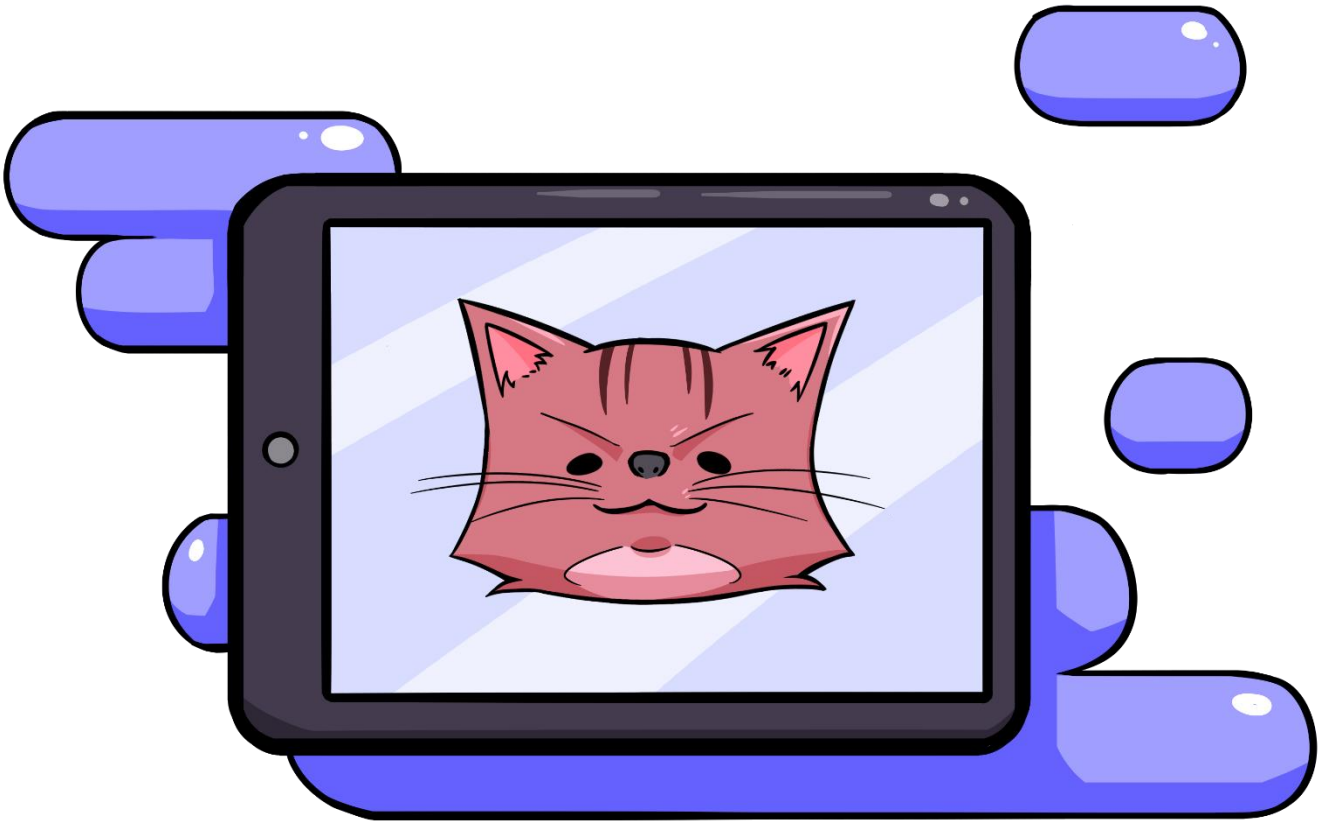
Devlog

Thomas Reijmerink 465228



Contents

Introduction

About the project

This project aims to make the current teaching materials used to introduce school children to the Wilminktheater more engaging and interactive, to help children retain theatre rules and information more effectively. Traditional materials often result in low student engagement, leading to chaos during theatre visits. To address this, the Wilminktheater seeks to develop a playful, flexible game that can be used with or without a teacher. The goal is to create a fun and educational tool that keeps children engaged, ensures they remember theatre rules, and reduces disorder during school performances. The current approach employed by the teachers and theater staff is not effective for kids to retain the information. Teachers and staff take the time before and during the school visit to explain the code of conduct to the children but due to the low engagement and the stimulation of a new environment, the information doesn't stick. This project was first initiated by Bo Hamer, who is now working for Wilminktheater as a Receptionist Front office. During her graduation internship at the Wilminktheater she developed a prototype for a 2D Point & Click game as a medium to show the theatre locations and introduce the children to the code of conduct at the theatre. Based on user tests she conducted; the prototype showed promising results and was passed on to a team for improving and developing the concept further. The team working on this project, named Ur in Trouble, is made up of six, 4th year students from the Creative Media & Game Technologies Bachelor at Saxion University of Applied Sciences in Enschede.

About me

Now a little bit more about me. Hello everyone, my name is Thomas Reijmerink and I am a 2D artist for this project. My responsibilities include creating 2D assets, so you can think of things like sketches, concept art and finalized artworks. I'll also be working on other things on the side such as small animations, making presentations, 3D modeling and some other stuff. Over the past semester I have tried my best to help and support our game to reach our goal of helping kids feel engaged and excited about the theatre. I hope you enjoy my devlog!

Concept phase

Design model

At the beginning of our project the team needed to decide on a design model that we wanted to use for the upcoming semester. Through a democratic process our team ended up choosing the **Double Diamond** model of design thinking, which you can see in figure 1.1. The nice thing about this design model is that it emphasizes a way of development that focusses on exploring many different options, to then narrow those options down with a singular or a small handful of solutions. This was our preferred method of approach during project to make sure that we would thoroughly research the target audience and iterate on our concepts. To put this way of working into a practical use, as an artist I wanted to spend the first weeks of the project on establishing a solid foundation for the visual style of the game. The main way this can be done is by empathizing with the target audience, being the kids, and then defining their needs and goals and how they reflect on our game. This is really important for me, because I need to be able to set the tone for all the visual direction. Additionally, it's important to keep in mind that the reason why the visual direction is so important is because I need to be able to enhance the entire experience of the game through art. If the art of the game doesn't look appealing, it will definitely deter our young and impressionable audience.

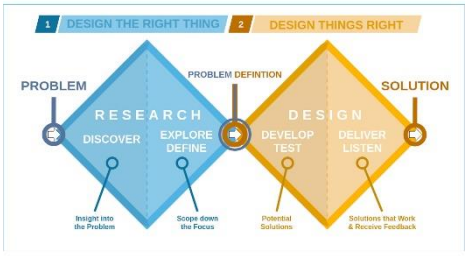


Figure 1.1 – A visualization of the Double Diamond design model

To empathize with the target audience, the first thing I wanted to figure out was what a day at the theatre would be like for the kids. Our game is meant to be a peaceful and safe environment that allows them to get familiar with the theatre. We want to introduce them into a world of fun and exciting antics, but in such a way that it is controlled yet engaging. To do this, I have to know what kind of art style appeals to our audience. I asked myself questions like: What are children of this age group interested in? How can we create something playful with the art style? What kind of art style would appeal to kids throughout the entire age range? All of these questions would lead me to the big next phase of the project.

Developing the art style

To answer these questions I had to rely predominantly on **desk research.** This way I could look into already existing media for children and draw inspiration from there. I looked for popular games and animations aimed at our demographic in the hopes of identifying common and overlapping themes in color palettes, shapes and designs. This exploration was really important in shaping the look and feel of the game. The initial research I did was broad, encompassing some of the most popular children's games like Tamagotchi and Toca Boca. Both of these games are well known amongst kids and are recognized by their simple yet engaging visuals, which I believe would resonate with well. The art style of these games is nice but together with the other artist we came to the conclusion that we wanted to push the style a bit further, since half of our demographic is a bit older. This makes everything so tricky, because the difference in interests between kids between let's say 5 and 8 is already massive. Given that our goal was to find an art style that would appeal to all ages within our target demographic, we needed to be very careful. This led us to different styles and for example led us to the work of artist Nadiia Kanishcheva, found in figure 1.2 on the previous page. Her art style plays around with stylized shapes and exaggerated features while using a wide color range without using too many overly saturated colors. Her work features softer edges, giving the environment a friendly feeling which we wanted to replicate in our game. The other thing that Nadiia does so well in her work is that she creates a sense of warmth and playfulness, while still having a bit more of a serious structure that I think would work well for our entire age demographic.

Figure 1.2 – artwork from Nadiia Kanischcheva

Besides looking into other games and visual styles, another significant part of the concept phase is to focus on how children perceive and engage with art. Children at such an early age are still developing themselves day by day, so it's important to use visual assets that are easy to understand and navigate. Based on research from various child psychology studies and educational theories there are a few things that we know for certain. Looking at a study from the University of Tennessee for example, a team of researchers proves the positive association kids have with brighter colors over darker colors. After doing some additional desk research there are a couple big takeaways: First off, kids respond well to bright and contrasting colors, especially primary colors. These colors help objects stand out and become more visually recognizable. Besides that, strong simplified shapes and exaggerated proportions can be more easily interpreted by younger children. Bulky shapes and round edges are commonly used in children's games because they are easier to visually understand. This goes hand in hand with a clear and intuitive design that helps kids engage better with the environment in which they are placed. This means that when I'm creating art, that I need to prevent any visual cluttering and instead create recognizable places that would intuitively guide children through the game.

Knowing all of these things now, I can start thinking about defining the core visual goal of the project. A straightforward way to do this, which is also encouraged by the Double Diamond framework, is to create a clear **problem statement.** This statement is meant to help me focus my efforts to ensure that all the decisions that I make are aligned with the game's needs. My idea for the problem statement is: "How can we create an interactive, visually appealing game that educates children aged 5-10 about the Wilminktheatre experience, while maintaining an art style that is both engaging and accessible to this demographic?"

Now that I know the problem, me and the other artist in the team could employ different tools to solidify our visual direction. We first started off by creating moodboards and a style sheet, using the software Miro. Moodboarding is a crucial tool for helping artists being aligned with each other regarding the visual style of the game. Our moodboard is expansive and uses references from many different games. The moodboard not only helped us, but also helped to communicate our vision to the rest of the team and the client. In figure 1.3 you can see an example of our moodboards.

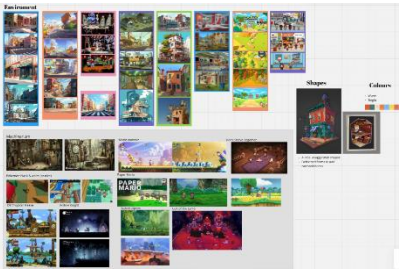


Figure 1.3 – Miro moodboard

The designers spent their time creating several **empathy maps** to help us understand the feelings, needs and motivations of the different users we have throughout the semester, being the kids, schools and the theatre. This provided us with insights into what people might think and feel when they interact with the game. An example of this is how we learned that children response well to environments that allow them to freely explore while getting many rewards. We thought about a simple user journey detailing how a child would interact with the game from start to finish.

Whilst the engineers were working on the empathizing part, I started working on several sketches of the game's environment which was essential for refining the style. I worked closely together with the other artist while this was going on, sharing sketches of buildings, trying out different levels of stylization. We did a lot of experimenting, changing brushes, color and shapes. These sketches and drafts allowed us to play around with other things like proportions, detail and other specifics to fit the preference of the target audience. After experimenting for a while I found a pretty solid workflow on how to make these stylized buildings. What I would do first is find for good reference material for a building that would most likely suit our game. Once that was done I would make a sketch of a building and stylize and reproportion some parts of the house. We decided on a few parts of a building that need different proportions. These are things like the roof, the chimney, window bezels and doorframes. After I finish my sketch, I make a solid layer that I fill with a singular color. Once I have a base color, I can clip a layer on top of it. I would first start off with the big details such as the roof and the bezels and go from there. Next up the shading is really important and

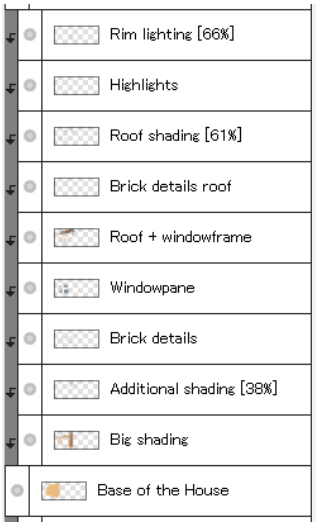


Figure 1.4 – Layer setup

that's what gives the buildings their 3D like effect, you can see the setup I generally used for most structures in figure 1.4. For painting the houses I used a soft, marker-like brush, that had pretty high opacity but softer edges. That way I could still paint over the previous brush strokes without completely disrupting what was already there, but the brush wasn't too soft where I couldn't create any details on top of an already painted surface. For the shading I would usually start of by setting the blending mode of the layers on multiply, to then next up either adjust the opacity, or create a second layer for an additional tone of shading. That way we would have very dark shading, and lighter shading. For the highlights I put the blending mode on add, and then also created an additional layer for softer highlights. Details like the texture and the bricks were done on a top layer at the end of the rendering process. Once the painting process was done, I would finish off the drawing by doing a simple line art layer on top. I made my own brush for the line art section, seen in figure 1.5, as I wanted to have a brush that was extremely pressure sensitive, but would always have full opacity regardless of the pressure. We experimented a lot with how much line art to use and eventually got to be on one page about how much line art to use. Once the line art layer was done, I would create one clipped layer on top that I would use to add more color to the lines, as to make sure that the line art wouldn't be entirely black, but instead a dark color that matches the object that the line art touches.

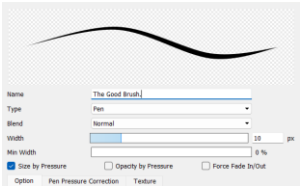


Figure 1.5 – Selfmade brush

Two weeks went by and we were starting to wrap up the concept phase for the art direction of the game. At this point we had a very solid foundation to keep working with. You can see some of the results in figure 1.6. We had a clear understanding of the needs of the kids, backed by research and empathizing. We created a problem statement that kept our work focused on creating something visually engaging and educational. We have a moodboard and stylesheet that aligns with both the artists on the team to ensure that we can create consistent art across the assets. Lastly we have several iterations of concept art for the environment, giving us a clear vision on what should and should not be done.

Figure 1.6 – Two houses that I made show off the art style

Now that all of this is clear I have completed the first half of the cycle of the Double Diamond model. I first diverged by exploring different arty styles. Next up I gathered references and inspirations and started creating moodboards with all of the inspiration that was gathered. Next to that I also made some concept art and sketches. Next up I started converging those ideas to refine the best ideas. This way I could create a coherent art style for the game. Because of this, I also managed to establish a workflow that I had an easy time to follow. While narrowing down we kept thinking about the target audience, feasibility and consistency. This led us to create a stylized, colorful and exaggerated art style.

Design phase

For the **Design Phase** my goal was to transform the concepts that we had created during the Concept Phase into fully realized design elements. I tried to follow a structured approach, still following the Double Diamond model. This phase involved creating, testing, refining assets, experimenting with art stylization and iterating based on feedback.

Camera angles

Now that I had all of these ideas about our art style, I could start creating several sketches and low-fidelity prototypes in 3D to experiment with perspective, scale and atmosphere. These models were informed and backed by **field research**, including photography from the theater itself, ensuring that my visualization aligned with the real-life spaces but were still stylized for children. The reason why I wanted to create 3D models before working on finished artworks was for a couple of different reasons. After going to the theatre and seeing all the spaces in person, it became a lot easier to visualize the theatre if we had models of those areas. Besides that, I could use the models to make sure that my perspective in my 2D drawings would be accurate, alongside of the scaling of certain features in the theatre, which also needed to be on-point. Another great thing about creating things in 3D is that everything is very easy to adjust. If the scale was off somewhere, by the click and drag of a mouse, the entire scene could be fixed. The last major benefit of first working in 3D before moving onto 2D art is that we could discuss specific angles for each location and scene, and there's a reason why we want to be able to specifically pick these camera angles. The reason why is that each place has its own specific goal. The starting area for example needs to be very straight, welcoming and clear. Besides that there needs to be a lot of space that can be used for objectives in the game, like scanning your ticket and going up the stairs. Since we knew what we wanted out of each area, I could discuss camera angles with the team. We took countless screenshots of all the 3D models I made, which you can see an example of in figure 2.1. We also wanted to make sure that each area had enough space left so that in the future we could potentially add additional props or features, which we did end up creating a concept for. As you can imagine, picking these angles was a very important task and it took a lot of time to get it done. Together with the other artist, we arranged multiple meetings with the entire team to sit down and discuss all the specific shots that we wanted to consider.

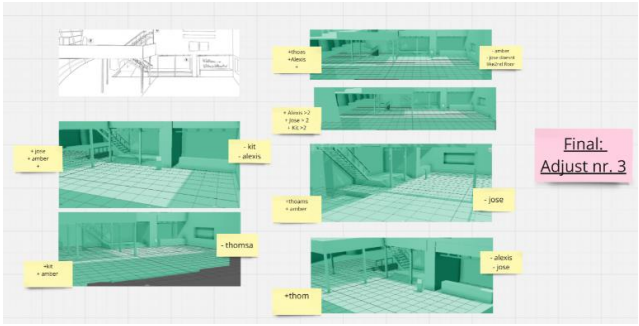


Figure 2.1 – An example of one specific scene with many different angles that we discussed

Background art workflow

Once the key angles were established, I could start working on the stylized 2D artworks that we had planned at the beginning of the project, using the 3D models that I made as a reference. Each piece requires **thoughtful decision-making** regarding color, lighting and perspective to create depth and mood. I learned during the concept phase that these aspects are essential for helping children feel engaged with the theater experience. This process of creating a finished artwork includes a lot of **iterative feedback**, where adjustments to perspectives, colors and details were implemented based on the input from my team. In this part I want to show the first artwork that I finished for the project and discuss the entire workflow:

I start off by making a 3D model based on the images I took during my trip to the theatre. I try to get the proportions as accurate as possible to real life. Once that is done, a meeting is arranged with the team to find the perfect angle for the scene.

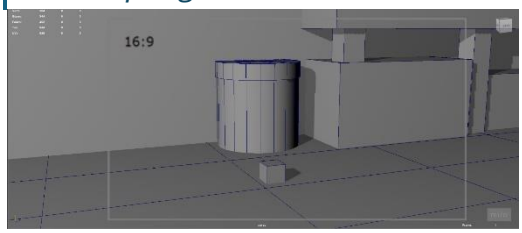
Next up, once we have decided on an angle, I make the first sketch of the area. This is the phase where I get to think about details and stylization. I'm also thinking ahead about drawing things in such a way it's easy to paint.

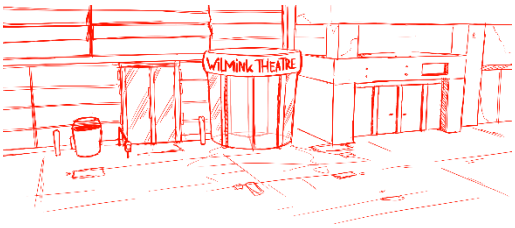
After I finish the sketch, I start blocking out basic shapes by first working on finding the base colors and then adding shading to give everything more depth. I am very careful when considering the colors for the scene, so that later I can worry about just the polishing.

Once the base colors are in place, I spent my time rendering all of the different objects and walls. I try to create the right amount of detail. Once that is done, I spend most of my time working out lighting and creating a direction within the artwork.

After I have finished a drawing, I discuss my work with the team and we find things that can be improved and changed. With that feedback I rework the artwork and try to polish it more. This is the final result of the entrance of the building.

Concepting





Polishing

Test session

During the Design Phase, I also used another method to ensure that our designs aligned with the client goals and user needs. Together with Jose, the designer of the team, a **session was organized with a school**. This session would allow us to get direct insights from children, which helped us refine certain elements of the design of our game. For example, we got insights on what kids do and do not like about games and why. We also learned more about the character designs that they like. Going to the school was a very fun and new experience for me. I got the opportunity to stand in front of the class and tell them what we do and hear about everything that was on their mind, which you can see a picture of in figure 2.2. I was pretty nervous at first, but seeing how kind and accepting the kids were was really nice. Besides that, I also got some good experience in writing up a survey for testing with kids. Since I am not a designer, testing is not my strong suit but together with Jose I think we managed to create a pretty solid list of questions. Naturally, some of our target audience was too young to fill out a survey. For the kids aged between 5-7, we did all of the questions just by discussing things and asking them questions to learn more about what they liked. From ages 8 and up the kids could quietly fill out their own list of questions and then once we got all the answers I was able to discuss some things with the class as a whole.

Figure 2.2 – A picture of me standing in front of the class

Concluding the design phase

The final outcomes of the Design Phase are a polished visual direction, ready for the full development of in-game assets. My key deliverable for the upcoming phase will be finalized 2D artworks, based on the 3D models that were made before. I will also made additional 3D models for more scenes later on as well. Each scene will serve an educational and navigational purpose aligned with our goal of creating a vertical slice of the game. I had a few challenges down the road. I mostly struggled with finding the balance between realism and stylization. I had to translate real-world spaces into simplified and engaging environments for children. By iterating 3D models and sketches, I could create spaces that maintained the essence and recognizability of the theater. Besides that I had to do a lot of adapting throughout the Design Phase, where I had to make constant adjustments based on the feedback I got from the team. This was essential but also time consuming. However, this process resulted in assets that were significantly improved in every way.

Following the Double Diamond model, I managed to have **a systematic explorative approach** towards refining our style for the game. This phase served as the bridge between the first concepts we had and the artworks that we will need for our first prototypes, helping me create a solid foundation for further development. Through testing, feedback and iteration my designs are now much better equipped to ensure our game can complete its goal of introducing kids to the world of theater in the best way possible.

Production phase

After wrapping up our presentations at school it was time to transition into the production phase. Although art wise I was already starting to shift away from ideas and experimenting, it was now time to fully focus on the creation of finalized assets and features to help bring our game to life. I could make use of the culmination of all of my earlier efforts, since I know the entire workflow from start to finish now.

First off I will start with discussing all of the environment artworks that I made. Creating these environments was my main responsibility during this phase. These pieces were the backbone of the project, and I really tried to create an immersive and engaging setting for the player.

Environment art

The Second floor the Theatre, figure 3.1, was the first show that I worked on. For this shot the composition and flow are really important. As you can see, the bottom half of the image doesn't really serve any purpose gameplay-wise, I focused on ensuring that the lighting and values guided the player's eyes naturally across the space. I still wanted to give the players a clear sense of direction, so I made sure to incorporate the bottom floor into the image as well to help with navigation. The flow in this image was created through carefully balancing the values of the highlighting and darkening layers. One of my main ways of creating the highlights was by creating a top layer, using a vibrant orange color and set the blending mode on 'add'. This helped with the balanced, vibrant and dynamic aspects of this image.

Figure 3.1 – Upper floor of the Wilminktheater

The Main Theatre Hall, figure 3.2, art wise, I would say for me personally the big theatre hall was the centerpiece of the entire project and required significant effort from my part. I dedicated a lot of extra time to modeling the 3D version of the hall, really trying to accurately represent this real-life space. The attention to detail helped me a lot when it came to 2D rendering. Since I didn't have to think a lot about perspective, I spent a lot more time rendering the scene. The rendering itself wasn't easy however, especially the intricate details like drawing the rows of chairs, but the result captures the size of the theatre well I believe. Lighting also player a big role in directing the focus of the user not only on the chairs but also on the stage at the center of the image, while still maintaining the atmosphere of the theatre itself. Another part of making this scene was creating a second version of this scene. I had

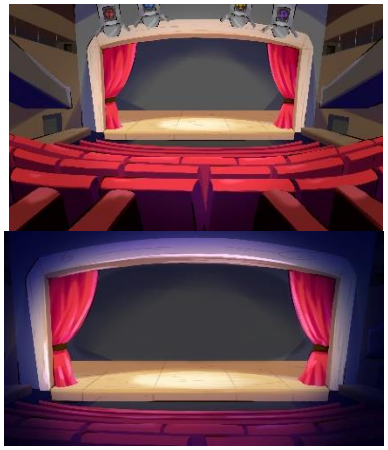


Figure 3.2 – shot of the theatrehall and the minigame scene

to make a cropped and recolored version of the theatre hall. It was specifically needed for the design of the mini-game that the team was working on.

The Outside of 't Muziekcentrum, figure 3.3, was by far the most difficult scene for me due to the complexity of the environment surrounding the theatre. I think the scene turned out alright, but if I can be honest I am the least satisfied with this scene. Drawing the exterior of the theatre involved balancing all the details of the building with all the stuff around it, but I still had to try and keep everything looking cohesive. I spent a lot of time adjusting colors to make sure that the focus of the scene was always targeted at the center of the image and not somewhere else. I had to do this while making sure that the lighting in the scene still made sense however. Something that helped me with this was creating two additional layers set on multiply. If I then went over the image with an airbrush, I was able to cut up the light sources of the image into two different areas, the one all the way at the top of the image, and the one focusing on 't Muziekcentrum.

Figure 3.3 – a showcase of a 3D model turned into a final artwork

De Kleine Zaal, figure 3.4, is a smaller version of the theatre hall that I had already made. Although the layout of the building was very different the workflow was very similar to the one that I had already previously made. Since the Kleine Zaal is significantly smaller, I could focus more on the interesting details that make the place unique, like the backwall behind the piano for example. I spent some additional time perfecting the colors and rendering, which gave this piece a really nice and warm, inviting atmosphere that I'm very proud of.

Figure 3.4 – I paid extra attention to the lighting in this scene

Interactables

We spent a good amount of time with the team brainstorming, thinking about how we can spice up the game. We wanted to add some kind of interactivity and liveliness to the game and we came to the solution that we wanted to add a few small animated sprites into the game. We call these small sprites interactables, seen in figure 3.5, because the way they work is that once you click on one of the sprites they play an animation. These animations would make the world feel a lot more dynamic and alive.

I started with the piano animation. With this one, since the object itself is pretty big, I had to be careful with how many frames I would use. I had to try and find the balance of keeping every single frame very clear, but not leave out too much information between each subsequent frame, otherwise the animation would fall apart. But the reason why I wanted to try to do it in as few frames as possible is to ensure that the spritesheet wouldn't be too big and take up important space for the game to run well.

After that I started working on the TV animation, a wall-mounted display that would play a small animation once clicked on. This one was a bit less tricky when it came to my freedom with the size of the spritesheet, but the animation itself was definitely a bit harder to make as I had to spin a small stick figure correctly while keeping the proportions consistent.

Figure 3.5 – The three different spritesheets that I made and turned into interactables

Video editing

Now that production has been nearing its end it was time to start working on the final task of the project, editing a trailer for the game. Making a video is a very hard task because I need to carefully consider the target audience. Before beginning the actual editing process, I spent a lot of time storyboarding the trailer, trying to create a narrative that would resonate with a diverse audience, including the teachers that teach the kids, the client, our teachers at school and my own portfolio. That's why it was so hard to pick who the primary viewer of the trailer would be. Each of these groups has unique expectations of the video and also a different level of understand about the project. Balancing these varying needs was a complex process, but I approached it by finding a middle ground that felt inclusive yet effective. Ultimately, I struck a tone that would appeal to almost everyone, and I made sure of that by thoroughly discussing the content of the trailer with the rest of the team. This balance involved clear storytelling, showing off all the nice things we put in the game while also maintaining a professional yet approachable style.

Figure 3.6 – a snapshot of the trailer I edited

Reflection

Throughout the project I learned a lot of new things in all phases of development. In the initial concept phase, I did a lot research, but I also had to use new tools that were unfamiliar with me. Before this project I had never used a workflow where you start out in 3D modeling to then turn it into 2D. this foundational work helped me out a lot with the rest of our decisions and work during production.

During the design and production phase I tried my best to create assets that reflect professional standards, and are also suitable to use for my portfolio. From the big environments like the theatre hall, to the interactive elements like the piano, each piece demonstrates a combination of skills that I have. The great thing is that these works not only enhanced the project itself, but also showcase my ability to be a professional game artist.

Doing research was part of the process all the way through the project. Early on in the first quartile I spent all of my time looking at art stylization, lighting, shape language and many other things to ensure my work would align with both the game's needs and the client's needs. I referenced real life structures for all of the models which later turned into finalized environment artworks.

Finally, I was also able to set multiple learning goals that would shape my journey throughout the project, and I am happy to say that I was able to pass all of the learning goals that I set myself at the beginning of this journey. These goals, and the learning goals of school not only guided my work and activities, but also helped me grow as an artist.

Besides all of the learning activities, I want to mention how much fun I had working on this project. I believe that a great team makes a great project, and I was fortunate enough to be placed in a team of very talented students. I had a lot of fun working together and learning with everyone and without this team the project would have simply just not been the same, so I'm really grateful for that. I'm so glad I got to learn a lot, but not only that, I'm glad that I got to learn so much from this specific team.

To conclude the devlog; thank you so much for taking the time to read everything. I hope you stay with me in my journey to become a fully-fledged professional game artist.