EXPLORING THE FUSION OF ART STYLES IN FORTNITE CHARACTER DESIGN

PRESENTED BY JACOB TUCKER

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INTRODUCTION

Fortnite has a cartoon inspired art style which retains a sense of realism with its visuals. The goal of this project is to explore and analyse how Fortnite can seamlessly blend these two styles together to achieve its iconic character designs

Developed from this analysis will be a game ready original character recognisable to fit Fortnite's character design tropes

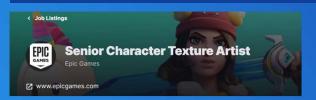
Fortnite has explored fantasy theming and colourful creature designs, but it's rare that those character tropes are combined. My chosen design will portray a humanoid dragon character that would fit within a medieval fantasy season. The character will wear a full suit of armour and feature a Pickaxe and Backbling inclusive to the theming







INDUSTRY RELEVANCE



Epic have job listing specifically for working on Fortnite.

ART

What We Do

Push your artistic talent to the limit on a team of world-class environment, character and concept artists who strive to innovate and inspire.

What You'll Do

Epic Games is searching for a Senior Character Texture Artist to join our team working on Fortnite. In this role you will create top-quality textures and materials for use in gameplay, cinematics, and marketing material. You will primarily be working in the stylized realm, but should be comfortable doing photo-realistic work when needed.

In this role, you will

- Create textures and materials for characters, on occasion will work on additional assets such as backpacks and pickaxes based on concept art or reference photos
- Collaborate with the art director and the leads, be able to give and receive feedback
- · Work in a clean and efficient manner within a team environment
- Be forward-thinking and have the ability to help the team refine our technical pipelines so we can continue to push the boundaries of real-time character performance





What we're looking for

- Ability to create appealing textures for characters and other assets to bring life to the worlds we are creating in a wide range of styles
- · Possess Intimate knowledge of color theory, PBR lighting, and stylized texturing techniques
- Expert Knowledge of Substance Painter or similar
- · Good understanding and the ability to create new materials in UE4 or similar
- Ability to adapt to and innovate new styles and techniques
- Strong organic texturing skills (human faces, clothing, believable creatures)
- · Strong hard-surface texturing skills (armor, weapons)
- User-focused, passionate, scrappy, solutions-focused, and innovative. These traits equal success at Epic and influence everything we do

This role is focused on texturing, it specifically requires an understanding of organic texturing to make believable creatures.

Epic Games look for people who specialise with stylised art but are comfortable with realism, as Fortnite commonly combine the two. This is the learning goal for the end of the project.

RESEARCH PLAN

Analysis of the Fortnite art style



GDC. (2018). Developing the Art of Fortnite



MH4. (2023). The Evolution of Fortnite's Character Design



Video Game Story Time. (2018). How Fortnite Found its Epic Art Style

Research of Epic's character production pipeline



IGN. (2014). Fortnite Art of Monsters: The Husk



Unreal Engine. (2019). Making the Most of Animation Blueprints

Andrea Savchenko. (2022). Working as a Character Artist on Fortnite at Epic <u>Games.</u>

Studies Test sculpt pre-existing
Fortnite character

Character Art Breakdown – Colours, value and silhouettes with comparisons to studies and other games



Apply these techniques in the production of the final artefact

DELIVERABLES

1 PLANNING AND RESEARCH

- Project Proposal
- Ethics Form
- Art Style and Production Analysis
- Studies Sculpt, Retop and Texture a pre-existing Fortnite character head
- Fortnite Character Art Breakdown
- Original Character Idea Overview
- Experimental Concept Art Main Character and accessories
- Finalised Concepts and Turnarounds

MODELLING AND TEXTURING

- Block-out
- High Poly
- Retopology
- Unwrap
- Texturing

3

PRESENTATION

- Rigging and Skinning
- Pose Character
- Add Pre-Existing Animations
- Present Game Ready Models in UE5
- Reflection with Industry Comparisons



FINAL ARTEFACT REQUIREMENTS

1x Game Ready Character Artefact limited to 35,000 polygons

Character will be complete with armour, a pickaxe and a backbling

Finished model will closely match the Fortnite art style

Presented in Unreal Engine 5

This will be fully textured, rigged and posed, as well as shown off with (preexisting) animations to demonstrate full movement ability



CONSIDERATIONS



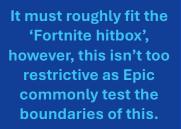
The BACK of the character is what the player will see most of the time, keep this in mind when designing....





...To avoid something like this

Armour can't be too restrictive! The character needs to have full body movement





Fortnite is available on a variation of consoles, from the PS5 to the Nintendo Switch. The poly count cannot be too high as the models need to be adaptable for optimization.

For this reason, 35k tris will be the limit for the character

As stylised assets rely significantly on texture detail, that can make up for the lack of polygons



THE ART OF FORTNITE

Fortnite has changed drastically since the release of 'Save the World' in 2017.

With the update to Unreal Engine 5.1 in Chapter 4, the game received a visual upgrade. Since this change, Epic have pushed their art style to new heights







2017 2021 2024





THE ART OF FORTNITE

Fortnite is commonly known for its crossover content, with a wide range of media joining its growing ensemble over the years

However, media conversation often overlooks the original content also produced for the game





A great example of this is Fortnite's creature designs. Each character can be wildly different, but they all have that recognisable 'Fortnite' style

But what IS the "Fortnite Style"?



THE ART OF FORTNITE

To be a functional Fortnite skin, a character's design must at the very least adhere to the generic Fortnite player's hitbox, in the interest of fairness and equality for the players.

However, many skins test the boundaries of the shapes of their proportions, resulting in fun, unique and visually interesting character designs



Additionally, Fortnite consistently uses bright colour schemes to make each skin stand out within the world







The goal of this project is to gain an understanding of how to replicate this style and build a stylised focused portfolio







CREATURES IN FORTNITE

















































MEDIEVAL FANTASY IN FORTNITE















PICKAXES & BACKBLINGS





Before working on the original character, a study was to be carried out as a test of skills and examination of the Fortnite art style. This study is a sculpt of a chosen character head, which will be retopped and then textured.

The chosen character reference was the skin 'Lizzik'. This skin was chosen because of the similarities to the original character idea, making it a good starting point as a reference to reptilian features



Blockout

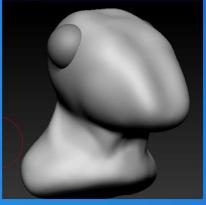
Reference

The first attempt did not go as expected. Starting with a blockout unintentionally overcomplicated the process, as it required a lot of cleanups once imported into Zbrush. This resulted in a rough and bumpy sculpt that did not match the base shapes of the reference



First Sculpt

The project supervisor's feedback was to start again with a different approach, instead of starting with box modelling as a base, use primitive shapes within Zbrush to start. References were provided on how to achieve this





This approach produced much more success. This second sculpt has a smoother, more consistent design with well-defined features









Supervisor Reference

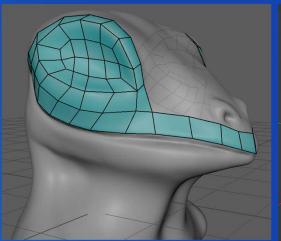






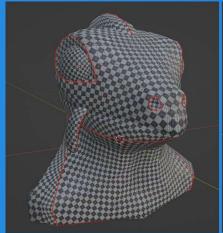


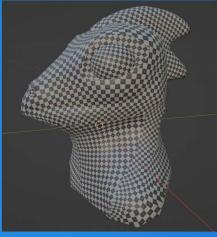
Final feedback changes before moving onto retopology. The size of the neck was increased, and sternocleidomastoid was more defined to closer match the reference



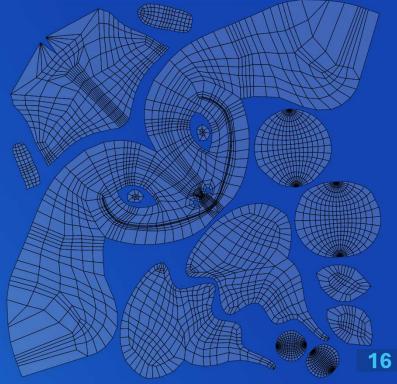


Character head retopologized





Complete UV Unwrap



Texturing



Bakes



Base colours



Roughness decreased

- Hexagonal tiling texture used to create scale effect.
- Added base colour variation
- Blended the neck colours
- Extra scale detail painted in





 Added extra shadows

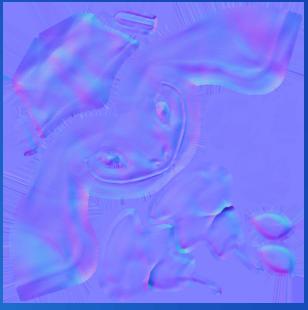
 Painted in dark blue pattern with custom made alpha



 A circle texture was used to create the pattern on the head piece



The low poly model needs more supporting geometry, there's lots of sharp edges compared to the reference









The Base Colour could have more saturation

Renders

This was a good starting point for understanding the Fortnite art style







The resolution of the low poly was increased for the renders

The character looks
very shiny once
imported into
Unreal. The
roughness could be
increased to
compensate for
this



The character would benefit from a mouth bag. It is obvious that the mouth doesn't open.

The character needs to be functional

ORIGINAL CHARACTER

The character to be modelled in the Fortnite style originally started as a personal Dungeons and Dragons character, hence the medieval theming of the project

This character is <u>Ravoroth</u>, an exiled Dragonborn prince on a quest to clear his name and reclaim his throne

On his journey, he discovers an ancient magical sword which gives him great power at the cost of a terrible curse. This sword will be the 'pickaxe' for the model.



Original concept art

Over time his design has varied. Different designs have been made including concept drawings and creations using the tools available within Hero Forge and Baldur's Gate 3



Luke Gay. (2024)

New sketches will be made for this project to decide on a finalised look for him



Hero Forge. (2014)



Cain Neal. (2023). Commission



Baldurs Gate 3. (2023)

EXPERIMENTAL CONCEPTS

Head

The first plan was to figure out Ravoroth's head shape, as this is one of the biggest inconsistencies in his design The most challenging aspect is trying to use round shapes to fit his friendly character without straying too far from draconic features



Ravoroth's eyebrows are usually just lines drawn on the face.
This was changed to make considerations for how that would work in 3D, whilst also keeping in mind how actual reptiles look



Super Saiyan 3 Goku from Dragon Ball Z was used as a reference on how to fit this concept to a stylised aesthetic

Defining

Features: Light blue skin Gold eyes

EXPERIMENTAL CONCEPTS

Armour has robe-like appearance combining his highstatus background with practicality

Armour

Purple was the original idea in mind for the armour colour, but after some experimentation, it was decided blue works better with the character's colour scheme



EXPERIMENTAL CONCEPTS

Sword

Ravoroth's sword is necrotic in nature, so the idea was to design something with an overall dark and malicious appearance

Soul energy

There has never been a specific look in mind for the sword, simply vague ideas of visual themes. A few different ideas were concepted before settling on this final design

The sword has an obsidian blade, with the only colour coming from the magic energy that runs through it

The chains act as a grip for the hilt, but are also are magically bonded to contain the energy that powers the sword

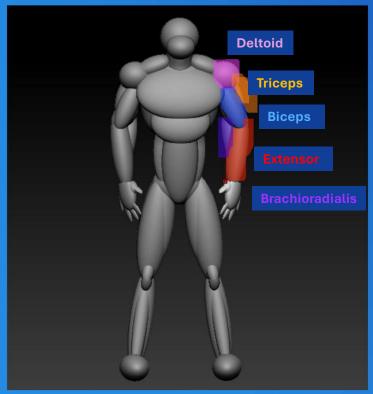


Front and back view

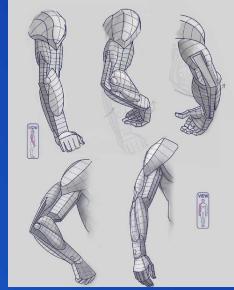
The purple texture on the arm is a side effect of the sword

BLOCKOUT

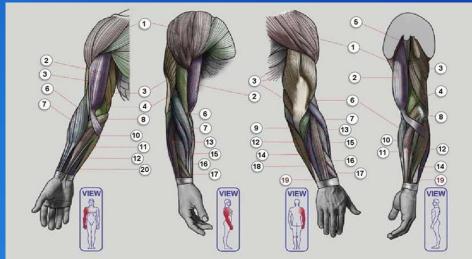
Primitives were used to block out key muscle forms



Muscle accuracy was essential due to the character's brawny figure. The arms were prioritized as they are the only muscles that will not be covered by armour



Reference for technique

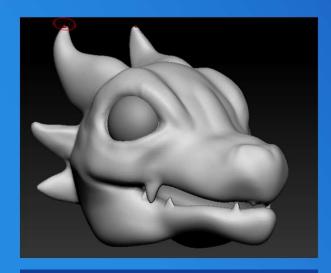


Uldis Zarins, Sandis Kondrats. (2014). Anatomy for Sculptors, Understanding the Human Figure



George Zaky. (2024). Super Stylized Character Blockout

Body



The head shape was changed first to give the model some personality

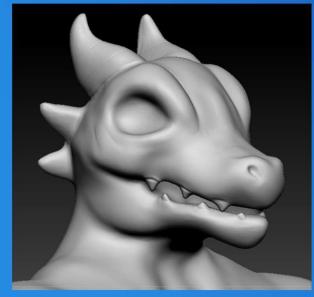




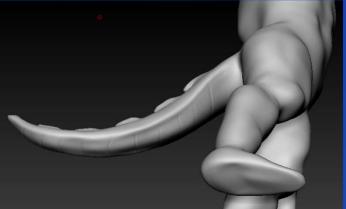
The muscles were given more accurate shape, then they were merged and smoothed out

Body

Tertiary Details



The face was further refined with added nostrils, scars and teeth detail





Veins were used as a reference for the curse detail

Results



Body

Feedback Changes



After feedback, more consideration was taken into the proportions and shape language of the character to give it a stronger silhouette



Overall, the features were all made larger to accentuate his bulky form

The horns were changed to be slightly longer and spikier, so they look more solid



Results



Before Changes



After Changes







Armour

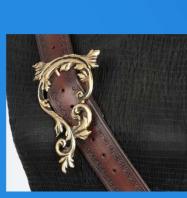






Underneath the armour is a vest top with design choices inspired by medieval tunics







A spontaneous idea during this stage was to create a unique belt buckle with the character's family crest as a hint to his status and power. This symbol went through a few different design iterations before being sculpted



The fabrics were created by extracting from the mesh and sculpting creases



Armour





There were some difficulties in making the chest plate, because the design planned out in the concept did not work logically. To solve this, real cosplays were referenced to gain an understanding of how armour fits around the person. The chest plate was redesigned with these considerations in mind



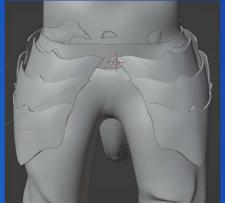
The fabric on the legs was altered to resemble leather armour skirts instead of the longer robe-like design in the concept art

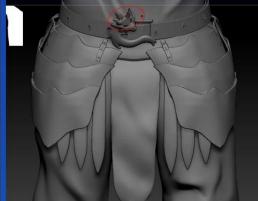


The hard surface elements were modelled in Blender so they could retain a sharper and smoother look







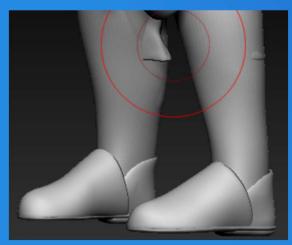


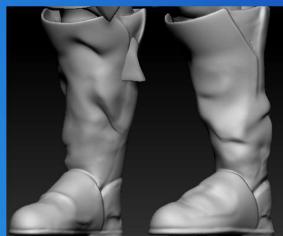
Armour





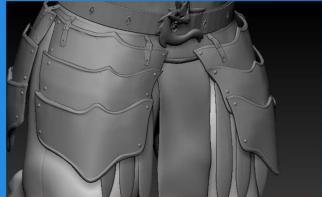
After looking at ideas of different medieval boots, the chosen route was to sculpt basic leather boots with metal plates strapped on top to protect the shins. After creating these, it was decided to not include knee pads as this made the design too crowded and would restrict movement on the character



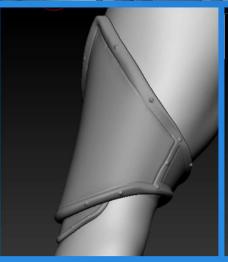




Armour



Borders and nails were sculpted onto the edges of each armour piece







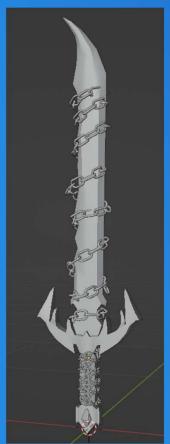
Trim Dynamic and Dam Standard
were used to add dents and
scratches, so the armour looks well
worn

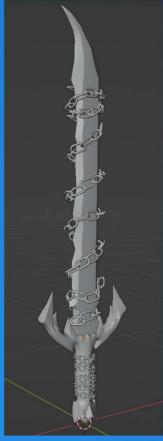


Results

Sword

The sword was modelled in Blender, using array and curve modifiers to create the repeating chains curving around the hilt and blade

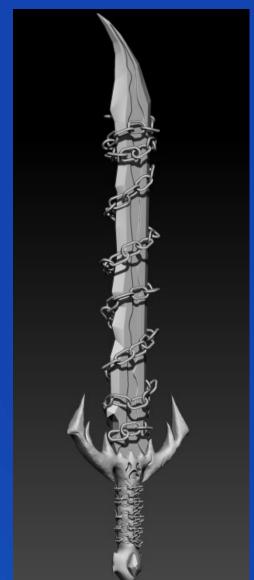




It was subdivided to become more rounded on the hilt, then imported into Zbrush

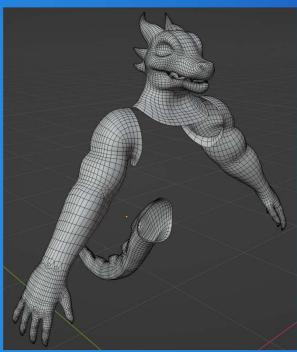
Surface details were sculpted to make the weapon look more organic and unsettling



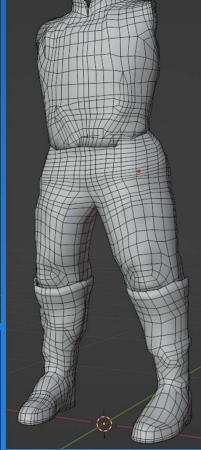


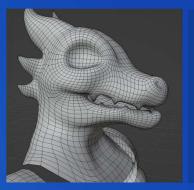
Results 3

RETOPOLOGY

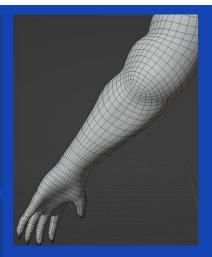


The areas of the body that would be covered by clothing were removed. Only the head, arms and tail remained in the low poly

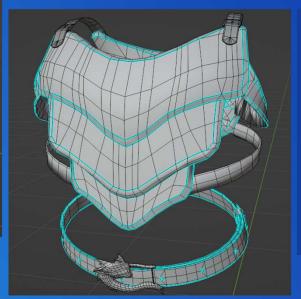




The body is the densest part of the character as this is where blocky areas of the character would be the most obvious



The first bakes of the Lizzik study had multiple issues due to the topology being too low. Because of this, the decision was made to break the preexisting rule created at the start of the project for a 35k tri limit to prioritize better results in the finished artefact



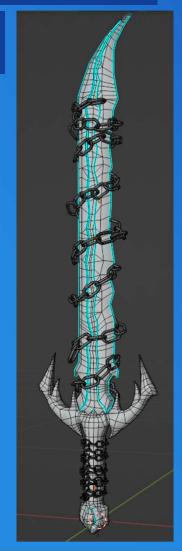
The most difficult part of retopologizing this character was the hard surface aspects. These required a slightly different approach than the body and clothing, this is something that hadn't been regularly practiced beforehand

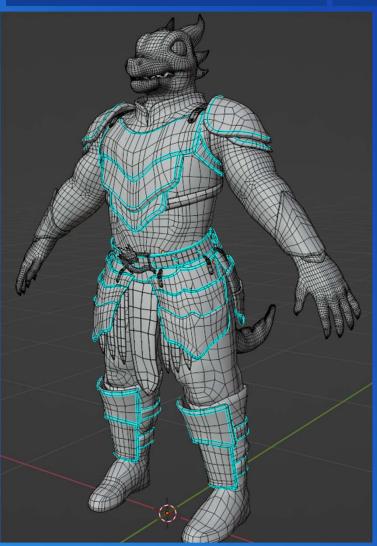
RETOPOLOGY

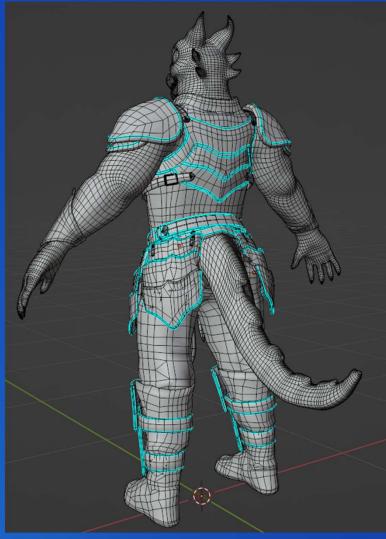
Finished sword: 36,579 triangles

Finished character: 65,331 triangles

Results



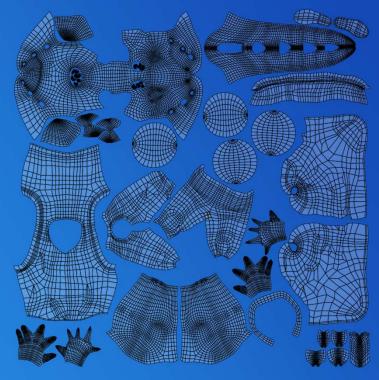


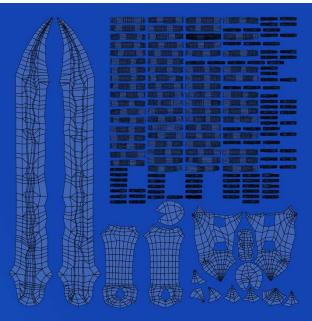


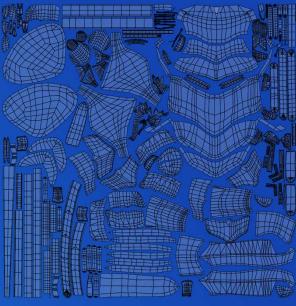
UV UNWRAP



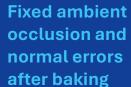
3 separate texture sheets were created, separating the body, accessories and weapon









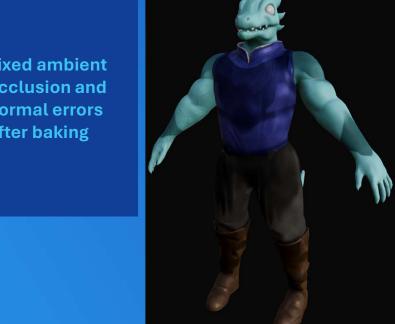




Created separation between the horns and skin by adding scales to the skin and making the horns rougher with a bone texture



Like the Lizzik skin, the face stayed simple. The eyes were hand painted to give him the appeal of a cartoon character brought to life.



The cursed arm is the most detailed section of the body. This was a purposeful choice as it makes it more unsettling. Some veins had a lowered roughness for a slimy appearance, whilst others had an emissive to show the presence of magic.



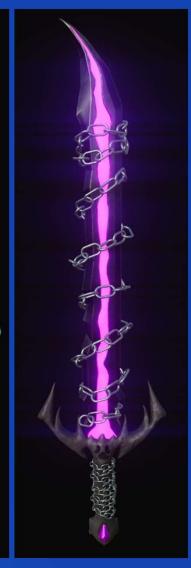


Sword bake results



A variety of Fortnite assets were used as reference throughout the texturing process. This was done to see how their art team approached texturing different materials such as rock, metal and leather, and how much detail was put into these materials





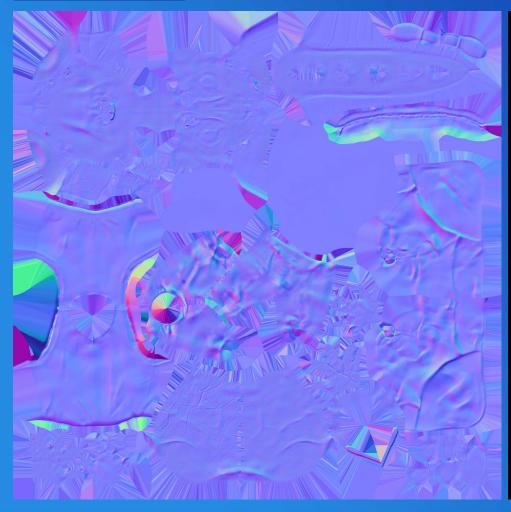
Results

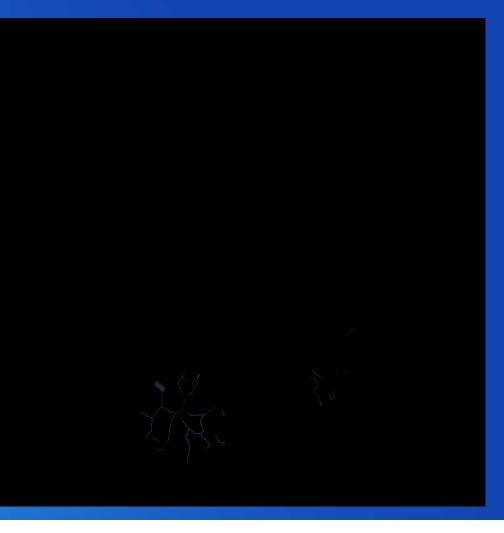
Body





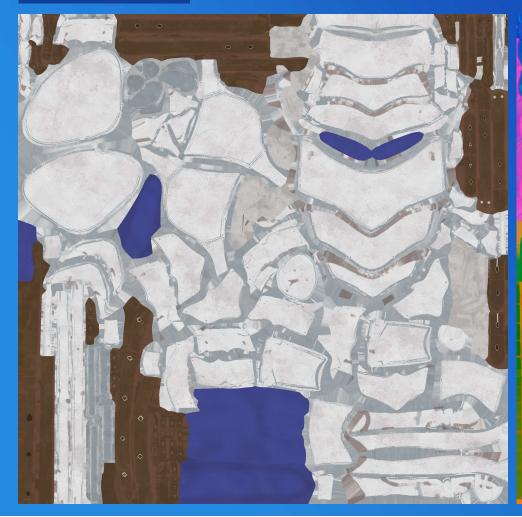
Body





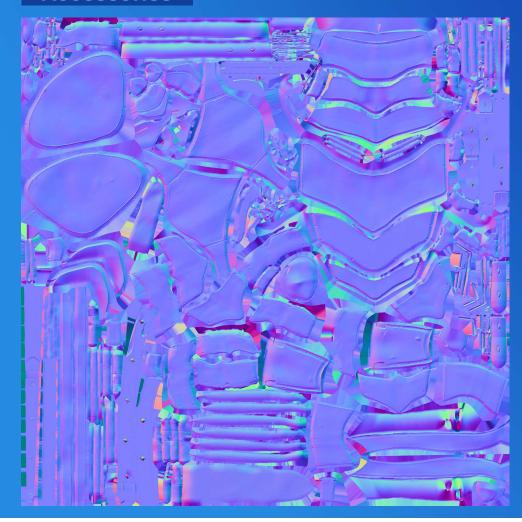
Texturing

Accessories

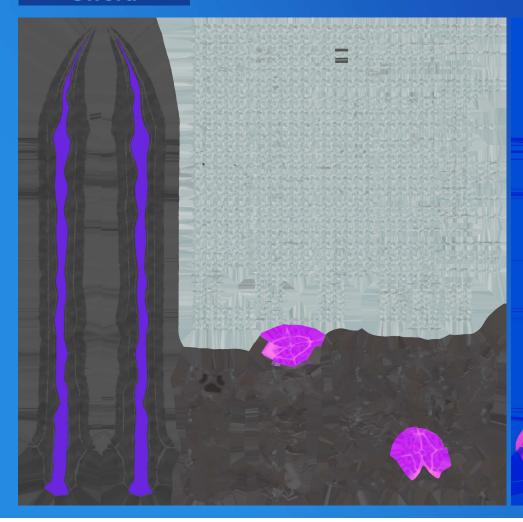




Accessories

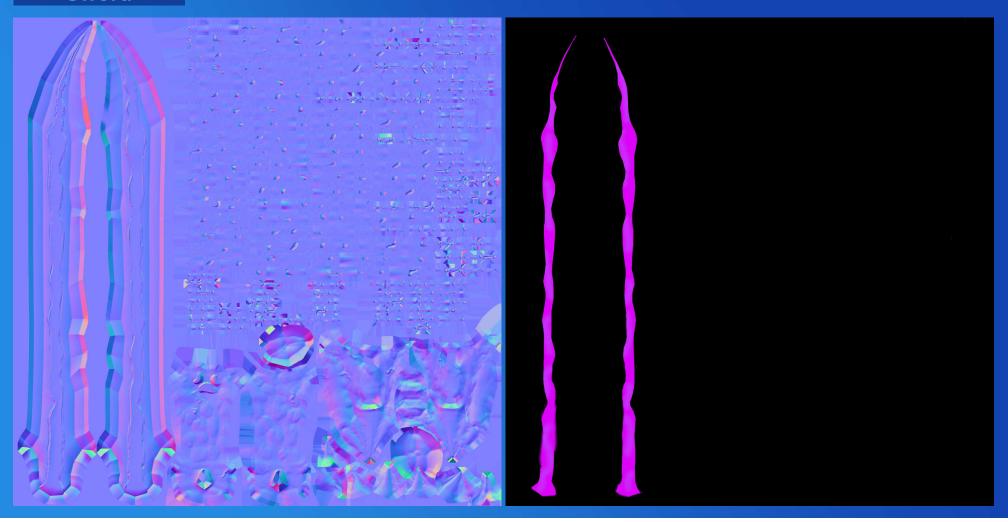


Sword





Sword



RIGGING

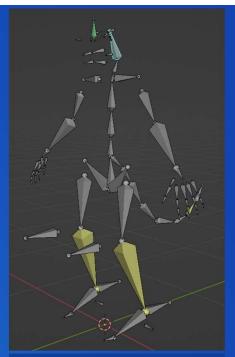


The basic Blender meta rig was used as a base for the character. Extra bones were then added for the face, fingers and tail

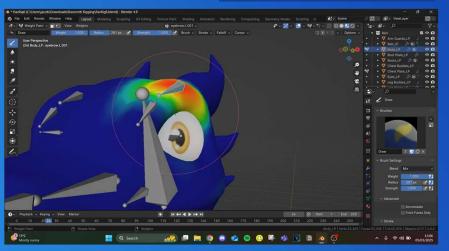
Automatic weights were also used as a starting point. Manual weight painting was then used to stop deforming in the solid elements such as armour and horns



Face rigs can become quite complex and time consuming. So, this was made as simple as possible for what was needed - something to make him a bit more expressive



IK bones manually created for the legs, tail and eyes





Custom controls were created to make posing easier

Finished Rig

POSING





The original inspiration for the pose was an epic sword raised pose. This is a pose commonly seen done by Link with the master sword.

However, it was changed slightly to fit Ravoroth's character. Instead of holding it up proudly, there's a slight awkwardness and uncertainty in how he displays the sword. It's more like he's examining it, showing his hesitation about its abilities



ANIMATIONS

The aim was to find a relaxed animation to mimic the in-game turntable of skins in the Fortnite locker

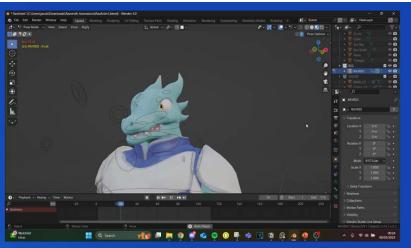




The closest animation that fit Ravoroth was the 'Warrior Idle' pose on Mixamo

The Rokoko
Blender add on
was used to
retarget this
animation to
the custom rig

However, the
Mixamo animation
didn't affect the
extra bones added
for Ravoroth. So,
the eyes, mouth,
fingers and tail
had to be
animated
manually to match
the movement of
the body.





Results

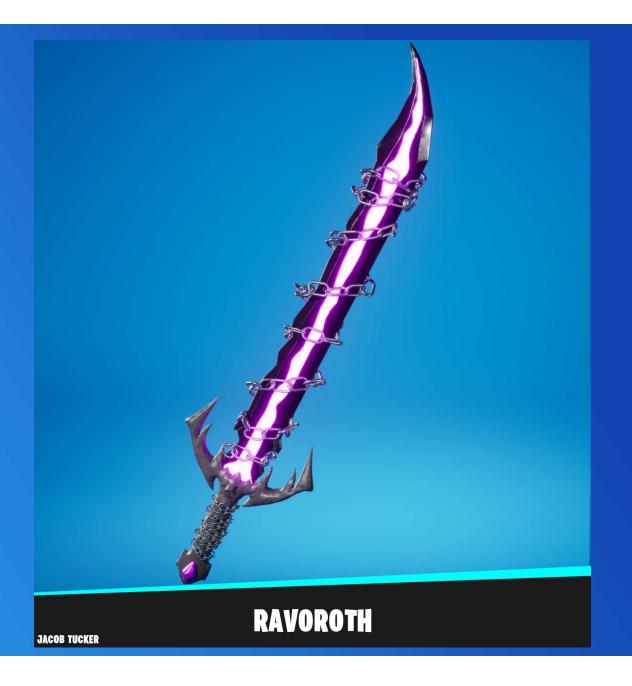








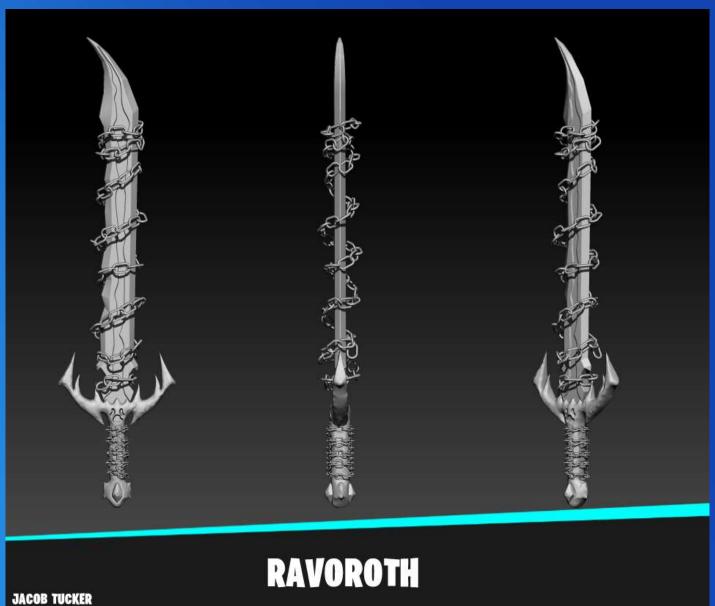
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52



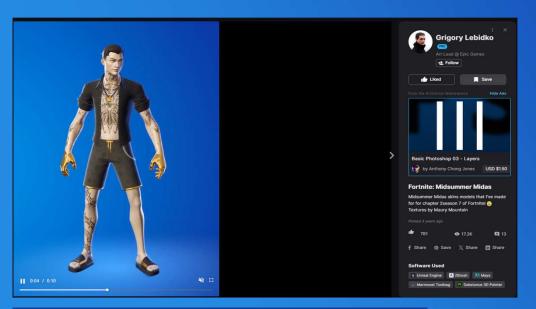
RAVOROTH



Research

Due to the popularity of the game, there are hundreds of Fortnite assets available online for reference. Because of this, research and comparison could be carried out consistently throughout the project with direct reference to the source material. The art study performed at the beginning of the project gave a great insight into what was needed to achieve the Fortnite style. This study guided the artistic decisions when completing the artefact, helping with considerations such as colour choices and texturing techniques. Comparisons were even made during the presentation process to portfolios of those who worked on Fortnite and how their work is displayed on Artstation.



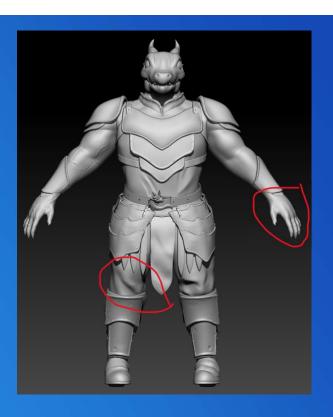




Grigory Lebidko. (2022). Fortnite: Midsummer Midas

Jacob Tucker. (2025). Ravoroth: Fortnite Inspired

High Poly

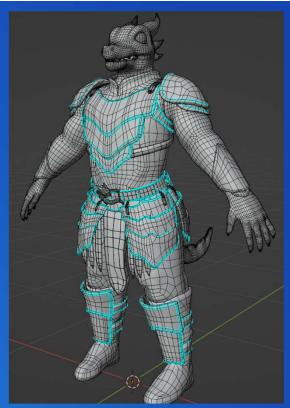




Some extra considerations are missing from the sculpt which could have pushed it further toward the Fortnite art style. Some elements lean too closely towards realism. Looking at a Fortnite sculpt in comparison, the hands and fingers are a little bit chunkier and the creases on the clothing are more pronounced. Ravoroth is also missing a tongue, this had to be textured in instead to give the illusion of something there. But this could be very obvious if the character were to open his mouth.

Low Poly

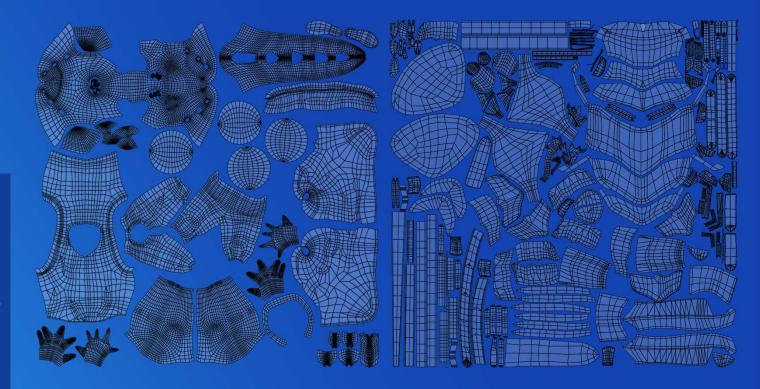
The loops throughout the joints are placed correctly so when rigged, the elbows and knees bend correctly. The jaw is also able to open and close with no issue. However, Considering the stylised nature of the character, the mesh is a lot denser than it needs to be and there are a lot of unnecessary triangles disrupting the flow of the topology.





UVs

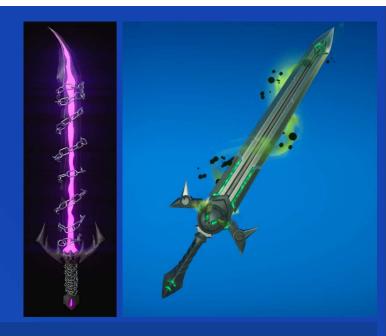
Sufficient space was left for a high amount of detail in the face and arms. However, the UV layout for the accessories is quite messy. There are too many disconnected tiny parts, making it hard to know what belongs to what object.



Textures







A noticeable detail with recent Fortnite skins is that whilst the textures use bright colours with simplified cartoonish elements, there are still finer details within them. Such as the fabric of clothing or small bumps on the tongue. This is something that was replicated with Ravoroth. There are fine details on the curse to give it a slimy texture, there are scales across the skin and a slight bumpiness and roughness to the clothing which creates a strong contrast against the armour.

Posing

The finished pose looks a bit stiff and unnatural. It could benefit from being more dynamic. The adjustment of the eyes helps to direct your attention to the sword. But the eyebrows could be pushed more to make the character more expressive. The placement of the fingers on his left hand looks slightly off, it would make more sense if the hand was in a fist instead, like the TMNT reference.



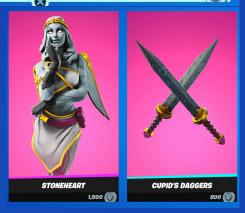


Renders

There was attention to detail on how the presentation sheets were laid out, with comparisons to the Fortnite item shop. They usually have a strong posed icon with their name and price underneath. Once you click on it displays the real-time animated view where you can zoom and rotate the character. This idea was recreated with the renders. The lighting directs your eye towards Ravoroth's face and sword, and this icon summarises the personality of the character. The Fortnite Font was used and custom borders were made to match the item shop layout. The most prominent issue from the renders is the clipping. There are problems in the weight painting that cause some elements of clothing to clip through the character when posed/animated. It's most noticeable with the shoulder straps, which disappear into the character completely when he's in his idle animation.







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