ASSIGNMENT 2:

DOCUMENTATION

PROCESS

AVA HALES

CHESTER THE VIKING

Assessment 2 – Character Accessorising and Texturing

RESEARCH AND CONCEPT DEVELOPMENT

1. HAIR

[Figure 1] – Hair Style 1

https://cgsociety.org/workshops/hair-creation-for-games

[Figure 2] – Hair Style 2

https://80.lv/articles/beginners-guide-to-grooming-in-maya/

Hair:

For Chester's hair, I am unsure if I would like to give him textured hair or polygon hair. As I have never modelled, UV mapped, or textured hair in general, this is a decision I may finalise later in the development process. Chester will definitely have brown / dark-brown hair.

Textured Hair:

If I were to take a textured approach to hair styling, I would like to apply combination of figure 1 and figure 2, whereby Chester has long, shoulder-length hair that does not fall on his face [Figure 1], but also sits in sections on top of his head [figure 2].

Polygon Hair:

I also really like the structure and appearance of polygon hair. As Chester is unrealistic and cartoon-like in appearance, I believe polygon hair will fit his aesthetic very well – Such as seen in [Figure 3 – Wreck it Ralph].

Beard:

Depending on which approach to modelling Chester's hair, the beard and eyebrows will follow. I would like to give Chester a very large beard, following the same shape as seen in [Figure 5] however much fuller below the chin – like [Figure 6]. It could also be interesting to experiment with giving Chester a separate moustache.

[Figure 3] – Wreck-it-Ralph

https://wreckitralph.fandom.com/wiki/Wreck-It_Ralph_(character)

[Figure 5] – Beard Style 1

[Figure 6] – Beard Style 2

https://shifally.artstation.com/projects/Zx8lx

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2. Clothing

Outfit 1:

I would like Chester to come across as a friendly Viking. Some elements of typical Viking attire I would like Chester to include are as follows:

- Leather Mid-Section belt with some form of emblem or symbol on the front [Figure 7] and [Figure 8]
- Arm Cuffs [Figure 7]
- Fur that ties into clothing
  - In many cases, fur is often seen throughout Viking clothing. Once again, looking at [Figure 7] as well as [Figure 9] I really like the way the fur creates a blend between the body and the piece of clothing. It could be interesting to model a type of fur band that can be modified to fit different areas of Chester's body, including his legs, arms, and mid-section
- Shoulder Padding – using either a type of metal [Figure 10] or soft leather and fur [Figure 9]
- Pants Cover – Many Vikings are also seen having a type of skirt/cover that sits above their pants.
- [Figure 11] is a very good reference– I really like the styling of hair as well as the basic attire including the t-shirt and belt.
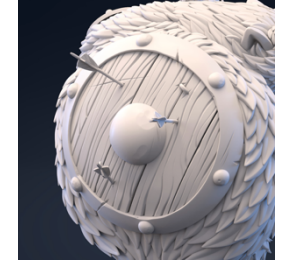
Outfit 2:

Outfit 2 will be a more advanced/layered version of outfit 1. I would like to stay away from the heavy armour for Chester however as I still want him to remain cute and friendly. I would also like Chester to carry props. I like the idea of a Shield on his back [Figure 8] and [Figure 12] and some type of weapon in hand.
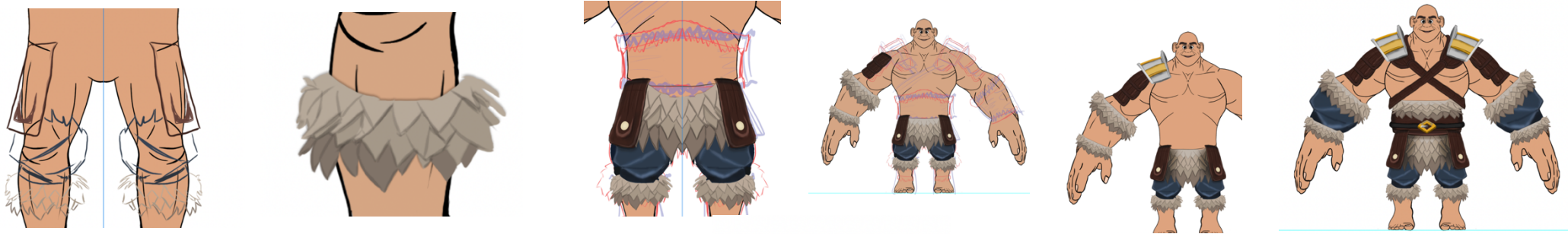
[Figure 7]

[Figure 12]

[Figure 8]

[Figure 9]

https://www.artstation

[Figure 11]

[Figure 10]

DELIVERABLE 1:

MODEL SHEET

Photoshop Outfit1 and Outfit2:

Using similar techniques to the model sheet process of assignment 1, I began by sketching out the main sections of Chester's outfit, I then went in with colour, outlining and refining these shapes. At this point I through down most of my ideas and then later separated his clothing into 2 separate outfits. Lastly, I went on to add props, which were perhaps the least detailed element of the model sheet as I was still not entirely definitive on what I wanted to add.

Elements of Outfit 1:

Upper-Body

- Shoulder Metal (Metal)
- Across Body Strap (Leather)

Mid-Section

- Mid-Section Belt (Leather and Metal)
- Mid-Section Fur (Fur)
- Fur Skirt (Fur)
- Pleated Skirt (Leather)

Arms

- Arm Cuff (Fur and Fabric)

Lower Body

- Pants (Fabric)
- Boots (Leather and Fur)

Model Sheet Outfit 1

Model Sheet Outfit 2

Elements of Outfit 2:

Upper-Body

- Shirt (Fabric)
- Off-Shoulder Padding (Leather)

Props

- Shield
- Sword

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DELIVERABLE 2:

MAYA
PROJECT

MayaModellingvideo1.mp4

Time-Lapsed Video

Within the submission folder is a video titled – 'MayaModellingVideo1.mp4'. This is a time-lapsed video of some of the Maya modelling process as well as the some of the UV Mapping process.

Overall Techniques used:

Matching Vertices: Overall, the main way I added clothing to Chester was through duplicating his base mesh, selecting a surface to be extruded, inverting the selection using Ctrl+I and deleting the inverted selection. In doing so I was able match vertices and edges to Chester's base body.

Symmetry: In addition, I also tried to focus on just one side of the body initially, and then mirroring the object so that Chester remained symmetrical.

New Techniques used:

Hair: As seen when modelling the hair and eyebrows, used a new technique to model. This involved using the 'Extract Face' tool. Once the main hair structure was complete. I used Mudbox to further alter and shape the hair.
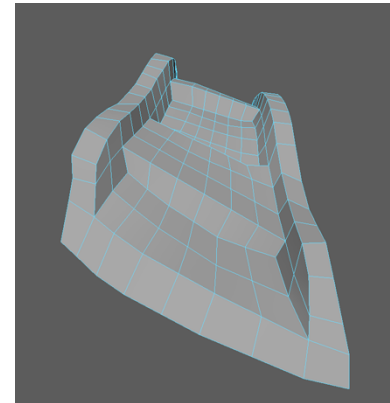
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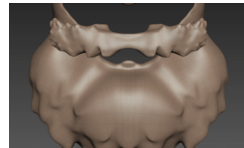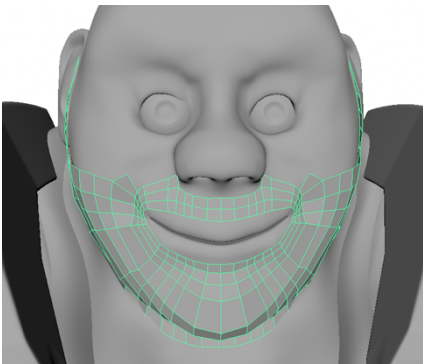
Issues:

Shoulder Metal: One area that didn't respond to duplicating and extruding the base mesh of Chester was the shoulder metal. As metal is solid and holds straight and clean edges, extruding from the body resulted in a bendy and somewhat distorted shape. After my first attempt at modelling this area, I chose to scrap this and model the shoulder metal from a simple polygon cube.

Duplicating and extruding method   Modelling from scratch
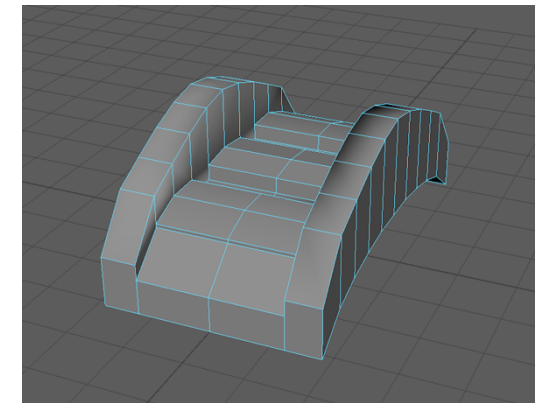
Fur: In addition, I also spent a lot of time working on the fur, this was a very complex shape to model and took lots of trial, error rand remodelling, especially when it came to unfolding the shape for the UV mapping. This was the most time-consuming element to model and took lots of time attempting to merge and match vertices

Colour and Materials:

Finally, I went on to colour and appropriately group the materials and shading groups using the 'Hypershade' rendering editor. As well as refining the groups in the outliner – ensuring I deleted history as I went as well as freezing and resetting the transformations of the objects
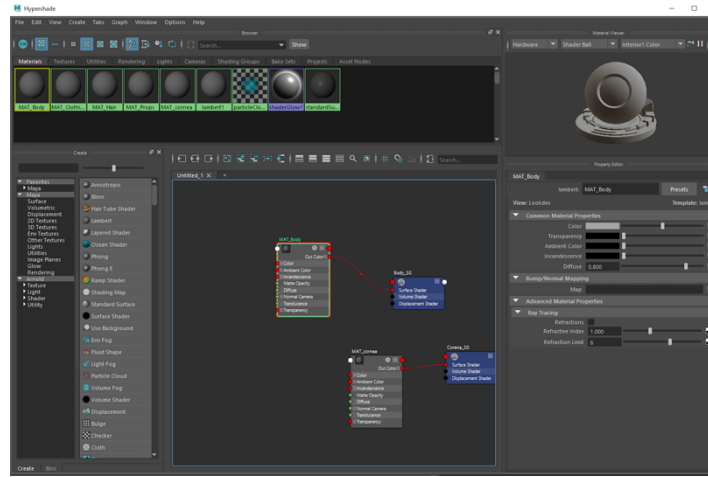

Base Body

Outfit 1


Outfit 2

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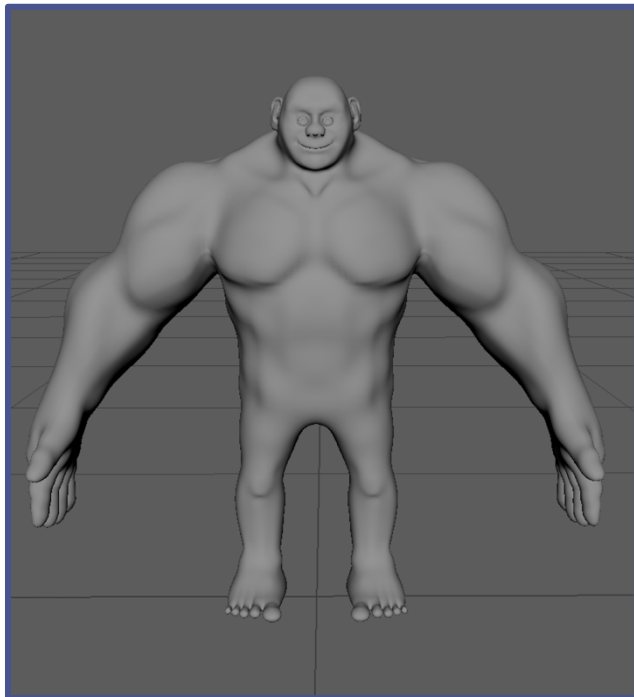
UV Mapping

The process of UV Mapping was something I did throughout the development process. I had some issues initially as I had never mapped such a complex model before that contained so many separate elements. I used lots of trial and error and once I felt more comfortable, I began experimenting with some features I have never used before, such as the 'orient', 'stack and orient', 'straighten edges' and even the 'lattice' to move and manipulate the unfolded face. Throughout all maps, I also tried to ensure the Texel Density was consistent
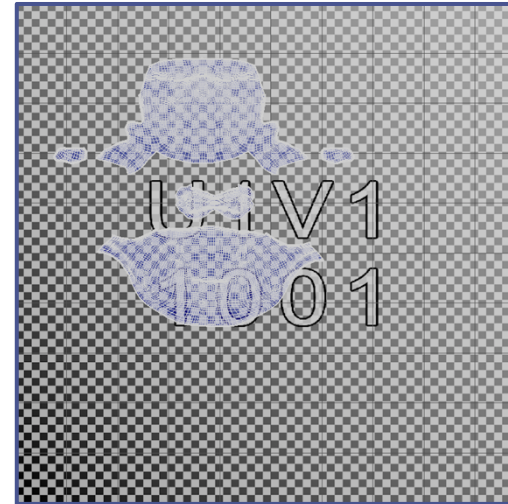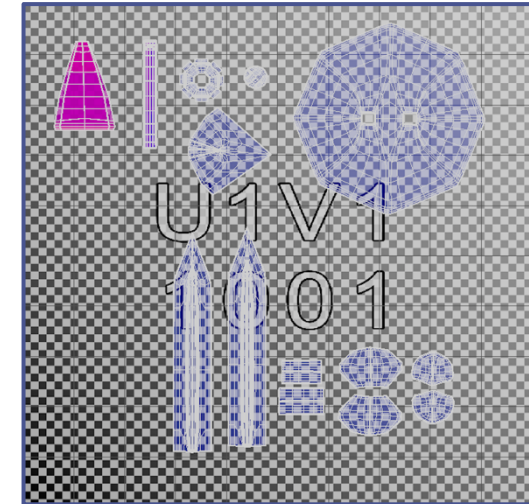
Base Body
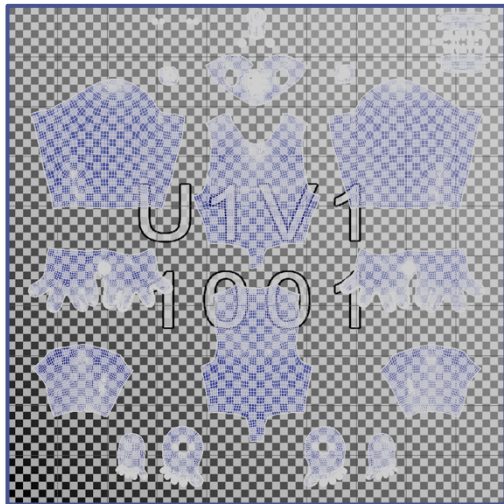
All Clothes
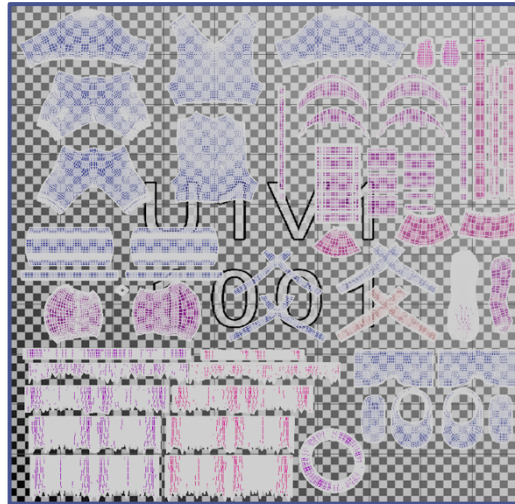
Hair


Props

SUBSTANCE PAINTER

SubstancePaintervideo2.mp4

Time-lapse Video 2: Submitted with in the compressed submission folder is a video titled – 'SubstancePainterVideo2.mp4'. This is a time-lapsed video of the overall journey of using Substance Painter for the texturing process. The video is split into 3 areas which will be explained in greater detail below. Overall, some of the main techniques used throughout all elements of the texturing include:

1. **Organisation**: before attempting to texture any area of Chester, I first began by creating separate folders for all the different elements. While this was time consuming initially, it allows me to keep the file clean and saved me lots of effort down the line.
2. **Roughness**: A technique I also used was adding a roughness layer to the base of all folders. This allows me to then adjust the overall roughness for any object very simply.
3. **Black masks**: I heavily exploited the use of black masks to separate each section of Chester. This ensured I only adjusted selected layers which helped me keep the texturing process very clean and organised

Skin Texturing

Texturing the skin initially involved adding a fill layer with 1 colour to the entirety of the skin, excluding the eyes, teeth, and mouth. I also removed the Albedo baked mesh as this was causing me some issues with discolouration throughout some areas of the body. I then proceeded to create another fill layer, using just a very red colour – I then added a black mask to this fill and used the 'Dirt1' brush with altered flows to add redness to certain areas of the body, particularly under the eyes, around the ears and across the hands. This created a capillary and veiny effect that is seen in human skin. I repeated this step, this time using a purple fill colour to create more variation across the skin. I then proceeded with the same fill and black mask technique, experimenting with different brushes and colours to create highlights and shadows across the skin.
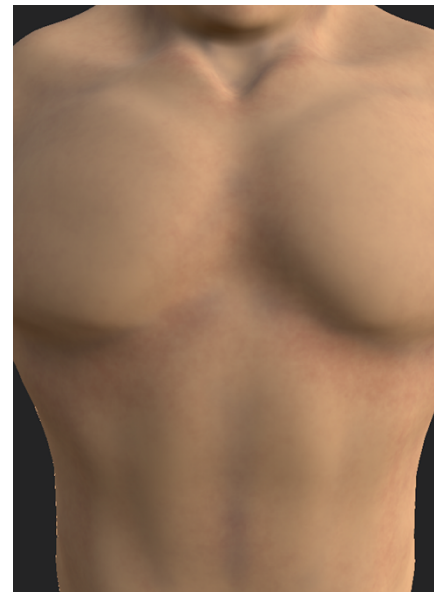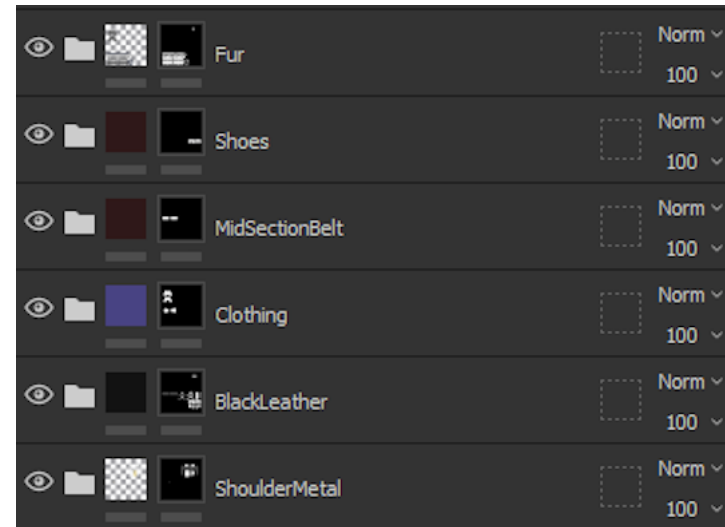
Outfit 1 and 2

Here I experimented with different types of material combinations, altering roughness levels, applying grunge maps and experimenting with greyscales. The area where I really began to expand my Substance painter skills was when texturing the fur as this was very complex. I firstly separated each fur level and then stacked many different layers beneath each group. I combined height layers, with colour layers with adjustments made to the levels. The most impactful addition I made however was in applying 'Fur 1' to the greyscale and adjusting the rotation.

Hair

Following on from developing the fur, I used similar techniques to texture the hair. Initially, I separated different sections of the hair, with 1 underlying fill for colour, and then proceeded to add different greyscales with different rotations and scales to the beard, moustache, eyebrows and hair so that the hair directions were appropriate to each element. I found the 'Creased' procedural texture worked best here.

Issues

For much of this assignment, the building, texturing, and mapping processes have gone relatively smoothly. The issue however lies in how I set up my files and scenes. I wasted too much time importing, and re-importing files, having importing issues, or mapping issues and having to spend significant amounts of time trying to locate where the issue is and how to fix it. At this point in the development process, I was also running out of time and thus I was unable to spend the desired time adding more detail to Chester. This issue also became more significant when I began to work with Unity.
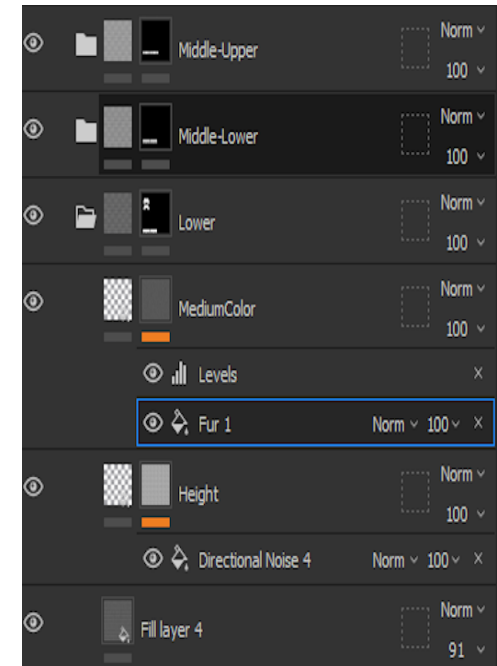
DELIVERABLE 3:

UNITY

BUILD

Issues

As mentioned previously, when using Unity, I ran into more issues with the program set up/scene itself rather than texturing and adding the character to the stage.

- Initially, the first obstacle was downloading the provided stages on Moodle whereby I could not fully extract all the files from the compressed 'Character Stage (HDRP)'. After multiple attempts I finally managed to extract the files, however the scene was black, and I was unable to view Chester within this scene.
- I then went on to use the 'Character Stage (Standard)', however I used the 2021.1.5f1 Unity Version which I was unfamiliar with. I became comfortable with this version of Unity however after multiple hours of applying textures and setting up the scene, I unfortunately realised the scenes 'Orbiting Virtual Camera' did not work and the position of Chester was not accurate.
- After much time, I was finally able to appropriately set up the 'Character Stage (HDRP)' and begin adding Chester in all his different outfits to the scene

Base Body

The Base Body remained very consistent across all the different types of skins. Initially, I was unable to load in the detailed eye I had created through Krita using the Iris template. Still without knowing why, I was unable to add the eye with the transparent front and I had to create a very bland version.

Outfit 1 Skin 1	Outfit 1 Skin 2	Outfit 2 Skin 3	Outfit 3 Skin 4

Outfit 1 Skin 1 – Outfit 2 Skin 3

Both 'outfit 1 Skin 1' and 'outfit 2 skin 3' are the original versions of Chester I had in visioned from the beginning of the model sheet through to the finalised Unity Version. I am super happy with the way Chester turned out in these 2 scenarios – really bringing together the overarching characteristics and traits of Chester I had mapped out in Assignment 1. His friendly, approachable, clumsy cartoonish Viking with an oversized upper body and small legs are really captured here with his clothes and accessories matching his personality and occupation perfectly.

If I were to completely begin again and redo Chester's accessories and textures, I would have spent far less time modelling Chester and I would have a greater understanding of how to set up files for the used programs. This would have allowed me to spend more time adding refinements and details. For example, in Assignment 1, I spent a significant amount of time sculpting Chester's hands and fingers [Figure 13], which I was unfortunately unable to refine at this stage of his creation, leaving his hands blander and simpler that I had initially wanted. I would have also spent more time adding semes and minor details, perhaps even a tribal tattoo to his body.

[Figure 12] – Assignment 1 Hand

Outfit 1 Skin 2 – Outfit 2 Skin 4

I had lots of fun with this scenario of Chester as I finally felt like I got the hang of working with all programs simultaneously and cooperatively. I decided to give Chester a more alpine / modernised version of himself, using lighter colours with greater contrasts and I textured him with more advanced materials such as Carbon Fibre and a type of marbled leather. I developed this style of Chester the Norse mythology of a Snær (meaning personifying snow) in mind, whereby he is perhaps a Norwegian Viking living in the Alps or an Icelandic Viking.