

Games Art and Concepts Live Brief and Employability

James Ball

Wushu studios environment art brief

Week 1

A collection of references of the target building.

- [Miro board link](#)

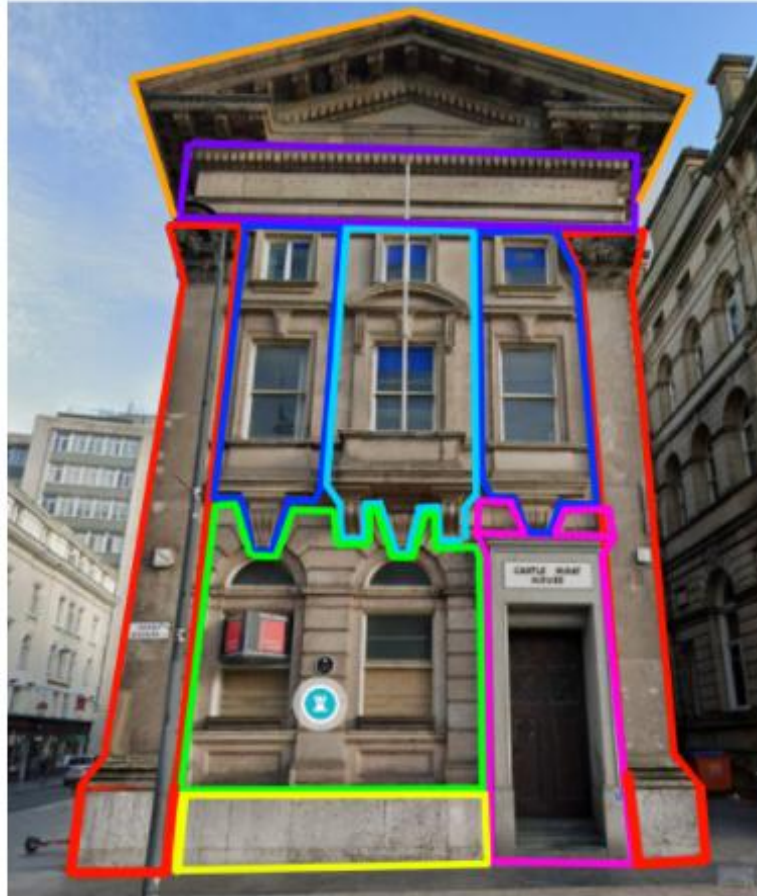
I have compiled a series of reference images from both google map's view and in person images. Photographs were required as the google view has a distorted view which has negatively impacted the scale of the initial blockout.

I have also looked into what 'style' I would like to apply to this building and have decided to go for a post apocalyptic theme similar to the likes of Fallout



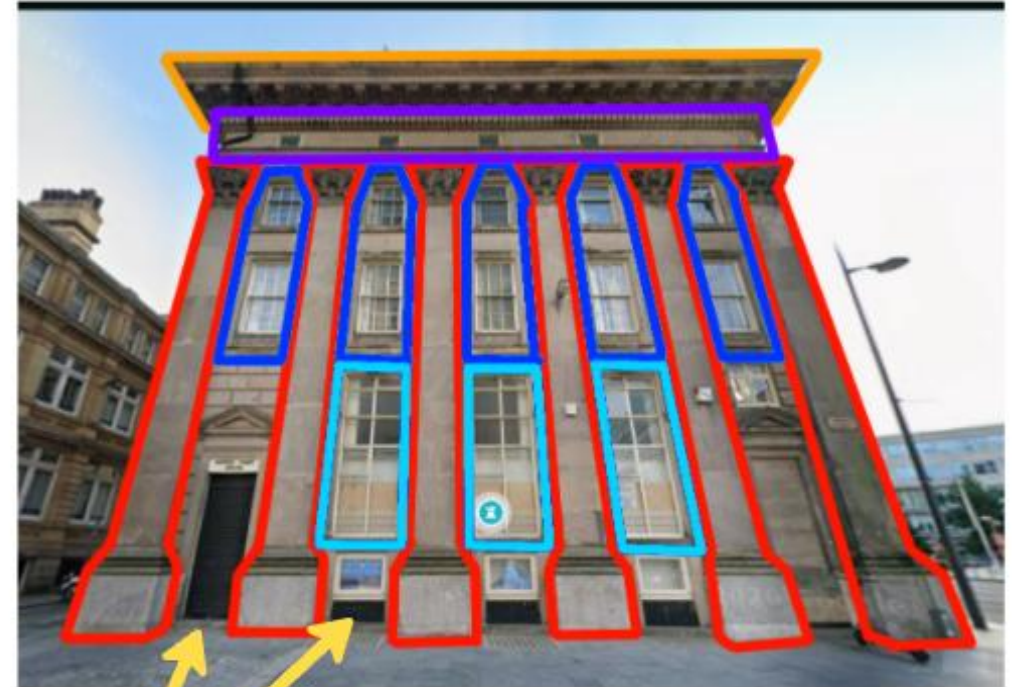
Week 1

This is a breakdown of the possible modular pieces that are available for the building. This may be added to later and other pieces could be split up into more pieces



Front Building pieces:

- Pillar - red
- rounded windows - green (possibly also yellow)
- Main door - Pink
- Top floor window - dark blue
- Top floor window middle - light blue
- Top trim - purple
- roof - orange



Side view Building pieces:

- Pillar - red (same as front)
- tall window - light blue
- Top floor window - dark blue (same as front)
- Top trim (same as front)
- Roof (same as front)

Side door and bottom windows to be replaced

Week 1

Here is a draw-over of how I have decided to calculate the average height of the building when comparing its scale in this reference image to a human. This will help with scaling the building to the unreal engine mannequin when it is implemented into engine.



Using the person in the image and estimating them as the UK average height of 5'9" (this number was rounded to 6") I have been able to get an approximate height of areas within the scene:

- The red horizontal line is the split between the two floors
- red arrow - the door is approximately x3 the size of the person
- Green arrow - both floors are the same height
- purple - top and bottom require a trim (approx. same height)

Week 1

I have put some thought into these two slides of the presentation brief when deciding what kind of theme I would like to use for this project. I would like to maintain the historical significance of the building; in the past it was used as a bank, this gives me a story that I can work with when planning for the future of the project.

The final slide leans towards more post-apocalyptic/horror with Last of Us and Resident Evil as possible places to draw inspiration from. Because of this I would like to lean into the apocalyptic setting and make something akin to games such as the Fallout series. When asking the question 'who lived here?', in the apocalypse it is possible that many individuals have entered and left the buildings premises whilst looking for resources and shelter, even possible unsavoury characters such as raiders and bandits.

Theme Inspirations

Historically Accurate

<https://www.artstation.com/artwork/NGR5D5>

When creating inside these themes, think about these following questions.

- What is this building used for?
- How did they build it?
- Does the building have any historical importance?(Eg. Town hall, Bank.)

Games that follow these themes:

- Assassins Creed
- L.A. Noire
- Red Dead Redemption



Theme Inspirations

Historically Accurate

[ArtStation - The Albert Manor \(UE4\) - Tiling Textures](#)

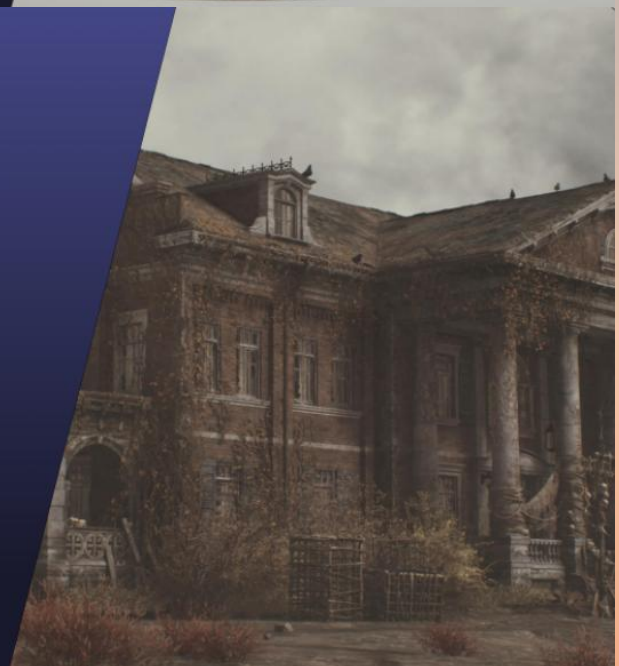
When creating inside these themes, think about these following questions.

- Who lived here?
- What happened here?
- How did the damage happen?

It is important to keep cause and effect in mind, let the set dressing tell the story.

Games that follow these themes:

- Last of Us
- Order 1886
- Resident Evil



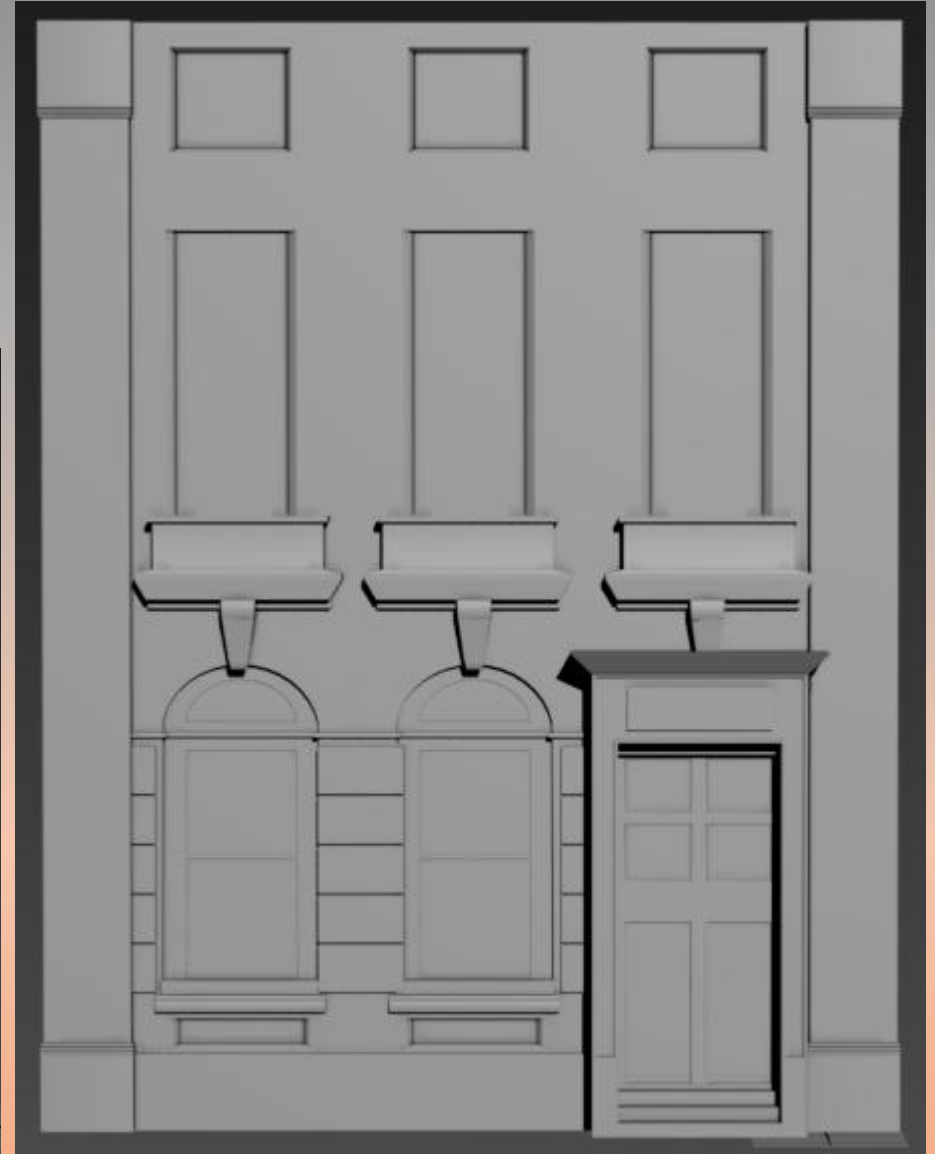
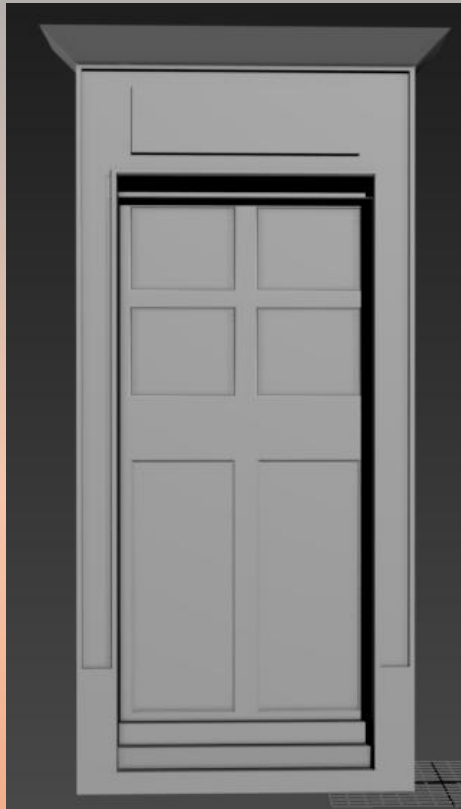
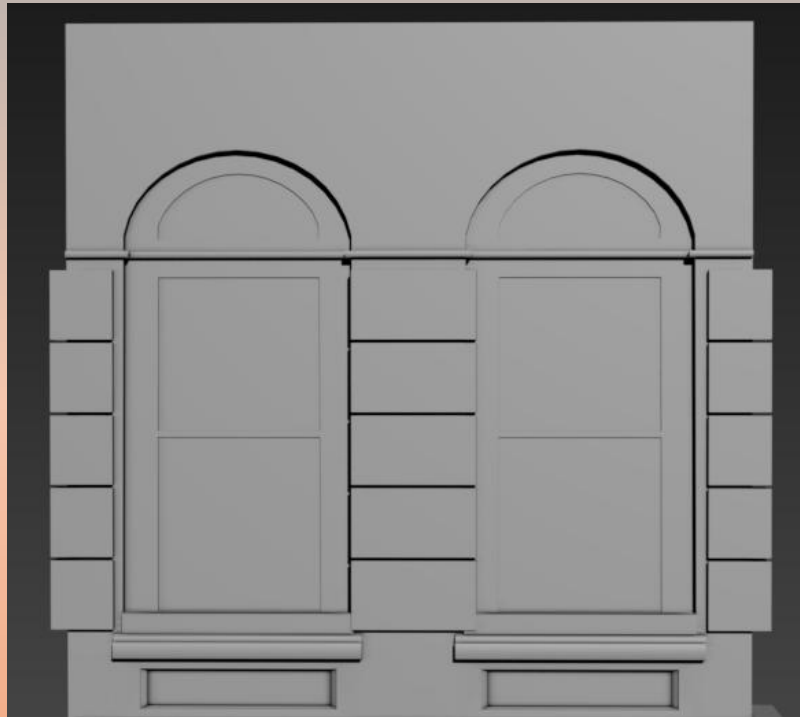
Week 1

Some examples of possible thematic changes to make to the building:



Week 2

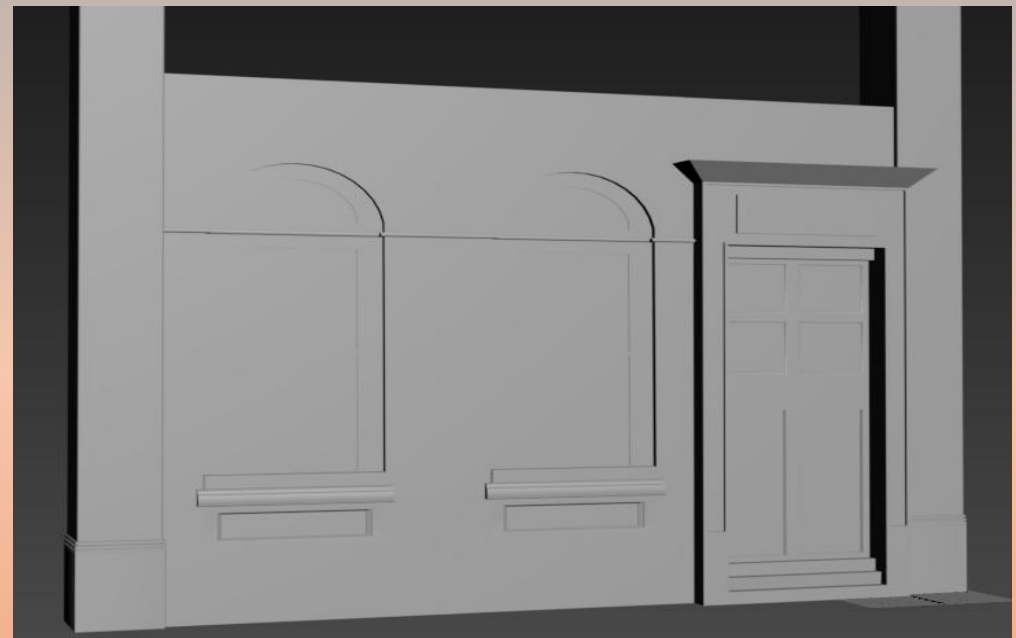
I have started by blocking out the front view of the building. This macro block out will be used to get the correct starting scale before moving onto the rest of the building. I started with the front of the building because it had the clearest reference images to work from and had several pieces which could be re-used on the other sides.



Week 2

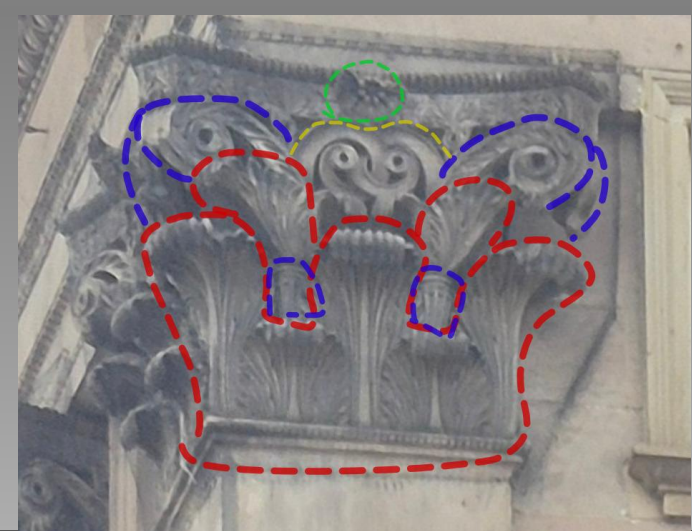
I have had to re-attempt the building scale as when measuring up to the ureal mannequin for scale the door was not feasibly usable from a gameplay perspective. This does mean however that the scale of other assets will also need to be adjusted to account for this change.

Once this readjustment is complete the macro blockout will be finished and I can move on to working on the micro assets.

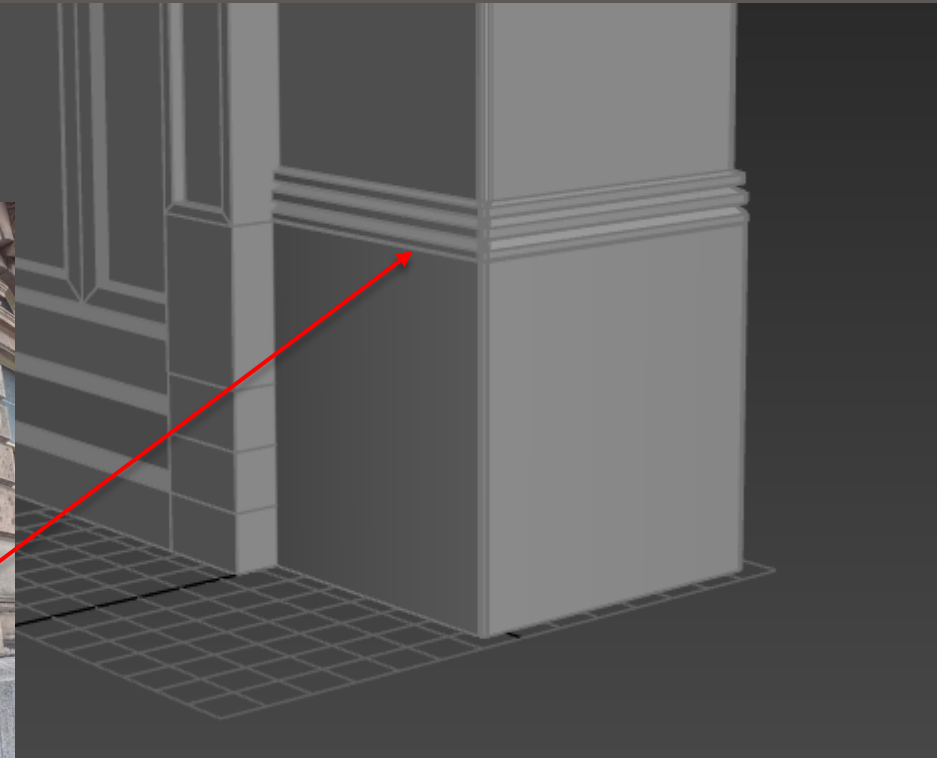


Week 2

The Micro breakout has been completed. There are some pieces which won't see much change between the macro and micro variations however some pieces, such as the pillars, will need remodelling to better suit the shape of the pillar base. There is also the question of how best tackle the pillar decoration at the top of this asset, I think that it would be best to split the decorations into segments model them in Zbrush separately, bake them down and then re-assemble the pillar in UE5 by merging the assets together as one static mesh.



Above: a rough plan of separating the assets into four pieces



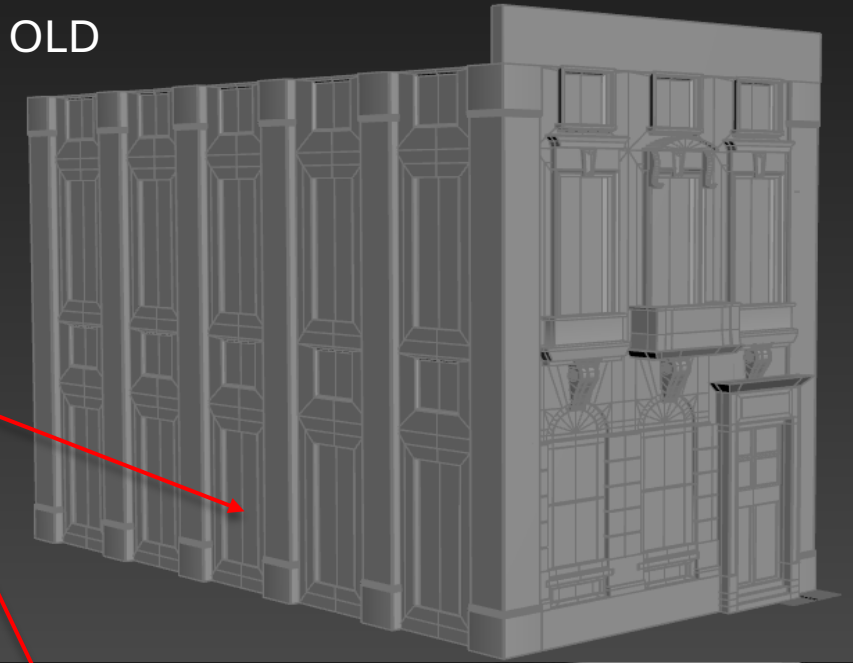
Week 3

In week 1 I have focused on replacing stand-in pieces from the initial block out with unique pieces from the building such as with the lower floor of the building which have a unique window shape. The windows are going to use a trim sheet for their main details, so modelled window frames won't be required.



Since the brief requires me to change several elements on this side, these areas have been left blank to the time being.

OLD



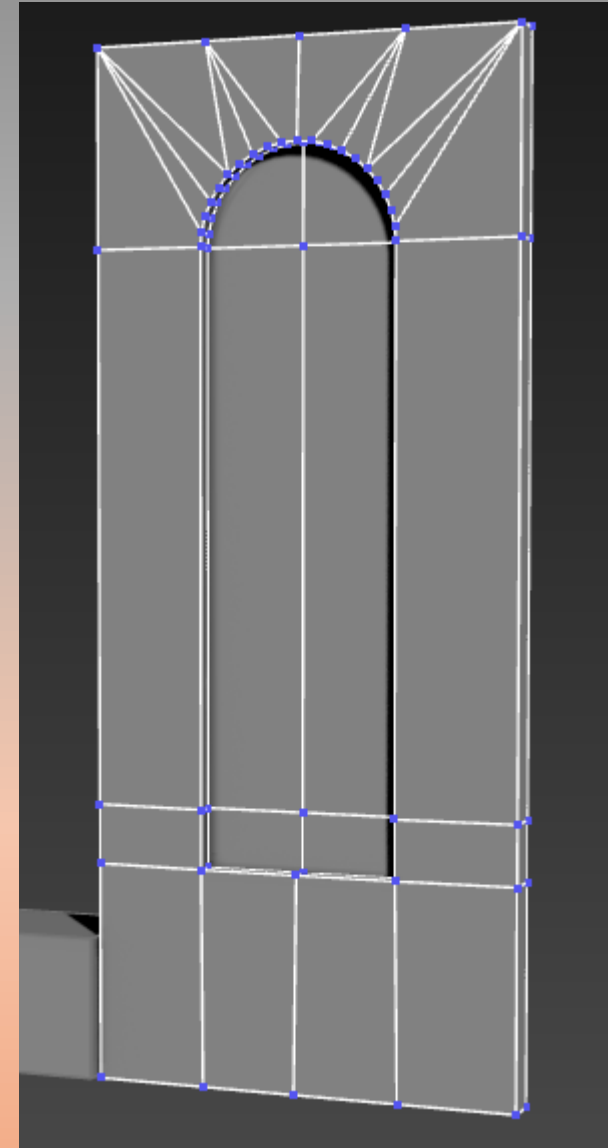
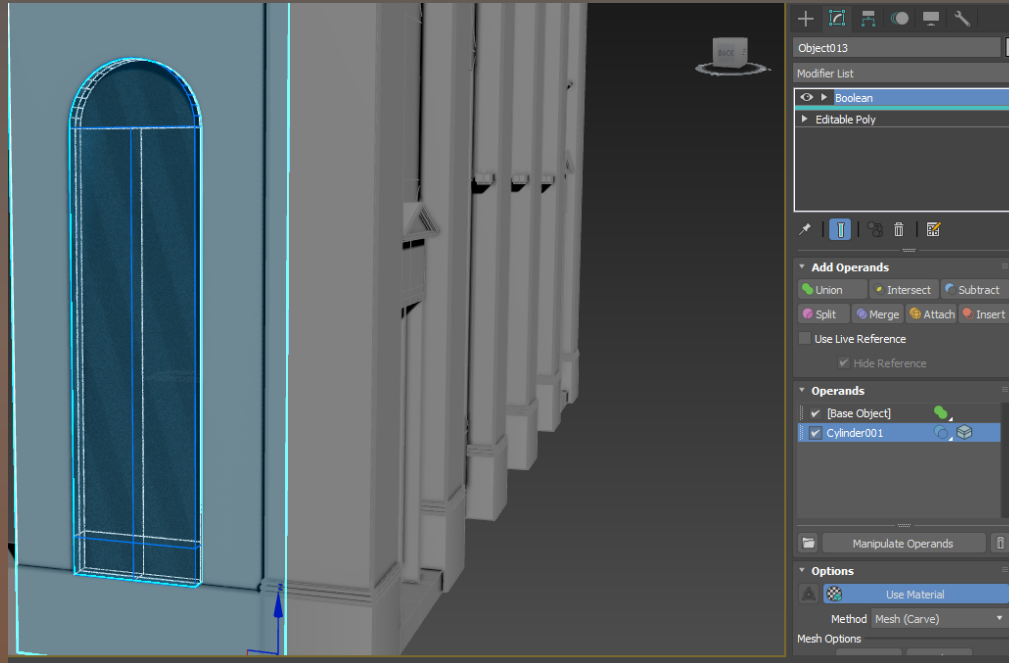
NEW



Week 3

When making my original blockout, I was under the assumption that the windows with the rounded edges were similar enough that they could be re-used for the front and back of the building, under closer inspection these assets are different enough that they will require a unique asset for each.

Like the pieces before, they were made using a Boolean pipeline by subtracting the window shape from the wall. This inner area is connected for now but will likely be removed and replaced with a floating plane when textures are added.



Week 4

During this week I have had a stand-up presentation where I could share my current work with peers and receive feedback on what progress I had made so far.

One of these pieces of feedback was relating to the depth of some of my assets, in particular the door and window assets. This may have been a leftover error from when these models were re-worked to account for player size, they were made wider to account for this but not deeper. They now have a more realistic shape.



Reference



Old



New inset design

Week 4

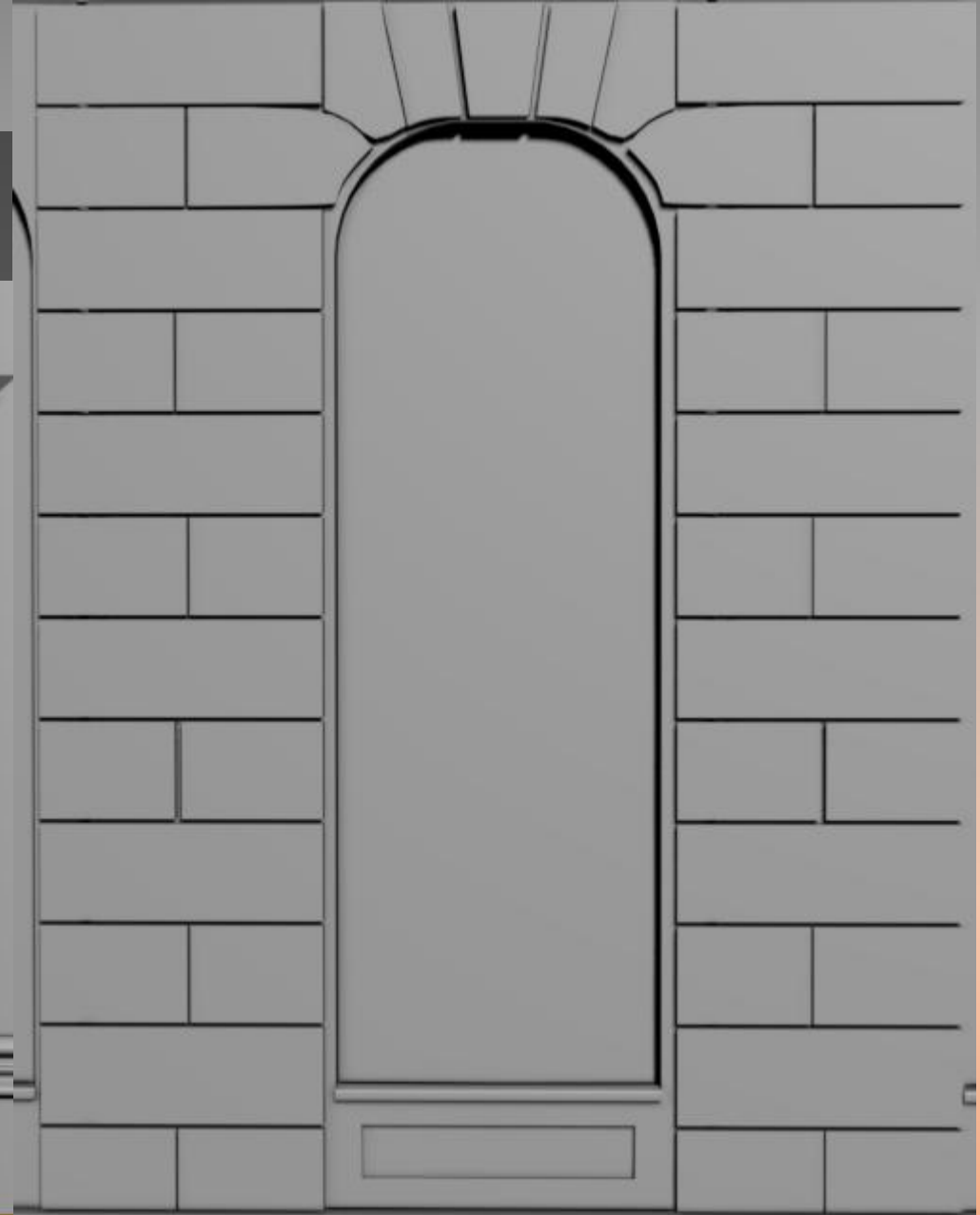
During this week I have been revisiting areas which require more detail, such as above these windows.

I was initially going to use a texture made in Substance Designer for this asset, however after thinking about re-using the same textures as much as possible I would rather not make a unique texture for this one asset. Because of this these brick areas around these windows are going to be modelled and then share a texture with the other brick assets.



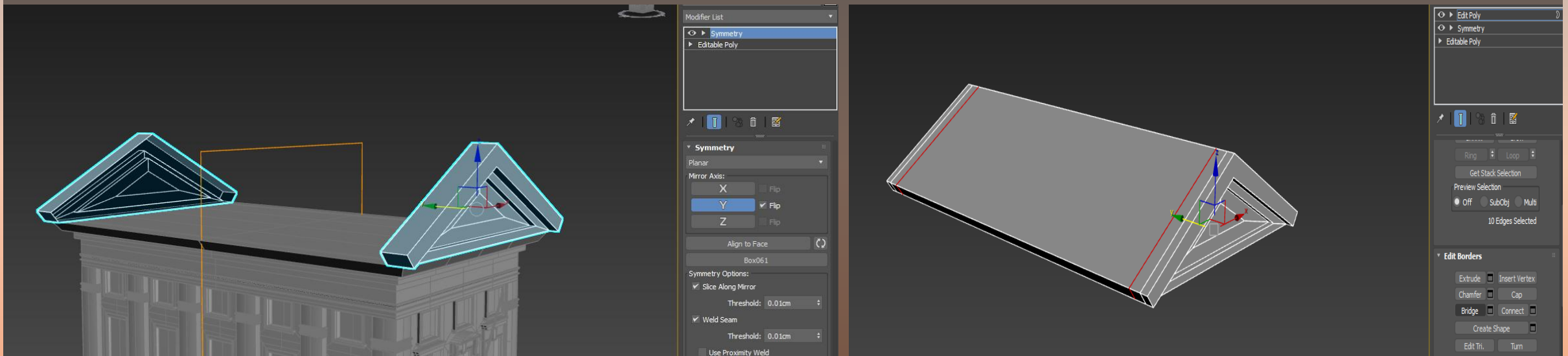
Week 4

Evidence of brickwork redesign mentioned within week 3



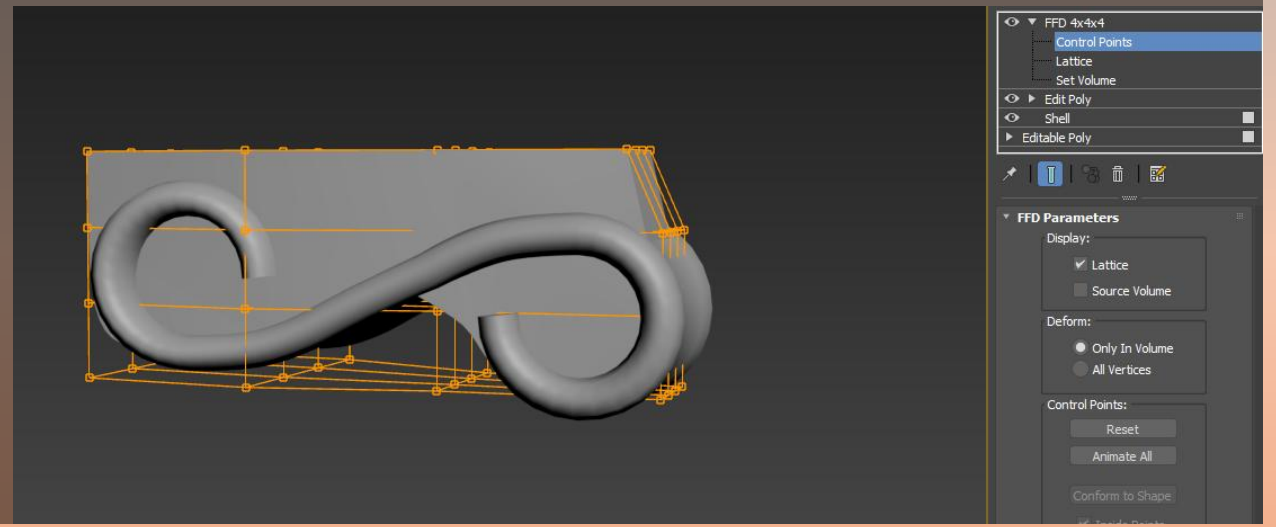
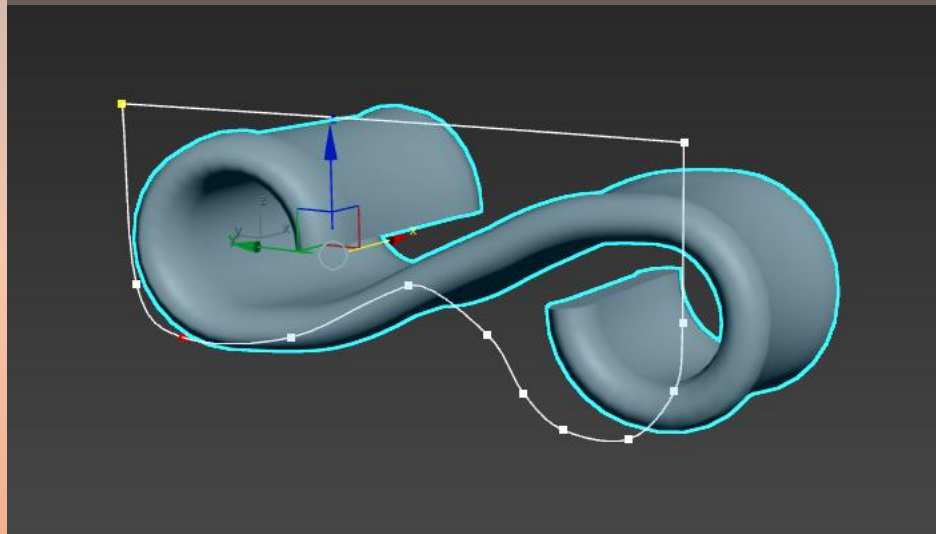
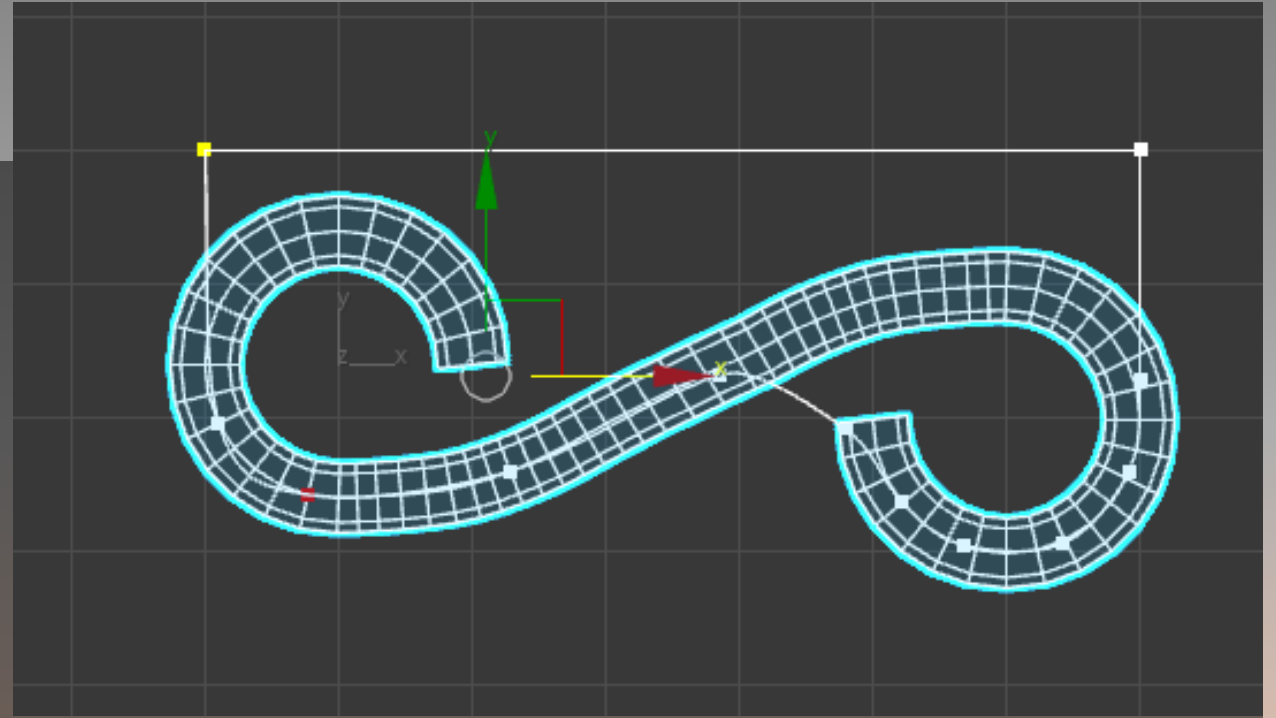
Week 4

The roof has been one of the areas that I have been neglecting due to thinking of ways to tackle its design, it has many intricately designed areas which could be difficult to model and will most likely be produced using a texture rather than geometry via the use of a trim sheet. I have split the roof into two areas; there is a thick flat section which the A-frame of the roof rests upon and the A-frame itself. I have returned to this asset and completely remodelled it from the macro stages to achieve a better representation of the asset before I continue. To ensure that the model was the same from both sides, a symmetry modifier was used with the previously mentioned flat section being used as the mirror for the asset to ensure that they were comparable sizes to each other.



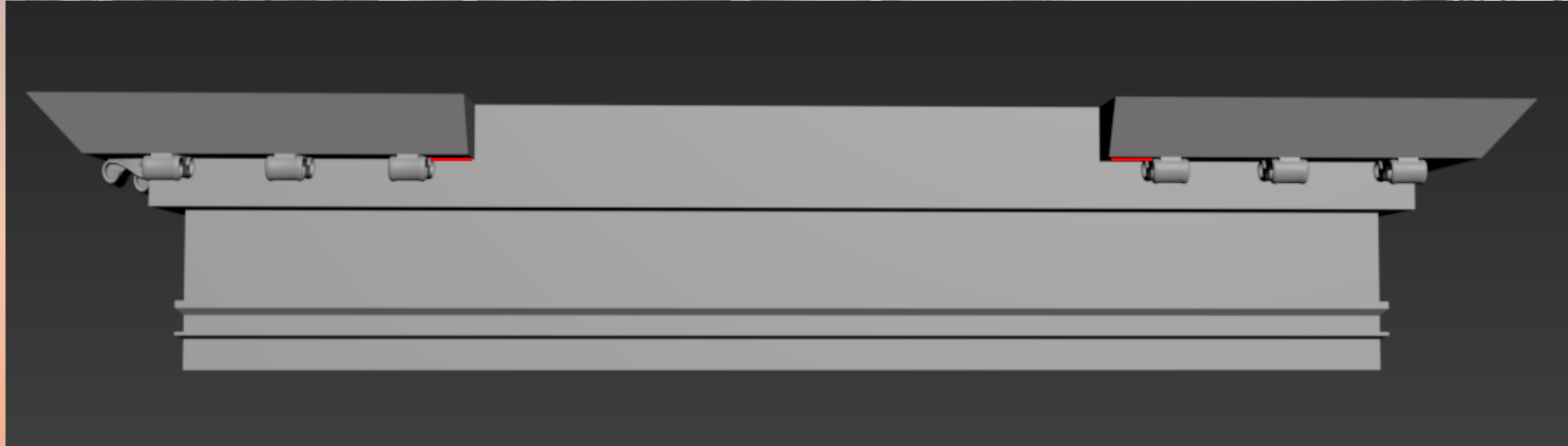
Week 4

Continuing with the roof re-design, there are small decorative trim pieces which follow the lip of the roof overhang. I have used splines to make a simple version of this to help with spacing these assets out with array and symmetry modifiers to spread them across the overhang.



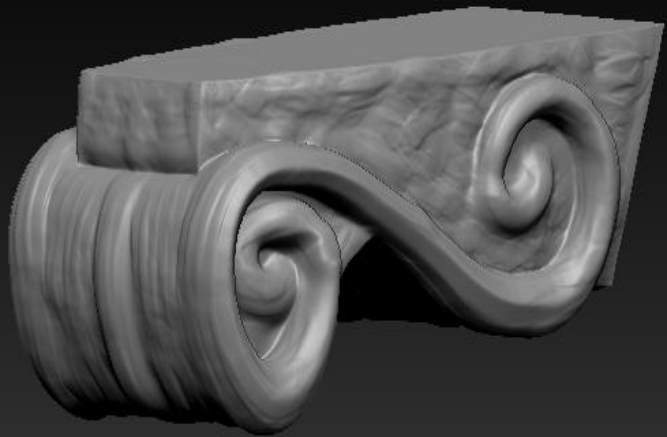
Week 4

These red lines show the errors within the spacing for the roof pieces mentioned in the previous slides:



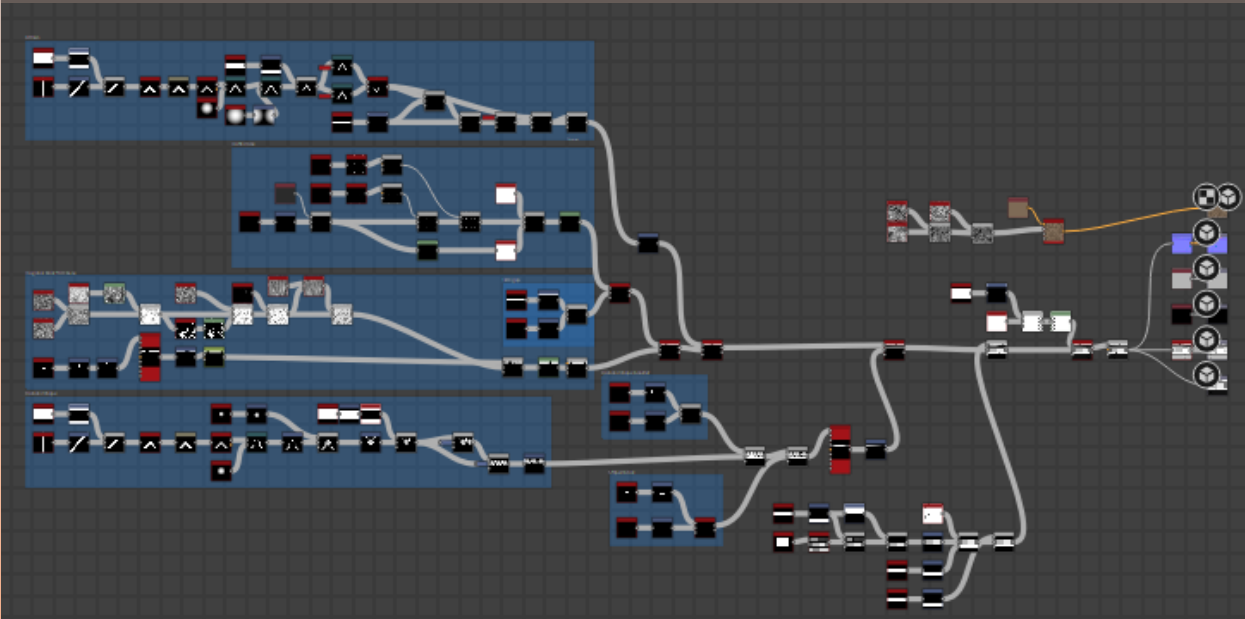
Week 4

The asset from the previous slide has been taken into Zbrush and modelled to give it a more stone-like design and to accentuate its features by using a dam standard brush to add depth between the two pieces. Using a high to low-poly pipeline helped to add more detail quickly and achieve a good bake.



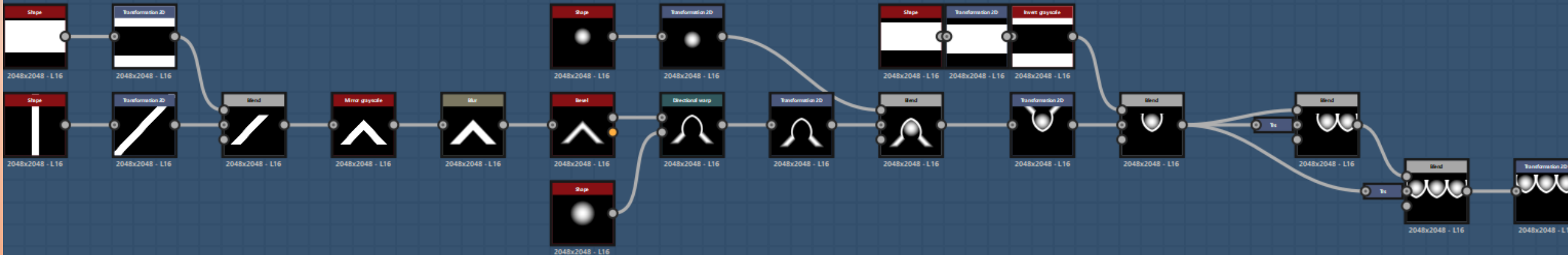
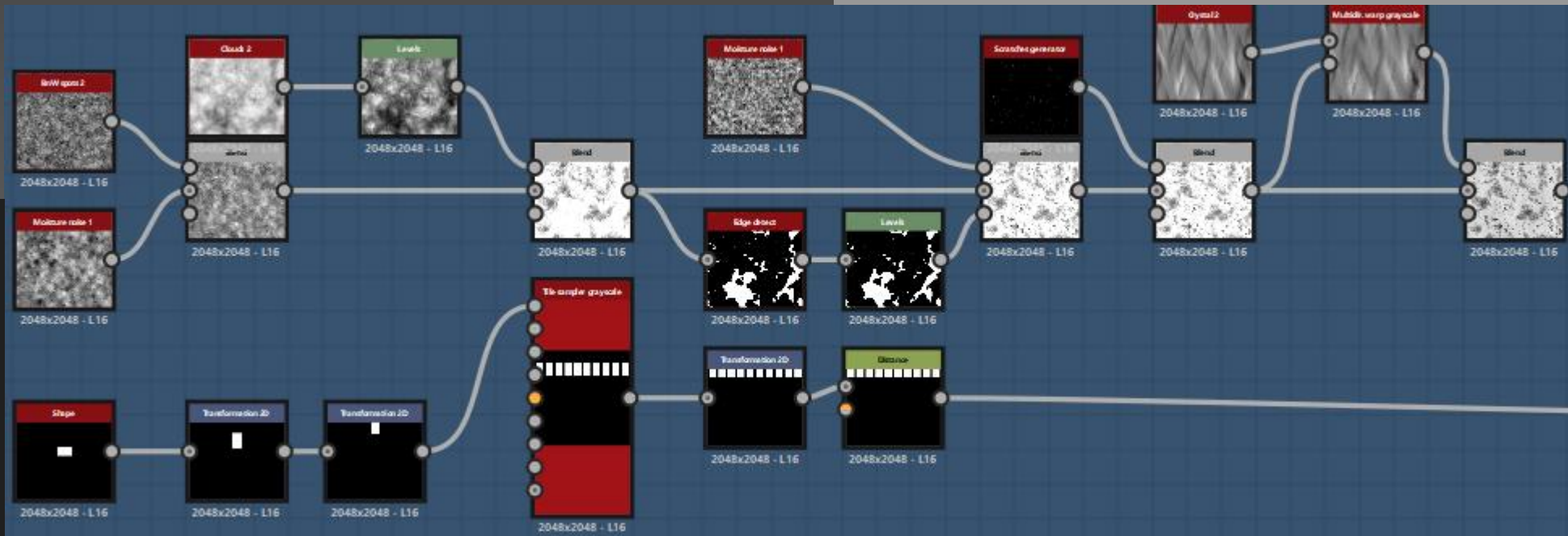
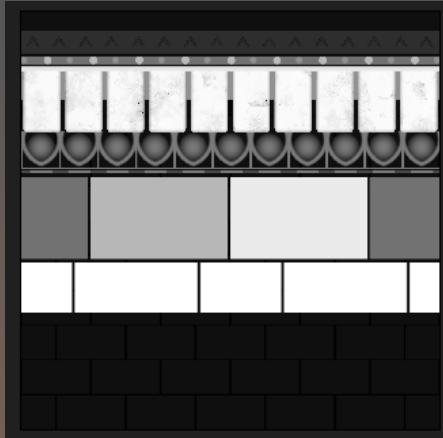
Week 5

I have now began moving on to texturing inside of substance designer, specifically the creation of a trim sheet which can be used for the details on the roof and similar asset pieces. Despite having some more detailed pieces, the creation of the trim sheet was simple as most parts of it could be produced using default shape nodes and subtraction blends.



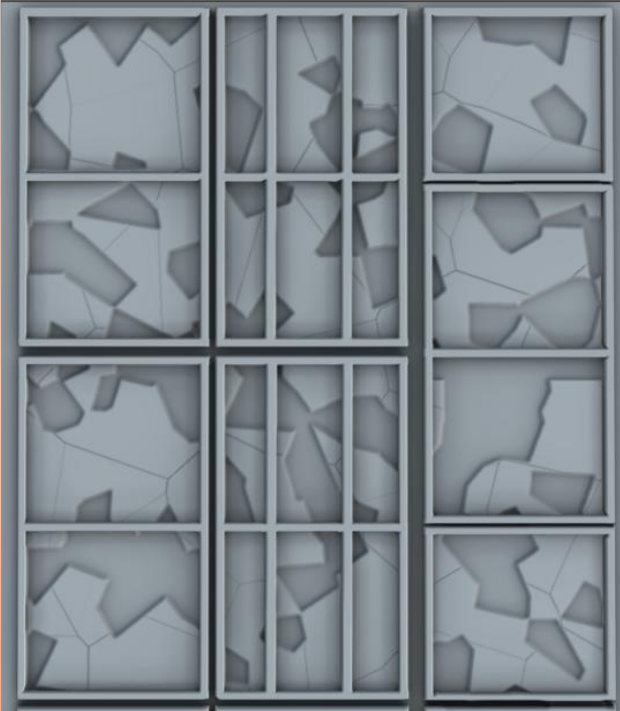
Week 5

Some zoomed in examples of the trim's creation and the final height blend.

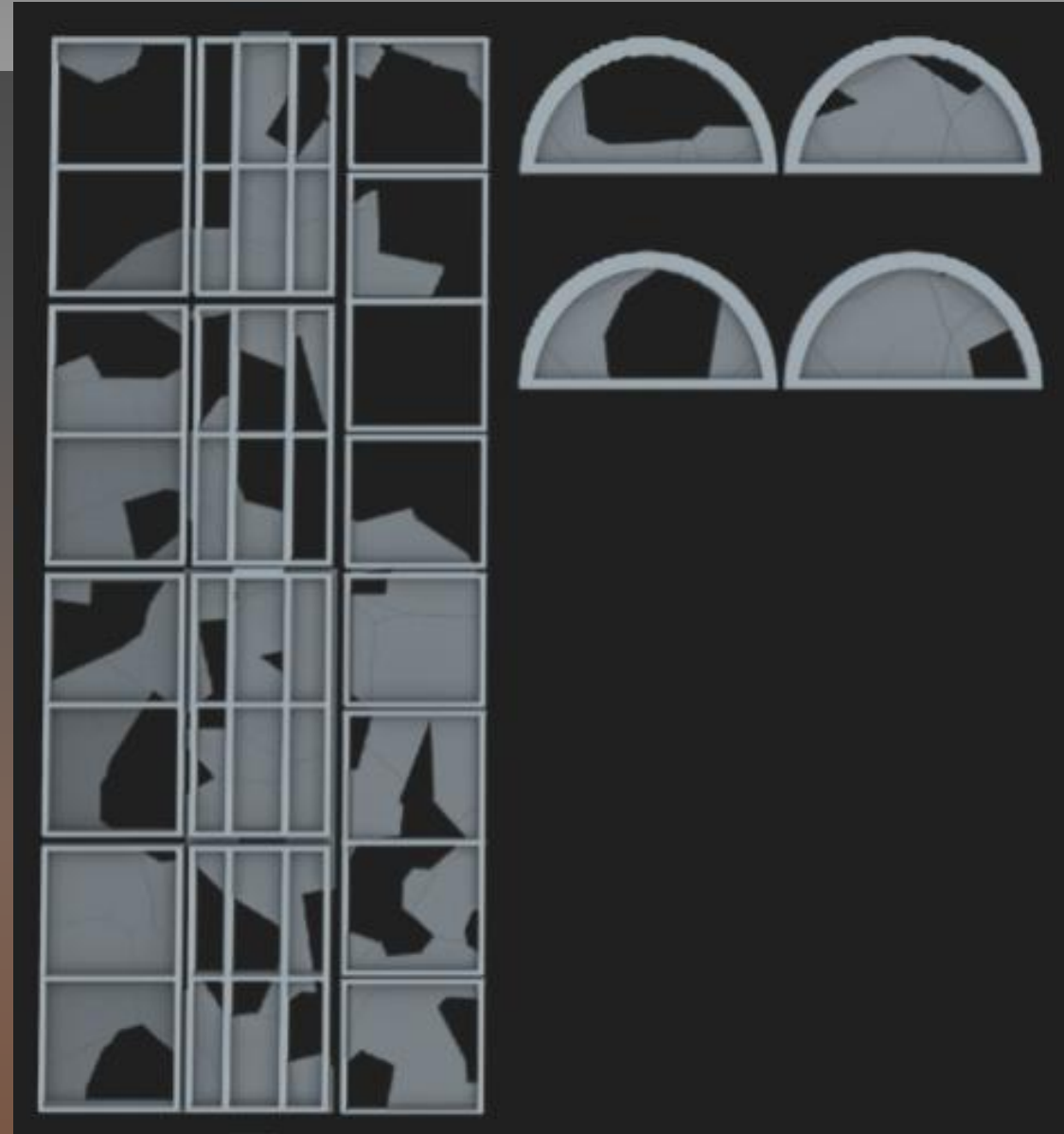


Week 5

I have also started a second trim sheet which will house all my assets which will incorporate an opacity map. To fit with the Fallout theme, I would like to use damaged glass windows as this is a good way of showing an abandoned theme. There was another stand-up presentation this week, during which I received feedback on these textures.



To the left is my first attempt created using 'cells 4' to make the crack shapes. It was brought to my attention in the presentation that these cracks were far too unrealistic and didn't reflect how glass is damaged in real life, I have revisited them afterwards to make a more realistic broken glass material.



Week 5

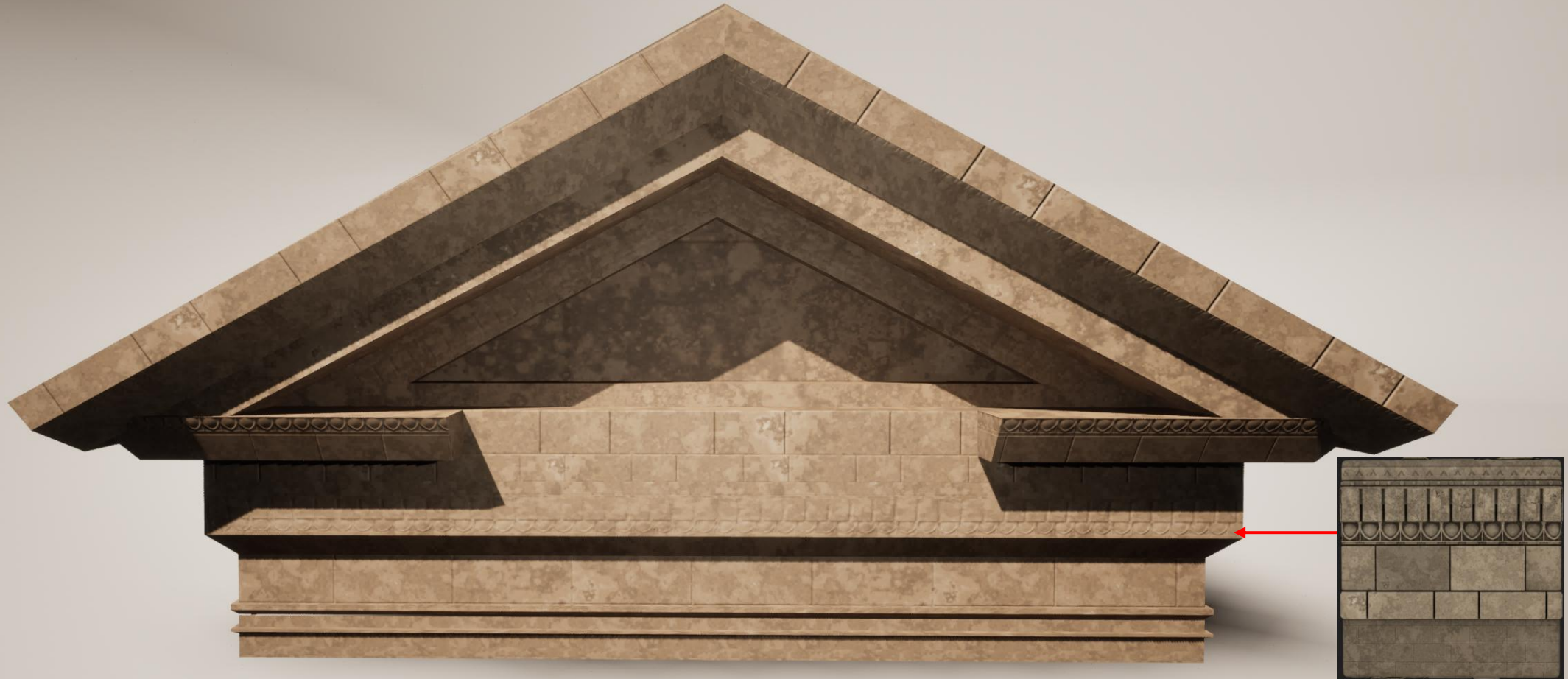
When applying my materials to my assets using the trim sheet from the previous slides, I encountered some issues with the textures stretching on some of the pieces, to solve this issue I detached segments of the mesh from one another so that I could focus in the issue areas in an individual unwrap and then adjusted these areas in an individual unwrap and then adjusted these areas manually to better space the pieces within the unwrap.

Stretching issues:



Week 5

I am using the roof pieces as an example of the brick trim sheet being used within engine, as it included all parts of the trim sheet for its textures. There is currently a visual issue with these pieces however as some areas are barley visible, such as the area that is marked with the arrow. I will have to revisit this texture and see if this can be fixed by upping value of the ambient occlusion HBAO node to add more shadow to the trim sheet.



Week 5

This is the current progress of the building inside of an unreal level. There are a few changes that I would like to make at this time such as the AO issue from the previous slide, but I would also like to find a way to hide some of the black area being created on the inside of the building. One of the ideas that I have had to solve this is by using some wooden boards to patch up some of the spaces.



Week 6

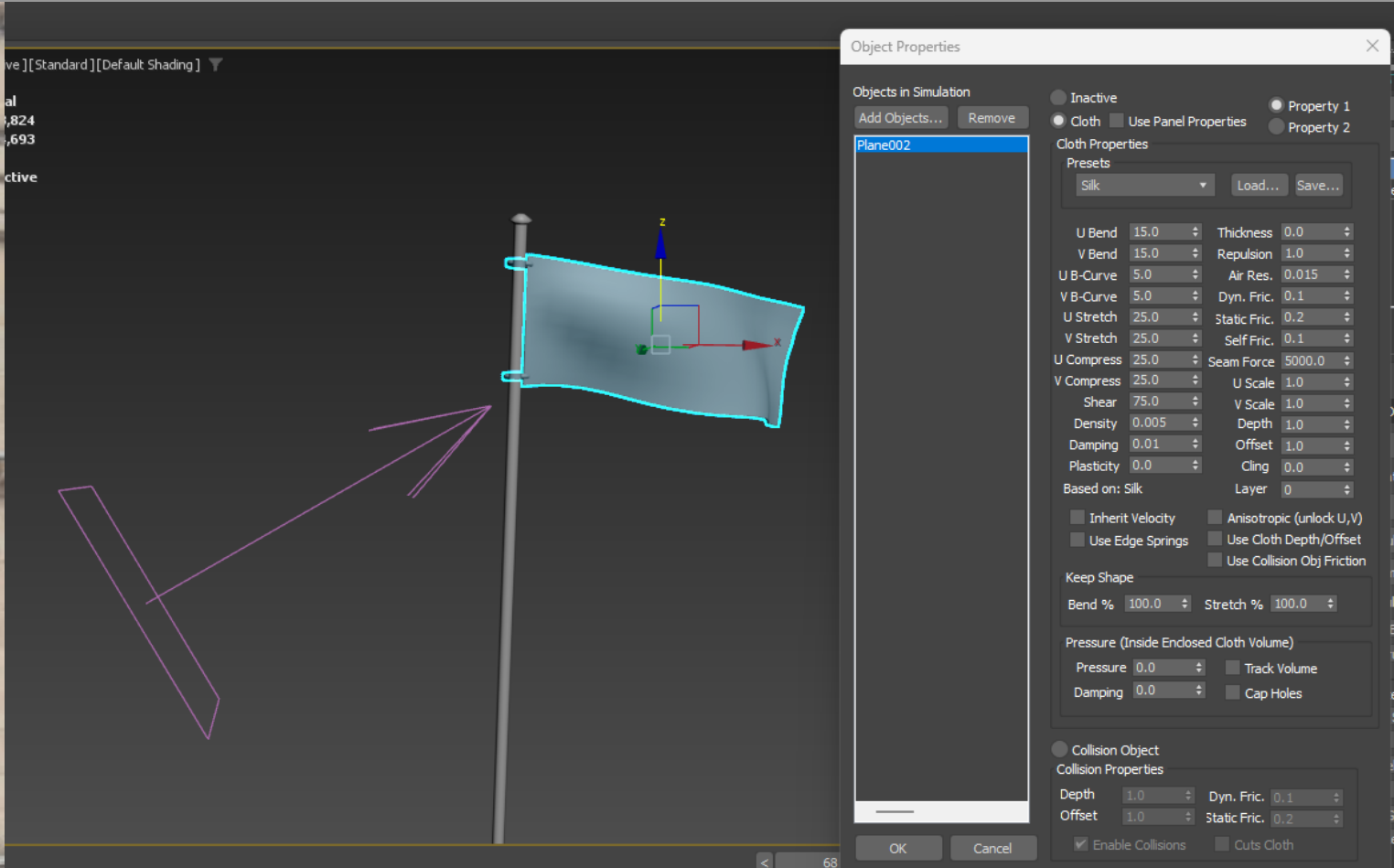
This week has been focussed on developing accompanying assets which can be used alongside the building within my scene. The brief allows for the use of Megascans for set dressing however, I would like to avoid this as much as possible and create as many of my own assets as I have feasibly have time for.

I would like to stick with the idea that a raider group have taken over the location and are using or have used the building as a den/stronghold due to the building still having structural integrity. These kind of themed areas tend to share similar traits of rudimentary construction using scrap metal and other materials as defences.

I have currently planned for a flagpole, wooden planks which can be used to board up the windows and some scaffolding. If I have the time to work on more accompanying assets, I would also like to make some rubble piles to decorate the areas with. If any of these don't fit within the timeframe, these will be the kind of assets which would make use of megascans.

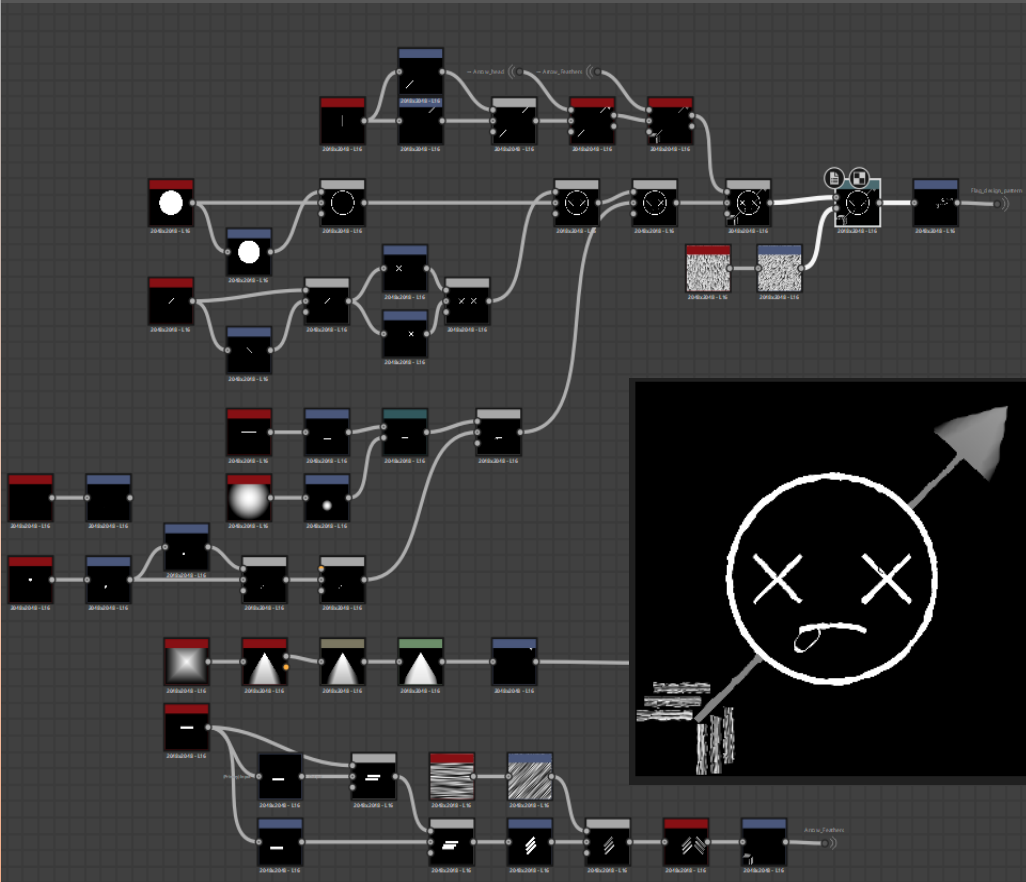
Week 6

On the building there is a flagpole which in the current day is being unused, this is the perfect place to add a logo or emblem for the raider group, I had intended to use Marvelous designer, however I am more comfortable using 3dsmax cloth simulation alongside its wind generation to create the fabric that I need for this project.



Week 6

I had some spare space on the Opacity trim sheet left over from when I was working on the windows, so I am using this area to make the texture for the flag. I have based the design on a piece of graffiti found in Fallout 3 which is a stickman with an arrow shot through its head.



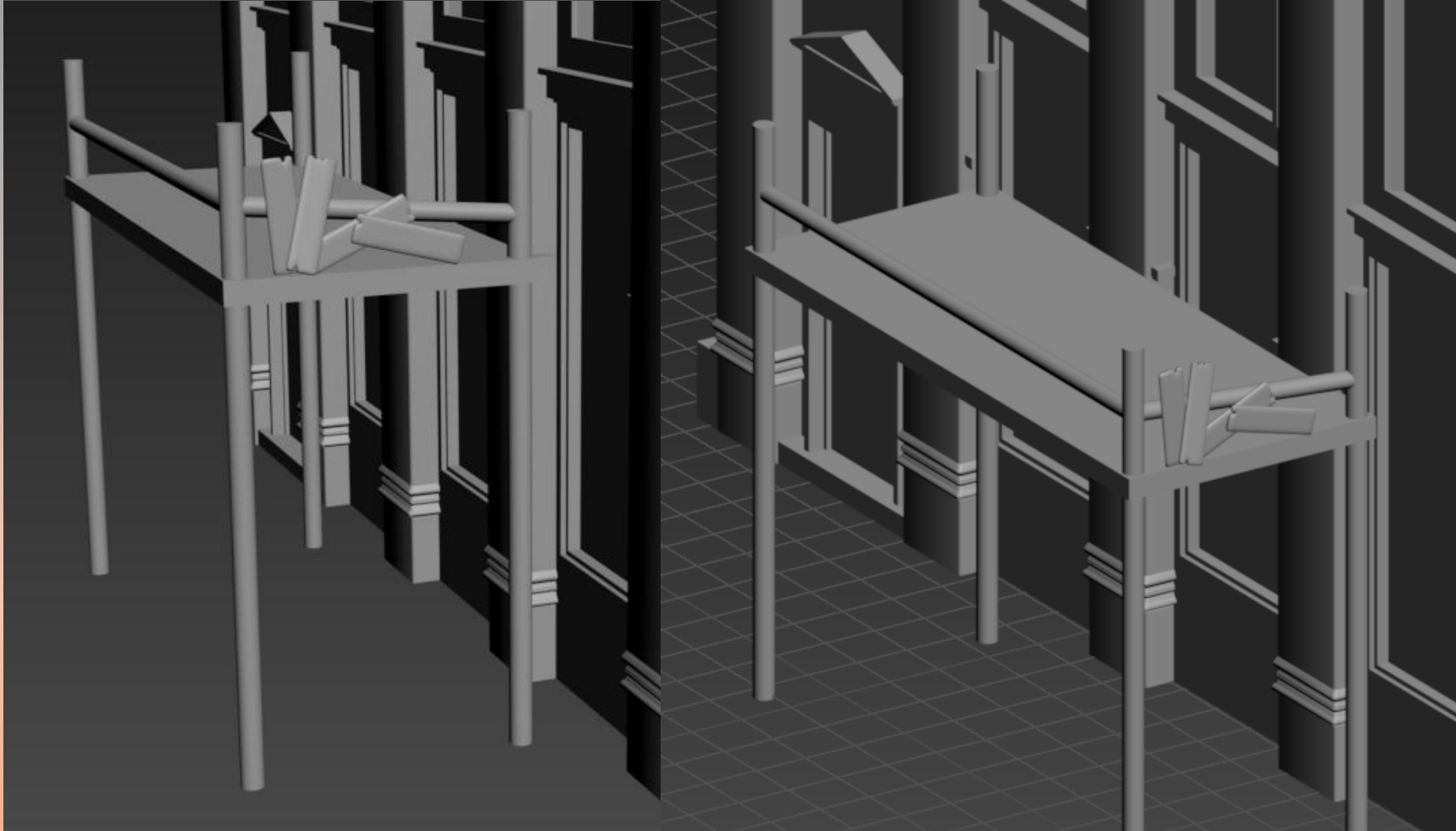
Week 6

Once exported from designer into substance painter I created a fill layer which only affected opacity. I made use of two brushes when making this texture, the first was 'Artistic heavy sponge' which I used to roughen the edges to produce the silhouette I wanted and then the brush 'Inky dirty dynamic' was used to apply tears in the fabric on the inside of the flag.



Week 6

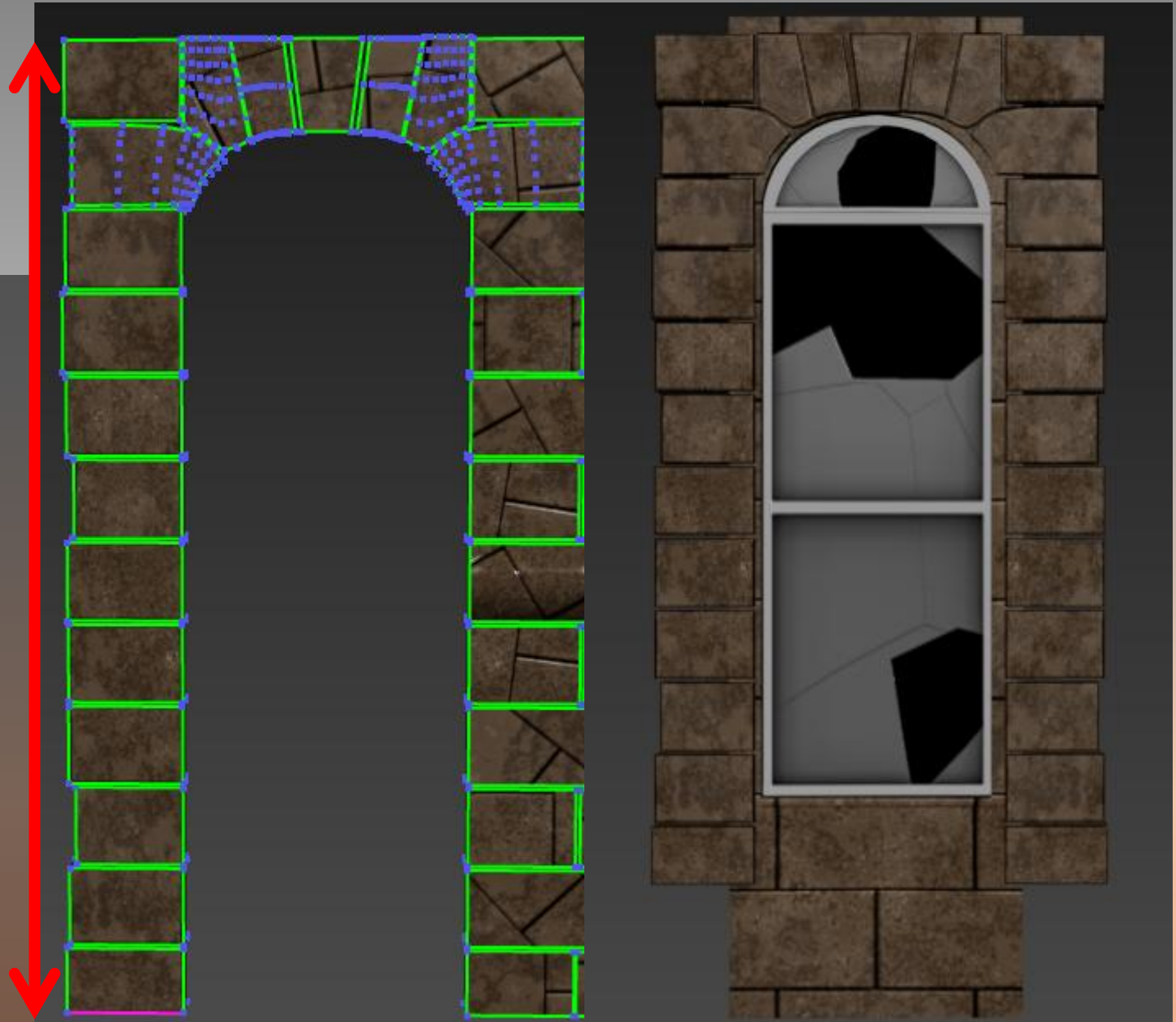
Scaffolding and plank accompanying assets:



Week 7

Week 7 has been focussed around getting my assets collected together and exporting them into my unreal level. This includes the unwrapping of any assets which were yet to receive textures.

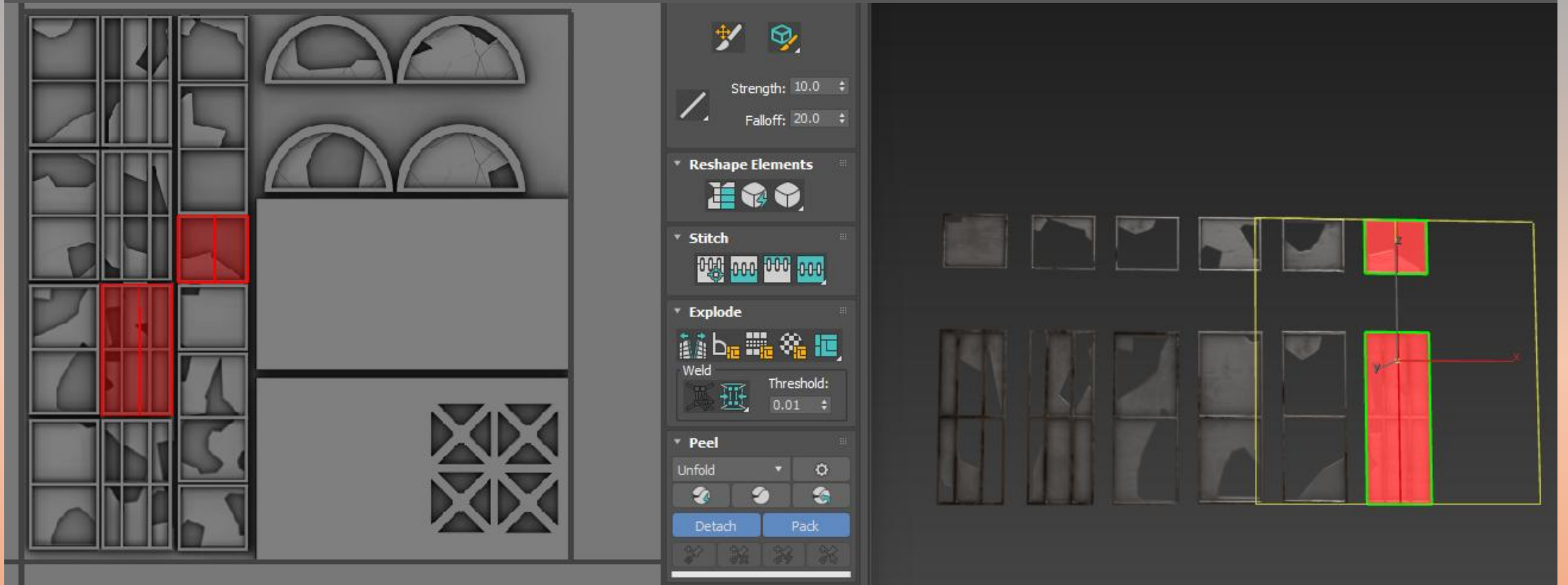
An example of this is this brickwork, which has the first column of bricks completed alongside the completed version with the window also included.



Week 7

I have now decided to separate the windowpane from the frame brick assets as I have had the idea of using their meshes inside of a simple blueprint which would allow me to switch between them

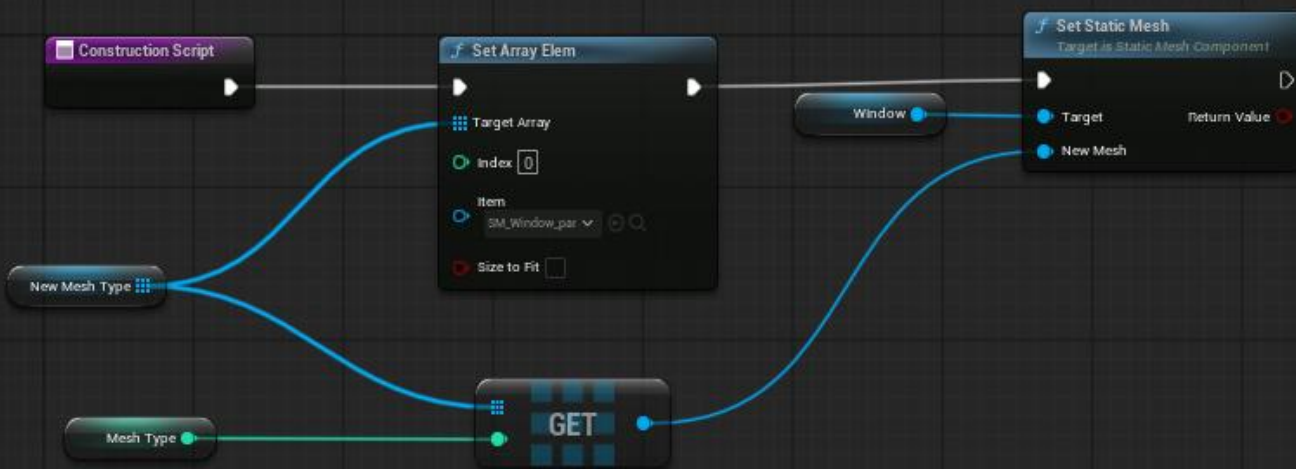
This will streamline my placement of these assets and allow for quick changes without having to line up another window as they all share a pivot point in the same location.



Week 7

This is the simple script used for the swapping of window assets and the array with the meshes used.

I would have liked to of included more variations of windows to avoid the same panes repeating, however



New Mesh Type		12 Array elements	+ -
Index [0]		SM_Window_pane001	↕
Index [1]		SM_Window_pane002	↕
Index [2]		SM_Window_pane003	↕
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Index [4]		SM_Window_pane005	↕
Index [5]		SM_Window_pane006	↕
Index [6]		SM_Window_Pane_Arched001	↕
Index [7]		SM_Window_Pane_Arched002	↕
Index [8]		SM_Window_Pane_Arched003	↕
Index [9]		SM_Window_Pane_Arched004	↕
Index [10]		SM_Window_Double_1	↕
Index [11]		SM_Window_Double_2	↕

Week 7



Details

Select an object to view details.

Content Browser * Env. Light Mixer

- Favorites
- Live_Breif
 - LevelPrototyping
 - Meshes
 - My_stuff
 - Blueprints
 - Levels
 - Materials
 - MegascanAssets
 - Meshes
 - Decals

+ Add Import Save All Fab All > Content > My_stuff > Blueprints

Search Blueprints



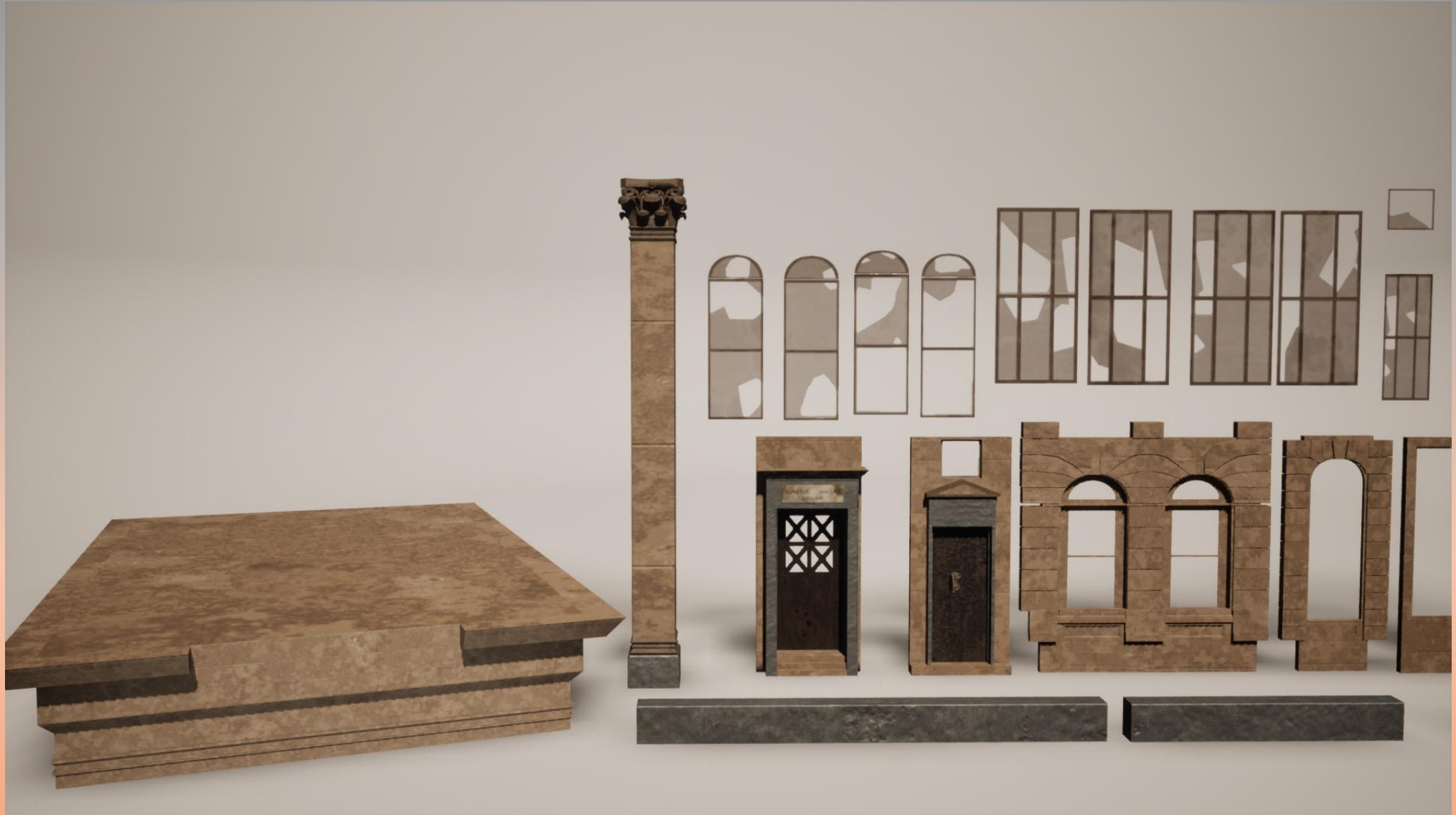
BP_Window_Panes

Week 7

Building assets list



Week 7



Week 7



Week 7

Roof decorations have finally been implemented from the previous weeks, and the AO has been adjusted on the timesheet



Week 7

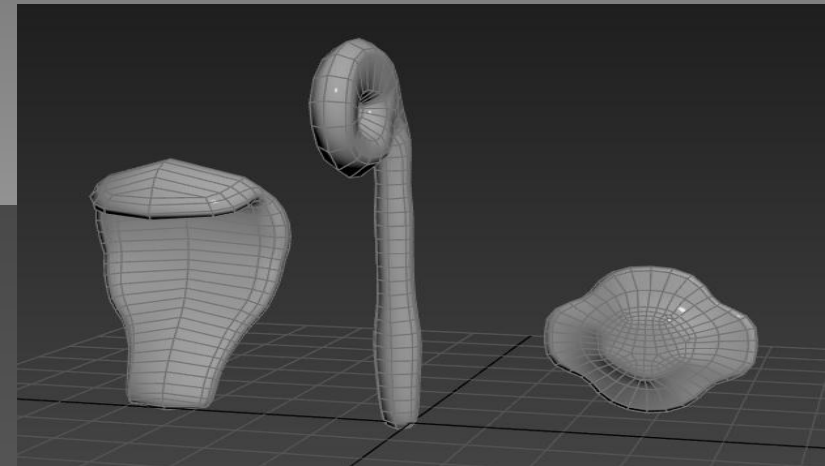
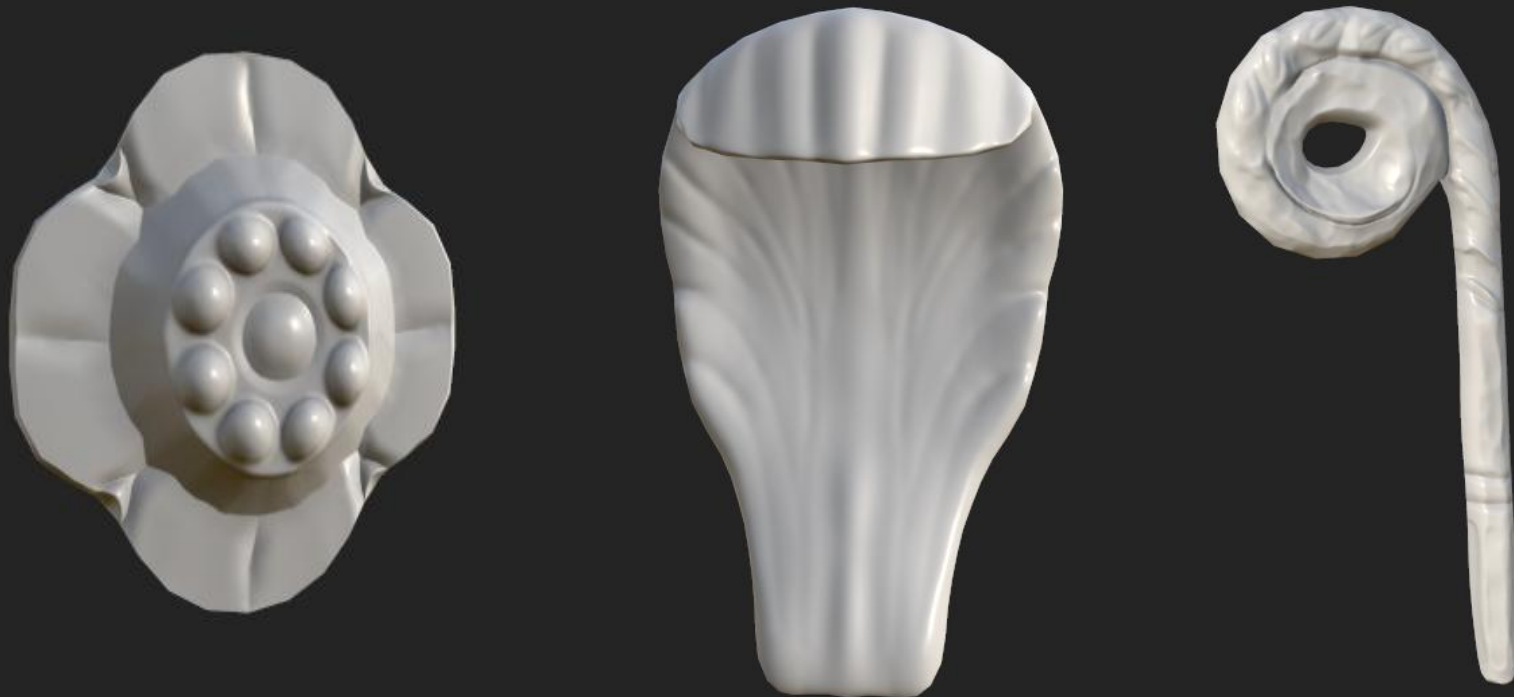
This is the current progress of the building; there are a few pieces currently missing most notably the pillars are yet to be implemented and I will be working on this as soon as possible. There is also a decorative piece that attaches to the overhangs of the roof that I created in week 4 which I have yet to add to the roof pieces.

Because of the holes in the windows, the inside of the building is currently visible, for this reason I have placed a cube with a black base colour in the centre to hide visibility all the way through the building. I am not sure how best to tackle this problem at this point in time as it is not an issue I was contemplating during planning and when creating the assets.



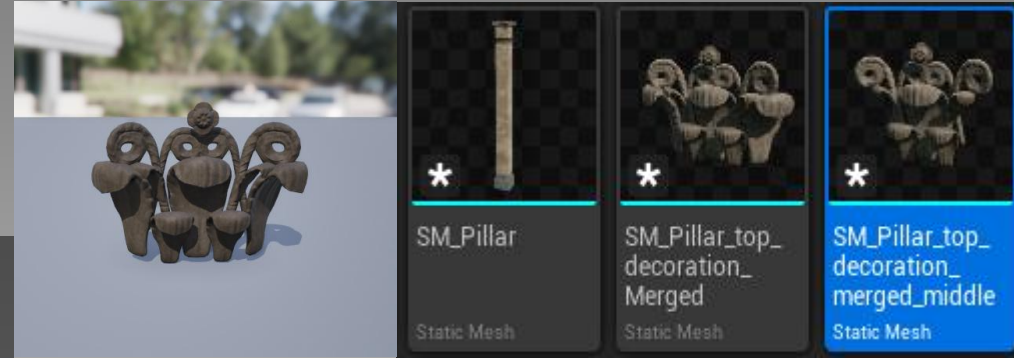
Week 8

These are the separated parts which are being used for the decorative pillar segments. The three parts were sculpted in Zbrush, retopped inside of 3DSMax and then baked down in substance painter. Inside of Unreal these assets use the same base colour textures as the brick assets in the scene however, their normal maps have been swapped for the normal map from painter to show the baked-on detail.



Week 8

In order to create a streamlined building process, I have taken the assets that were made on the previous slide and attached them together inside of unreal by merging them into one asset. Once one pillar has the other assets merged to it all the other pillars can be easily replaced with the new decorated one.



Week 8

With the building finally put together I am now moving onto lighting my scene. I have decided to have the building in a 'liminal space' as to not to draw attention to anything in the background. I have decided on this because it would be difficult to place the building in an environment that it would feel like it would fit without making a larger environment which I don't have time to produce.



Week 8

These images have evidence of the use of decals within the scene; I didn't have time to produce as many as I wanted to make but I have been able to re-use some to create others by stretching the shape. For instance, this wall damage decal seen beside the window frames in the first image has been re-proposed to create Deathclaw claw marks on the boarded-up door. More of these decals were planned but to fit the scope of the project the number has been reduced.



Week 9

I have adjusted the lighting to give the building a warmer feel, to replicate the visuals of fallout, which tends to lean towards dirtier browner tones to mimic the apocalyptic setting there are several screenshots on the next few slides of the building from different angles.





CASTLE MOAT
House









Week 9

I have made some final lighting adjustments to attempt to get the feel that I was aiming for in the previous slides.

By making some adjustments in the post process volume, such as with the slope and toe settings, I have slightly desaturated the scene adding to the sombre atmosphere.







RUN
DANGER!





MASTER HOUSE MOAT

KEEP
OUT!

KILROY
WAS HERE!



