

Taylor Medve

ITGM MA Final Project Process Book

Mère de la Cupidité





Past, Present, Future

**What is your
undergrad
degree?**

BFA in Animation:
Technical Direction
(SCAD 2021)

**What is your
area of interest
right now?**

Modeling/Texturing/Rigging
for Characters and
Environments

**What do you
want to do in
the industry?**

Modeling/Texturing/Rigging
within any digital media (Film,
Games, Live Entertainment,
etc.)

**Where are you
right now?**

Associate Visual Effects
Designer at Disney Live
Entertainment

Design Challenge

Create a character fully; from game design origin to concept to final execution of a full character, styled after a historical traditional art style.



Inspiration

The idea for this project started from my love of Art Nouveau and early 1900s art styles. In my spare time throughout the years, I love to make traditional pieces that are my interpretation of the Art Nouveau style with something in the scene that breaks the character from just being "clean and beautiful" or "normal (some of which you can see in my "Other Works" Page.)

Along with traditional work, I love to digitally model and texture characters and environments in both my personal and professional work. I thought my Master's project would be a great opportunity to blend both worlds and my love for traditional and digital arts.



Scope

Over ten weeks, the goal is to take the started Mere de la Cupidité project, which was a part of the Character Creation/Sculpting course, and turn it into an asset that would be fully implemented in Unreal Engine and could be implemented into a game.

Along with this, the style of look development would be inspired by Art Nouveau, which was commonly created in the method of Lithography. Lithography at a close view can be identifiable by the sharp defined linework but within the line work you can find a mixture of texture blending between the stone used in the printing process and the paper the print is on.





Lithography in History

Lithography was originally invented in Germany in the late 1790s by Alois Senefelder. The process started with using a greasy crayon on a stone, typically limestone, rolling ink on the prepped stone, and stamping it onto paper. As time progressed, so did the process of lithograph creation. By the late 1800s, lithography became an important style and method among Art Nouveau artists such as Alphonse Mucha. His work became a blend of both artistic graphical designs of nature and women and marketing for many areas of Eastern Europe. Lithography became a method of art not just recognized by other artists, but also the consumer, which expanded the range of who saw and what opinions people had of the work.

In relation to the history of Lithography, the aim is to replicate the stone and paper blended aesthetic that the original Lithography style provides, in the Unreal Engine.

Moodboard



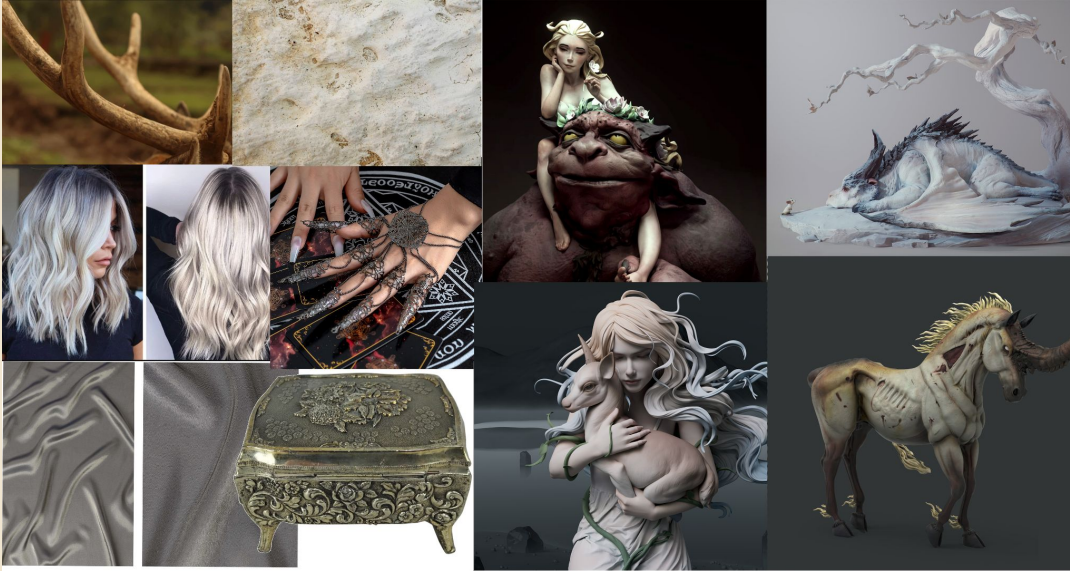
Style Inspiration

Theming Inspiration

References/Pre-Production

Original Illustration Idea

References/Inspiration

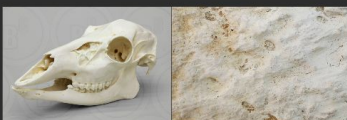


Mere de la Cupidite Character Creation PDF

VisionBoard



Art Nouveau art direction/Detailed borders



Skull Inspiration/texture: There will be an element of more grit to the skull compared to assets like her skin.



Color Gradients/Skin Painting method: Soft style that focuses on light to deep and dark tones, mainly in the skin.



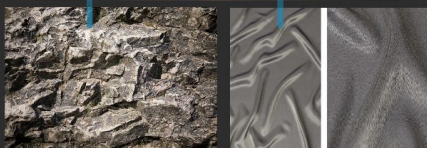
General Idea for
Horns and Hair



Combined combo of style of modeling; mixes multiple elements of the below notes



Metalwork Details, This will be used throughout the Armor pieces on the dress, and the jewelry that will be on her left hand.

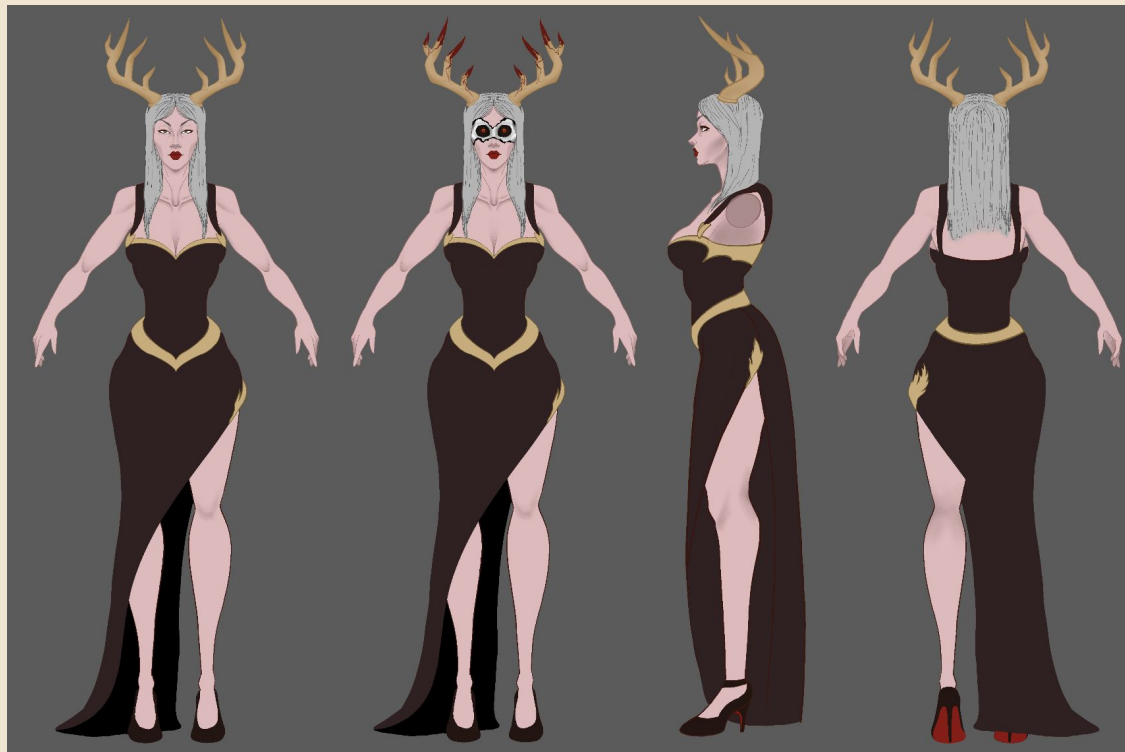


Material Refs for Clothing and Rockwork: Soft and silky texture will have less 'Lithograph' intensity on it vs something like the rock, which will have a lot of grit and texture applied.



Background inspiration: Subtle dead natural environment, but will not be a focus as their will be a strong DOF applied.

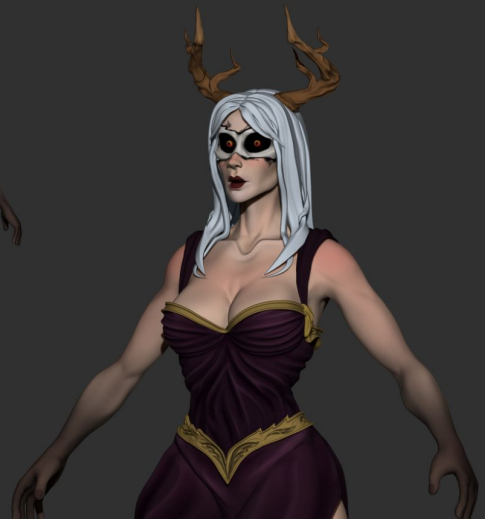
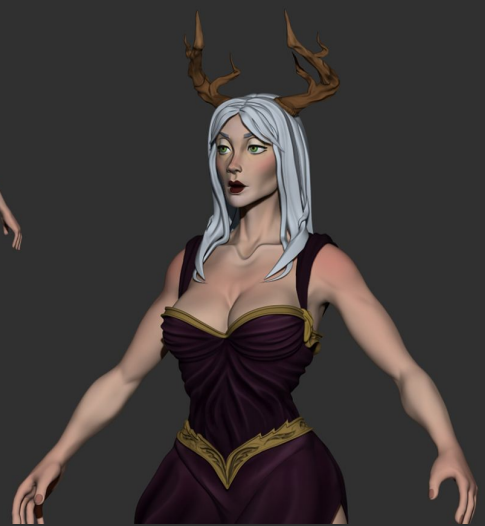
Concept and Turnarounds



Before vs After: Concept



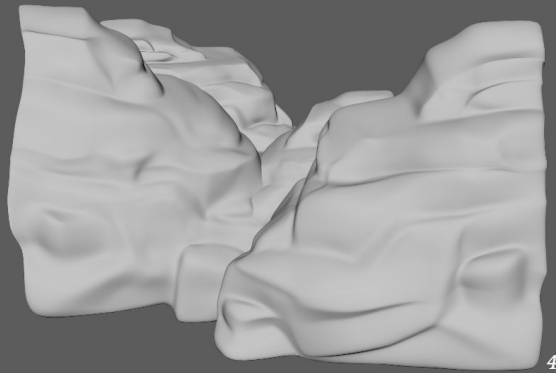
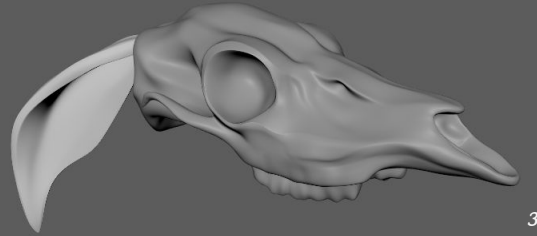
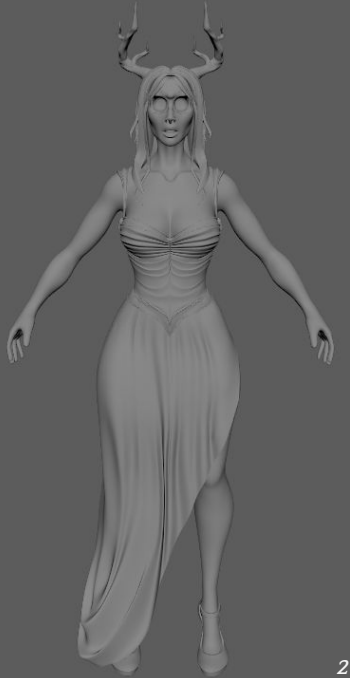
Sculpting



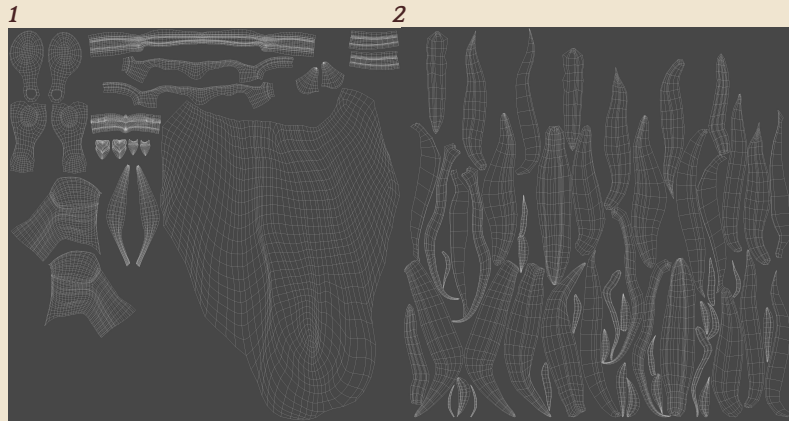
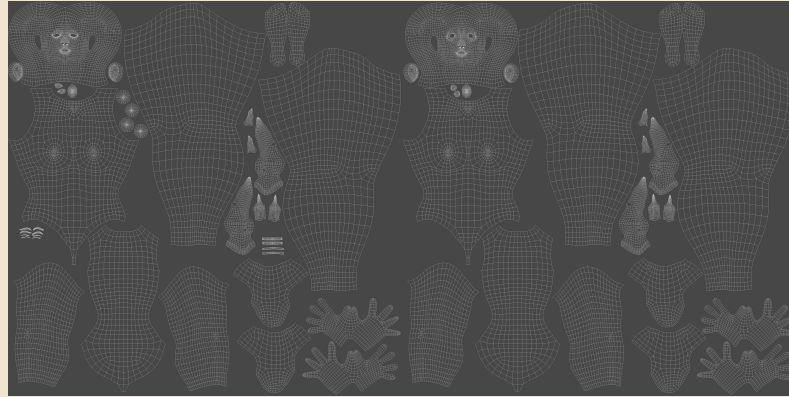
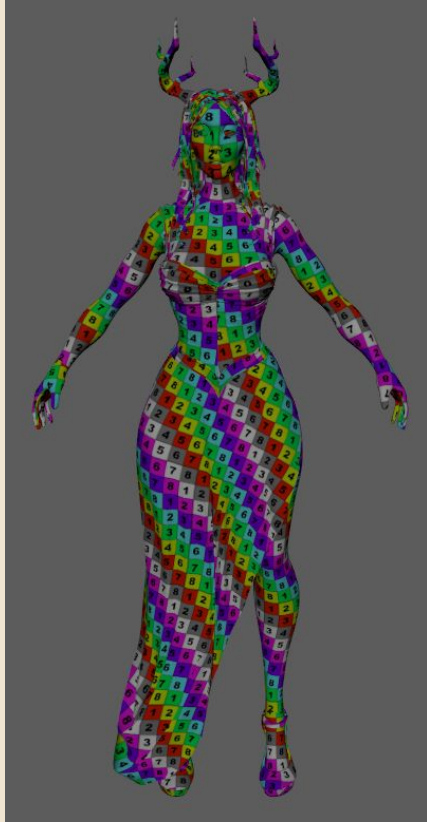
Concept vs Rough Model Test



Main Assets



Modeling and UVs

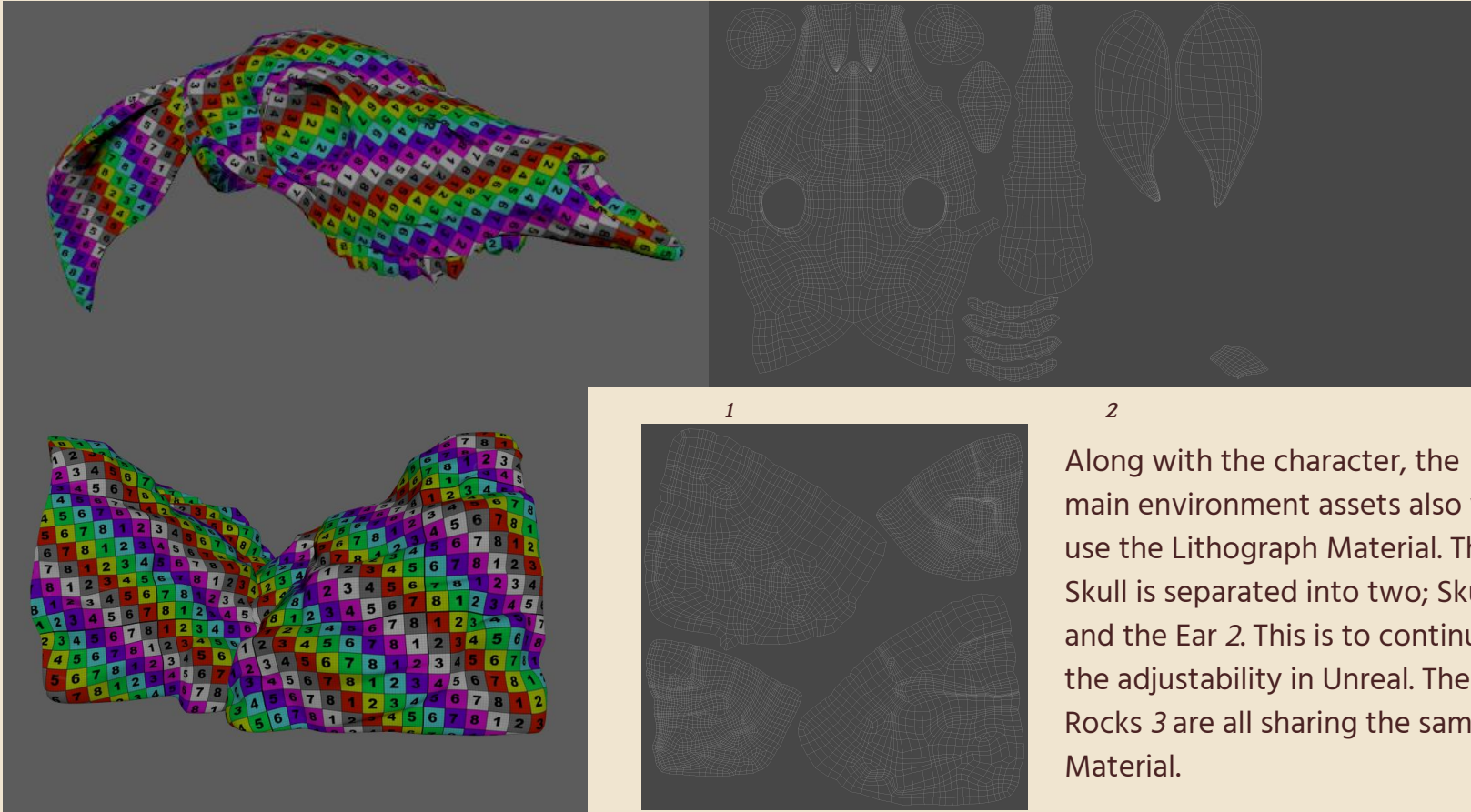


3

4

The character was split into four sections; Organics (Regular 1 and Dark Form 2), Non-Organics 3 and Hair 4. This allows for more control in Unreal to adjust the Lithograph attributes per material selection. When studying traditional Lithography pieces (new and old), darker inks tend to hide most of the texture that comes from the stone and paper than lighter ink tones would. All UV tiles are set to 4K.

Modeling and UVs

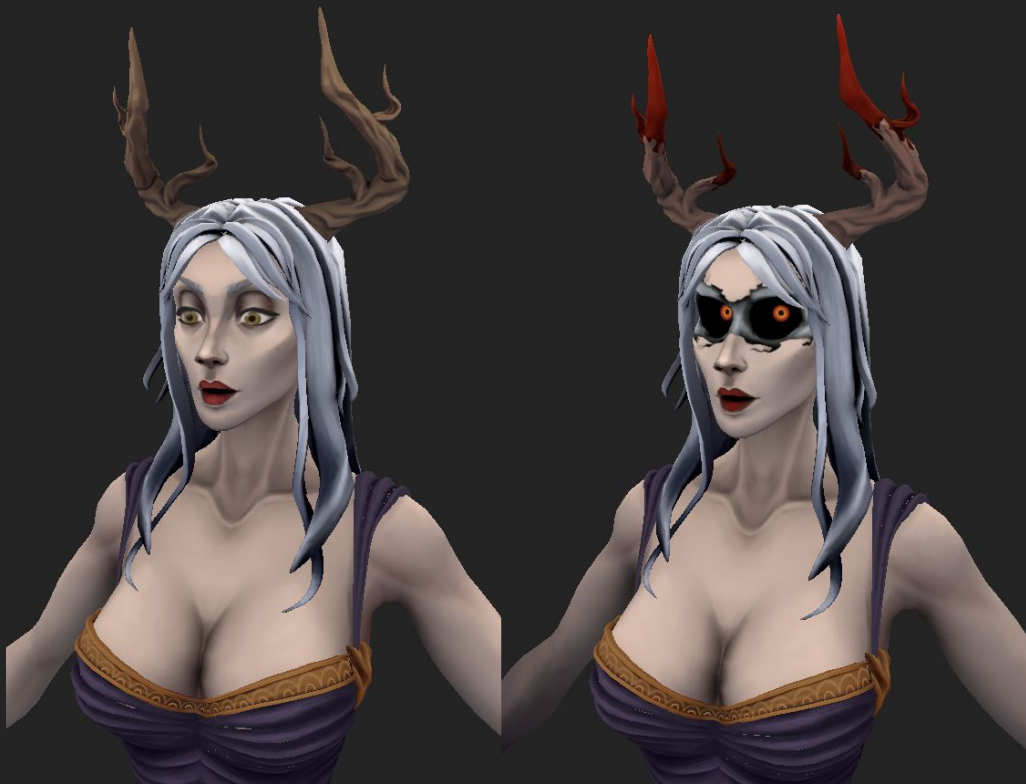


1

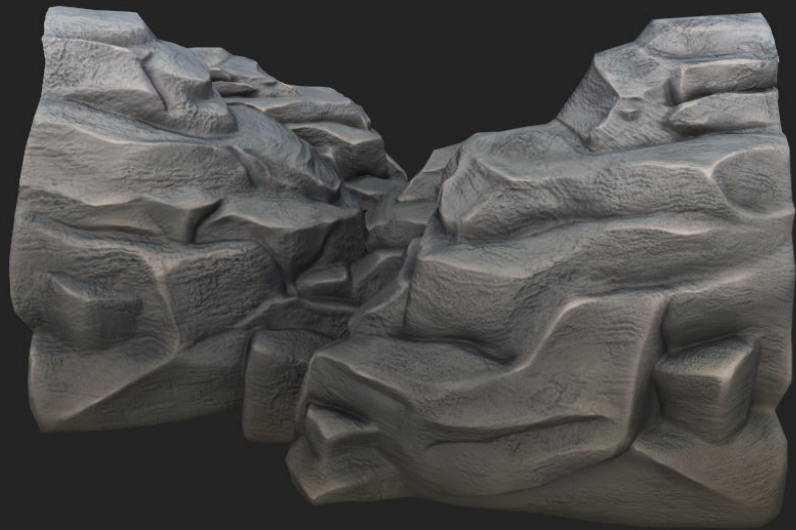
2

Along with the character, the main environment assets also use the Lithograph Material. The Skull is separated into two; Skull 1 and the Ear 2. This is to continue the adjustability in Unreal. The Rocks 3 are all sharing the same Material.

Texturing

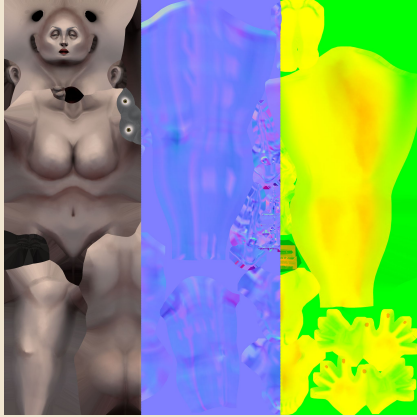


Texturing

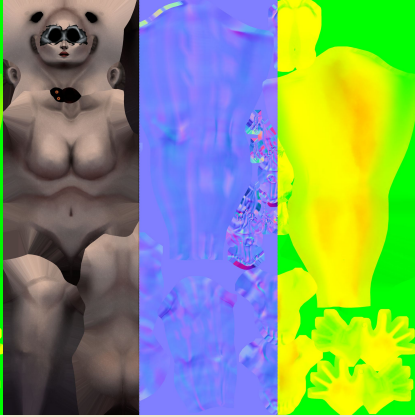


Texture Sheet

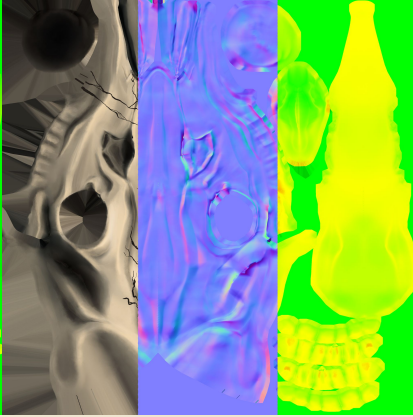
Regular Form



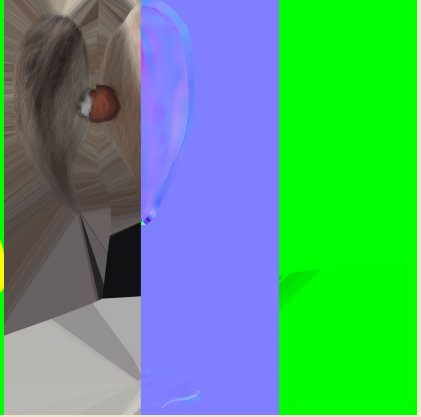
Dark Form



Skull



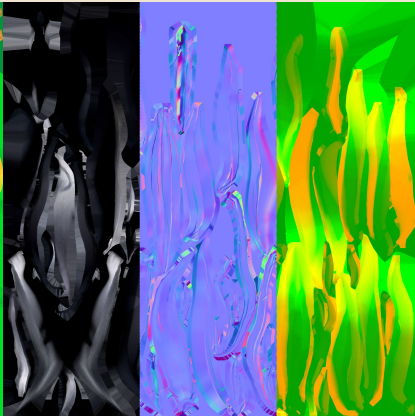
Ear



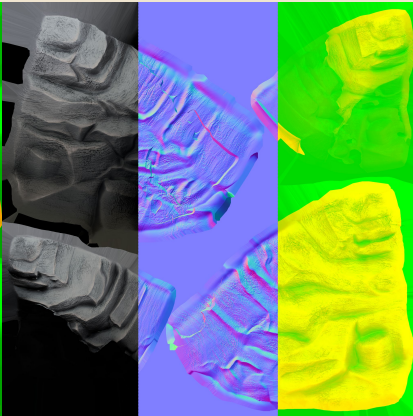
Non-Organics



Hair



Rocks



As mentioned previously, the material separation will help with making needing to make adjustments on specific sections rather than to a whole model, in turn saving time.

The Logic Behind the Lithography Material

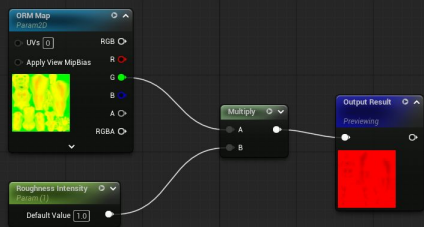
Each section of the Material was created primarily through Material Functions. This allowed for better organization in both the material and the material instance, which an artist would use to easily apply to their assets. To achieve the desired look, the Lithography style had to be separated into two materials, the Lithography Material and the Shading/Line Style Post-Process Material. The Lithography Material focuses on the textural aspects and the artistic decision making of the process while the Post-Process Material focuses on the application of the Line Art effect and the appearance of lights, shadows and depth within the project.



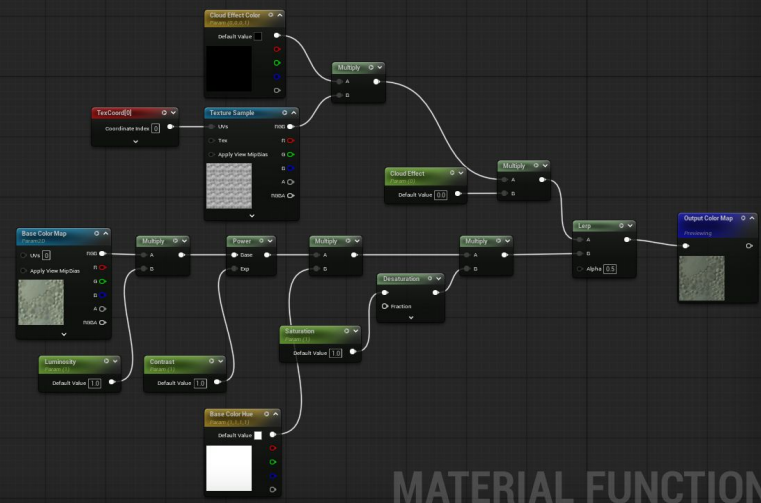
Lithography Blueprinting



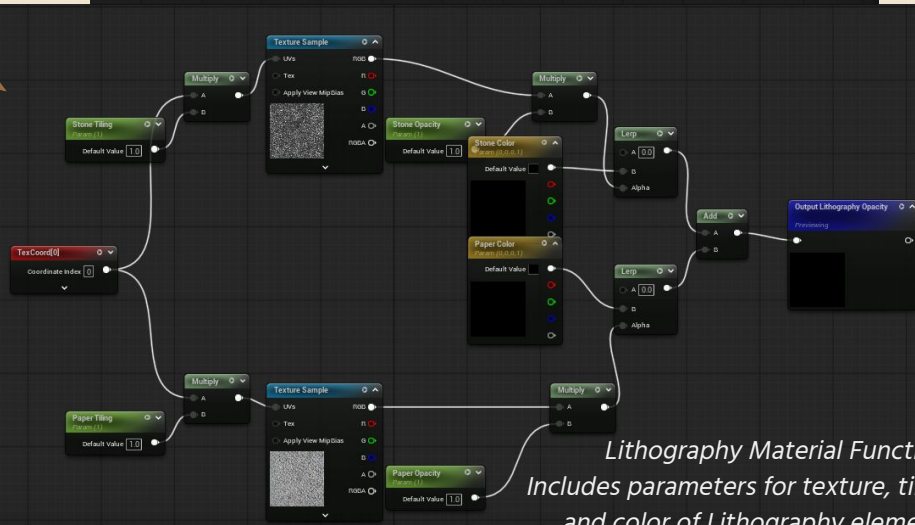
**Litho Mašk
discussed
on next
slide*



**This Blueprint is relatively the same for the Roughness, Normals, Metallic, Emissive, AO and Opacity Functions.*



MATERIAL FUNCTION



*Lithography Material Function:
Includes parameters for texture, tiling
and color of Lithography elements*

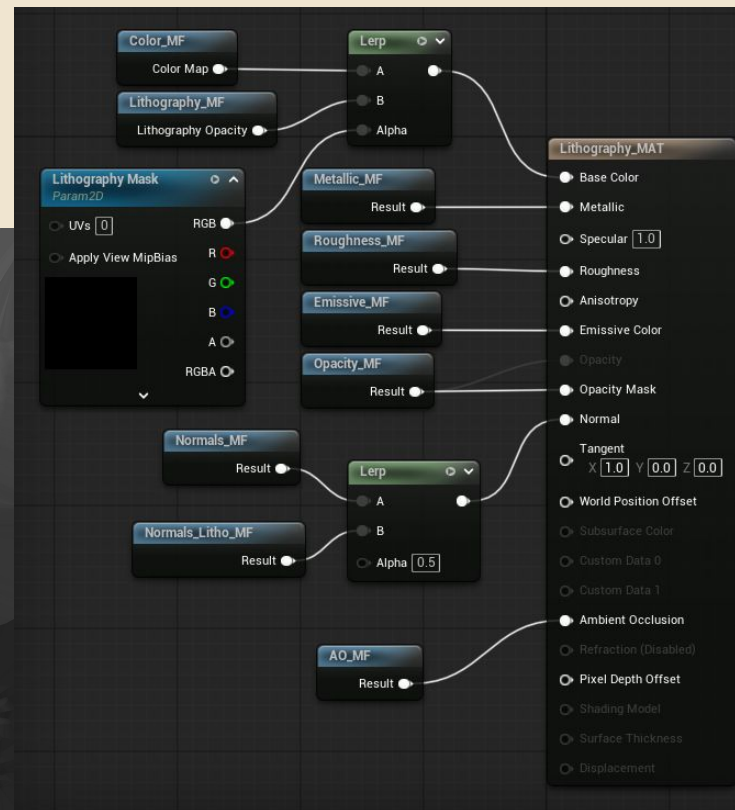
Lithography Blueprinting (cont.)

A deeper dive into the Lithography Material, you'll find the attributes can be masked out using an adjusted texture. This was made starting with the Base Color Texture, made Black and White, and then adjusted depending on what we don't want to have show the effect as much. In this case, on the Dark Form model, I completely blocked out the skull's eye region because I wanted the deep effect of the Emissive eyes being surrounded in a void.

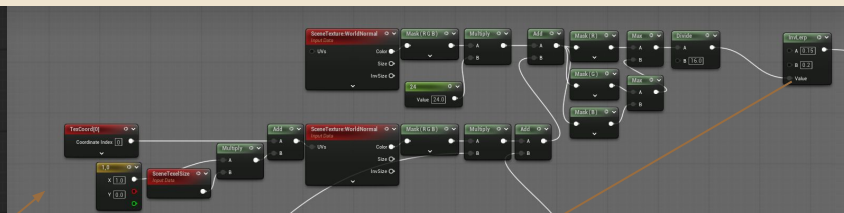
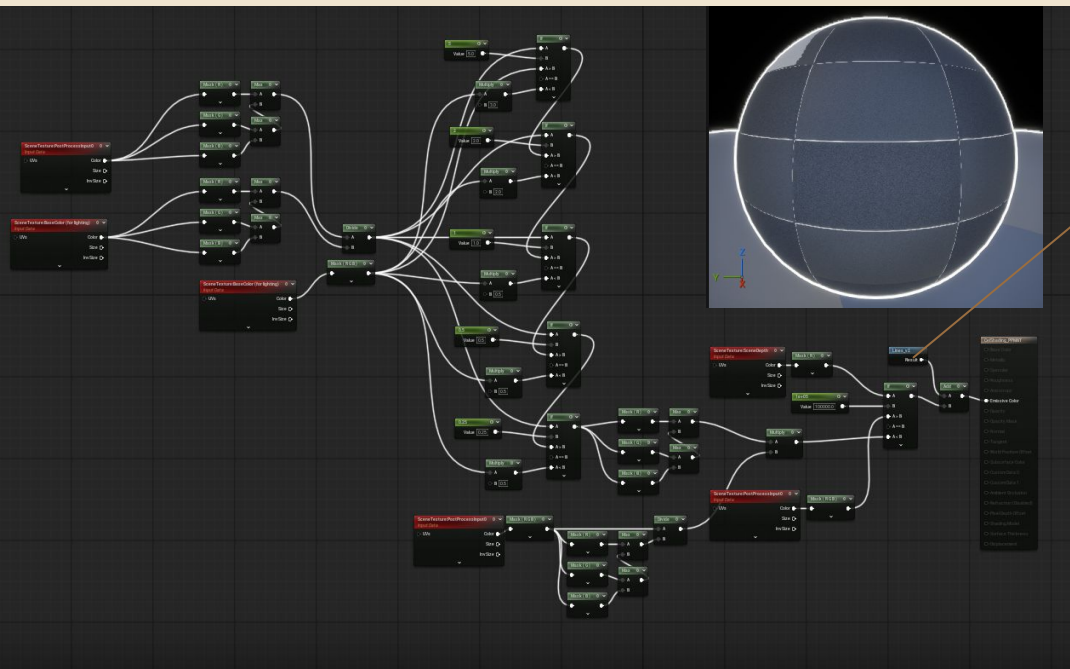


Base Color

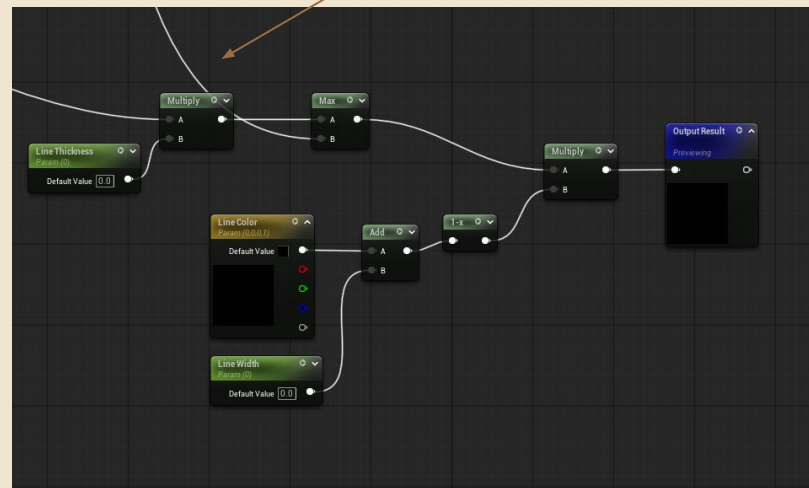
Lithography Mask



Post-Processing Blueprinting



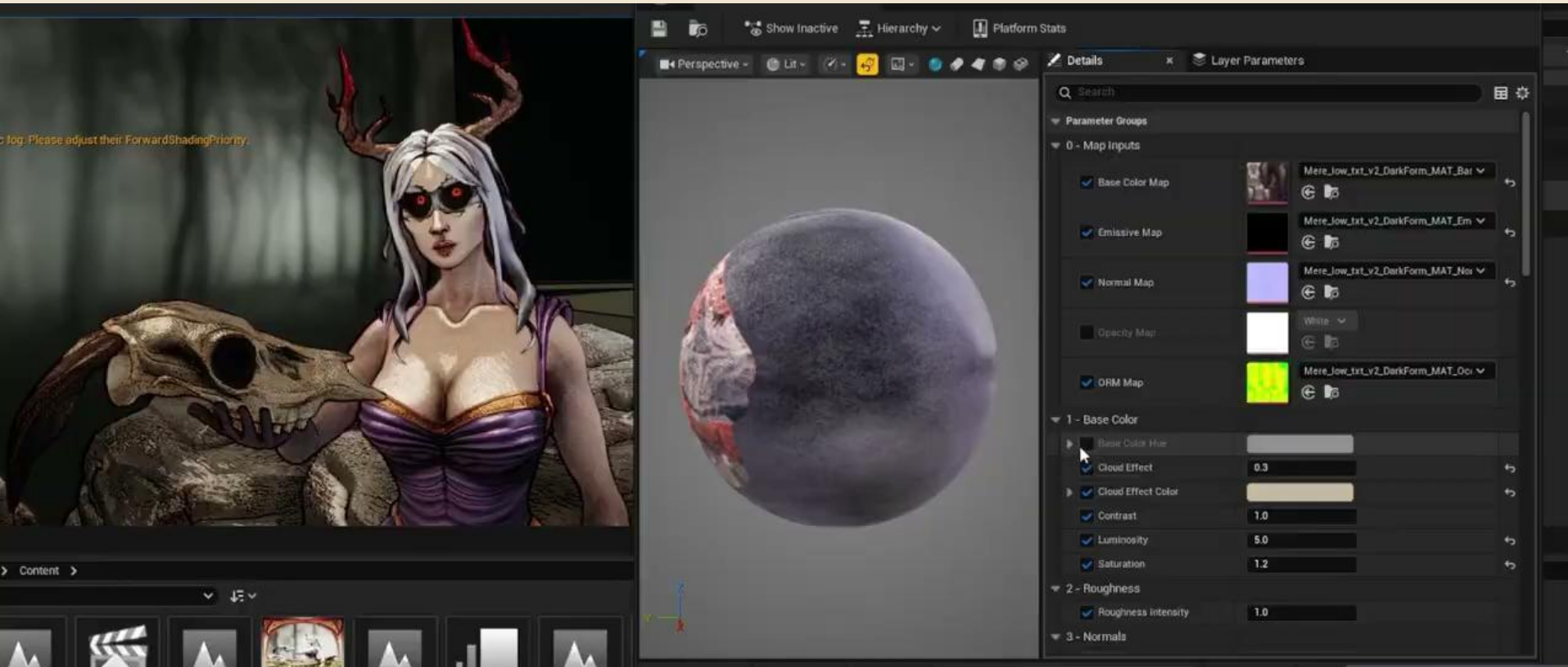
**Within the Line Art Material Function, this section of the blueprint is multiplied many times to define multiple pixels in each direction to create the line based on a normals edge and depth.*



** Both Sections combined are brought into this part of the BP and are attached to the rest of the Shading Material, and further adjusted in the Material Instance,*

For the Post Processing Material, the method was based more on a Cel Shading method combined with a Line Art Material Function, but with more variation to make it less cartoon-ish. This effect is most noticeable in assets that have a section of Low Roughness/High Metallic. Then, the material was combined with a Line Material Function, that uses the Normals and Depth of an object on a pixel basis to determine where linework would appear. This attribute was also made into a multiple parameters to help adjust the color and thickness of the lines.

Lithography Material Walk-Thru



Close Up Before and After Lithograph Material/Post-Processing



Comparison of Lithography Material



Substance Painter
Applied Effect

Main Takeaways-

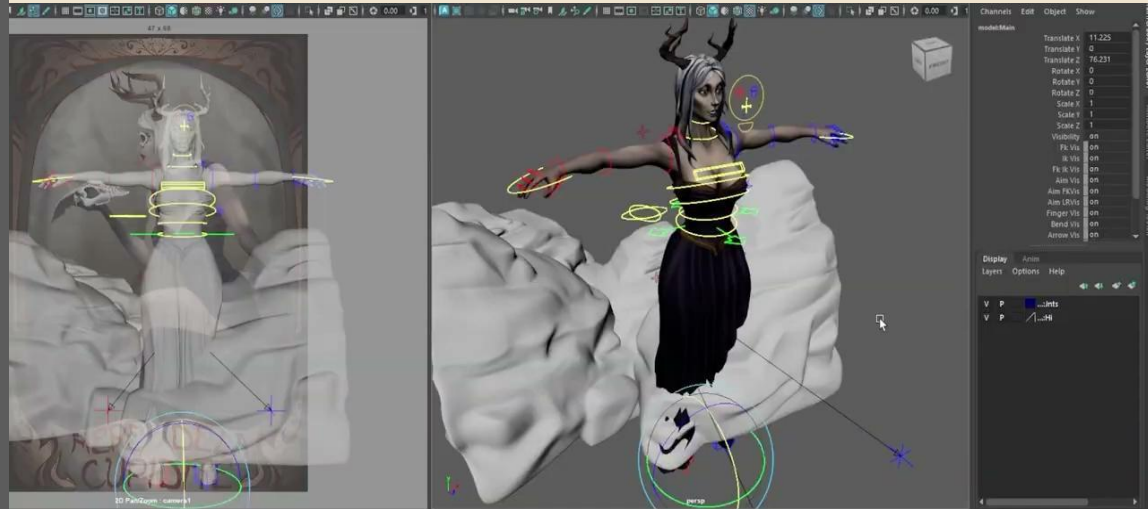
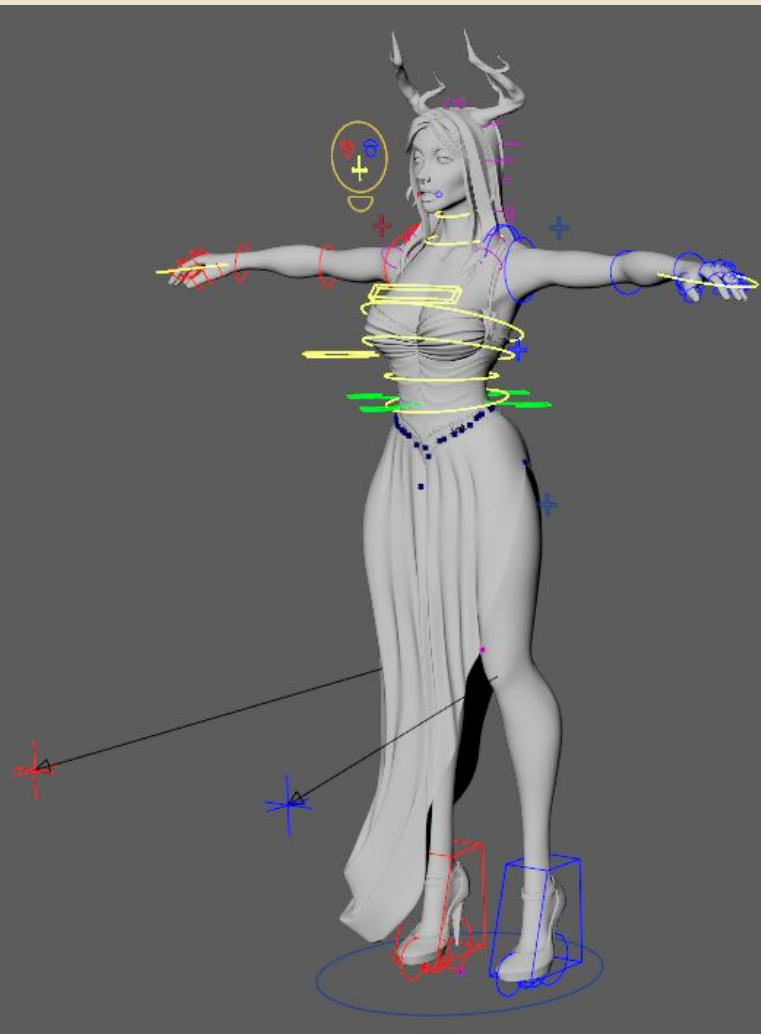
- While you can achieve the same base look through just texturing the effect on, you could end up in a constant back and forth process between Painter and UE to achieve the desired effect. The material allows to easily adjust in UE and use a mask to highlight exactly where you want the effect, which save you time and could achieve a more precise application of the effect on each material type.
- You can texture to perfection for the final piece, but the Post-Process Material pushes it further into the style, including the line art effect, which is also adjustable in UE.

Close-Up Renders and AOVs



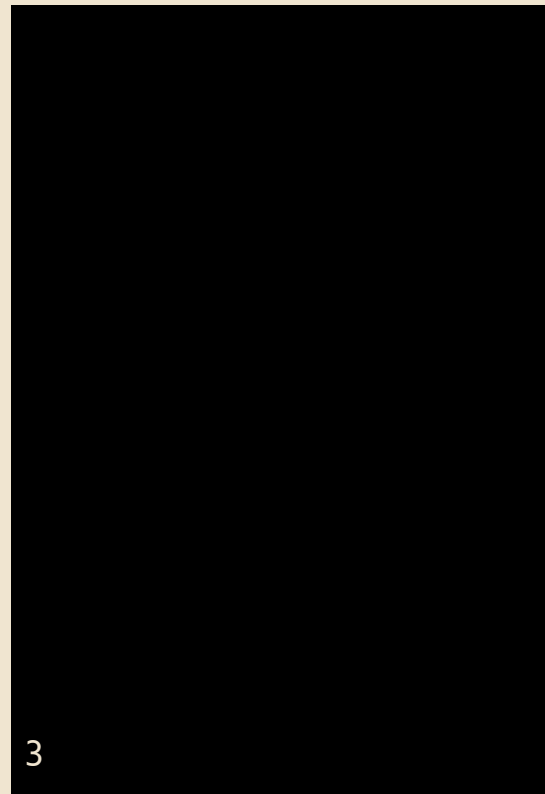
Character Rig and 3D Storyboard

To give the character and scene some additional keep-alive/animation, I created a character rig using Advanced Skeleton in Maya. I've used this previously with non-human characters in UE 5.3 and while the task was completed, that experience came with a lot of bugs and learning. For this project, 5.6 has dramatically made the experience more manageable. Besides the general biped rig attributes and some corrective blendshapes, the rig was made to be able to easily switch between the Regular and Dark Form, both in FK and IK. A character blueprint is then used in UE to easily choose which "skin" or option is preferred. Below is the Rig test and Storyboard for the video deliverable.



Animation Testing and Transitions

Below is the first test renders with animations and the transition. In this scene, she cracks the glass and will reveal the Dark Form mixed with the Regular Form. After a moment, the crack will heal. In the first test, everything was brought together, but realized various issues in timing and how the transition was. With the second render, I dialed in the crack and transition but then timing slowed down greatly and the border and the character felt unbalanced. In the third render, everything was dialed in further and was closer to the vision.







Final Project Goals

- Texture and Rig the “Mère de la Cupidité” character
- Create an environment, including a surrounding Art Nouveau style border.
- Create a lithograph inspired adjustable material in UE for look dev.
- Create animation for “keep alive” and assemble in UE for rendering.

Process

- Create stylized textures for the Character and Environment, including the border.
- Create a lithograph inspired adjustable material in Unreal Engine 5 for look dev.
- Rig in Maya using Advanced Skeleton, for a fast and clean import process into the Unreal Engine.
- Use Maya to create an animation as well as make both forms of the character with blendshapes to switch between the two forms.
- Finally, assemble, light and render in Unreal Engine 5.



Process

1 Researching Stylization and Look Devp.

- Researching exact style for the final look development that will be used for Texturing/Material Creation
- Modeling the environment and prop surrounding the character.

2 Texturing/ Stylization Development

- Create Stylized textures for the character and environment.
- Push above textures with creating a material in UE to push the art nouveau style.

3 Set Dressing

- Finalize 2D assets for the Border surrounding the character.
- Place all other assets in final locations in the scene (2D and 3D assets)

4 Rigging/ Animation

- Create a simple rig that includes a blendshape for the dark form.
- Create an animation for some keep-alive.

5 Final Presentation

- Light the environment
- Render out a few various shots/angles of the full piece. Some closer shots, some as if it were a physical piece of artwork on a wall.

Detailed Timeline/Task List

[illegible]

Evaluation/Success Criteria

The Evaluation method will be based on two aspects;

1. the success of the material to match a realistic lithography fine art style.
2. Develop a full character, from concept into its' successful delivery and usability in the Unreal Engine.



Final Deliverables

- Minimum 3 Rendered Stills of the full scene with the character, displaying both forms.
- A video render of the character animated in the scene.
- Lithograph UE Material that can be adjustable based on preference.
- Assets for the Character Rig (Model, Rig and Textures)
 - Process Book



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https://www.prosoundeffects.com/sound-effects/PSE_OCX/rGZBd/Glass-Crack-Slow-and-Light-Stress

Software Statement

Software Throughout the Project:

Photoshop

Substance Designer

Procreate

Marvelous Designer

Zbrush

Unreal Engine 5.6

Maya

After Effects

Used in Presentation:

Photoshop

Canva

Procreate

Google Slides

PureRef

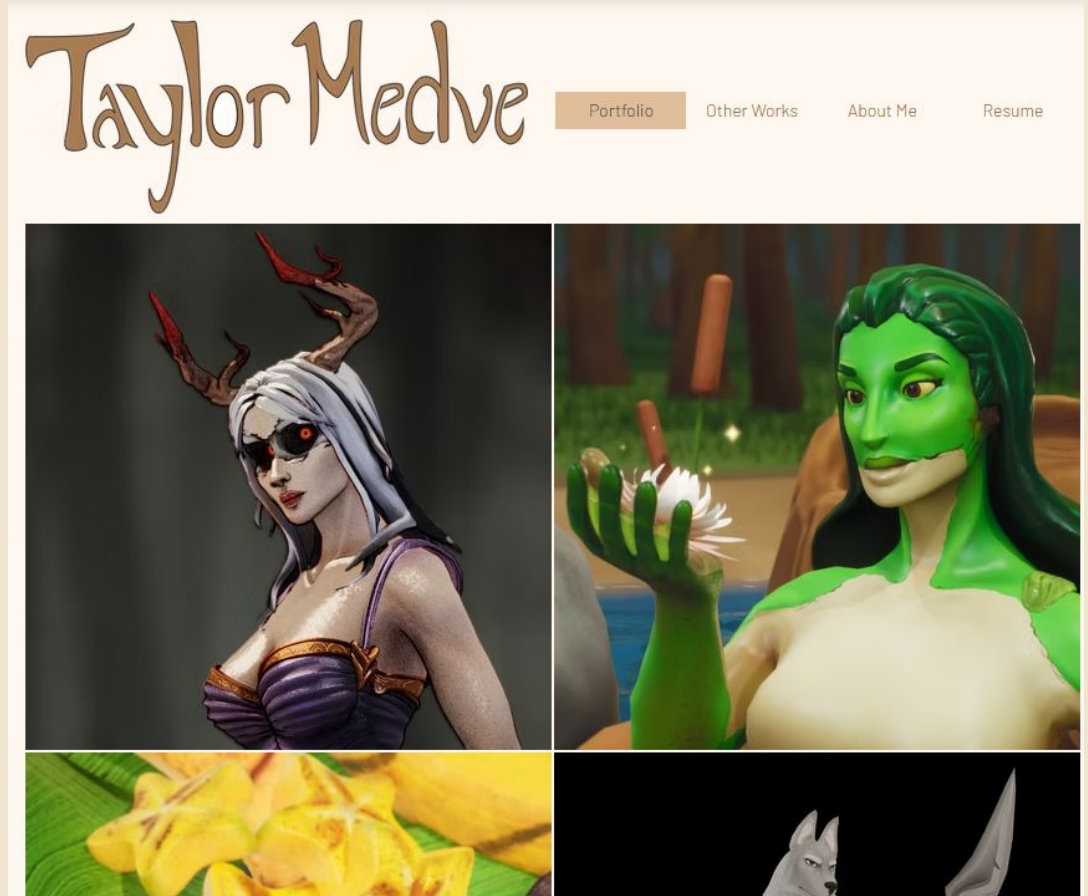
Portfolio Website

Main Site:

<https://www.taylormedveportfolio.com/>

Link for Project:

<https://www.taylormedveportfolio.com/meredelacupidite>



Thank You!