



DIPLOMA PROJECT DOCUMENTATION



BRNO UNIVERSITY OF TECHNOLOGY

FACULTY OF FINE ARTS

FINE ART AND DESIGN

MANSION

DIPLOMA PROJECT

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ABSTRACT

This diploma project focuses on the conception, design, development, and integration of two distinct 3D playable female characters within a video game set in the Transylvanian region of Romania during two alternating time periods: late 1980's and late 18th-century. It aims to blend historical and supernatural elements, drawing from gothic atmospheres and vampiric folklore to create immersive gameplay experiences with the help of engaging character models with distinct designs and personalities. The theme of womanhood and oppression is intrinsically linked to the look of both characters and is explored differently with each of them, thus emphasizing the impact of society at large on the physical attributes of oppressed individuals. Additionally, the project delves into feminist perspectives, reflecting on how systemic gender inequalities have shaped the roles, appearances, and narratives of women across different historical contexts. By incorporating feminist themes, the project seeks to challenge traditional portrayals of women in video games, offering nuanced representations that highlight resilience and agency. The project's objectives include designing characters with distinctive aesthetics reflective of their respective time periods, capturing the cultural essence of Transylvania through detailed attire and visual language, and presenting fully textured, game-ready models accompanied by original music tracks.

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TEXT PART

This diploma project focuses on the conception, design, development and integration of two distinct 3D playable characters within a video game set against the backdrop of 1980's as well as late 18th-century Transylvania, a period and setting rich with gothic atmosphere and supernatural vampiric folklore. This project aims to merge historical and supernatural elements to create immersive gameplay experiences with the help of interesting and engaging character designs, thus reflecting on both the cultural background of this setting and periods in history as well as on the enduring allure of vampire mythology.

The primary objectives of this project include: the conception and design of two unique female 3D characters with contrasting visual language and aesthetics based on two separate time periods, capturing the essence of both periods in Transylvania through character design and attire and the ultimate showcasing of these fully textured and game-ready character models to music tracks specifically created for this purpose.

The project was initially conceived as a playable alpha version of a game called "Specters of House Vig", however, due to limited experience in working with Unreal Engine on my part, I had only managed to complete a textured playable 3D environment that I'd created assets for, such as the mansion the game takes place in and the mountain, as well as three explorable levels, those being the floors of the house. There are a number of functional gameplay mechanics as well, however it is, in my opinion, not in a fully playable state, so I shifted my focus to displaying its characters, that I had put a lot of work into.

Character Design and Development

The first featured character is the grandmother of the game's protagonist, Elise Vig. Elise is undead; she is a "strigoi", a mythical vampiric creature of the Transylvanian region. She represents an 18th-century daughter of a noble, yet abusive, Transylvanian family. This character's design blends various contrasting elements, as her looks are very youthful, but her attire is old and dusty. Her face is pale and inflamed, bearing traces of the passage of time, and her eyes have a subtle blue glow to them. Elise's clothing is designed in accordance with the time period and village setting. Her character design is quite angular and communicates an unsettling feeling.

The second character is Eleanora Calafiore, the game's protagonist and Elise's granddaughter. She was born in Italy due to her parents fleeing the Communist regime in Romania. Because of Elise's relationship with a local Roma boy, Eleanor is of mixed Roma descent. At first sight, she seems very different from Elise, due to her darker features, but their faces retain similarities. She is taller than Elise, and her clothing is typical to the 1980's Italian fashion style. Her character design informs her role in the game's story, referencing the pocket mirror mechanic she uses in the game. Eleanor's visual design is rectangular and comforting.

Technical Implementation

The character models were created using a variety of 3D and 2D software. I created 2D concepts for both characters using Procreate and Photoshop, after which I started

sculpting them in ZBrush. Their bodies and facial features were made this way, after which I added hair with a few custom ZBrush brushes. I used Marvelous Designer afterwards to create clothing from some sewing patterns of each time period, simulated them fitting on the bodies I'd made, after which I exported them into ZBrush and defined their folds while adding more for a stylistic effect. For Eleanor, I sculpted some leather boots and gloves to add to her stylish design, while Elise was left barefoot.

After an extended period of this creative process, the characters were ready to be retopologized. As their polygon count was massive, directly using them in a game engine would be impossible. I duplicated each part of the meshes, using the Decimation Master plugin in Zbrush for a high-poly mesh that would be used later on for baking, and ZRemeshing a low-poly version of the asset for retopology. The low-poly assets were then imported into Maya, where I deleted many rows of polygons that would ultimately not be visible on the character to help them run more smoothly in the game. After this step, I unwrapped the UVs for each asset and organized them in specific groups for the later texturing. I then used Marmoset Toolbag to bake the high-poly meshes onto the low-poly models, thus creating more detail and multiple texture maps. I used Photoshop to clean up each texture map and blur or remove unwanted, harsh detail.

For the texture work, which was the next step in the process, I imported each asset separately into Substance Painter. I used various materials and my painting to add colour, life, and realism to each asset. The clothes were given their unique look through materials and sewing detail, the skin was painted accordingly, and their hair was given colour and sheen. The last step was to create materials in Unreal Engine and implement the final character models.

The game assets used for the environment were created much in the same manner, however I had used Blender in the beginning due to its superior hard-surface modelling toolkit as compared to ZBrush. I, however, still eventually imported some assets into ZBrush in order to give them a worn look, such as the chimneys and the roof shingles on the house. I also used ZBrush to give each rock an individual look and character.

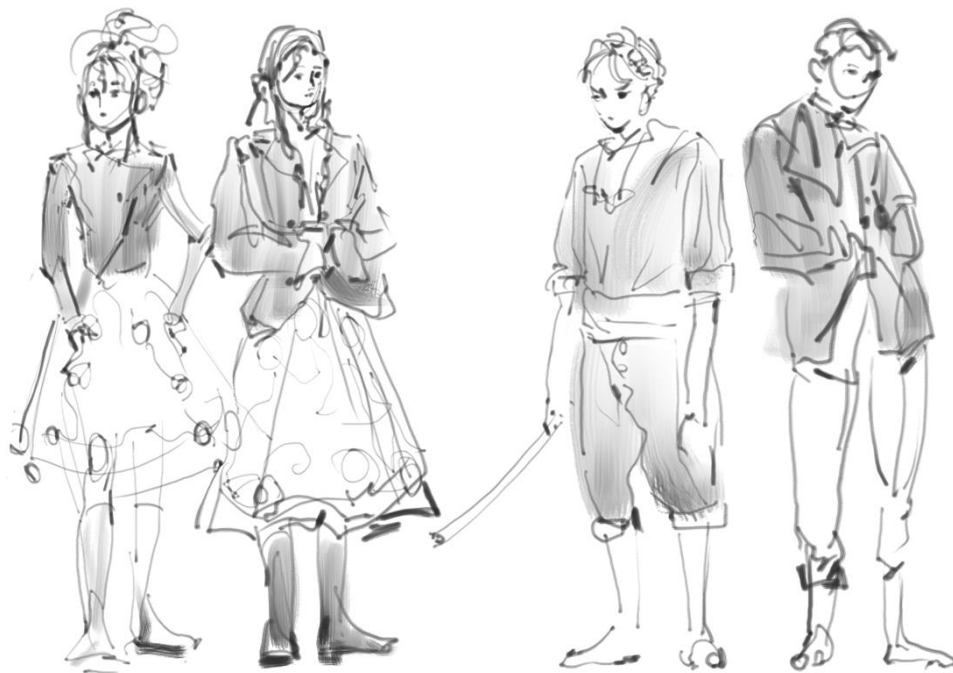
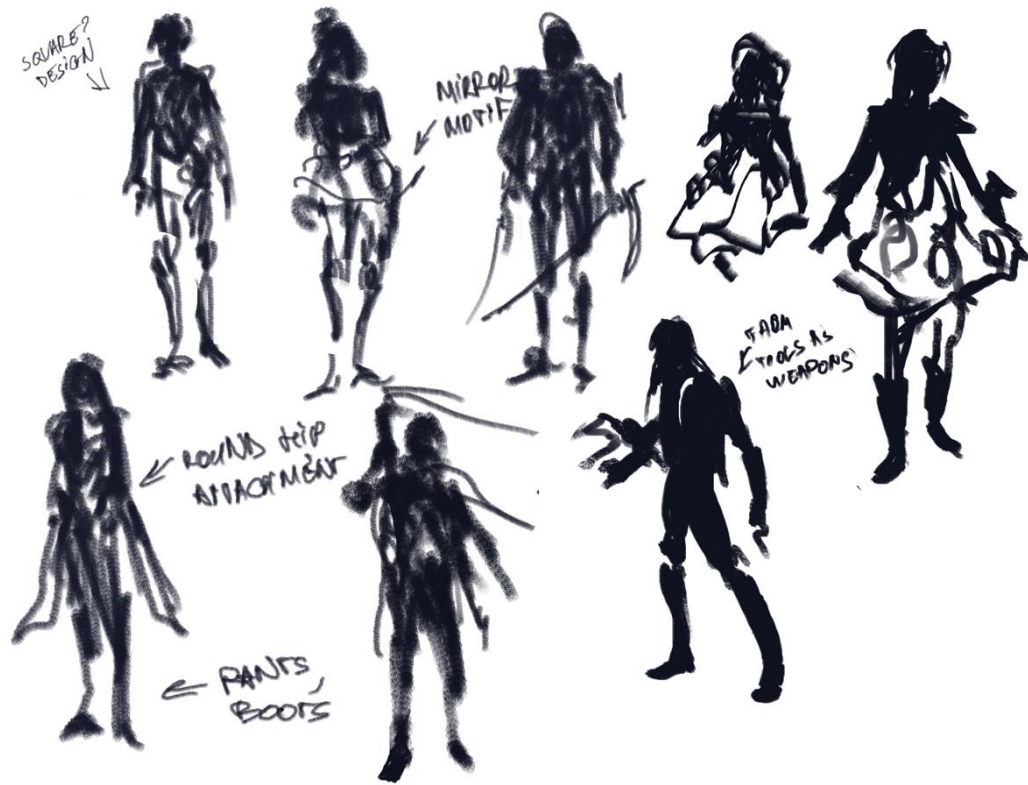
Objectives of the diploma project

My objective was to learn and understand the game asset creation pipeline, as my goal is to work in the video game industry as a 2D/3D Artist. I was also very keen on visually communicating my experience growing up as a Romanian woman through these two characters, and have my own take on the Romanian vampire as a feminist symbol against historic oppression and discrimination. The geographical area of Transylvania is not often explored in the contexts of both game design and feminist media, which is a shame given its rich history and unique blend of various cultures, and similarly distinct history of oppression. I believe that there is great potential in the dissection of enduring mythos and legends in today's art world, especially of the vampire character.

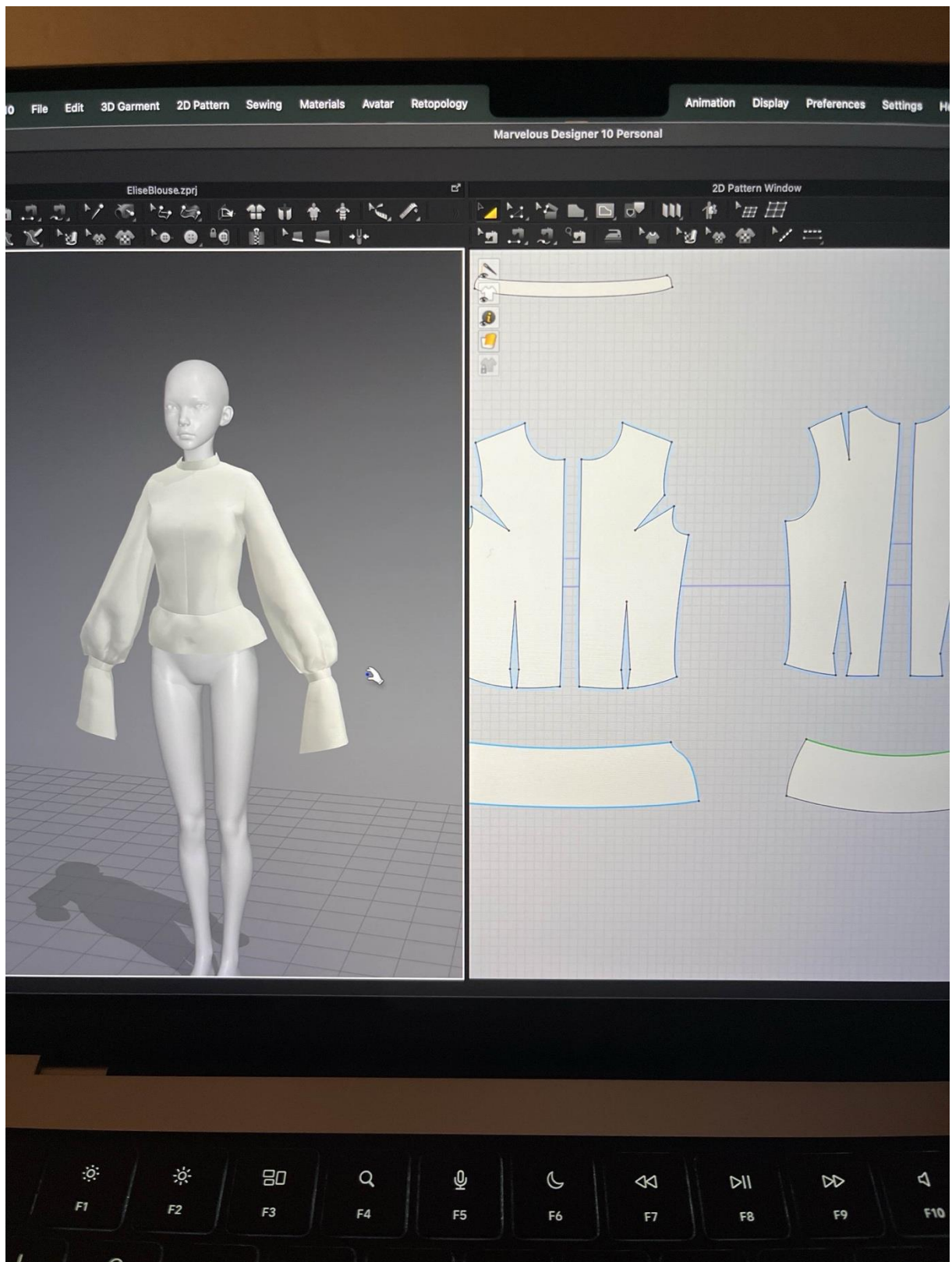
IMAGE PART



Concept art for the character of Elise Vig created in Photoshop



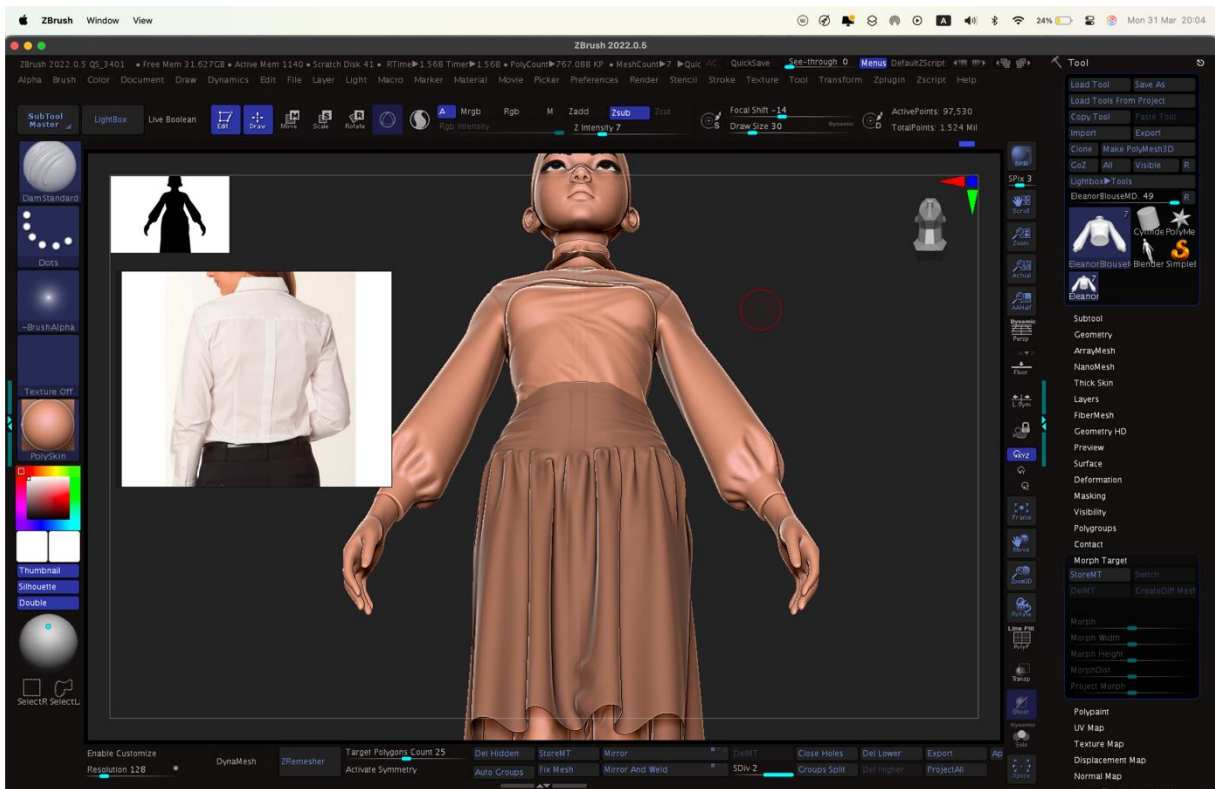
Concept sketches for the character of Eleanor made using Procreate



The process of creating clothing in Marvelous Designer



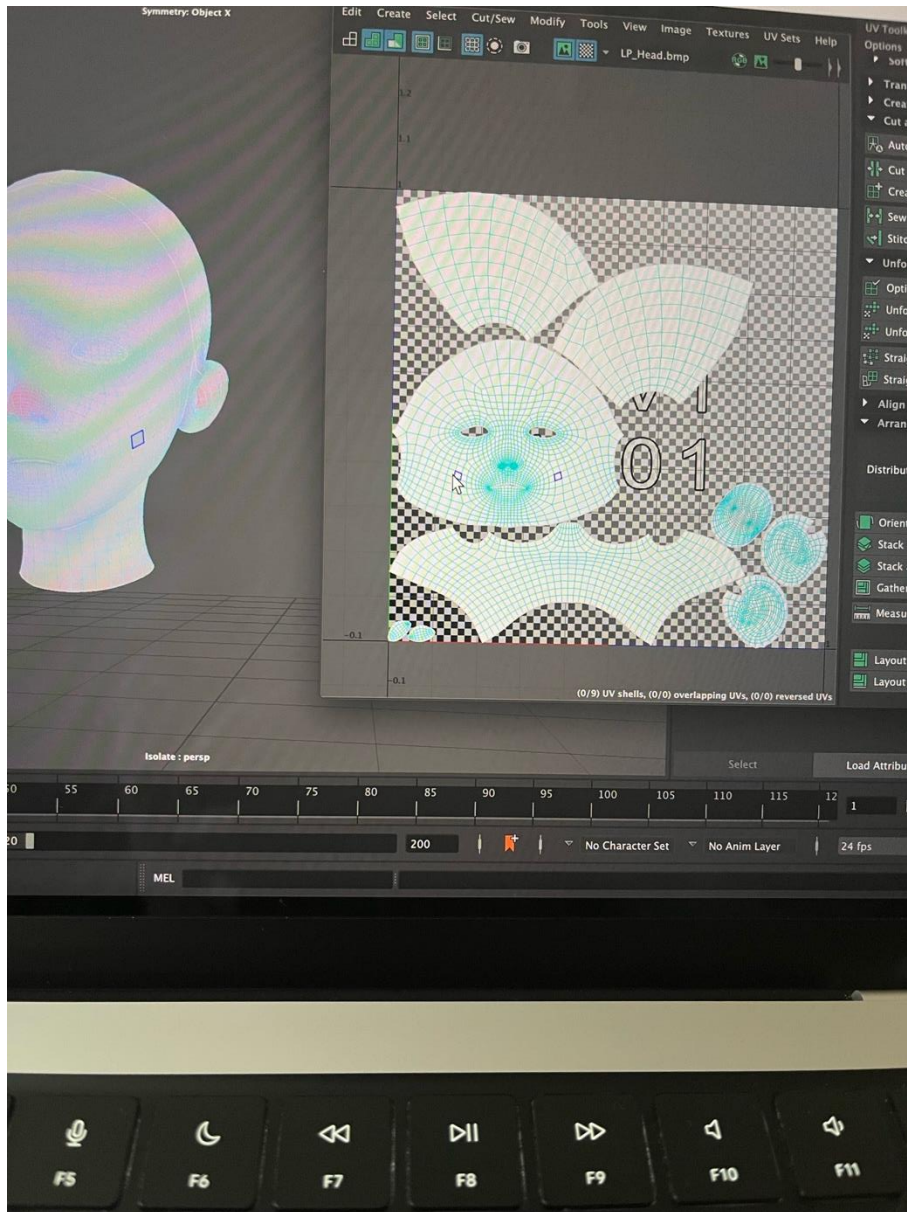




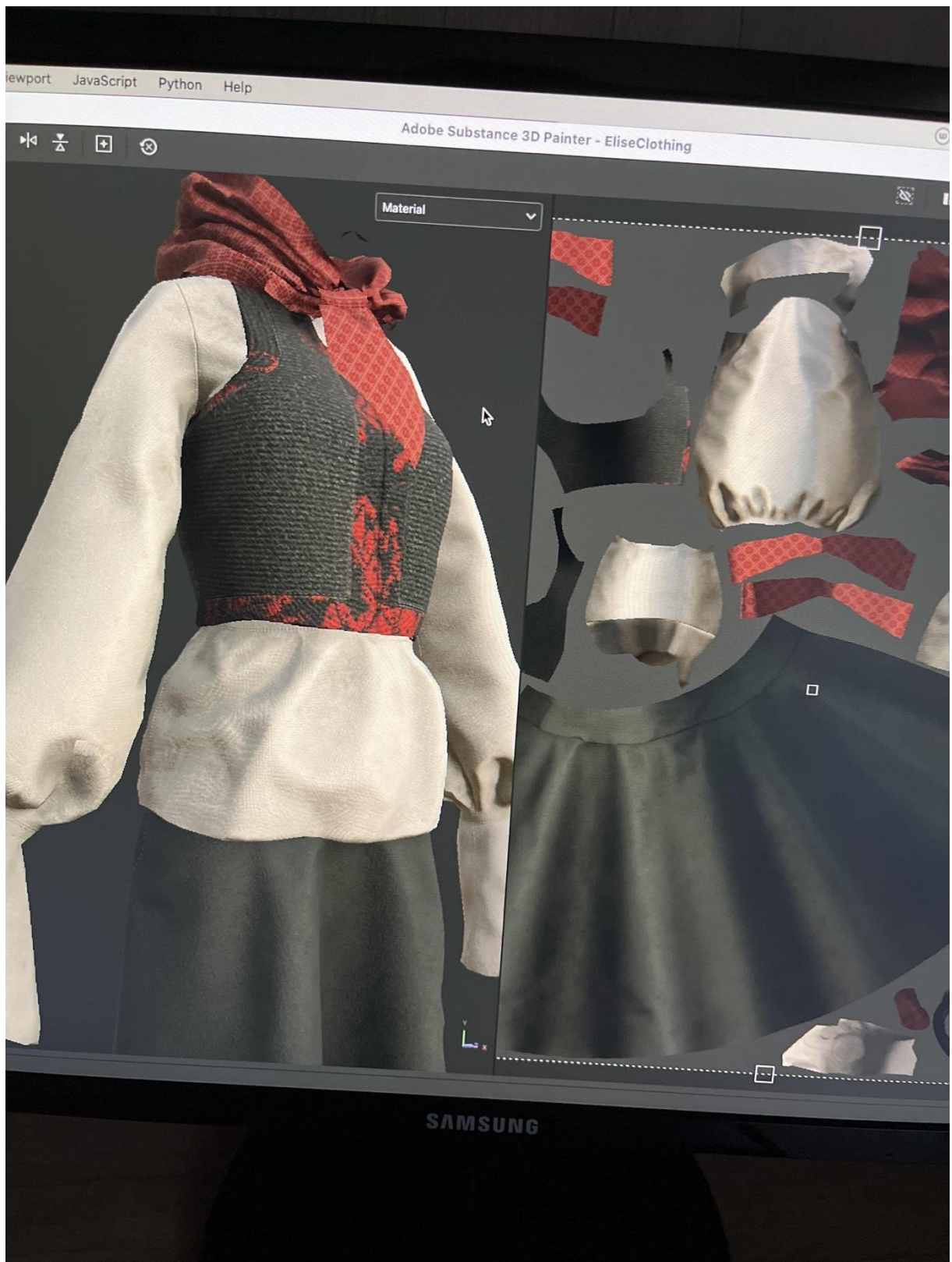
Sculpting Process in ZBrush



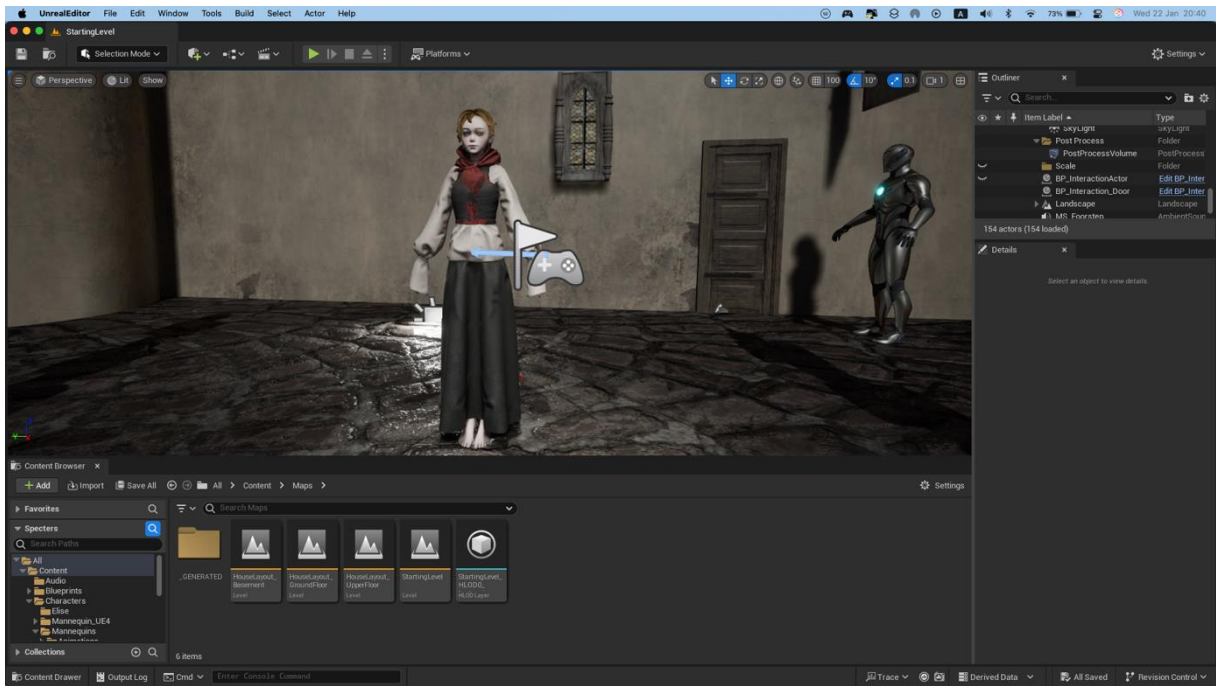
Retopology in Maya



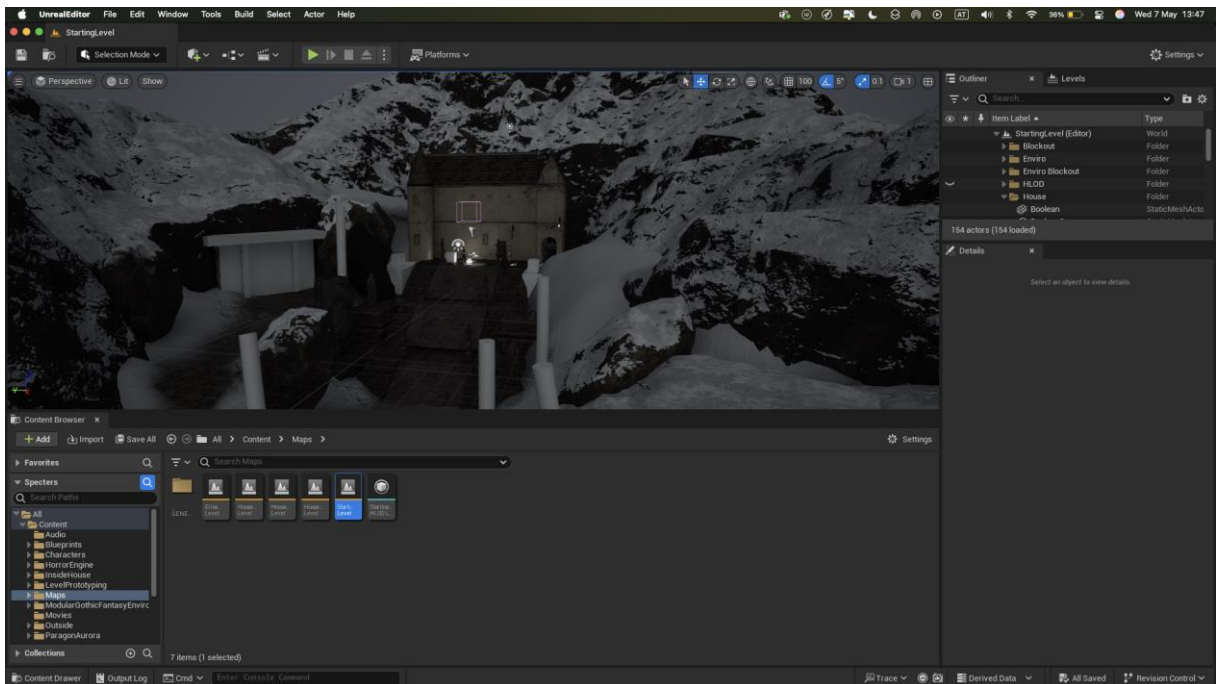
UV Unwrapping in Maya

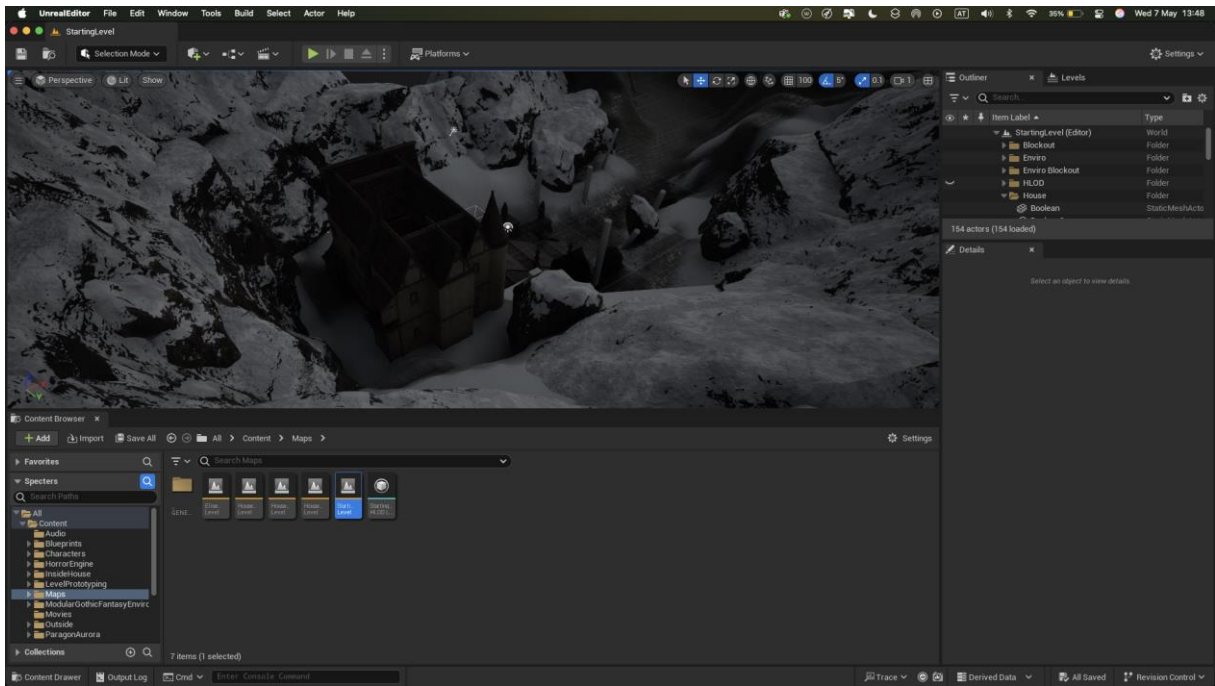


Texturing in Substance Painter

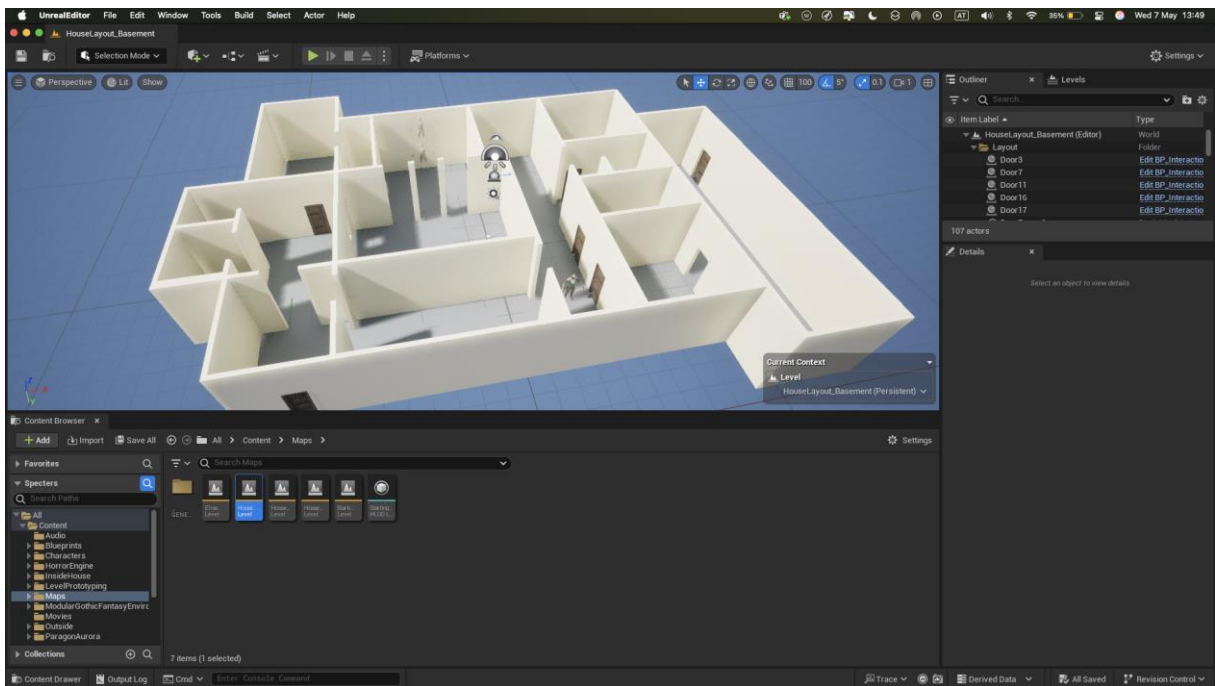


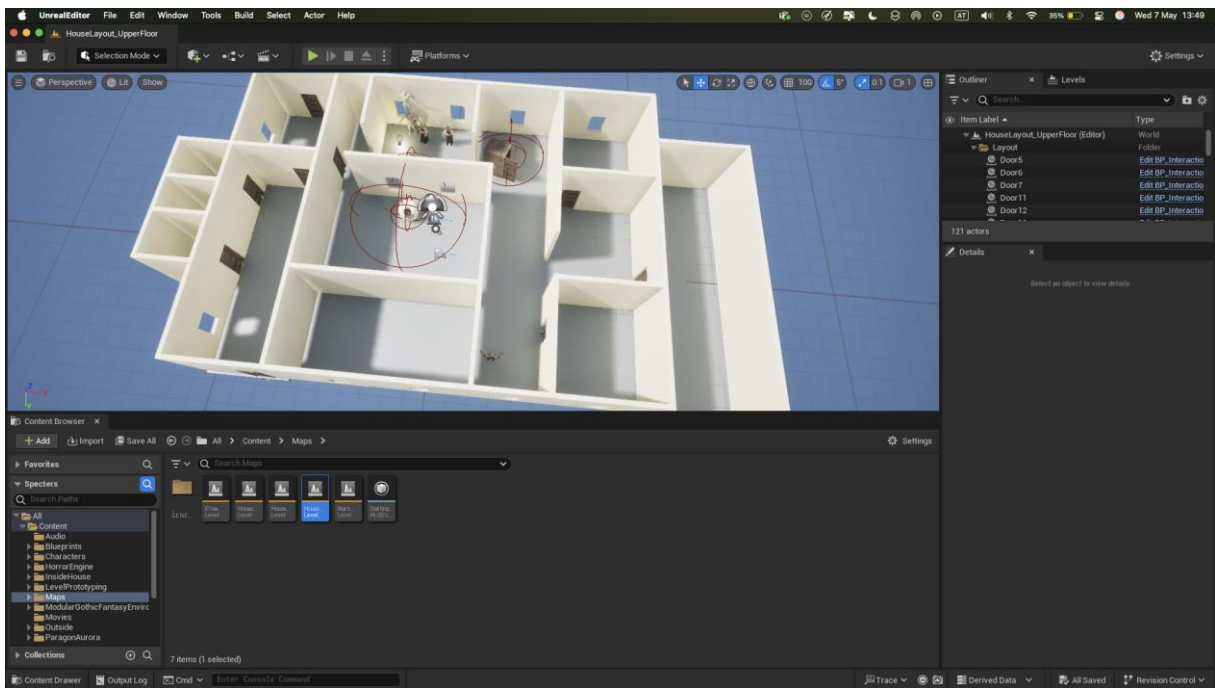
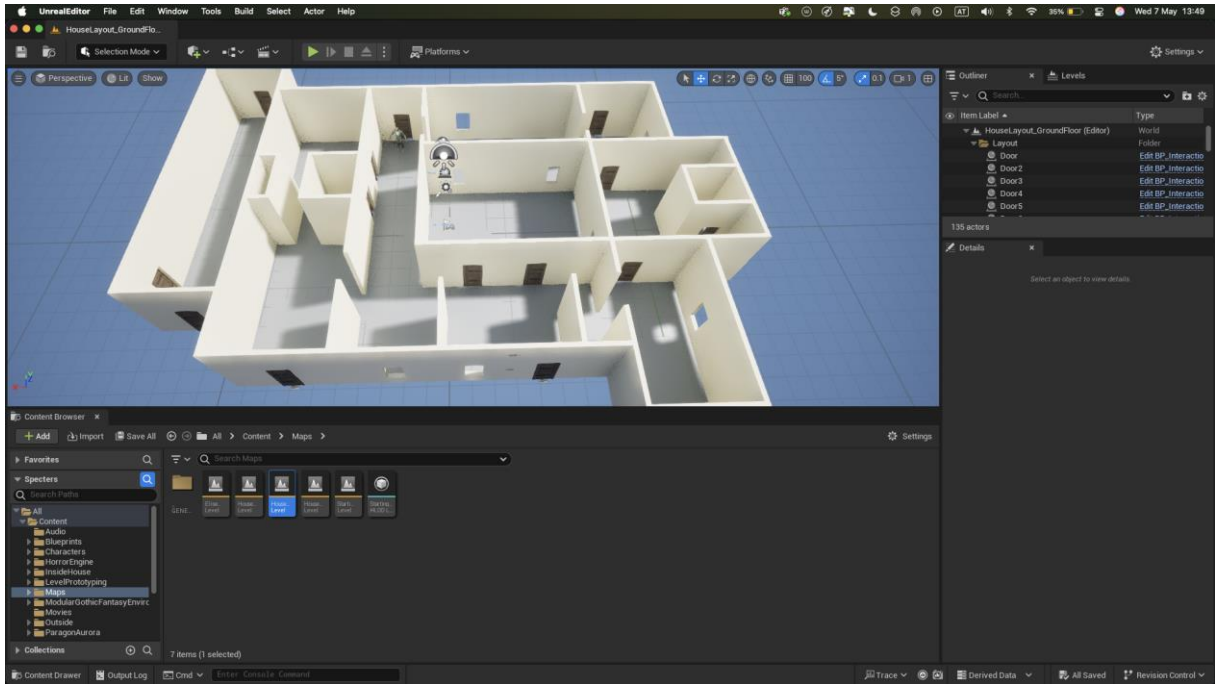
Implementation of Elisa into Unreal Engine





Environment in Unreal Engine





House Levels in Unreal Engine