Game-Programming & Game-Design

“Reality is broken. Game designers can fix it.”

- Jane McGonigal -

Robert Kessler

sheepsy90@googlemail.com
+49 163 67 97 826

Abstract

During my studies I invested a lot of time into game design, and game programming. Due to the fact that there weren’t any courses at my university I did a lot of research on my own and only could join two minor courses about artificial intelligence in games and a practical course about designing a small game at the end of my studies. I list here some of my side projects to give you a small overview.

Motivation

Already in my youth I began to explore the area of games mainly focused on board games. The biggest project back than was a strategy tabletop game.

Every player had a small ship with some settlers and started out to build a settlement, gather resources and move his units in the environment. I switched to the computer as a medium once I got in touch with programming.

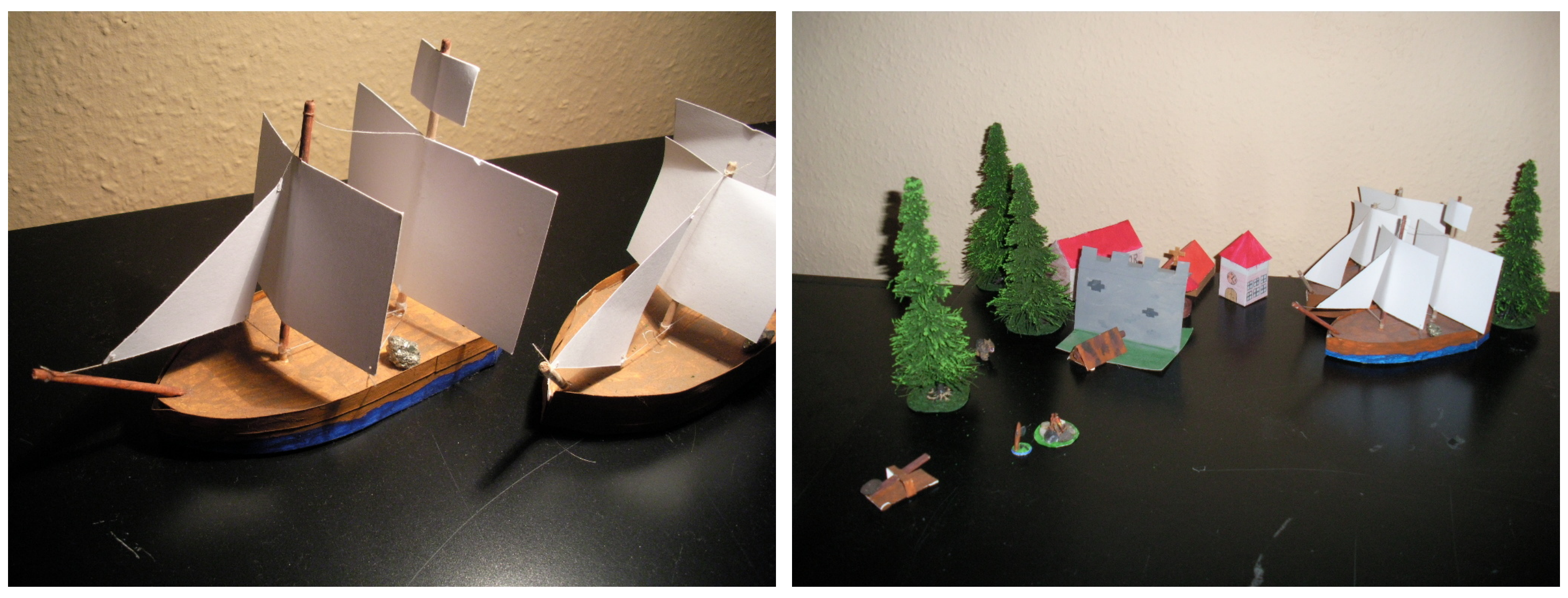
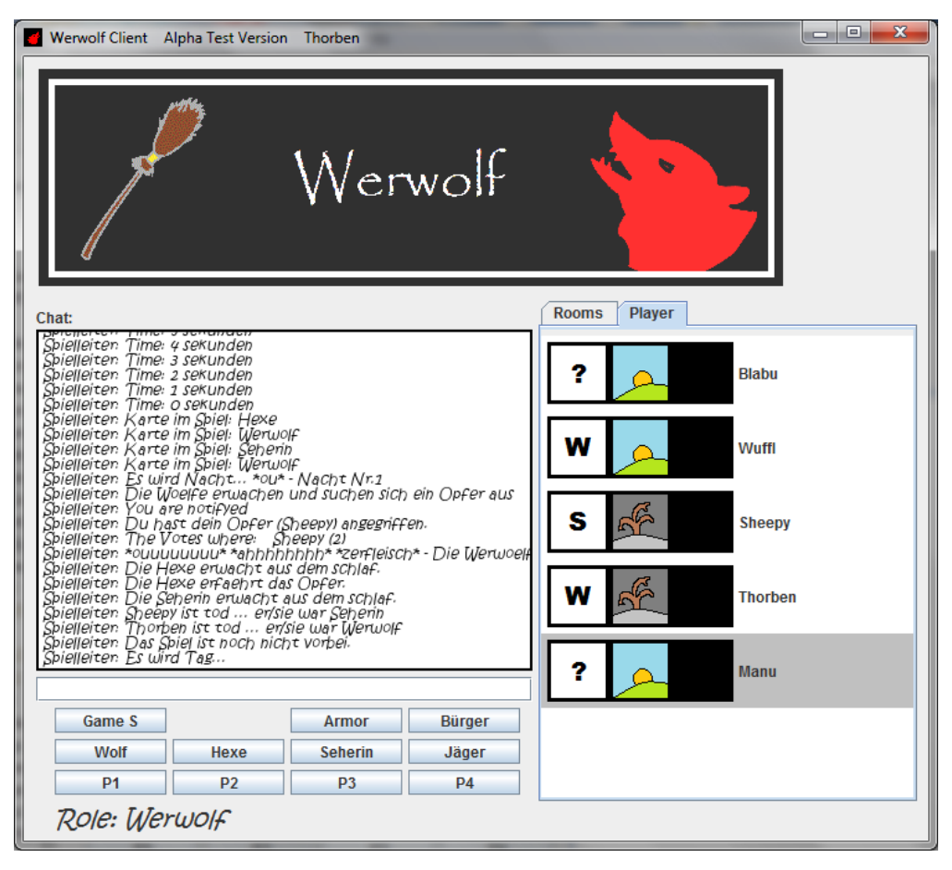


Figure 1: Some photos of the game pieces.

First Projects

In the beginning of my bachelor program I put my Java skills to the first use in the game context and wrote a small Java network application implementing a popular social group game. The game was working fine and we even got to some playing rounds but recognized very quickly that the experience wasn’t the same as the real experience. The original game relied on a lot of social interactions and checking the verbal and non verbal reactions of the participants to accusations and hypothesis. This was my main motivation to invest more time into the formal theories of game design. Mainly how to craft an experience the right way and what is necessary to get this right. This let me to several reading sources like Scott Rogers, Jane McGonigal and Jessy Shell.

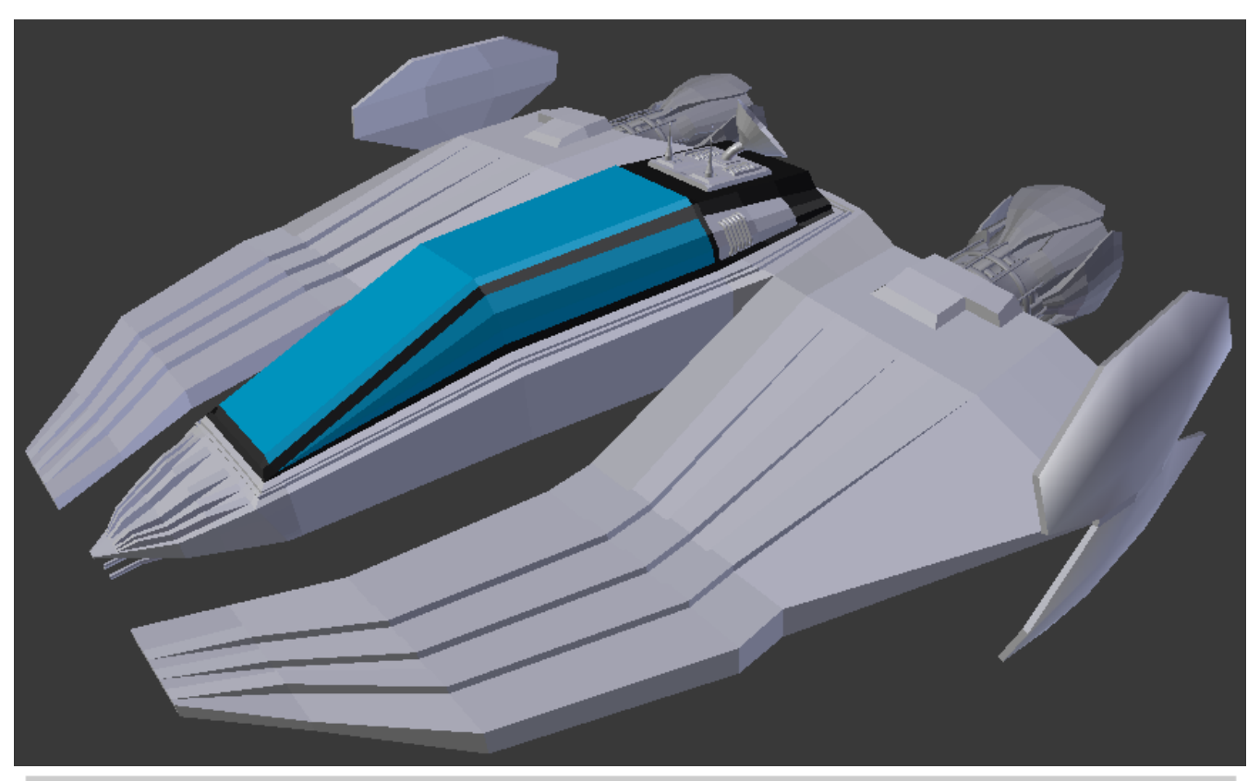


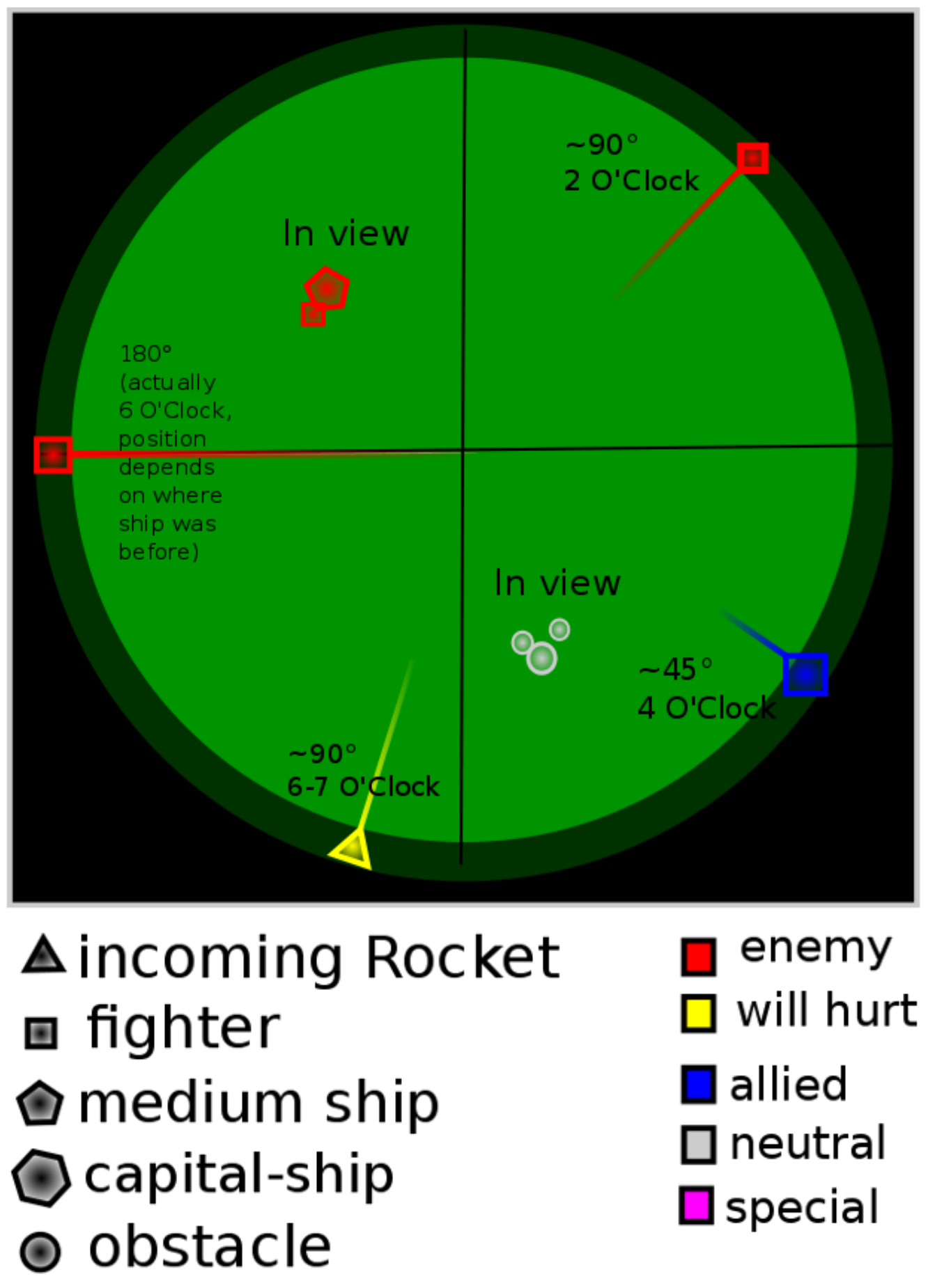
Spielleiter: Time: 4 sekunden
Spielleiter: Time: 3 sekunden
Spielleiter: Time: 2 sekunden
Spielleiter: Time: 1 sekunden
Spielleiter: Time: 0 sekunden
Spielleiter: Karte im Spiel: Hexe
Spielleiter: Karte im Spiel: Werwolf
Spielleiter: Karte im Spiel: Seherin
Spielleiter: Karte im Spiel: Werwolf
Spielleiter: Es wird Nacht... *ou* - Nacht Nr.1
Spielleiter: Die Woelfe erwachen und suchen sich ein Opfer aus
Spielleiter: You are notifyed
Spielleiter: Du hast dein Opfer (Sheepy) angegriffen.
Spielleiter: The Votes where: Sheepy (2)
Spielleiter: *ouuuuuuuu* *ahhhhhhhh* *zerfleisch* - Die Werwoelf
Spielleiter: Die Hexe erwacht aus dem schlaf.
Spielleiter: Die Hexe erfaehrt das Opfer.
Spielleiter: Die Seherin erwacht aus dem schlaf.
Spielleiter: Sheepy ist tod ... er/sie war Seherin
Spielleiter: Thorben ist tod ... er/sie war Werwolf
Spielleiter: Das Spiel ist noch nicht vorbei.
Spielleiter: Es wird Tag...

Role: Werwolf

Orbital - 3D Multiplayer

At the end of my bachelor studies me and some colleges decided to tackle a more serious project. The overall goal was to build a multiplayer 3D space ship shooter. In retrospect that was a crazy goal we could never achieve completely. Even we go thus far that we could join with several players on a server and fly around with a small space ship a synchronization issue between ships which we couldn’t resolve over several weeks let to the ending of this project. Some of the main lessons I learned from this project was 3D Modelling, a lot of knowledge in Project Management and Network Programming. But the main conclusion from this was how to important it is to structure the processes even with a small team and adapt modern development patterns.





Cellz - 2D Biological Simulation

In the later phase of my studies, during my masters, I decided that it would be good to peak into a new programming language. To surround that by a theme I choose to explore the language with a game project I was thinking about. The main feature should be that the players character - in this case a biological cell - should be always online and the player will need to write/activate/combine some sort of instruction set to protect it even when the player logs off. For this project I used C++ as a language and build the basic construct of the game with networking, a always running server and some graphics output via the SDL library.

Survive - 2D Multiplayer Puzzle Game

After all the experience that I could gather with the previous projects I decided to tackle another project with better structure and furthermore to focus on the aspects of the game design process that are my strength. This That mainly includes programming and artificial intelligence which leads to a 2D Multiplayer Puzzle Game with a sophisticated distributed backend architecture. The game details shifted during development and the current result is visible in action at my YouTube channel.