

The web-report for Creative Arts should contain the following sections:

1. Ideation Process:

- What idea(s) do I want to convey?
- What is my personal relevance in embarking on this project?

2. Research (Literature Review):

- Who are some of the artists whom I have looked at?
- Why did I choose to look at these artists?
- What did I learn from these artists?
- What are the relevant creative ideas gathered?

3. Documenting the Project Journey:

- What alternative ideas were developed?
- How have I experimented with various media?
- What were some of the decisions made and why did I do so?

4. Reflections:

- What were some successes and failures encountered during the project?
- What were the challenges faced during the working process?
- How did I overcome them?
- What did you learn about yourself and your art-making endeavours?

** Students have to provide a visual documentation of the creative journey through sketches, photographs and/or relevant diagrams when organizing the various sections of the web-report.

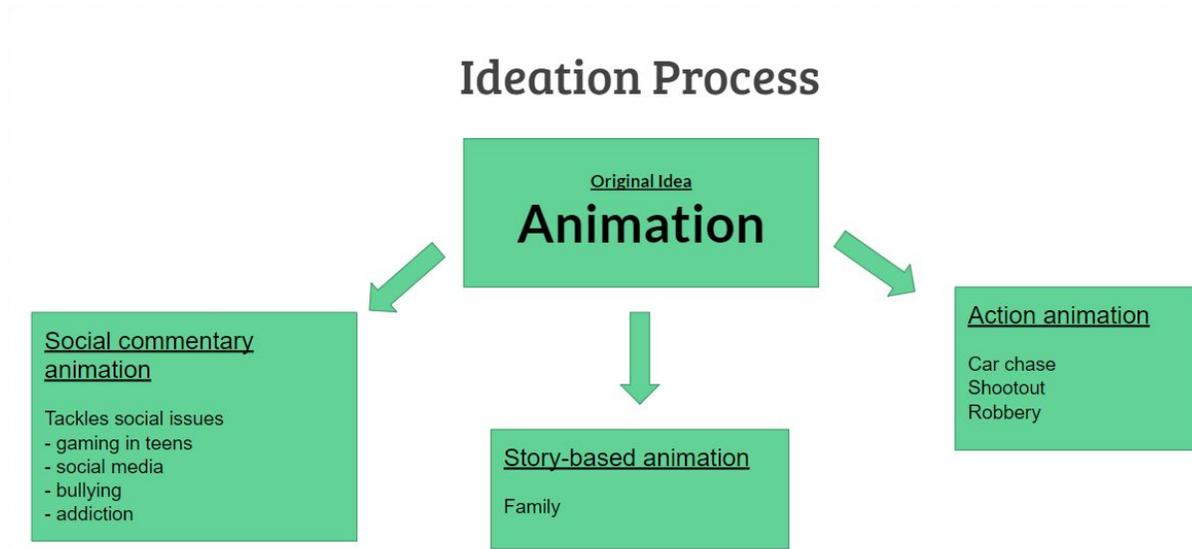
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Our Ideation Process:

Idea 1: Animation

We originally wanted to do a 3D animation as we thought that our group would be able to utilise our previous 3D modelling skills in Blender as all our group members have gone through a blender workshop before and understand the basics of the software's modelling, texturing and animation capabilities. This was our ideation process for deciding the subject matter of our animation:

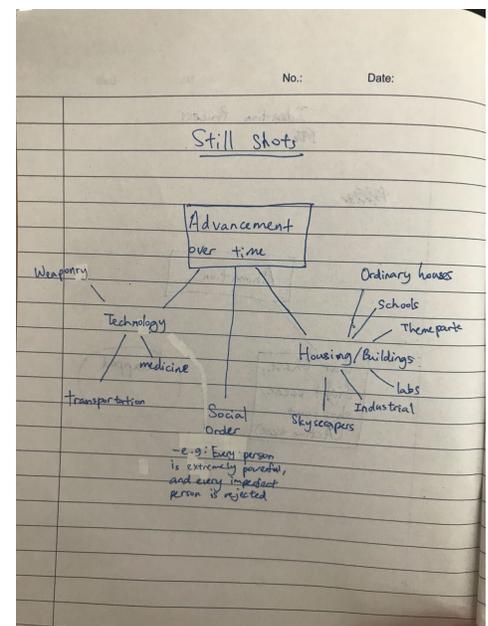


However, we realised at the start of the year that an animation was not a good idea because:

1. The workload would be far too much for us to handle
2. Our final product would not be of good quality and have problems such as:
 - a. Choppy animation
 - b. Crude modelling
 - c. Bad rigging
 - d. Incoherent texturing
 - e. Uninteresting storyline

Idea 2: Still images

Our mentor suggested for us to create still images in blender instead, where we wouldn't need to do animation. This is our ideation process for still shots:



We wanted to portray the theme of “advancement over time” or “Techvancement”, hence our project name.

We came up with this theme to show how human civilisation has progressed over time as well as convey our ideas on how the future will be.

We listed out three different ways we could portray this theme and came up with 3 ideas:

- 1) Technology
- 2) Society
- 3) Buildings/Architecture

We split up those 3 ideas into some smaller subsections and decided to focus on one of them.

Idea 2(a): Architecture

Our group first focused on architecture so we did some research of architecture over time (including futuristic/sci-fi architecture). These are some of the images we studied to examine the traits of architecture of different time periods:



Common traits of thatch houses

- Thatch roofs; the thatch is densely packed
- Wooden/thatch/straw walls
- Usually quite short (one storey)
- Quite small
- Slanted roofs (triangular roofs; unlike many modern apartments and modern houses)
- Some look haphazardly built (scrappy)



Common traits of these buildings

- Brick plates, maybe some sort of ceramic plates for roof tiling; roofs are steeply slanted
- Lots of criss-cross, triangle shapes on the side of houses formed by wooden planks
- Lots of overhangs; the top of many buildings are bigger than the bottom of the buildings
- Mostly stone walls, some brick, wood is common

Scene 3: modern housing



Common traits of these buildings

- Blocky shapes; lots of right angles in building; sharp angles
- White paint and glass is common
- Vibrant/bright colours; white, orange, mix of bronze and gold,
- Lights are everywhere
- Lots of houses packed together
- Lots of tall buildings (skyscrapers)

Scene 4: futuristic housing



Common traits of this architecture

- Even Taller buildings!
- Some buildings are enormous compared to others (which are already huge)
- Lots of grand looking buildings, certain buildings stand out a lot compared to other buildings
- The building at centre of the city/town seems to be very grand looking and more important than other buildings
- Even more lights than before
- Levitating buildings
- Mostly coloured with 2 colours (slightly limited colour palette)

We have done some extensive research on the traits of architecture of different time periods. However, we still chose to scrap the idea of creating still images of architecture because:

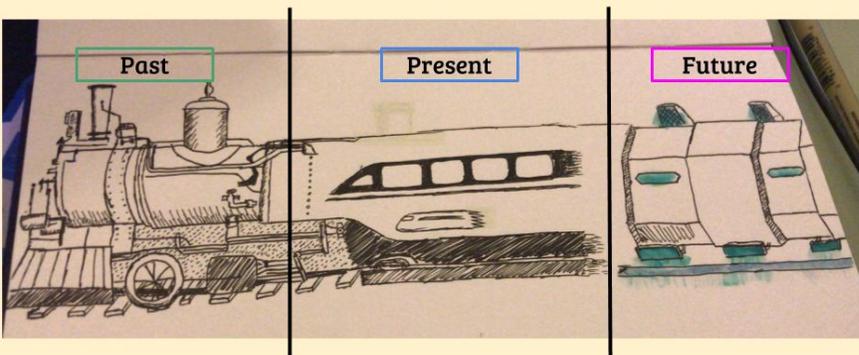
1. Our research was not comprehensive (only studied 3 styles of architecture)
2. Too difficult to incorporate different styles of architecture together
3. Huge workload
4. Lack of skill (to cover many styles of architecture)

Thus, we scrapped our idea of architecture.

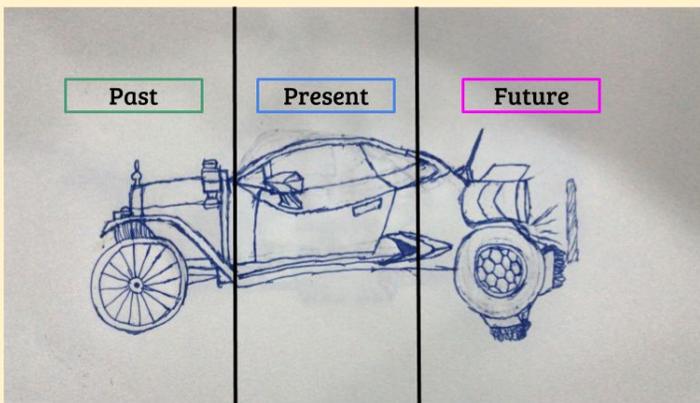
Idea 2(b): Transportation

Finally we proceeded to delve into our last idea - transportation. We thought of how we were going to present our work, these are some of the sketches that we drew to show the concept of our final artwork:

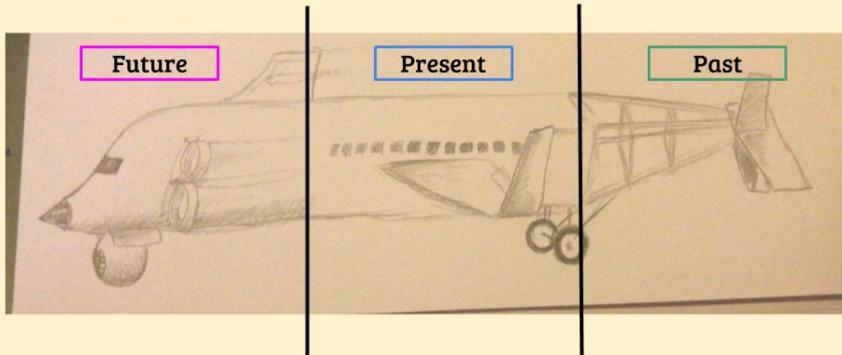
First Sketches - Developed Ideas



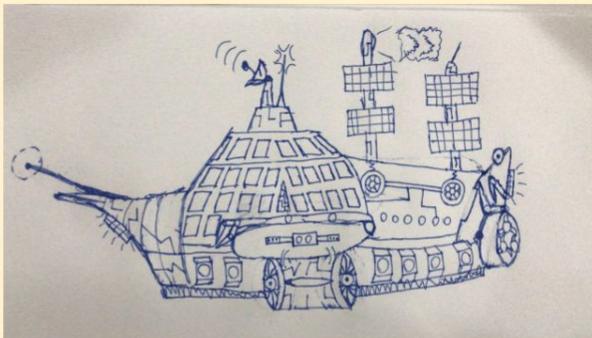
First Sketches - Developed Ideas



First Sketches - Developed Ideas



First Sketches - Developed Ideas



Past - Front of ship and sails

Present - Overall shape of ship

Future - Surfaces of the ship including solar-panel sails, antennae and propellers

Example of envisioned Final artwork idea



These sketches show our first idea which is to create models of transportation from different time periods and morph them into each other. They are clearly separated into 3 sections - futuristic, modern, and olden.

These 3 sections can be distinguished by their physical shape and form, and in our final artwork, our models can also be distinguished through their different textures and colour schemes.

In the end, we created this semi-finished train scene as a proof of concept to the judges during the mid term evaluation:



However, the judges commented that the train scene was not coherent enough and that the final product wasn't very creative as it was "simply putting different designs together" - the train was separated into 3 distinct sections and the judges suggested that we should have the train be one complete carriage instead of separate parts such that the final product was more coherent.

Medium control (technical work)

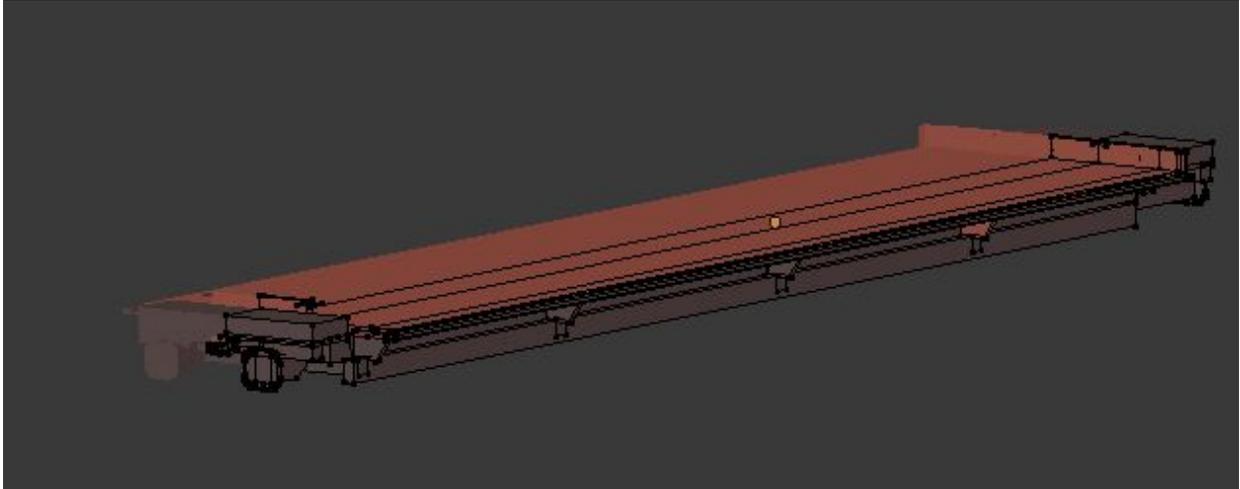
This section is about our modeling process, texturing process, trial and error as well as our final product.

Train Scene Modelling (scrapped)

We started with modelling the each individual train model, beginning with the olden train, the one on the left of the image.

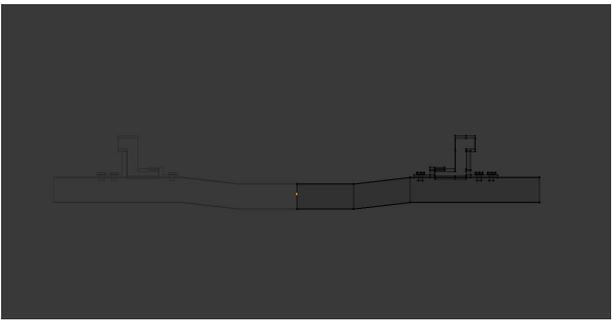
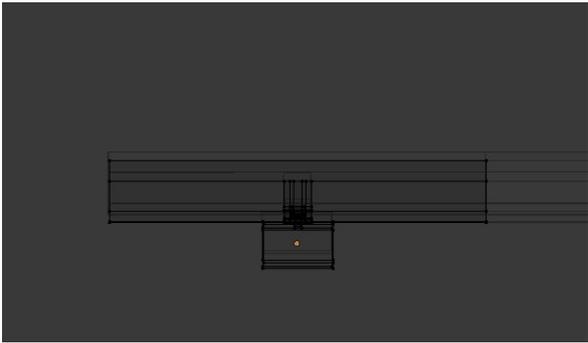
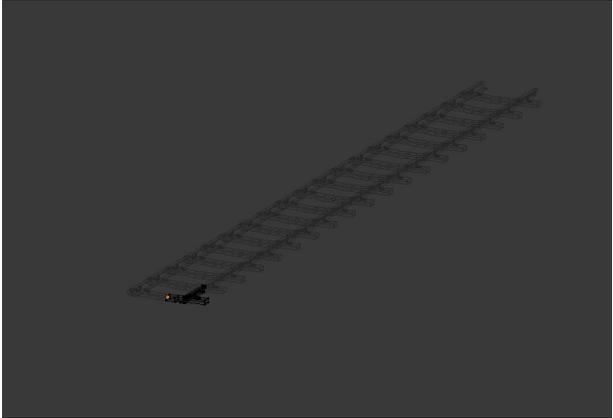
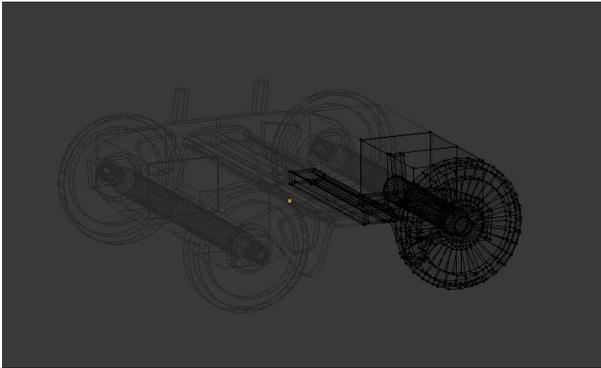


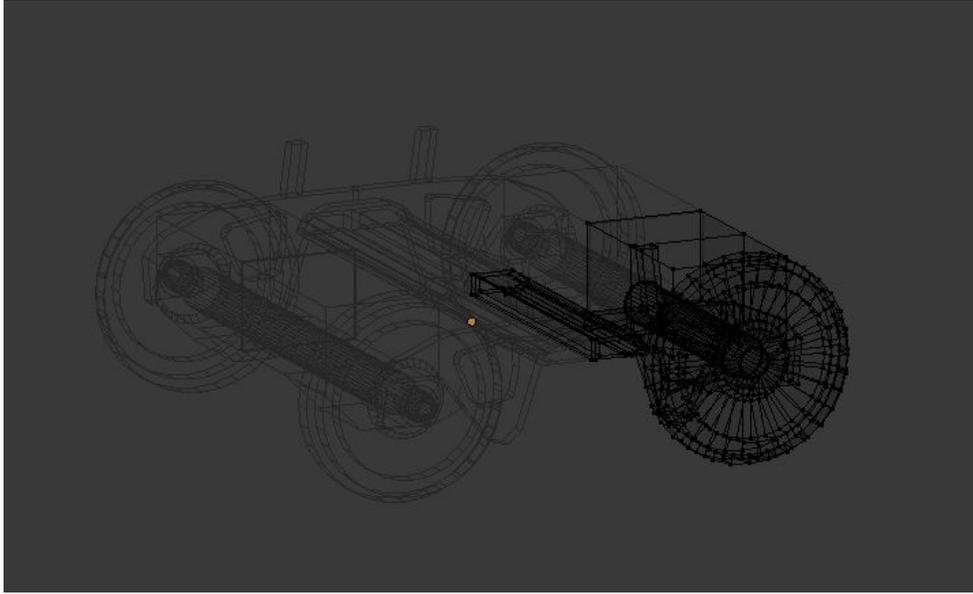
We started by modelling the side of the train without the base of the train as that we modelled separately, this is the base of the carriage:



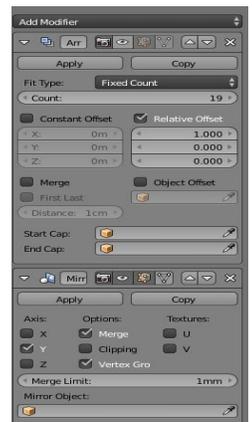
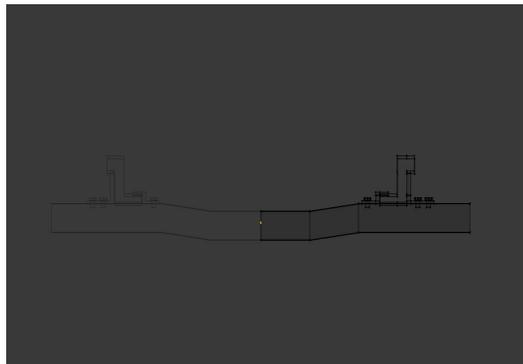
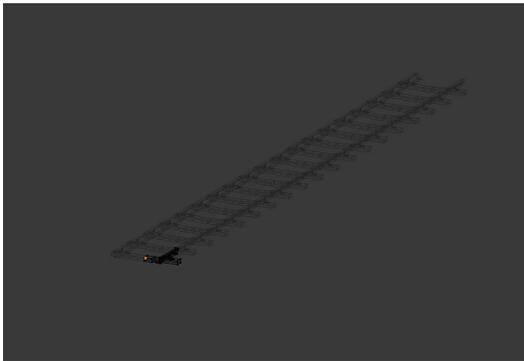
We decided to model this as a separate object and then combine them because there were finer details in the base that we needed to model which would be difficult to model if other vertices of the rest of the model got in the way, this caused some other troubles for us as we needed to scale the base properly but that issue was quick to be fixed.

We then proceeded to model the wheels of the train and the train tracks:





For the wheels of the train, we used the mirror modifier again and duplicated the modelling on the X and Y axis, creating 4 wheels without having to model individually.



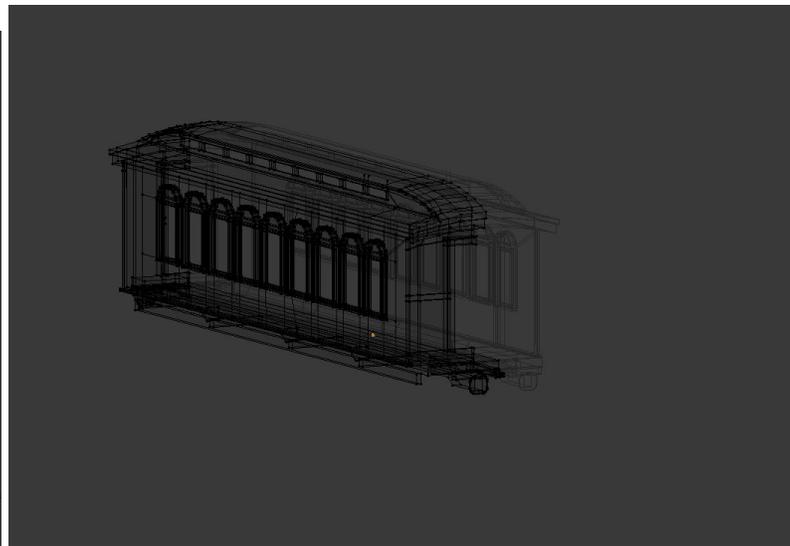
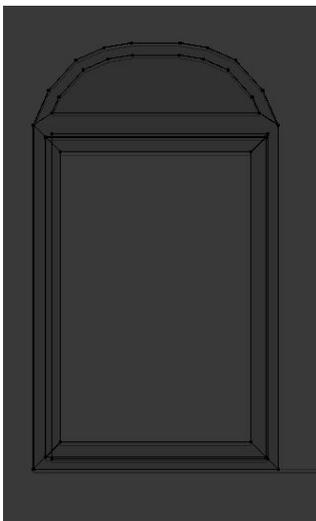
We used a similar concept for the rails but also used an array modifier to duplicate one segment of the tracks multiple times.

We took inspiration from old england carriages as can be seen here:



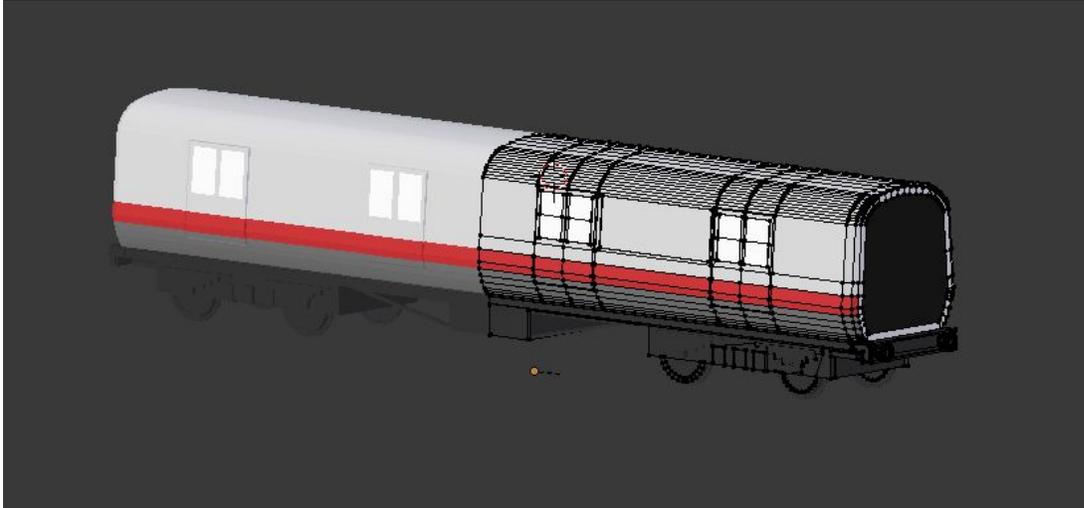
We specifically used the small rectangular windows on the top of the carriage from the picture on the left.

We modelled the windows as separate objects and then merged them with the main body of the carriage.



We used the mirror modifier in Blender to copy and flip one side of the train model such that we only had to model one half of the train. We also used this function for all the other models.

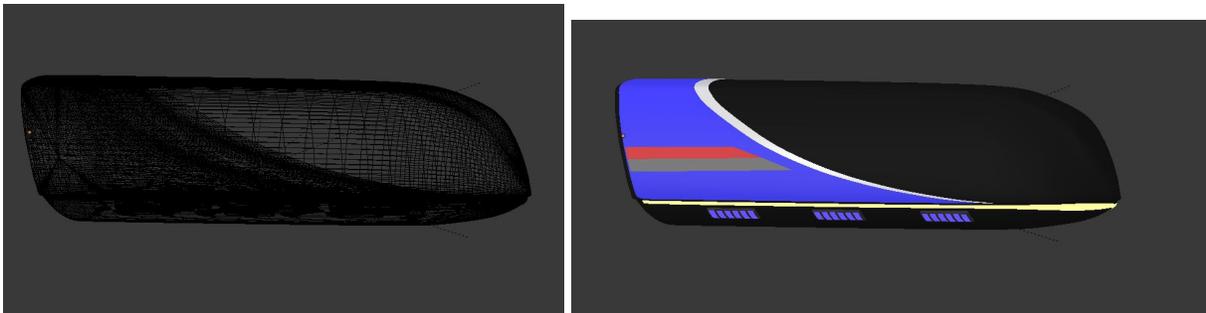
This is our modern train, inspired by the SMRT train in Singapore:



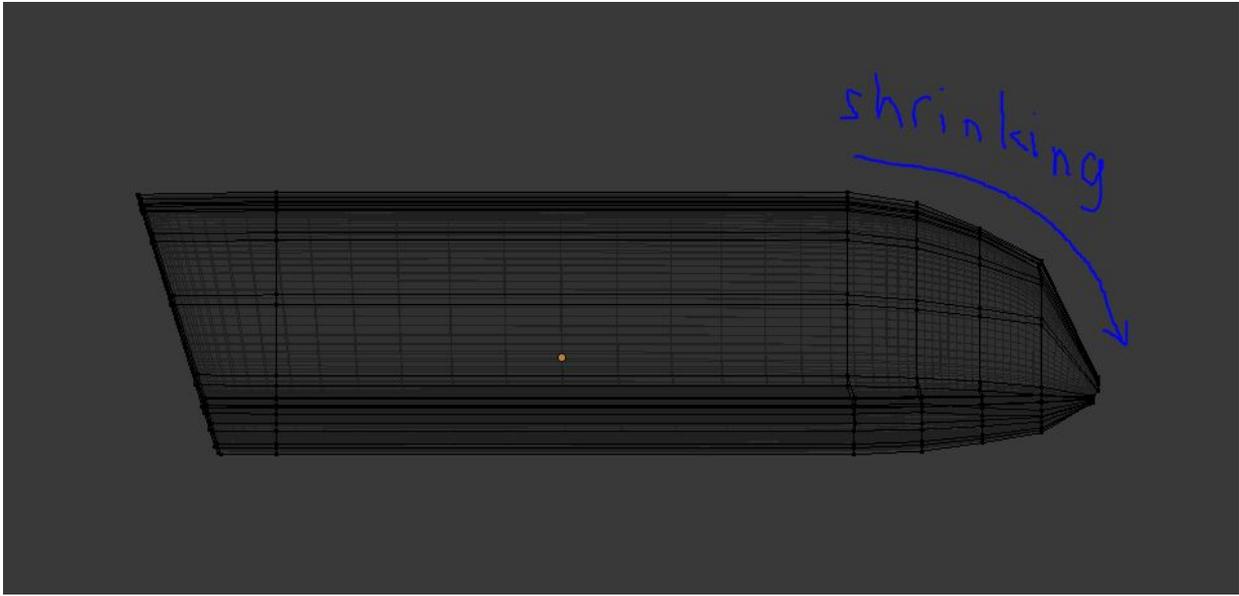
We used the same workflow to model this in our olden train, where we modelled the main body of the train (the carriage) and then modelled the bottom of the train (wheels and base).

We chose to base our design off of the SMRT train as it would be more relatable / accessible to Singaporeans which are going to be our main target audience for our artwork.

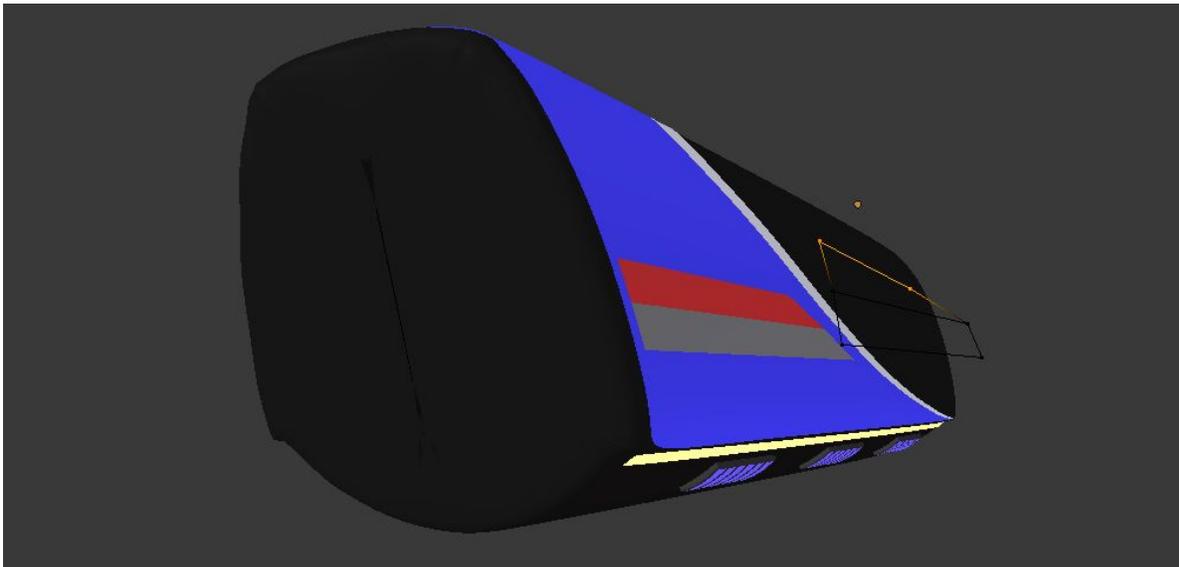
We used the same workflow to model our futuristic train:



We created the sleek design of the futuristic train by adding loop-cuts and slowly shrinking the front of the cylinder:



We created the details of the futuristic train by shrink-wrapping coloured planes onto the body of the train such that they followed the shape of the train.

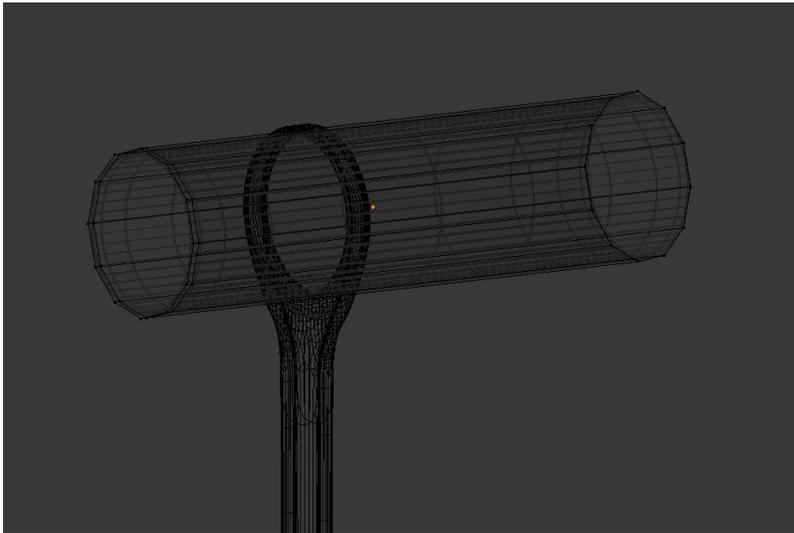


This allowed our futuristic train to have a sleek design which is what we were going for as our inspiration for the train was the hyperloop pod; the Hyperloop One / Hyperloop Virgin design:

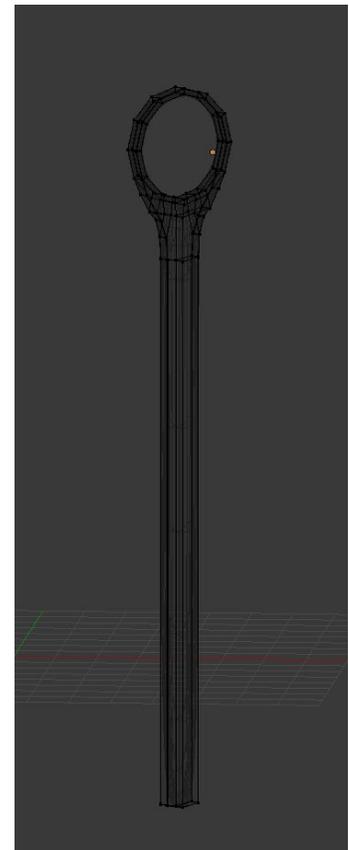


We chose the Hyperloop Virgin design as it looked futuristic (well it is a pod in a glass tube after all) and it was also a transportation concept that was in development *right now*.

We also modelled the glass tube and the support beam for the futuristic train's tube:



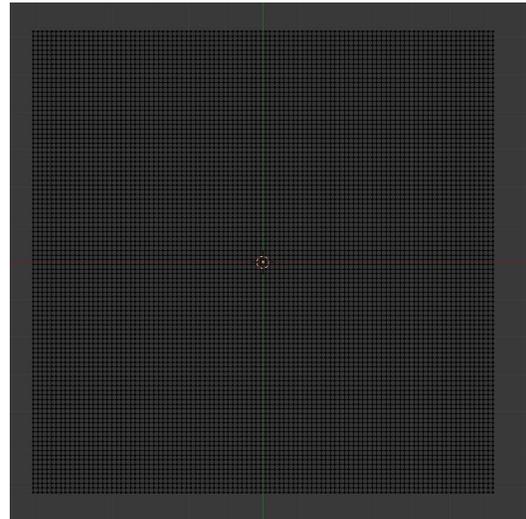
The glass tube was merely a cylinder and the support beam was a very short cylinder with some of its bottom vertices extruded downwards:



Finally to complete the scene we had to add the surrounding landscape as well as the background.

For the landscape, we made a 100 by 100 square grid and used the sculpt tool to model it into a mountainous landscape

From this --->



To this --->



We also added a grass particle system to create the grass in our first render, this took a particularly long time to create.

Grass particle system



Car Scene Modelling

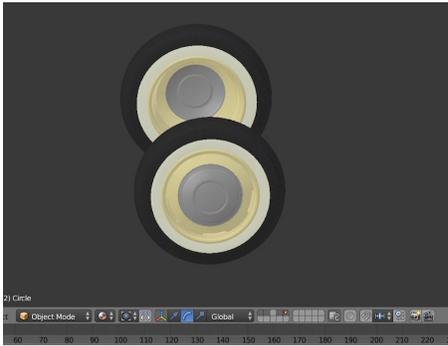
For the olden part of the car, we used car references from the 90s, such as the Austin A30 and the Beatles series from Volkswagen.



However, we encountered many issues. Originally, we had a plan of using one of the oldest forms of transport, which was riding a horse, as well as having four transports instead of three.



However, there was a problem with that as there was a strange transition between a living horse and a made-made vehicle, which meant that it did not go well together. Furthermore, trying to create a horse or any living thing from scratch in blender was simply too difficult and was not feasible. Also, by having four completely different vehicles meshed into one, it was simply too cramped, and there was not enough space for each version of a car. Thus, we made the decision to lower the amount of transportations from four, to three, allowing for more space for each vehicle. We also considered another one of the oldest vehicles, a carriage, but found out that the wheels of the carriage was simply too large, and would not blend well with the rest. That is why we took the next best thing with wheels that were fitting, the Austin A30.



The modelling process was straightforward, similar to the train. We worked on the mesh first, and then added some textures and colours to the frame and windows of the car.

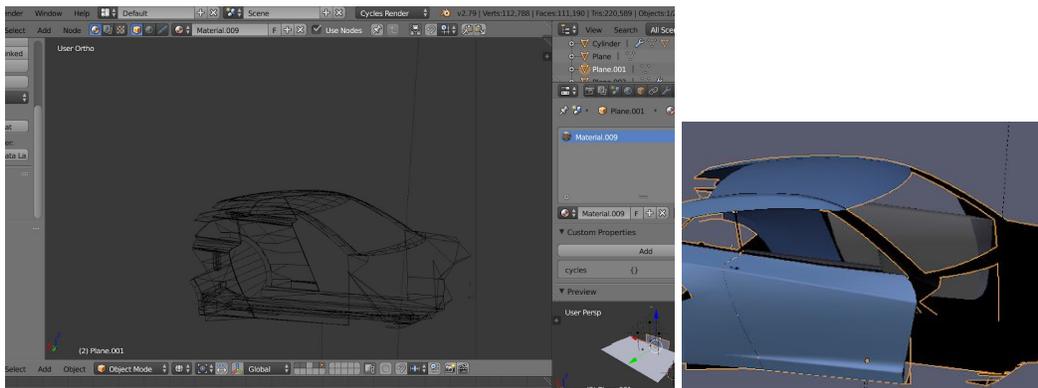


To complete the car, we simply added the wheels and the bumper.

The centre of the car did not require much ideation, but was harder to model. That was to modern car most of us have today. We simply found common car brands such as Toyota, Nissan and Honda, and found some models for reference.



These types of cars can be seen in many places in Singapore. The modelling began with creating the mesh, the wheels and the headlights, as well as adding texture and colour to the car. Since this car was in the centre, no wheels were needed to be modelled.



We found that the futuristic model was the hardest, since there have been many incarnations of possible cars in the future, and it was difficult to pick one.

Plane Scene Modelling

For the plane, we used references from the early models of planes from the 1900s, such as the Piper PA-18 Super Cub which was introduced by Piper Aircraft.



We originally intended to reference the models of the first planes for our plane of the past. However, those planes were mainly built out of scaffolding which was difficult for us to merge with the designs of the planes from the other two time frames due to the solid designs of the latter.

We also used references for the designs of the modern plane from well-known modern plane models like the Boeing 787 Dreamliner and the Airbus A380. We chose these models because they are aesthetically pleasing and their familiarity allows viewers to easily recognise them.



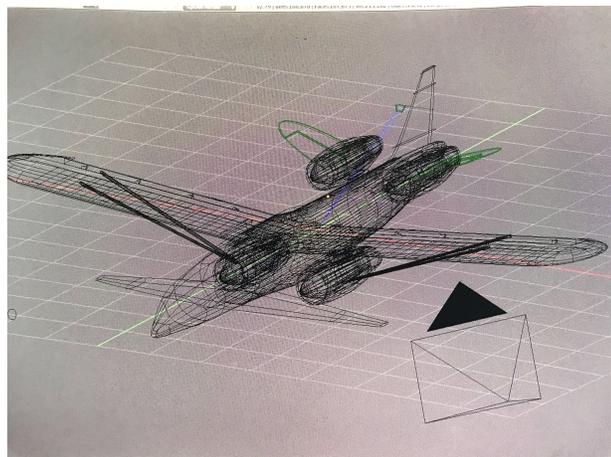
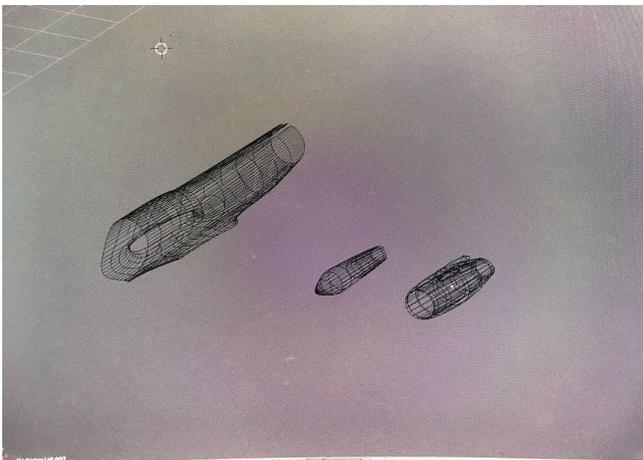
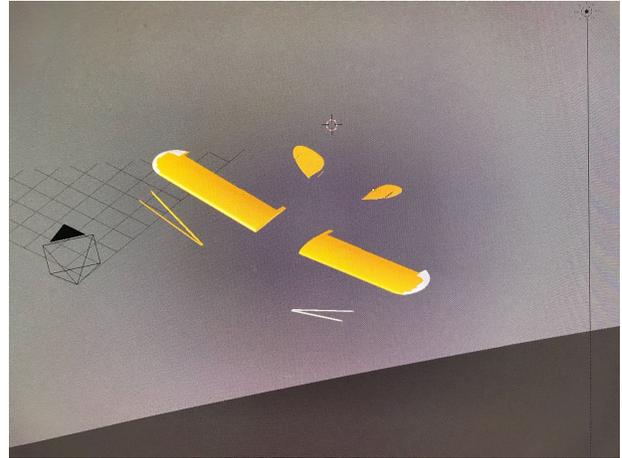
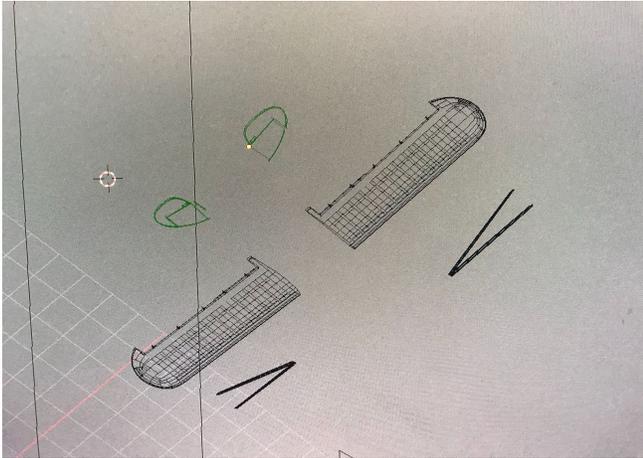
Finally, we searched up some examples of futuristic planes as our references. Similar to the car, we could not obtain any direct models as our reference due to the many possibilities of plane model evolution in the future. Because of this there are also many versions of futuristic planes so we used the ones that were the most realistic.

For the composition of our model, we initially planned to create a model fusion of the three time frames just like the train and the car. However, we soon discovered that it did not turn out as well as we had thought it would and so we decided to switch the composition to a blend of prominent features in all three types of models rather than a physical fusion of the models in the rigid order of the train and the car. We also changed the angle of the still shot a couple of times as the first angle was not dynamic enough and did not appear realistic.



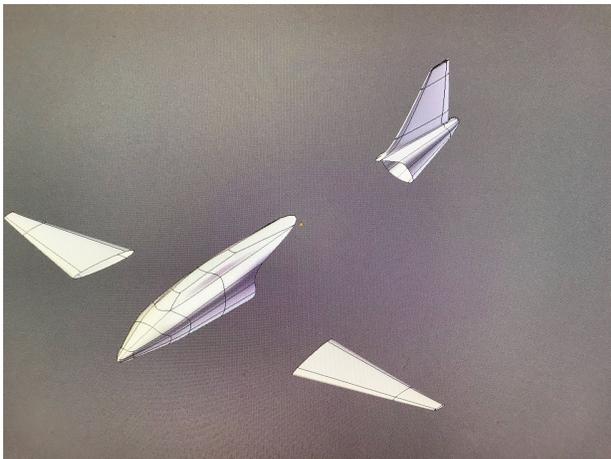
For the modelling itself, we began by creating the meshes of the different parts of the plane and then joining them together. Then we added in the details like the windows and the supporting wing beams and added some textures and colours onto the model to make it look realistic. We took the general colour theme of blue and yellow (which is the colour theme of Singapore Airlines) while ensuring the textures and the realism of material mimicry are not disturbed. In this case, we gave the parts of the olden plane a

rough texture and used a sleek silver one for the futuristic parts of the plane. As for the modern plane, we used a fusion of both characteristics, making it appear metallic while still not as reflective as the futuristic textures.



For the plane of the past, we chose to include the main wings into our model as they are the most prominent feature of plane designs in that timeframe. We also feel that this will represent the sturdy foundation of the past that helped build the present and the future. The tail wings were included as an extra detail as well as to maintain the second-most prominent feature of the plane design next to the main hull.

For the modern plane, we have chosen to include the main hull as well as the engines in our model in order to maintain the prominent features of the modern model design as well as the overall composition of our model. As for the engines, they are only available in the modern design so we had to include this feature in our model, although we made the engine design a little more futuristic to include futurism as well.



As for the futuristic plane, we incorporated futuristic designs onto the head and tail of the plane. Since the future is an expansion upon the present, we have not changed the designs of the futuristic plane too much from that of the modern plane. Instead we have edited the models to make them appear more futuristic. Secondary wings on

the head of the plane is a futuristic concept and thus we have incorporated it into our model. The head and tail also have a sleeker design, which is reminiscent of many portrayed possibilities of future air transport.

Finally, we completed the scene with a background of the sky to show the planes flying in the sky in order to symbolise progression and advancement in transport technology, hence our theme “Techvancement”.



