



Dion Bowen

Year 1 - Basics and Micromachines

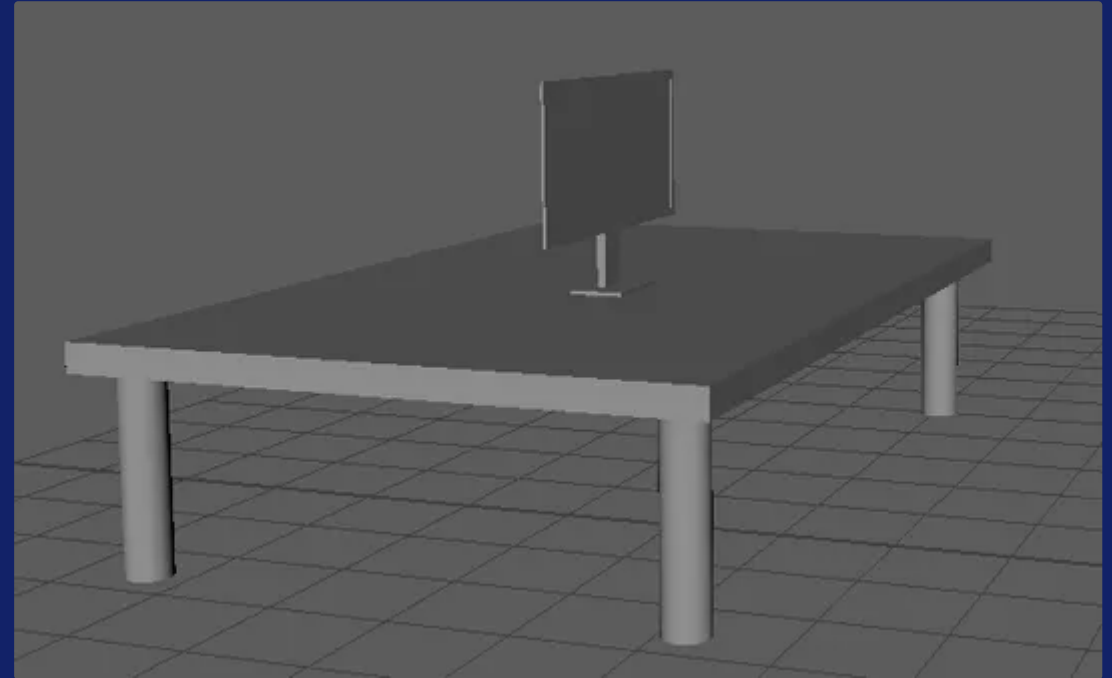
Adult Student at CCSW, Studying Games Development Level 3 - 2022 - 2024

The very beginning

My First Model on Maya

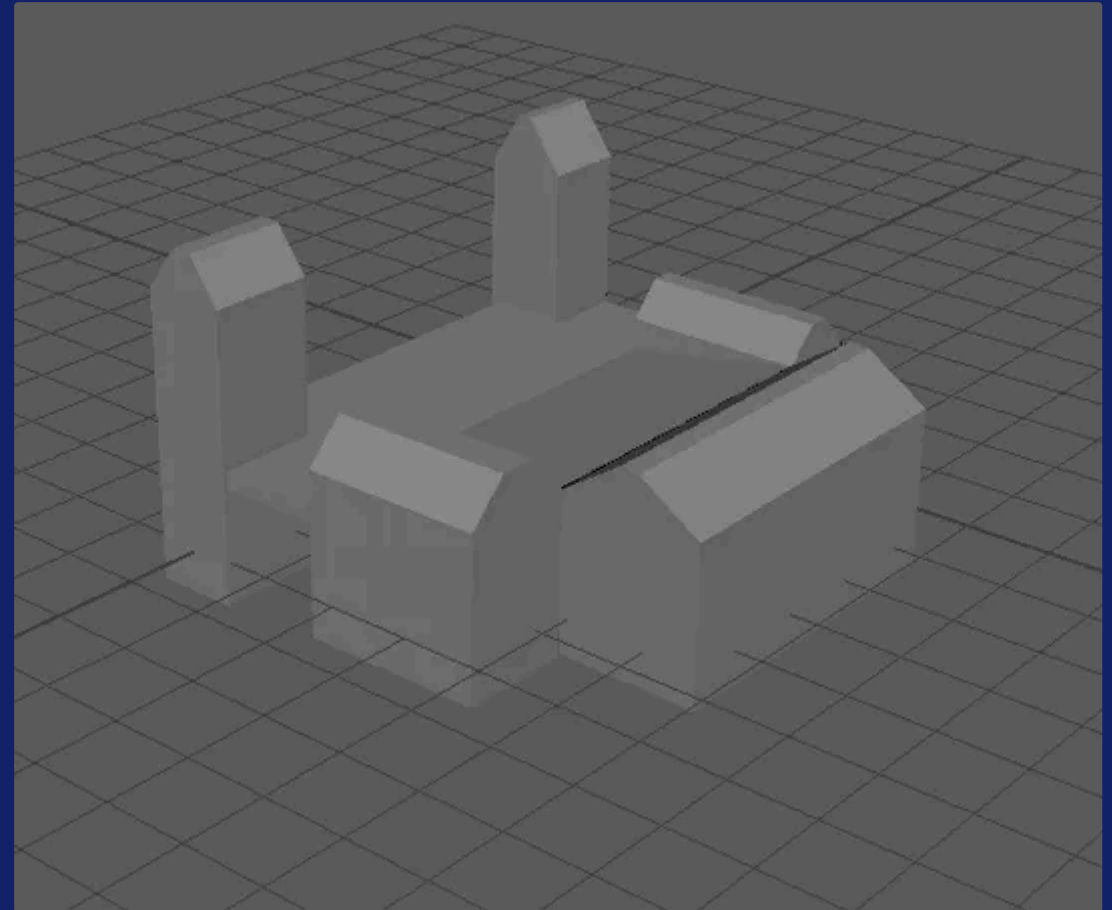
This is my first time using the Maya Software, I started off using a simple cube shape to create the computer screen and the top of the desk and add a cylinder shape to build the legs to the desk.

I was able to resize and rotate these around to then rotate these shapes round until I was left with this final design.



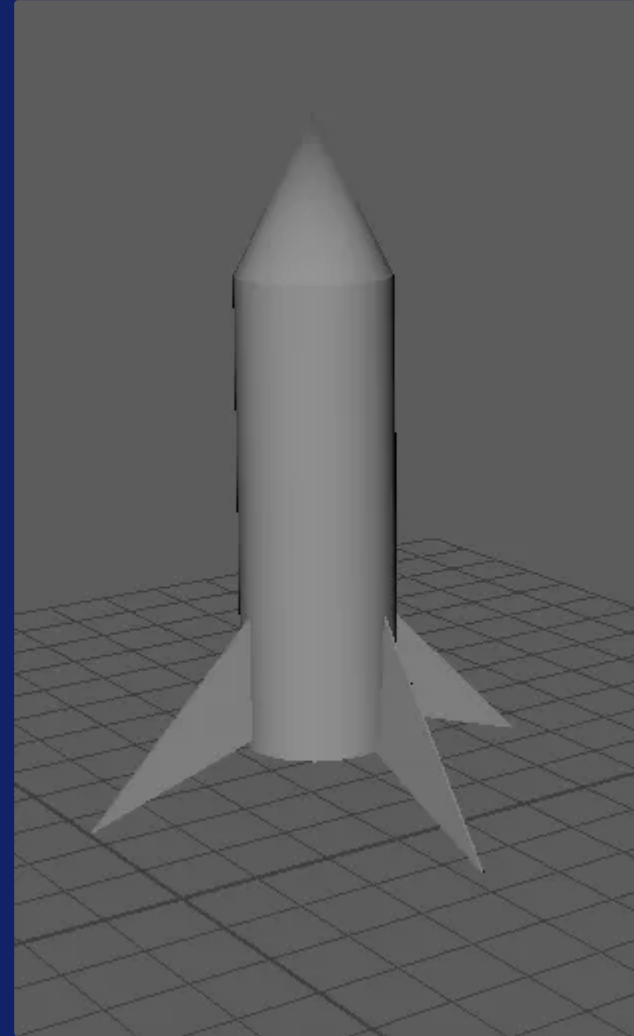
Extrude Tool Practice

I made some random shapes from one singular cube and used the extrude tool randomly to practice using this tool in Maya.



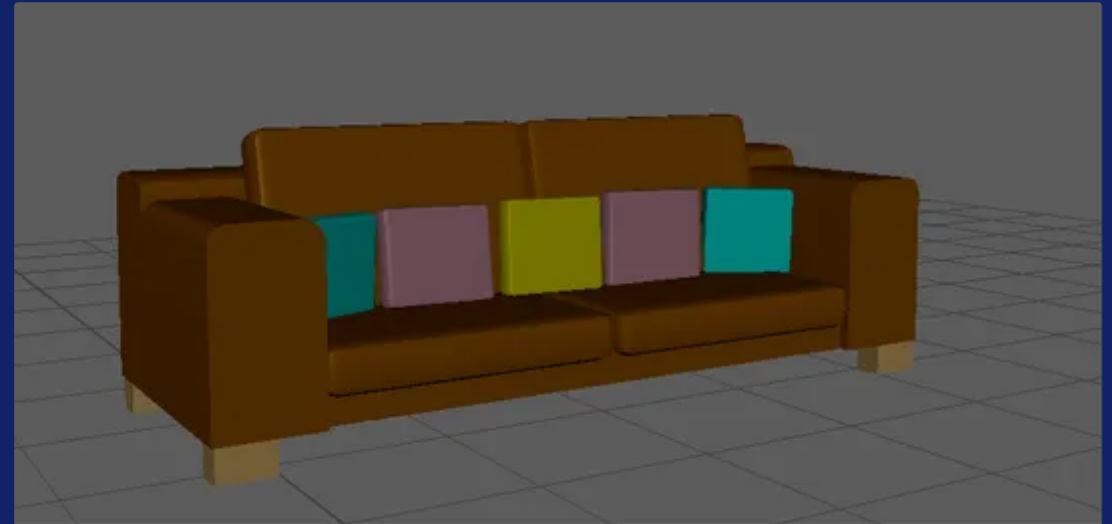
Weld And Target Weld

I was practicing using the target weld tool in Maya and was able to create this simple rocket.



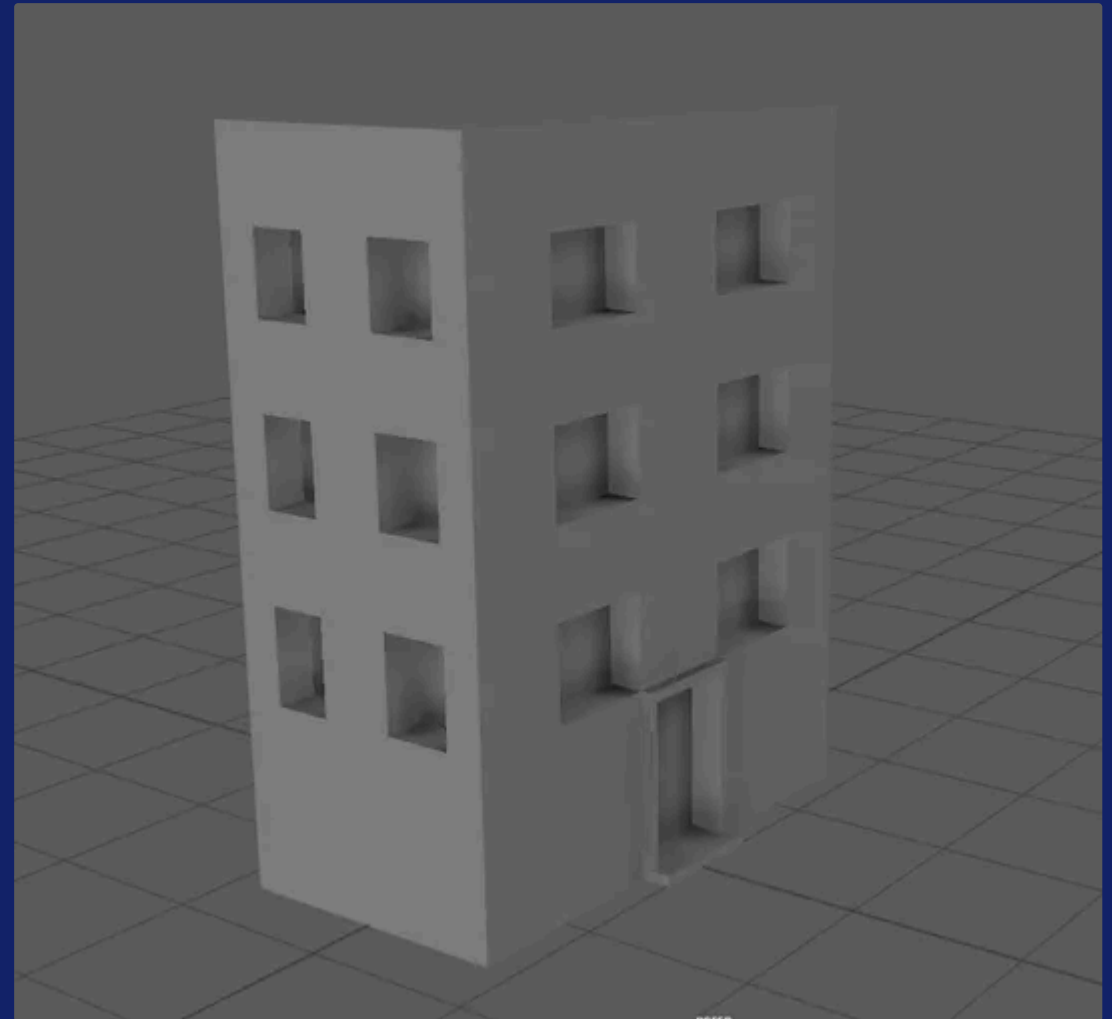
Bevel Tool Practice

I have been learning to use the Bevel tool within Maya and was able to use this to create this simple couch and was able to add these extra cushions to give it extra detail. I was also able to add some extra colour to the sofa to make it more realistic using the surface material in the rendering tab within Maya.



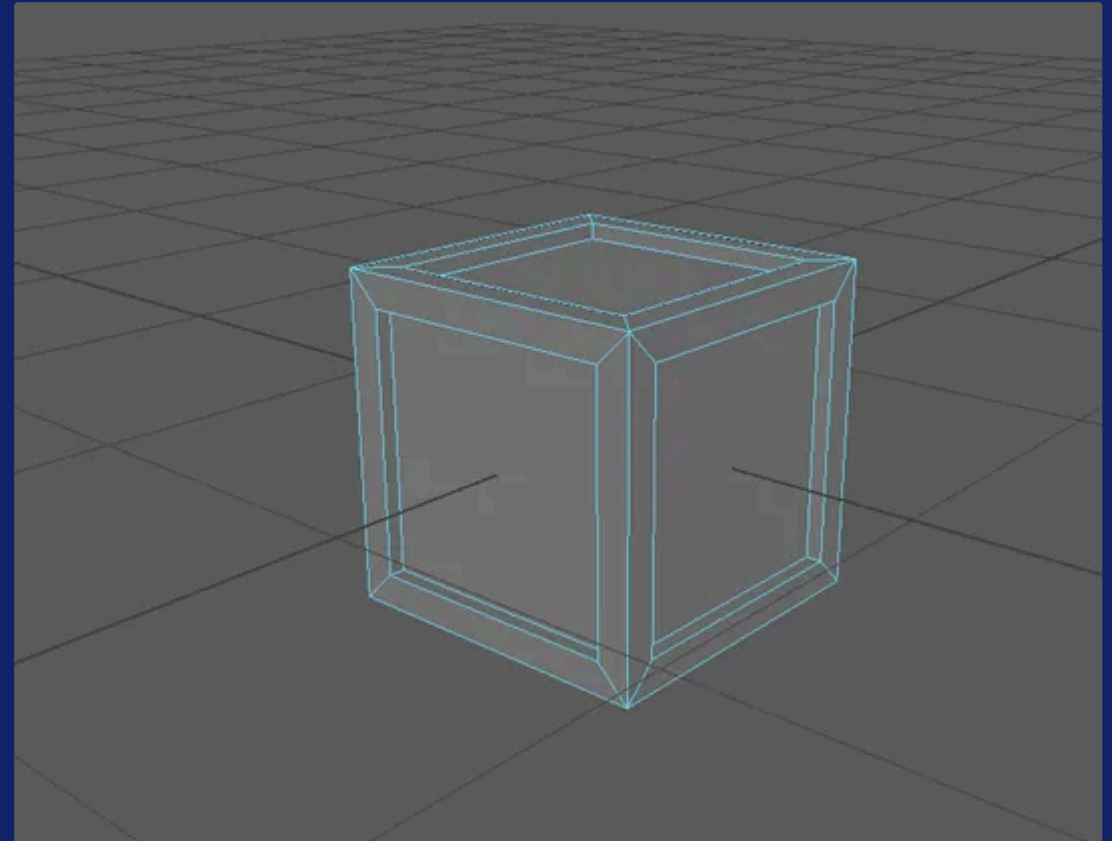
Quad Draw Tool

I learnt the quad draw tool by using a basic cube and adding lines into it and then extruded the windows into the model



Extrude (Offset)

I have been using the extrude tool to create this offset and the have been able to create an indentation to make a super simple crate design.



Modeling practice and development

Basic Tyre Model

I placed in a pipe primitive shape and then selected the inside verts and resized them to form the inner of the tyre then resized the object to get the side I wanted.

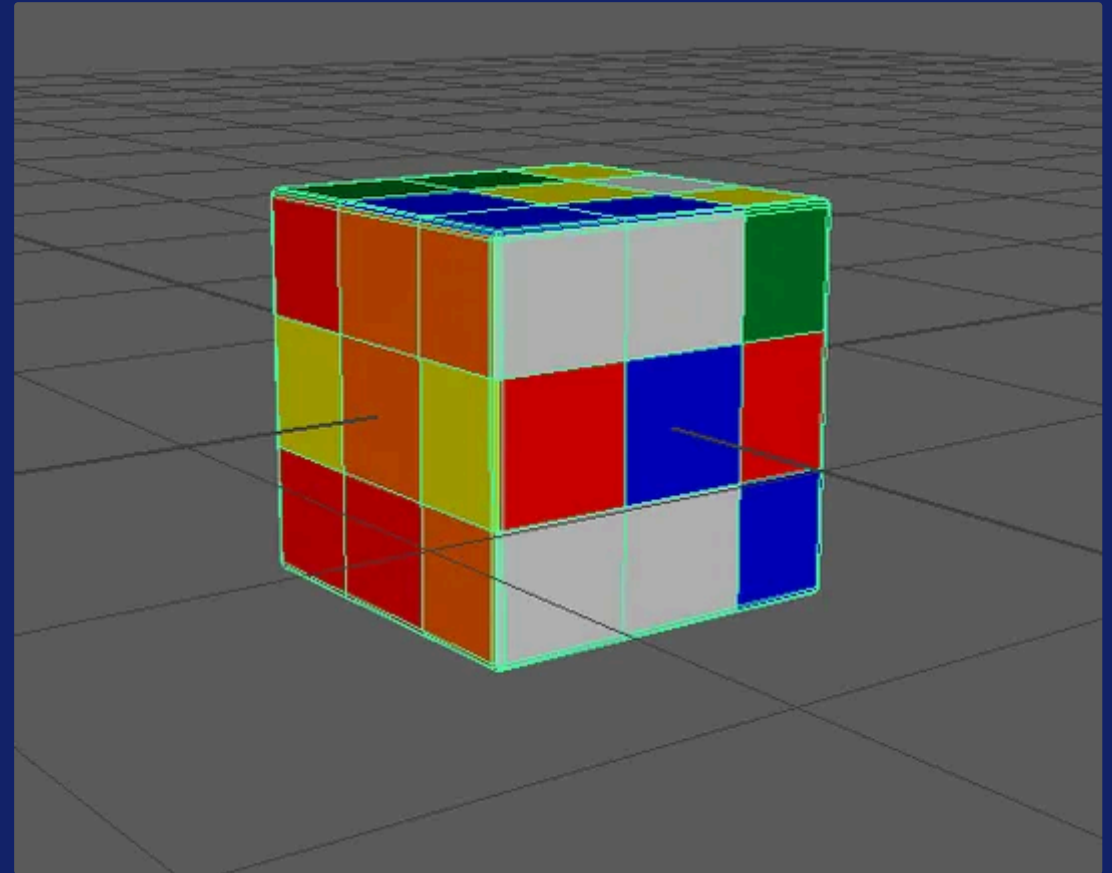
I then added segments to the tyre using the attribute editor and then rotated them to give a tyre pattern look.

I then extruded and set the offset and thickness to 0.02 to give it this simple tyre look. - I have also uploaded it to sketchfab <https://sketchfab.com/3d-models/rubber-tyre-0d37c05ffd44433ea80bd53485e30871>



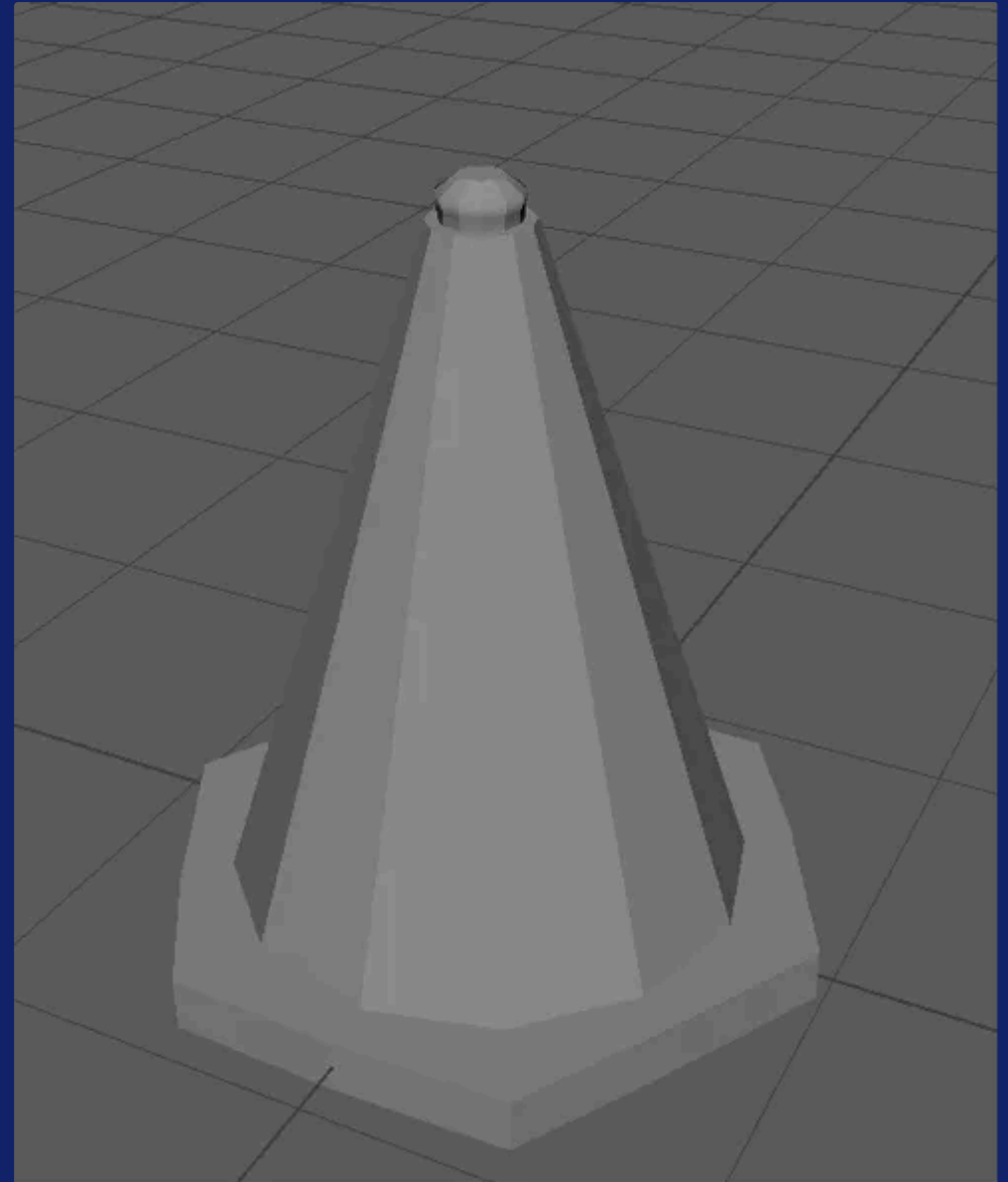
Simple Rubik's Cube

I was able to use a basic cube shape and using the multi-cut tool able to cut and create different segment's in the cube to form the different faces in the Rubik's Cube. I then applied a standard surface and was able to add the colour to form the texture, I then added a slight bevel to the final cube.



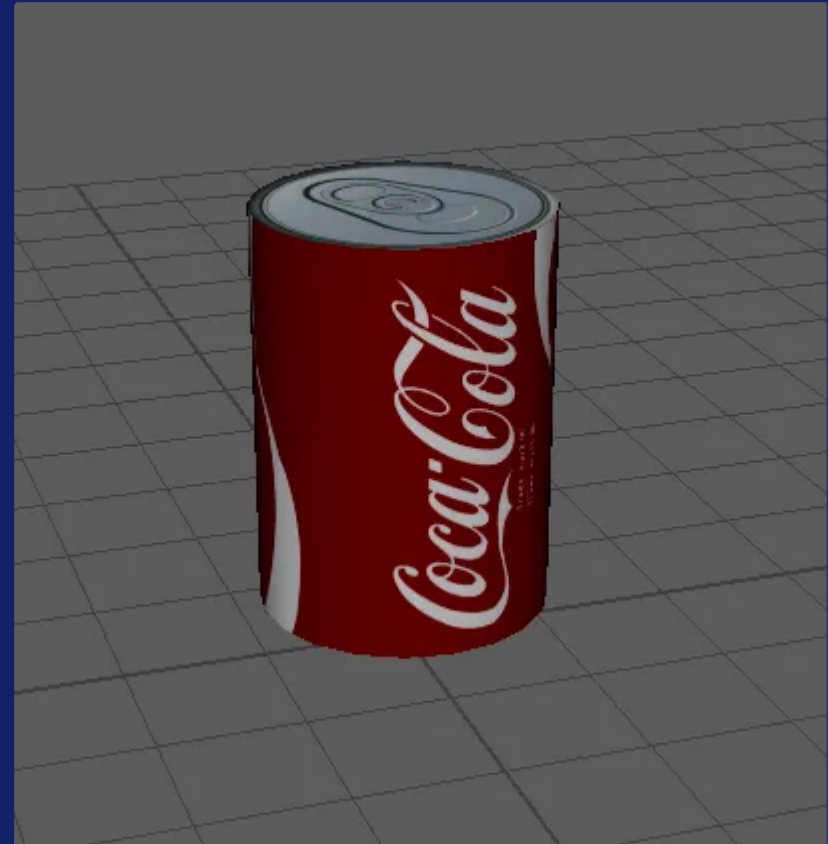
Simple Plain Cone

This is a low basic cone model, I will be adding a texture to this in the future with the hope of adding this to my final game. To create this I started with a simple cylinder shape and was able to extrude it upwards once I had created an offset. I then selected the edges and was able to move them in a upwards position and repeated this process to then create the final product which is shown above.



Can of coke

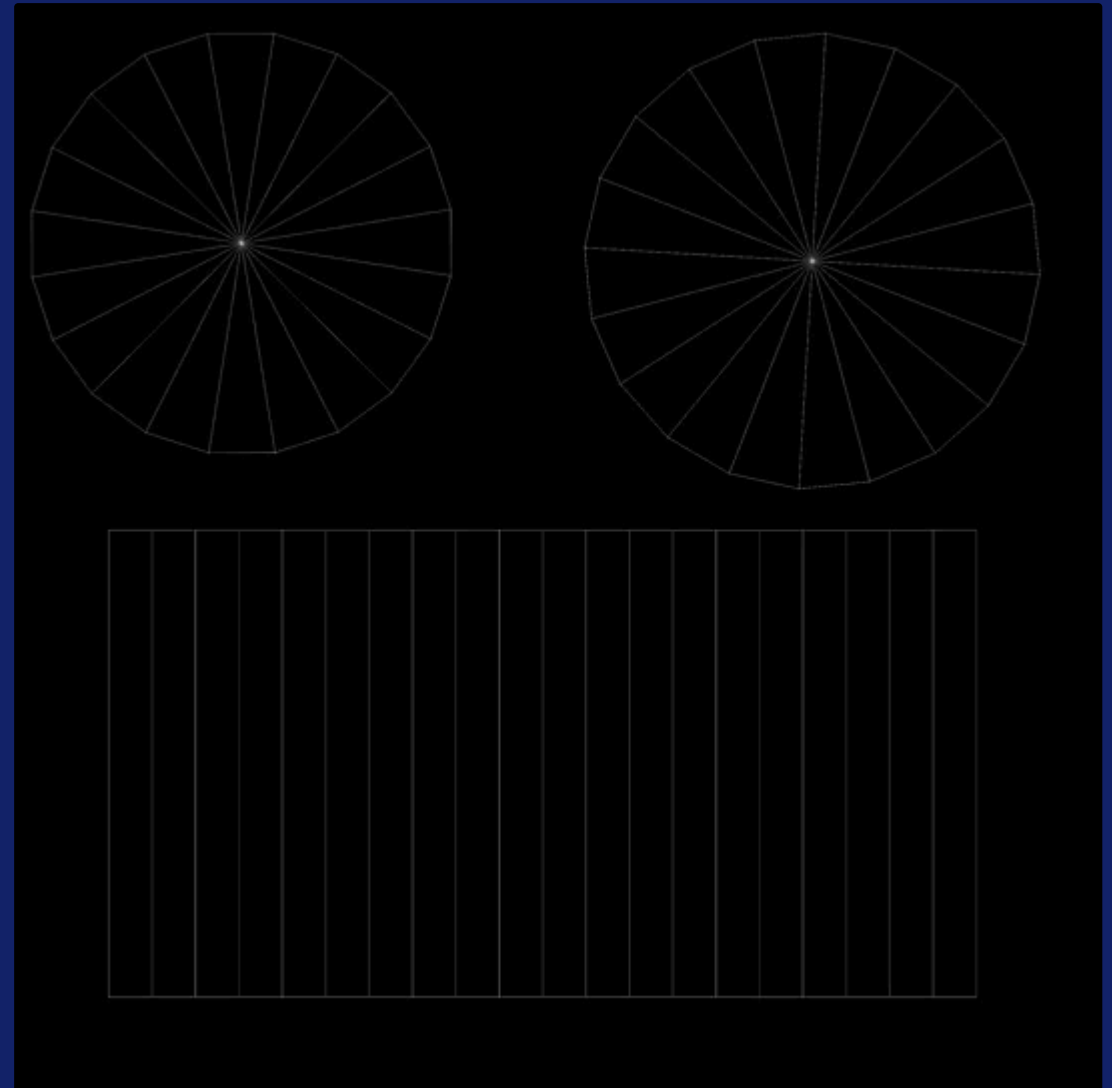
I was able to use Maya to create this simple Cylinder, I then used images from google and imported them into photoshop on top of the created UV and placed them onto the cylinder to create this simple looking can of Coke.



UV unwraps evidence and practice

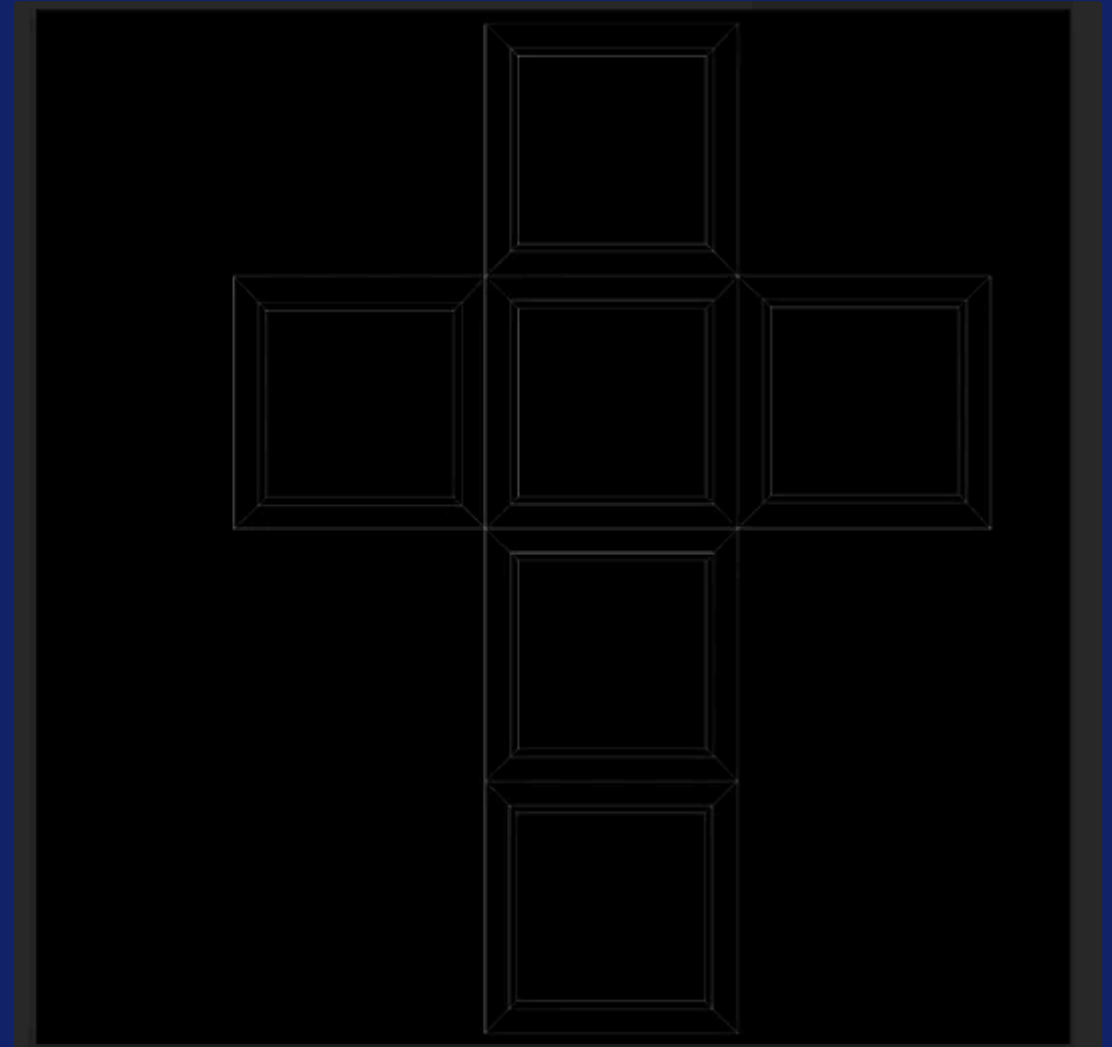
UV can of coke texture

I started off by using the UV editor in Maya, I found an image of a can of coke and was able to place this on top of the UV. This enabled me to create a texture for a basic cylinder I had previously placed down.



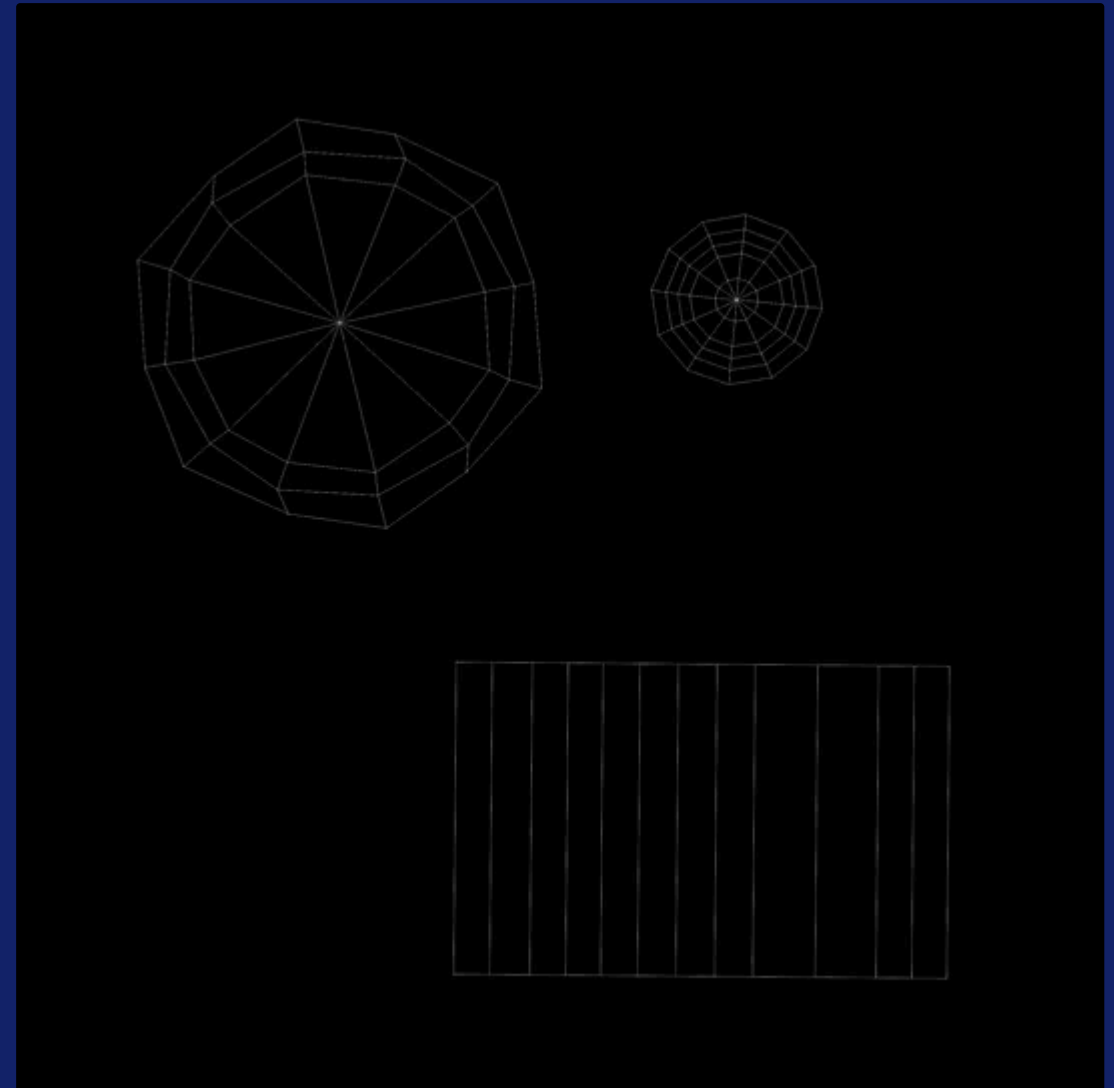
UV Crate Texture

Similar to the above i have been able to use the UV editor again to this time cut, sew and unfold the different edges and faces to create this simple create UV.



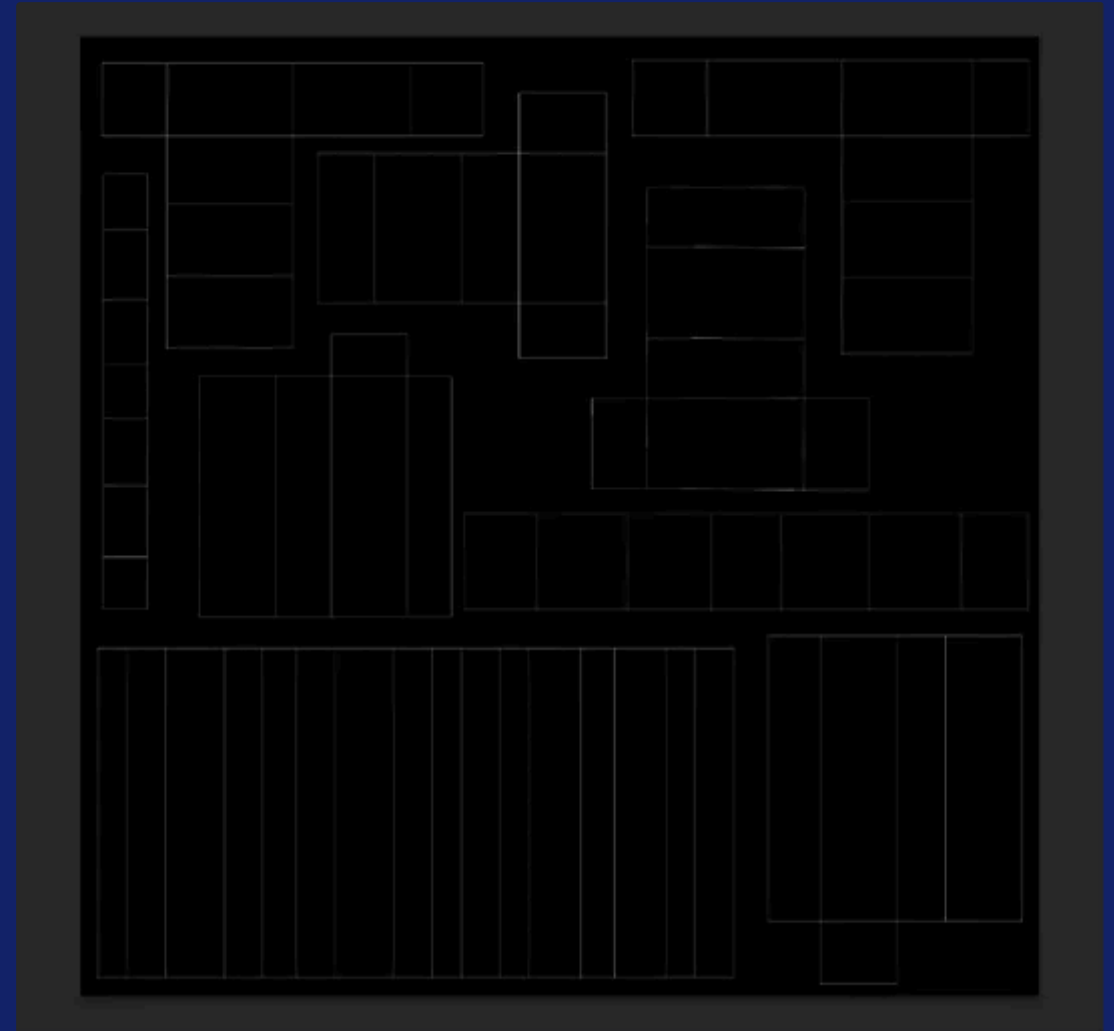
Traffic Cone UV

I was able to use the UV tool to unwrap the traffic cone model I had previously made using Maya, I then was able to import the new texture from photoshop which allowed me to create the new texture for it.



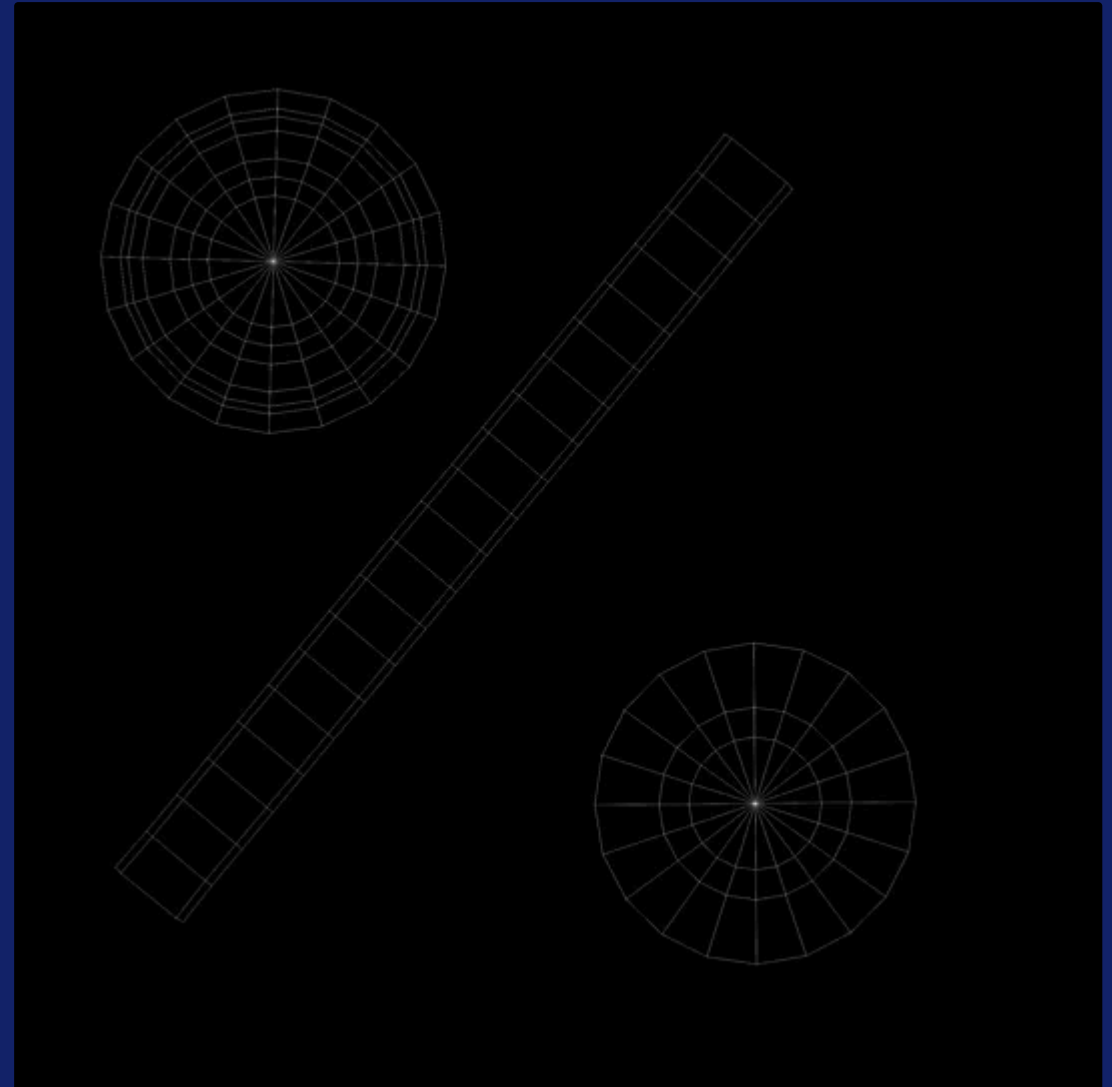
Barrier UV

I built a barrier model and unwrapped it and created different sections for each part of the model to make it easier for me to texture, using this UV map



Low poly wheel UV

Again further to the above I have been able to take my low poly wheel I had previously made in Maya, I have then used the UV tool to then unwrap it to allow me to make a new texture using photoshop.



Cone 2 UV

This is the UV unwrap of my tweaked cone ,
I am going to texture it in substance painter



Learning Textures and practices

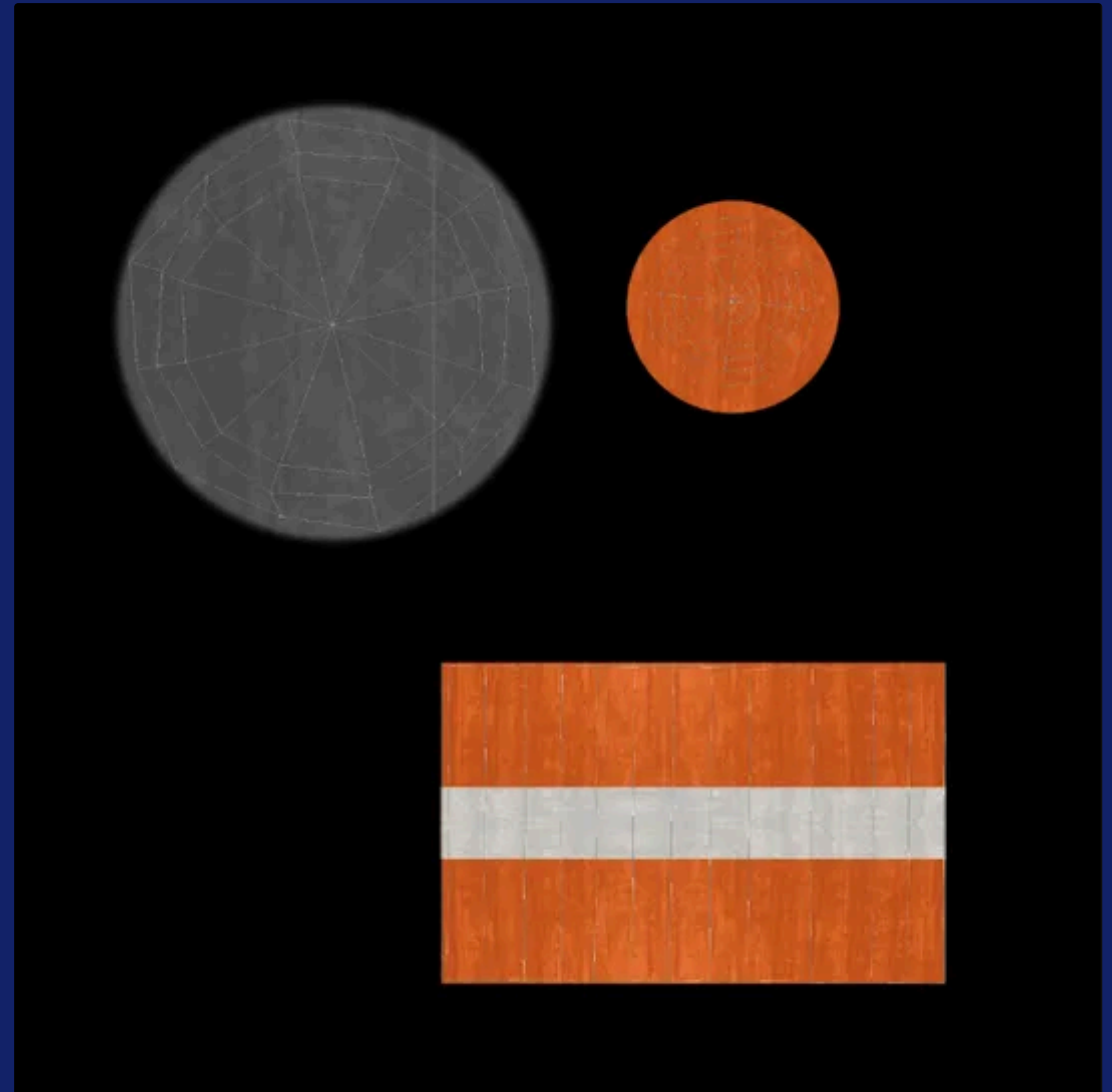
Can of coke texture

I used images from google and imported them into Photoshop on top of the created UV of a basic cylinder to create this texture.



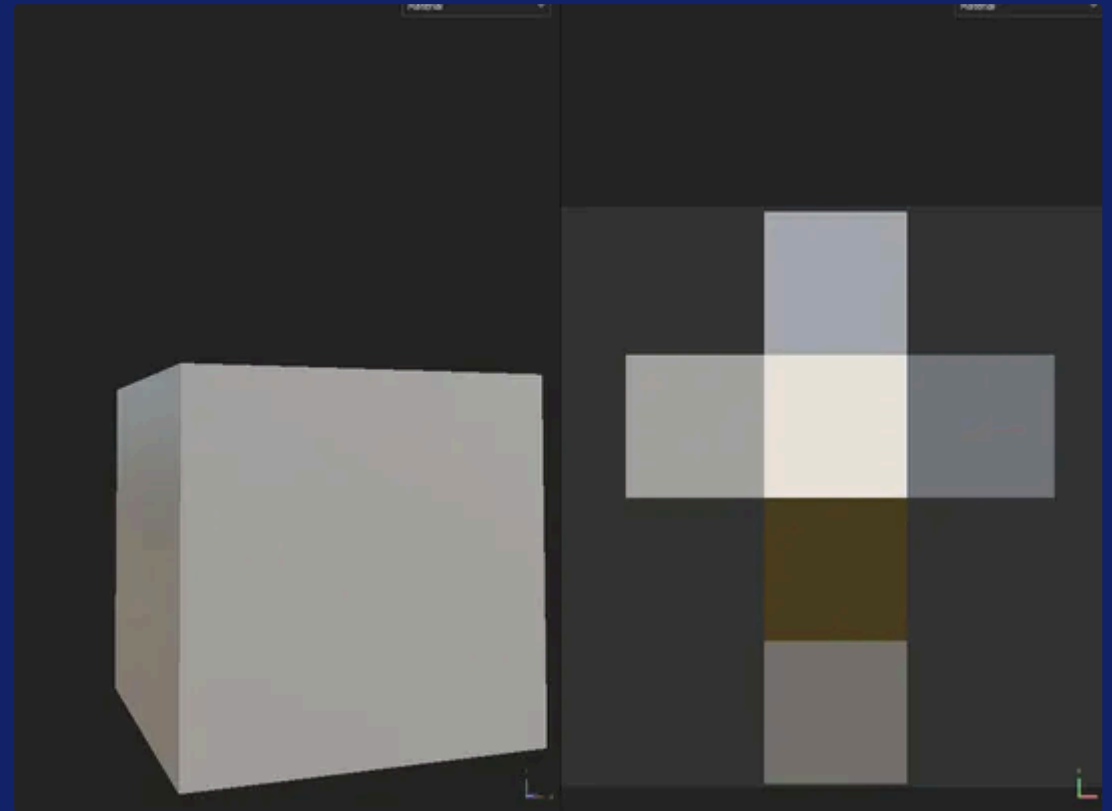
Traffic Cone Texture

I unwrapped the basic cone model I had previously made and took the PNG of the unwrap into Photoshop and added traffic cone colours.



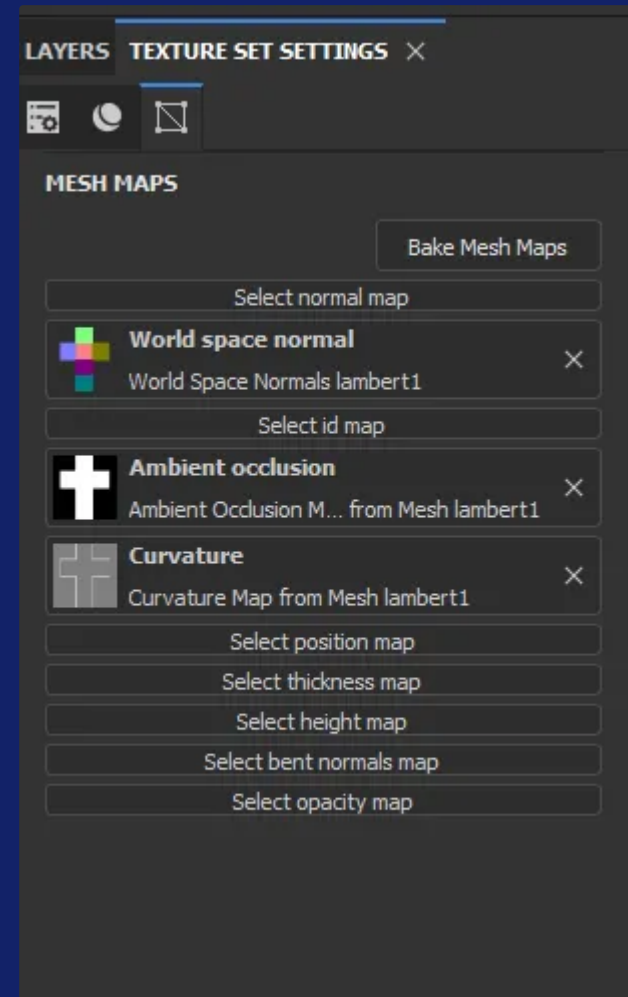
Substance Painter - Learning how to use

I have UV unwrapped a cube and have opened it up into substance painter to be edited. , I am starting to learn how to use the substance painter



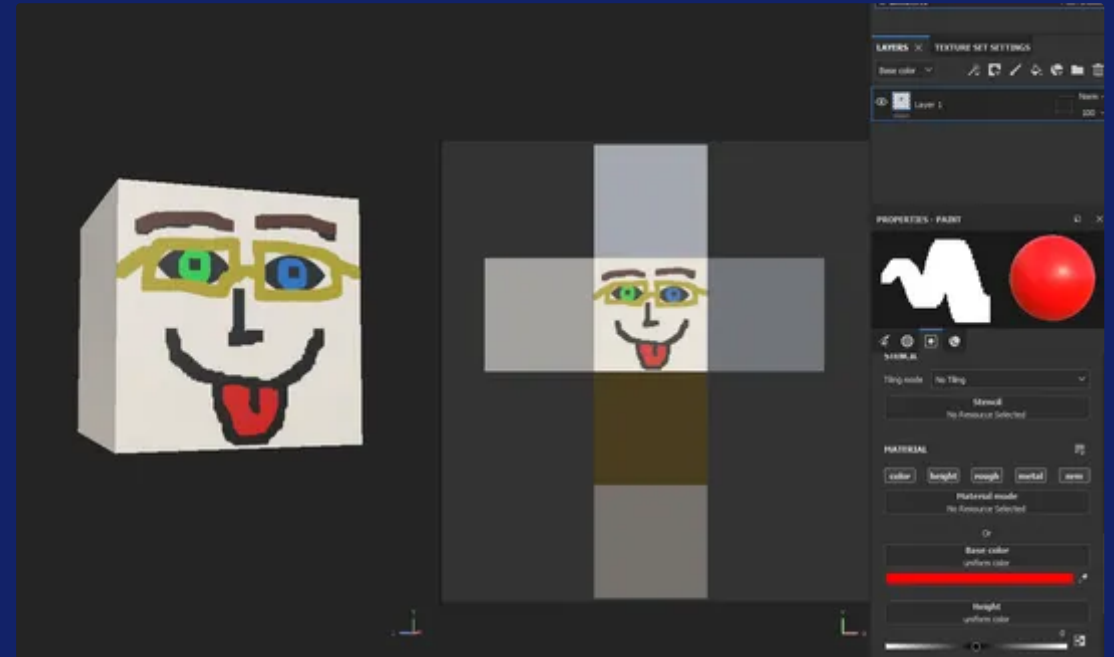
Substance Painter - Bake Maps

I baked my basic cube unwrap in substance to get the different bake maps



Substance Painter - Brush Tool

I used the brush tool and different brush types in the properties, and also changing the brush colour to create a face on one of the faces of the cube.



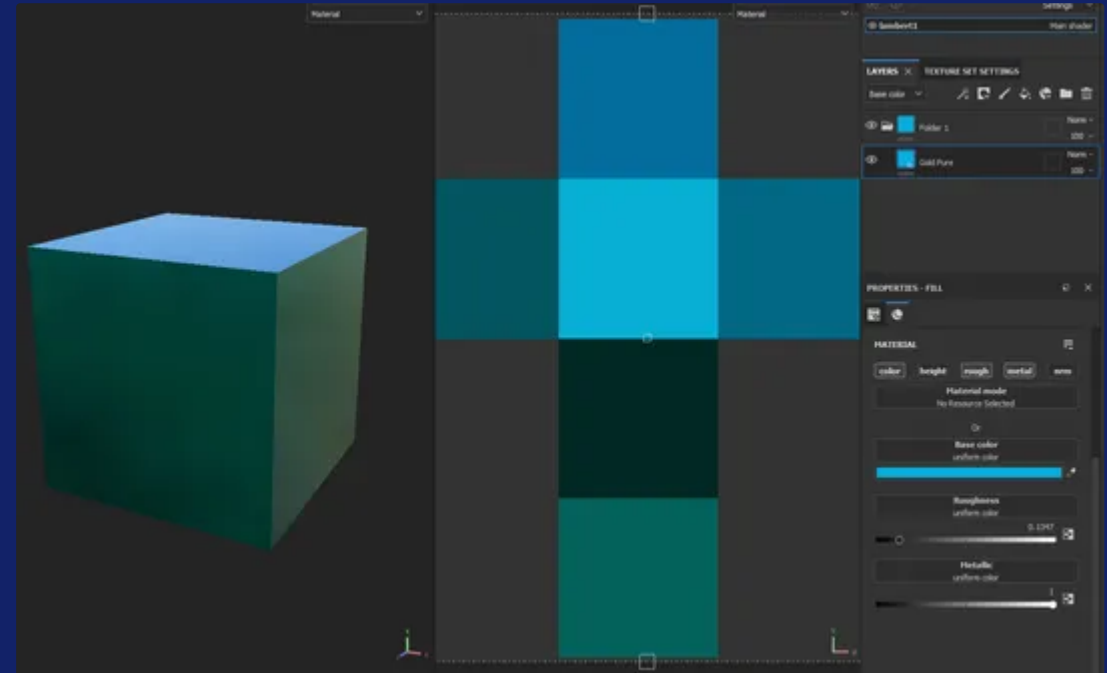
Substance Painter - Texture/Materials

I added a new layer and added a new material skin texture by clicking and dragging it onto the object.



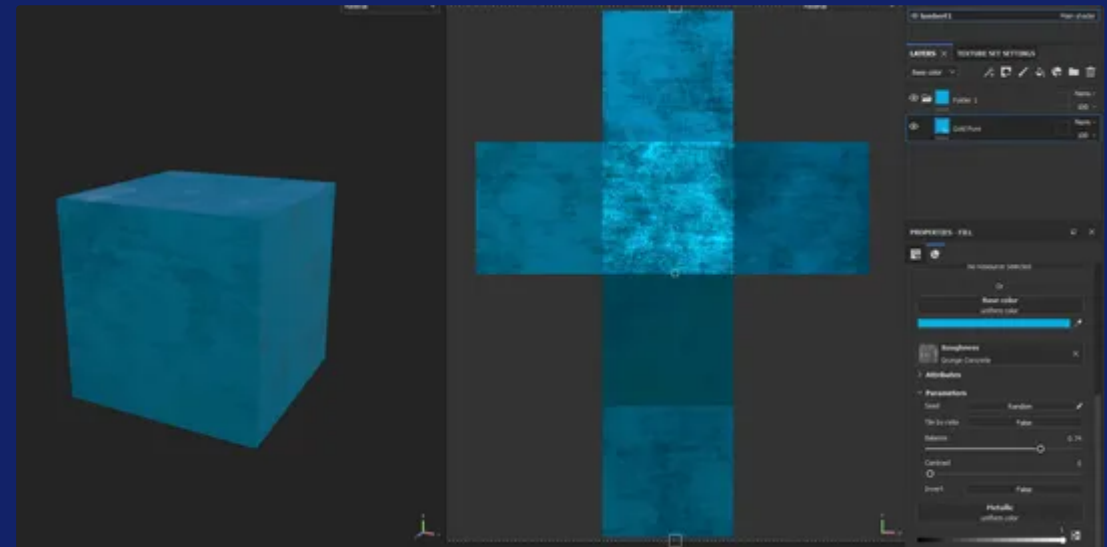
Substance - Properties

I have added a file texture and learnt how to use the properties by changing the colour and the roughness as well as the metallic filter to create this texture.



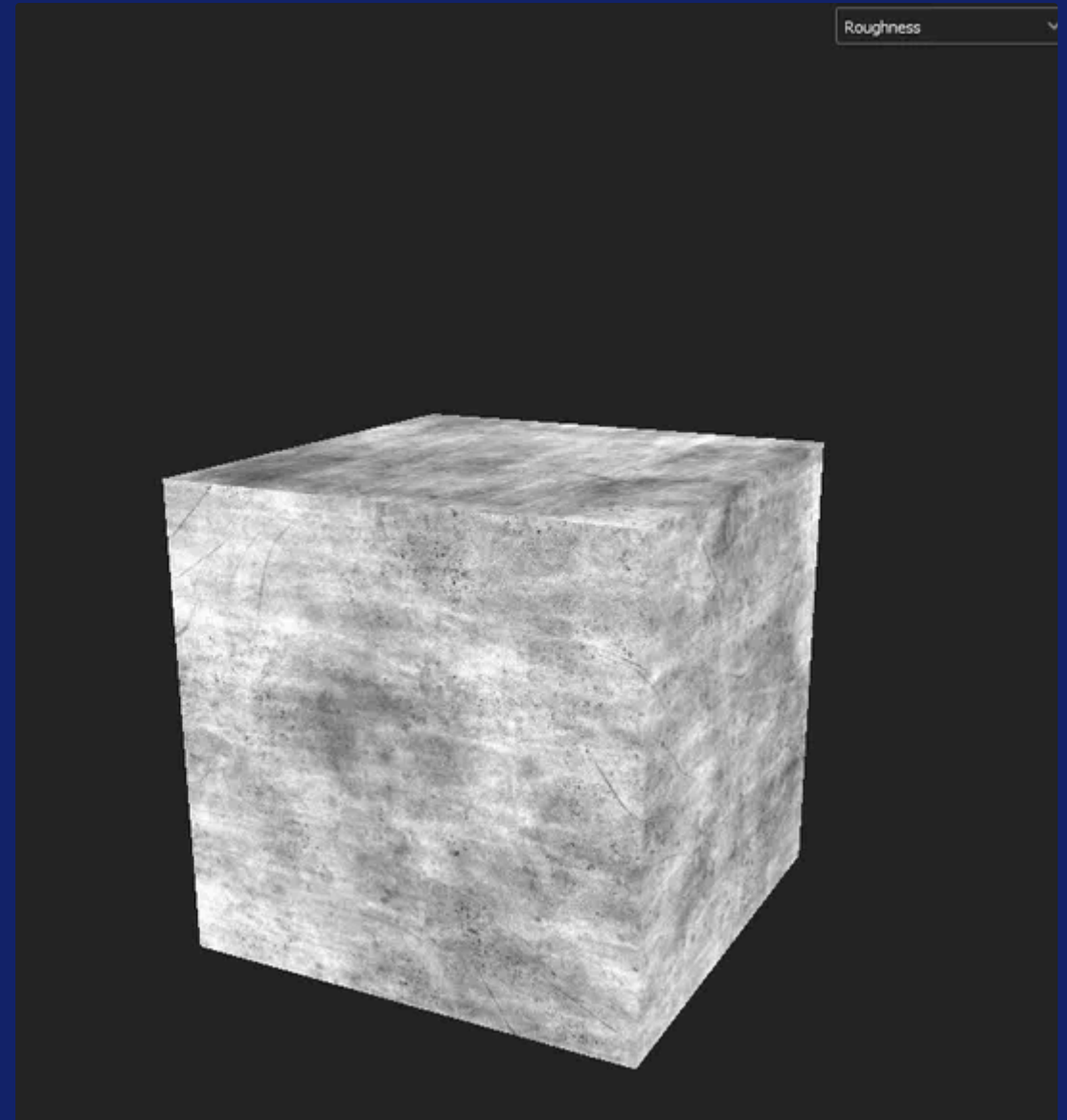
Substance - Roughness

I used the roughness and applied a grunge concatenate generator and adjusted the slider to show roughness.



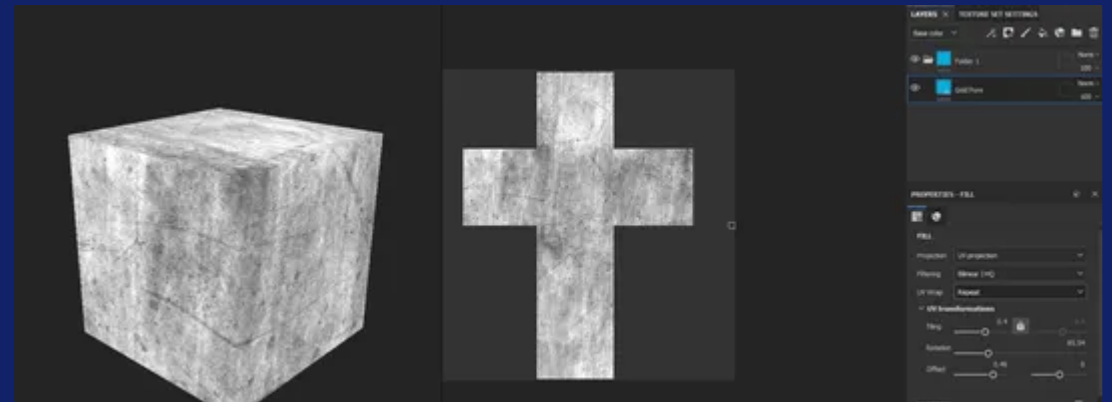
Substance - Roughness View

I changed the viewpoint of the material to roughness.



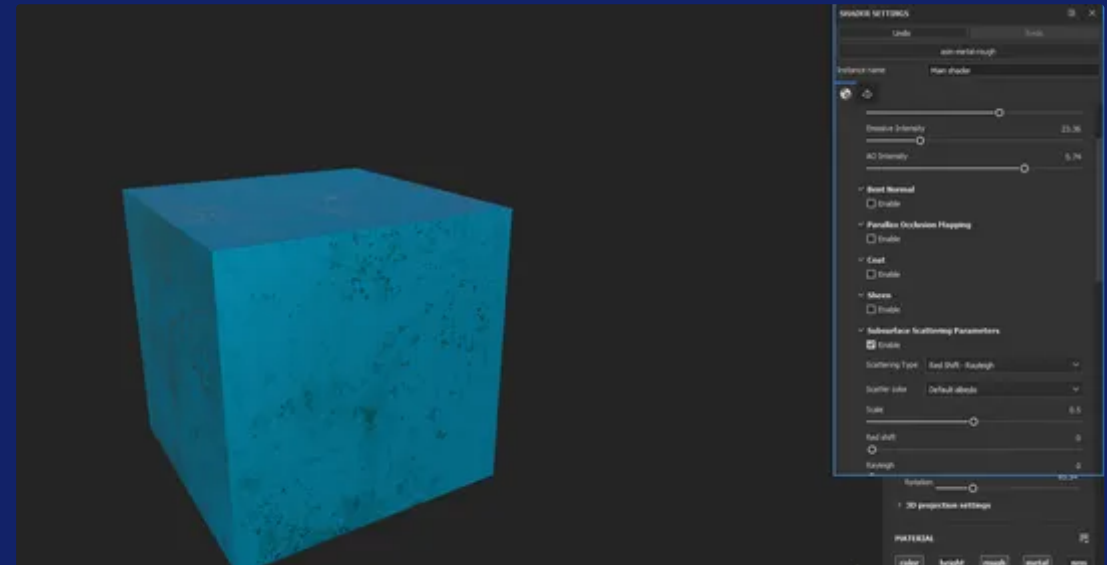
Substance - Fill

I used the fill section to adjust the rotation, offset, and Tile of the roughness texture to make it more seamless.



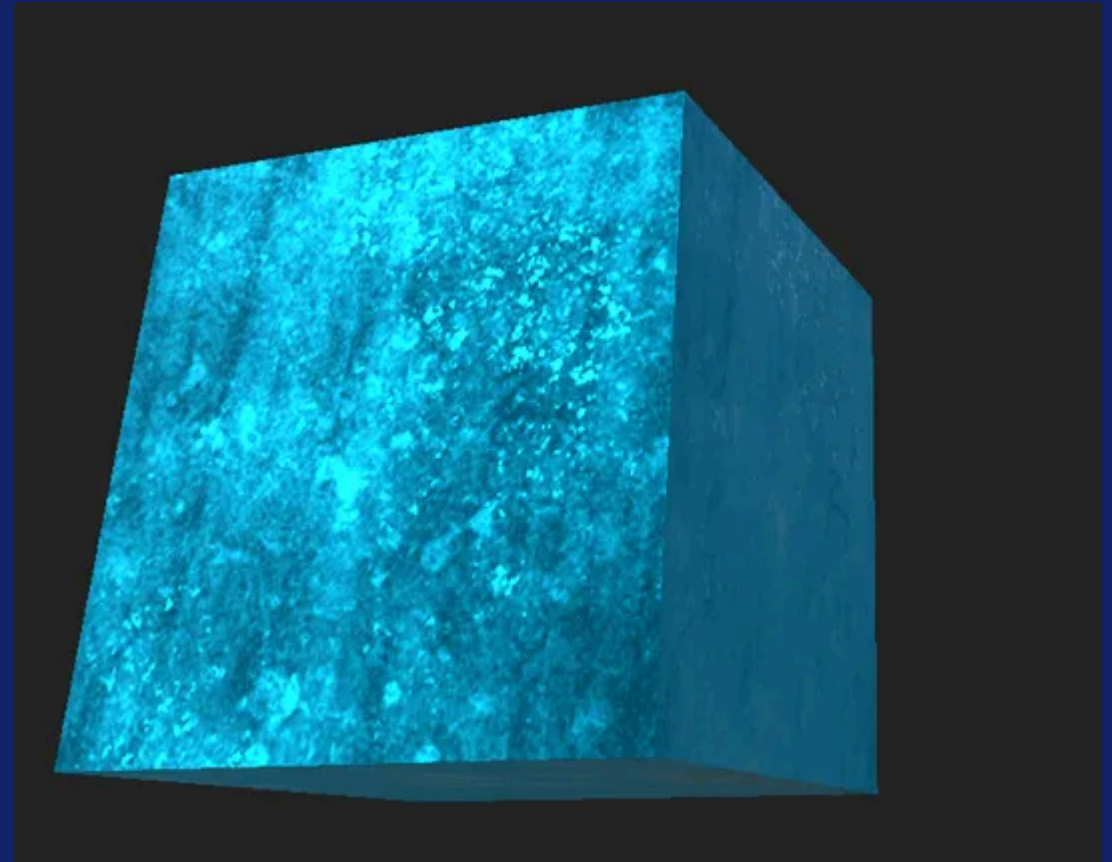
Substance - Shader

I used the shader tool and changed the spp, which means sample per pixel.



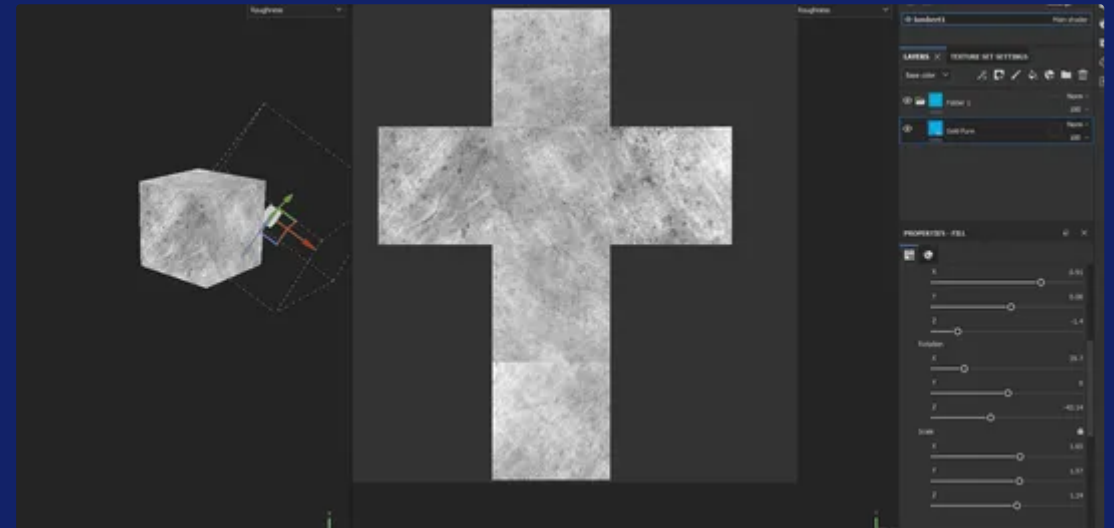
Substance - Lighting

I changed the lighting angle by using shift and right click



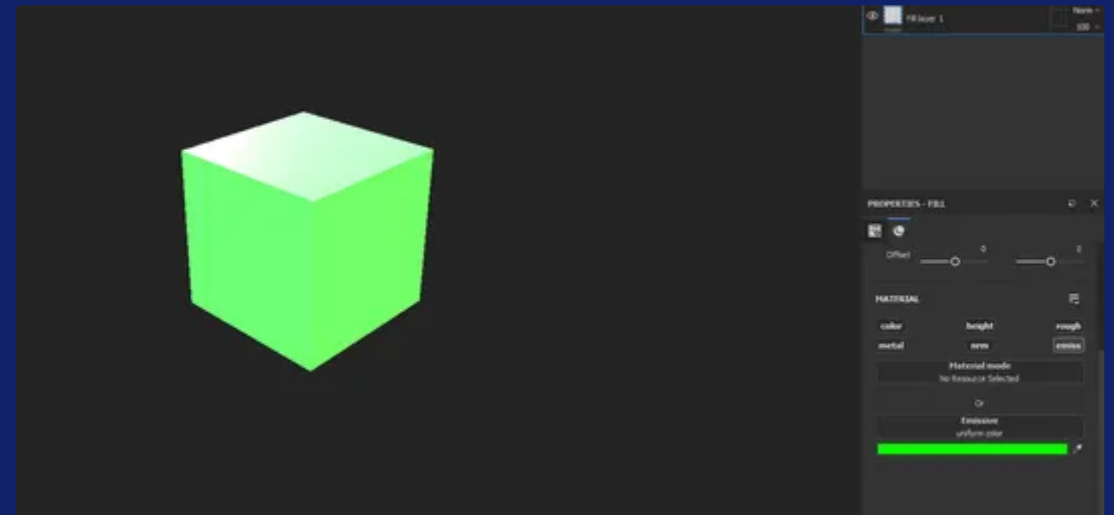
Substance - Roughness projection

I used the projection settings and changed the offset and scale to apply this projection



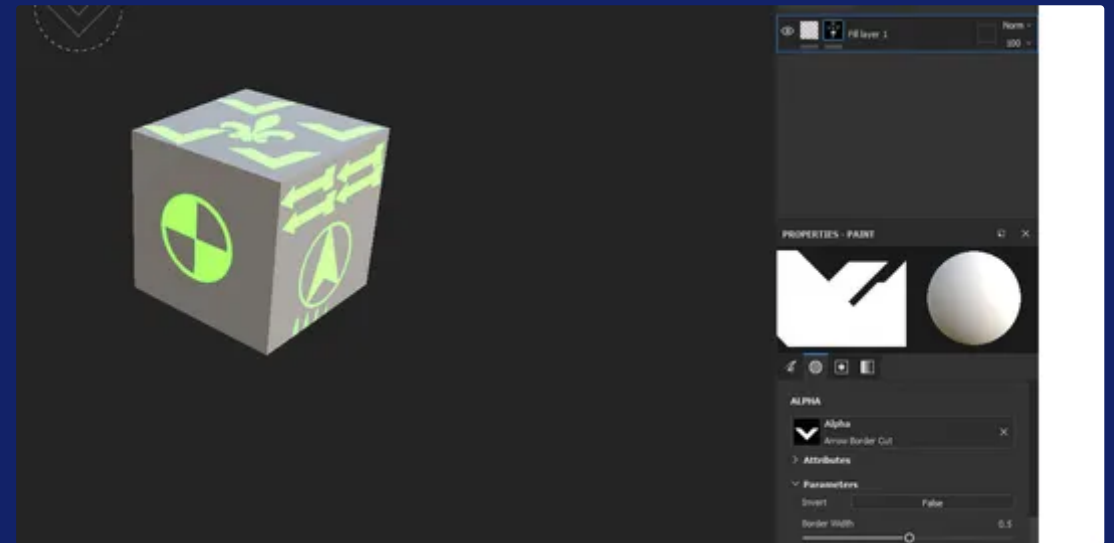
Substance - Emissives

I used a fill layer and a channel and added an Emissive to this cube to make it glow.



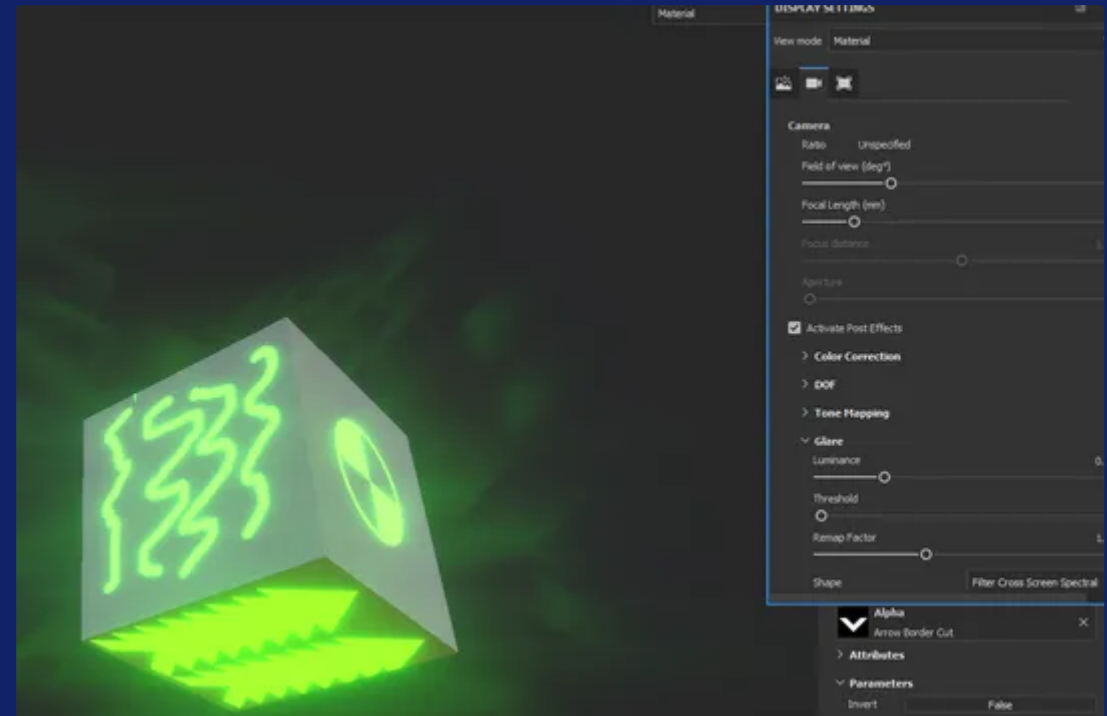
Substance - Black Mask

I right clicked the fill layer and added a black mask and then used the alphas and drawn some shapes and patterns onto the cube



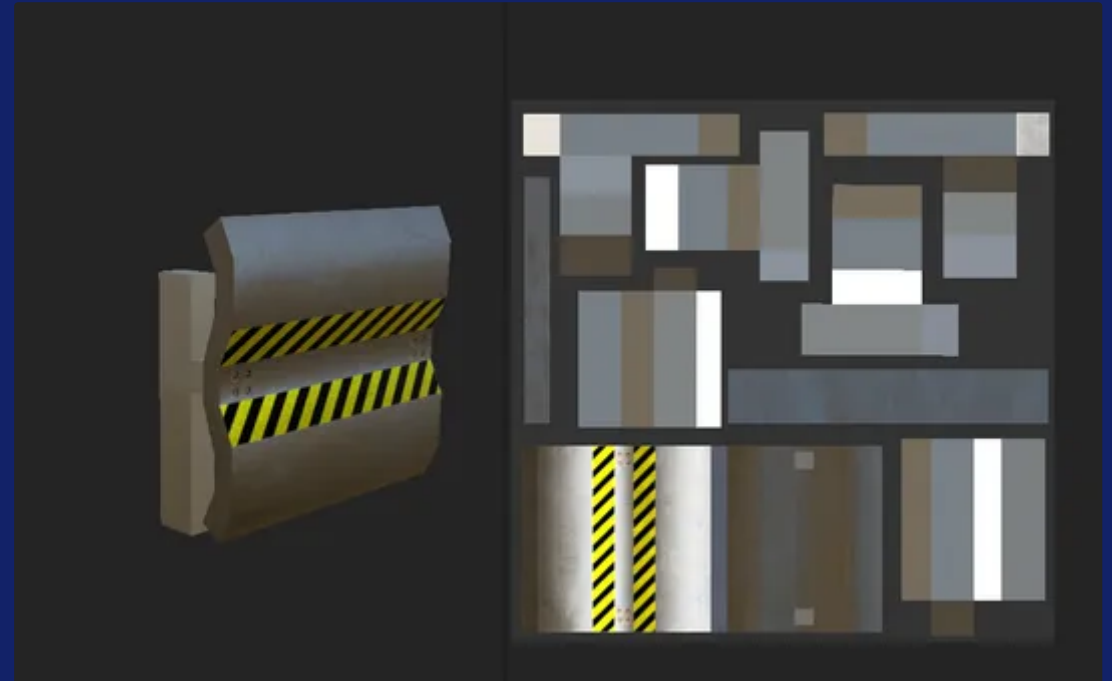
Substance - Glare

I used the display settings and allowed active post effect and added glare effect to it and adjusted the sliders.



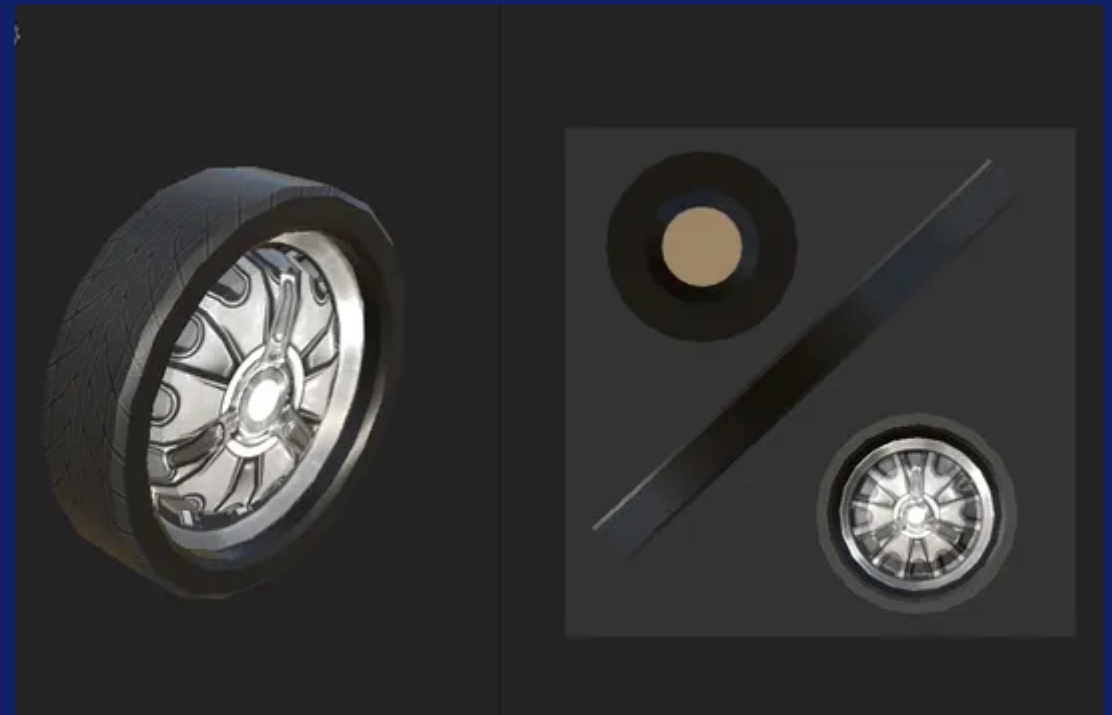
Barrier Texture 2

I used the same uv I made for the barrier and took it into substance and re did the retexture using roughness and metal material and applied the original png images on top for the stripes and bolts to give it overall a more metallic look.



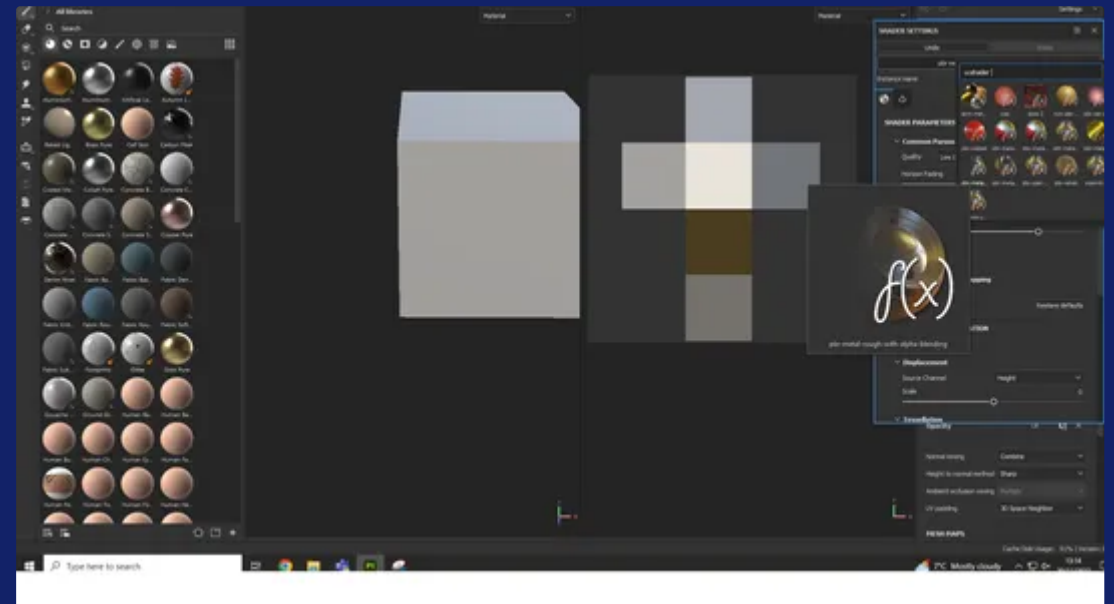
Low Poly wheel substance texture

I added a plastic rubber texture and adjusted the roughness and height of that layer then created a black mask and selected the faces i wanted to be dark rubber using the face select tool then i implored the inner wheel image png and scaled it to where I wanted it to be and did the black mask again and then did the same for the tyre tread and just added a basic meta texture for the inner side on the back of the wheel to create this texture.



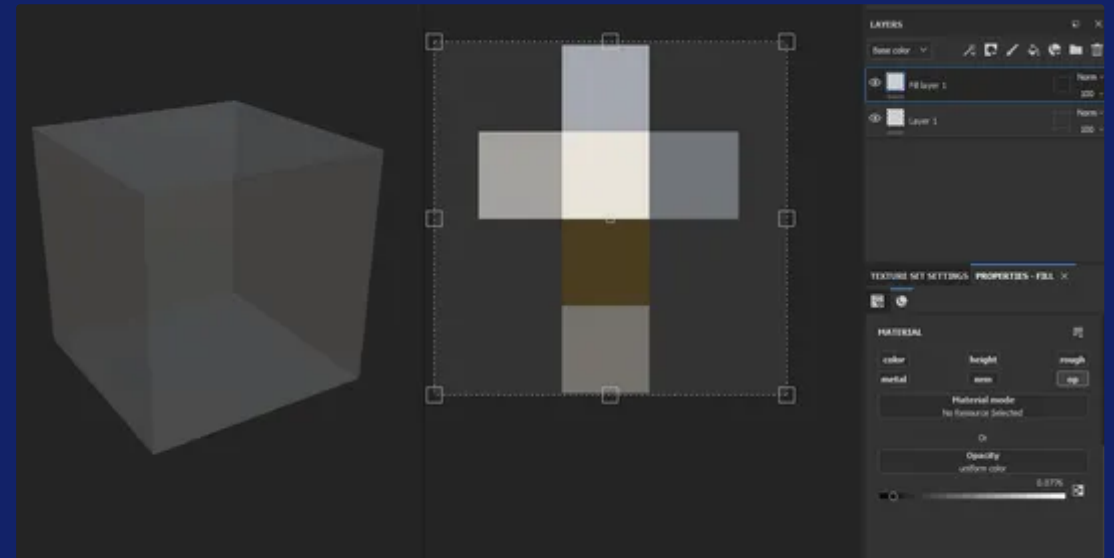
Substance - Blending shade for opacity

I applied the opacity channel to this cube texture settings and then added the metal roughness so i can change the opacity



Substance - Opacity

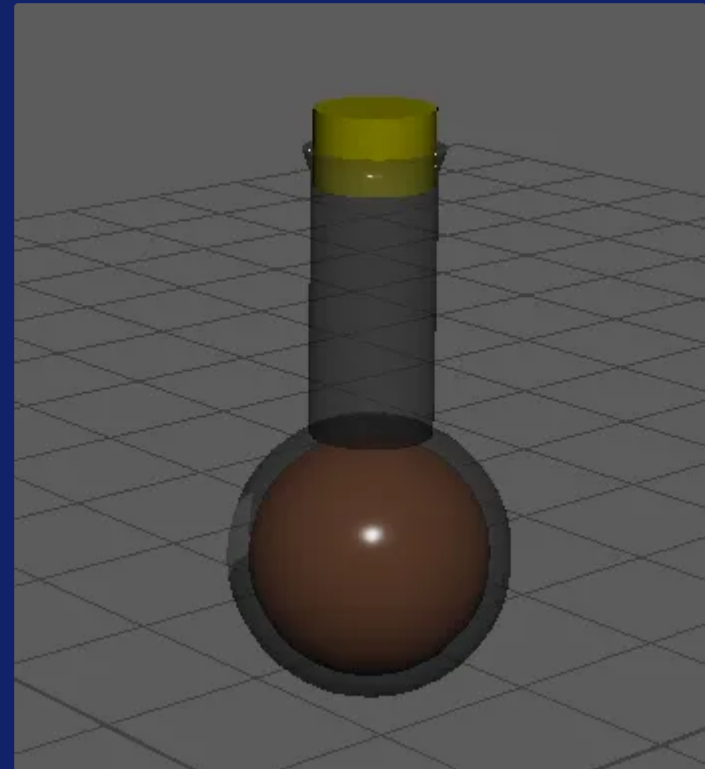
Using the opacity channel i moved the slider to make the cube transparent



Better models and project models

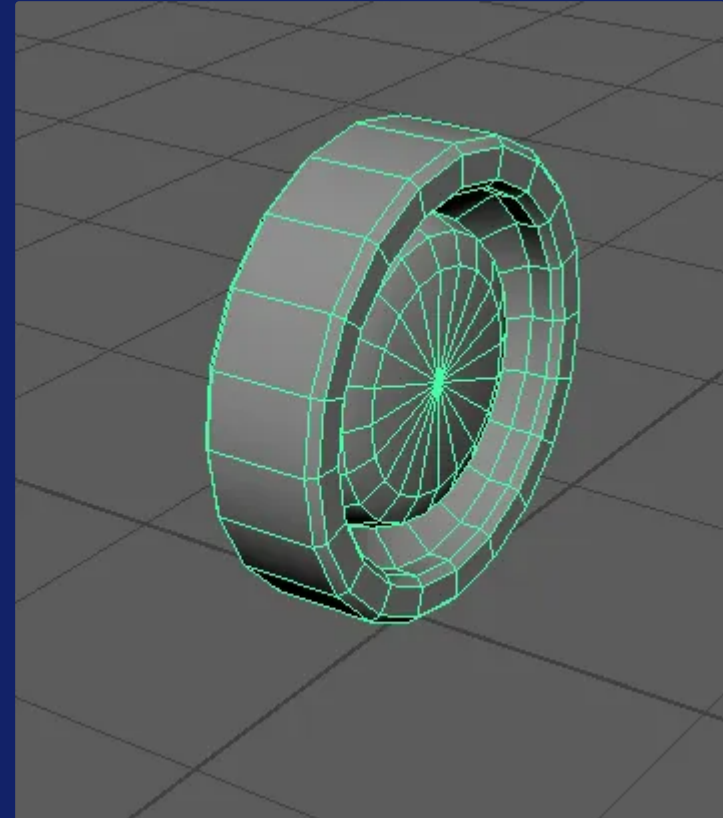
Potion Bottle

This is potion bottle that I made using a sphere and a cylinder and simply extruding and bevelling it. Then i added a standard surface and changed the preset to glass to create the glass effect of the bottle.



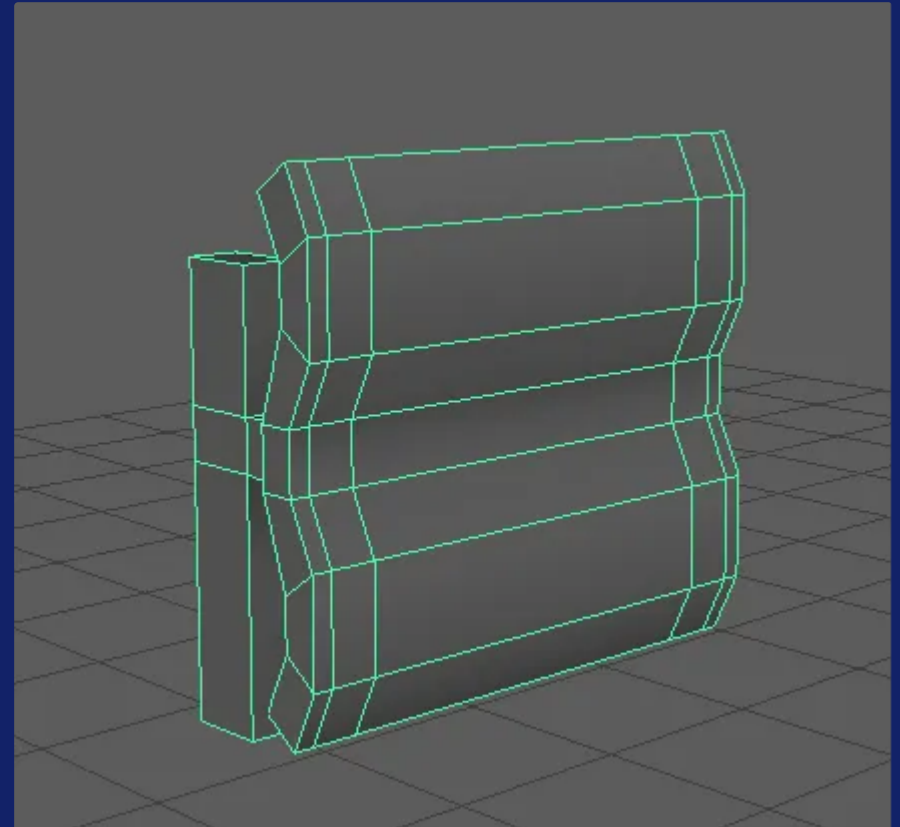
Low Polly Wheel

I started of using a cylinder shape and flattened it to get to a wheel size. I then used the extrude tool to crate an offset and indent it in and used the bevel tool for the edges to create this basic wheel idea.



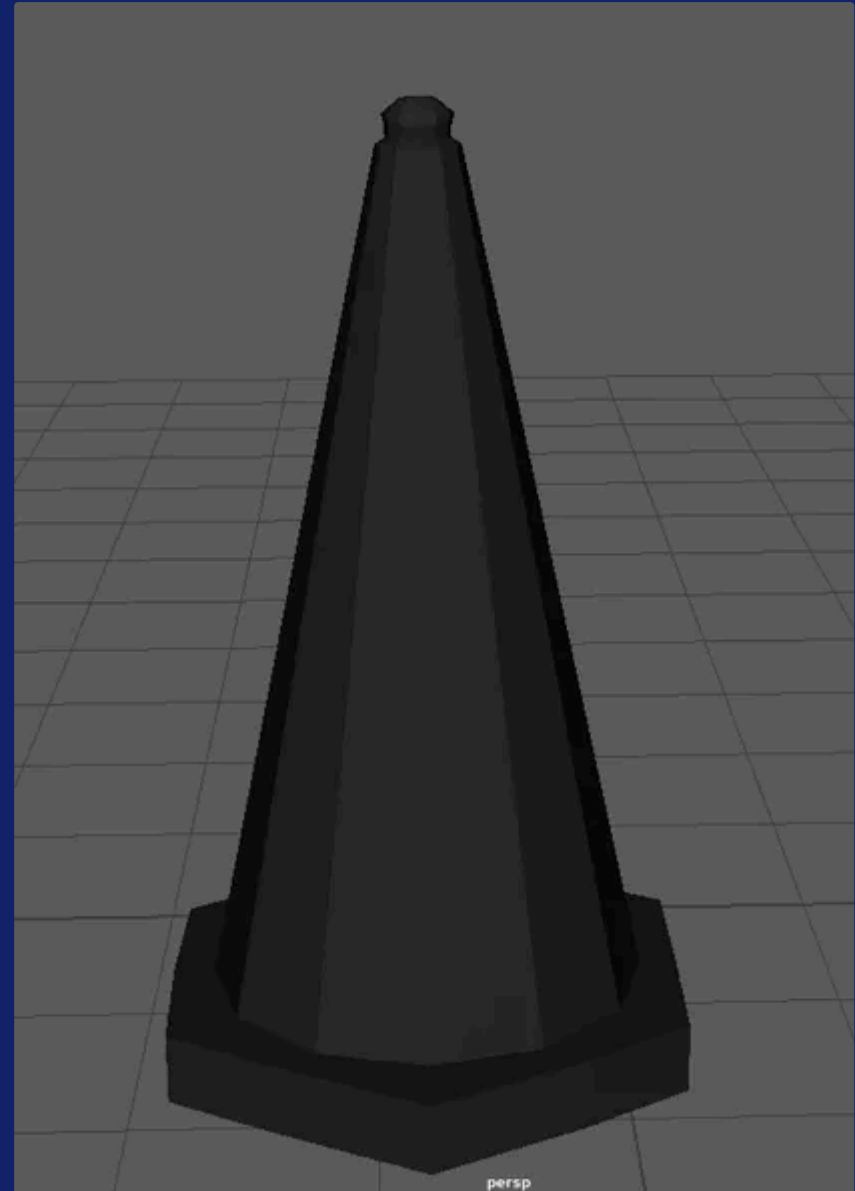
Creating a barrier

I used quick draw and a basic cube and created sections and added more details to make this simple low poly barrier



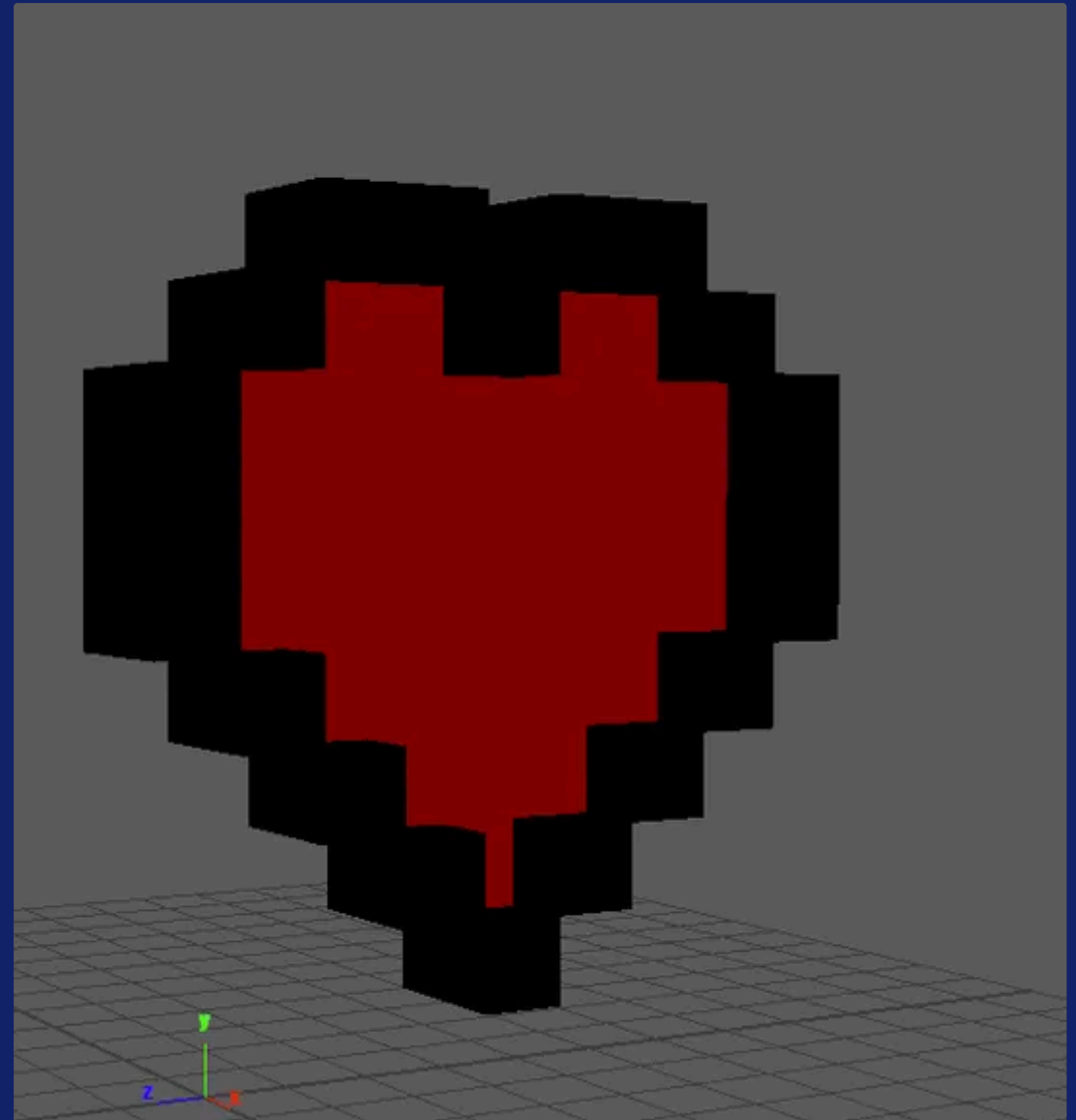
Cone 2

I have twerked my original cone to become longer and thinner to look more like a cone winch i am now going to re texture in substance instead of Photoshop



Heart

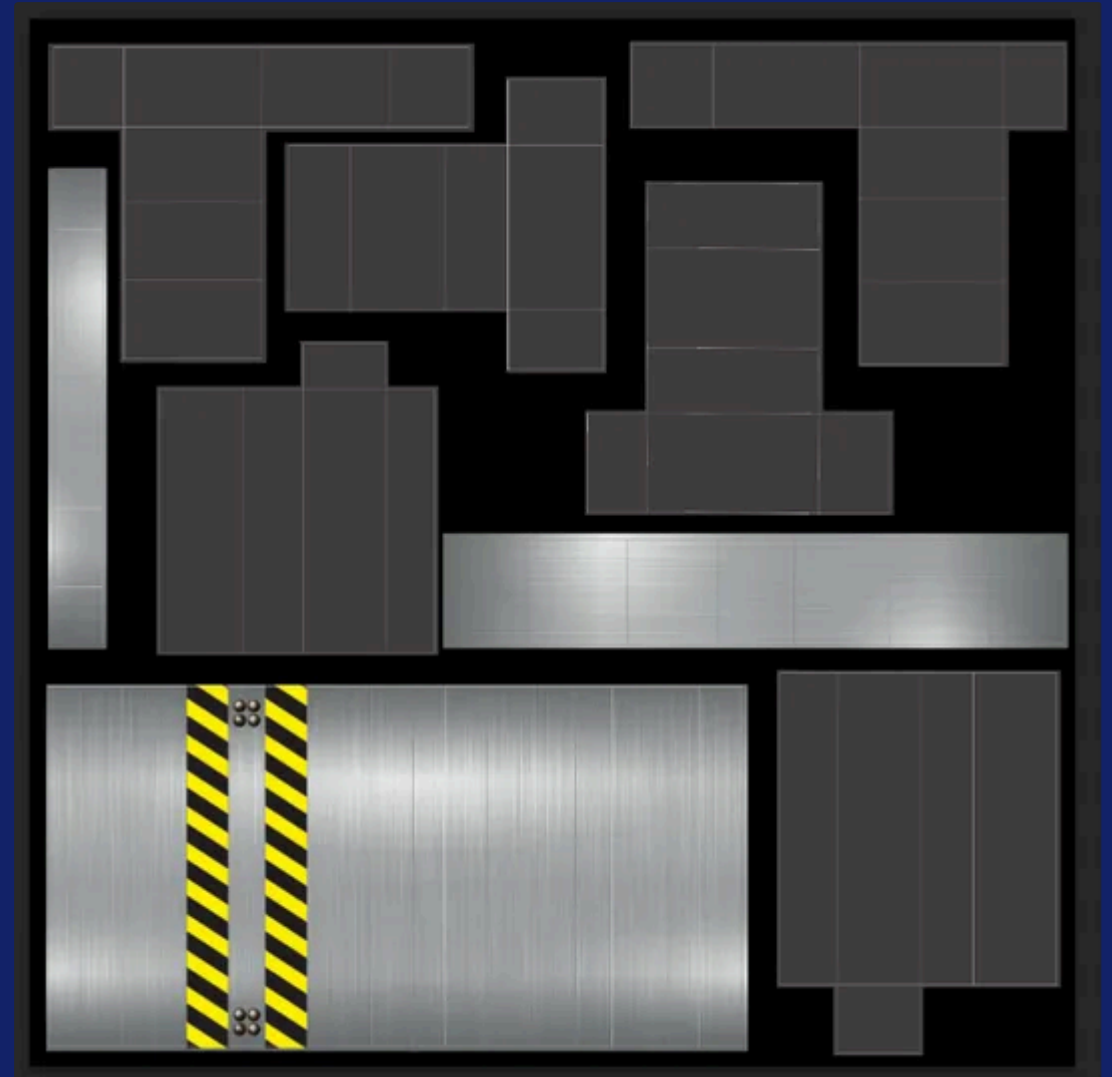
I used nothing but cubes to create this Minecraft inspired 3D heart model and then added a colour texture to it using standard surface material and just set the colour.



Better texturing

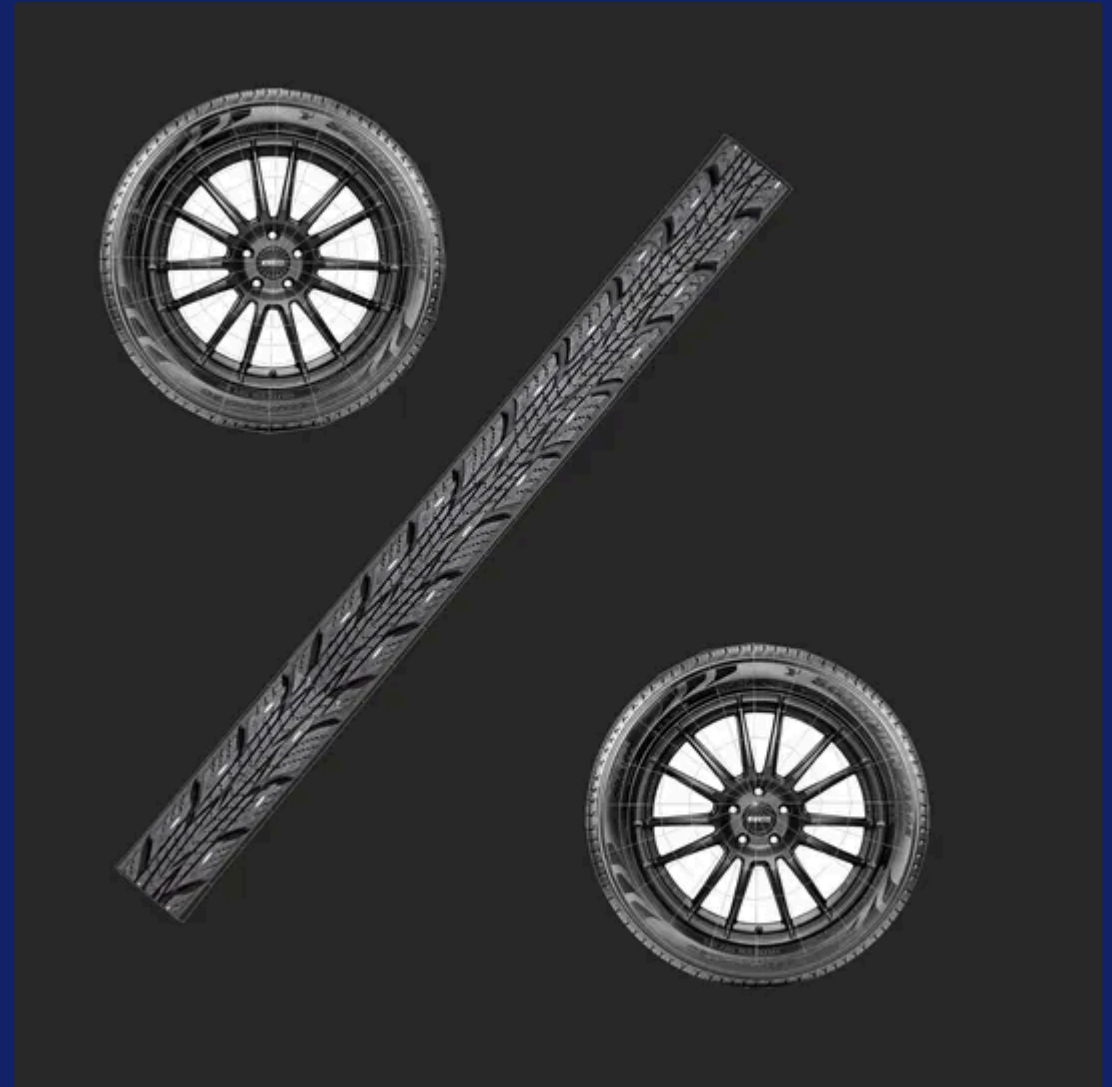
Barrier Texture

This is barrier texture that I created in Photoshop using steel seamless texture picture and brush tool and images to create this.



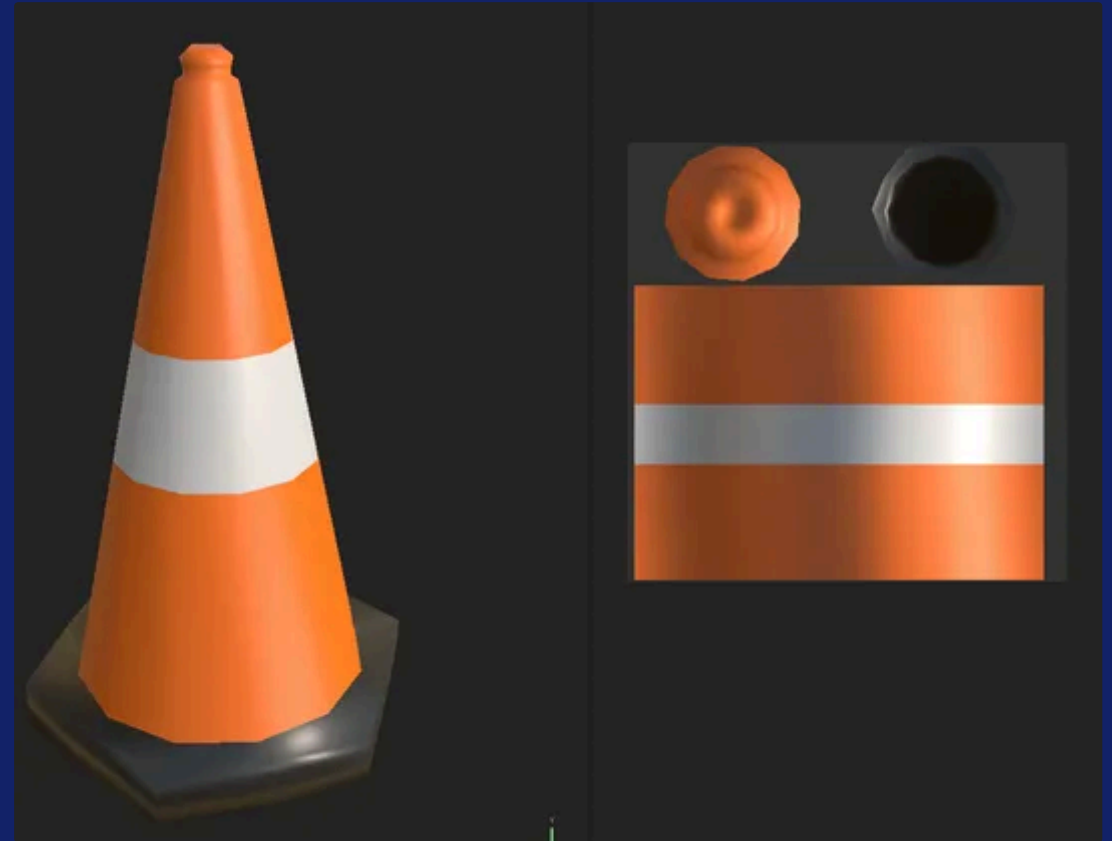
Low Poly Wheel Texture

I took my UV wrapped low poly wheel and was able to move this over to photoshop where I created a simple texture using a simple image that I was able to find online. I was then able to re-import this back into Maya and apply this to my model.



Cone 2 Texture

This the texture i have remade for the cone but this time i used substance and crated fill layers for the base colour then added a second fill layer for the stripe and created a black mask and then simply used the poly selection tool to just to a stripe and then i repeated the same for the base and added roughness to create a rubber look.



Models and textures and renders

Ammo Box

This is an ammo box that I made in Maya Using the tools I have learnt such as Extrude, Bevel and Basic function to manipulate the shapes.

I used Bevel on the basic cube and then the Extrude tool to give it the indentation and then made a bullet shape from a cube using extrude and using the resize tool to create them. then placed them onto a flattened cube and placed it all together to the create this ammo box and for the hinge I used extrude again and then used bevel to round off the inner parts to form the hinge.

I have also uploaded this to Sketchfab;

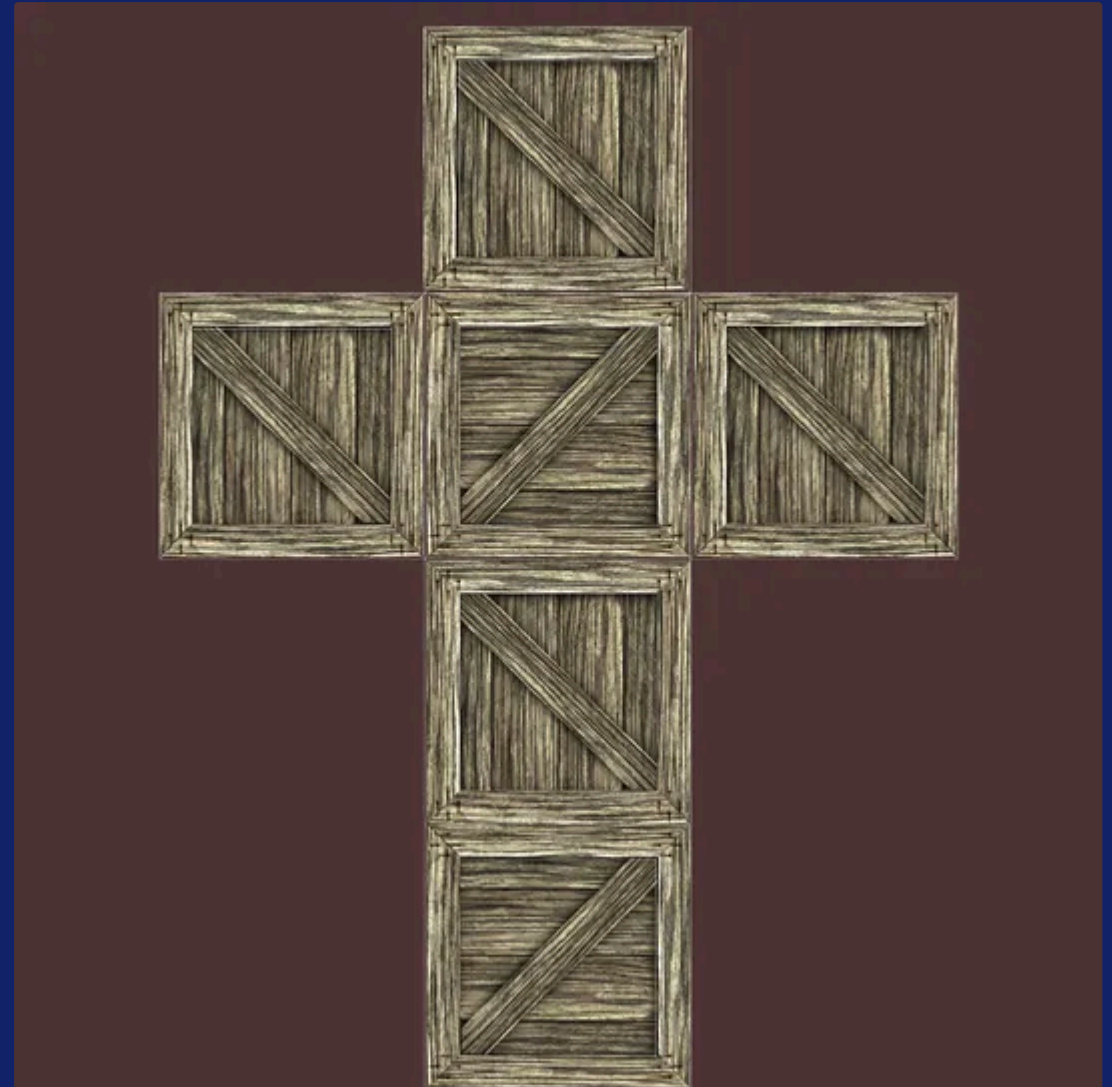
<https://sketchfab.com/3d-models/ammo-box-c16bcfbc95a14ba1bcdcee19e07de4c3>



Crate Texture

This texture I was able to create using photoshop, using a basic crate image I was able to find on google.

I was able to use the UV tool to unwrap and place the image on top.



Low Poly Wheel

This is a final low poly I made of a wheel using a cylinder and the extrude tool within Maya. I then added the texture I had created to have this final end product. This can also be found on my sketch fab via this link: [https://sketchfab.com/3d-models/low-poly-wheel-](https://sketchfab.com/3d-models/low-poly-wheel-2d032c15158a4207852301003e5d4a58)

2d032c15158a4207852301003e5d4a58



Barrier Model

This is the final created model of my barrier which I will use in my game I built it using a basic cube and the extrude tool and then rotated to create the ripples and also used quick draw tool to create sections. I have also uploaded this model to Sketch fab
[https://sketchfab.com/3d-models/barrier-model-](https://sketchfab.com/3d-models/barrier-model-e3cbb207cabd4d3e9860164da67142c5)

[e3cbb207cabd4d3e9860164da67142c5](https://sketchfab.com/3d-models/barrier-model-e3cbb207cabd4d3e9860164da67142c5)



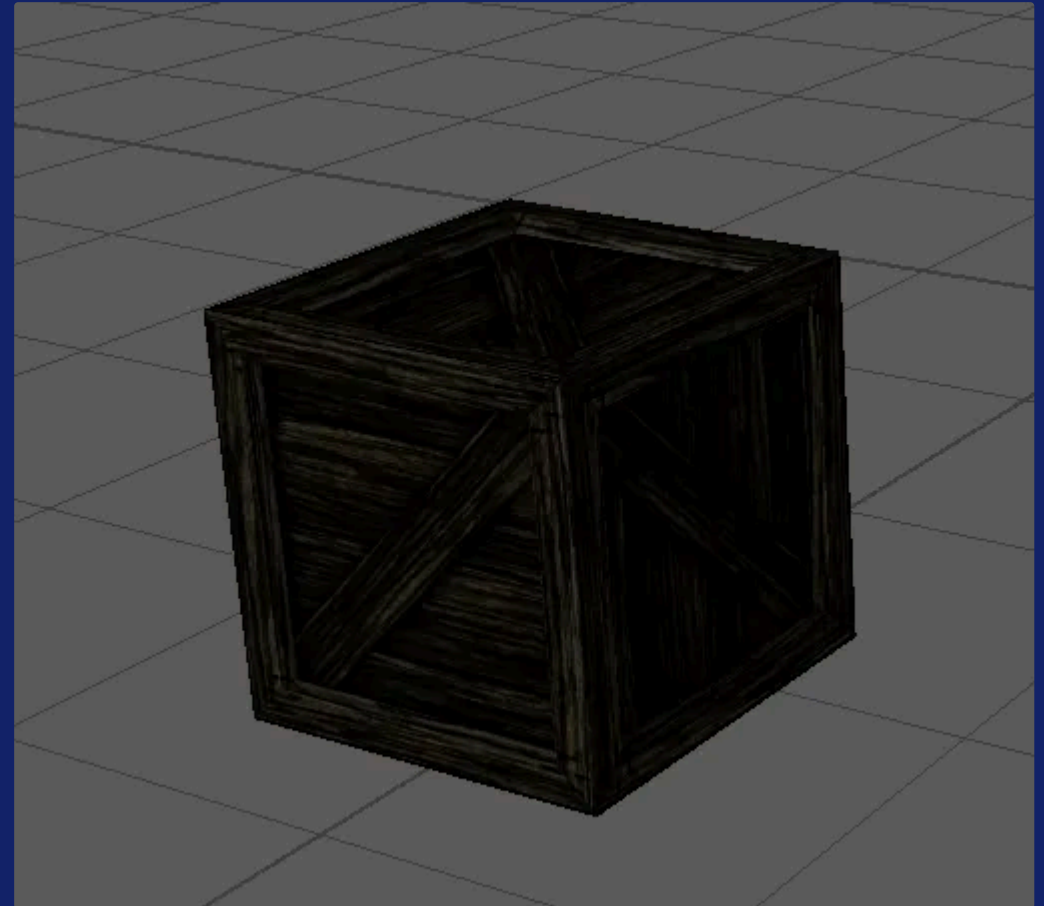
Wooden Crate Model

I have been able to make this crate from a simple cube on Maya, I was able to add an offset using the extrude tool and then extrude the offset inwards.

Then I made the crate texture in Photoshop using the UV texture map I had previously created and apply this to the crate shape I made using a standard surface.

This final product can be found on sketch fab via this link:

<https://sketchfab.com/3d-models/wooden-crate-232a59255abb4c7291787e9c1e1eadd4>



Traffic Cone

This is my final finished traffic cone model I have created using nothing but a simple cylinder and the extrude tool along with the move tool in Maya.

This can also be found within my sketch fab via the link:

<https://sketchfab.com/3d-models/cone-b4ad84c1730e4938b616d142054a8169>



Barrier 2 (Updated texture)

I redesigned the texture in substance instead of photoshop and uploaded it to sketchfab: <https://sketchfab.com/3d-models/low-poly-metal-barrier-substance-texture-fa656fd58251460397a33ae91961ea24>



Cone 2

This is the second cone which I lengthened the first one in Maya and then textured the uv unwrap in substance instead of photoshop, and I have uploaded this to Sketchfab

<https://sketchfab.com/3d-models/low-poly-cone-65b0190afdd34a9cac1bde444502c32f>



Low Poly Wheel 2

I used the already created model and re-textured it using substance and have also uploaded this to sketchfab:

<https://sketchfab.com/3d-models/tyre-model-a1bb286810884ef084d8cb9bbfcb1029>











Mood boards

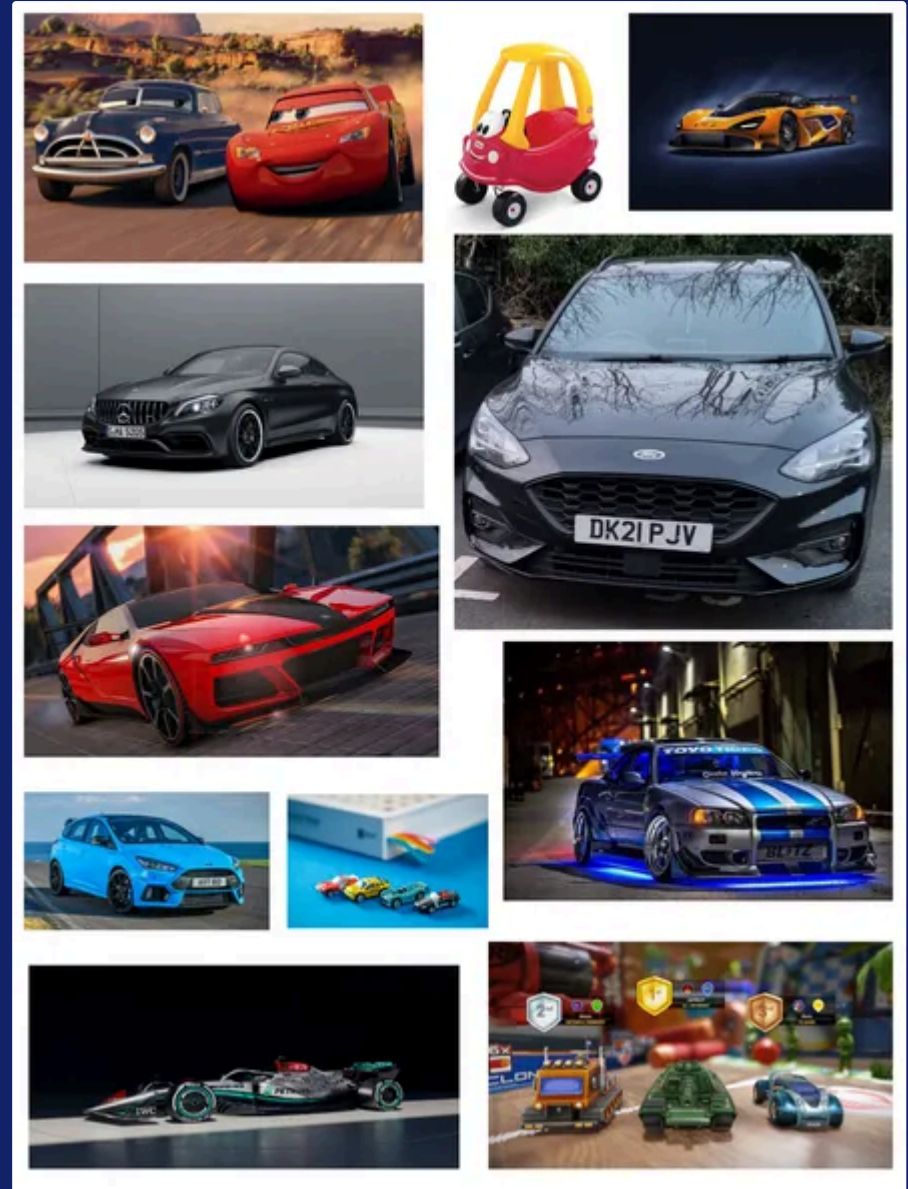
what is a mood board?

A mood board is a collection of images that are thrown together as a collage onto a blank canvas to show different types and styles of the object or theme that you wish to see or look at to use as inspiration for a project of your own that is relating to that mood board.

Cars and Micromachines

Mood Board:

These are just a few ideas I have been able to gather to give me some inspiration around micromachines and cars that I would like to build into my game.



Traffic Cones Mood Board

These are just a few ideas I have been able to gather to give me some inspiration around traffic cones and the textures that I would like to build into my game.



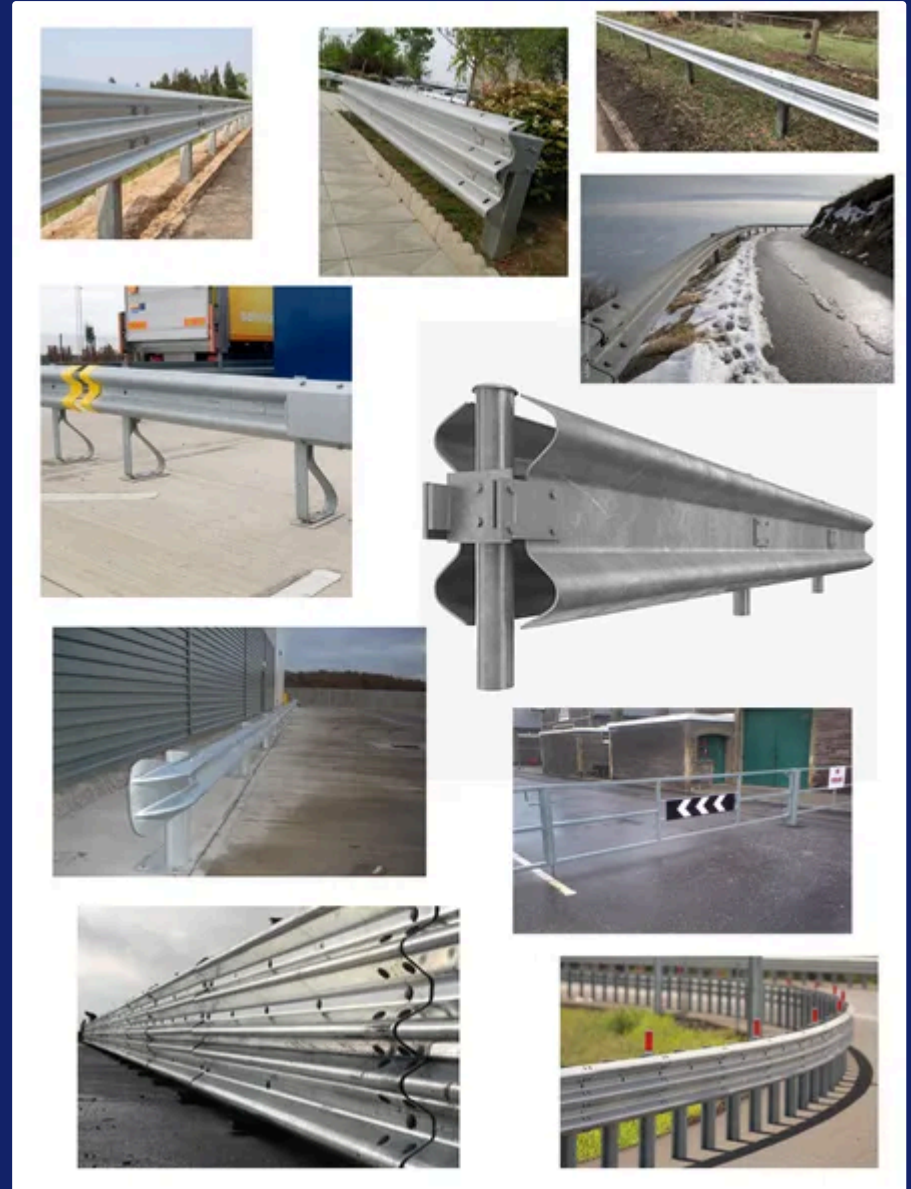
Tyre mood board

These are just a few ideas I have been able to gather to give me some inspiration around tyres and the different textures and angles that I would like to build into my game.



Barrier mood board

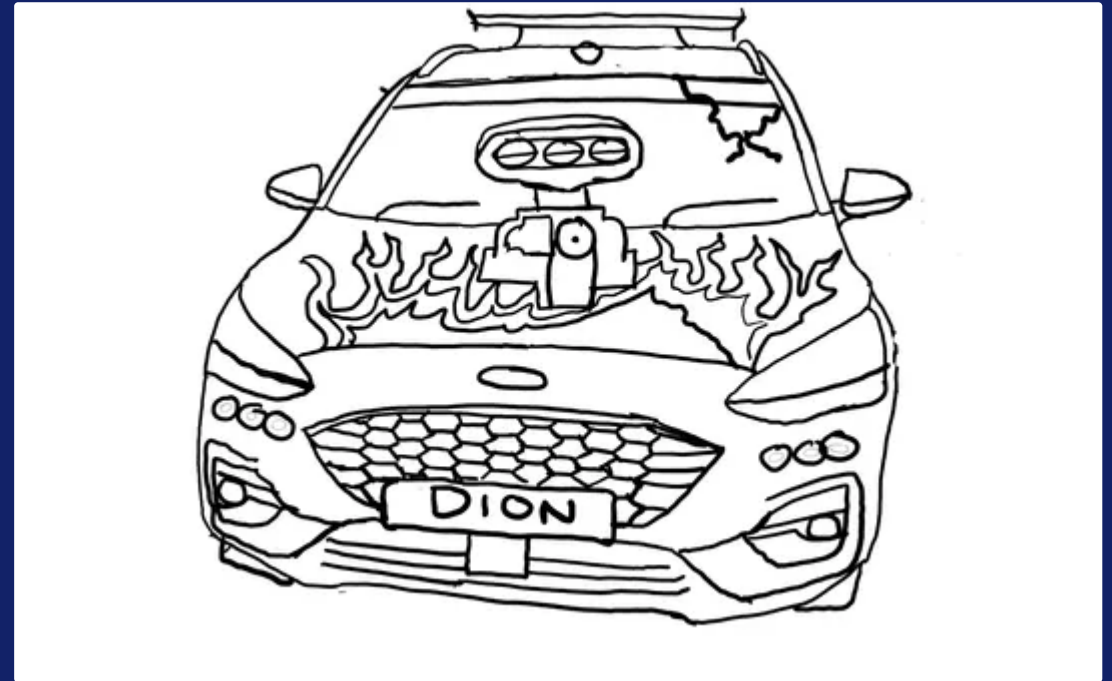
I used some images of the internet and placed them into photoshop to create a mood board of road barriers to help me create a barrier concept and model for my game.



Concepts drawing

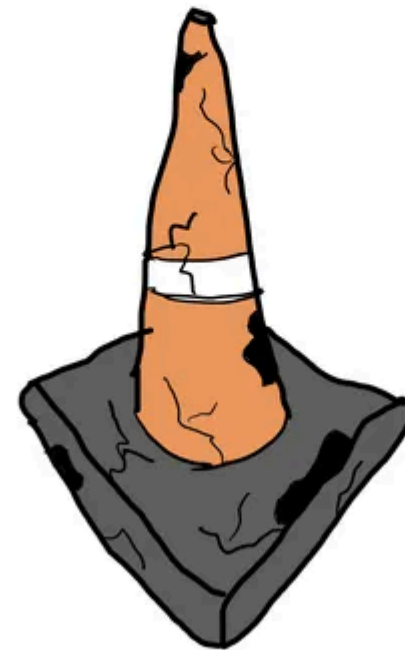
Micromachines Car Design

I Used the image of my car off my mood board in photoshop on the drawing tablet to get the outline of the car and then I added a few extra features to the design to create this idea for the car to be used in my game.



Damaged cone concept

I took my cone concept back into Photoshop and added some wear and tear and made it crooked to create a damaged cone concept i also lowed the saturation of the orange to make it look weathered.



Car concept

I used Procreate and created a box to draw the car concept in and freehand drew this car concept for my game and then added some colour. While using my car mood board as reference



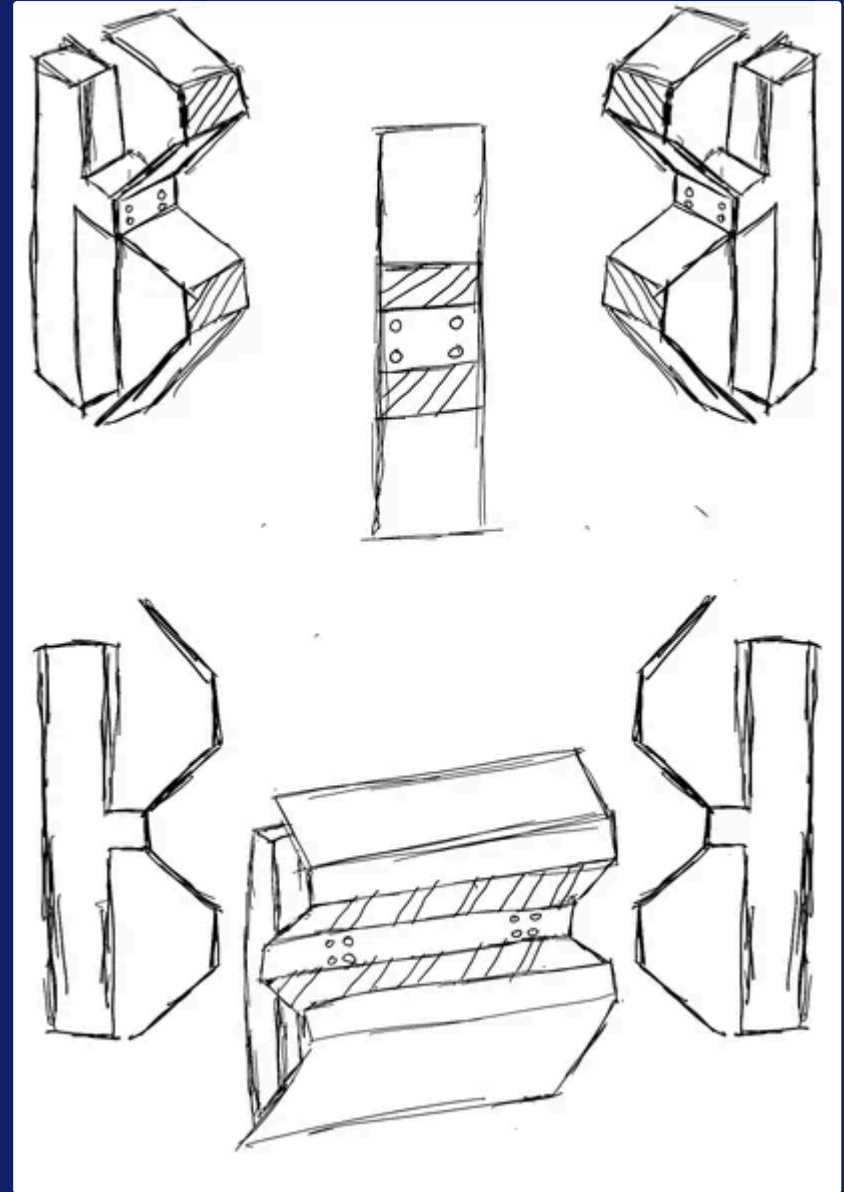
Rubber Tyre Concept

I used my mood board as reference and used a box in Procreate to freehand draw a concept of a tyre for my game and then added colour.



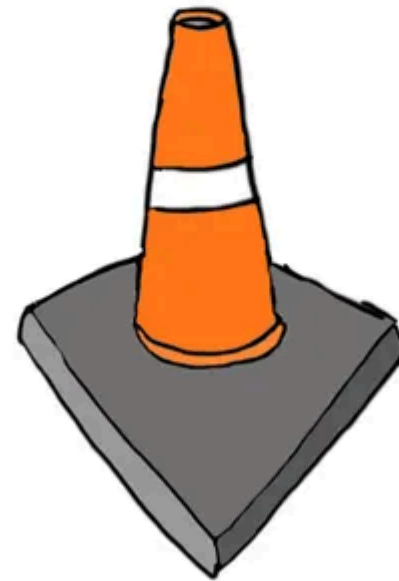
Barrier Concept - 1

I have drawn a barrier concept from many different angles to show off what the model would look like.



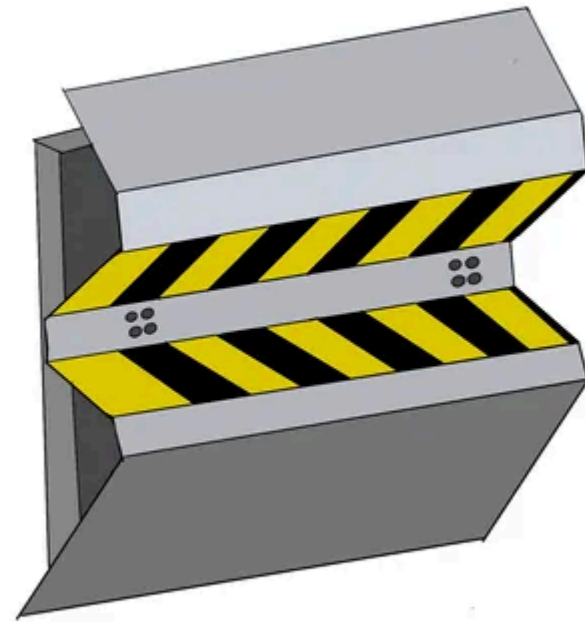
Traffic Cone Design

Using my mood board for inspiration. I used Photoshop to create a traffic cone design for my game, I made a skeleton first using Line tool then used a drawing tablet to draw the cone over the top and added some colour.



Barrier Concept - 2

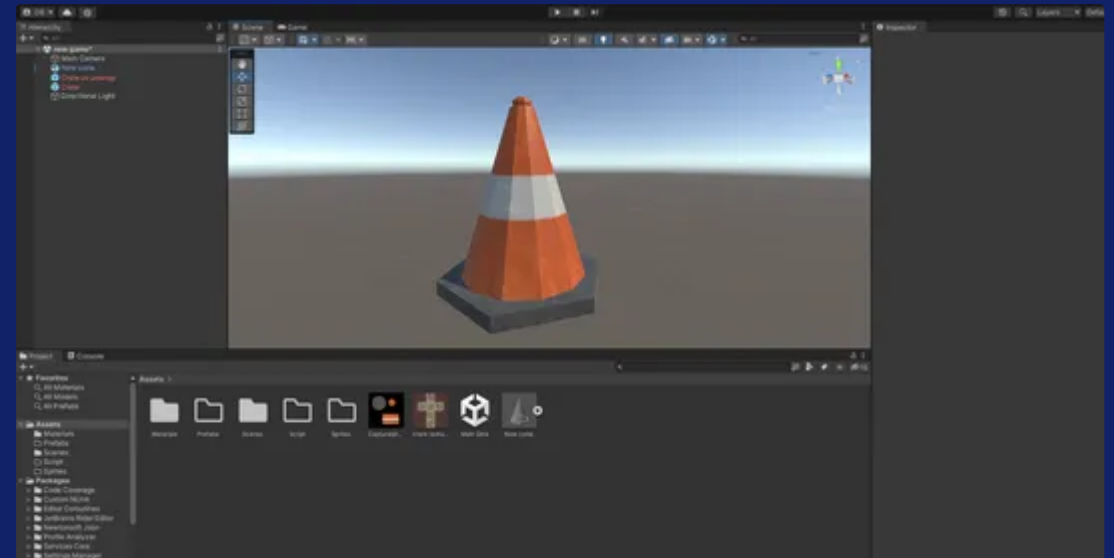
I have taken the basic drawing and have drawn over the top and straightened it up and added colour using procreate to create this completed barrier concept.



Learning Unity and project

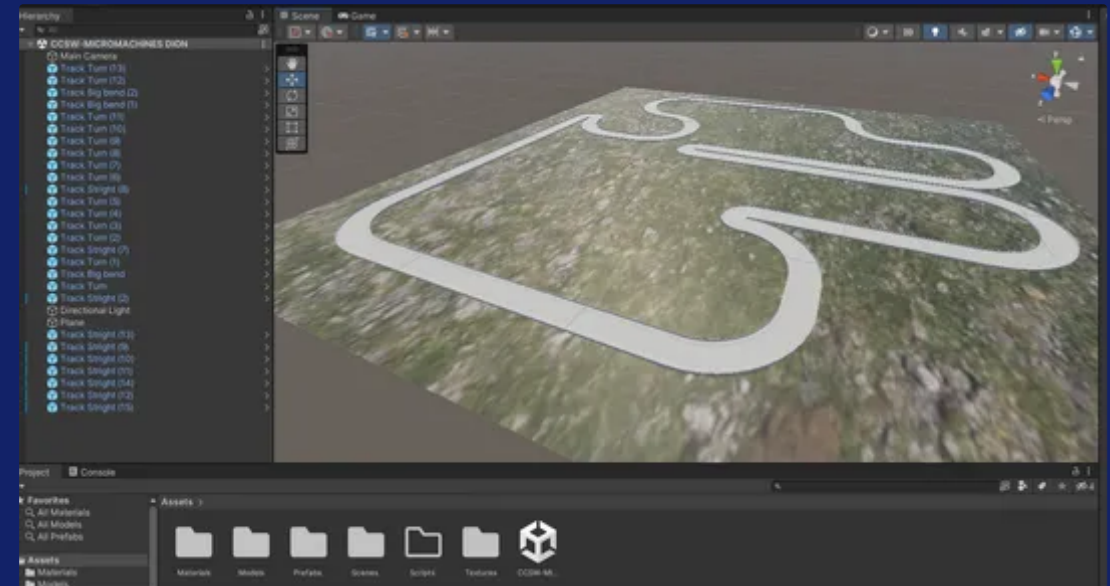
Learning Unity

I started getting familiar to using unity and adding and importing a cone model I created and added the texture to it also.



Micromachines Track

I created



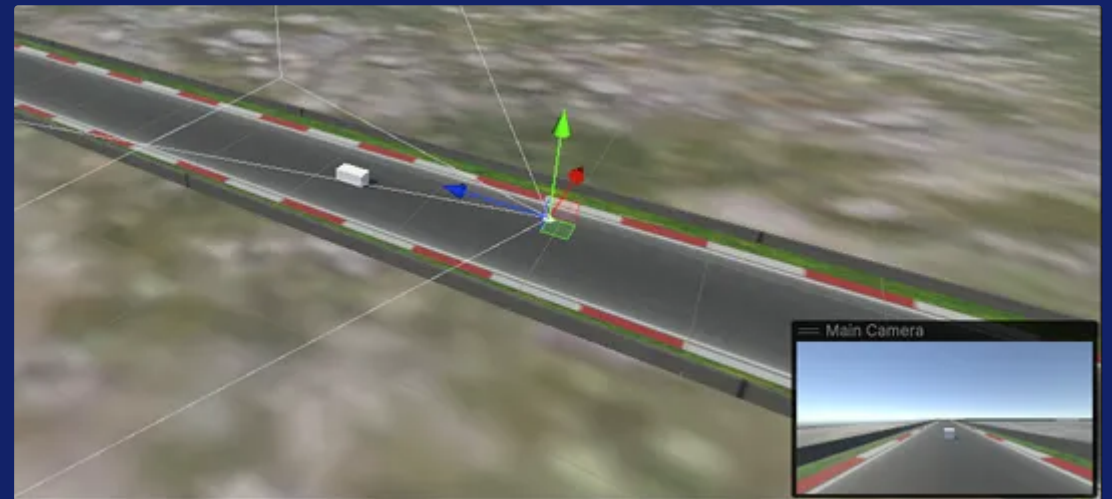
Base object

I placed in an empty object to represent where my car would be in the final game i gave it properties and and gave the track solid gravity properties.



Camera

I adjusted the main camera position and height to be at the position of the car and it shows how it will look in game.



Player Physics

I started with a cube and resized it and placed it into my track. The track pieces had a mesh collider on so the cube will not fall through. Then I moved the main camera into the vehicle base too and moved it into the position for the block then added a camera script to the main camera so that it would follow the vehicle base and the cube. I added a child object to the cube for each 4 of my wheels and added a wheel collider to each for corners of the cube to line up where my four wheels would be. After that I then added player controls to the vehicle base using a player controls script, which then allowed me to add speed and turning and movement to the cube and allow it to move around the



Track texture

I imported the track texture into the texture folder and dragged it onto the track



END OF MILESTONE 1



This is where my First Milestone ends of my Micromachines Project

Speed Modeling practices

Speed Modelling - Thunderbird Two

This again was another speed model challenge of the thunder bird two. I started off with a basic cube and was able to extrude and bevel using maya.

Again I was under pressure from having only 20 minutes to model, unwrap and texture.

With that in mind I am pleased with this model as to the details with the wrap of the yellow lines and the windows.

If I ha more time I would have added more detail to the windows and lights adding a reflective texture and adding more of a metallic texture to the body of the ship.

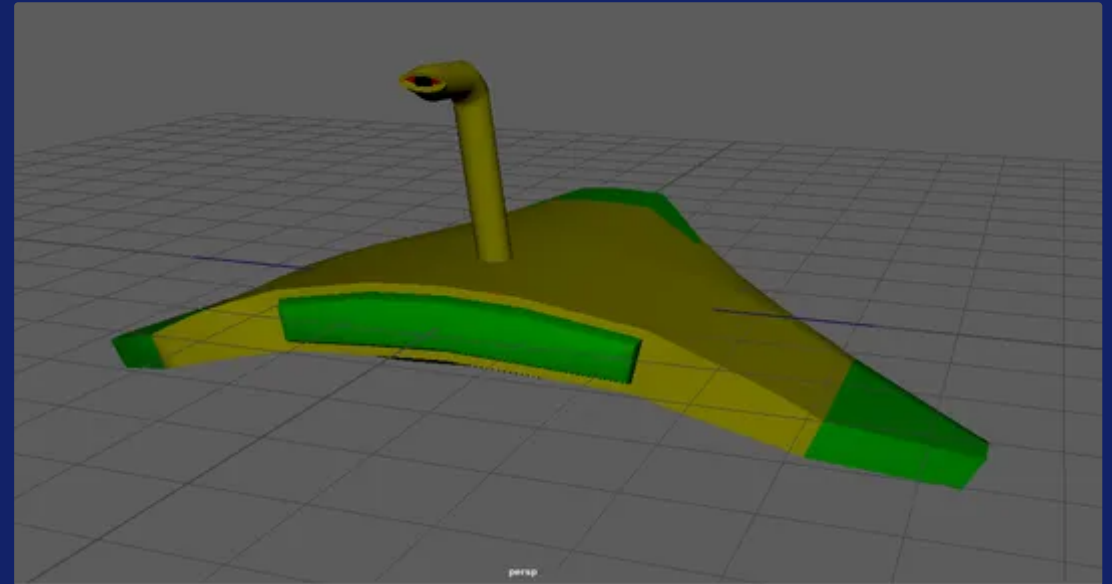


Speed Modelling Challenge - War of The Worlds Spaceship

This is my 3D model of the spaceship from the 1953 War of the Worlds, again this was a speed challenge but this one was particularly to help improve my modelling speed.

With this model I had just a set time to model and colour the faces of the model, I started with just a basic cube and was able to flatten the cube using the move tool and then extrude the faces to create the bended shape like the original model. I was then able to add sections to each end of the model by using the quickdraw tool.

Then for the snorkel eye piece I used a cylinder and was able to bend it using the bend tool and extrude it up for the eye.



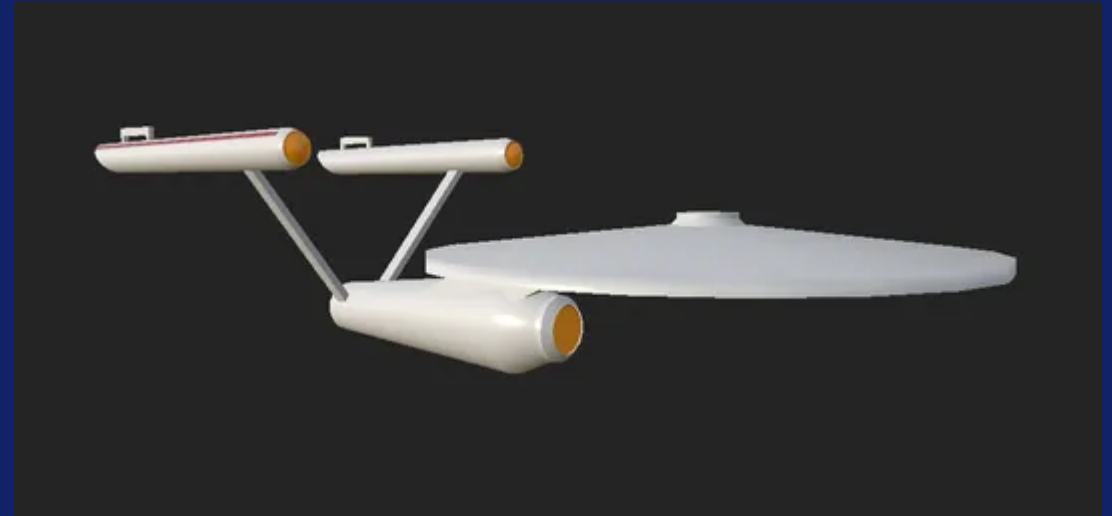
Speed Modelling - USS Enterprise

This again is a speed challenge where I was put under pressure with a set time to complete the model.

For this particular model I started off with a cylinder to make the main body and was able to use the stretch/resize tool to create the flattened effect.

I then used additional cylinders to then create the rest of the main body and the engine thrusters, again using the resize tools to adapt their sizes.

I then used substance and used a plastic texture to change the colour of selected faces, this again is how I was able to give certain areas orange faces and some white.



Speed Modelling - Alien APC

This is a speed model challenge of the APC from Alien.

For this model I was put under pressure as I only had 20 Minutes to model then a further 20 minutes to unwrap and then 20 minutes to texture.

I started with basic shapes and used the extrude and bevel tools in Maya to adapt the shapes into the basic model. I then used the UV to unwrap the model to then add a texture later to the model to develop it further using substance. This was the final product after using just basic cubes and adapting the cubes using an image for reference.



Speed Modelling Challenge - Battlefield 2042 Tank

This again was another speed model challenge where I was asked to model a tank from the game battlefield 2042 game. Again for this model I started with a set time limit to practice my speed with modelling images from reference.

I started with a basic cube and again was able to extrude and bevel basic shaped to create the shape of the model.

I then was able to use substance to add textured details to the model and add my own name tag to the side of the model as shown above.

As I had some extra time left I added minor details to the lights and ladders on the model giving the metallic look to the



Modelling Evidence and better models and project models

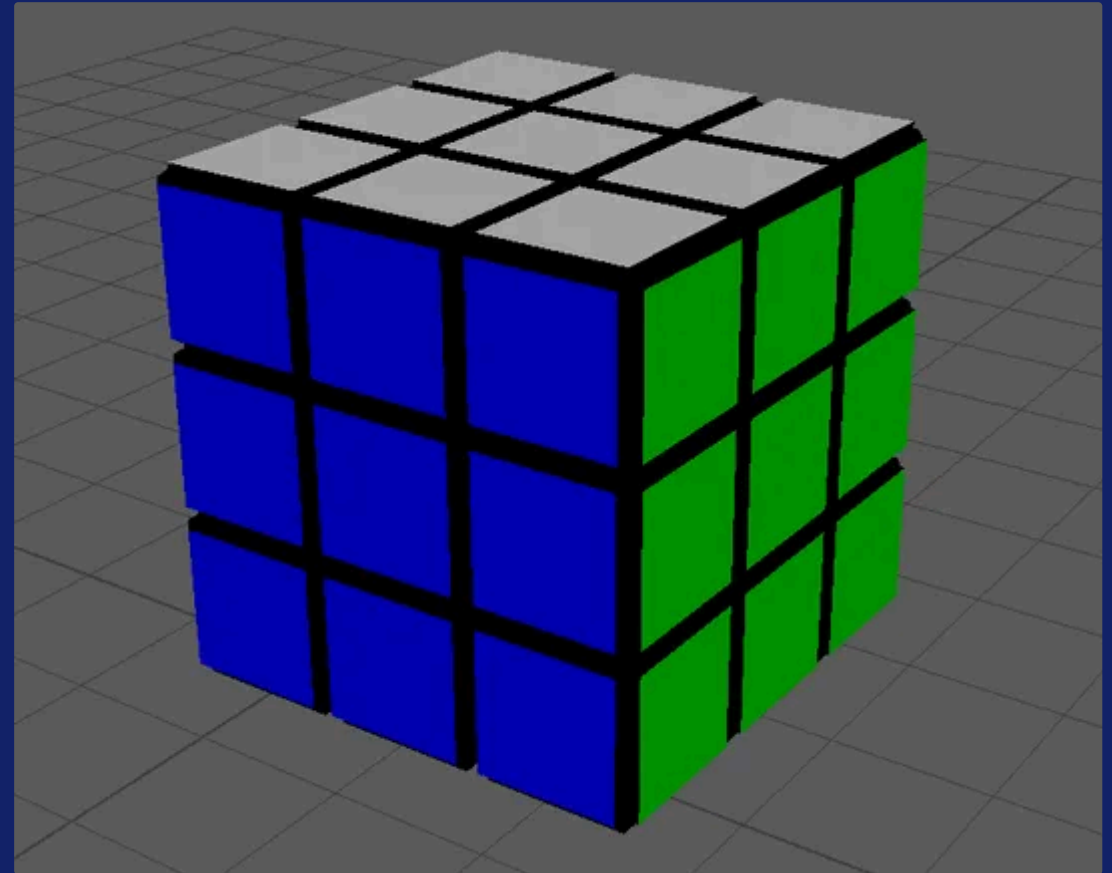
Rubiks Cube V2

This is my final model of the classic Rubik's Cube, for this model I started with a basic cube and was able to use the quick draw tool to draw the sections in the cube.

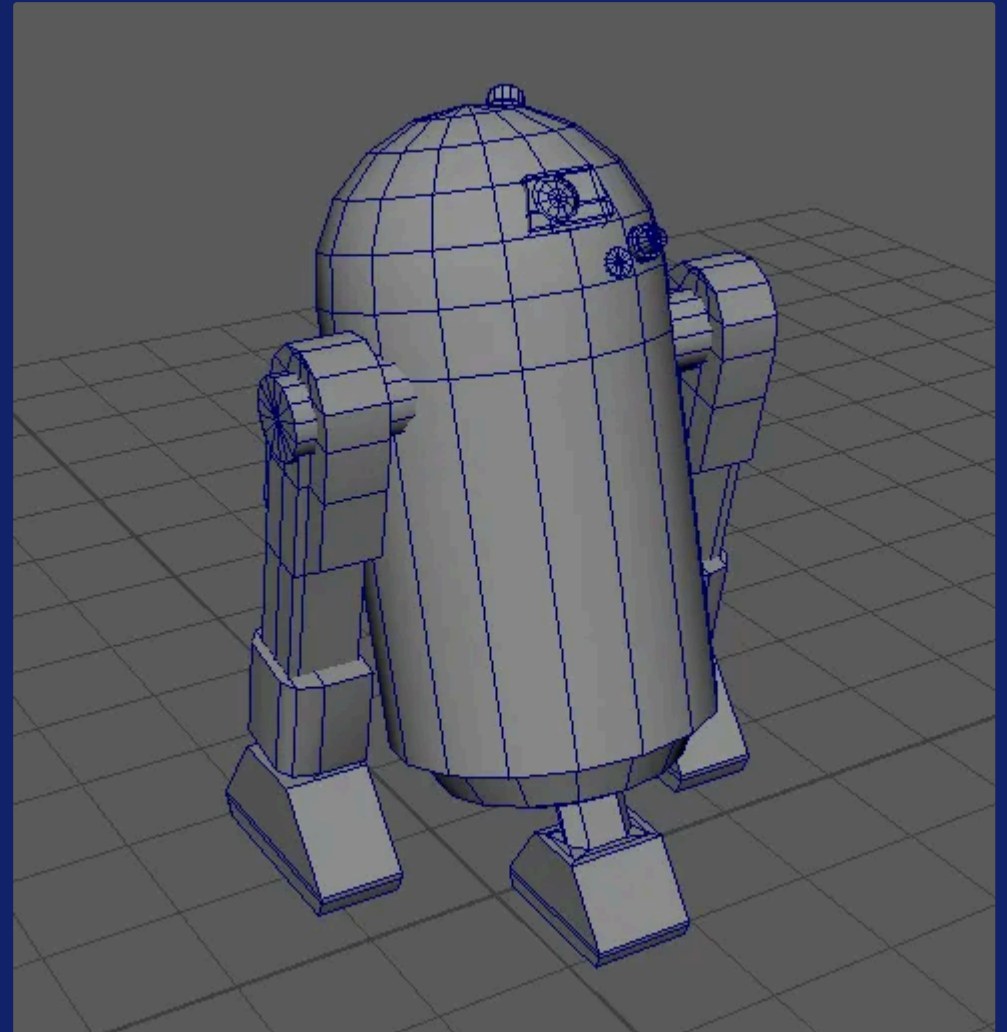
I was then able to take these sections and used the extrude tool to create the setback effect in the cube.

I was then able to add minor details to these sections using the bevel tool to create the slightly rounded edges.

I then applied the standard surface and changed the colour to the standard colours that are found on the Rubik's cube.



Low Poly R2-D2 (prop)



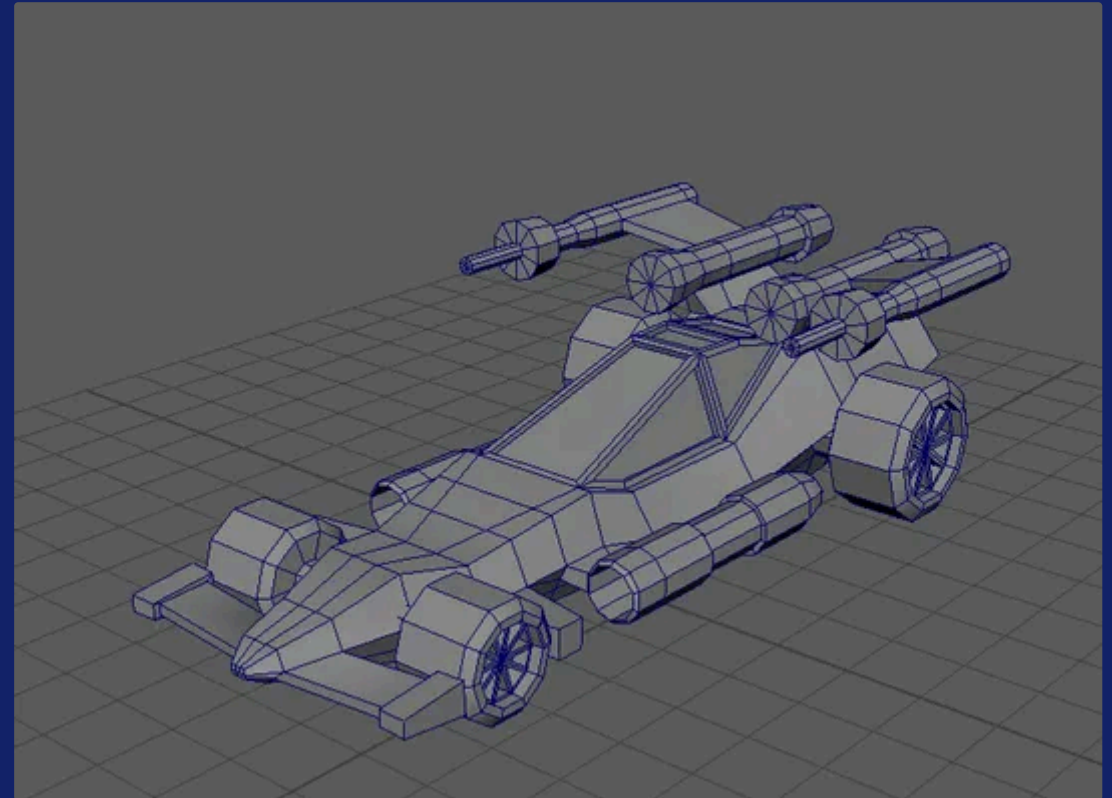
World of Warcraft Tower



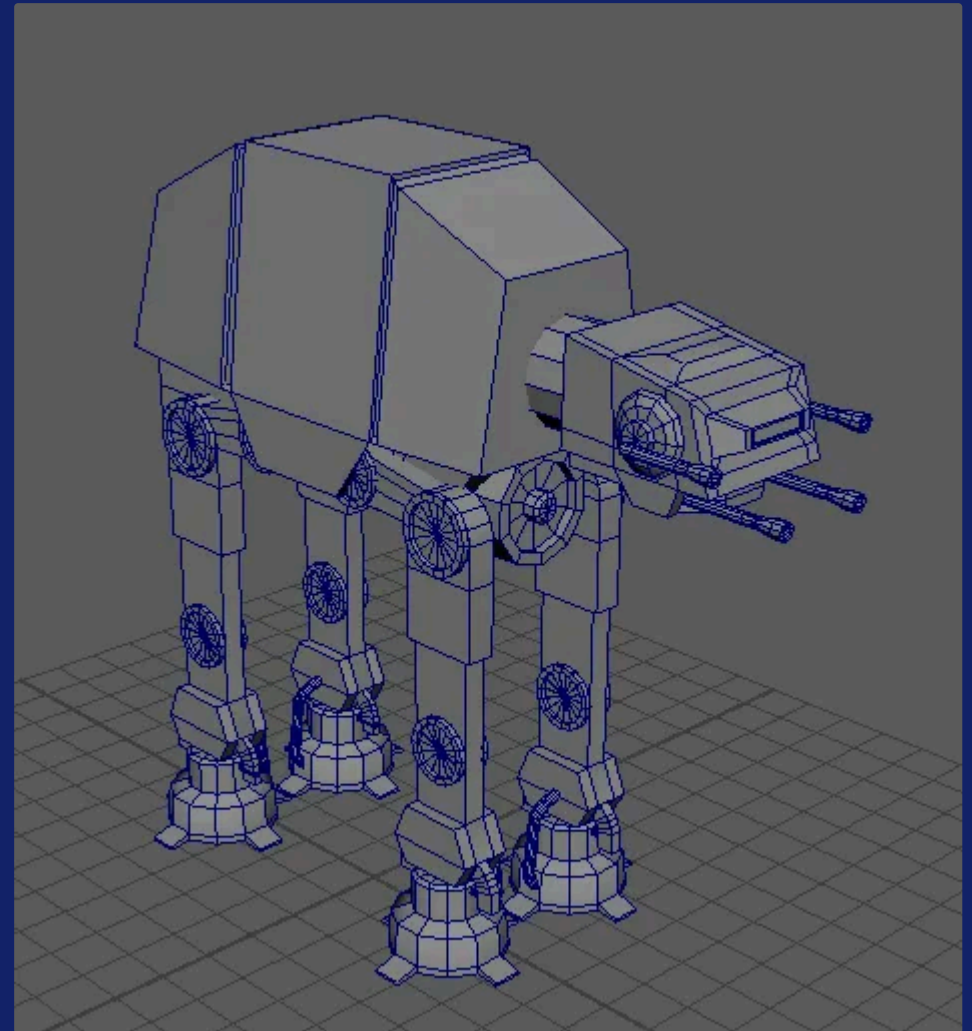
Low Poly Jeep (Car)



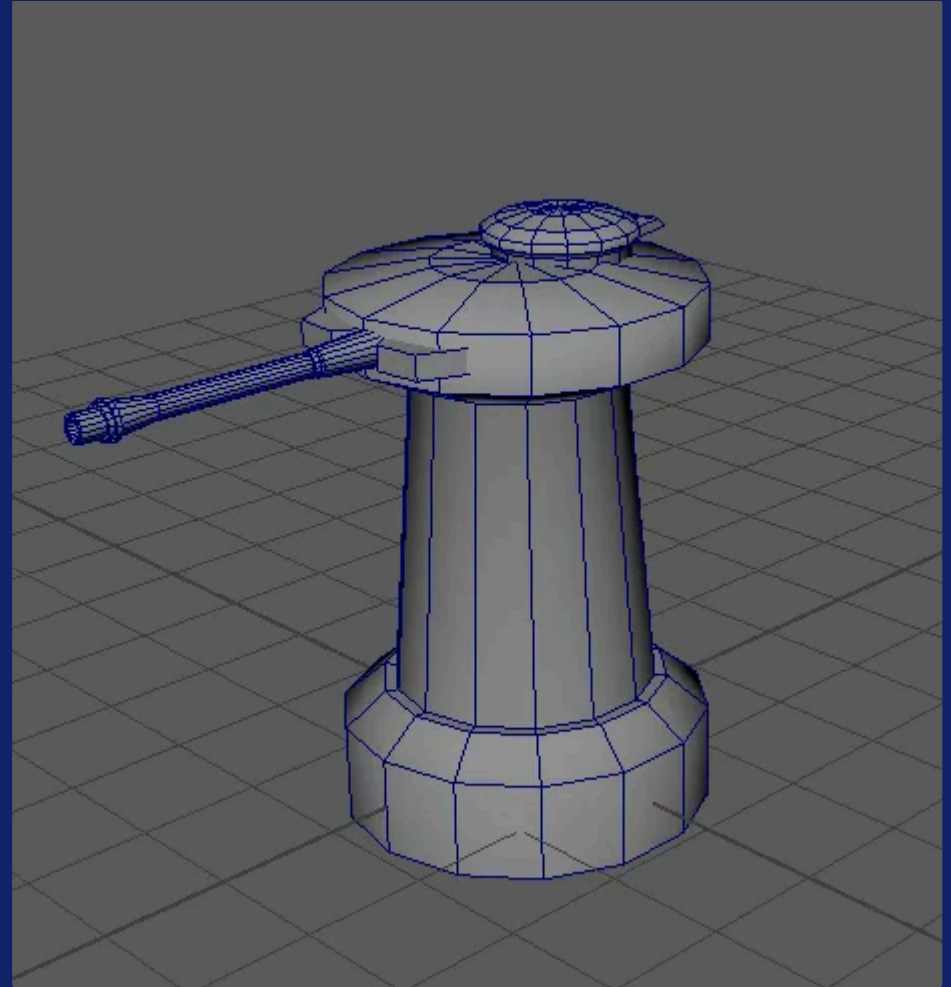
Low Poly X-Wing (Car)



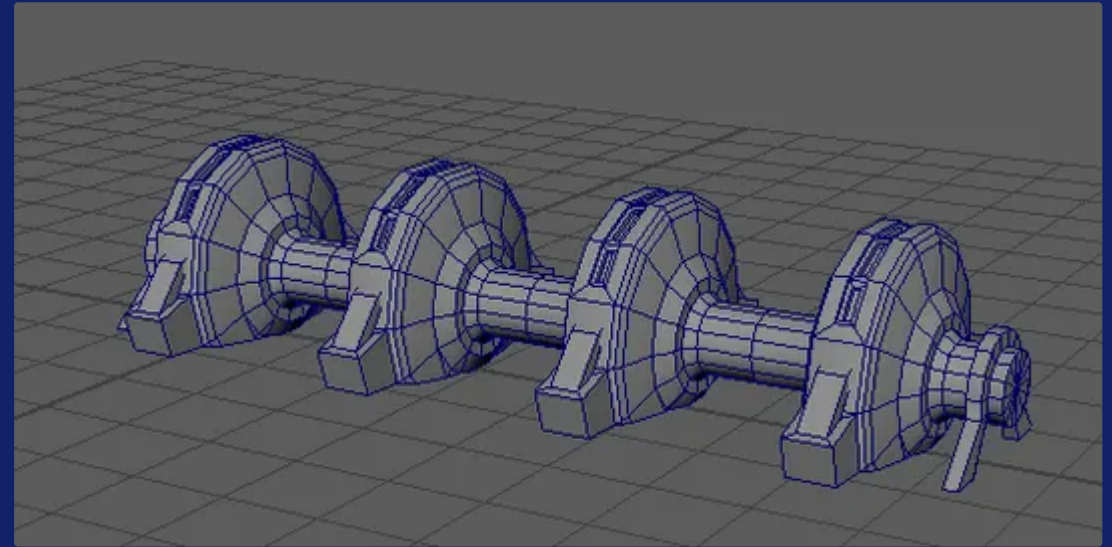
Low Poly AT-AT (Prop)



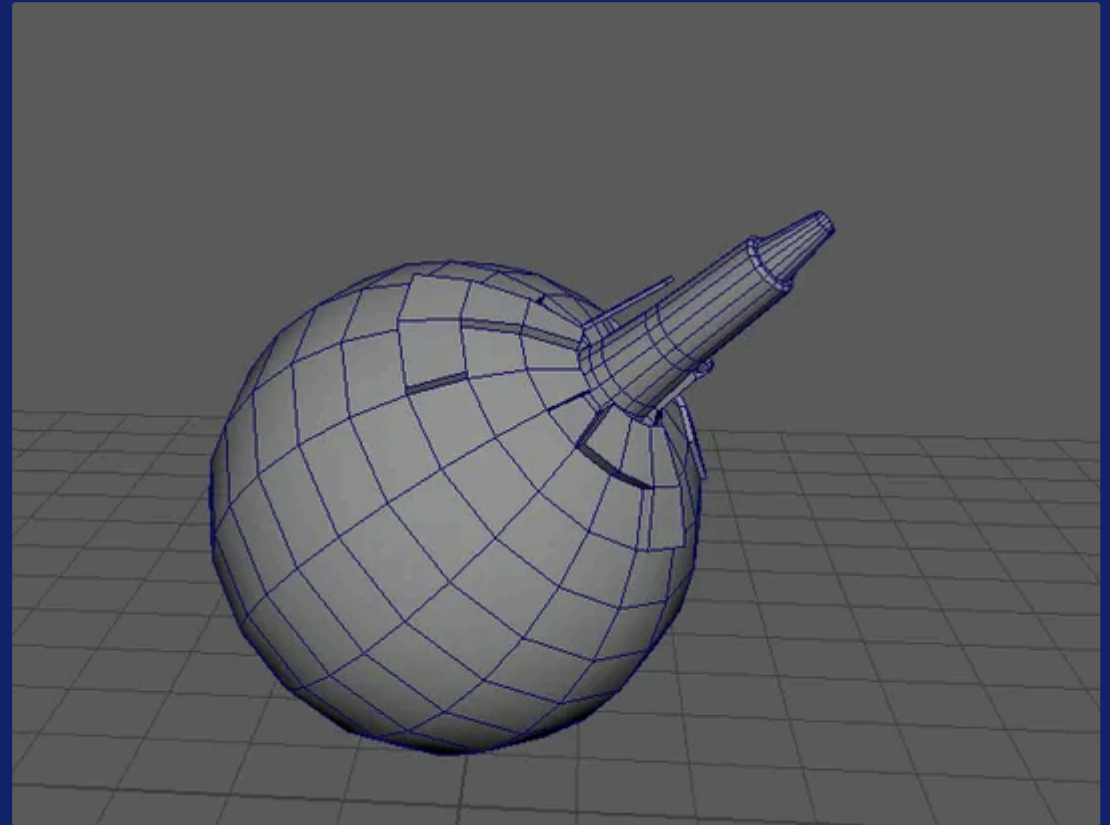
Low Poly Star Wars Hoth Snow Turret (Prop)



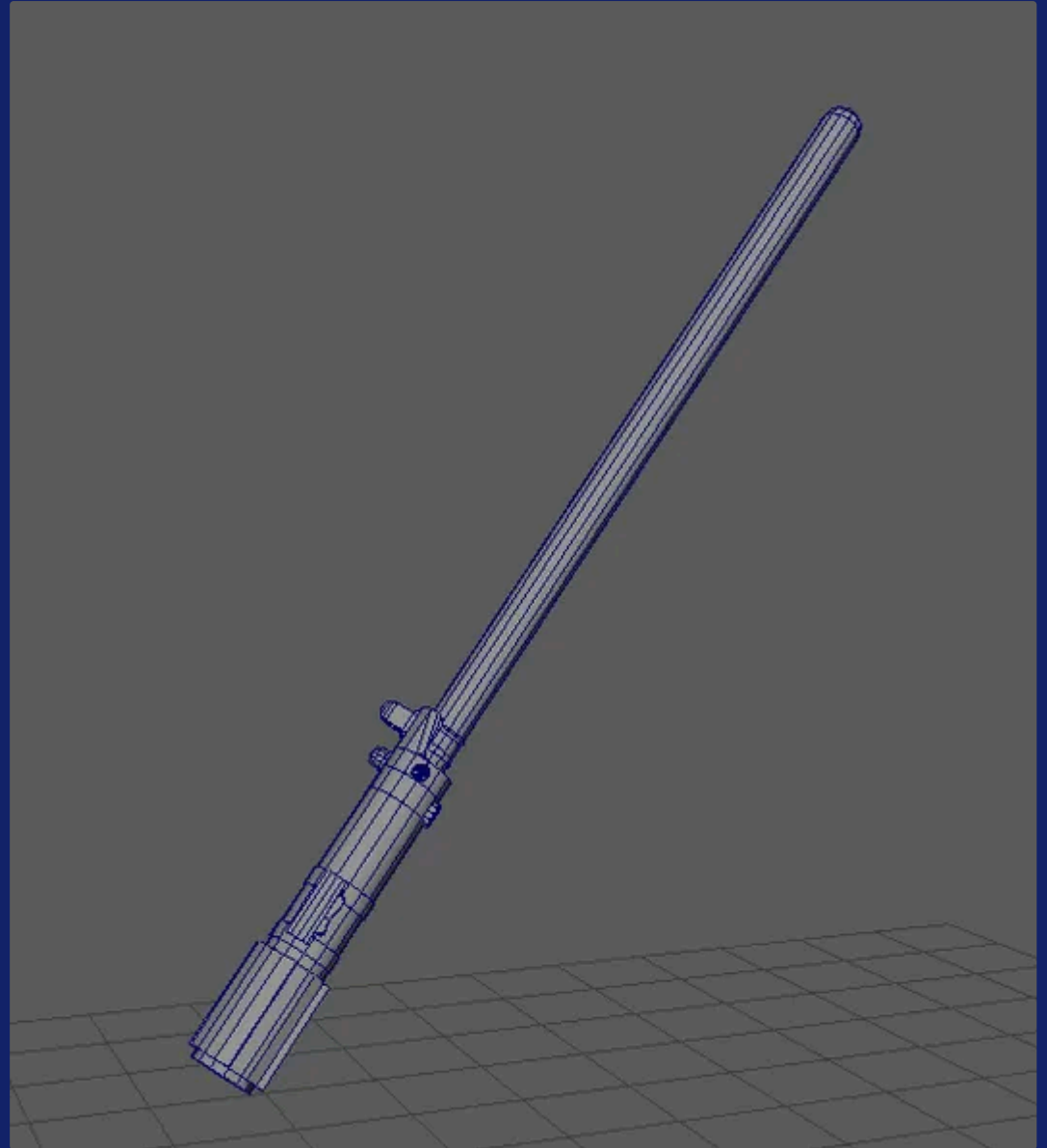
Low Poly Star Wars Hoth Generator (Prop)



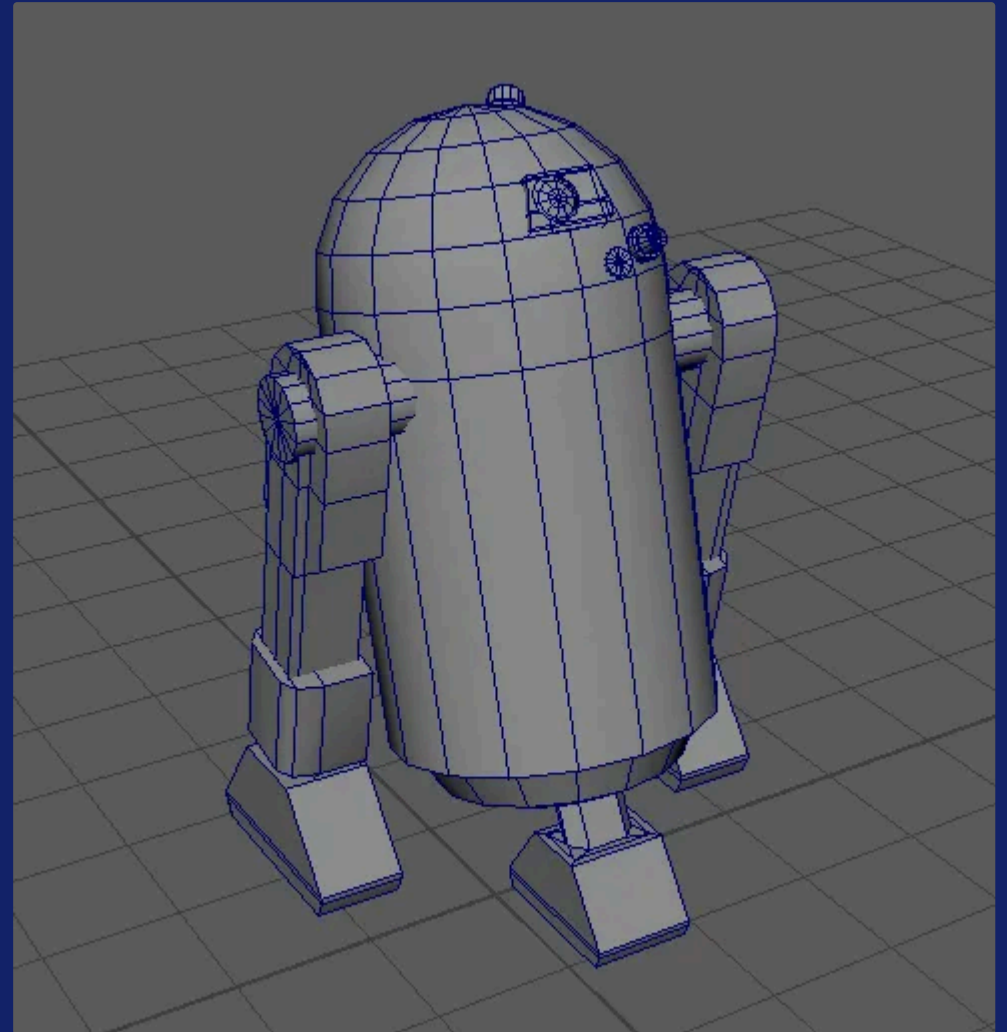
Low Poly Star Wars ION Canon (Prop)



Low Poly Light-Sabre (Prop)



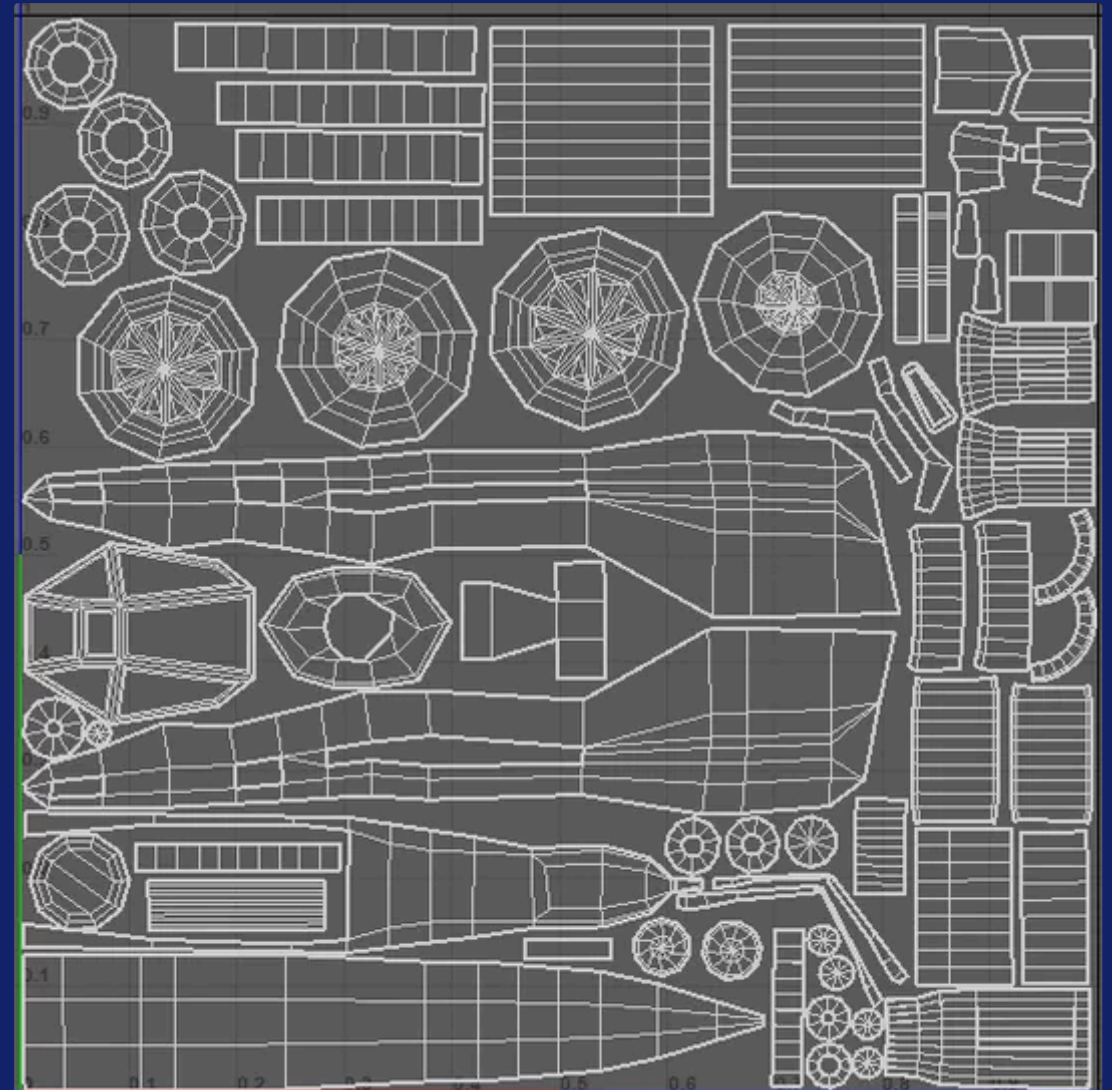
Low Poly R2-D2 (Prop)



UV Evidence

X-Wing Car UV Unwrap

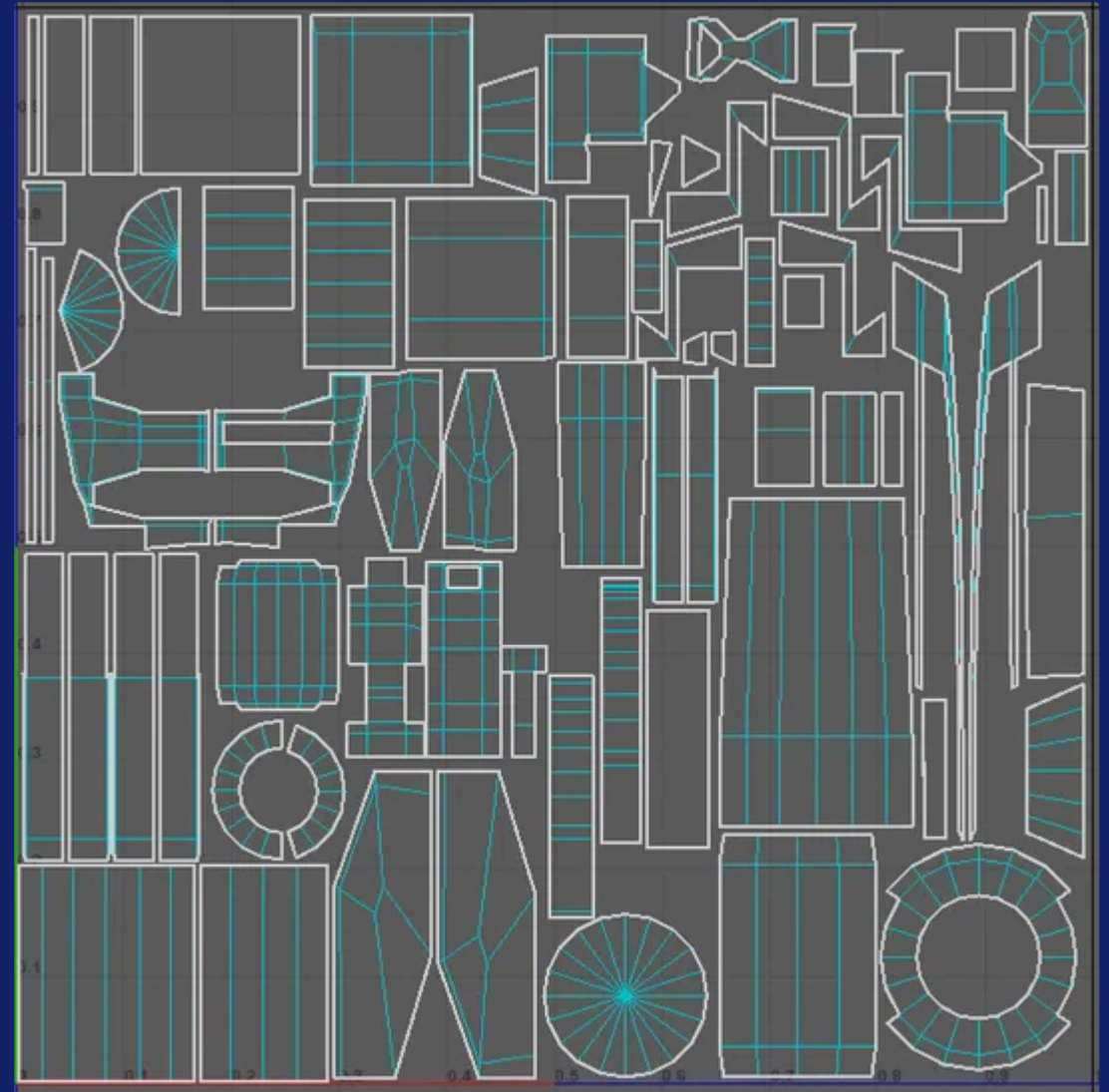
This is the UV unwrap of my star wars inspired X-Wing hot wheels low poly car model. In the UV editor in Maya is how I unwrapped it, This unwrap I had a few complex shapes that I had to cut and unfold. But with this unwrap I started with a camera based and started to cut and unfold the different shapes. I also had to rotate some so that they would unfold correctly, I kept on doing this until i fully unwrapped it and fit it all inside the square and I was happy with the unwrap so I went on to texture it.



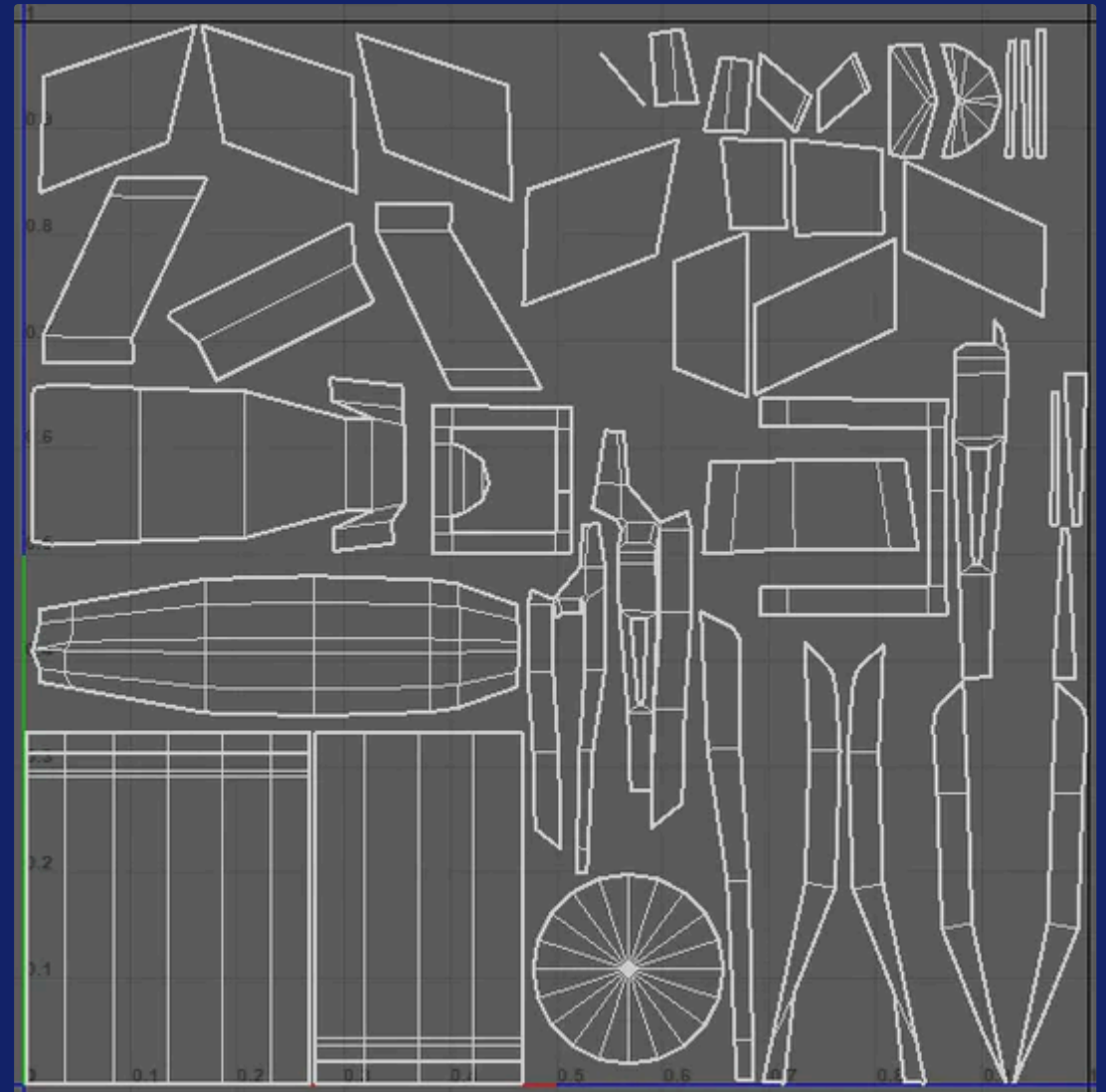
Jeep UV Unwrap



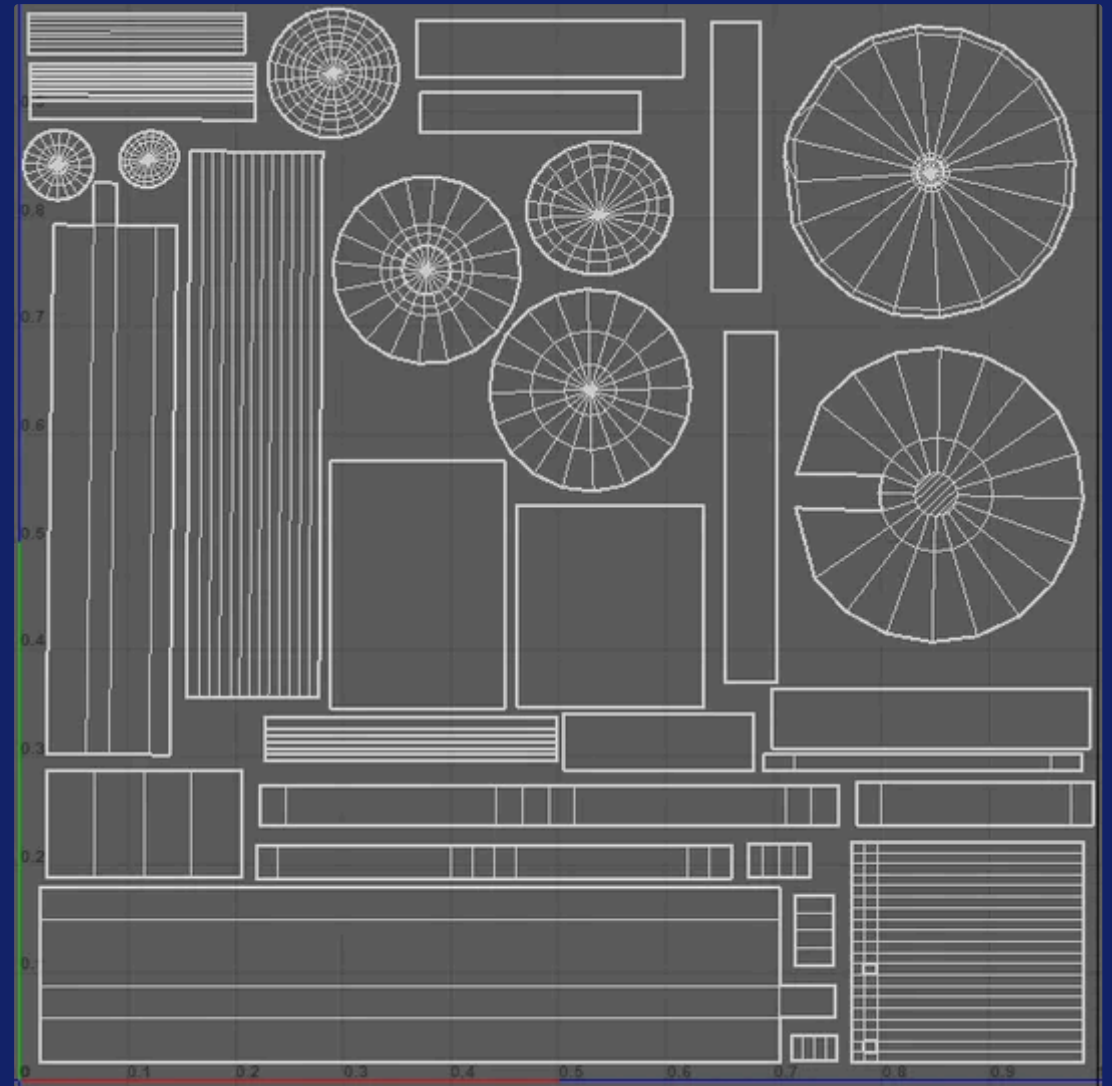
Speed Modelling - Alien APC - UV Unwrap



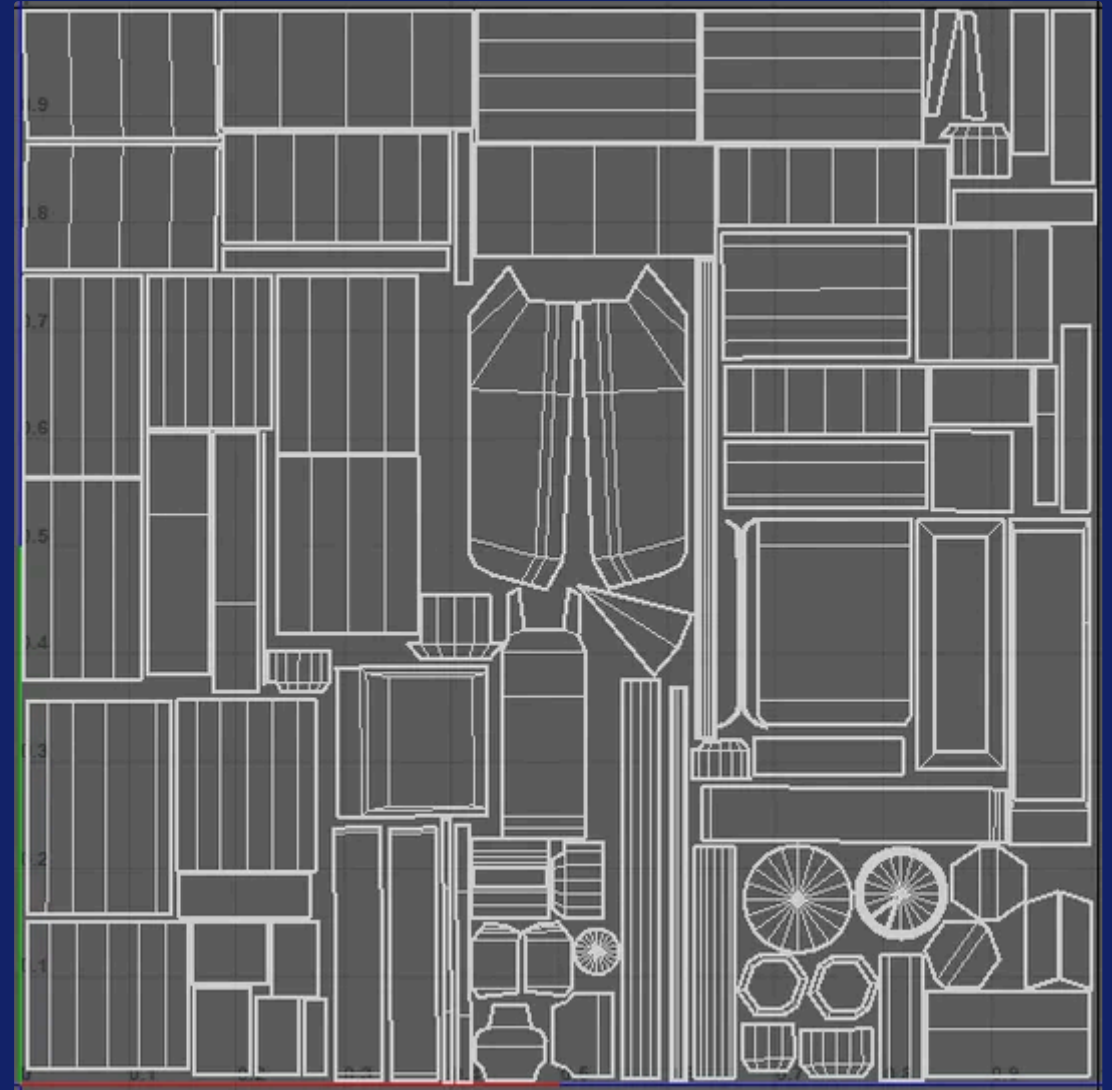
Speed Modelling - Thunderbird Two - UV Unwrap



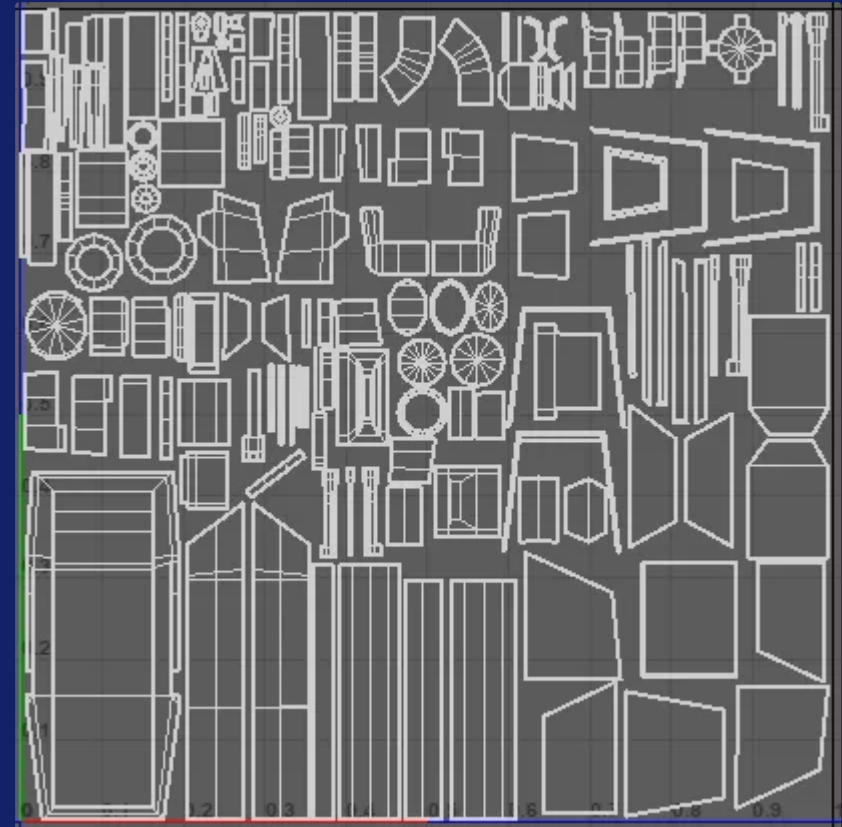
Speed Modelling - USS Enterprise - UV Unwrap



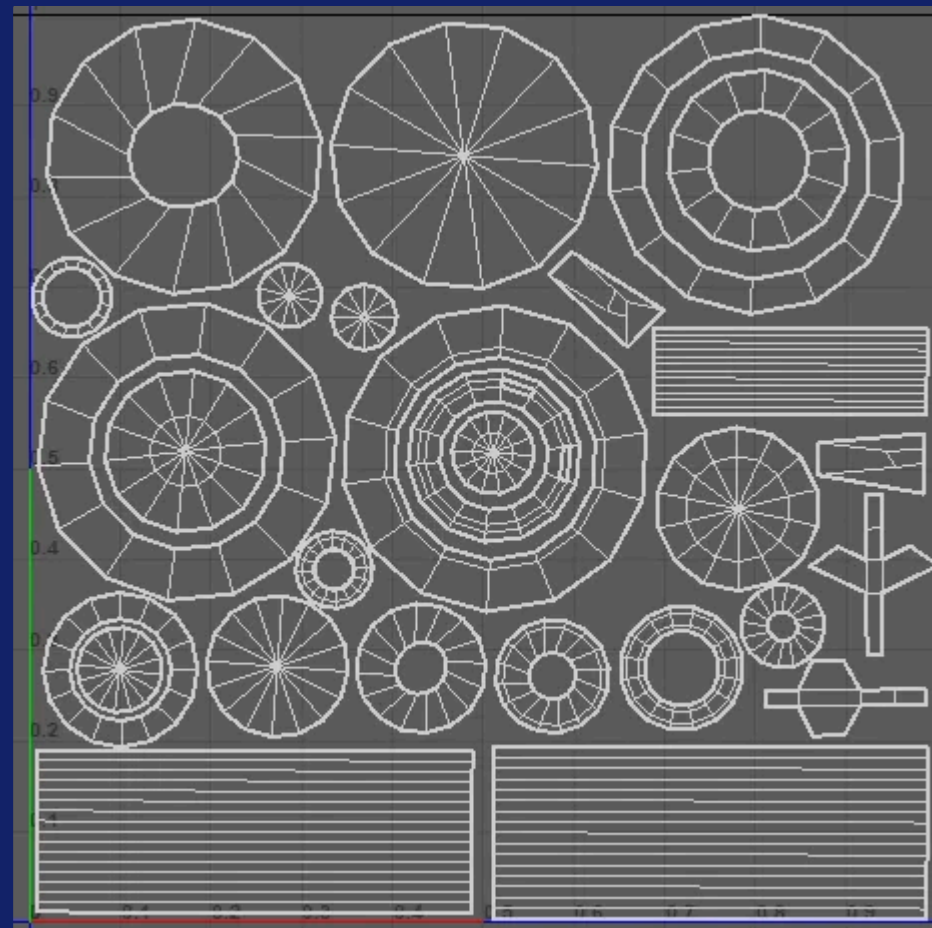
Speed Modelling Challenge - Battlefield 2042 Tank - UV Unwrap



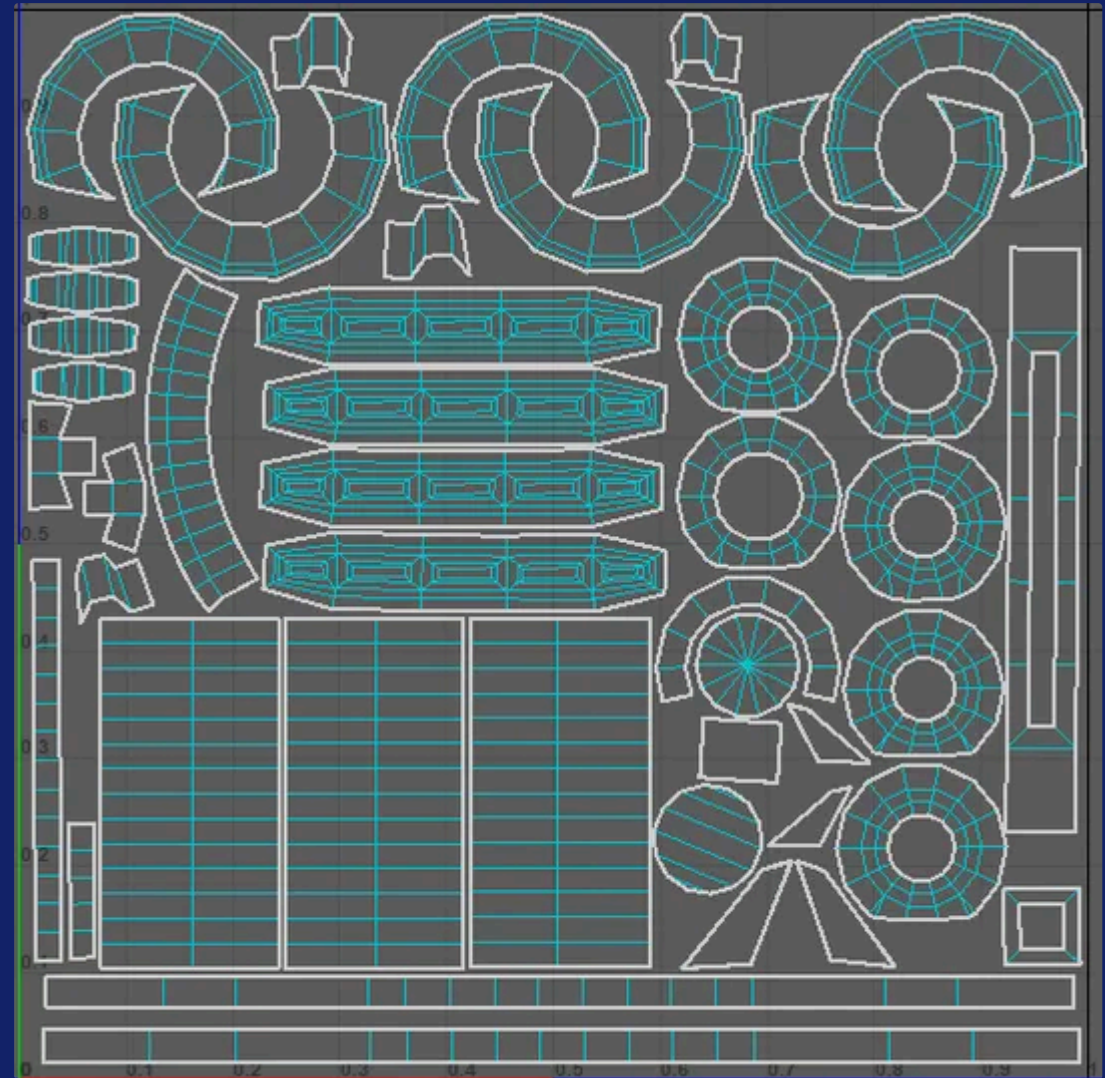
AT-AT Prop UV Unwrap



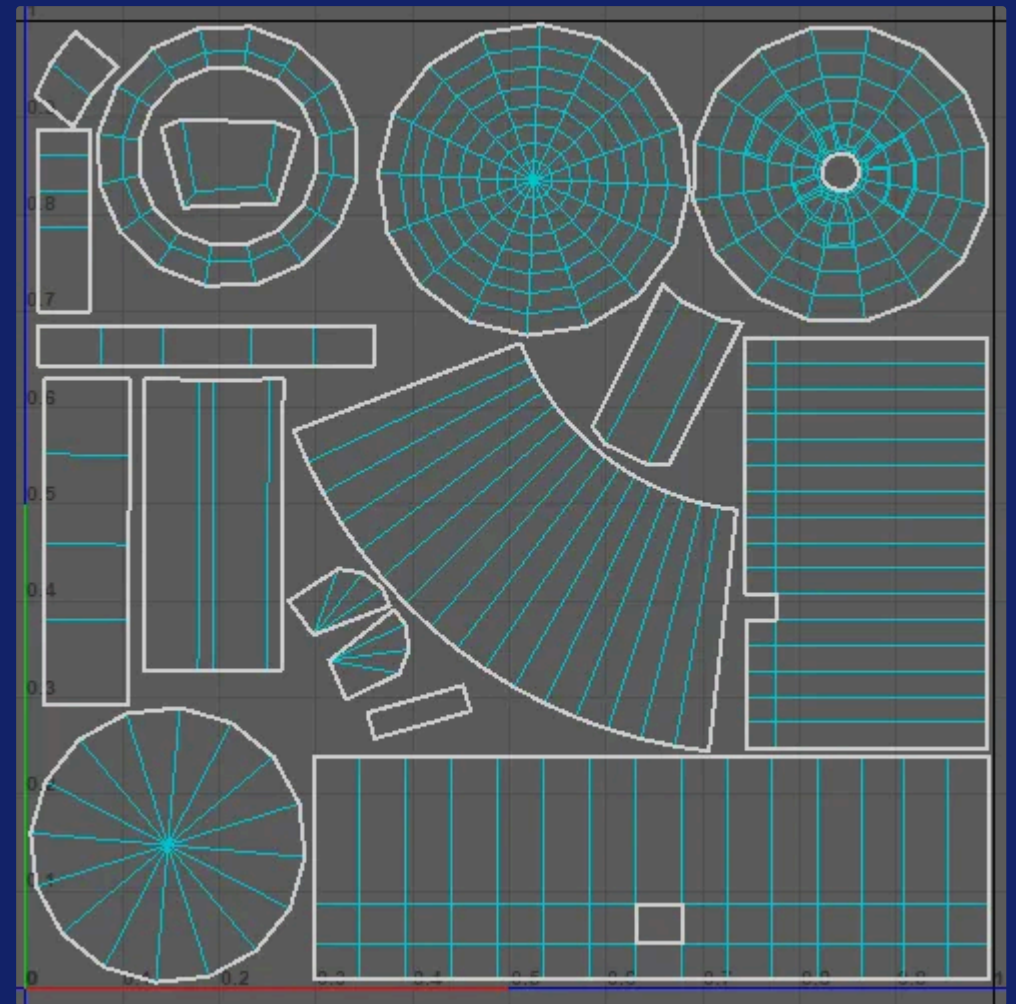
Turret Prop UV Unwrap



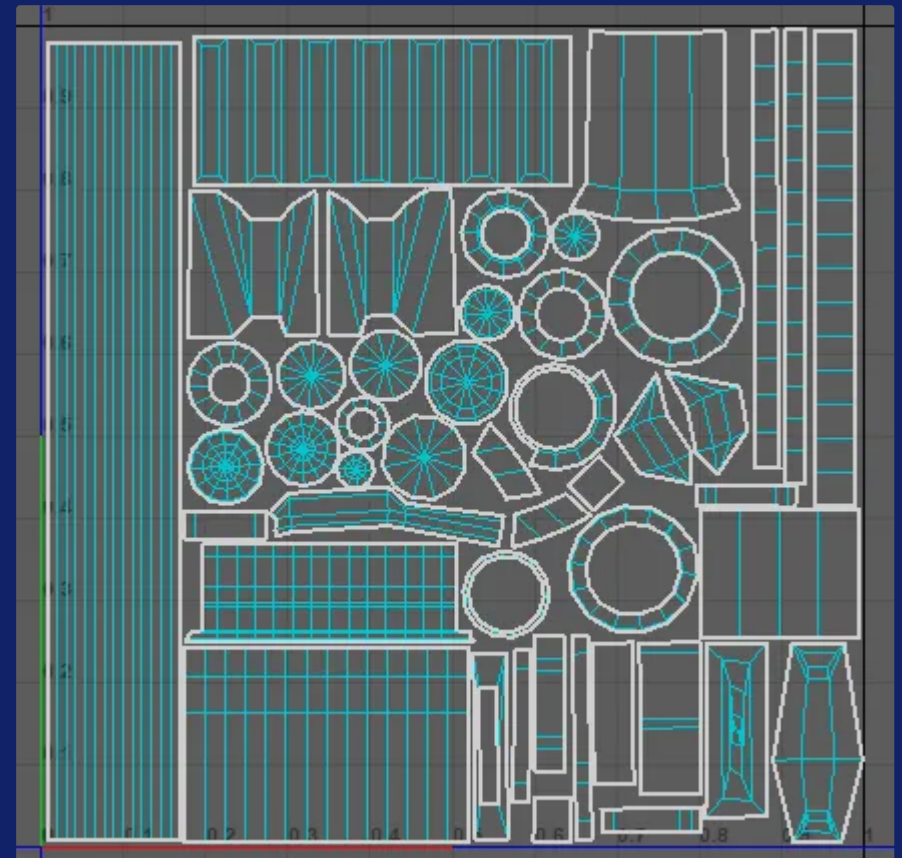
Generator UV Unwrap



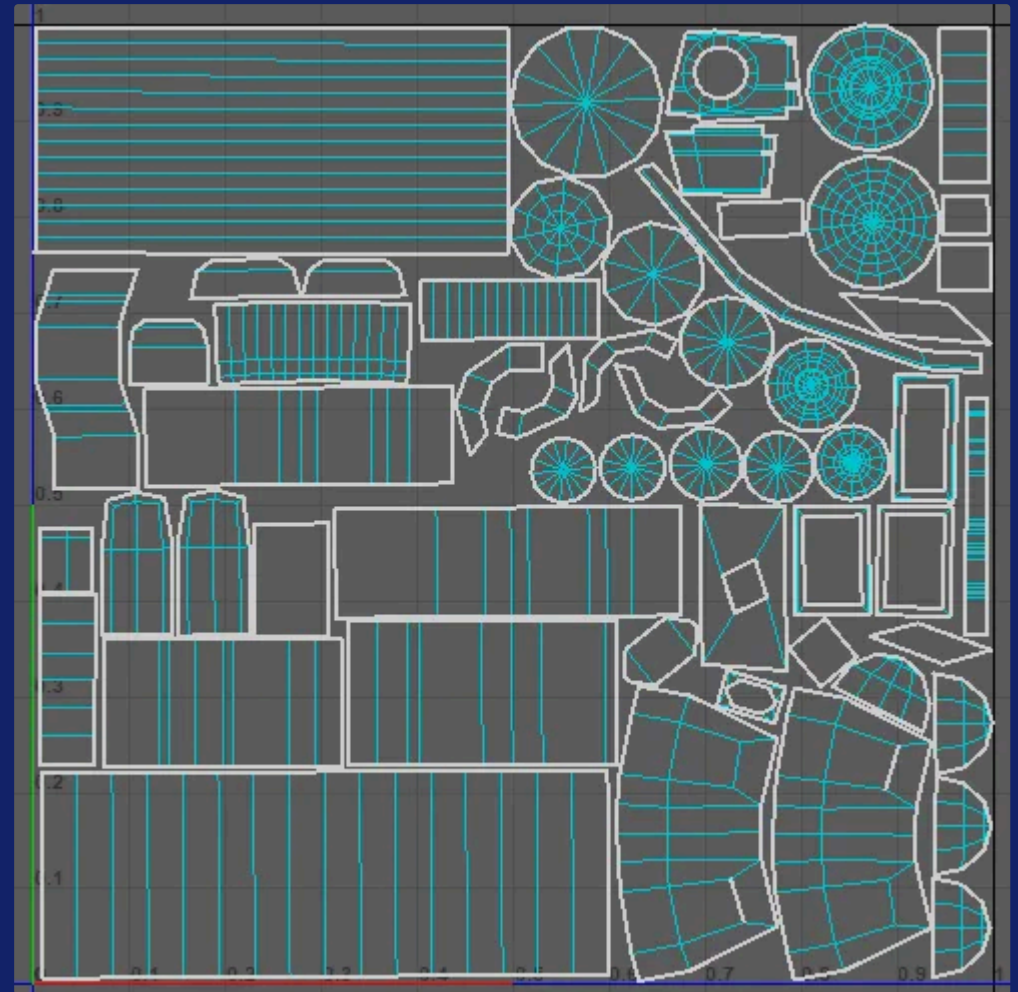
ION Canon UV Unwrap



Light-Sabre Unwrap



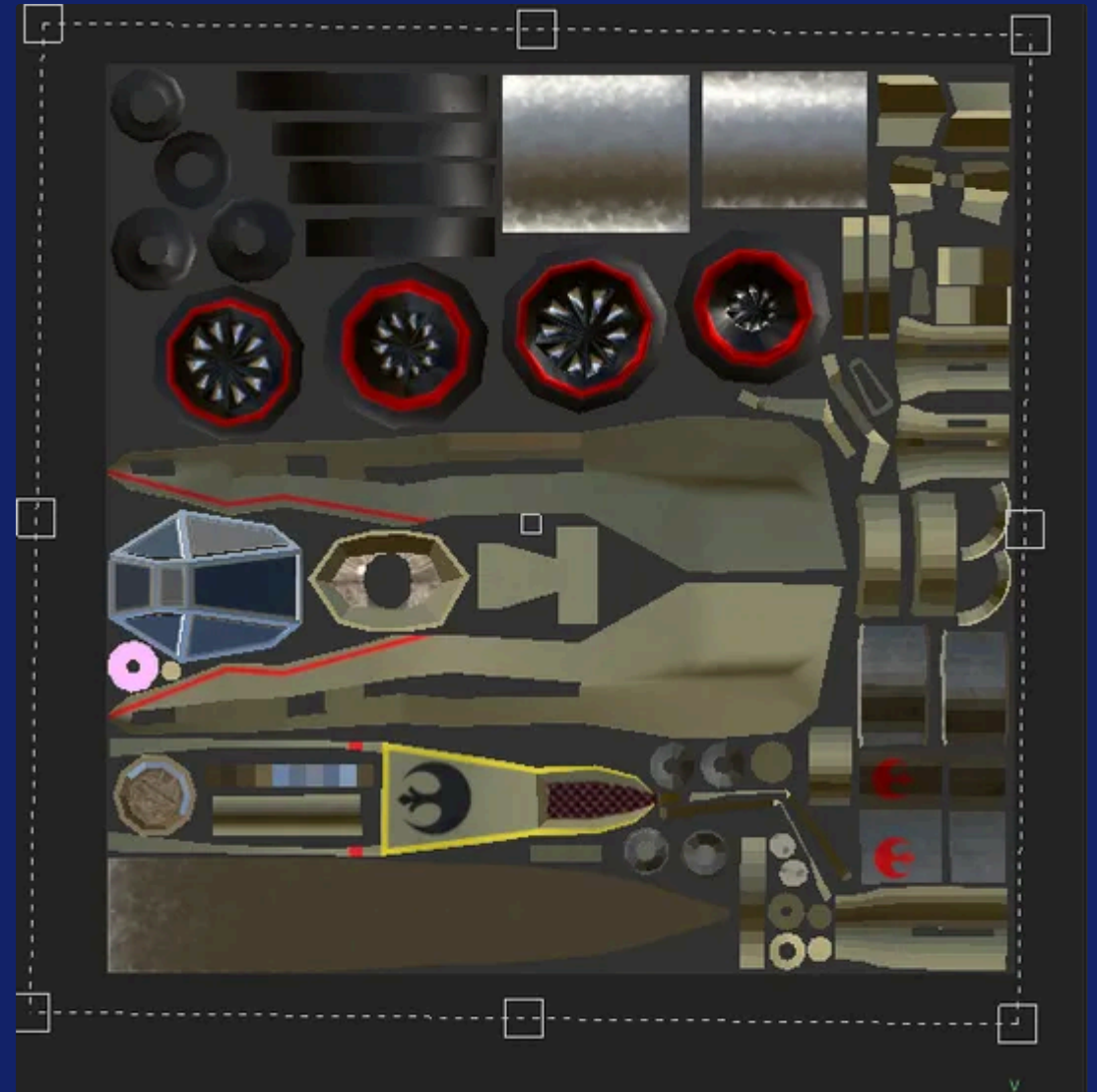
R2-D2 Unwrap



Texture Evidence

X-Wing Car Texture

This is the texture for the X-Wing car, I used substance 3D Painter and some of their base materials to add the base colour coat, it was gloss plastic texture i set the colour and added some roughness to it and then moved onto the wheels,



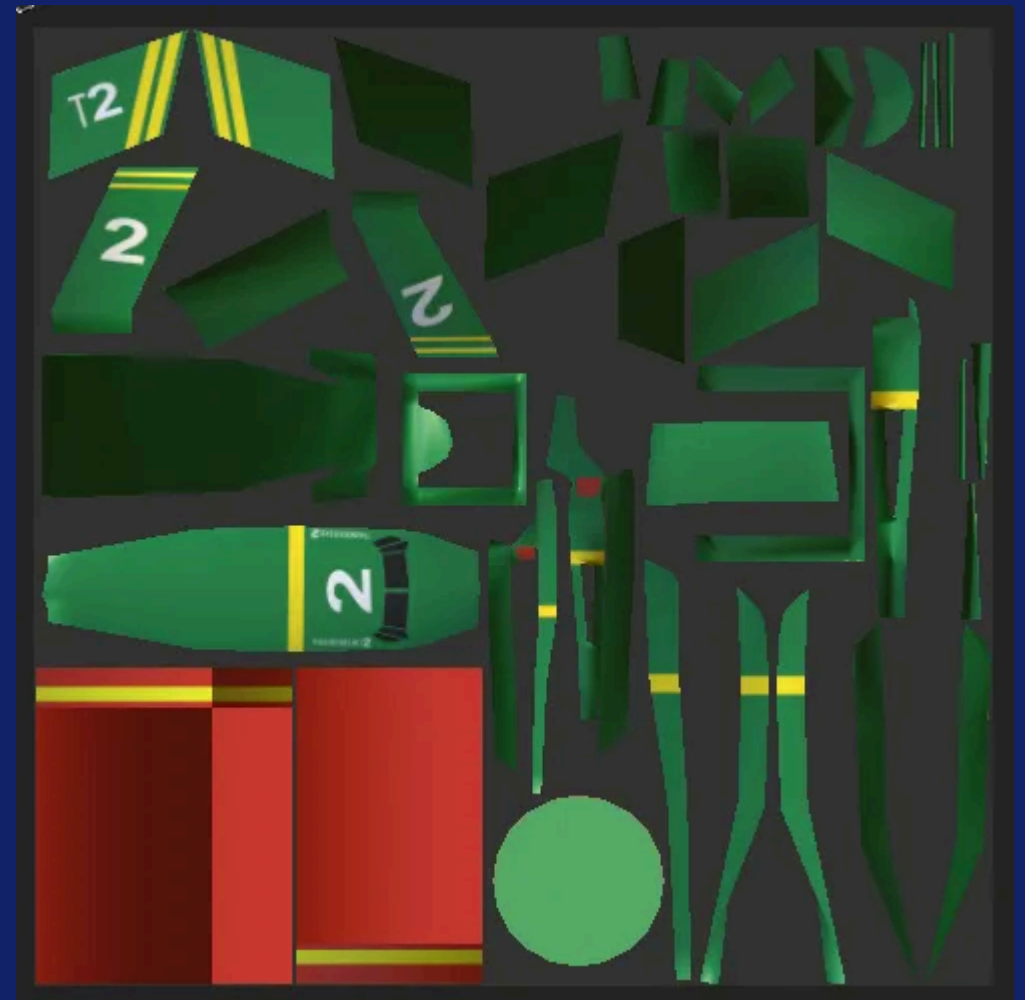
Jeep Texture



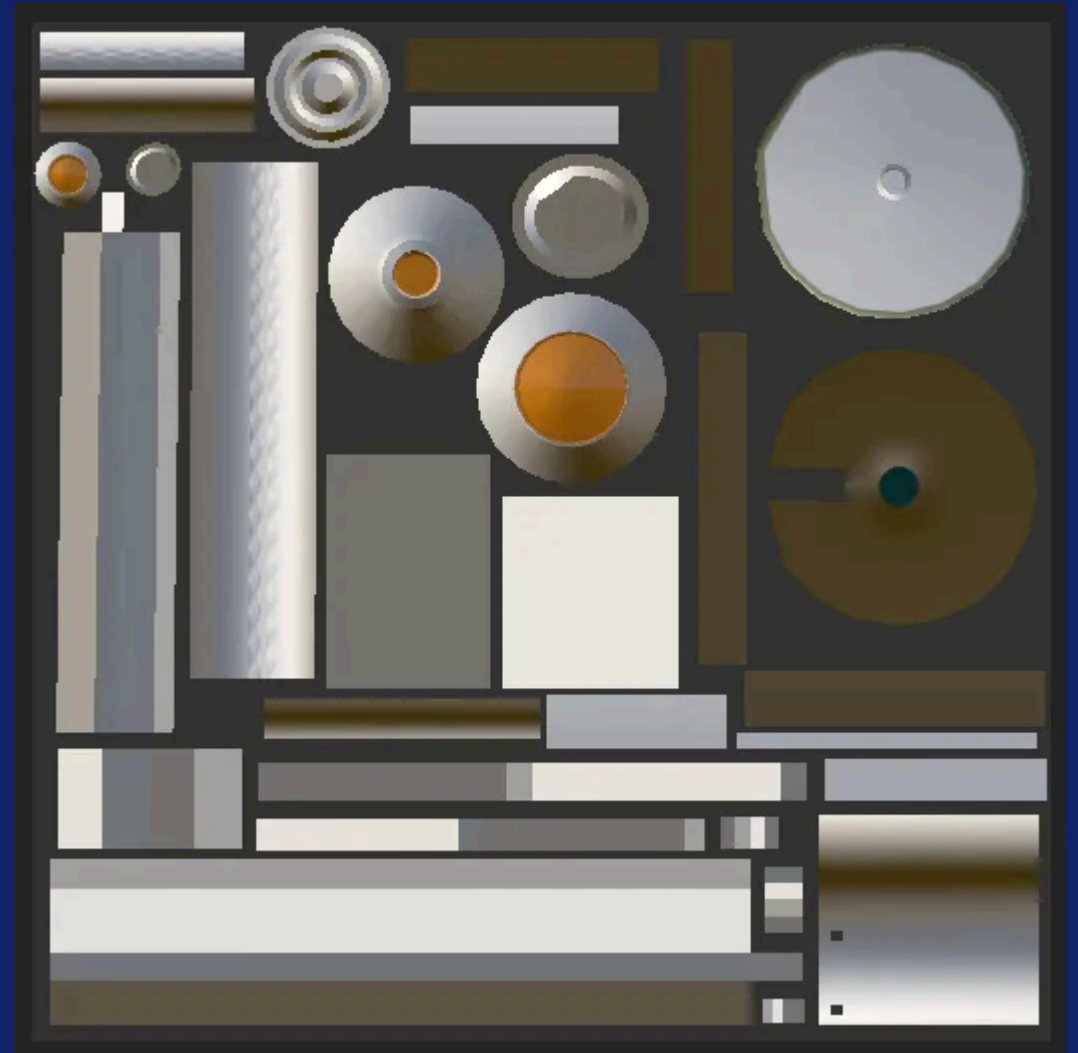
Speed Modelling - Alien APC - Texture



Speed Modelling - Thunderbird Two - Texture



Speed Modelling - USS Enterprise - Texture



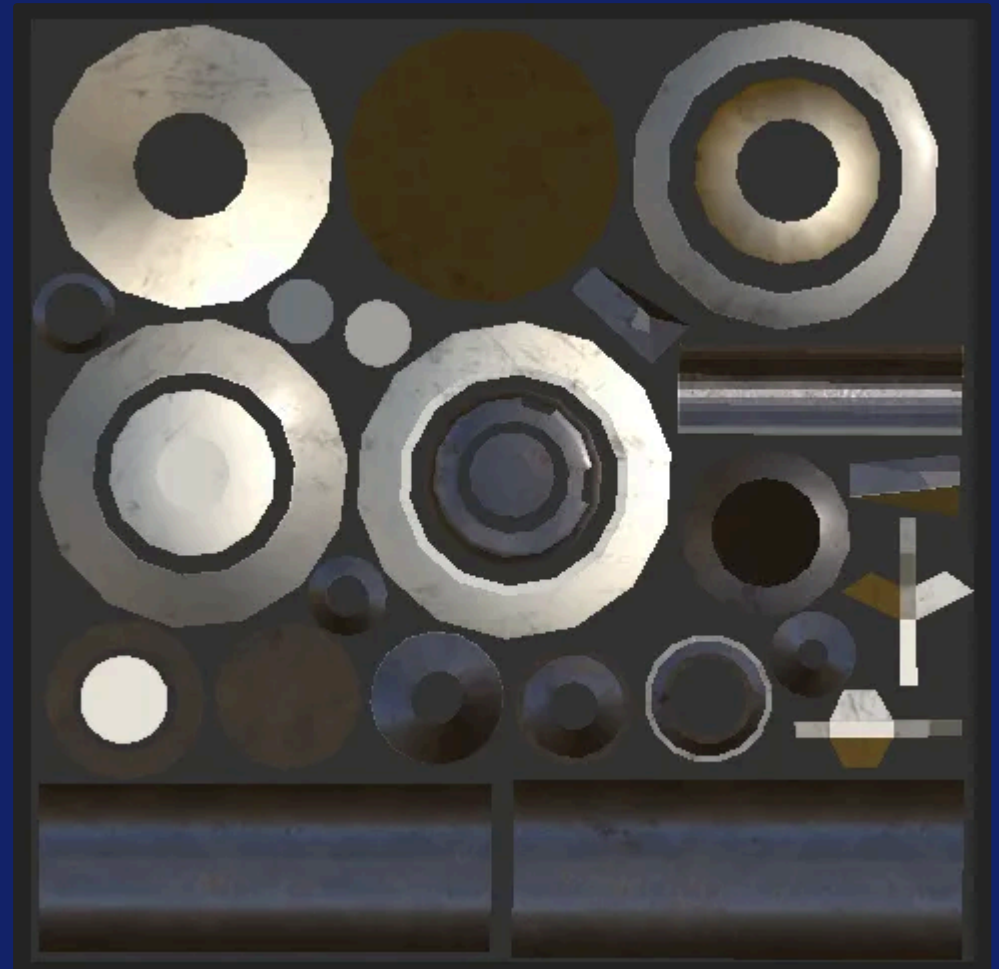
Speed Modelling Challenge - Battlefield 2042 Tank - Texture



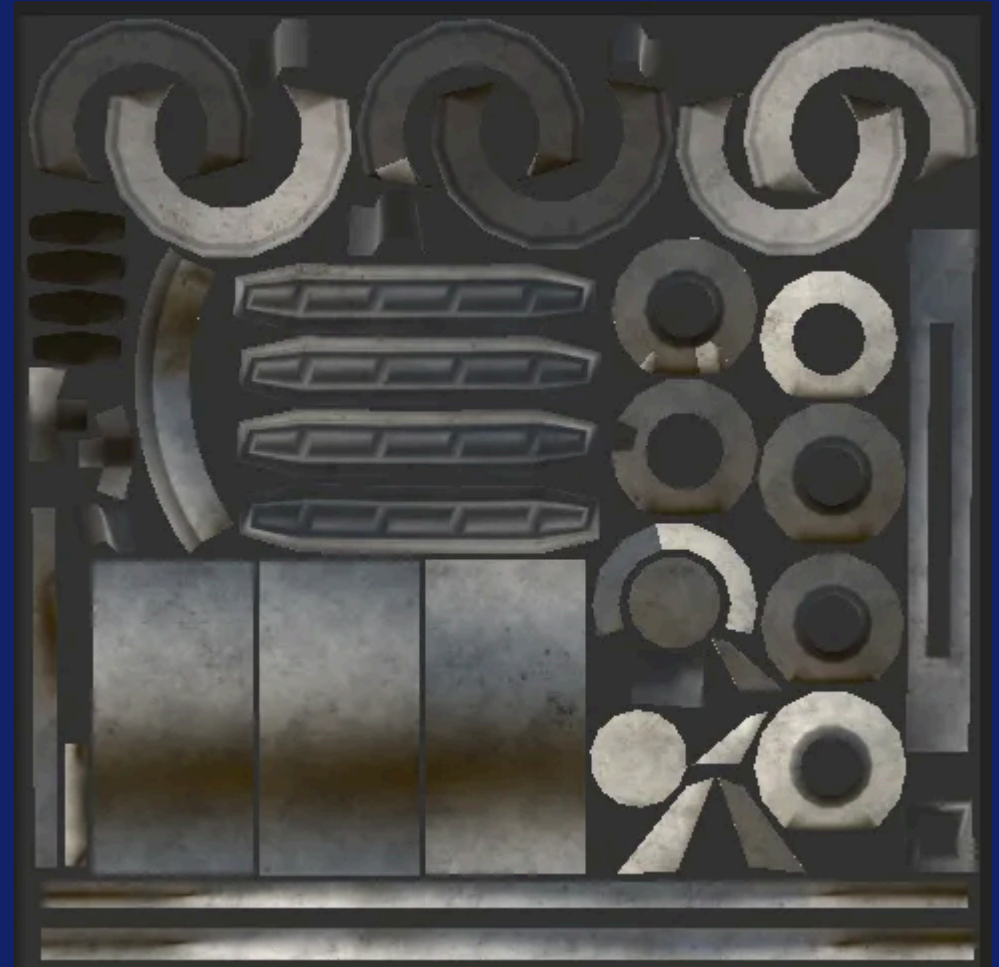
AT-AT Texture



Turret Texture



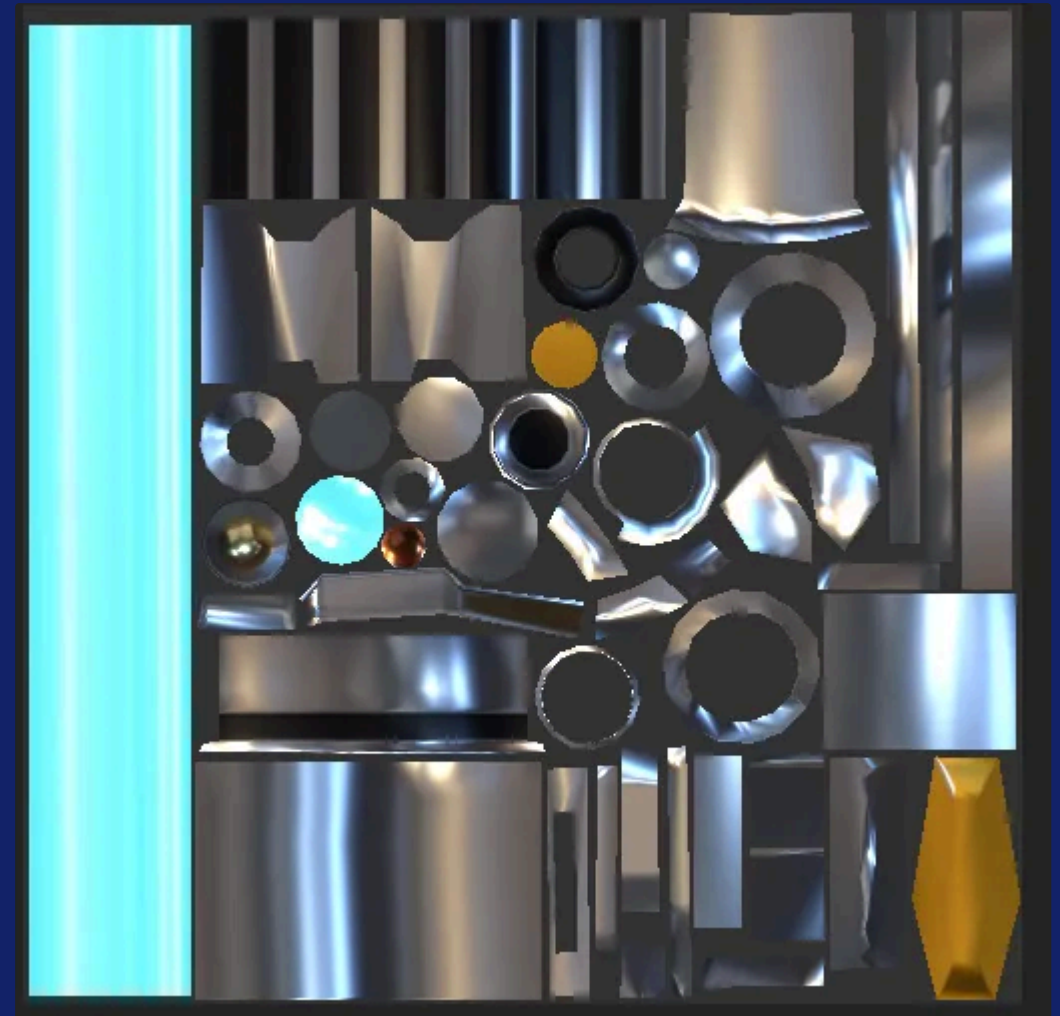
Generator Texture



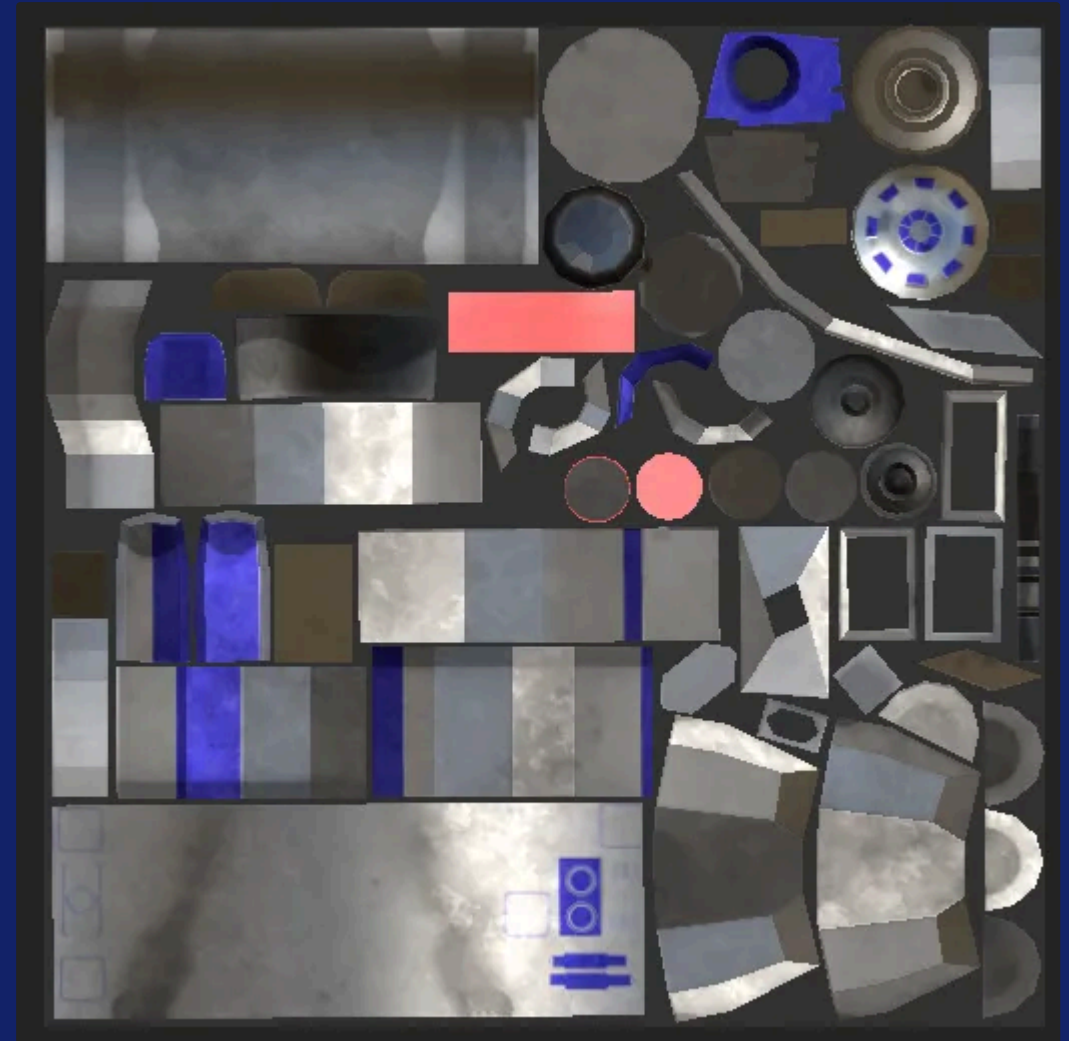
ION Canon Texture



Light-Saber Texture



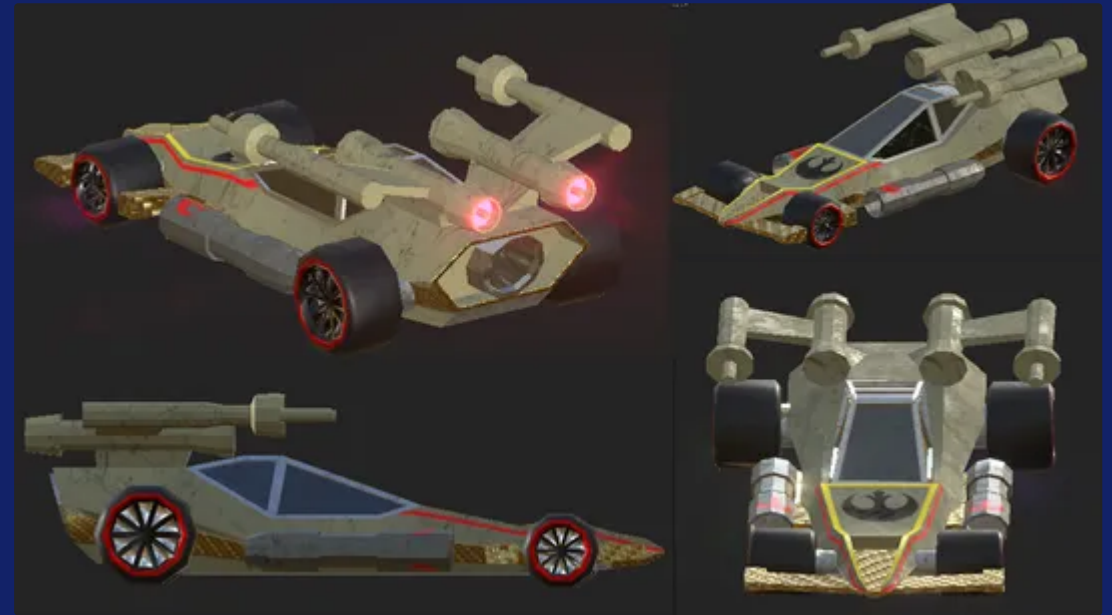
R2-D2 Texture



Final 3D Models

X-Wing Car model

This is the complete and finished final 3D model for my Low poly x-Wing car I have also uploaded this model onto Sketchfab.
<https://sketchfab.com/3d-models/low-poly-x-wing-star-wars-toy-car-baf3aeb111054123a2927aaec4ccbd4d>



Jurassic Park Inspired Jeep

This is the final render of my low poly Jurassic park jeep. I have also uploaded this model onto Sketchfab.

<https://sketchfab.com/3d-models/low-poly-jurassic-park-inspired-jeep-a042cecb72745a3ac10827a94cac4b2>



AT-AT Final Model

This is a screenshot of my final render of my ATAT low poly prop for my game.



Turret Final Model



Hoth Generator Final Model



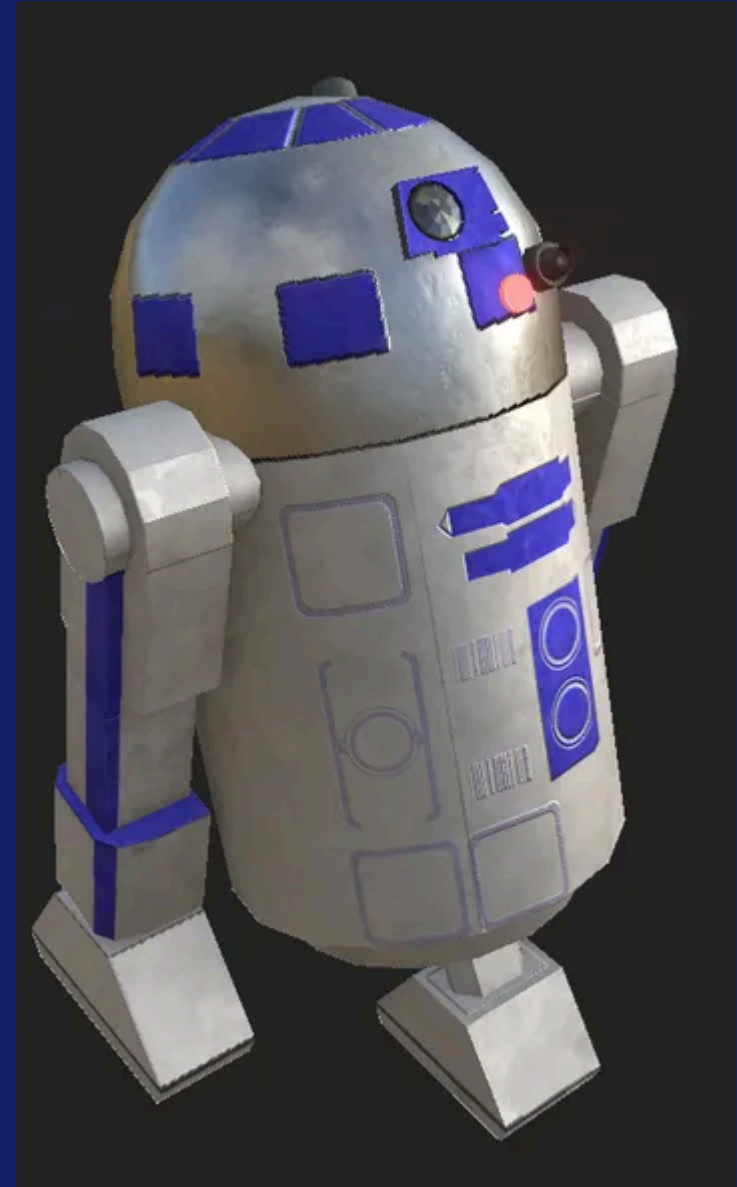
ION canon Final Model



Light-Sabre Final model



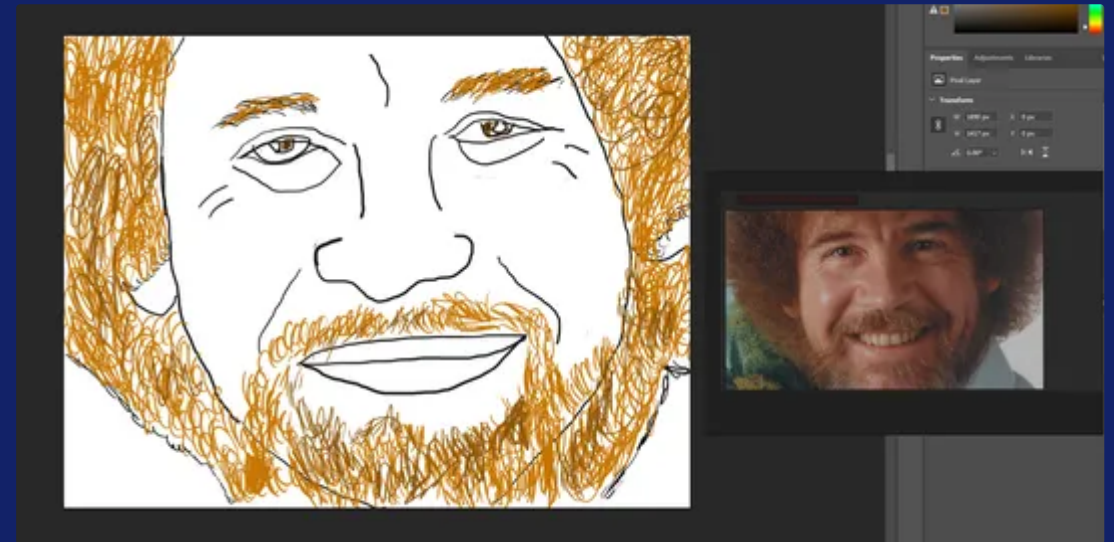
R2-D2 Final Model



Concepts

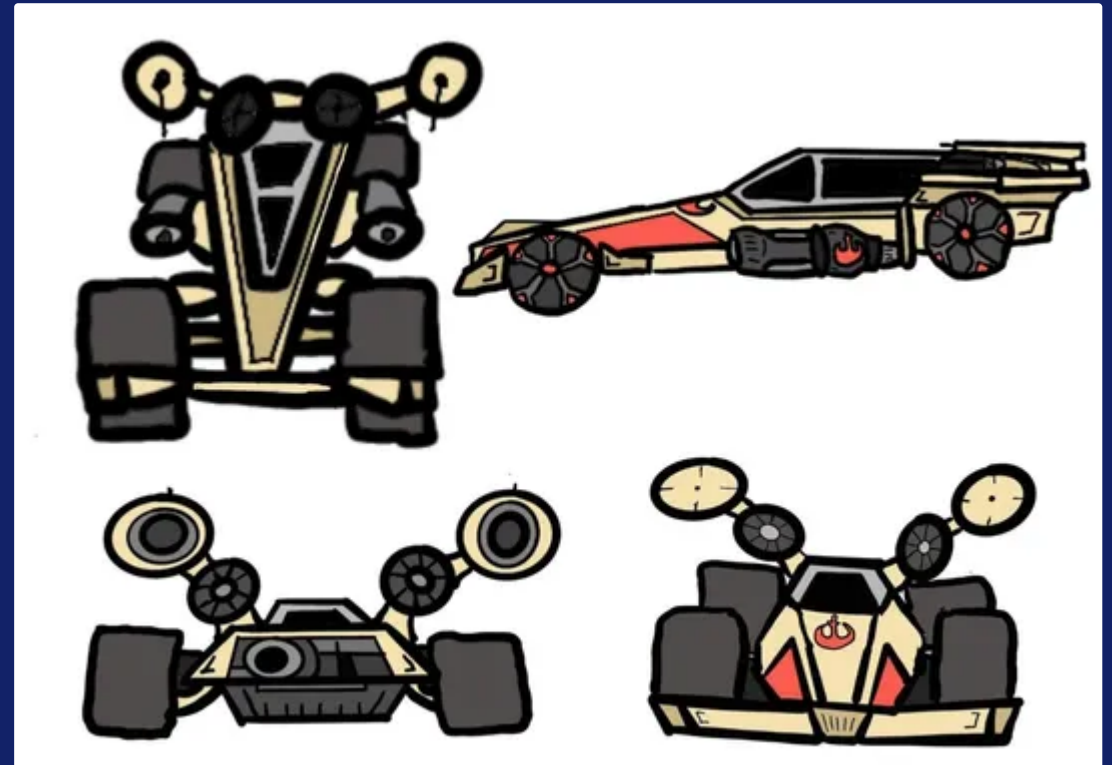
PureRef

using Pureref i got a reference photo og Bob Ross and made it overlay over Photoshop and used the image as a reference to create this drawing of Bob Ross



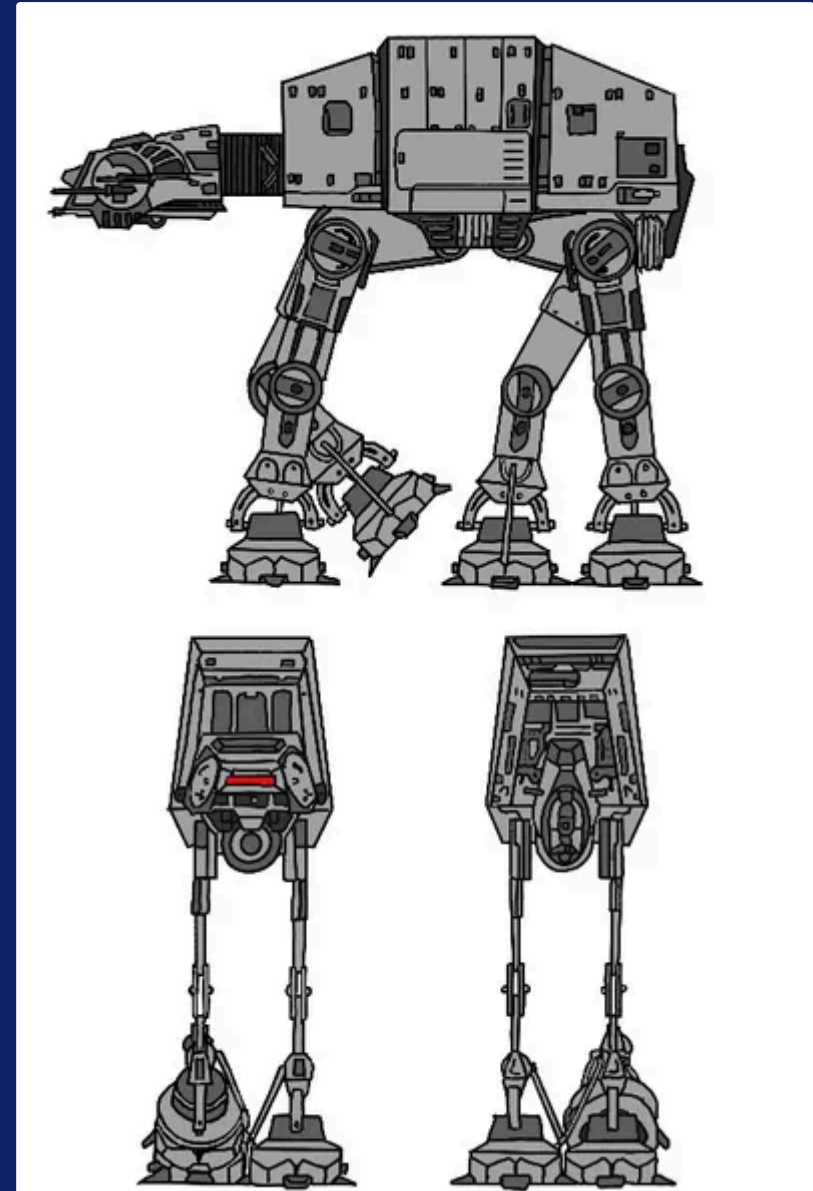
X-Wing Car Concept

This is a concept of my first theme inspired car that I will model and texture and add into my game. To make this concept I used Procreate on the iPad and i found some Hot wheels cars which was similar for a reference image and then i started to sketch out a rough idea of it then once I was happy with the sketch I added a new layer and started to draw on top of the sketches and added the details and colour to then make this concept.



AT-AT Prop Concept art

This is a concept i made in procreate of an ATAT from the movie Star Wars. as I chose Star Wars as my theme I decided to make this as my first prop to go into my game. For this i made a mouldboard and used that and reference images to draw out a wrap around perspective for my concept using images under a new layer with a lower opacity then when i was happy with it I then continued to add detail and colour to then finish this final concept.



MMiscellaneous stuff learnt and
practiced

Portal Gun From Rick and Morty



Start Menu Script

To make a start menu I had to firstly start an new scene on my existing unity project and name it Start Menu then add a canvass from the Game Object - UI drop down and then once done that add a button inside of the canvass. Then i set the background colour of the canvass to black and added the text "Start" to the button. Once I done that I added the start menu script to the Main Cámara object then in the button properties set the button to play my main object. I also had to add my start menu and main game to the build settings in the file menu. Then when I've done all that I Tested it in play mode and the start button now loads my main game.

