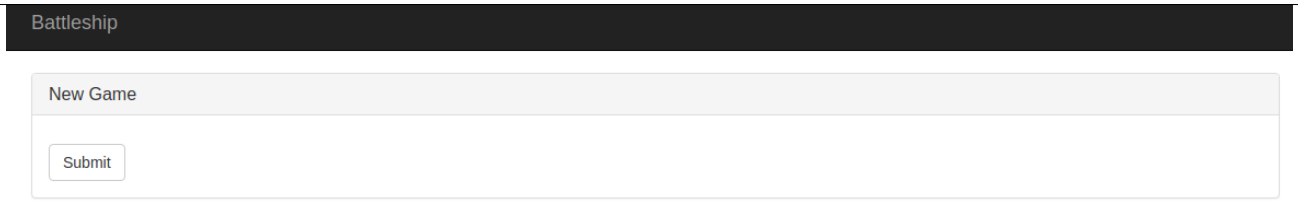
Battleship User Documentation

Creating a Game

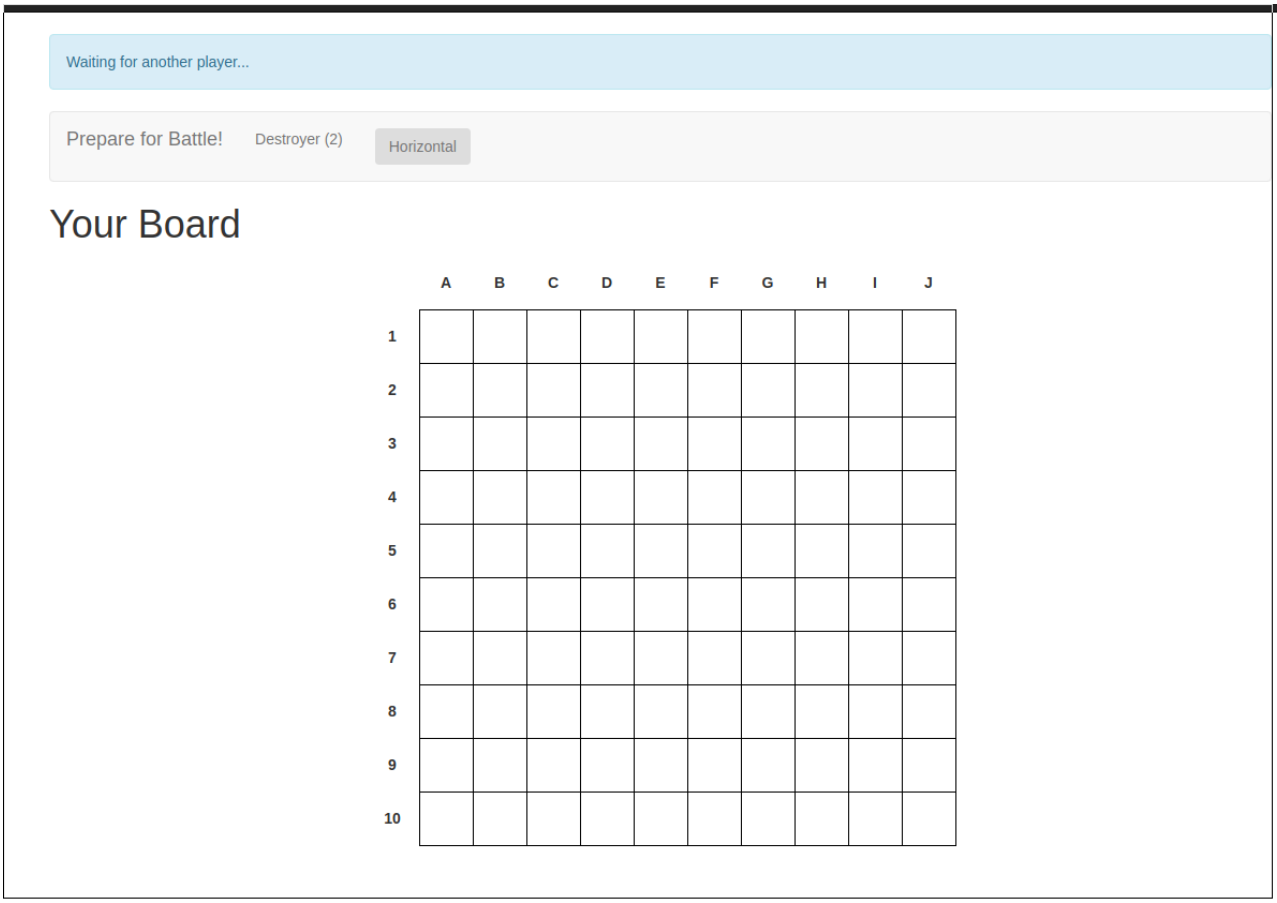
To create a new Game navigate to the Game configuration Site by clicking on**Quick Play** on the Homepage.



In the current Version of Battleship, no game configuration options exist. So continue by pressing the Submit button



You will be redirected to another Page that looks like this:

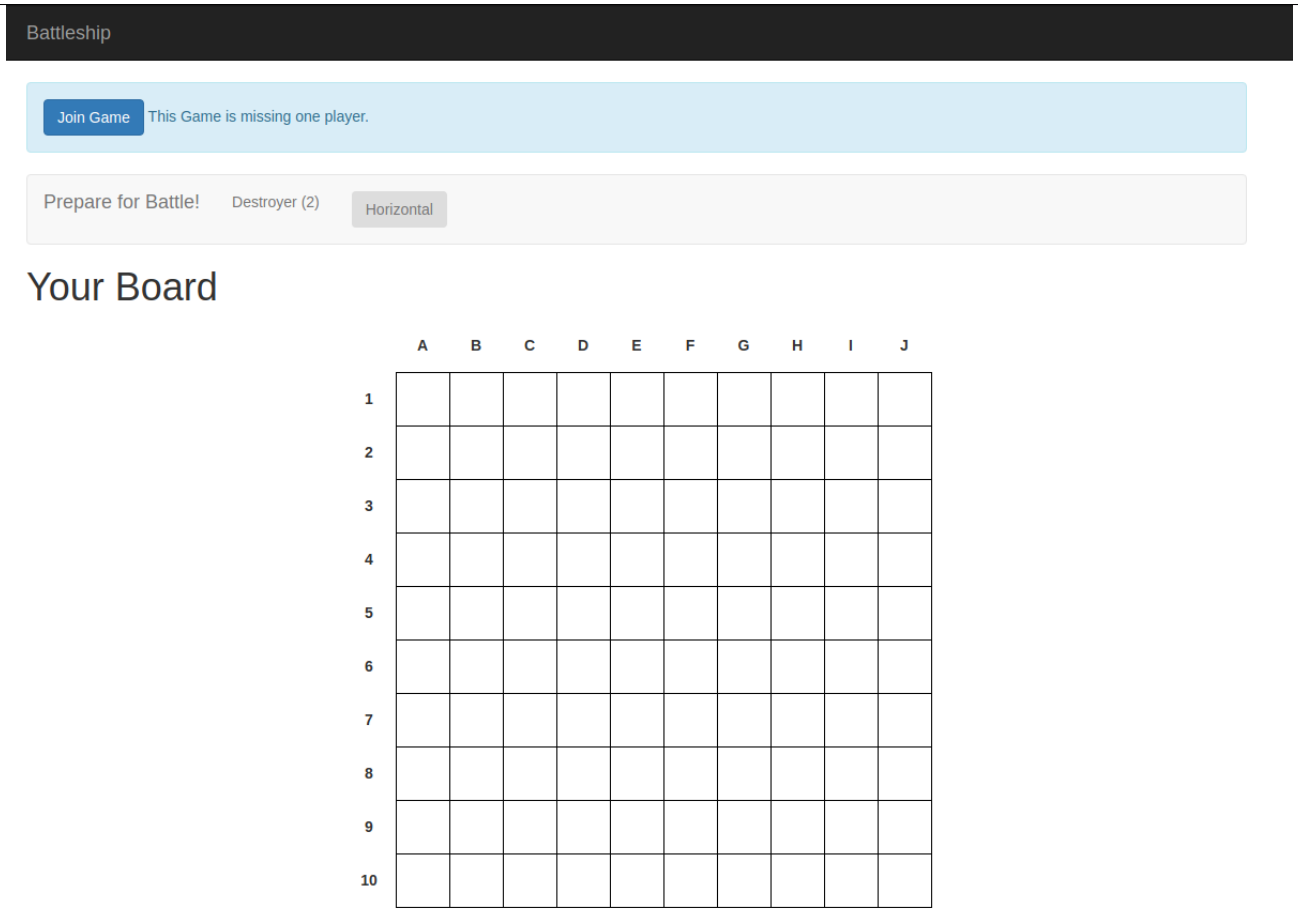


Notice that on the Top, it says that it is waiting for another Player. Look in**Joining a Game** to learn how to invite another Player.

Joining a Game

To join an existing Game, the creator has to send you the Link of the current Game by copying the URL from the Address bar.

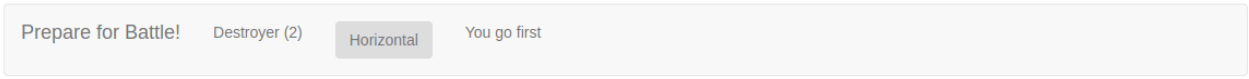
After you recieved the URL enter it into a webbrowser and open the Page. You will be greeted by a Page that looks like this:



To join the Game, click on the Blue Join Game Button on the top Left corner.

After you clicked it, the Blue Box should disappear for both players.

Both player should see a text appear inside the grey Bar, which tells them who goes first:

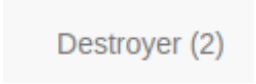


Playing the Games

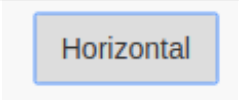
Placeing ships

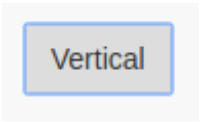
In the first phase of the Game you can place your Ships on the Gameboard.

You will see the name and the length of the Ship you place inside the Grey Bar on the Top.

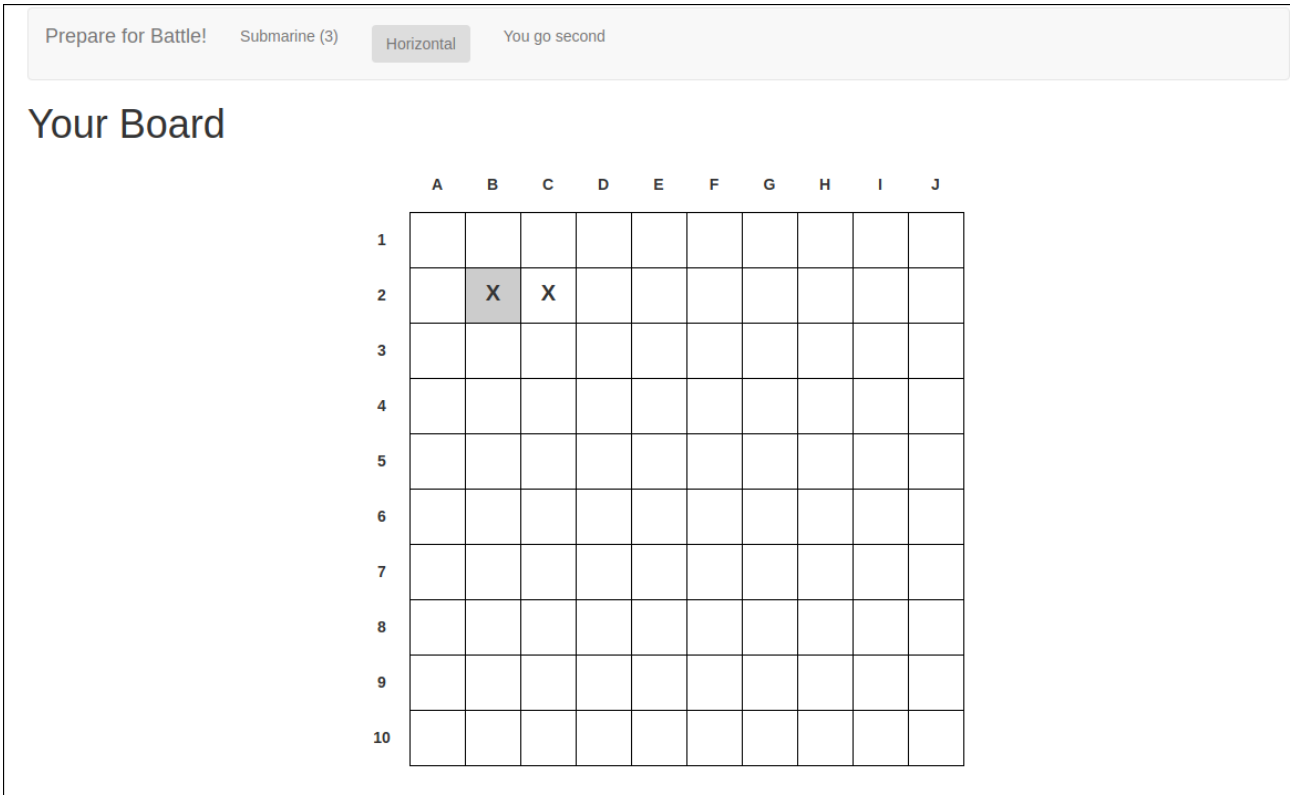


You can toggle the Rotation of the Ship by clicking on the Horial button



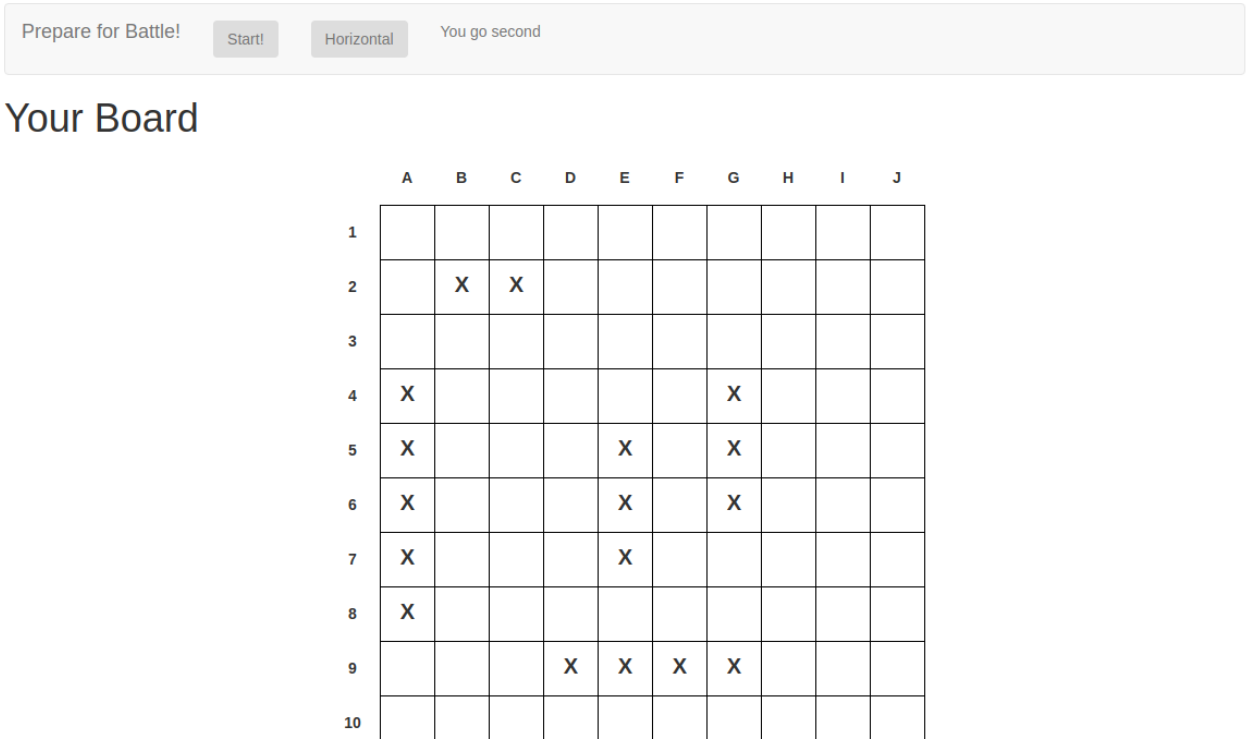


To place the Ship click on a box inside your Board. Clicking on a Box will put the top left part of the Ship on the Board.



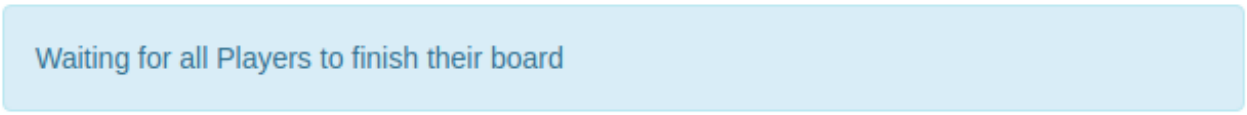
After placeing the first Ship, the Ship description inside the Grey Bar will change and **X** will appear where you set the Ship.

Continue to place all Ships in this fashion



After you placed all ships, the Ship description will change into a Start Button.

When you press Start, a blue Box will apperar.



It means that only one Player finished placing all ships and pressed the start button.

The Game will proceed after both Players clicked the Start Button.

Playing

After the Game Stars a Second board will appar. On the Top you will see a Box that indicates which turn it currently is.

Your turn

Fight! Start! Horizontal You go first

Your Board

	A	B	C	D	E	F	G	H	I	J
1										
2										
3				X	X					
4					X	X	X			
5				X	X	X	X			
6				X	X	X	X	X		
7										
8				X	X	X				
9										
10										

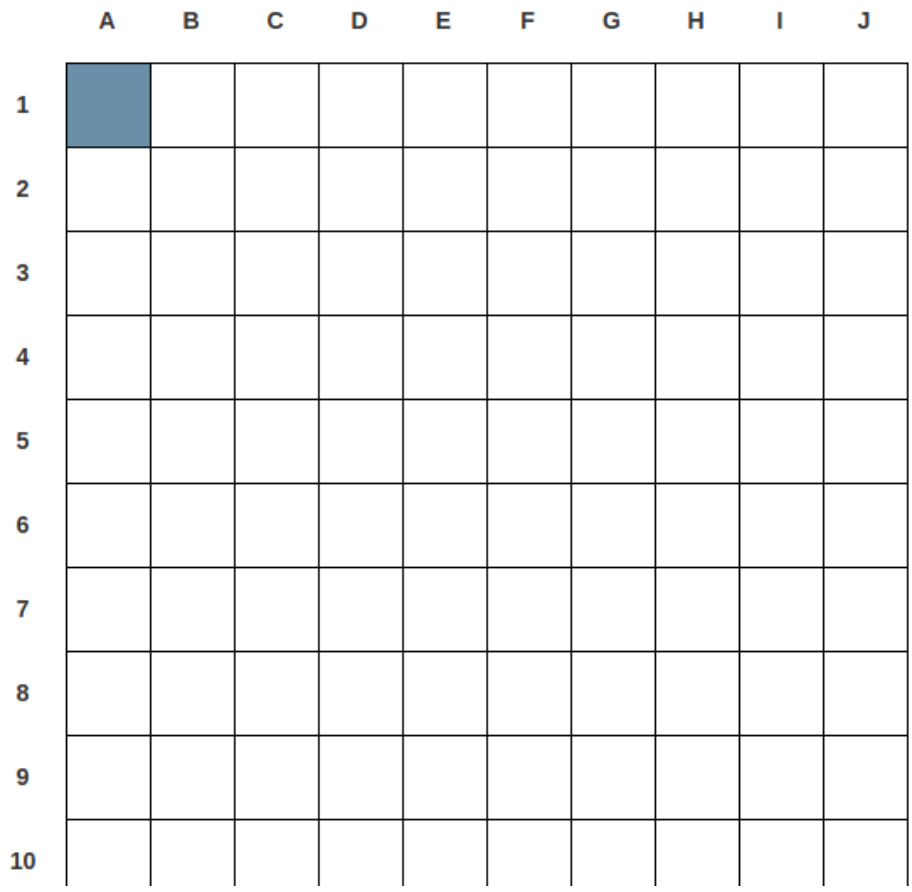
Your opponents board

	A	B	C	D	E	F	G	H	I	J
1										

When its your turn use the Bottom board to guess the locations of the opponetn Ships. If you miss a ship, the box will be colourd blue, if you hit a ship, it will be colored red.

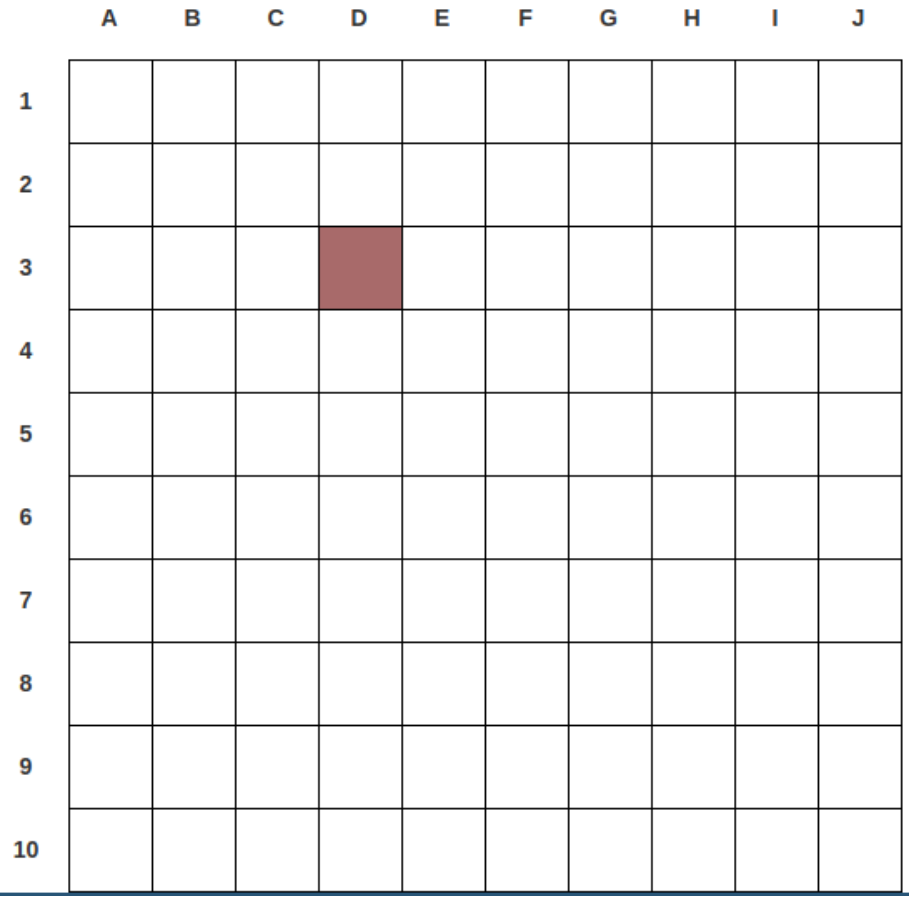
THe guesses of your opponent will be highlited in the top gameboard by grey boxes

Your opponents board



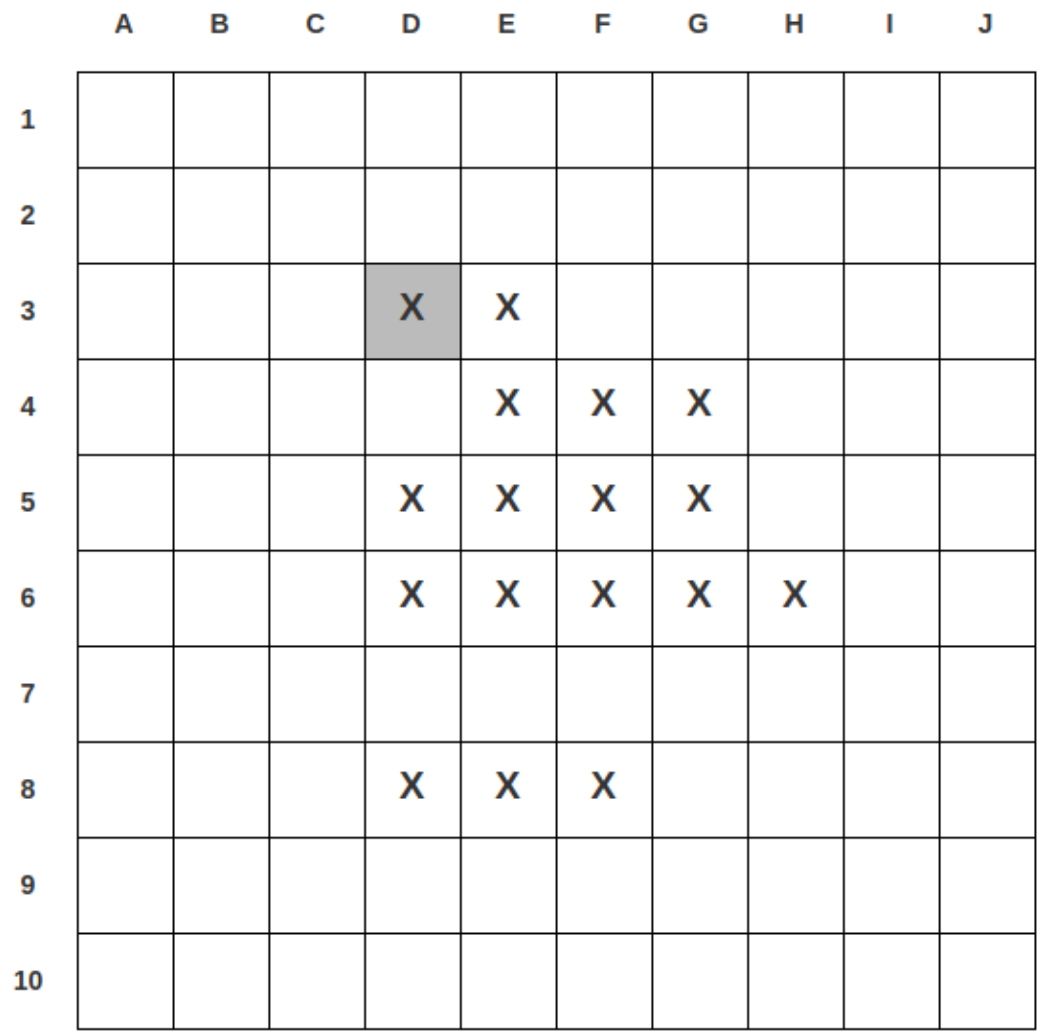
Missed Ship

Your opponents board



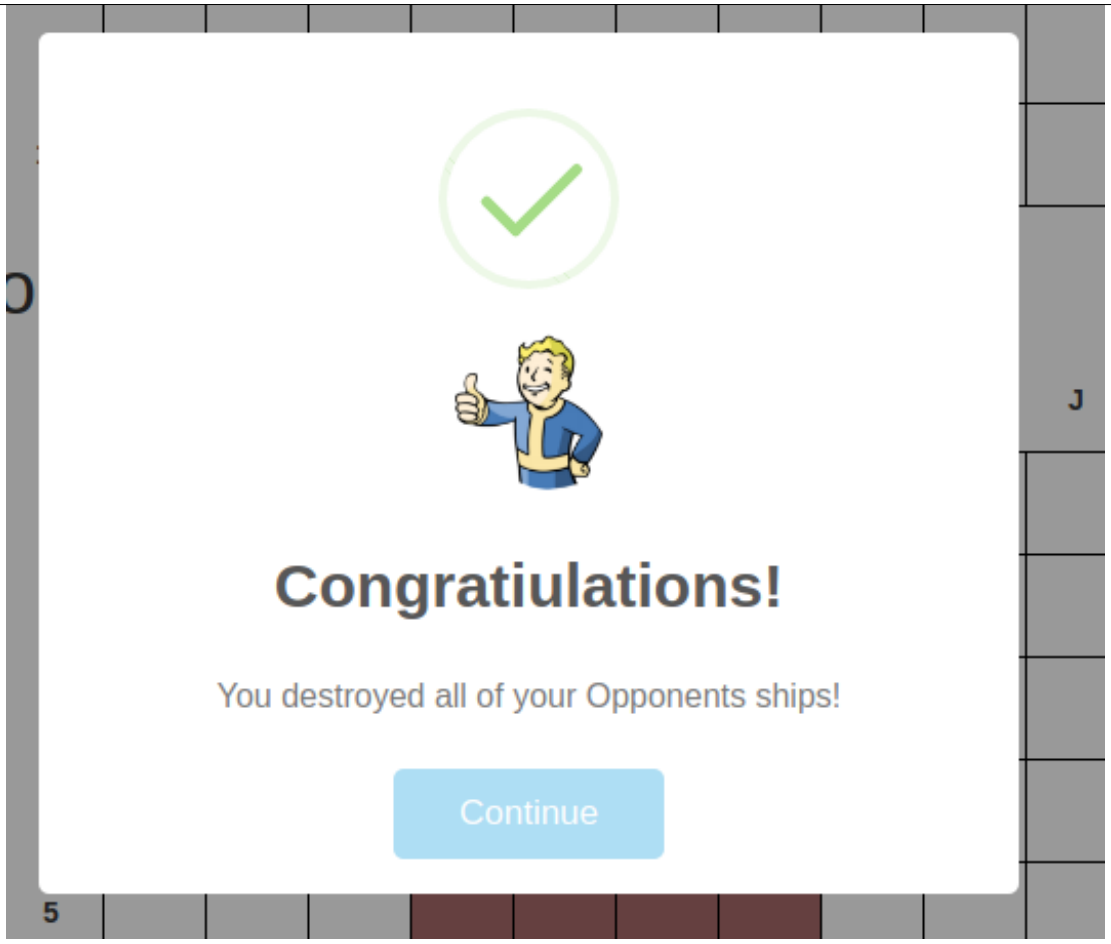
Hit Ship

Your Board



Highlighted Guesses of your opponent.

After you sunken all ships of your opponents a message will apperar



You can continue playing after that

Battleship Technical Documentation

Getting Started

Prepare for Development

The Project is written using Meteor. Follow the instructions on the Website to install Meteor on your system. After that you should be able to execute meteor in the root directory of this project to install all dependencies and get a test instance running.

Project Structure

Directory Structure

```
|
|- client
|    |- stylesheets /* Stylesheets go here */
|    |- main.js /* Import /imports/startup/client */
|
|- server
|    |- main.js /* Import /imports/startup/server */
|
|-imports
    |- api /* API: Server publications and Methods */
    |    |- [model] /* Name of the Model provided by the API */
    |    |    |- [model].js /* API definition */
```

```
|
|- startup
|    |- client
|    |    |- index.js /* Import Modules that should be run on the Client */
|    |    |- routes.js /* URL Routes declaration */
|    |
|    |- server
|         |- index.js /* Import Modules that should be run on the Server */
|
|- ui
     |- layouts /* Layout Templates */
     |    |- [layout].html /* html Blaze Template */
     |    |- [layout].js /* javascript Blaze Template */
     |
     |- pages /* Page Templates */
     |    |- [page].html /* html Blaze Template */
     |    |- [page].js /* javascript Blaze Template */
```

Application Workflow

When a Player generates a new Game a Game Object will be created inside the Database. As more and more information is collected about the Game, the Model, the furhter it will be extended. Since Meteor runs on MongoDb we don’t have to define a fixed schema and are free to do so.

Developing

User Interface

The follwing Packages are available for the client:

- https://getbootstrap.com/
- https://t4t5.github.io/sweetalert/
- https://jquery.com/

Feel free to use them to make your development ecperience easier and to keep the design consistend.

Logic

Most of the Applicaiton logic is located in the follwing Files:

- /imports/ui/pages/game.html
- /imports/ui/pages/game.js
- /imports/api/game/index,js

If you want to modify the programming logic, the best bet is to start orienting and looking in the files listed above.

Refer to the Source Code Documentation to gain more insight of the inner workings of the Project

##Source Code Documentation

Modules

Games Module

Location /imports/api/games/games.js

Exports

Games

- **Type**
- Mongo.Collection

Publications

games.findByID

Retrieve a Game Object from the Database using its ID

- **Params**
- gameID {String} the Database ID of the current Game
- **Provides**
- Games.find {function}

Methods

games.create

Adds a new Game Object to the Database

- **Params**
- game {Object} the newly gemerated game object
- **Returns**
- result {Object} The Result of the Database Query

games.findByID

Adds a new Game Object to the Database

- **Params**
- id {String} The Id of the Game Object
- **Returns**
- game {Object} game object

games.addOpponent

Adds an Opponent to the an existing Game Object

- **Params**
- gameId {String} The Id of the Game Object
- sessionId {String} The Id of the Opponents Session
- **Returns**
- result {Object} result of the Database Query

games.addBoard

Adds a Users Board with placed ships to a Game Object

- **Params**
- gameId {String} The Id of the Game Object
- sessionId {String} Id of the user session
- board {Object} The board of the user
- **Returns**
- result {Object} result of the Database Query

games.addTurn

Adds a Users Turn (trying to hit an opponents ship) to a Game Object

- **Params**
- gameId {String} The Id of the Game Object
- sessionId {String} Id of the user session
- turn {Object} The turn Object of the User
- **Returns**
- result {Object} result of the Database Query

games.checkIfTurnWasHit

Cheks if a Turn hits or missed a Ship

- **Params**
- gameId {String} The Id of the Game Object
- sessionId {String} Id of the user session
- turn {Object} The turn Object of the User
- **Returns**
- result {Object} current game object. Will be null when all Ships were misse.

Templates

Game

Location /imports/ui/pages/game.js

Helpers

games

Retrieves a Game Object form the Database

Returns

- {Object} Game Model

fullLobby

Param

- game {Object} Game Model **Returns**
- {Boolean} true if the current Game has already enough Players

currentPlayer

Param

- game {Object} Game Model **Returns**
- {Boolean} true if the current User is a player in the current Game

determinedOrder

Param

- game {Object} Game Model **Returns**
- {Boolean} true if the person who is going first was already determined by the Server

order

Param

- game {Object} Game Model **Returns**
- {String} returns either ‘first’ or ‘second’ depending of the User is going first or second

spectator

Param

- game {Object} Game Model **Returns**
- {Boolean} true if the current game has enough players and the user is not a player

placeShip

Returns

- {String} Description of the next Ship that will be placed.

gameStarted

Param

- game {Object} Game Model **Returns**
- {Boolean} true if both players submmited their boards and they start to make turns

gameStartInitiated

Param

- game {Object} Game Model **Returns**
- {Boolean} true if one player submitted their board

yourtTurn

Param

- game {Object} Game Model **Returns**
- {Boolean} true if its the current players turn

Events

All Events have one event parameter

click .join-game

A new player joins the current Game

click .direction

Toggles between Horizontal and Vertical Ship orientation

click #prepareBoard .gameboard

Places a new Ship on the Players board

click .startGame

Starts the Game, by submitting each Players gameBoard to the Server

click #opponentboard.active .gameboard

executes a new TUrn of the current Player and submits it to the Database

http://nvs.schreib.at/NVS/5CHIF_Schreib_Palmanshofer_Battleship_Aktualis