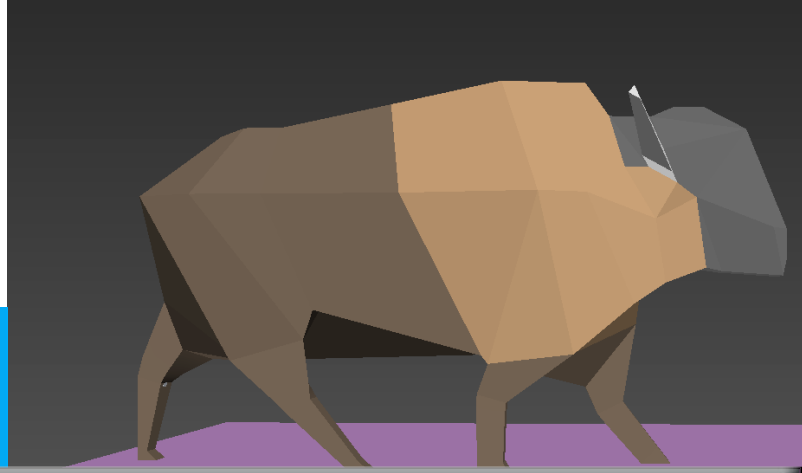
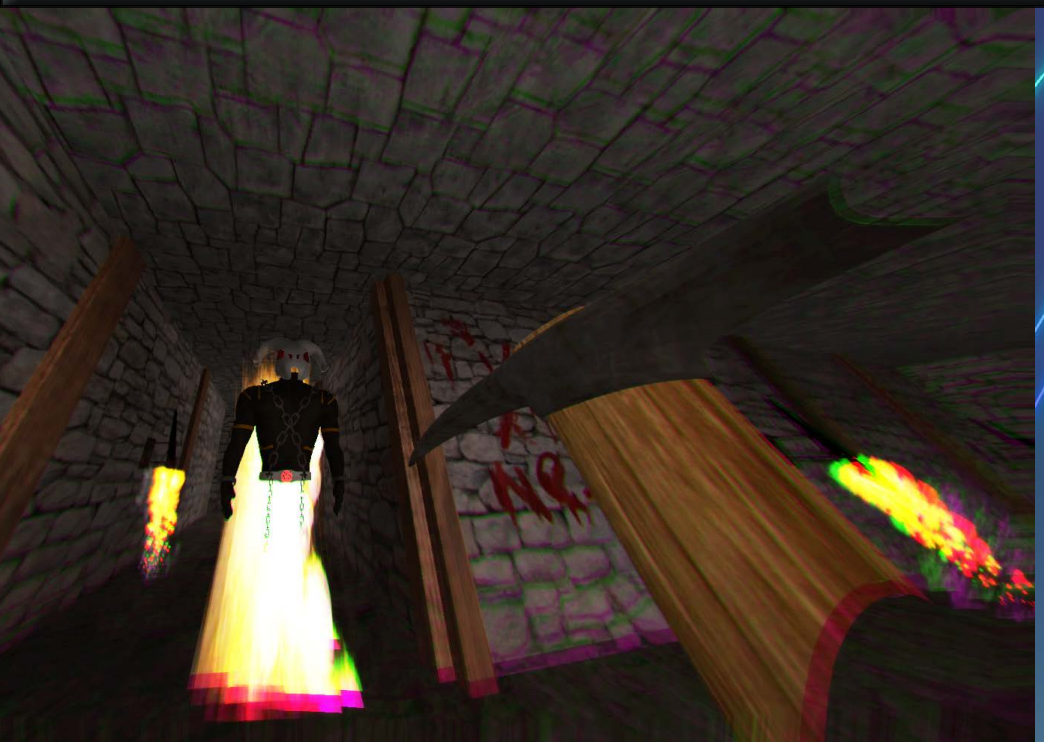
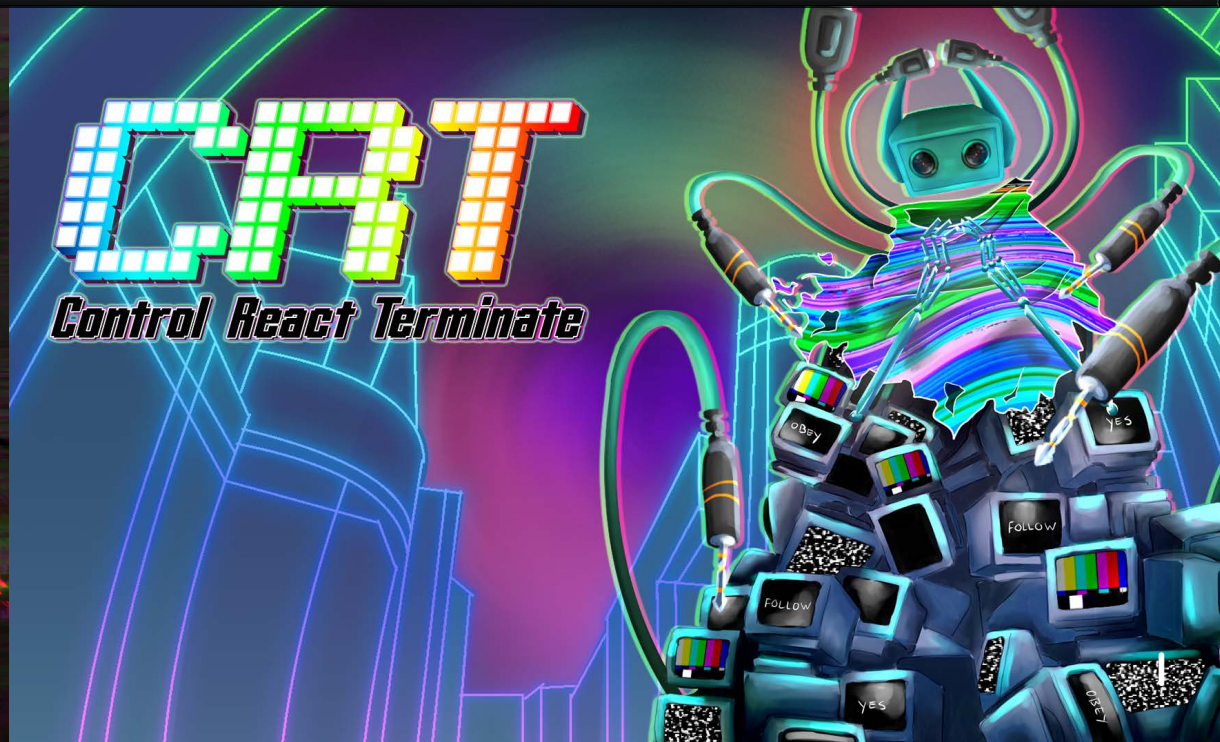


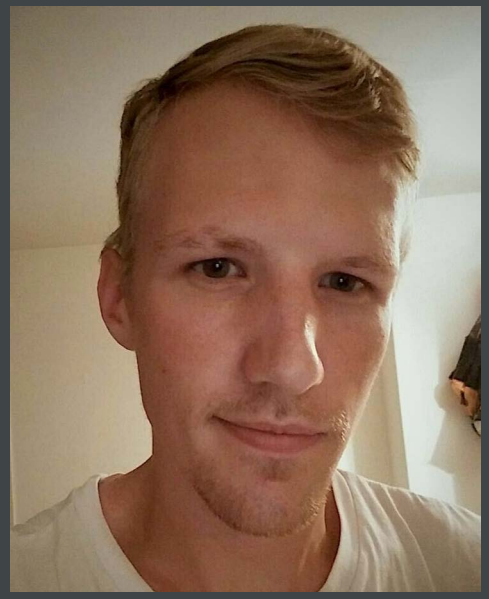
Niels Tromp

Portfolio 2013-2018





Niels Tromp
Interaction designer

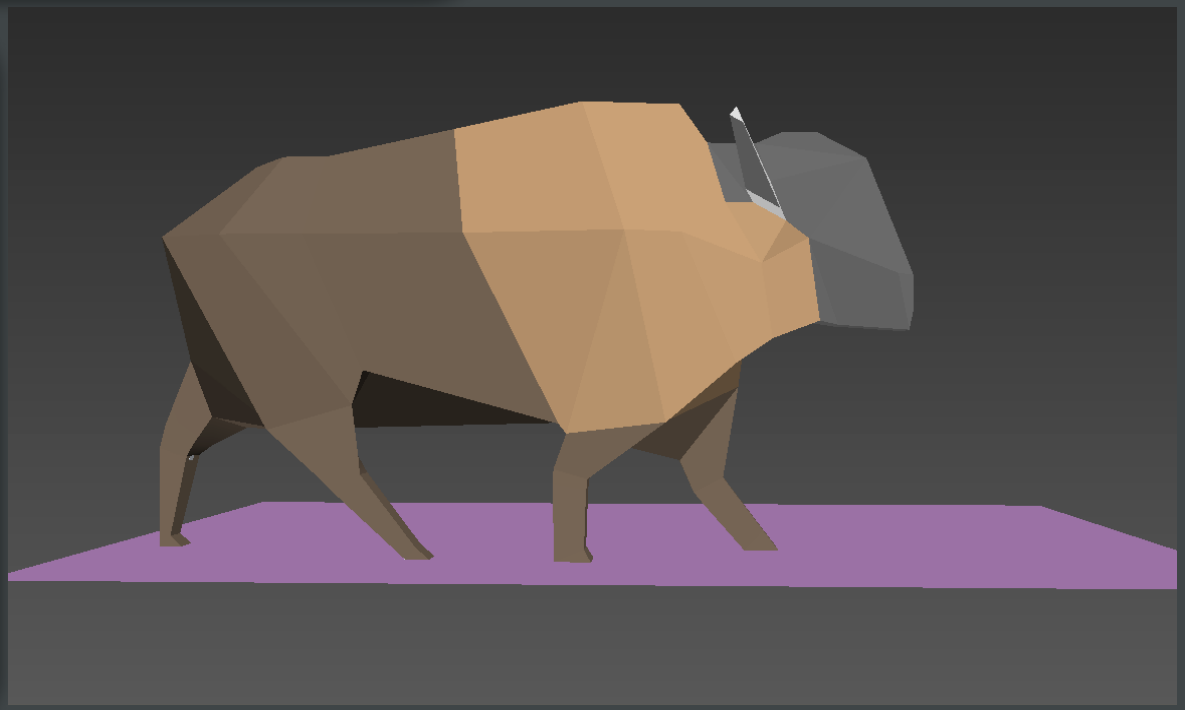


Hello reader!

I am pleased to see your interest in my portfolio in the field of Interaction design. In this document, you will read about all the projects I've contributed in during my bachelor Game Design & Development at the Hanze University of Applied Science. Each game is developed within Unity3D and per game you will read about my role, one of the UI/UX choices and a short summary of the game. The following products will be displayed:

1. FIT Prototype
2. Lightyear
3. Toy'er defence
4. Relaxo
5. XVR Cardboard
6. Sinc
7. Nolybab
8. Colony project

Followed up by some UX examples that gave the game a special touch, problems I've faced and solved, web links to trailers, downloadable- and playable builds and my Curriculum Vitae.

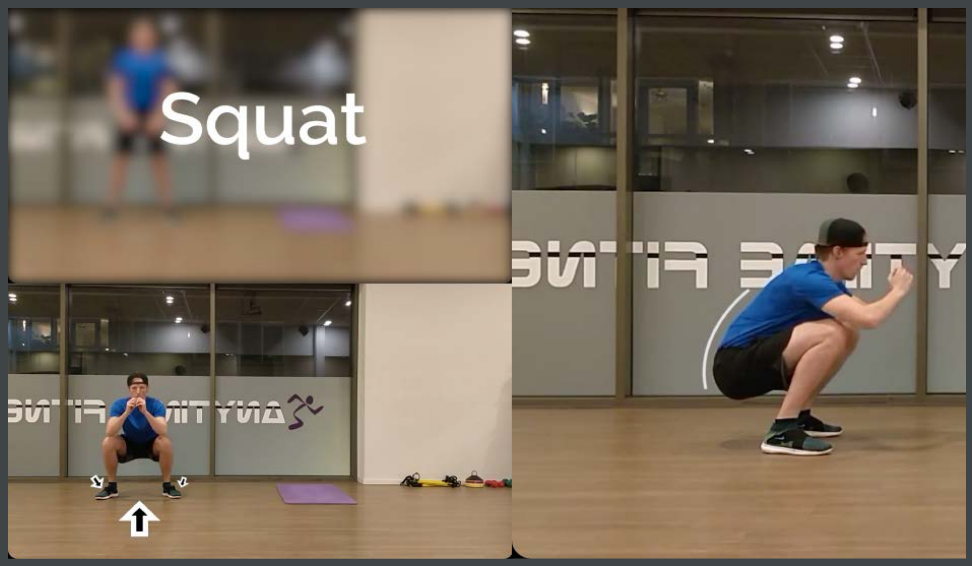


FIT Prototype 2018

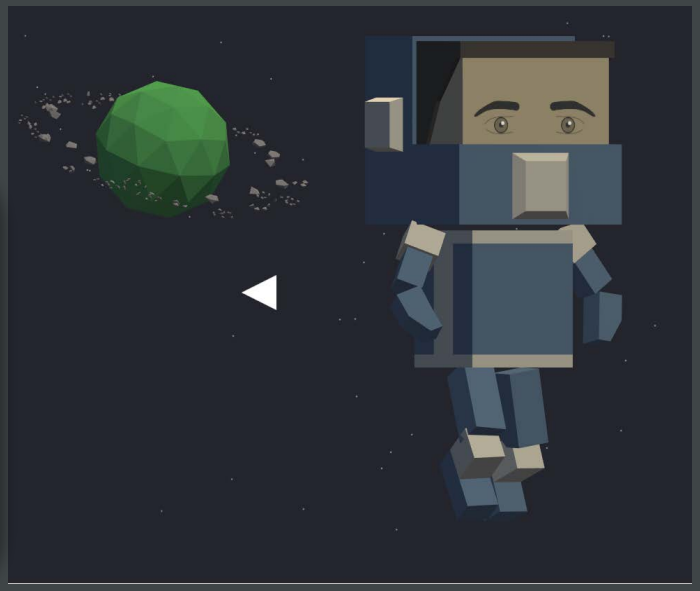
FIT prototype is the working name of the application I've developed for my thesis in the fourth year of my bachelor. The app is based on the problem of injuries during weight training, due to a lack of knowledge people can have a wrong form and execution of exercises. The application is designed based on research on fitness, injury prevention, persuasion, feedback and game design.

The app instructs new people in the world of fitness to always use the right form over the weight being lifted. This is done by instructional videos which explain how the movement is executed correctly and what a bad form looks like. This is shown on the picture beneath and has been proven as an effective way of instructing. After this explanation the user monitors the execution of the avatar and press on the body part where the form is incorrect. By pressing on the right spot an instructional voice will explain why the form is bad and how to correct it.

By Combining instructional videos and gameplay where the user plays as the mentor, the amount of information that will be retained by the user will be increased. Based on simulation, the user can directly apply the newly learned knowledge in practice. The research done on the app showed a significant difference between the form of the users before and after the usage of the app. This is also supported by the answers on the interview on the test subjects.



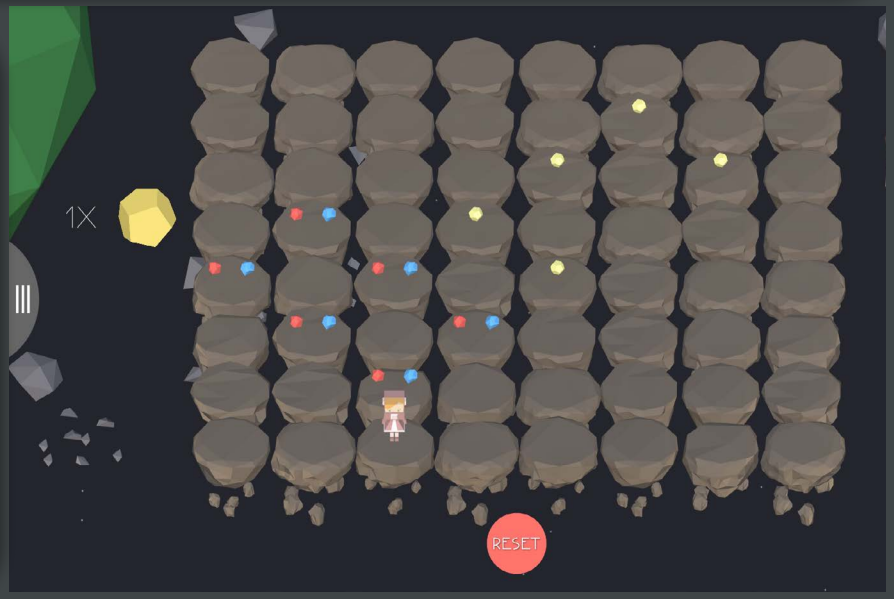
Lightyear 2017



Lightyear is an educational game created together with three fellow students during the first semester of my fourth year of the bachelor. I was responsible for the concept, creation of new features and scrum related activities. I made simple animations for new features as a reference to use as a template for the artist and developers. This way of working seemed to be very effective by finishing a fully functional prototype without disturbances during development.

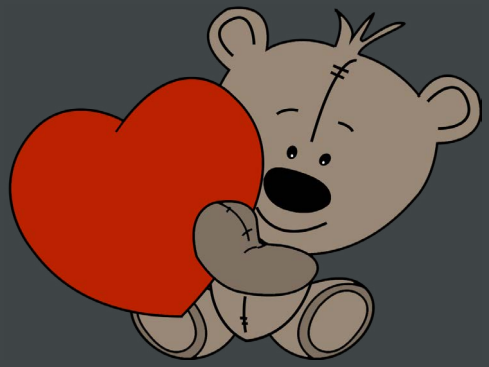
The game is a top-down grid-based puzzle game, aiming to teach players to plan ahead. To do so we reduced the interface to a minimum to focus on the experience without any distraction. With simple text and icons we made the interface as simple and understandable as possible.

The goal is to collect asteroids of the same color in rapid succession. You can do this by jumping over each asteroid individually, or draw your path along the grid. During the first levels the user will get familiar with the game mechanics and different patterns of the path. As the player advances the layout of the paths will have different patterns, more colors are added per level, the starting point has to be chosen, missing asteroids have to be placed, a complete row have to be shifted and more other mechanics for a progressive learning curve.



Toy'er defence 2017

Toy'er defense is made during a self-made game jam together with five fellow students after our fourth year of the bachelor. During three days, I was responsible for the concept and features of the game, testing, 2D asset design, finding and allocating bugs, foley and sound design.



This game is a tower defense game, as the name suggests but in an open space. You play as a child who has to move away to another city and leave your friends behind, something what you obviously don't want. The house is almost empty and your goal is to postpone the move by placing objects inside the house that the movers first have to pick up.

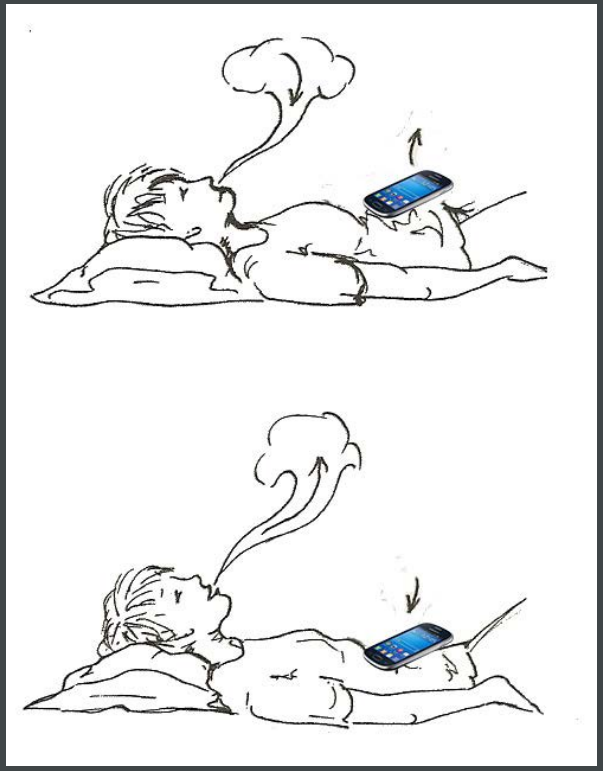
By shooting movers you collect candy, which can used to place objects to distract the movers. By shooting the movers with your nerf gun, you can protect your teddy-bear, which is the last object to complete the move. Watch out for your parents, they will follow you when you draw your nerf gun and wack it out of your hands. By this, you constantly have to move around, dodge your parents, shoot the movers and be cautious when to draw your gun.

Relaxo 2015

Relaxo is the first project I contributed in and came forth out of a case for pregnant woman. The stakeholder asked for a game or app that would help by reducing stress during the pregnancy and gave the tip by looking at the heart rate. My team consisted of three programmers(C#) and myself, at that moment also a programmer.

We started looking into reading the heart rate via a smartphone, hence the target group owns a smartphone and it can used everywhere. Available ways to read biomedical data were through a clip attached to the ear, breathing in the microphone and reading pulses through the camera and flashlight. But all those readings were difficult to program for reliability.

After we interviewed a woman about her pregnancy(which was not stressful at al), I came up with the idea to use the gyroscope for measuring the movement of the belly during the inhale and exhale. When stressed you don't want to look at a screen and just relax and lie down if possible. By using the app in a dark room, it can display colors on the ceiling and help you with breathing on the correct tempo through an audio-coach.



XVR Cardboard 2016

XVR Cardboard was developed for the company XVR Simulation during my internship, together with three interns within the third year of my bachelor. During this internship I was responsible for the game design, project management, 3D art and scrum related tasks.

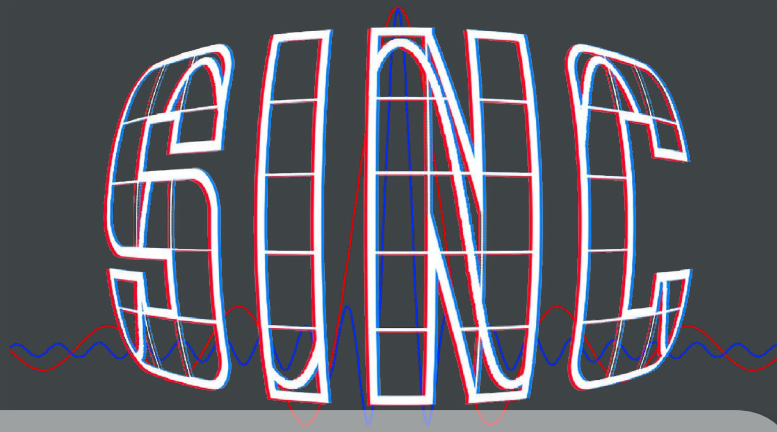
XVR simulation

The app is developed for Google Cardboard as a marketing tool for the company XVR, and this app is the second VR-project I did. The app is situated on an island where you have have to help emergency responders by playing minigames at the police, firefighters and ambulance. When developing for VR you have to avoid dislocation between movement of the person itself and what happens in-game. Therefore we chose to move the player around by teleport by gazing upon waypoints. All instructions are placed inside the world or are told by the emergency responders by lack of interface elements.

The content of the minigames is as follows:
Ambulance: Move around the area and find the casualties of an accident and escort them to the ambulance by gazing upon them.
Firefighter: Extinguish a fire in a car dealer with your sight.
Police: Escort a crook in 3th person view through a maze with your head movement.

Sinc 2017

During the Global Game Jam 2017, I've worked upon the game Sinc together with seven fellow students. This was during the second semester of my fourth year of my bachelor. During this game jam, I was responsible for the concept and support within the team for a flawless co-operation between the different disciplines.



The theme of the game jam was 'waves' and we combined the idea of line-rider and an analog sine wave. Within the game, you control the phase and frequency of the wave instead of the penguin, which is used as a character due to their natural habit of sliding on ice. Because a sine wave is analogue, we chose to use a controller and thereby be able to gradually change the phase and frequency of the wave. To add a more analogue look to the game we made the tv screen distort, seen by the elements on the top and bottom of the screen. When entering your score, you are limited to three letters like old arcade games.

The goal is to get the high score which can be done by launching the penguin into the sky by changing the phase and angle of the wave during ascend and descent of the wave. Within the sky, you can collect stars an plenets to that increase your score. By launching yourself consecutively, you will get a multiplier that will increase your score even further. Look out for the polar bears otherwise it is game over.

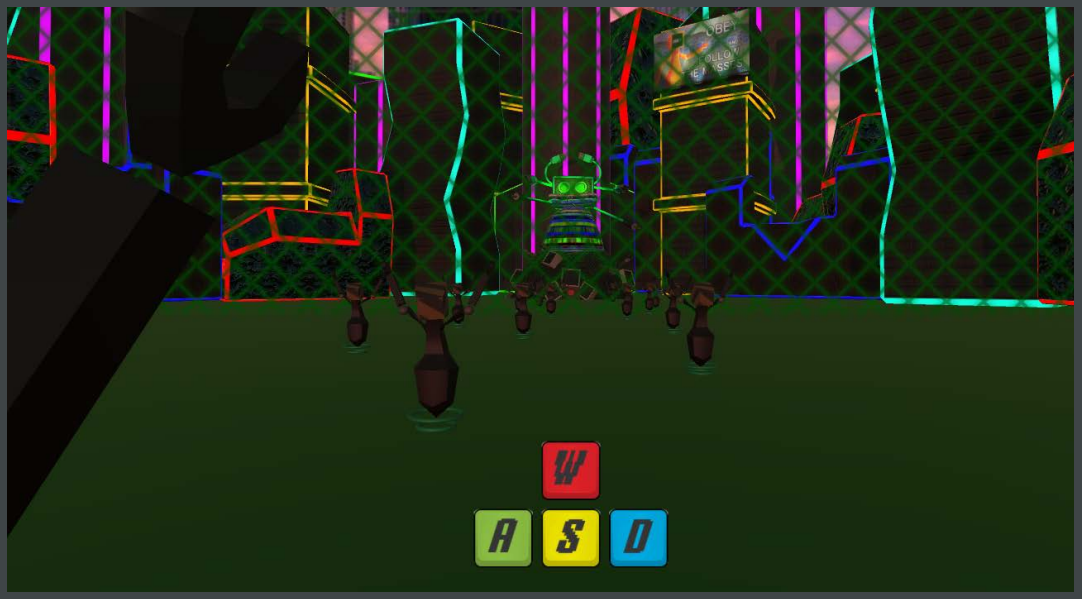
CRT 2016

During the Innogames game jam at Gamescom 2016, I worked upon the game CRT: Control, React, Terminate. My role during this game jam was game designer and 3D artist. Within these roles, I came up with the concept made it concrete and expanded it with features. I also modeled and animated the crowd-robot.

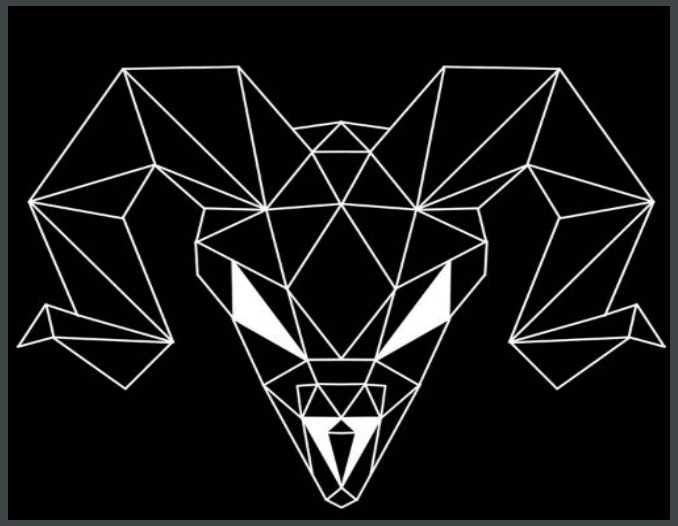
CRT
Control React Terminate

The theme of the Game jam was ‘masks’, where we interpreted it as disguising yourself as not to stand out in the crowd. The game is a first-person action game developed for Windows and Web.

The game is set on a planet inhabited by robots where the protagonist has infiltrated to stop the dictator of the planet. To do so he has to move through the crowd without being detected by the scanner send out by the dictator. to do so he has to put on a mask with the corresponding color of the scanner wave. The closer you get, the faster you have to react and terminate the evil dictator.



The inverted tower of Nolybab 2015



The Inverted Tower of Nolybab is a game I've worked upon as a Game designer and project leader. This game is developed with a team of 6, with one year of experience in Game design. Within the team, I was responsible for decisions within the concept and the creation of new features. Furthermore, I was responsible for the distribution of tasks, setting up meetings, setting deadlines and planning sprints.

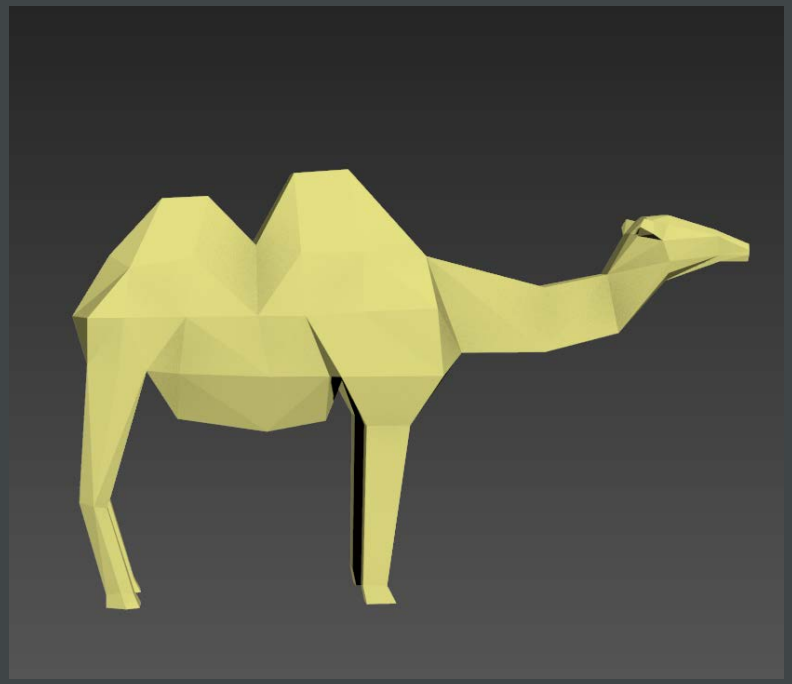
The game is a first person dungeon crawler and is developed for Windows. As input we used a controller, whereby a VR version is available to improve the immersion. In the game, you play as Thomas who is searching for his dad who has disappeared.

You stumble upon this strange tower he has written about where you have to solve the maze and reach the bottom of the inverted tower. You carry a map with you but there is no direct path, you have to break walls to get to the stairs. But there is a catch, you can look down to see the map you carry with you, but it will increase your sanity! Nolybab sees everything and will catch you off guard. Please watch out for the mysterious guard of the tower or else…

Colony project 2016

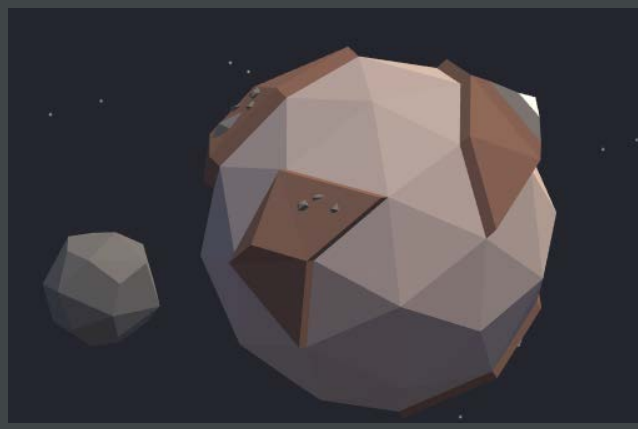
The Colony building project is a game I've worked upon during my minor, where we created a game within a multidisciplinary team of 15 people. Within this project, I have worked as the lead game designer, I was responsible for the concept, distribution of tasks, the sprintplanning and communication between the different skills.

With four other game designers, it was my role to distribute and align the work within the (game design)team. Besides the role of game design, I fulfilled the work as one of the 3D artists and animators. The developed prototype is a post-apocalypse real-time strategy game made for Windows. Within the game, the player has to build his colony through scavenging for wood, stone, food, and parts from abandoned buildings. with the presence of wild animals and other surviving tribes, there is combat involved in the game. The unique element of the concept was the realistic elements such as time to collect resources, hunger, stamina, day and night and the time management within these elements.



UX/UI Examples

Lightyear
During development I made animations how the mechanic should look like, to streamline the process from concept to actual mechanic. With this it was clear for the artist and developers what attributes were needed and what code should be developed. By having the visualisation there was a more accurate estimation how much time the new mechanic would cost and which visual elements were needed. These animations can be found on my Github.



With my first project, Relaxo I saw my interest and profound skills in user experience and interaction design. By looking at the feedback from the interviewee and a real-life scenario, I came up with an concept that fits within the case and was different from the suggested or obvious solutions. I saw that playing a game or looking at a screen wasn't the solution when being stressed, therefore I crawled into the user and came up with the idea that uses breathing and added a smartphone only for reading movement of the belly and displaying colours. This prototype was awarded for best idea within that year and is still used as example of a great and simple serious game.

UX/UI Examples

XVR
Within XVR Cardboard there were the restrictions of using only in-game interfaces and that our target audience never used VR before.

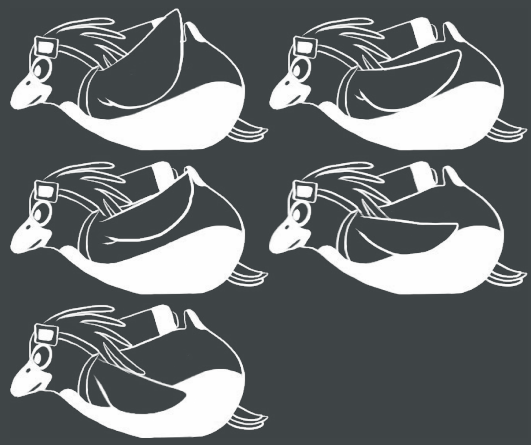
With these two considerations the game starts inside a helicopter circling around the island. First giving some time to look around and after some time instructing the player. Due to the fact of a VR game you have to rely on audio or placing instructions on a logical place inside the world. By placing instructions inside the hull of the helicopter and audio cues from the pilot, the lack of interface was solved. For this reason all the explanation is done via audio cues for the emergency responders. These instructions are given in separate scenes where the user can not teleport and by placing the origin of the sound on the emergency responder, you guide the users attention via 3D audio.

Nolybab
During my first game in VR, I stumbled upon the restriction regarding interfaces. One of the main features of maze based games is the map, therefore a map is placed at the beginning of the level and can be seen when looking down. Every level is randomly generated, therefore it is not possible to recognise every level in the game. People with poor spatial awareness had a hard time navigating around the game, for this reason I implement a map you can carry with you. Within the restriction of not using a 2D UI we let the character hold the map in its hand, so you can look down to see the map. To introduce a drawback your sanity will increase when looking at the map, which attracts Nolybab.

UX/UI Examples

Sinc

Within this project I was responsible for the concept and support inside the team. Nothing within the game was a direct deliverable by me, but I was influential for almost every aspect. By supporting and having a QA role. I made myself responsible for making the game as a whole and not some mechanics packed together, which is sometimes the case during a gamejam. By communicating the look and feel I had in mind, the game felt just right and consistent. This was achieved by having all aspects retro-style such as the highscore with only three letters, 8-bit sound and distortion of the screen like you would expect from an old screen.



I also came up with the idea to use a controller for its analogue output. With this the user could dose their input and shift the wave very precise. To display and represent the user input, two hands are incorporated in the game, which control two knobs on the TV.

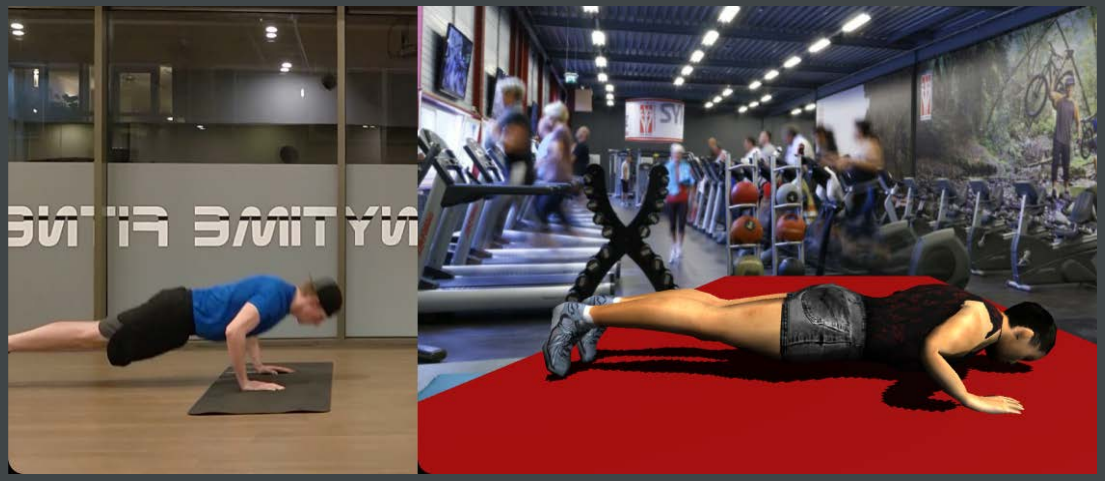
UX/UI Examples

FIT Prototype

To be sure the person uses the right execution and form during his own workouts, the explanation must be as clear as possible. By looking at the current sources of information they are mostly based on text, pictures or video, where the latter is the most clear. By showing the right execution, the person can copy and follow this.

In addition to the explenation I had to include a form of feedback to make the app work and unique. When making the user the instructor, recognition of the mistake is key. But a wrong execution is most of the time not easy to spot because the main movement looks fine. For this reason a visual overlay is incorporated in the instructional videos to show the difference between a good and bad form. In the picture beneath the instructional video and gameplay is shown.

During the gameplay there is no UI used, to reduce distraction from spotting the inconsistencies in the execution. When spotting the wrong form, again a visual overlay appears together with a voice that tells the mistake, why it is a mistake and how to prevent it.



Builds and trailers

Please have a look at the products by clicking on the following links:

My Github
Trailer Inverted tower of Nolybab
Teaser Inverted tower of Nolybab
Teaser CRT
Playable build CRT (Web)
Trailer Sinc
Playable build Sinc
My Curriculum Vitae