Pizza Bomb

Retrospective

Lorenz Zandian Pour

Course: MA Game Art

Module 1

Instructor: Christian Avigni

# Introduction

Overall, this project was a great challenge and a valuable learning experience. I had some prior modeling experience, but it was mostly limited to creating individual props for games or building blockouts for procedural generation systems in Unreal which other artists would then refine. This time I was responsible for everything from modeling and texturing to art direction, which made the process both challenging and rewarding. Working entirely from my own concepts instead of relying on existing concept art pushed me to think creatively and make cohesive artistic decisions. In many ways it felt like taking on the role of an entire small art department by myself, which was both demanding and highly educational.

# Art Direction

## High Concept

For my environment design task, I decided to create a lively pizzeria with a unique twist: it features a wrestling ring right in the center, where guests can watch amateur matches while enjoying their pizza. The idea was inspired by a story I once heard on the German podcast BrainPain, where someone described watching a wrestling match in a pizzeria, and I thought that concept was too good to pass up.

This pizzeria isn’t some fancy, polished venue. It’s a bit run-down and chaotic, the kind of place that feels genuinely alive. The floors are sticky, the pizza probably tastes awful, and the drinks are all warm because the fridge gave up weeks ago. But none of those matters. People come here for the atmosphere, for the spectacle of sweaty wrestlers throwing each other around a tiny ring while the audience cheers, laughs, and eats their mediocre pizza.

## Artbible

### Color Palette

The color palette was designed to capture the look of a typical American diner or pizza place with strong red accents while keeping a playful tone that fits the wrestling theme. Finding a combination that worked for both settings was challenging since they have very different styles.

I decided on a red, green, and purple palette. Red serves as the main color, green adds contrast and breaks up the composition, and purple is used instead of pure black to shade darker areas. Using purple for shadows keeps the overall balance of the colors more consistent and prevents the scene from losing saturation or appearing too flat. This helps the environment stay visually clear and cohesive from a top-down perspective.

## Lighting

First, I wanted to have contrasty lighting coming though my windows, however after putting some thought into it and testing I realized that this would take to much away form the the levels focal point: the wrestling ring and was to drastic.   
So I went away from that and used less constray lights on the windows and put the focus on the ring with some spotligghts.

# Blockout

I created my blockout directly in Unreal since it feels much faster and keeps me from adding unnecessary details. With only basic shapes like cubes and cylinders available, I could focus entirely on proportions and composition by simply scaling them as needed.

Initially, I planned the full building, including the kitchen and bathrooms. However, once I started modeling, I realized these areas didn’t contribute much to the final scene. They weren’t visually interesting or important to the overall composition, so I decided to close off the doors leading to them and focus entirely on the main space—the large room that forms the pizza place. I only considered adding an exterior if I had time left at the end.

To make the space feel more believable, I placed mannequins in various poses throughout the level. This helped me get a sense of scale, such as the height of the seating, tables, walls, and windows, and visualize how people would actually use the space. I asked myself where they might place their drinks, how they would sit or move around, and how many people would comfortably fit at a table.

I also added a navigation mesh early on to ensure the layout was navigable from the beginning. This allowed me to identify tight spaces and make adjustments before committing to detailed models.

The only thing I should have done earlier was lighting. It would have made more sense to test lighting setups right after the blockout phase rather than waiting until after the modeling process.  
Same with the navmesh. I tried to add it early on just to make sure my space was navigable form the beggingin before adding any assets.   
The only thingk I haven’t done was do my lighting which would have made more sense in the afterwads before doing any 3D Models

# Architecture, Furniture Kit and Materials

### Walls, Windows And Doors

My architectural design focused primarily on walls with windows and concrete surfaces. I aimed to capture the classic American diner look, using a red stripe along the bottom and a checker pattern strip above it. One thing I noticed about typical diner architecture is the frequent use of rounded corners, which helps give the space a softer, more welcoming feel.

To achieve rounded curves while making sure all wall pieces still fit together, I used curves in Blender to maintain a consistent wall thickness and easily make changes that apply to all wall pieces by just changing a single curve and all pieces still fit together.

**Ein Bild, das Screenshot, Design, Hebel enthält.

KI-generierte Inhalte können fehlerhaft sein.**

Curves make all walls no matter the curvature of the wall fit together

I used multiple curves, for example for window insets or wall insets that could be placed into the gaps of those walls. However, when importing the individual pieces into Unreal Engine, I ran into some light baking issues caused by overlapping vertices where modules connected. To solve this, I preassembled the wall sections in Blender, merged any overlapping vertices, and imported the finalized pieces into Unreal. This approach kept the modular workflow intact in Blender while ensuring clean, error-free geometry inside Unreal.

For texturing, I used a trim sheet, which not only improved performance but also made texturing the walls significantly faster and have my colors more consistent across walls. It especially sped up later changes in color since I only had to change a single texture to change the color of all walls at the same time.

### Furniture

The furniture mainly used a single trimsheet, which made texturing incredibly fast for my furniture pieces to be textured. Those mainly focused on chairs and tables which take up a good portion of the screen due to the topdown view. I tried to focus the shapes here to be like in an American diner and took heavy inspiration from there. Ein Bild, das Himmel, Wolke, Mobiliar, Couch enthält.

KI-generierte Inhalte können fehlerhaft sein.

Most furnutre pieces like these ones use very similar materials making it quite easy for me to just use a single trimsheetEin Bild, das Himmel, Gelände, draußen, Kompositmaterial enthält.

KI-generierte Inhalte können fehlerhaft sein.

### Wrestling

The wrestling assets had their own trimkit since they were so different from the other assets in the pizza places. They had very specific materials and were not able to reuse any other materials. I mainly took inspiration from the 2k WWE Games and WWEs assets they actually use.

### Cleaning

I also used an atlas for my cleaning acceosoires. Every pizza needs a good set of cleaning accesoories that never get used to clean ll the gunk.

### Material Setup

Ein Bild, das Screenshot, Text, Multimedia-Software, Software enthält.

KI-generierte Inhalte können fehlerhaft sein.

Quite simple structured material easily letting me read what my shader is doing without seeing too much detail under the hood

Ein Bild, das Screenshot, 3D-Modellierung, Grafiksoftware, Spielesoftware enthält.

KI-generierte Inhalte können fehlerhaft sein.

MF\_Adjustments\_Expose\_PBR is a function to allow quick adjustments in the material like changing roughness, normal or albedo value in a material instance quickly to test different visual looks or fix small issues right in Unreal

Ein Bild, das Screenshot enthält.

KI-generierte Inhalte können fehlerhaft sein.

A part of MF\_PBR\_Exposed, showing how I sample textures and also support quickly swapping channels on materials in case necessary

# Prop Modelling Phase

### Cloth Issues

My cloths were to high poly causing problems staying in the poly count. I had to use some smart subdivision and decimate modifier and manual adjustments to get a cloth that looks decent from above while stying below an insane high poly count

### Hand Textured Props

Some props needed to be hand textured, since they did not fit any trimsheet and were to specific. As much as I tried to avoid having to do that it turned out that some assets still required indidviaul textures. I tried to cut down the amount of hand tetured assets to a mininmum though.   
The only hand textured props are the food props, the suitcase in the center, the boxing machine and the slotmachines. These assets were way to specific and did not use materials I reused somewhere else.

# Color Grading and Texture Adjustments

# Lighting and Outdoor Props and PBR Adjustments and Polishing

This part was arguable the hardest. I had only once done interior lighting in Unity and was very unfamiliar with the light baking process in Unreal and how to prepare meshes and everything. I remember it was a struggle last time in Unity when I made it and it took me weeks just to get baked lighting exactly the way I wanted it. It took me about a week just to get the lighting right. I tried many interioations. My main problem was that I wanted to use a directional light to light my scene. However the problem with it was that its shadows where way to harsh. This cause a problem where the center ring and stage were no present enough due to their low contrast ratio into the already existing harsh shadwos. I decided against using the directional light in the end and just simulate sunlight coming in wihta couple rect lights outside the windows.

I also learned to pay attention to give my materials physically accurate albeods. I compated my materials brightnesses to the brightnesses of <https://physicallybased.info/> to get a grasp of what my brightness should be. I noticed that a lot of my materials were way too dark for my scene. So I tweaked everything (espcialy the metals) to look right in Unreal.

Another big problem I personllay had was that I did a lot of lighting with volumentric lights using lumen and was mainly used to having the opportunity to either have volumentric lights or fake volumentric with meshes, However since I could not do either since transparent materials in general should be avoided in this project I could not do either which was an uknow limitaiotn that I was not oused.

I also tried paying extra attention to my color palette. I noticed a lot of materials look off in my lighting setup or colors did not match in some cases, so I made according adjustments to fit into my color palette.

# Conclusion

. I noticed that there needs to be a lot more planning than I thought I would it. I went into the project a little blind. I think I can take away two things from this project.   
I should try to plan as much as possible, especially when doing trimsheets to use them more efficiently and the second thing is that I need to do my lighting with my blockout already and later add the assets. That brings me two main advantages: I instnaly see what my assets look like in the ligtnig senceraion I need them without needing to do al lot of ajdusemnts later and I also am able to make a lot of changes to my assets to account for specific lighting scneeariso (windows, holes in the wall and floor etc.).