

Peter Marcelis - Portfolio (tl;dr version)

Pumsh's revenge (Processing - Java)

Pumsh's revenge is a game which turns the original shoot em up genre around. Instead of being 1 little ship fighting against waves of enemies to ultimately fight the big boss, you are the big boss.

As the final boss monster you fight against hordes of enemies (heroes) to stop them from destroying you. Pumsh's revenge combines the elements of the shoot em up genre and let's the player be bad guy for once.

Ranked #1 in the entire class, ranked 3rd of the entire year of Game Development.

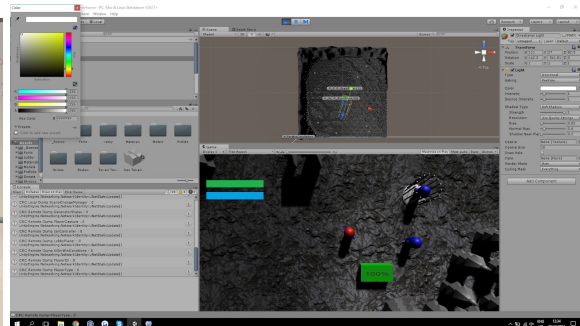
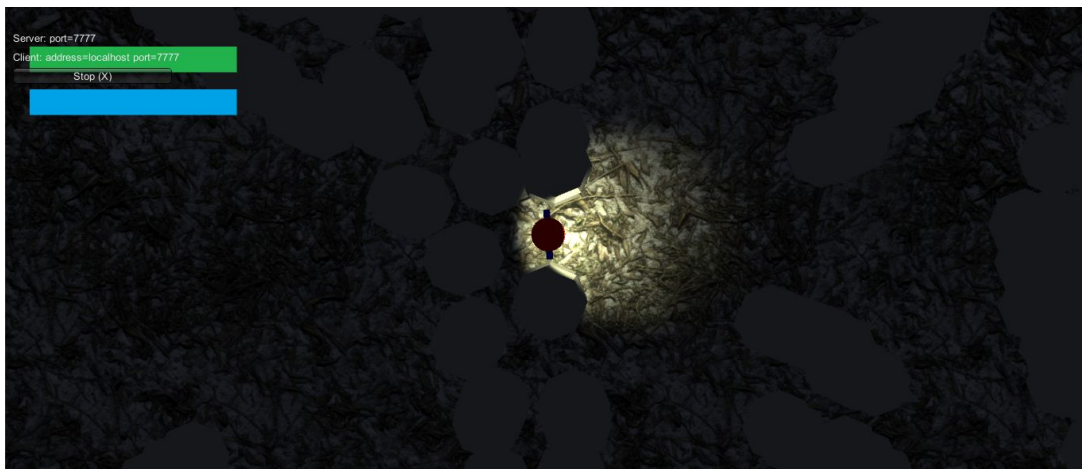
- Gameplay: Programmed the code for turning the arms, shooting, projectiles and power ups.
- Artwork: Setting up layers which the players is made up of (head, arms, armor, spaceship). Creating the player instruction manual art.



Hide 'N Horror (Unity - C#)

Hide 'N Horror was a multiplayer game in which 3 players battled against a killer who wanted to trap them in his forest. The players had to work together to turn on a couple of generators which to escape. The killer had to trap each player and made sure the others couldn't save players.

- Gameplay: Programmed most of the multiplayer functionality, player abilities, controller support and performance optimization.
- Design: Put the forest level together and the lighting.
- Playtesting: put together multiple testing sessions and reviewed the feedback.



Workshop Internet of Things (Javascript - PHP - Java)

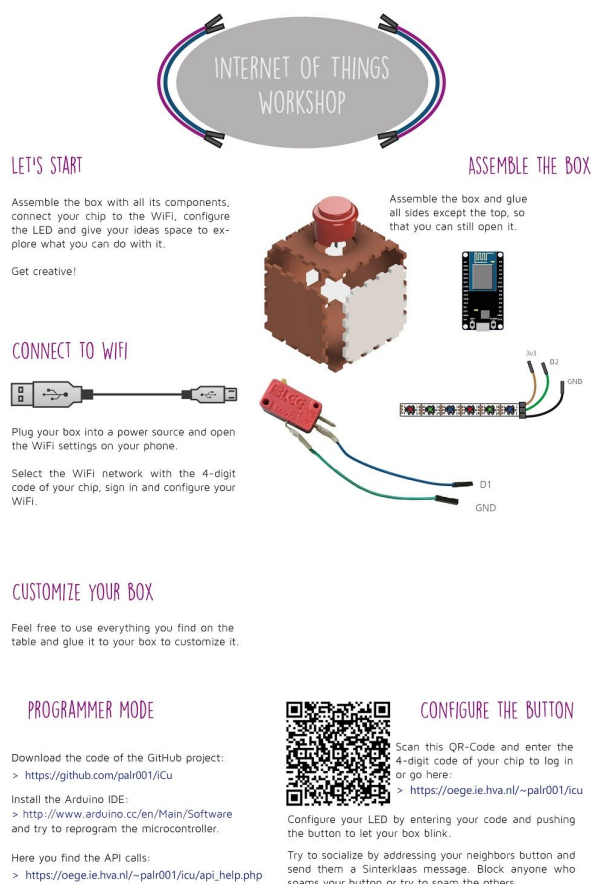
Creating a workshop for CMD students in which they learned how to program IoT devices. with these devices they would gather data and learn how to visualize this data.

The main assignment was for them to build a box, hook it up to a server and create pixel art with the rest of their classmates.

- IoT Devices: Programmed the code for the devices to connect to the web and each other.
- Web development: Programmed the database, api, and visualization of the boxes.
- Point person for the presentations and instructing the students.

Link to the code:

<https://drive.google.com/open?id=1fNq5CTG2t10fcL5MMYeNpaOpuHHRZf9mGEWlABAUBSs>



INTERNET OF THINGS WORKSHOP

LET'S START

Assemble the box with all its components, connect your chip to the WiFi, configure the LED and give your ideas space to explore what you can do with it.

Get creative!

ASSEMBLE THE BOX

Assemble the box and glue all sides except the top, so that you can still open it.

CONNECT TO WIFI

Plug your box into a power source and open the WiFi settings on your phone.

Select the WiFi network with the 4-digit code of your chip, sign in and configure your WiFi.

CUSTOMIZE YOUR BOX

Feel free to use everything you find on the table and glue it to your box to customize it.

PROGRAMMER MODE

Download the code of the GitHub project:
> <https://github.com/palr001/icu>

Install the Arduino IDE:
> <http://www.arduino.cc/en/Main/Software>
and try to reprogram the microcontroller.

Here you find the API calls:
> https://oege.ie.hva.nl/~palr001/icu/api_help.php

CONFIGURE THE BUTTON

Scan this QR-Code and enter the 4-digit code of your chip to log in or go here:
> <https://oege.ie.hva.nl/~palr001/icu>

Configure your LED by entering your code and pushing the button to let your box blink.

Try to socialize by addressing your neighbors button and send them a Sinterklaas message. Block anyone who spams your button or try to spam the others.

Internship at TinQwise Immersive (AR/VR - Unity)

During my time at TinQwise Immersive I learned how to develop apps together with professional freelancers and how to work with customer demands.

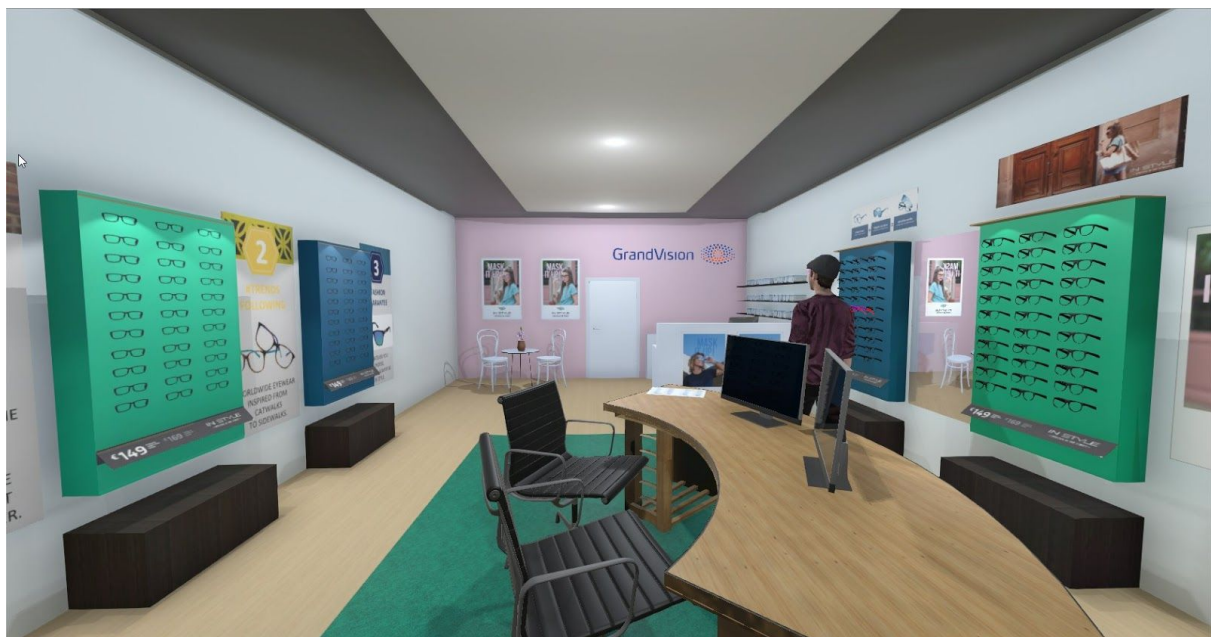
Most of the work I did there was done independently and most often I had to create my own solutions based on customer demands. Usually customers came with an idea and gave us (the developers) the freedom to work it out completely.

This resulted in a couple of applications, both mobile and pc based, which were either one of two things. The first we would be entertainment in which the app would be used as a sort of gimmick. The second one used to teach people something.

“Optical retailing branch” VR-demo:

Creating a small interactive demo in which the ‘players’ are supposed to help the customer find the right glasses.

- Interaction: programmed all of the interaction with the customer, created a rating system.
- Animated: Customer walking in, facial animations.
- Design: Room and interior.



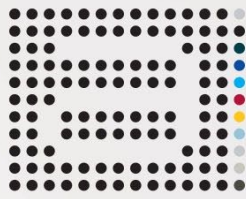


“Automotive branch” Academy:

Creating an interactive mobile AR app in which the users can click on selling points of the car. Each selling point (plus sign) has bits of information, images and a video.

- Unique Selling Points: Programmed a JSON reading system which turned all the information into USP objects.
- Performance & Optimization: Fixed stuttering and tracking lag on app.
- Lighting, reflections & textures: Created a realistic look for the car.
- Video: created a custom mobile video player.





Academy

Augmented reality auto showcase



TUTORIAL



START

OH WOW IT CAN DO THAT



Some real important information about this car feature, fact is that this feature is the best one of the car, but dont let me tell you about it, So you better click on the damn video right about now my man, im waiting, do it.

The motor features the **Btechnology** which is also implemented in the [Transmission](#) and [GearBox](#). More information about this engine is available on Audi's website.



Video description 2017



VIDEO DESCRIPTION

possibility to Blur the Background?



00:31 / 01:35

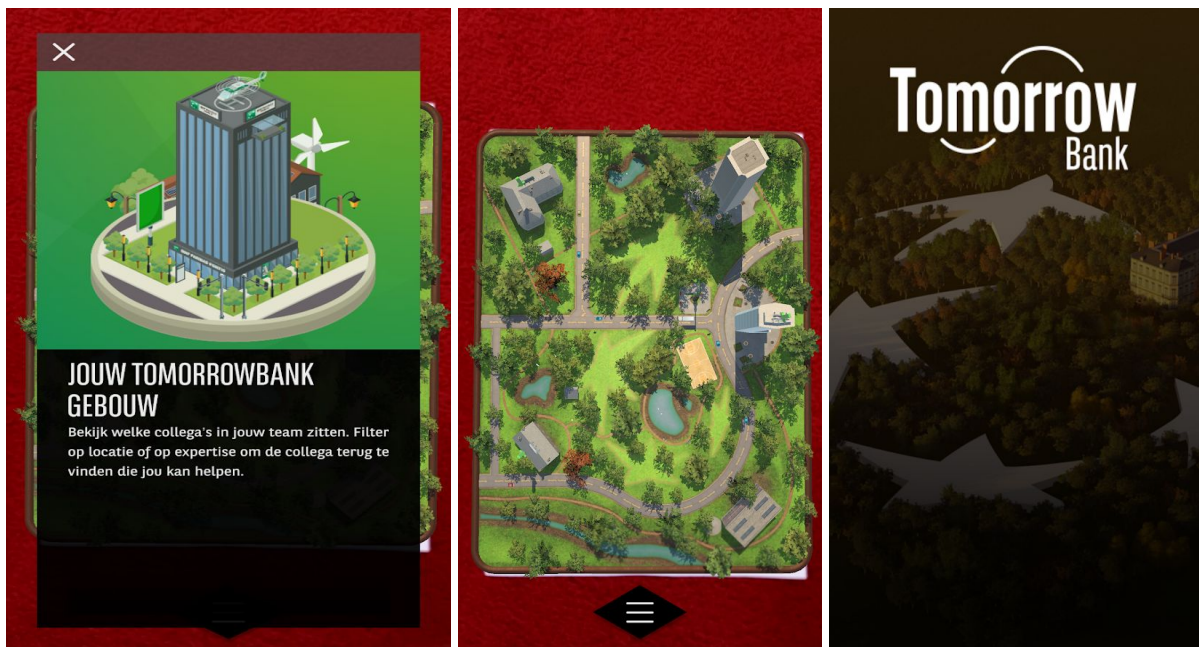


TomorrowBank:

A small living environment with moving cars, working traffic lights and a few buildings. Combined with

The app delivered information about a new website to the users by showing information bites per building about their new e-learning site.

- Information display: programmed the system for loading and showing the data for each clickable building.
- Modeling: made two buildings, the traffic lights and the cars.
- Animation: moving animals in the park.



Digital Ambassador

Surprise gift application for people who had completed a course. The application let people celebrate by showing them which badges they got and loads of fireworks. (Also a lot of pink).

- Localization: Programmed the app so that all the text would change to the corresponding language depending on which marker was scanned.
- Information display: Programmed the manager for the User Interface.
- Particles: Created a particle effect that showed stars & stripes when the gift box was opened.
- Design: Created early draft versions for the User Interface.



AR - Scan



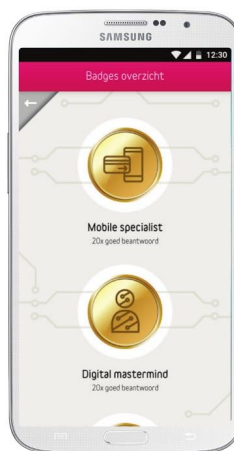
Badges overzicht



Certificaat
Digital Ambassador



AR - Scan



Badges overzicht



Certificaat
Digital Ambassador

Project Game Technology - Westworld (Irrlicht - C++)

Westworld is a tower defense game with the player participating in first person as a defender.

Westworld was made in the Irrlicht engine (a visual graphics engine) in which students had to create a game from scratch.

- Programmed: Player (movement, shooting, currency) memory management, Level loading, GameStates.
- Tools: Created a sprite tool which allowed for easy management of images with rescale, placing and transparency functionality.
- Engine: Created a game loop to resemble the Unity engine monobehaviour functionality.

Code:

<https://github.com/douiyeb001/WestWorld/tree/develop/WestWorld/WestWorld>

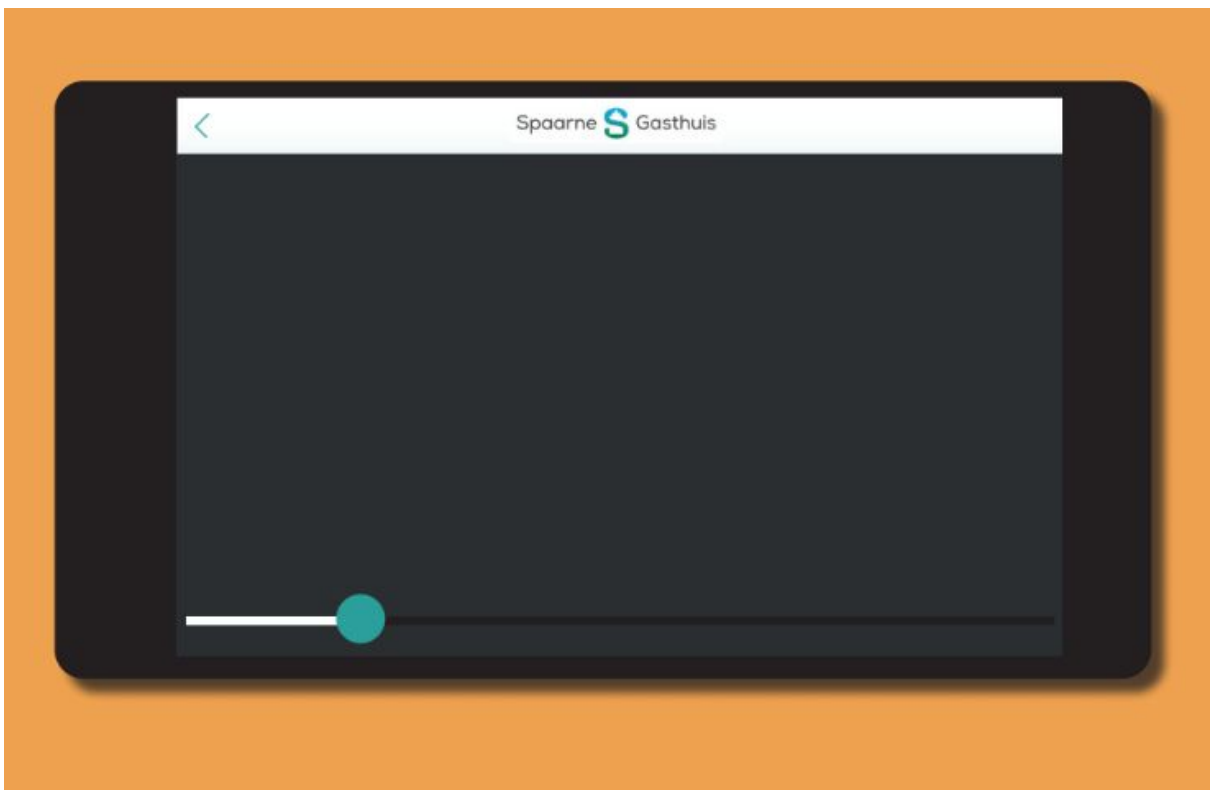
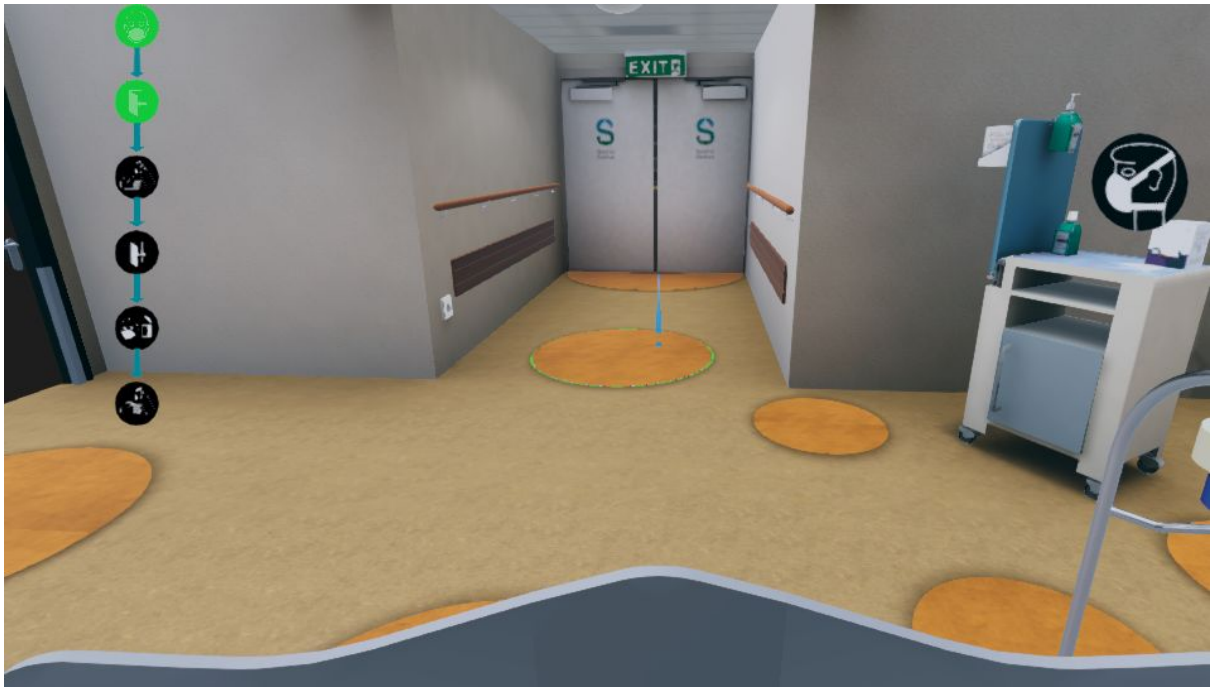


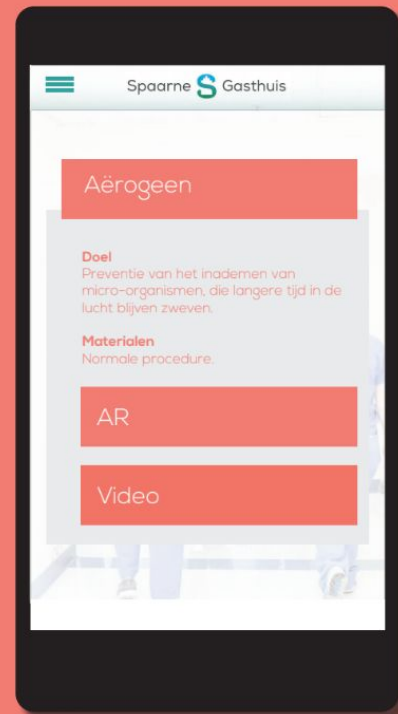
Minor Virtual & Augmented Reality (HvA - Unity)

For the minor VR & AR My team and I created a virtual reality training application for hospital staff. The training is about knowing which steps to take when dealing with patients who are confined to isolation. These isolation protocols must be followed in the right order and getting them wrong has serious consequences.

- Design: I made the main procedure room in which you do most of the isolation protocol steps.
- Lighting & Reflection: Recreated the lighting from the hospital inside the procedure level.
- Post Processing: Created the feeling of the hospital by creating Post Processing effects.
- Teleportation & Interaction: Created the teleportation system and most of the interaction with items.







Internship at Spaarne Gasthuis (VR Optimisation - Unity)

During my time at Spaarne Gasthuis, I had further developed and optimised an application I started working on during the minor Virtual & Augmented Reality at the HvA.

The work I did consisted of:

- Creating a framework for a quest system
- Creating an automated build system for the levels
- 3D-modeling
- Creating textures in Substance
- Optimisation of the application for mobile VR devices (Oculus Go)

