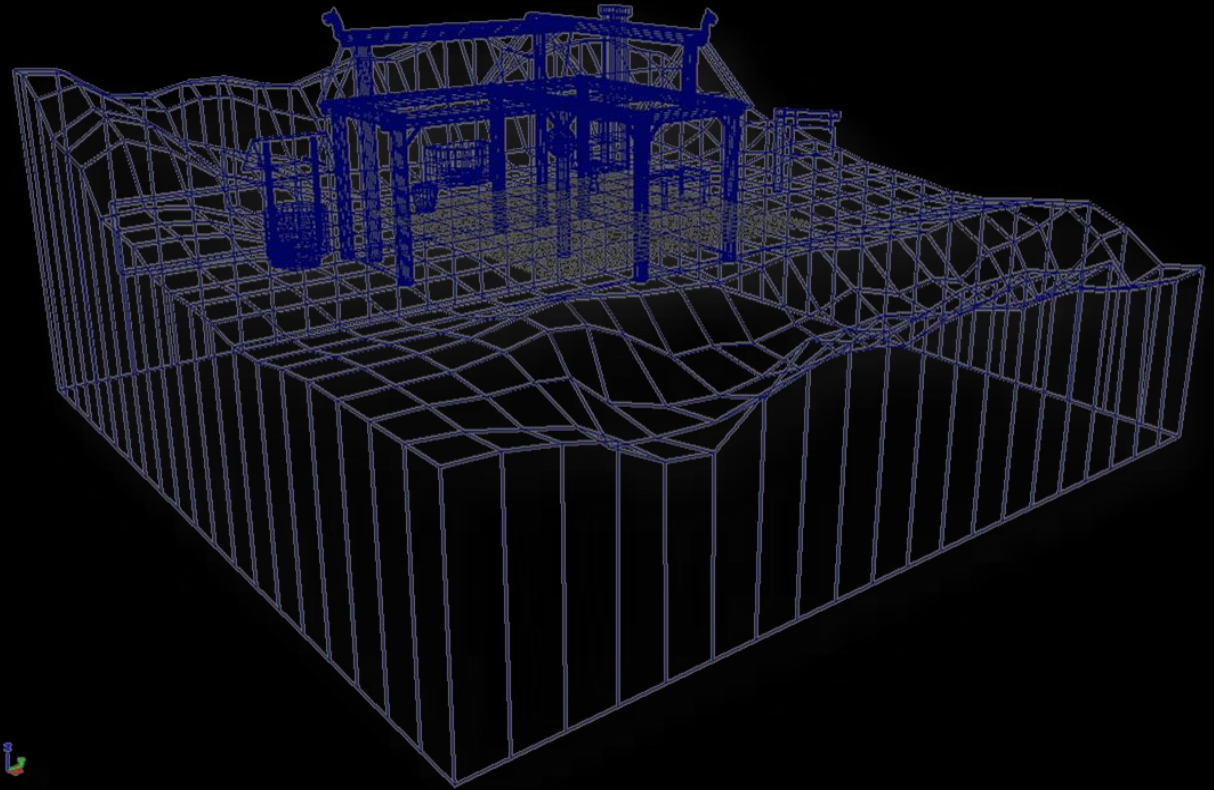


Environment & Level Design ACCA4032

3D Diorama Presentation
Rory Evans (2218702)



INTRODUCTION



- Research
- 3D Modeling
- UV Maps & Textures
- Unreal Engine 5
- Final Diorama

RESEARCH

- Inspirations
- Games
- Diorama
- Props & Assets
- Pre-Production





[4]



[3]

INSPIRATIONS

- Vikings
- Vinland Saga
- Lord of the rings



[4]



[5]

ELDER SCROLLS V: SKYRIM



VALHEIM



THE WITCHER 3





[7]



[8]



[9]



[9]



[10]



[11]

DIORAMA RESEARCH

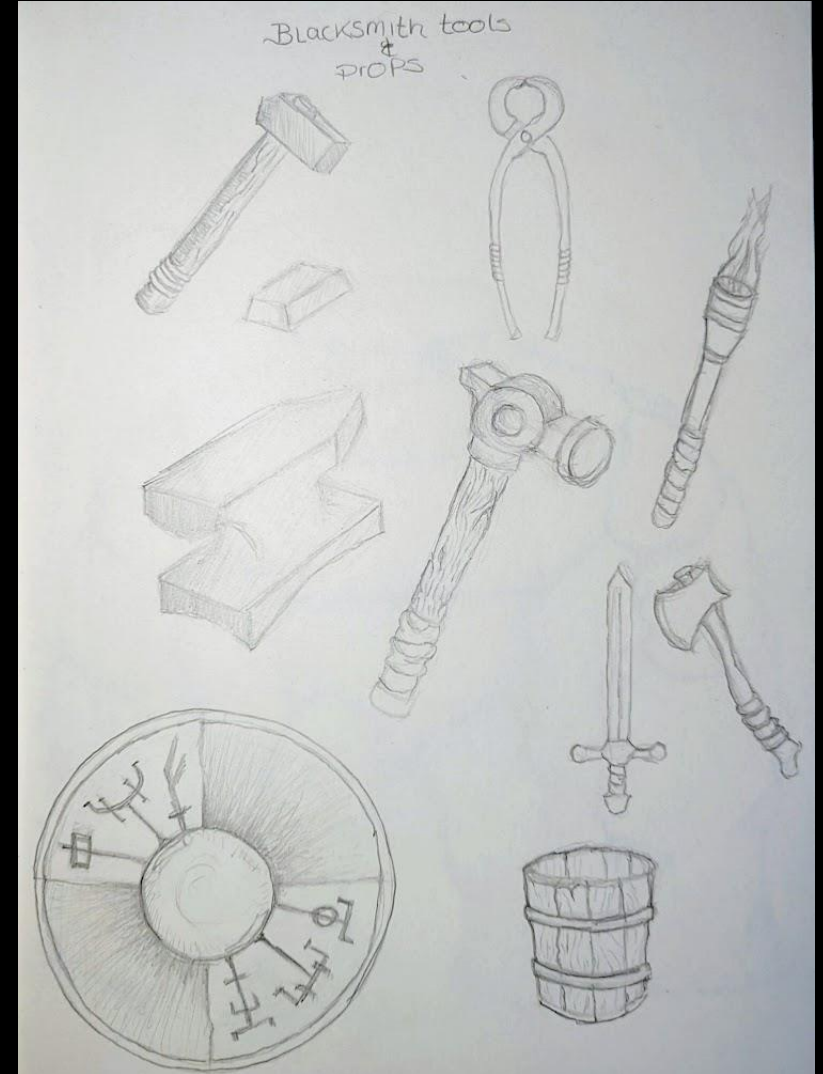
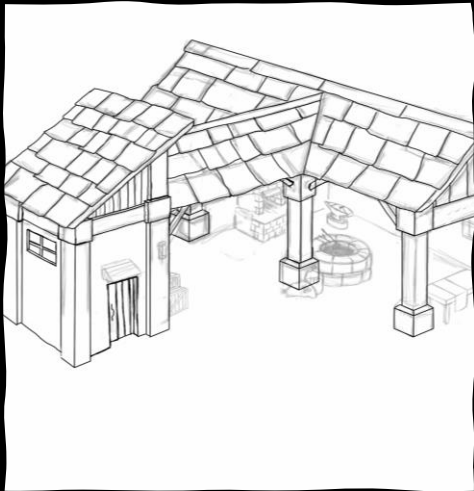
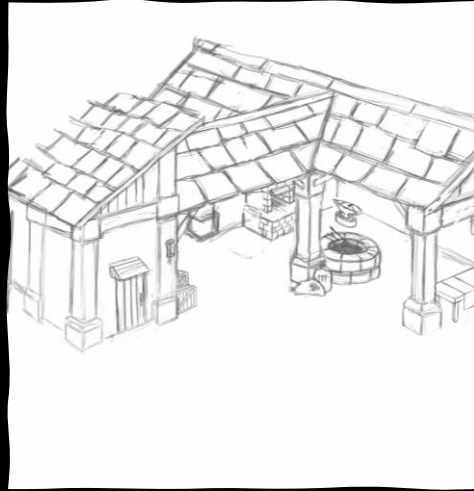


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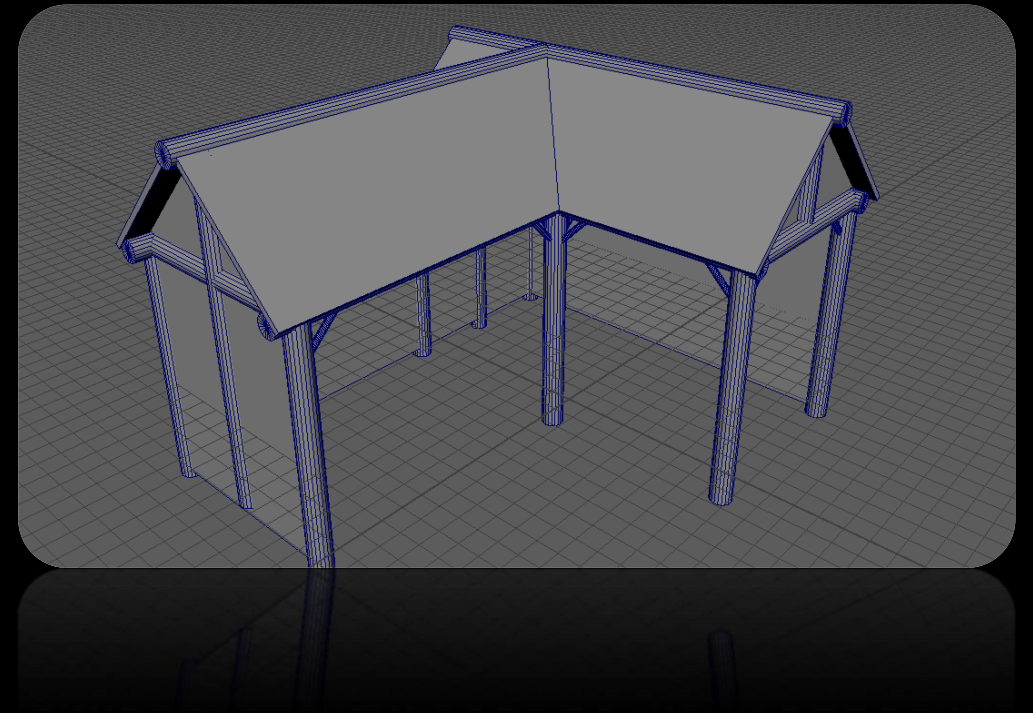
PROPS & ASSETS

CONCEPT DESIGN

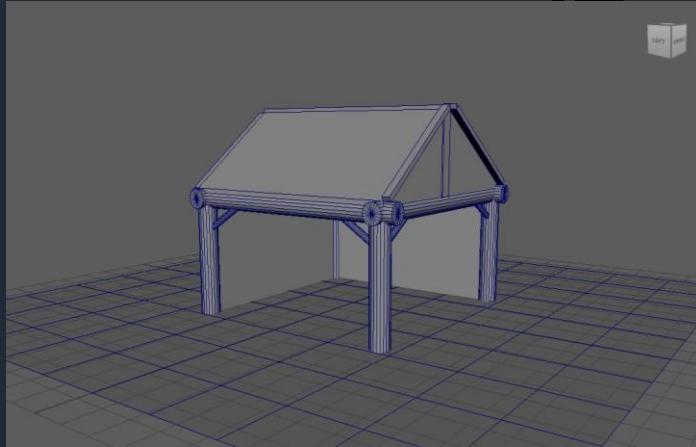


3D MODELING

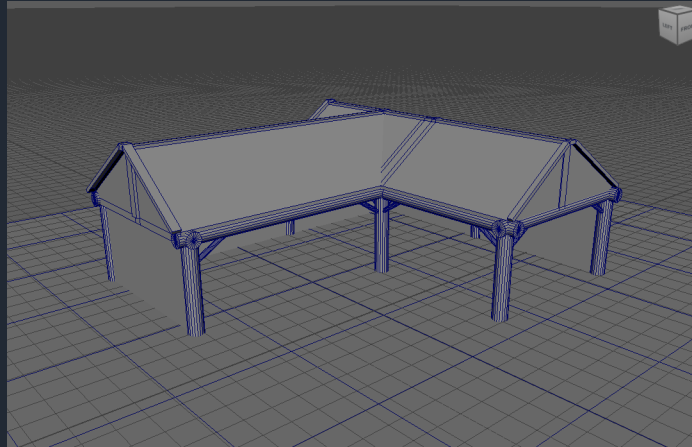
- Main Structure
- Landscape
- Props & Assets
- Challenges



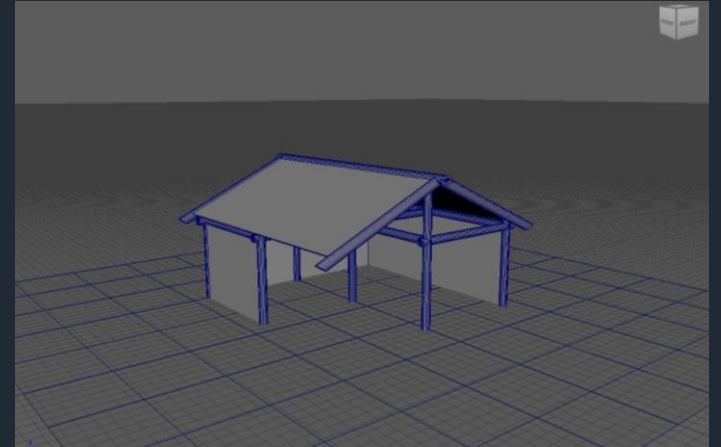
MAIN STRUCTURE DESIGNS



Initial idea, went with a basic geometry shape (Trying to keep it simple)

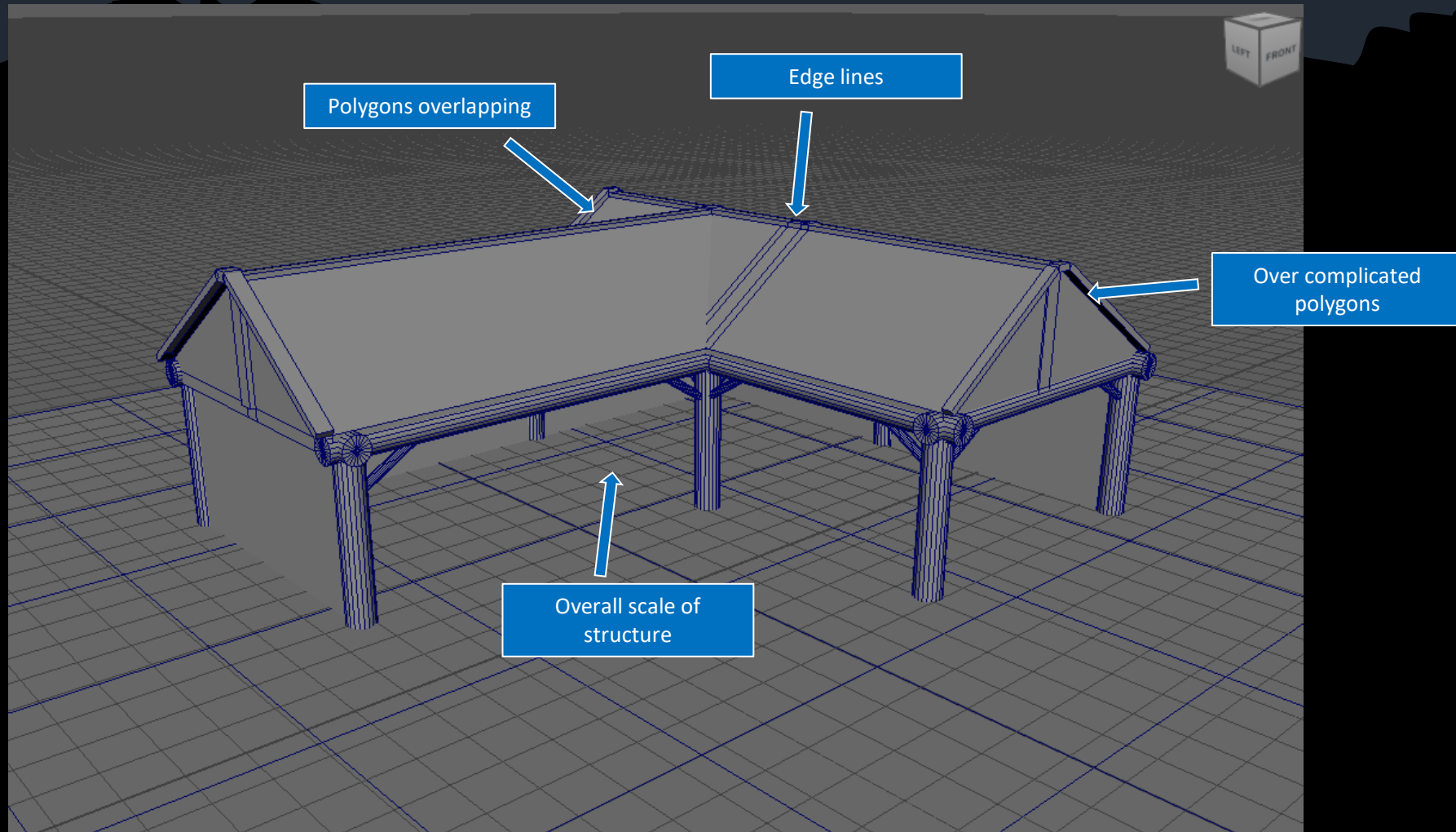


Next, I decided to expand the space of my model and change the shape of the main structure

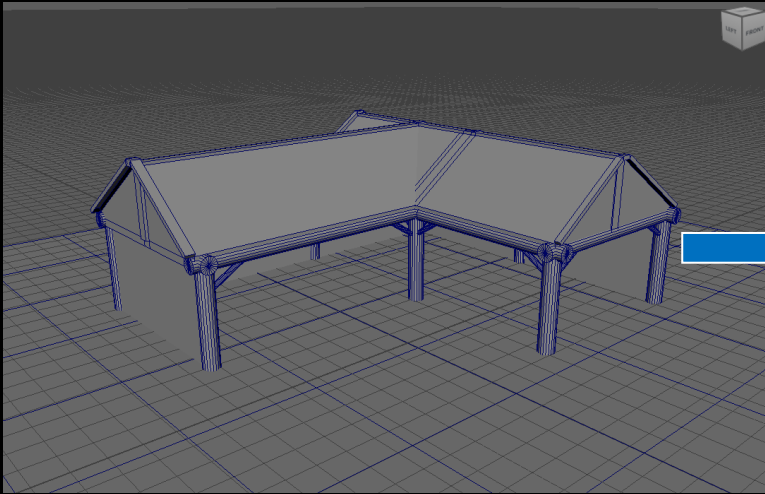


I then decided to try out a simple square shaped design to explore other ideas

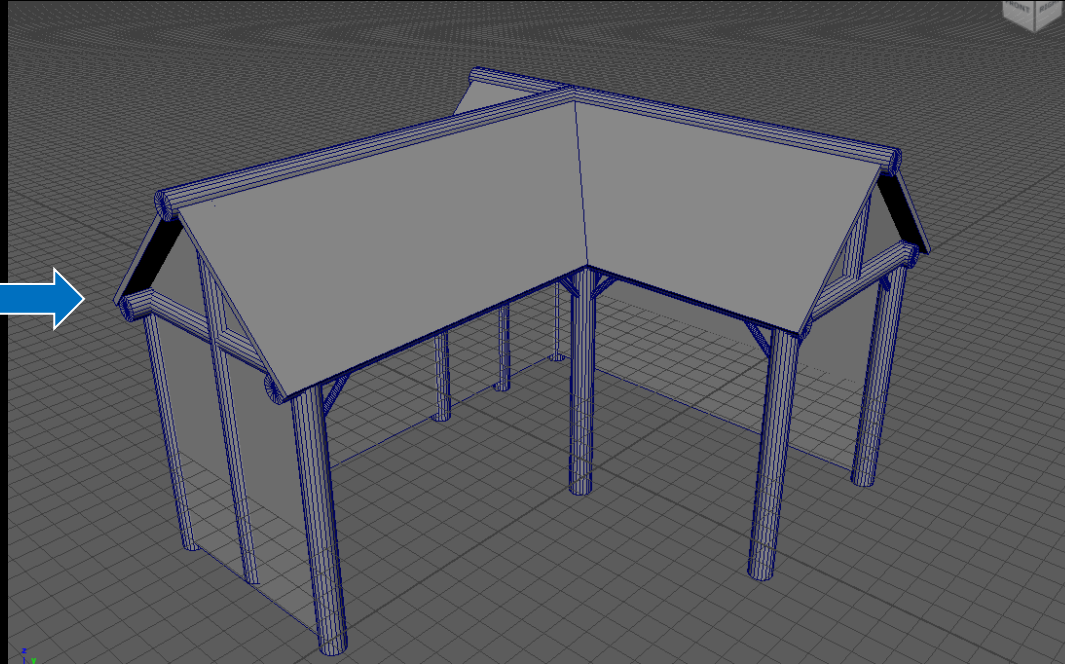
CHALLENGES



FINAL DESIGN



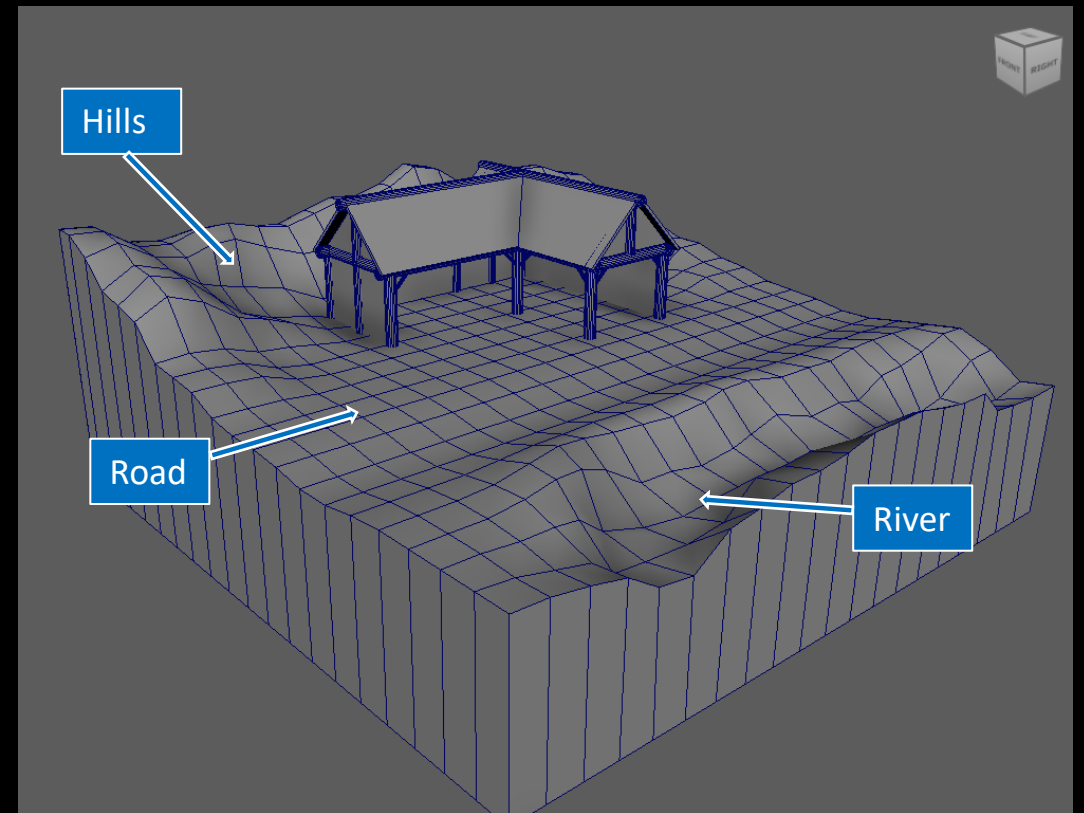
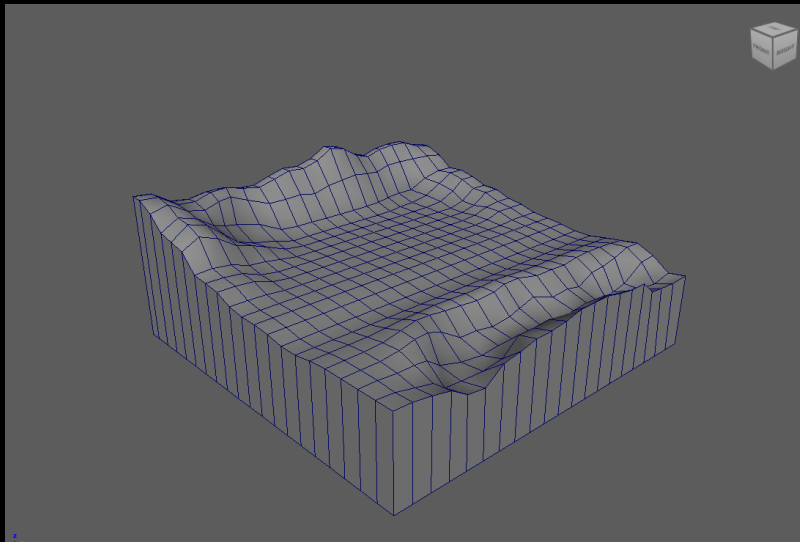
I decided to go with the "T"
shaped design



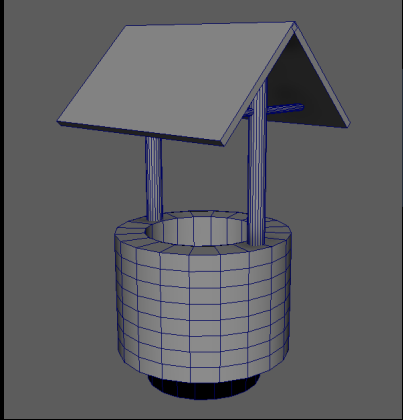
The re-design of my model

CREATING THE LANDSCAPE

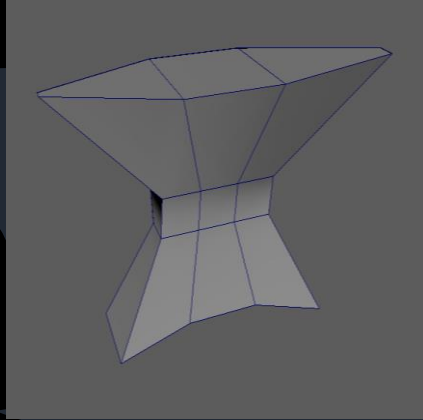
Working on the landscape model of how my main structure would fit into the environment



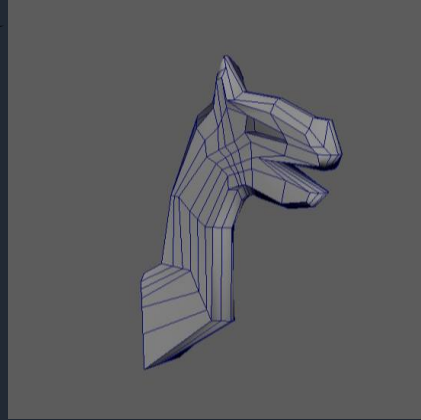
SMALL MODELS



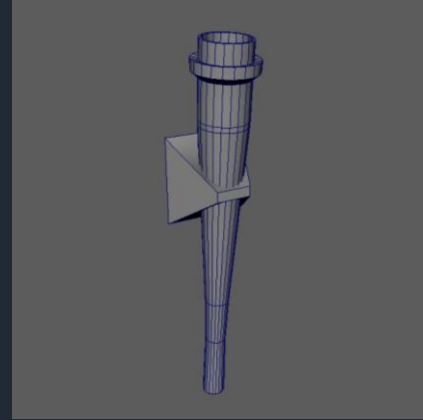
Well



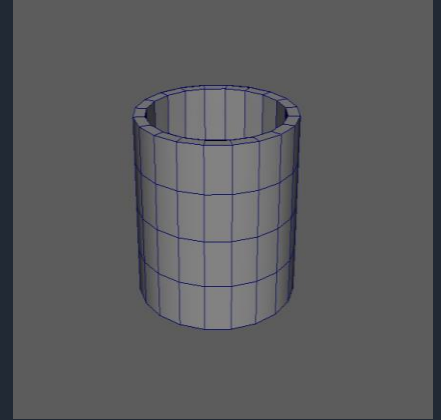
Anvil



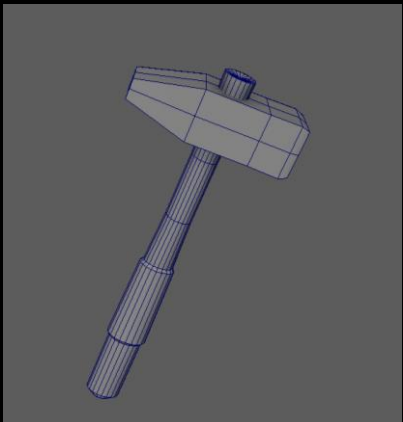
Beast Head



Torch



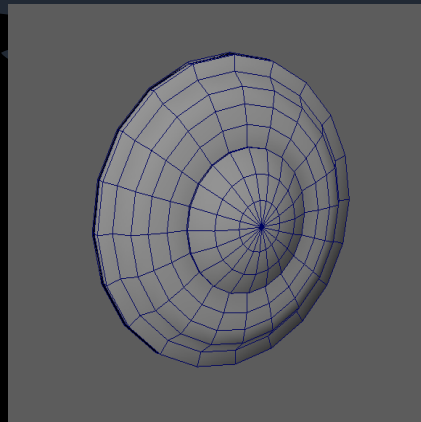
Bucket



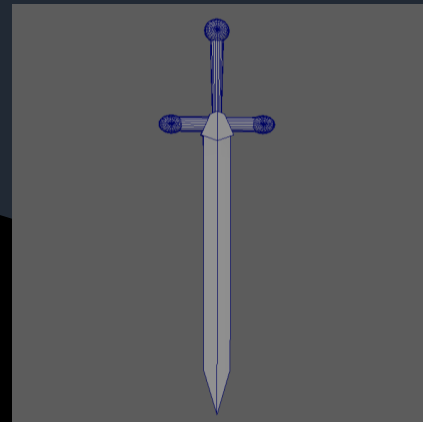
Hammer Version 1



Hammer Version 2



Shield

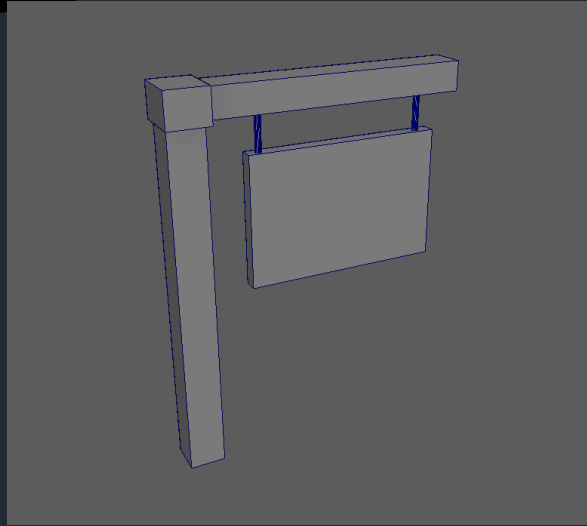


Sword Version 1

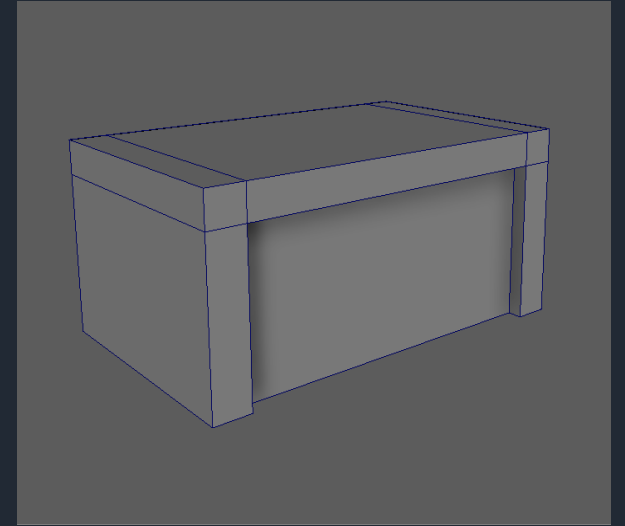


Sword Version 2

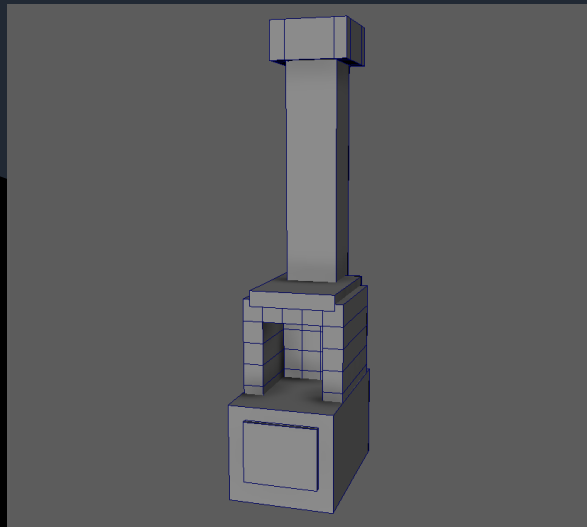
LARGE MODELS



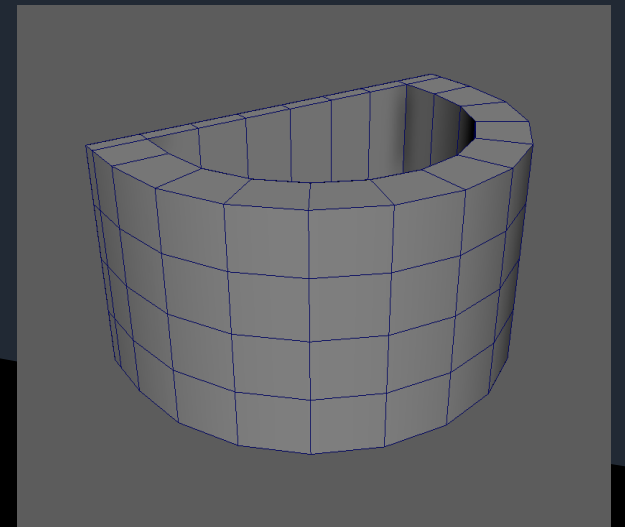
Blacksmith Sign



Workbench

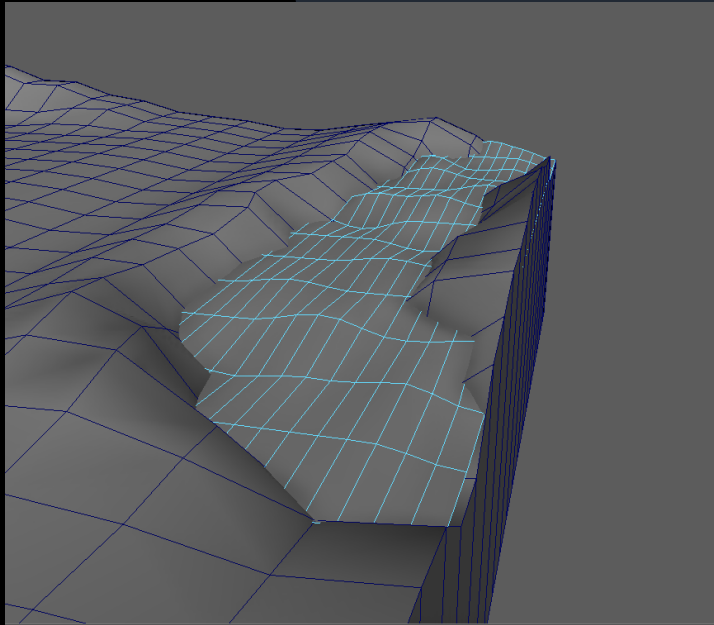


Furnace

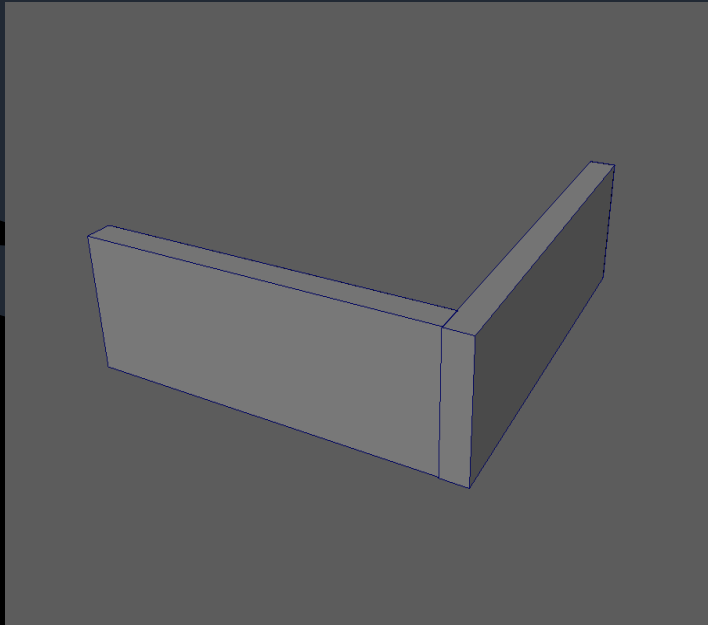


Fire Pit

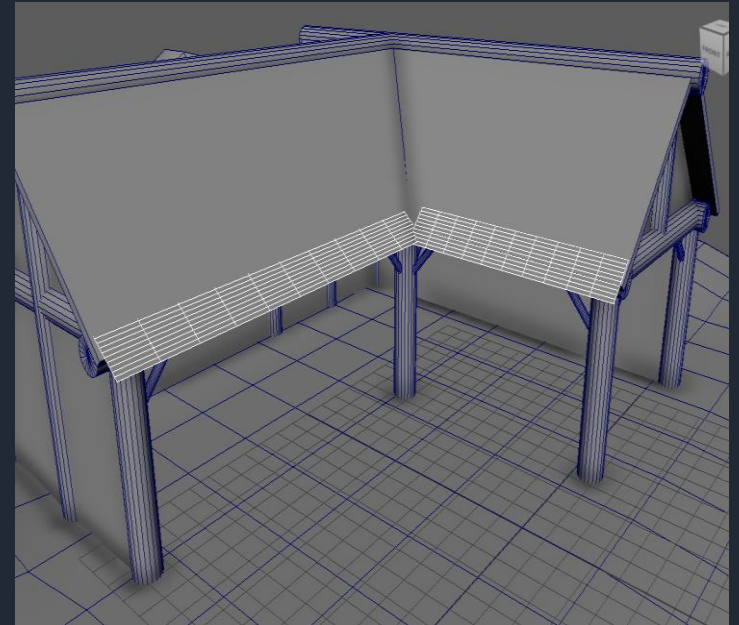
MISC MODELS



Water Level



Wall

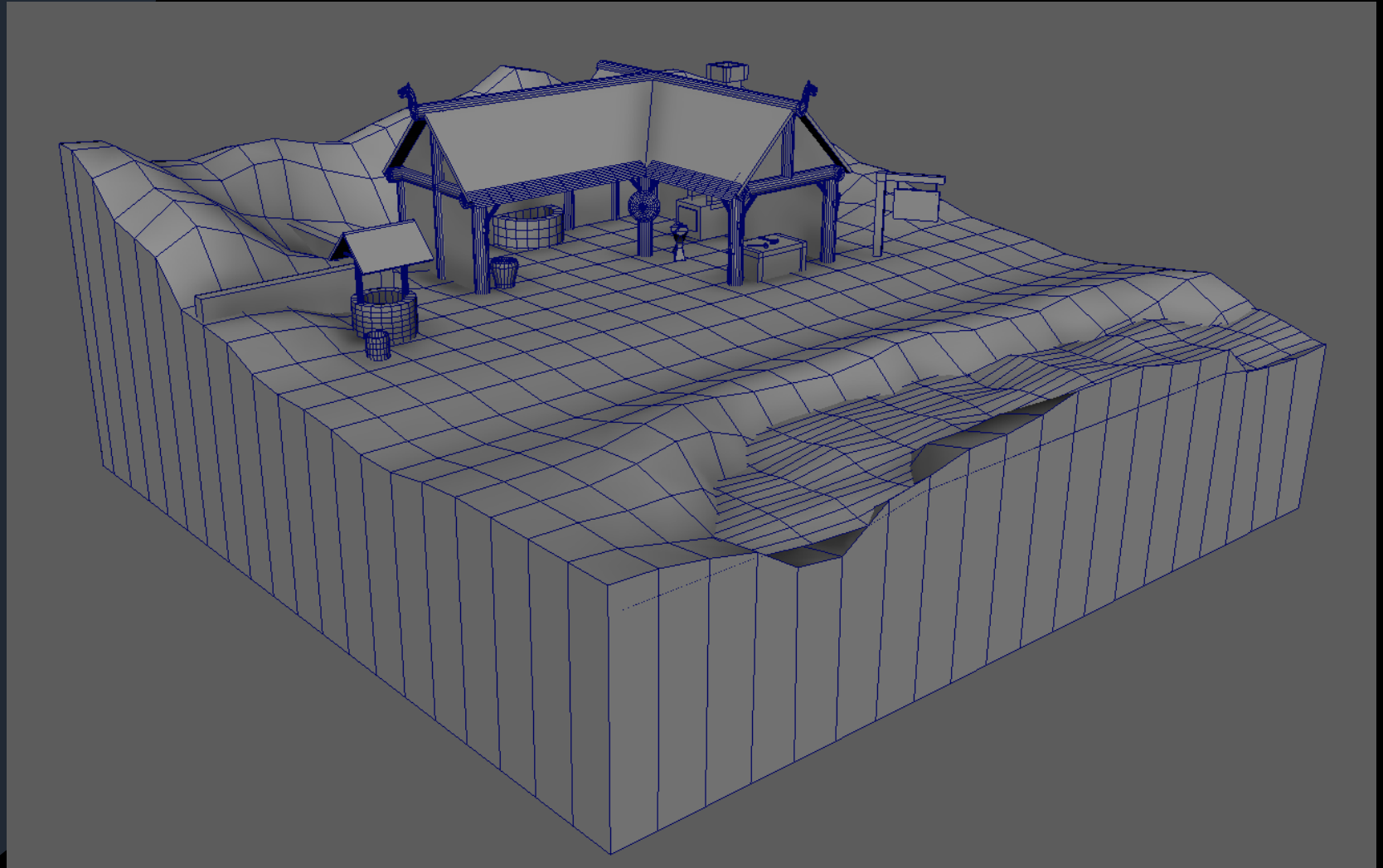


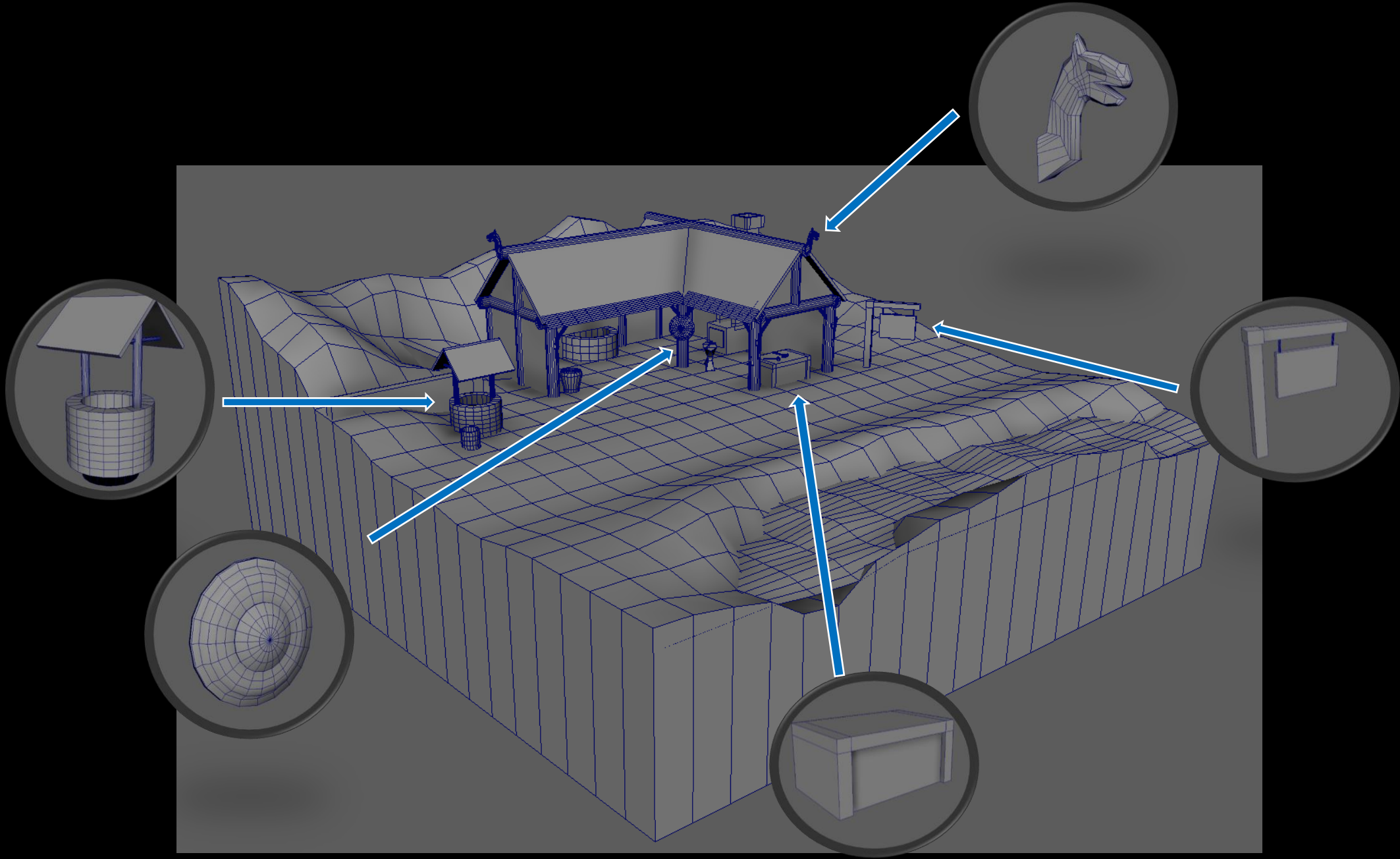
Roof Edge

SET DRESSING

- . Arranging models to fit the environment
- . Scale
- . Polycount of Maya project

Verts:	7438	0	0
Edges:	15320	0	0
Faces:	8066	0	0
Tris:	14172	0	0
UVs:	10381	0	0



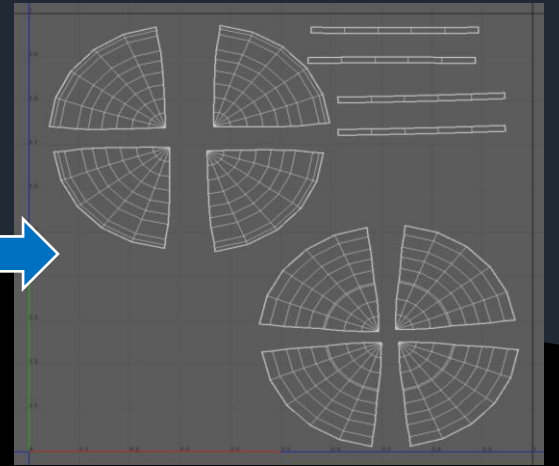
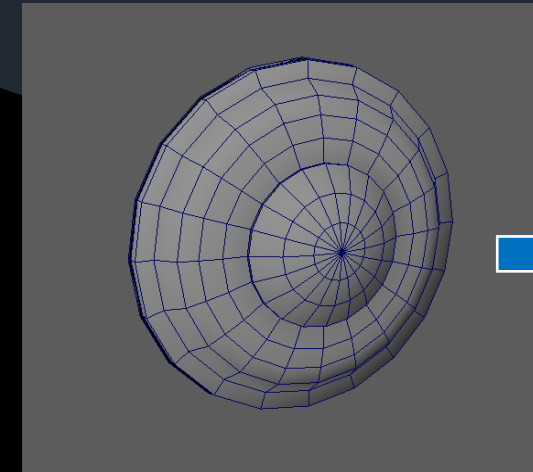
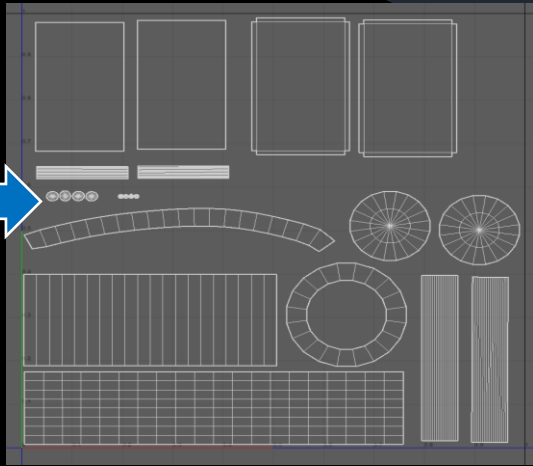
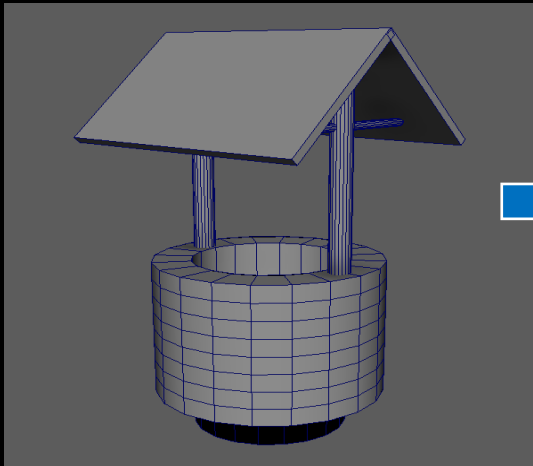
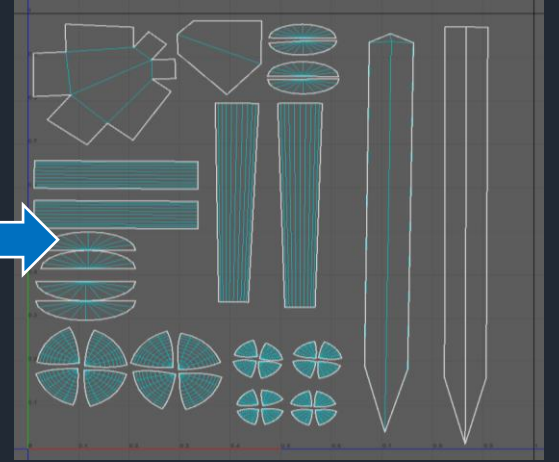
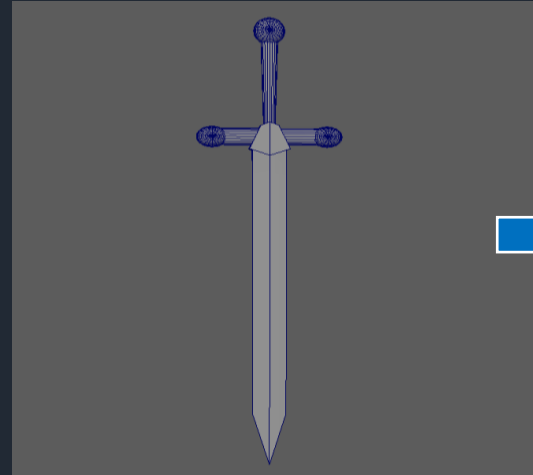
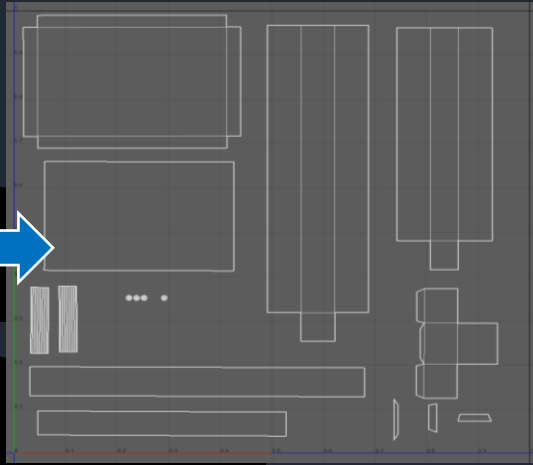
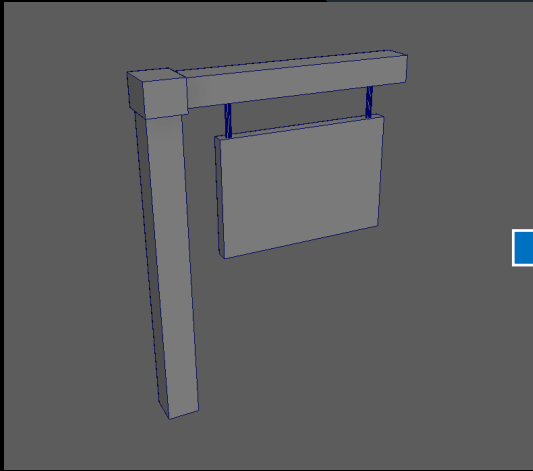


UV MAPS & TEXTURING

- UV Maps
- Challenges of UV unwrapping
- Texturing
- Photoshop
- Substance Painter

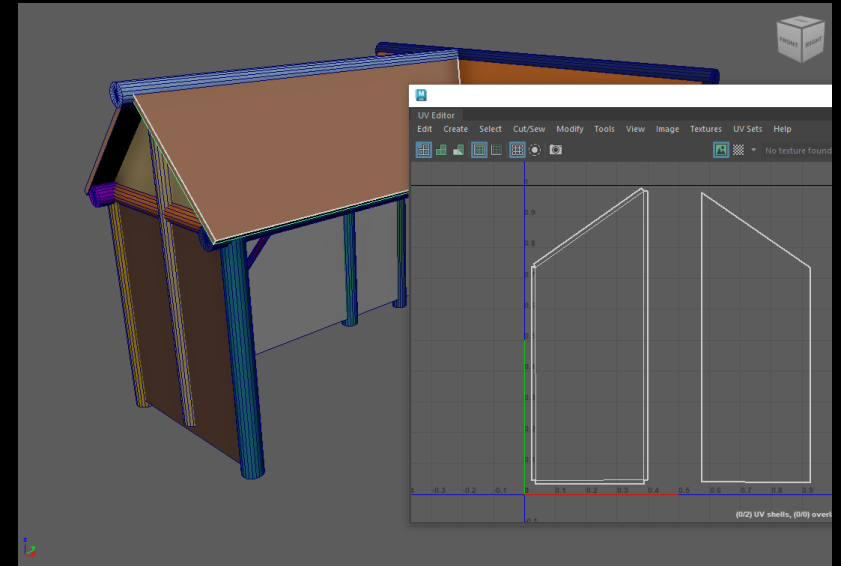
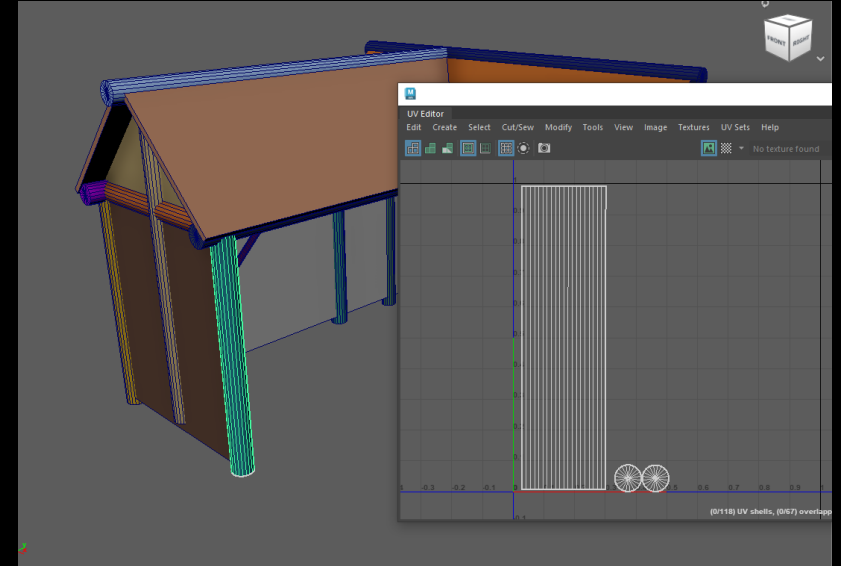
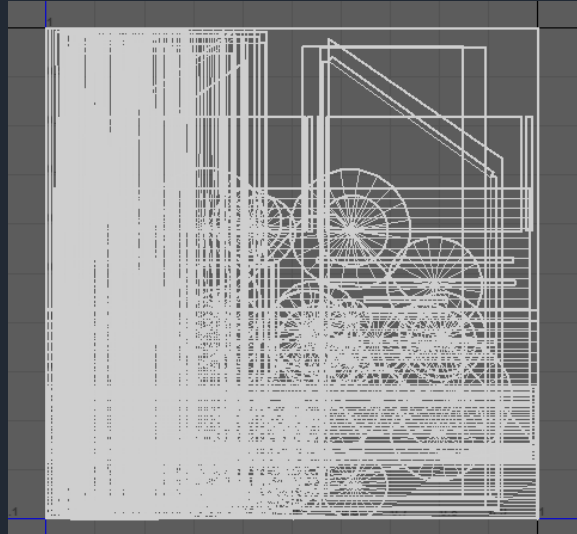
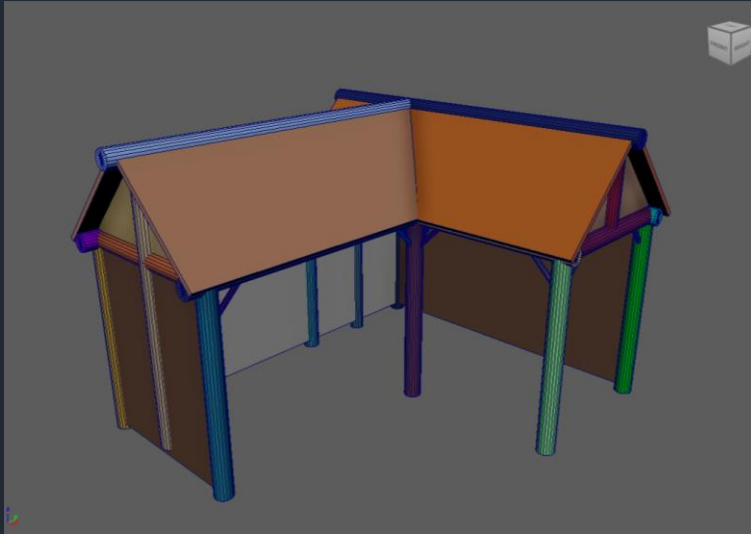


UV MAPS



UV MAPS CHALLENGES

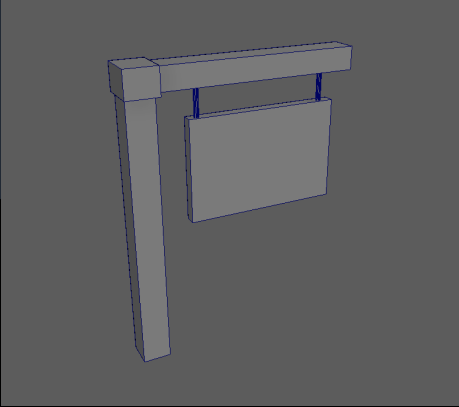
Some of the more complicated models required to have separate UV maps because the UV data became too complicated to texture. So, the best solution I found was to individually UV map each polygon, making the texturing experience much easier and had better end results



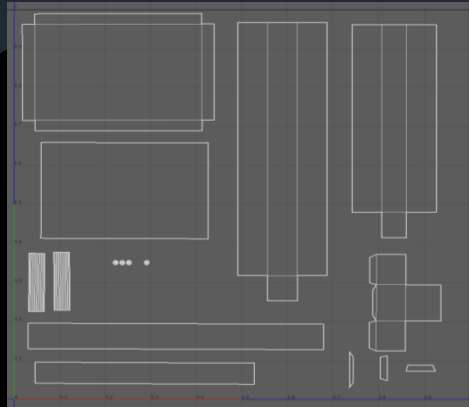
SUBSTANCE PAINTER



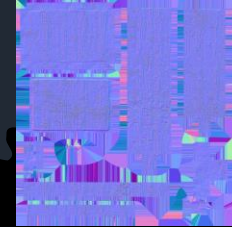
SUBSTANCE PAINTER



Model complete
using Maya



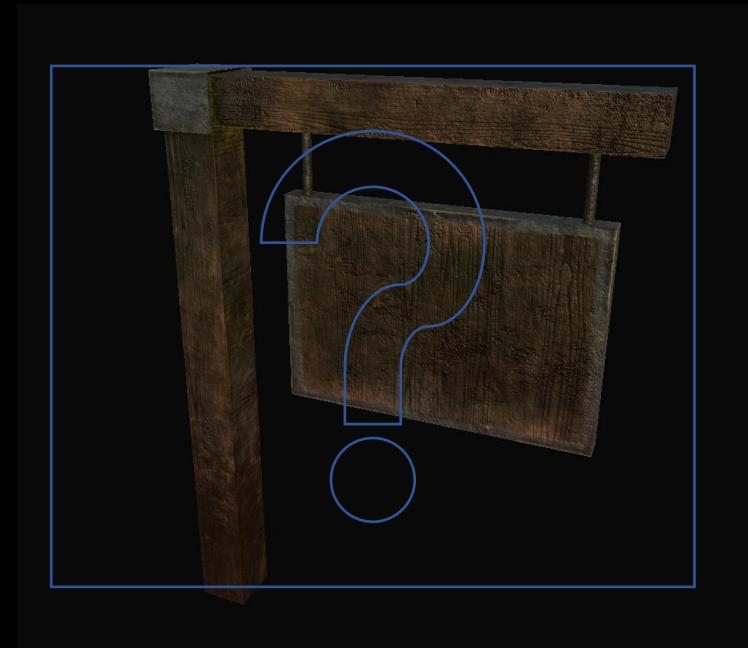
Model UV
unwrapped



Ready for texturing
in substance
painter



Base texture
added, applied
materials



Model fully textured, however no
blacksmith sign ?



Initial concept sketch
idea



Final illustration with
added textures to
the sign

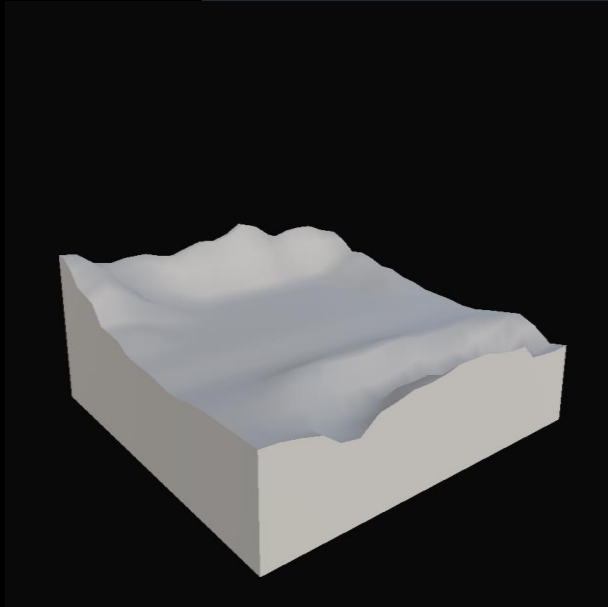


Some touch up
details in photoshop
to get the desired
look



Finally took my illustration into substance painter with my
textured model and applied the illustration to the model

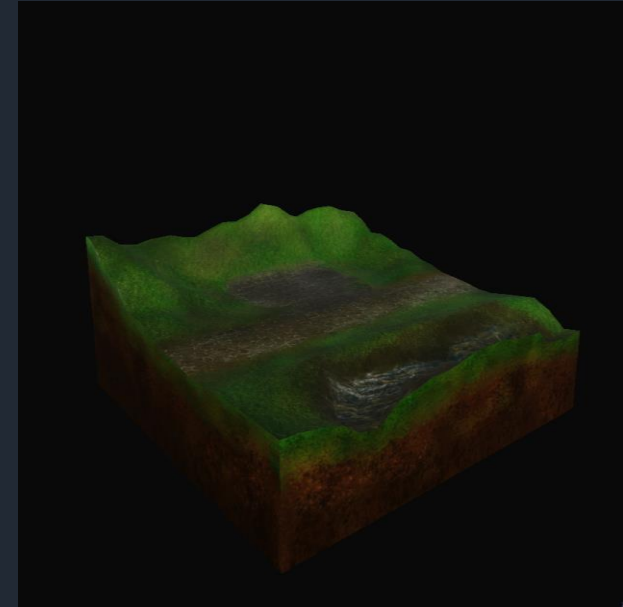
USING UV MAPS TO PAINT



Landscape model complete and UV mapped and ready for textures

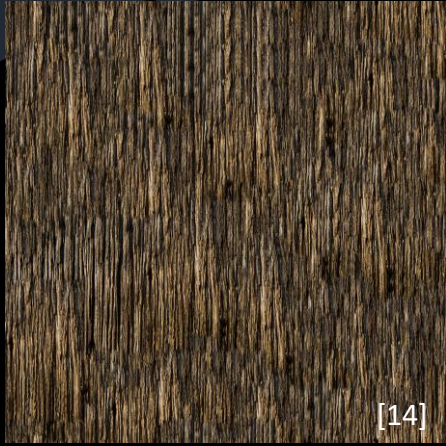


Created a landscape texture in Photoshop using the UV map



Imported textures onto model for a final result

USING RESOURCED TEXTURES



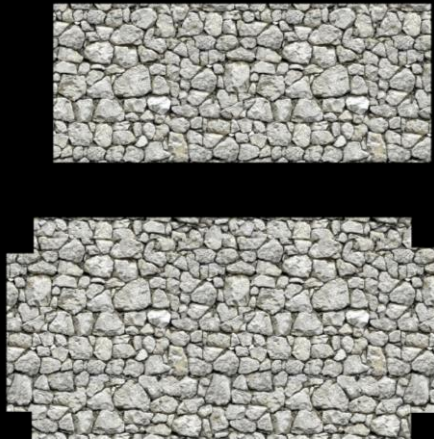
[14]



[16]

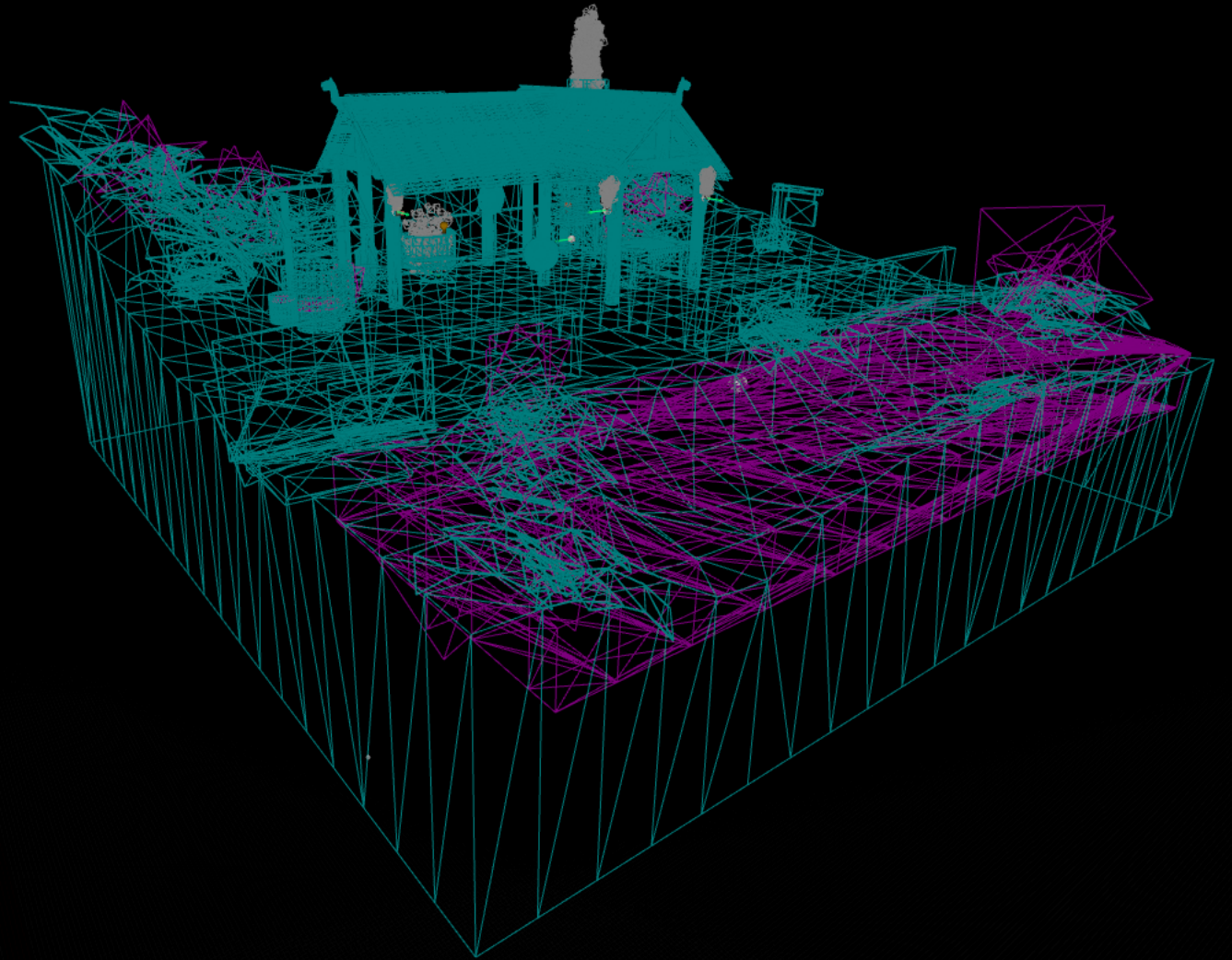


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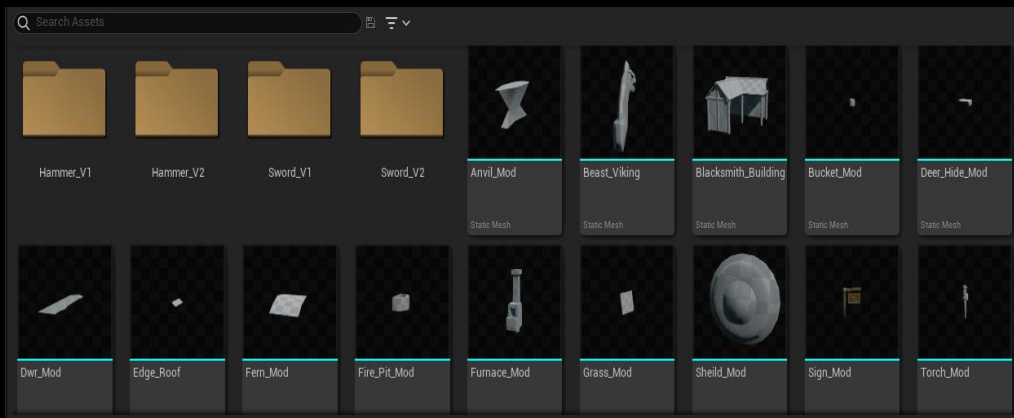
UNREAL ENGINE 5

- Set Dressing
- Improving the set
- Lighting
- VFX



SET DRESSING IN UE5

Progressively adding in each model
one by one and making sure they fit
into the set's environment



ADDING FAUNA



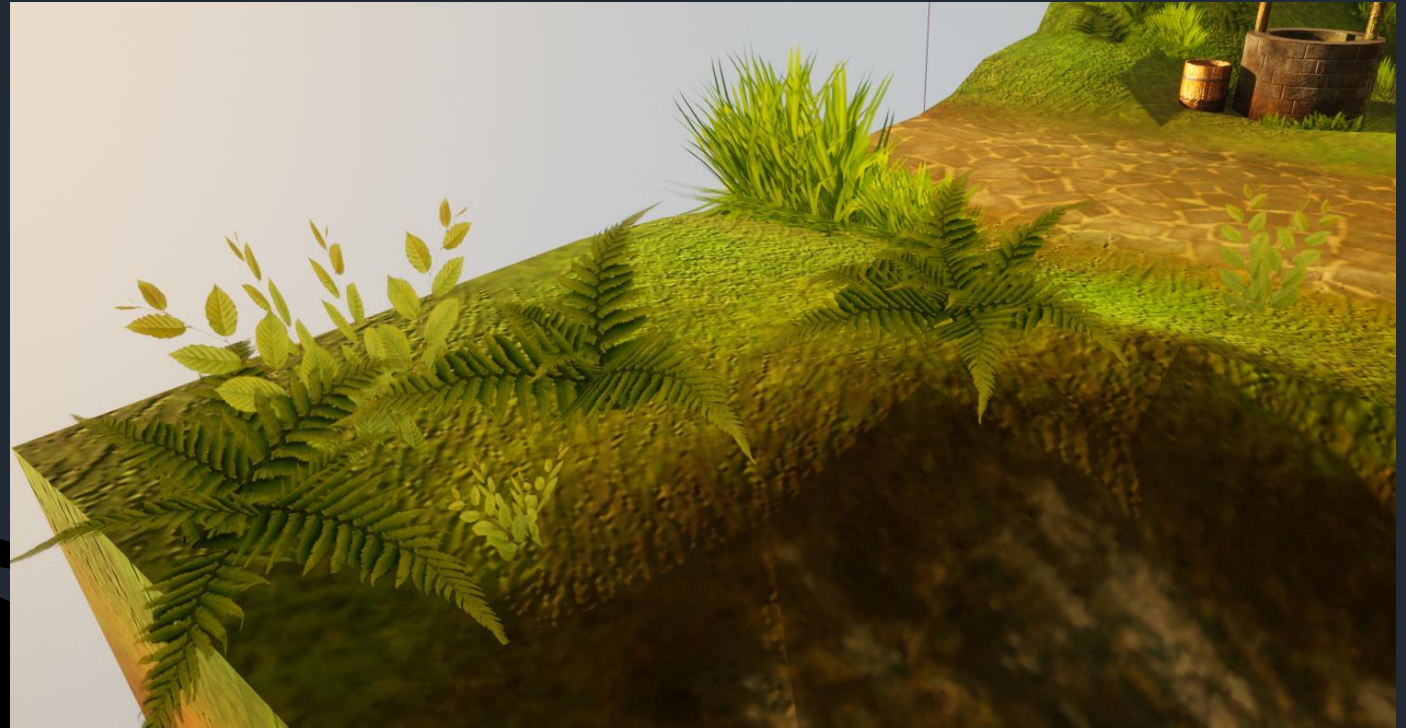
[17]



[18]



[19]



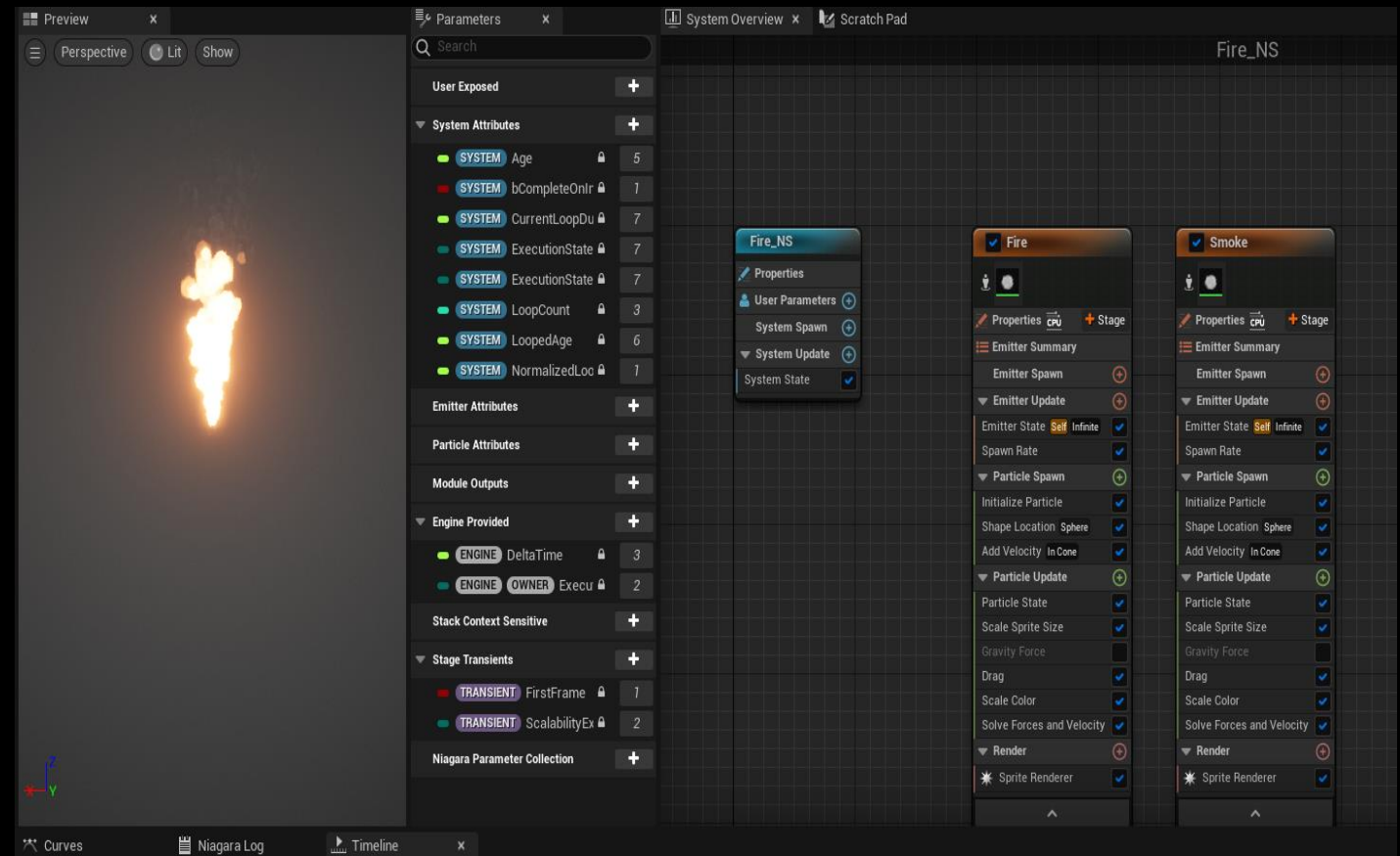
Introducing vegetation to the set gave my diorama a more organic and natural touch to the set

USING VFX



[20]

Using a smoke alpha for the fire and smoke particles in the Niagara particle simulator



LIGHTING THE SET

NIGHT



MORNING



DAY



EVENING



FINAL DIORAMA





THANK YOU FOR LISTENING

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- [14] “Thatched roof texture seamless 04077,” Sketchuptexture, <https://www.sketchuptextureclub.com/textures/architecture/roofings/thatched-roofs/thatched-roof-texture-seamless-04077>.
- [15] “Stone wall PBR texture seamless 22407,” Sketchuptexture, <https://www.sketchuptextureclub.com/textures/architecture/stones-walls/stone-walls/stone-wall-pbr-texture-seamless-22407>.
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- [17] Para, “Paramecij’s vegetation base texture pack - vegetation_tree_branch_30.png,” OpenGameArt.org, <https://opengameart.org/node/15588>.
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- <https://forums.unrealengine.com/t/how-to-scale-a-mesh-in-niagara/655563>
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- <https://i.ibb.co/KGtCv6j/Smoke-Alpha02.png>
- <https://www.youtube.com/watch?v=AmZwIP8vZYc>
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- <https://www.youtube.com/watch?v=M1olxyt7Zw8>
- Autodesk Maya 2023
- Adobe Photoshop 2023
- Corel Painter 2022
- Adobe Substance Painter 2023
- Unreal Engine 5.0.3