PROJEKTDOKUMENTATION

BATTLESHIP - THE GAME

Course:	SWENGB
Supervisor:	Dipl.-Ing. Robert Ladstätter
Due date:	January 25th, 2018
Team Name:	Die fantastischen Vier
TeamID:	Vier
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1. INTRODUCTION

1.1 Project Definition

In our project assignment we will continue to work on our battleship codebase. We will implement new features and try to polish the application in order to reach nice looking, playable battleship simulation.

1.2 Features (Implementation)

Every team has to implement a multiplayer mode for battleship. That means that there are two players who are playing against each other. The game is round based, this means only one player is active at a time.

The team can implement their Multiplayer mode in various ways. For example:

- ► You start two instances of the application, and both instances synch themselves via probuff files. Both instances of the app have to have file access to the proto files.
- ► Another alternative is that you duplicate the battlefield for player A and player B.
- ► A third alternative would be to stay with one battlefield, but switch for every turn (one time display data for player A, then again for player B).

1.2.1 Startup / Splash Screen

On startup of your application, you should show a nice image which contains the application name.

1.2.2 Welcome screen

After starting the game, you should be displayed a menu comprising:

- ► Start a new game
- ► Show highscore
- ► Show credits

1.2.3 Credits screen

A screen where you should place information about the authors and the distribution license you've chosen.

1.2.4 Start a new game

It should be possible to start a new game after startup. The app should ask about the player names and use them thereafter. For example, each player name should be displayed in their corresponding view / region on the screen.

1.2.5 Naming of battles

Each battle gets its own name. This name is prefilled in a Textbox. The name should be randomly created from a list of base names. For example:

```
The battle of Graz
Holy fight from Eggenberg
Deadly encounter since 1908
```

1.3 Placing the ships ('Edit mode')

Somehow it has to be possible to place the ships, that it has to be possible to select the ship type and the position of the ship. A nice visual feedback for placing ships should be implemented. After placing the fleet for one player, player B should be able to do the same for his fleet.

1.4 Game Flow

After fleet positions are defined for both players, it should be possible to start the game. Game start means that player A is active, he can see where he already tried to hit the opponent's fleet (either successfully or not). When control switches back to player b, he as well can see his game state.

1.5 Displaying status

Somewhere on your screen there should be a statistic which ships are part of the game, which ship is already hit. Think about displaying graphics which represent the state of your fleet on a dedicated region of your screen. It should look like a game.

1.6 Game over

The game should be able to detect when a battleship was hit, or when a ship was sunk. If all ships were hit, the game is over, the high score screen is displayed with a new entry. The entry is sorted according to the needed moves to destroy the enemy fleet.

1.7 High score

After a battle has ended, a high score is displayed. The high score should consists of following elements:

Date	Winner	Game name	Number of moves	Replay
2017/12/20	Battleator	The song of cold	38	x

High score should be persistent, that means it should be saved to disc. On the start of the application, it can be loaded. Clicking on the 5th column should load an old game again and you can replay the game.

2. Project structure

2.1 Project team

The project team consists of four students. Each student should be aware of all code involved but it is advisable to partition the work so every team member is responsible for a different task. Our methodology is SCRUM.

- ▶Team name: die fantastischen Vier
- ▶ TeamID: Vier

STUDENT	ROLE
Arneitz Jakob	Concept, Design
Rinnhofer Thomas	Concept, Development
Ruggenthaler Benjamin	Concept, Testing
Wallner Barbara	Concept, Documentation

2.2 Time estimation

2.2.1 Design

- ▶Due date: January 14th, 2018
- ▶Costs:20h à 13€/h
- ▶Result: five screens

2.2.2 Development

- ▶Due date: January 14th, 2018
- ▶Costs: 30h à 16€/h
- ▶Result: working code

2.2.3 Testing

- ▶Due date: January 22th, 2018
- ▶Costs: 6h à 13€/h
- ▶Result: testing functionality

2.2.4 Planning

- ▶Due date: January 5th, 2018
- ▶Effort: 20h
- ▶Result: finish concept; roles; workpackages

2.2.5 Documentation

- ▶ Due date: January 14th, 2018
- ▶Effort: 10h
- ▶Result: finished documentation

2.2.6 Overview of costs

EFFORT	COSTS
Design	260,-
Development	480,-
Testing	78,-
Planning	-
Documentation	-
TOTAL	**818,-**

2.3 Planned work items

2.3.1 Work package 1

- Implementation of the first screen

2.3.2 Work package 2

- Implementation of the second screen

2.3.3 Work package 3

- Implementation of the third screen

2.3.4 Work package 4

- Implementation of the fourth screen

2.3.5 Work package 5

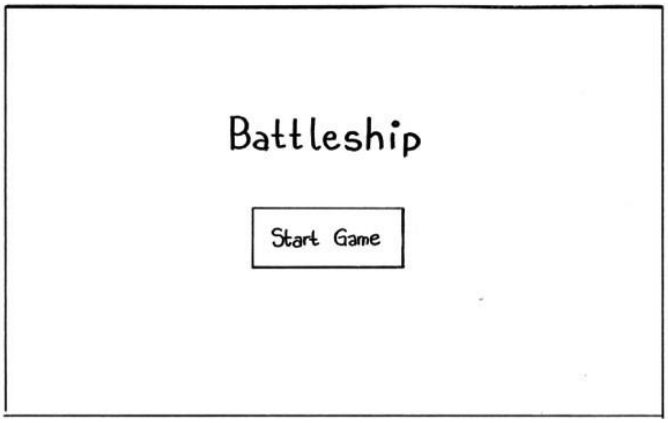
- Implementation of the fifth screen

2.3.6 Work package 6

- Start coding

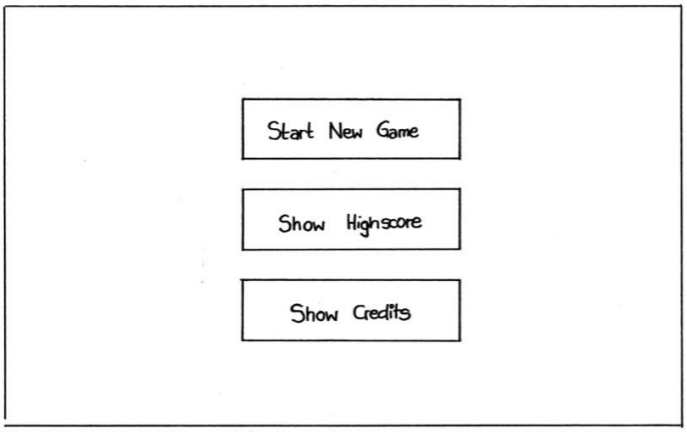
3. Mock up

If you start the game this is the first screen that appears. It contains the name of the game (Battleship) and by clicking "Start Game" the next screen appears.

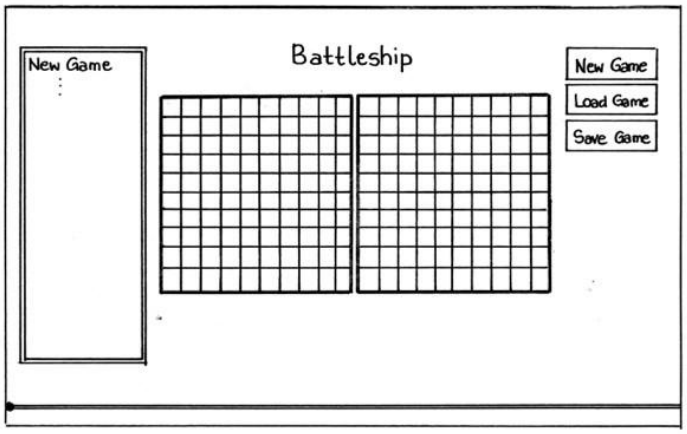


Now you can choose between three options:

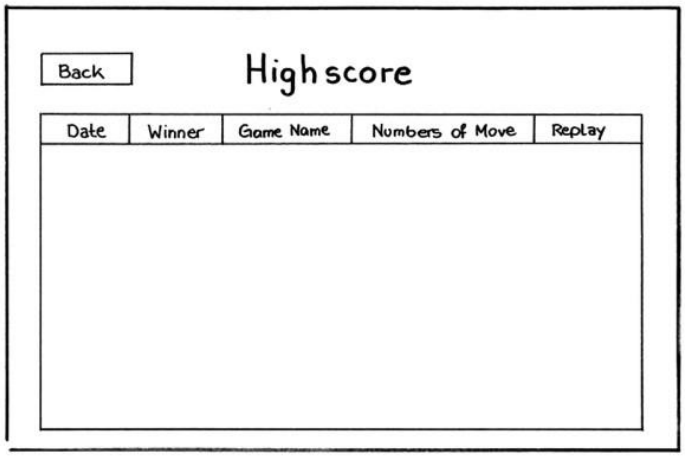
- ►Start New Game: starts a new Battleship game
- ► Show Highscore: get the highscore of your previous games
- ► Show Credits: information about the authors, sources and license



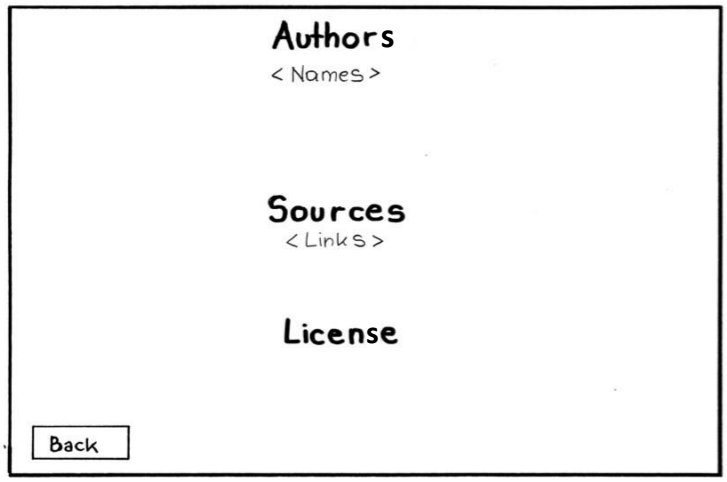
Now, you can place your ships and play the game. On the left site there is a box where every hit, click and so on is documented. On the right site there are three buttons "New Game", "Load Game" and "Save Game". These buttons are additional features to load an old game, save the current one or to play a new game. And of course, there is also the "Slider" function to have a look at previous games.



By clicking the "Save Game" button you automatically come to the Highscore screen. This screen shows details about the played game (date, winner, game name, numbers of move and replay). To get back to the screen where you can choose between playing a new game, showing the credits etc. you only have to click the "Back" button.



To get more information about the authors, the sources or the license about the game just click "show credits". Of course, there is also a "Back"-button to get back to the main menu.



Changes might occur during coding!