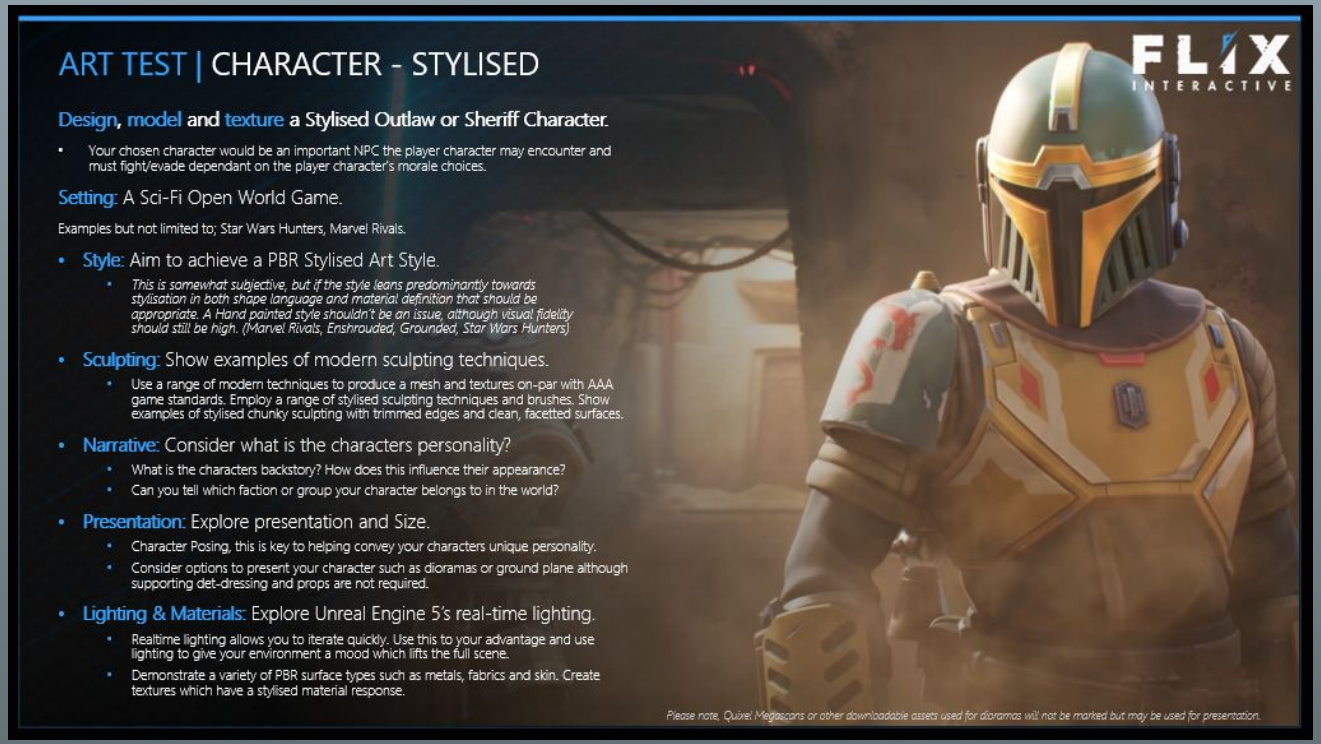
Development Diary

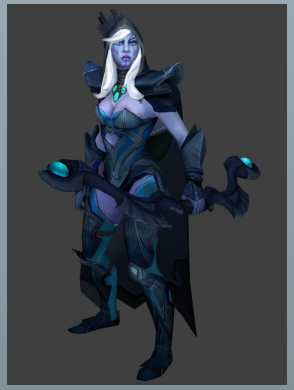
ALICIA WALTON - W015229M

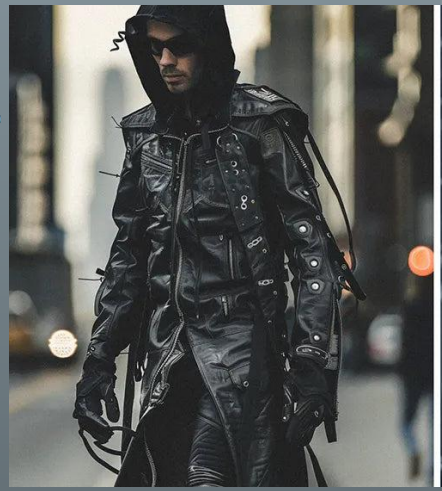
Chosen brief - Flix Interactive - Character- Stylized

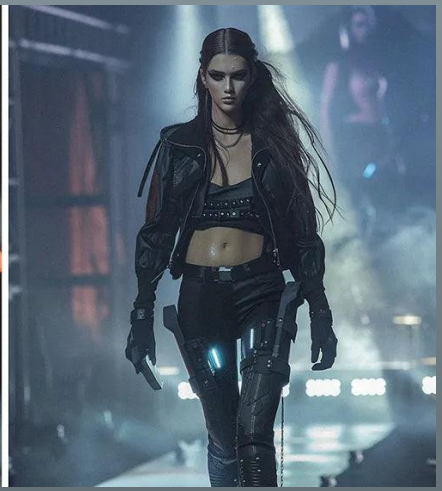


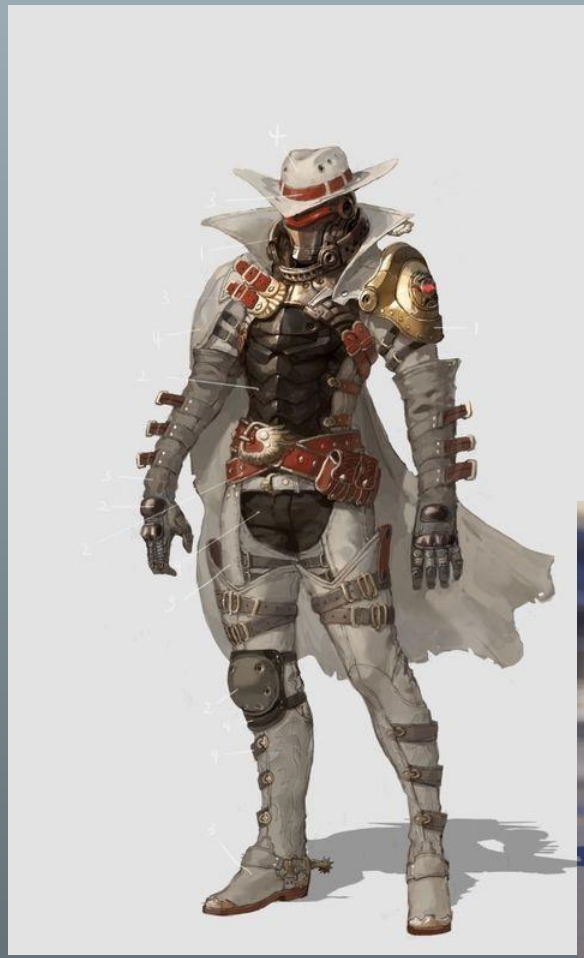
I have chosen the Stylized Brief, as I feel I can accurately fulfill the brief to a sufficient extent by utilising various stylized sculpting and texturing techniques, which would help elevate a stylized character's presentation and design.

Moodboard







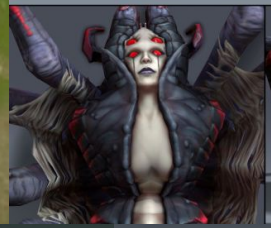



EQUIP
NEXT EQUIPMENT


EQUIP
NEXT EQUIPMENT

Style determination - DOTA 2

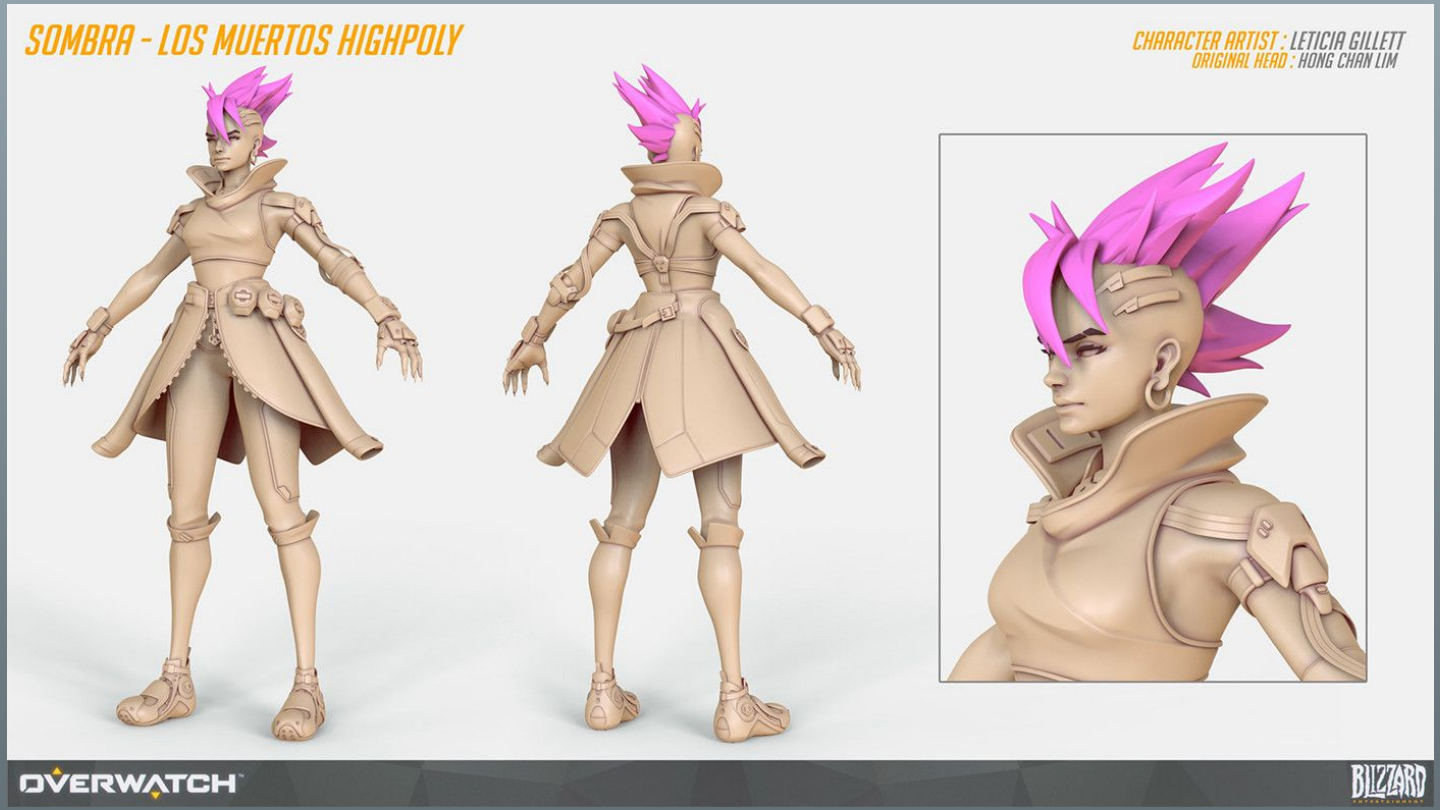






Style influence - Overwatch



After deliberating, i went more in depth with analysing Overwatch's style of characters, as through peer review I was advised to find a higher detail style than that of DOTA, as those characters are built with the top-down style in mind, lessening the detail of the actual models.

Taking into account the proportions of Overwatch characters, especially women characters- who have longer and thinner legs- as well as my moodboard, I designed a character who had areas of negative space and contrast on the body, as seen in the midsection area which is bare of armour.

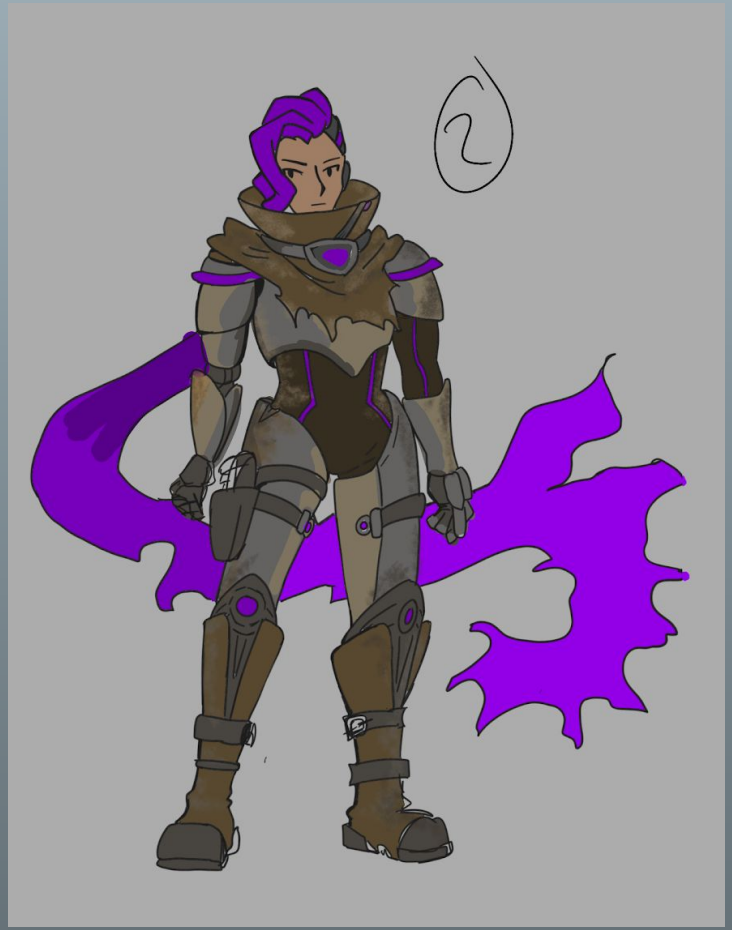
The concept of ‘outlaw’ was also researched to great extent in conjunction with the provided theme of ‘sci-fi’. This led to the consideration of typically cyberpunk elements, such as body enhancements and/or prosthetics.

Final design and colour iterations- these were done in order to better conceptualize the design in relation to the brief- 4 was too brightly coloured for a ‘outlaw’, for example.

Selected concept - 2

This concept had the best colour palette and amount of shape variance to be chosen as the main basis for the creation of the character.
To better express ‘outlaw’, further surface detailing such as dirt patches and wear would be added at the texturing stage.

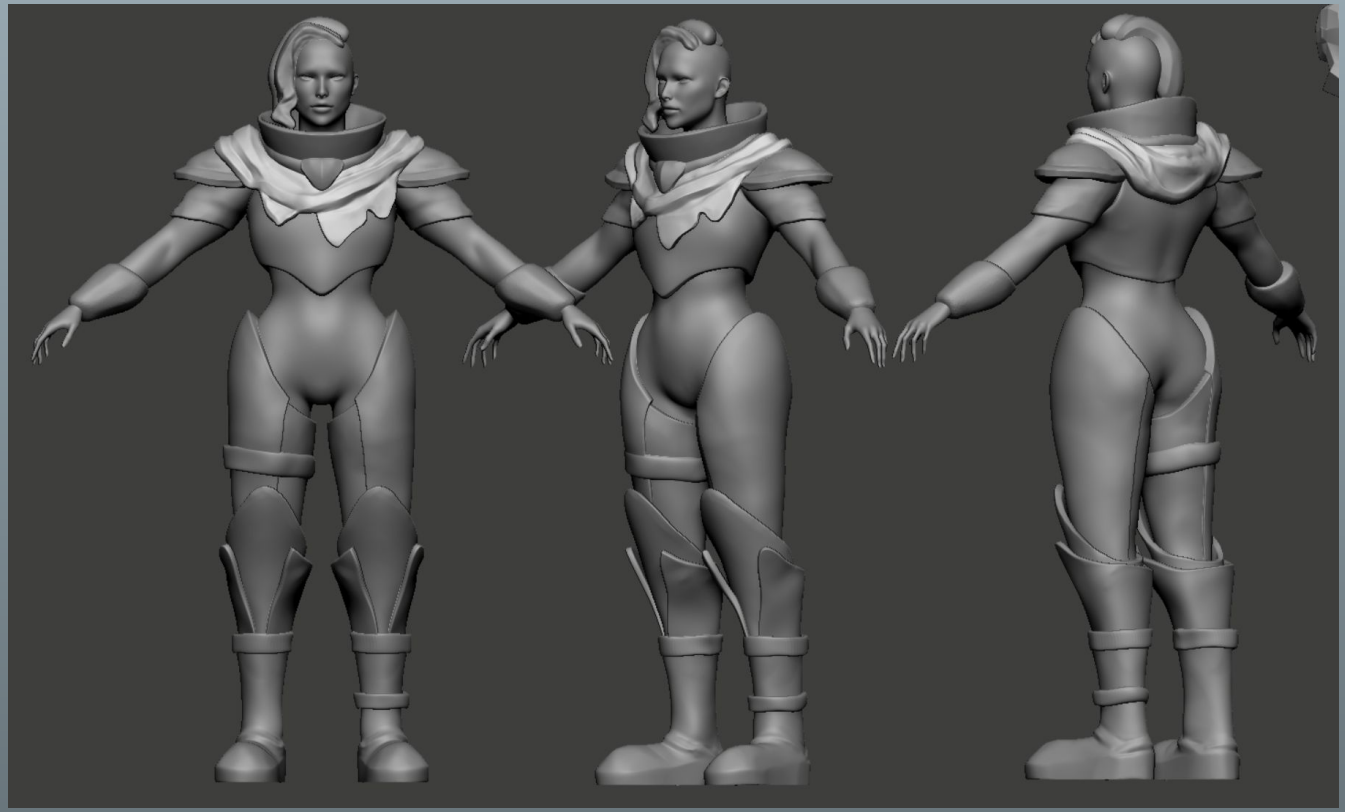
It was at this stage a name was also selected, after referencing other Overwatch characters- Phantasma.



Initial blockout basic blocking out of the armour shapes and other planned areas such as the boot folds- these were blocked out using extract method and move tools.

Editing shapes

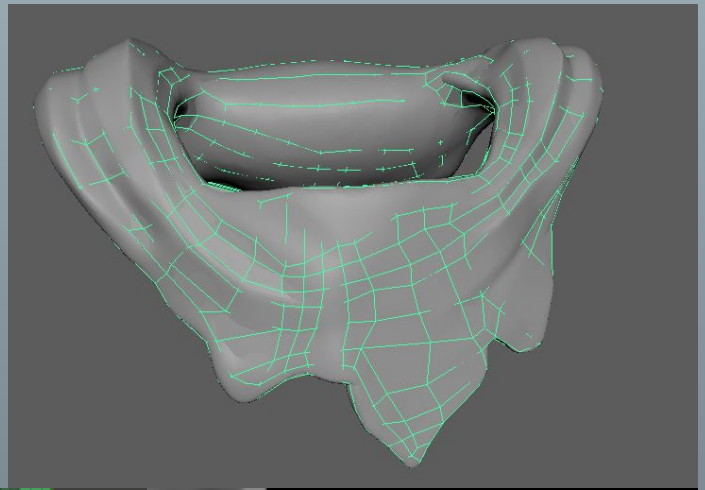
Looked into shaping of hard surfaces through use of creases and polishing- applied this to the outer leggings material to clearly define the upper and lower body.
Added additional blockout of leg strap fo the gun holster to be added later.

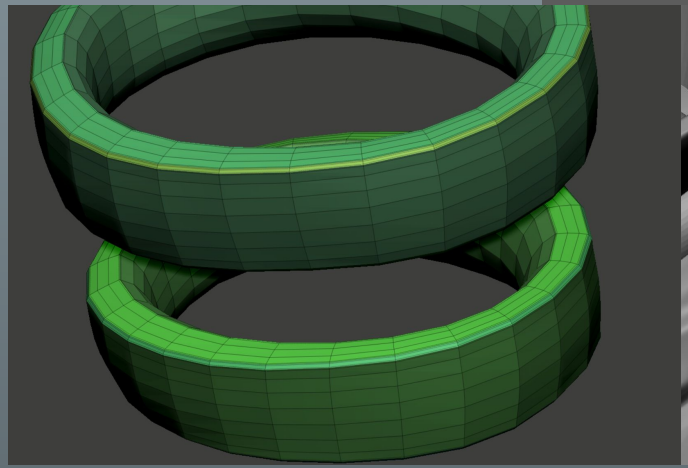


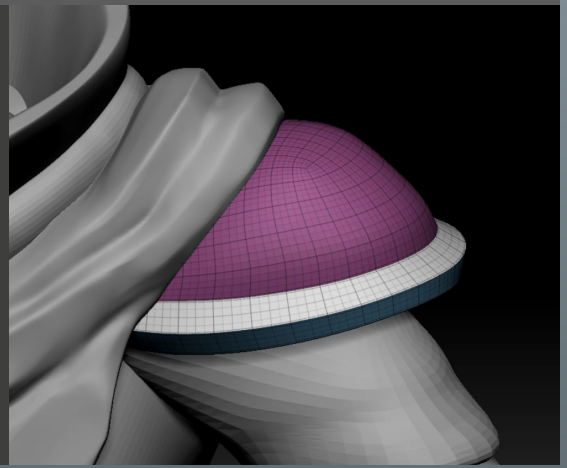
Retopologizing elements to make edges sharper

Meshes were retopologized in Maya and then re-imported into Zbrush, allowing for greater edge detail. This was applied across the model.

The use of poly grouping also helped with this, as it allowed for subdivisions to retain edge angles, particularly on the shoulder armour.







Analysis of Overwatch facial structures and eyes

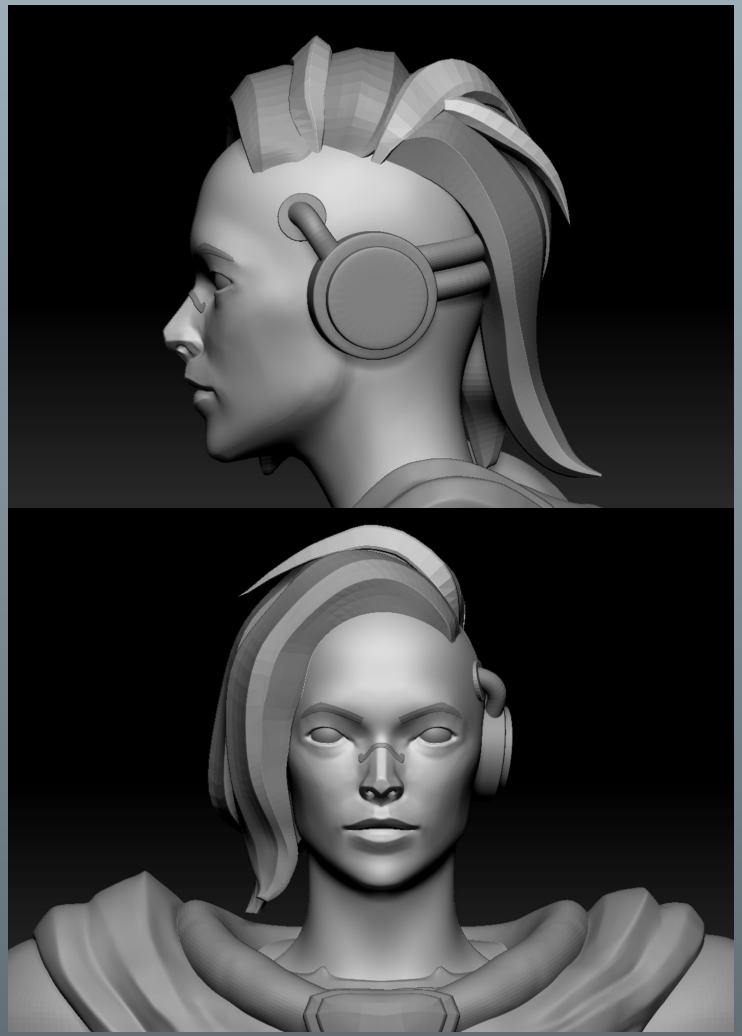
Editing facial structures to have more defined edges on the nose and lips, as well as editing the eye sockets.

Eyebrows were added at this stage through the simple method of masking out and extracting polys from the face, followed by Zremeshing to a lower polycount before using Zmodeler to extract from the plane to be 3 dimensional. This was also used for the eyelashes later on.

Hair

By researching Overwatch's use of hair styling techniques as outlined in this article by Gloria Levine- I accessed a brush created by Renaud Galand, former Lead Character Artist for Overwatch. This allowed my hair to be much more effective and clean in both topology and shape, and better expressed the Overwatch influences.

This was much improved over the blockout, as the previous hair was indistinct and lacked visual clarity.

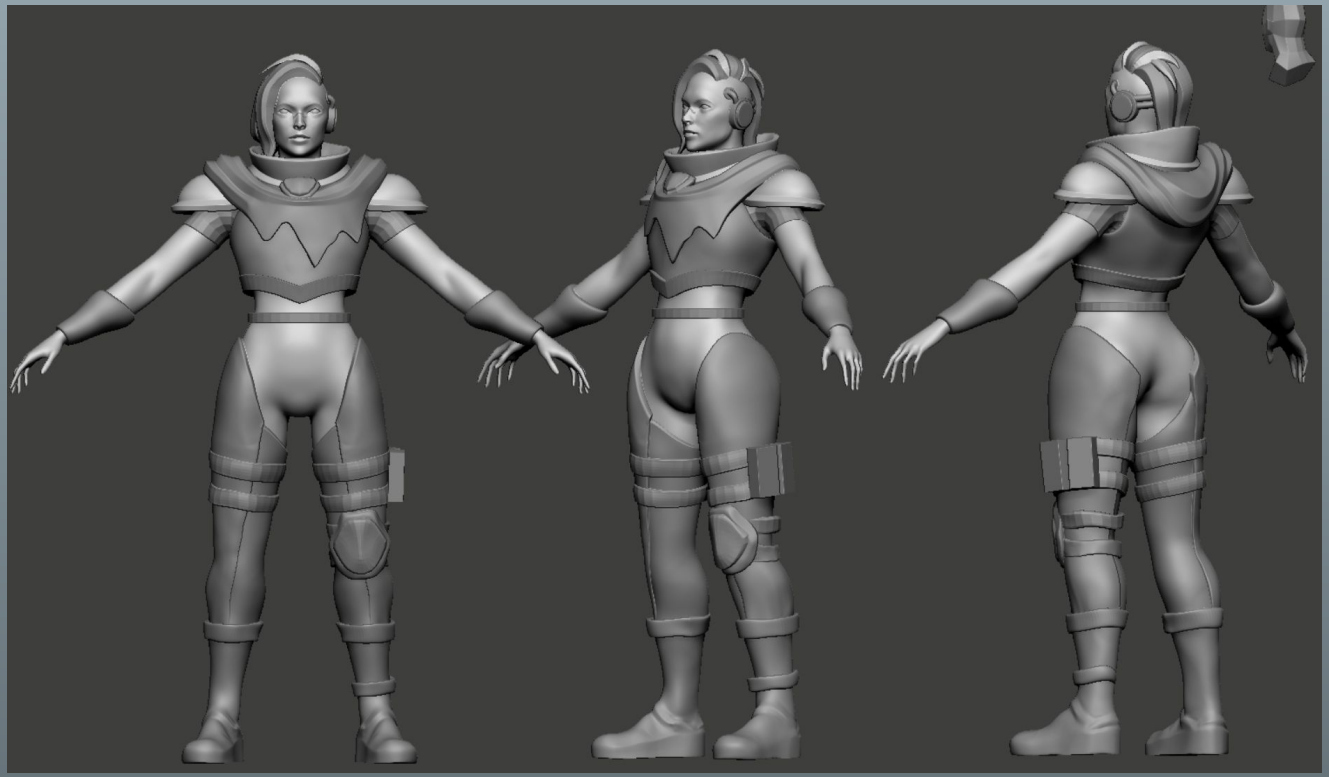


https://80.lv/articles/free-hair-brush-for-zbrush-from-former-overwatch-character-artist/

Finalising design

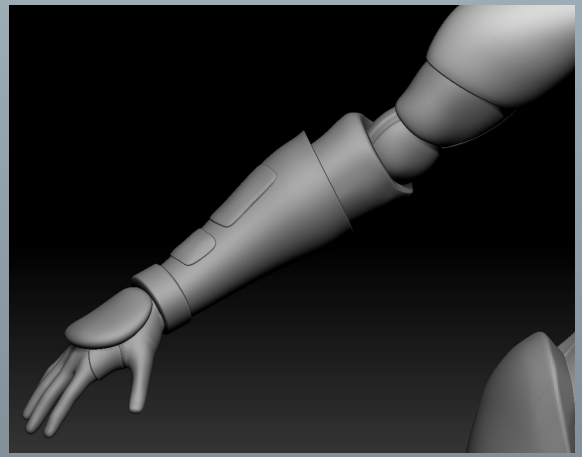
Following feedback from the midpoint- adjusted proportions to be longer legged and have wider leg stance. The initial boots were removed and reworked into slimmer boots, as I felt they were too bulky and looked ineffective alongside the rest of the design.

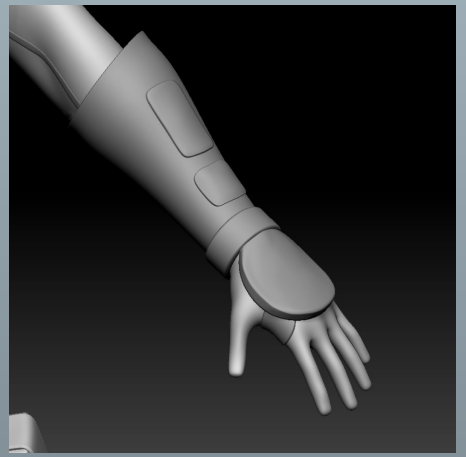
The chestplate dip was also lessened and an extra component added.

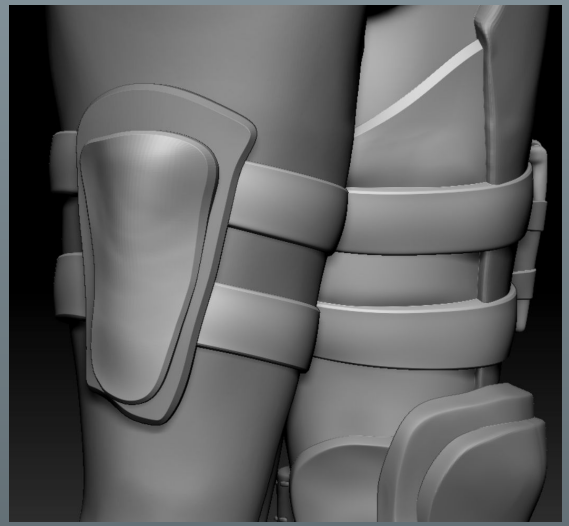


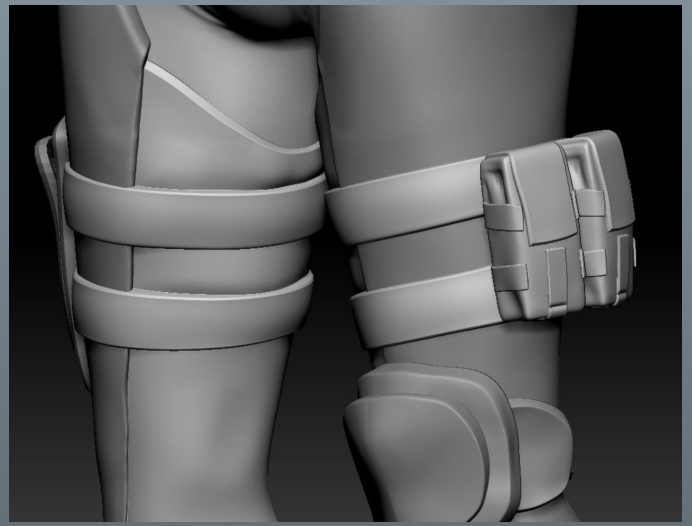
Finalising details

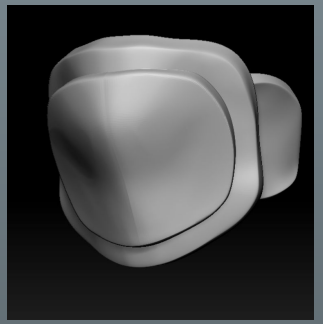
Finalising minor surface details such as adding eyelashes, the padding on the knee guard, as well as adding straps to the leg pouches.

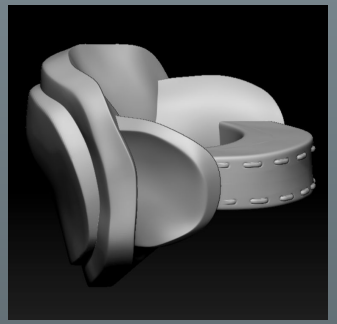






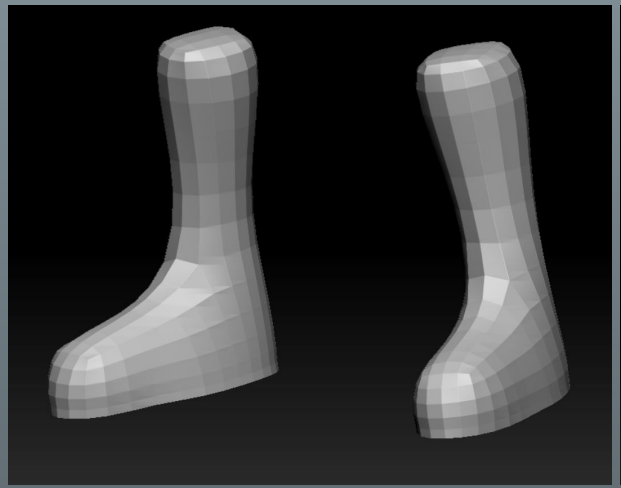


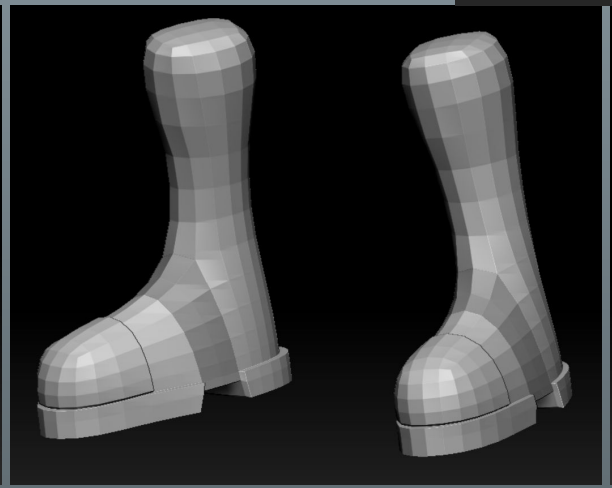


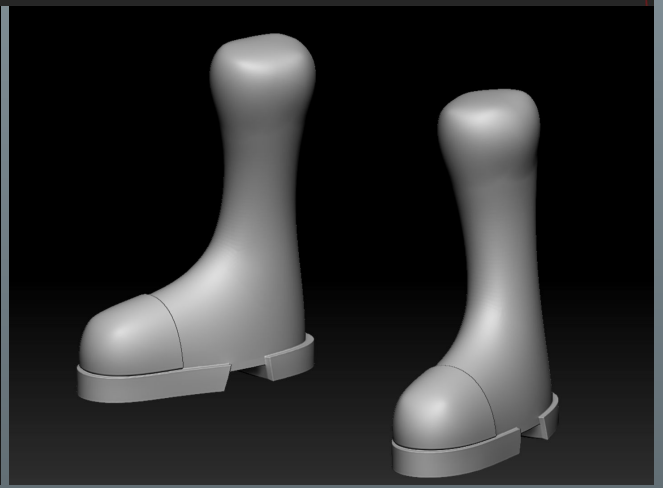


Boots editing

Boots were low-poly modelled in 3ds Max, imported into Zbrush, then edited with the Zmodeler tool. This allowed me to preserve sharp edges on the boots, something which i had struggled with before. Additional visual interest was added via the addition of the boot strap, and then additional detail added by sculpting the folds of the boot- especially around the ankle.

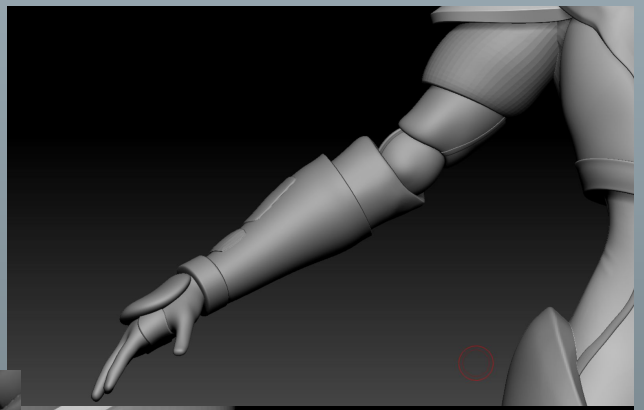


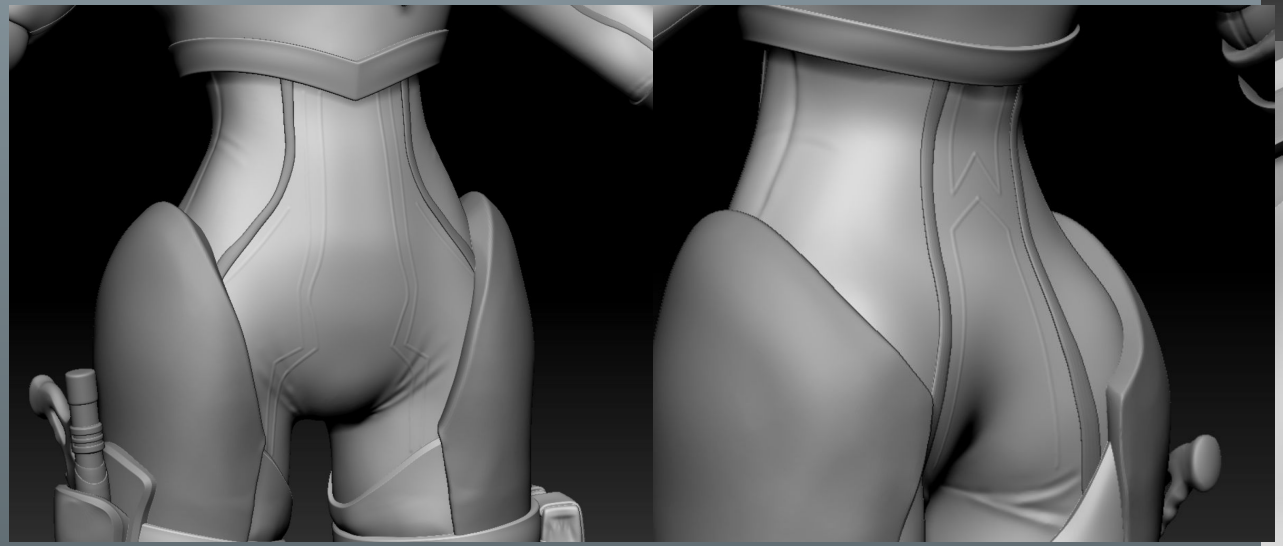


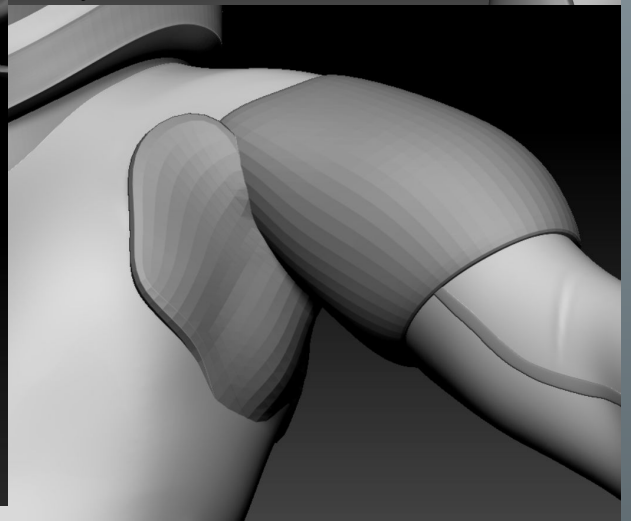


Surface details

Adding surface detailing such as clothing creases and lining for visual interest, as well as completing the prosthesis high poly and adding a better adapted undersleeve for the arms that was more defined in shape.

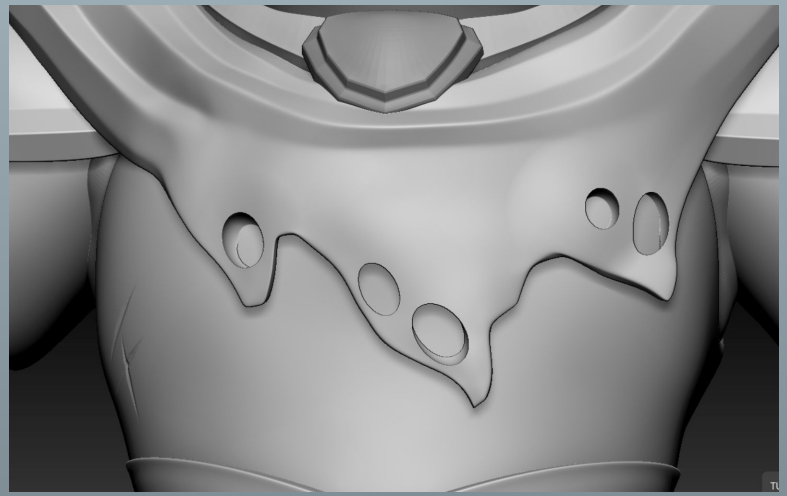


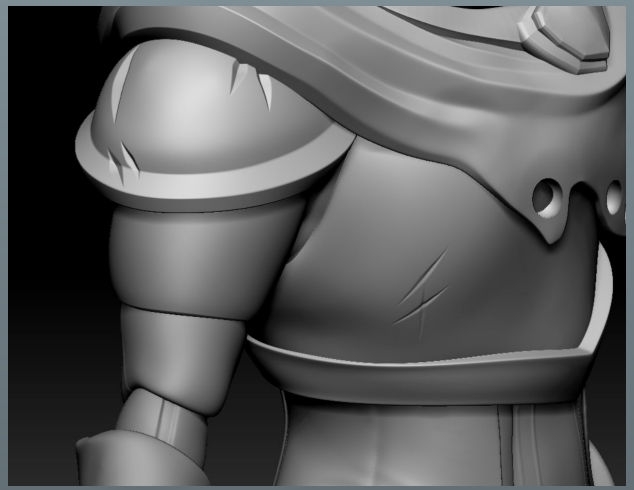


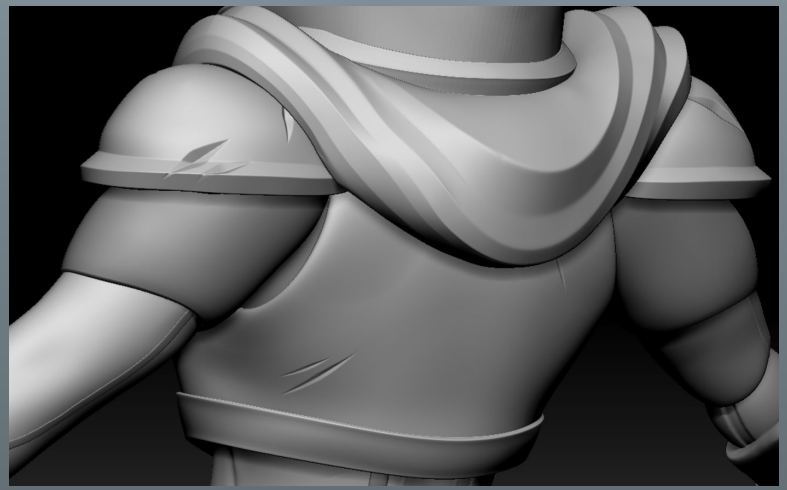


Surface details

Adding final surface detailing such as armour chips, as well as holes in the cape; both giving an impression of ‘wear’ suitable for an outlaw character.





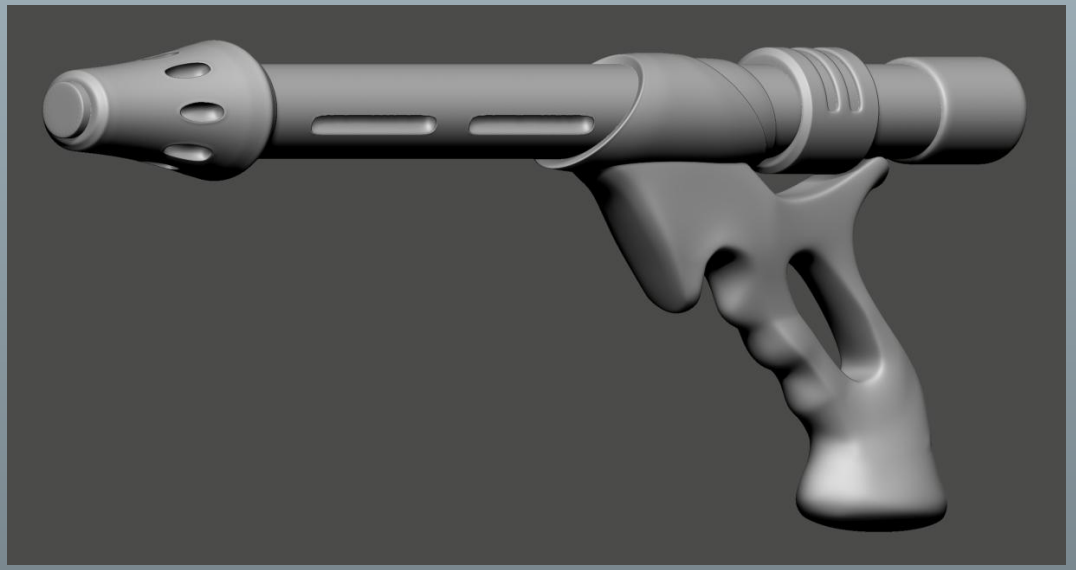


Final design and overall changes

Overall- adjustments are much improved over the original draft. Use of edge polish has developed edges in a sufficiently stylized manner.

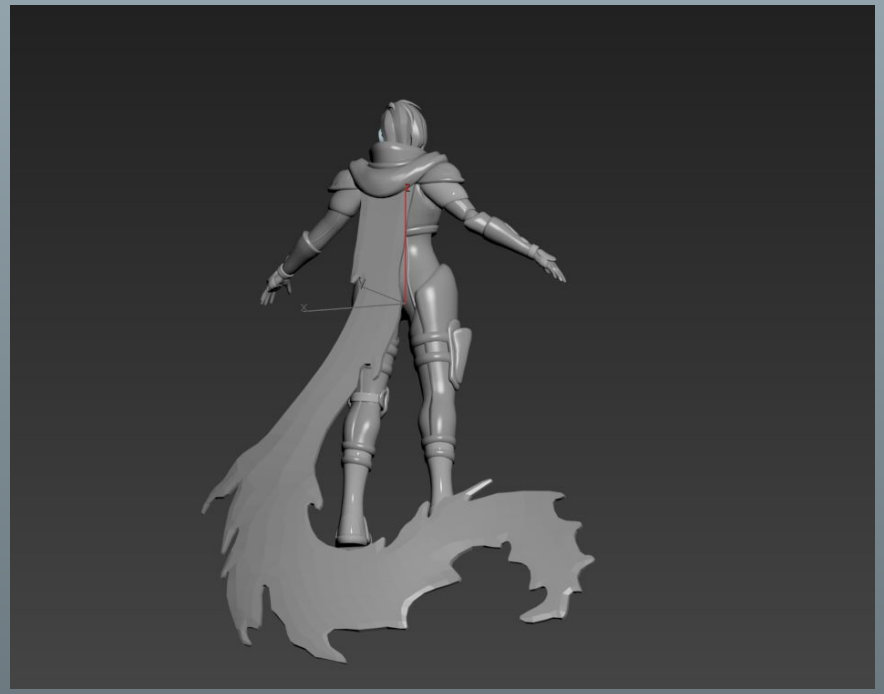
Weapon

Created a gun from star wars to fit the sci-fi element of the brief- this in particular is Jango Fett's blaster. The blaster was modelled in Zbrush and also retopped in Maya.



Cape creation

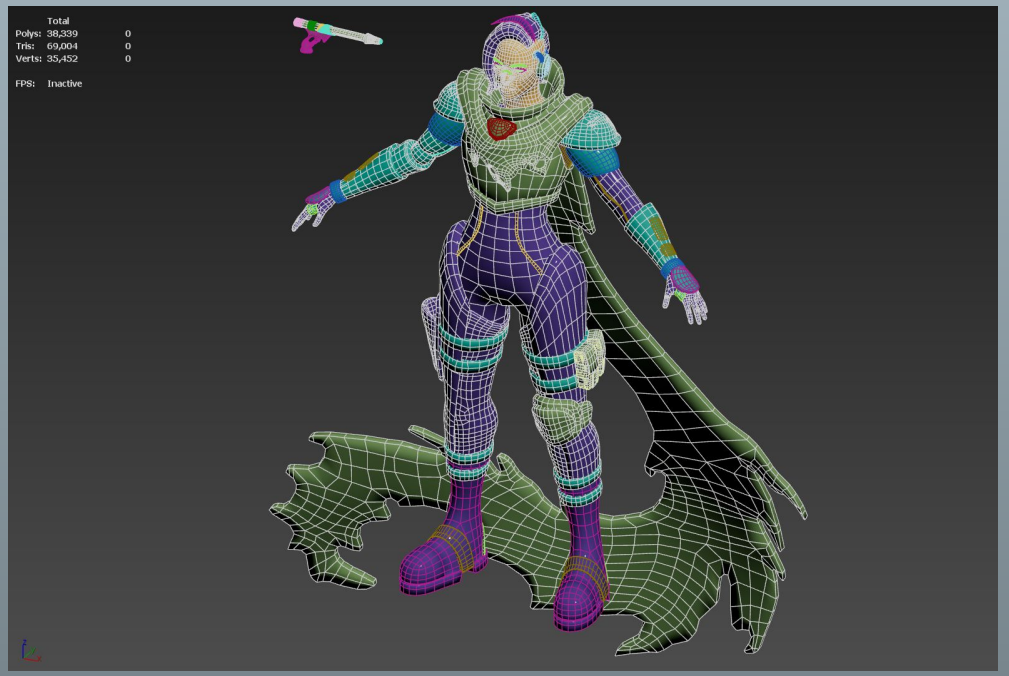
Via use of splines and bitmaps, I was able to use a drawn outline of the shape of scarf I wanted for my character, and then extracted it in Zbrush to create a sufficient high poly. The shape led me to having to retop it in order to get the sharp edges I wanted, but was nevertheless effective in appearance.

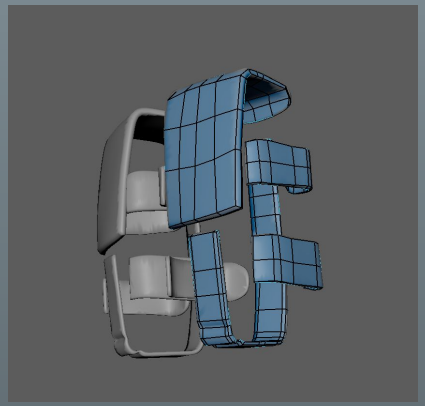


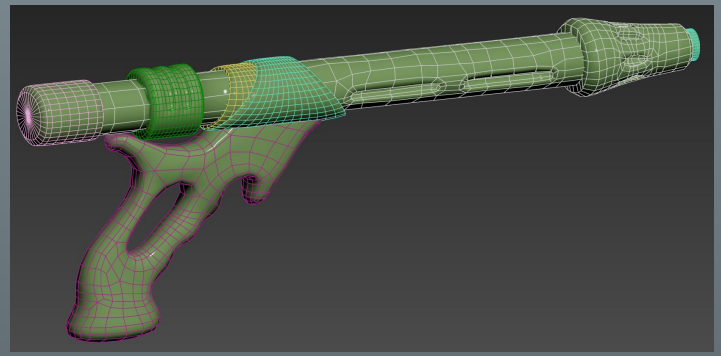
Retopology

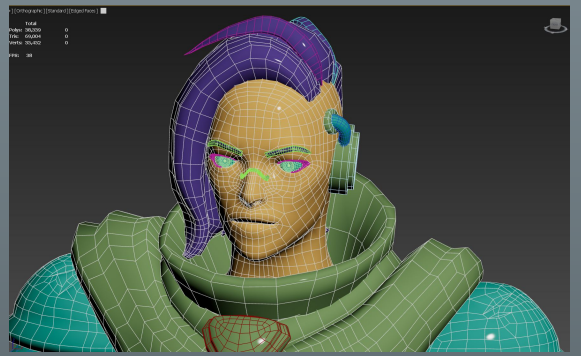
Retopology was carried out in Maya through use of the Poly Draw tools, as this allowed for a smoother workflow with tools that I have had much prior experience using.

The polycount was reduced to well within the limits of the brief, being 60 subtools with a value of 69k tris. This also included the blaster.



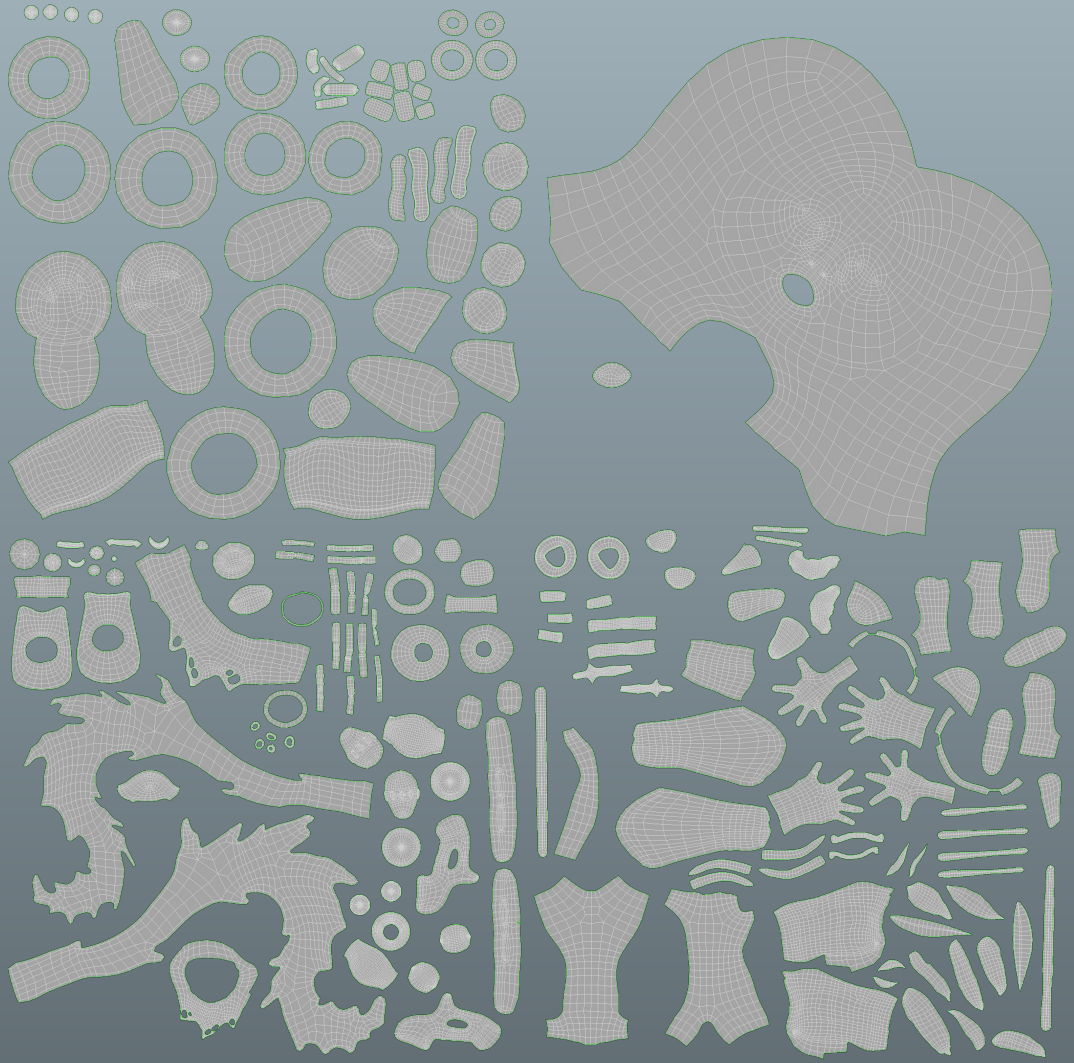




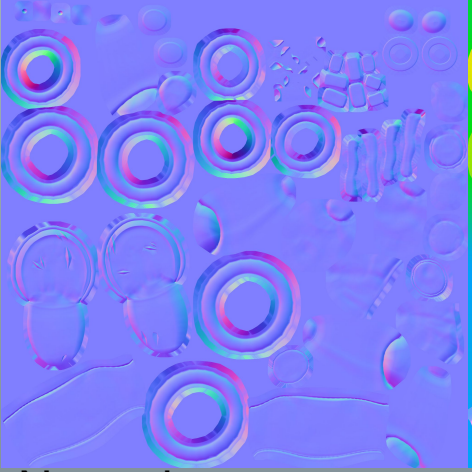


Uv unwrapping

4 sheets of 4k textures were allowed, and as such I split them into sets for the head, clothing, armour and the gun, and the base body and hair.



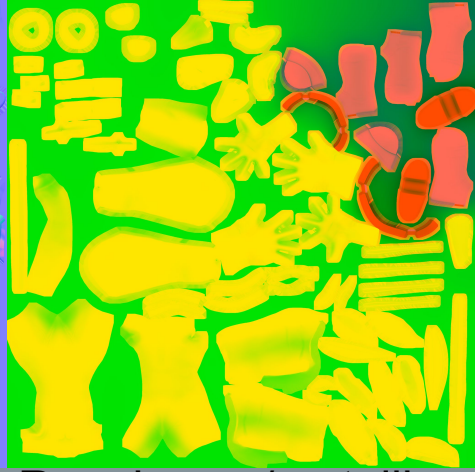
Cyberpunk Industries Vol.1 | Fab



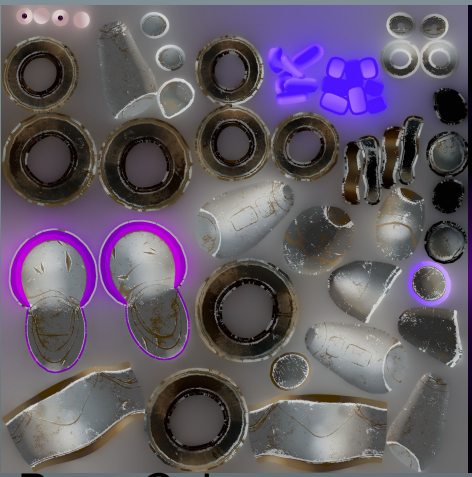
Normal

Roughness/metallic

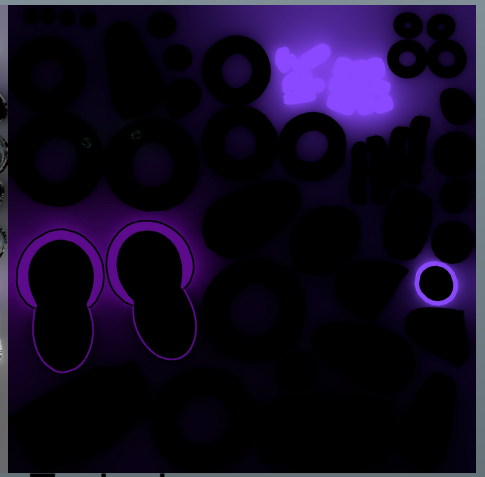
Normal



Roughness/metallic

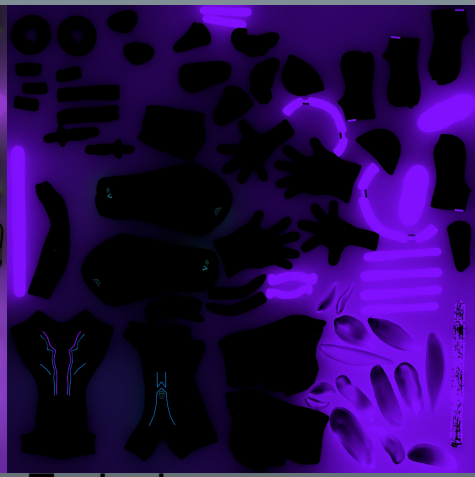


Base Colour

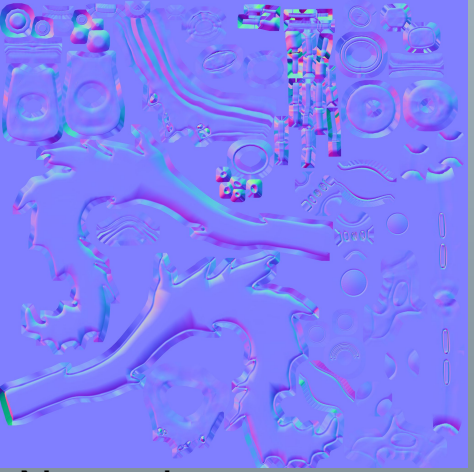


Emissive

Base Colour

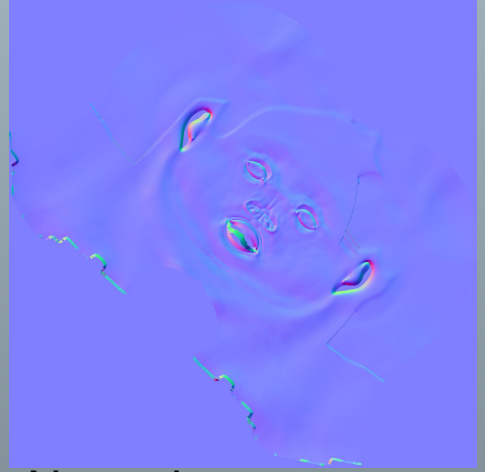


Emissive



Normal

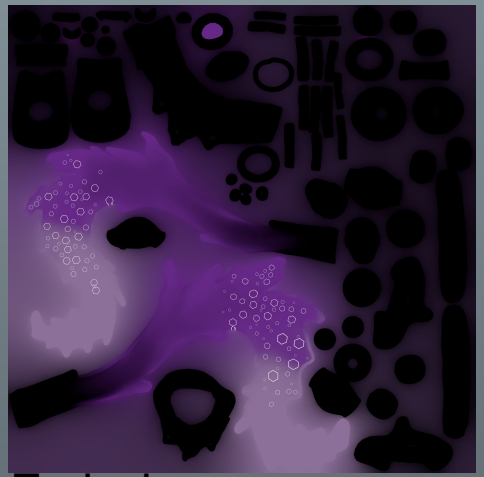
Roughness/Metallic



Normal

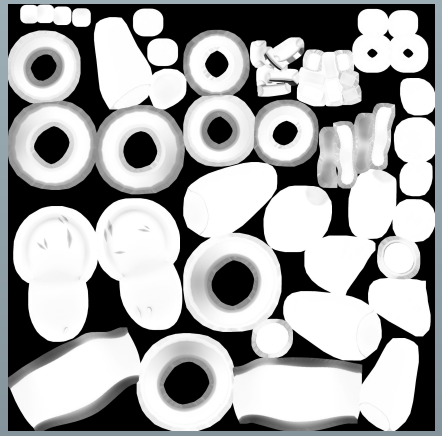
Roughness/Metallic

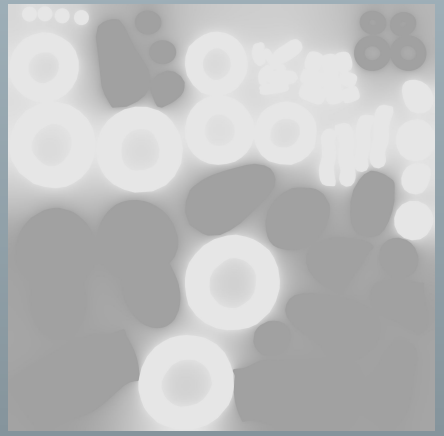
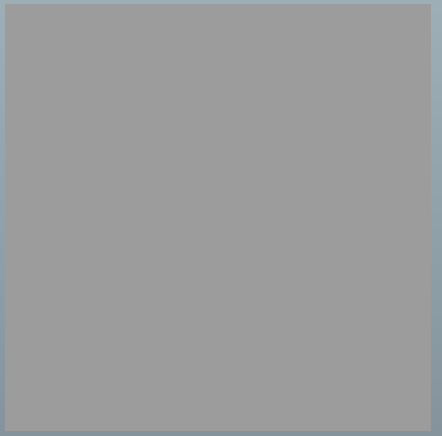
Base Colour



Emissive

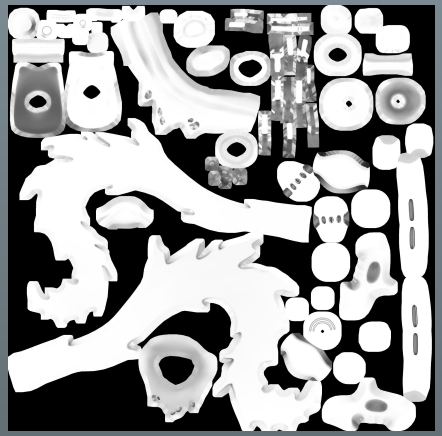
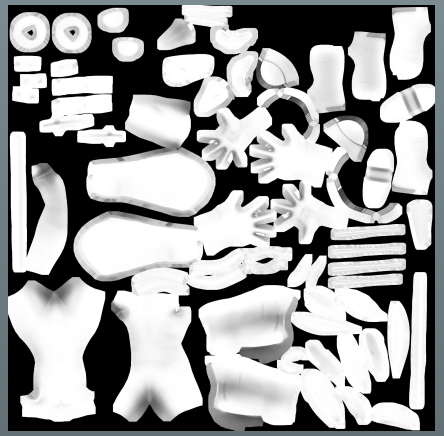
Base Colour

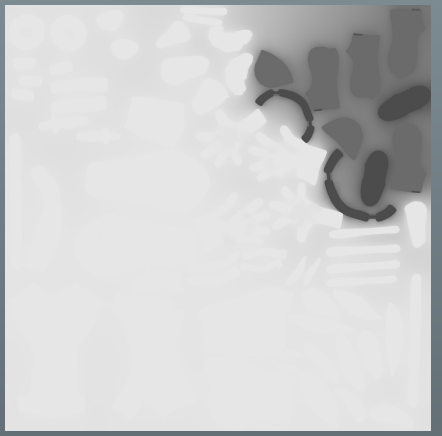


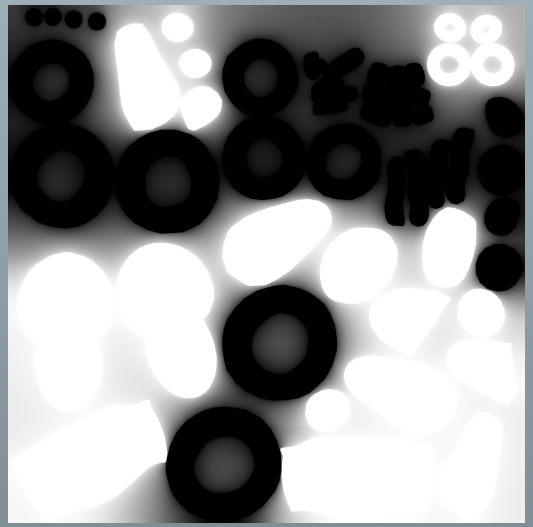
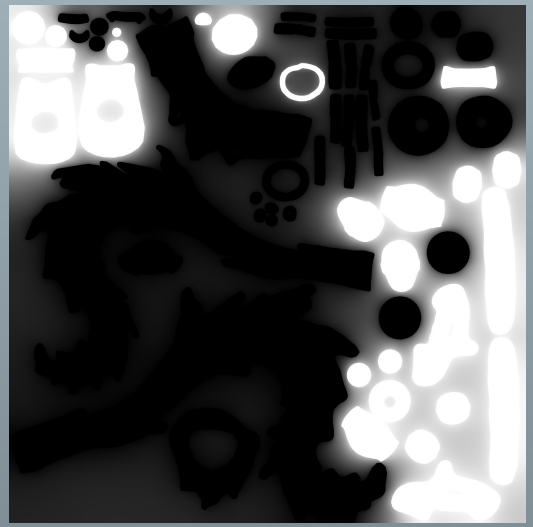
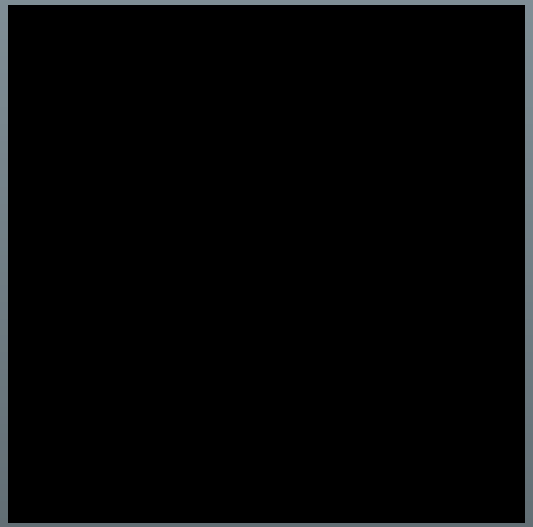
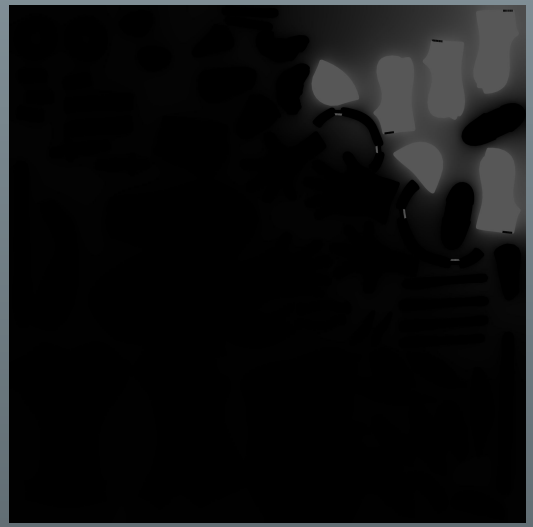



Ambient occlusion

Roughness



Metallic

Baking and texturing

Baking was relatively easy, with only small issues having to be corrected- for example, baking issues relating to mesh proximity, which was easily fixed by turning off self-occlusion to only the same mesh name, and separating meshes such as the leg pouches, which baked better separately.

Final textures

With the addition of some metallic textures and adjustment of baked lighting, I settled on the following textures for adequate style emulation of Overwatch.

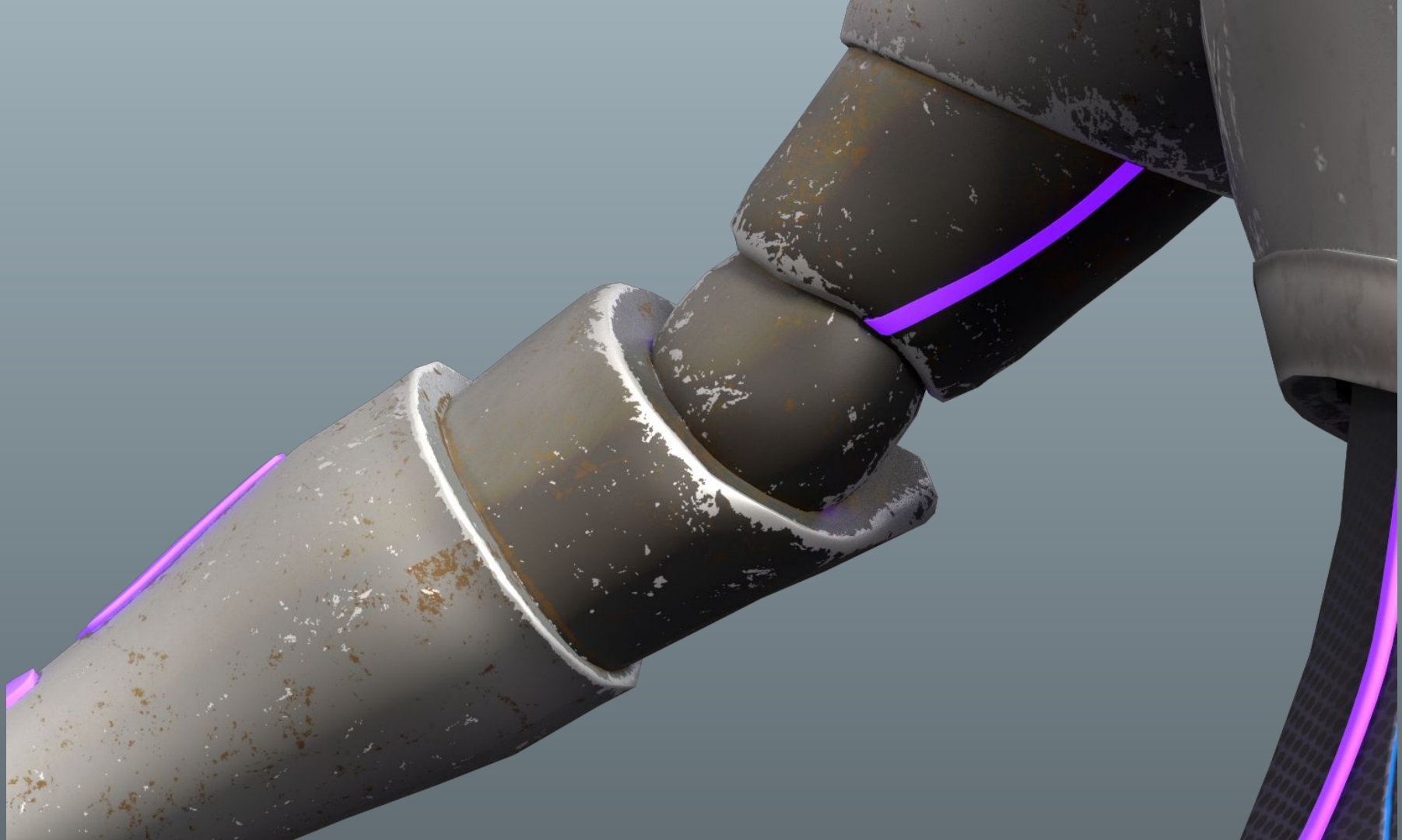
Another key feature was elements of surface wear- this was achieved through both dirt generators and hand-painting methods.

Adjustments

Adjustment of textures to better fit style of overwatch based on peer feedback- adjusted edge wear to be harder and increased the grunge value. Other adjustments included lowering emissive opacity on the scarf, as it was previously too harsh.

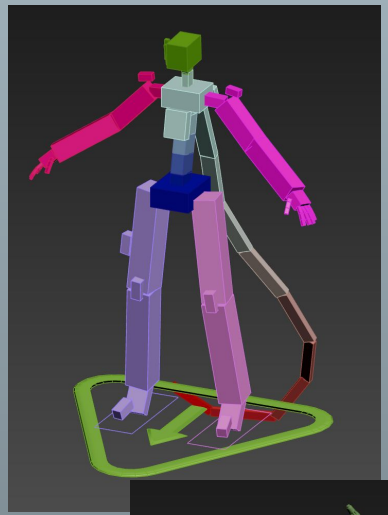
Any materials that had height modifiers were also removed, as this was not accurate to Overwatch texturing techniques.

Substance renders



Rigging

Rigging was carried out in 3ds Max through the use of CAT rigs- this was simple to do as I am most experienced in Max's rigging methods. Some weight painting was required to adjust warping on some parts of the mesh, such as the bodysuit lines that had not moved with the torso. This also applied to the cape.

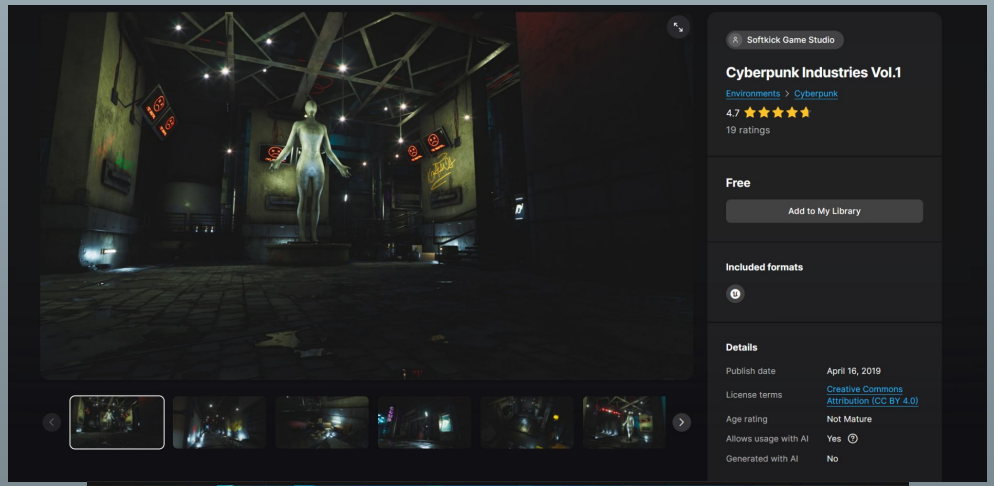


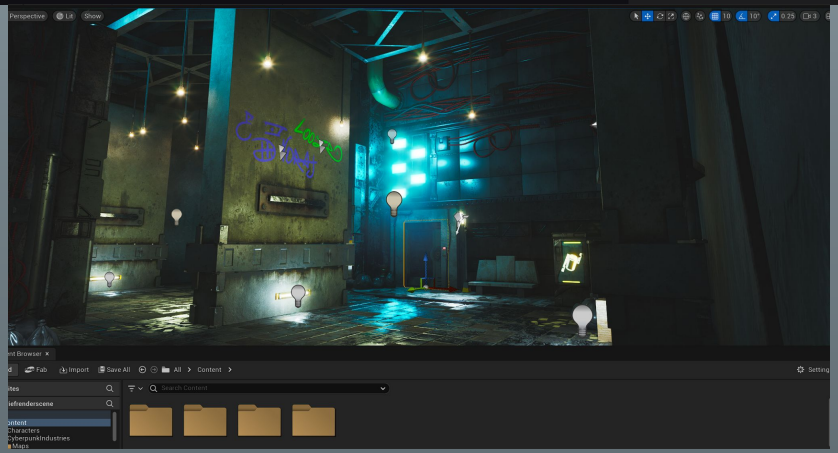
Setting up an appropriate scene

[Cyberpunk Industries Vol.1 | Fab]

In order to set up an appropriate scene that would fit the theming of the brief, I decided to either utilise FAB assets from within unreal, or use a HDR environment that could be applied to the surroundings. The HDR environment went less successfully, due to the sci-fi nature of the brief- it was difficult to find a suitable one that would work in the scene, due to the file format not being correct. For this reason, I decided to utilise a level from the FAB marketplace- this being Cyberpunk Industries by Softkick Game Studio.

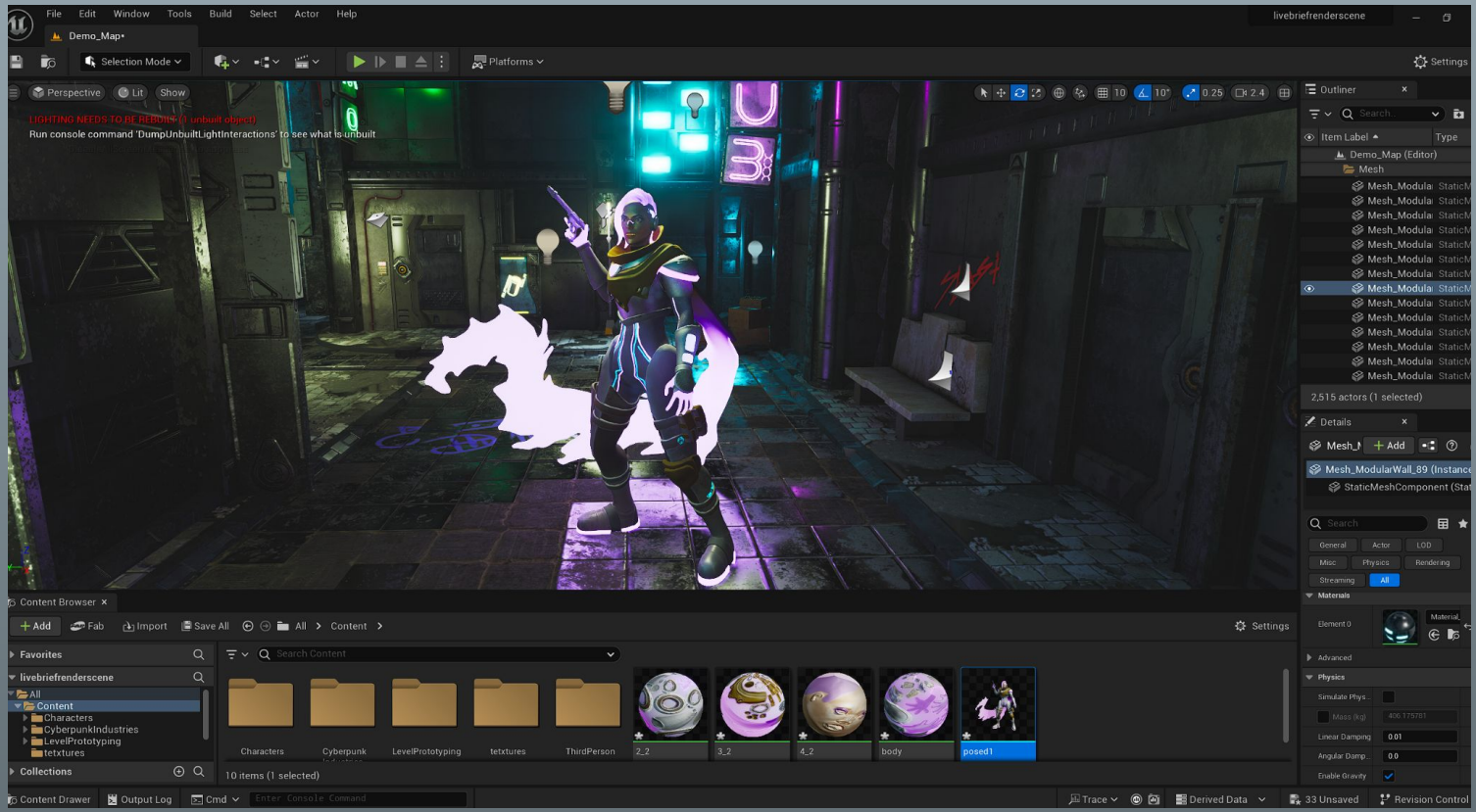
This looked highly effective, and the demo level provided excellent options for areas in which I could place my posed character.





[Cyberpunk Industries Vol.1 | Fab]

Render Scene Setup



Unreal Renders


AMMO


CLUB

Reflection

Overall, I believe I have presented a sufficient answer to the brief. On the whole, the production process went well, with slight learning curves in the case of shader creation, as well as finding how to successfully simulate stylized art styles such as Overwatch and DOTA. The process of deciding a character and style was relatively simple, as I have familiarity with stylized workflows particularly in regards to the high poly to low poly process. Planning out and concepting were aspects that went well, but could have been done more thoroughly in hindsight- some elements from overwatch designs could have been implemented more effectively, such as specific designs of armour and detailing. One aspect that I thought particularly well done was consideration of colours chosen - having taken a darker colour palette to reflect the ‘outlaw’ nature of the character.

The sculpt was time consuming, especially in regards to design iterations, as I initially found it difficult to properly convey a suitable stylized art style for the brief. This was solves through peer feedback at the midpoint stage, which allowed me to rethink my approach to the model by changing its proportions holistically, rather than via subtools. These changes included moving the torso’s position and lengthening the legs. Compared to an official model, as seen here, this is a point I could have likely pushed further, especially in regards to upper body proportion, and is likely a result of having to move on from the sculpt due to having spent more time than to my liking on tweaking relatively unimportant aspects, such as the boots.

Comparison of model proportions before and after midpoint review

Overwatch 2: Captain Lacroix Widowmaker - Jonathan Kuo, Artstation

Retopology was extremely time consuming due to the number of subtools and elements in the design- there were 60 objects when the retopology was finished. Maya quad draw made this much faster than using 3ds Max- one subtool was done using Max, but the Maya method gave much better results, so the rest used that. There were some issues with the topology that caused ill-suited UVs, such as the holes on the cape, but this was later solved through use of the relax UVs tool in Max, after realising the bake was not particularly clean due to these errors.

Texturing is an element that usually goes successfully- although adjustments had to be made to better emulate the Overwatch art style following feedback from peers. One such element was overuse of dirt generators, as well as materials that made influences on the height maps and normal maps on the model- turning off these channels in Substance Painter removed the realism influences mistakenly added. The metallics were an aspect added later, as usage of baked lighting limited them, but their additions greatly helped the appearance of the model and its accuracy. Overall these adjustments aided the appearance of the model and definitely helped my understanding of stylized texturing techniques.

Old tetxures

New textures

Reinhardt - Overwatch 2, Blizzard

As seen with Reinhardt- there are variations on the metal and non-metal textures that needed to be implemented better on my own model. Overall, I am happy with the finished product, as the improvements made the textures appearance much more polished and stylized.

The rig was also relatively simple- CAT rigs in Max were sufficient for creating a suitable pose, however I feel I could have better utilised the polycount limit to redistribute some polys that were too low topologically, and as such created unneeded distortion that required great amounts of weight painting to solve. Rendering in Unreal was also successful, as by using a demo level on the FAB store I was able to adapt a well-dressed scene for my character to inhabit. This allowed me to effectively create renders in an environment that was suited for the brief and the character, being cyberpunk in nature.

The HDR environments are however an aspect that will have to be worked on, as I could not find any that were suitable. Additionally, I personally felt that the Substance Painter renders better displayed my characters, so it is a point of consideration for the future to have future posed meshes be rendered in Painter, due to better presentation of the painted textures.

As a whole, I believe I met the brief well and provided a well-realised sci-fi character from my created concept, which was highly successful for usage in my portfolio, and has provided me with many areas for development in my mesh creation workflow, as well as providing me with different methods to dress a scene in Unreal Engine than were previously known. The textures were the main success of the process, as they enhanced the model to look closer to the desired style of Overwatch.