
(Larson, 2020)
Virtual Production Practice
ADPA5033

AI Statement

I confirm that I have not used any AI tools in the research of this assignment.

I acknowledge the use of Generative Fill on Adobe Photoshop on 3 March 2026 to edit photographic material:

1. Fill this image to fit the page. (Image and details visible on slide 71)

I confirm that I have not presented any AI generated materials as my own work. I confirm I have copies of my drafts, notes, and other resources I used before, and after the use of AI tools which I may be asked to provide in evidence.

Module Brief

Task 1 - You will focus on compiling a process workbook, it should include: Research and testing, Development of ideas, Progress pictures and explanation of set/prop/scenic art/technical development, Problem solving and technical drawings, White card/finished models/maquettes, Completed working set/props/costume/technical elements etc.

Task 2 – Produce physical and digital production elements for given brief

Task 3 - At the end of the module, as a group, you are to give a 10-minute presentation. The presentation will inform the audience about how you have solved the practical problems demanded by the brief, focusing on production technique, methods and problem solving.

Task 4 - Reflect upon what you've learnt throughout the module into a five-hundred-word evaluation.

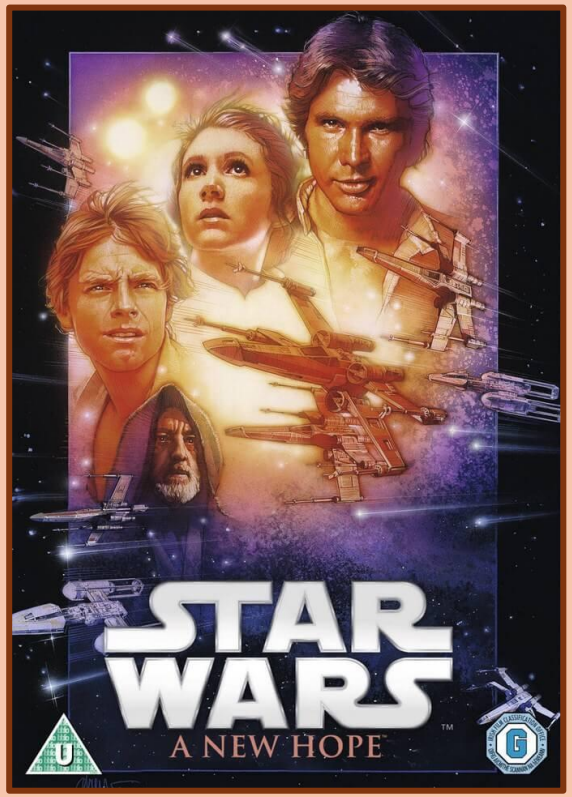
Learning Outcomes

1. Predict and utilise a range of digital solutions, processes and techniques that meet the requirements of the problem under investigation.

2. Apply an analytical and critical approach to generate creative digital solutions relevant to the specialist area of study.

Star wars: A New Hope (1977)

Directed by George Lucas, designed by John Barry and Norman Reynolds. (*IMDb, Year Unknown, a*)



←*(Zavvi, Year Unknown)*

Summary:

A young man named Luke Skywalker finds himself in possession of an important message for a Jedi Knight, hidden within two droids. He must go with the Jedi Knight to save Princess Leia, protect the galaxy from the lethal battle station The Death Star, and learn the ways of the force to one day become a Jedi Knight also.

(Broadway Nottingham, Year Unknown)



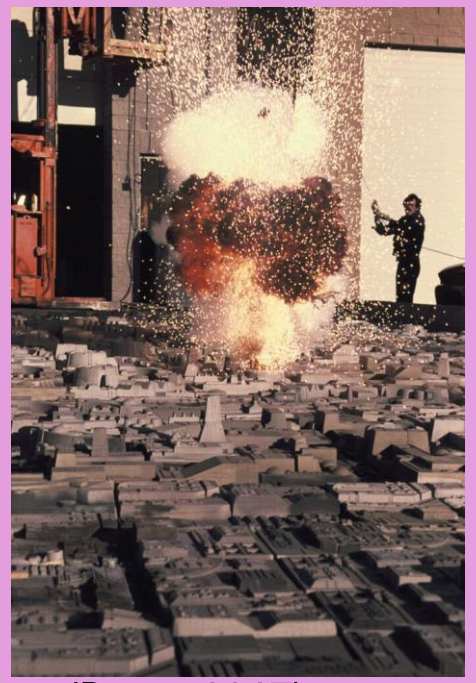
The Star Wars Original Trilogy consists of: Star Wars: *A New Hope (*1977) (directed by George Lucas), Star Wars *The Empire Strikes Back (*1980) (directed by Irvin Kershner) and Star Wars *Return of the Jedi (*1983) (directed by Richard Marquand) *(SomeDisneyGuy, 2018, a)*

My Thoughts:

As I knew how they used models to create the spaceship shots and battle sequences, I was expecting to find it unrealistic, I was really amazed to find how fantastic and effective the model shots were. They really feel as though they're flying through space and crashing and shooting at each other. I thought the special effects were really impressive for a film from the '70s and that the actors seemed to interact with the CGI creatures a lot better than the actors in the prequels 10 years later!

Star Wars

George Lucas founded the company Industrial Light and Magic to develop new filmmaking techniques and special effects



(Baver, 2017)

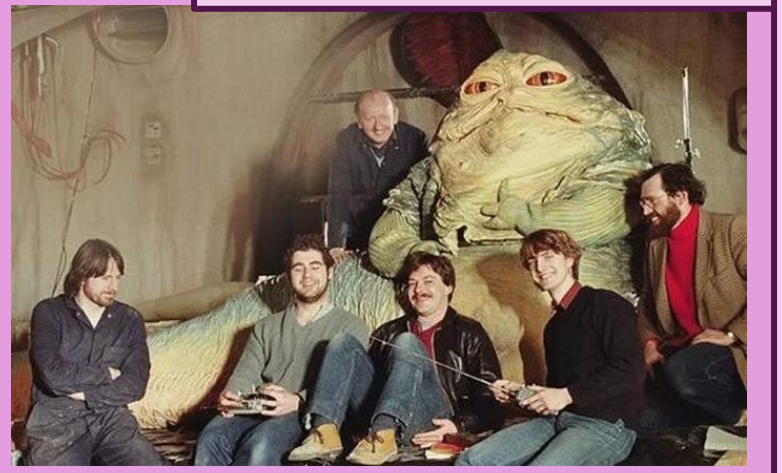
Puppetry → 15 artists took a year to create all the puppets for *Return of the Jedi*, needing 10 puppeteers for the Jabba the Hut scene with the puppet itself taking a month to film and 3 months to build. The trilogy blends models, action shots, blue screen, and matte painting, as well as computer generated effects.

Models → attack on the Death Star scene: required hours of storyboarding and extremely detailed model designs, these models would be photographed by computer-controlled cameras which would be programmed to the storyboard. They used blue screens in many shots, including the Valley of the Ewoks, which also included matte painting, location shooting, and optical printers. The development within the star wars movies led to an increase in sci-fi films, and an interest in growing and developing effects and film technology even further. *(McGhee, 2023)*



(Jromeit, 2020)

Paul Huston, a modelmaker and matte painter on the Star Wars movies describes how they began moulding the models due to the extremely large amount required from them.



(Hinton, 2024)

For exploding models, they experimented and found that moulding a foam into a cast created a model which was light and delicate enough to explode effectively at a small scale, and that creating cutting patterns into it helped to predict and utilise how it would explode. They would create 3 view plan drawings of the spaceship models before creation, Huston states it's easiest to start with lots of geometric shapes and then add details onto these to make them look functional. *(Baver, 2017)*

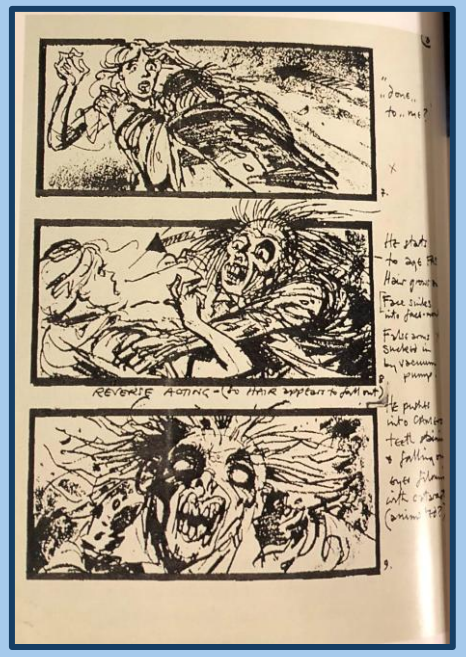
Industrial Light + Magic: Into The Digital Realm



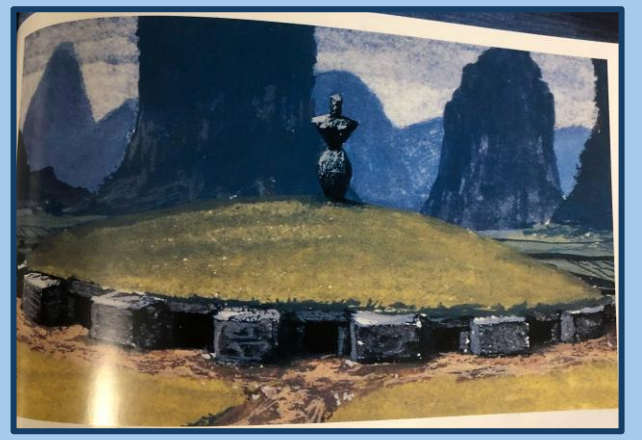
Art Direction

→ Significance of paintings and visual storyboards. Art direction is centred in what you want the audience to feel. A lot of artistic brainstorming does not make it to the screen. *(Vaz and Duignan, 1996, p. 21)*

← *(Vaz and Duignan, 1996, P. 38)*



(Vaz and Duignan, 1996, P. 24)



(Vaz and Duignan, 1996, P. 25)



(Vaz and Duignan, 1996, P. 24)

Models in Action

Some models required electronic rigging within them to power propellers, and compartments to hide pyrotechnics in. They attempted to remote control planes for *Always* (1989) directed by Steven Spielberg, these were unreliable and unpredictable and were scrapped. *(Vaz and Duignan, 1996, p. 39)*

(Vaz and Duignan, 1996, P. 90) →



Painted Film

Matte painting provides creative control. “Composition and lighting is the key to a good matte shot” – Chris Evans, ILM matte painter. Some matte paintings have been combined with live shots over the top, such as real waves crashing into painted shores. In 1980, the Automatte camera was created and used to experiment with moving the camera during matte painted shots, placing models in the foreground to create perspective shift. *(Vaz and Duignan, 1996, p. 87)*

Industrial Light + Magic: Into The Digital Realm

Who Framed Roger Rabbit?

Live camera tracking both live actors and animated characters, with a combination of ILM, Disney's Touchstone Pictures, Steven Spielberg's Ambin company, and director Rober Zemeckis. *(Vaz and Duignan, 1996, p. 107)*



(Vaz and Duignan, 1996, p. 143)

1st Digitally Manipulated Matte Painting
Die Hard 2: Die Harder (1990)

Needed an airport runway covered in snow, with planes, ambulances, police cars, and many bystanders for a zoom out shot.



(Vaz and Duignan, 1996, p. 141)



(Vaz and Duignan, 1996, p. 142)

This would have been too expensive and logistically difficult. They decided to create a matte painting, initially 30x40 feet, this was too big to create in the timeframe, they changed it to 13x5 feet, taking 5 weeks. Splitting the painting into 4 paintings, with 4x film resolution. Making the centre more in focus and detailed than the edges for the zooming out effect. *(Vaz and Duignan, 1996, p. 139)*

Star Wars: The Phantom Menace (1999)

Directed by George Lucas and designed by Gavin Bocquet. *(IMDb, Year Unknown, b)*

Summary:

With events taking place before the Original Trilogy, we follow young Obi Wan Kenobi as an apprentice Jedi to Qui-Gon. They attempt to protect the Princess Padme as her planet is attacked and invaded. During their struggles to get her to safety, they come across a young boy who exceeds their expectations and presents stronger sign of the Force than they've ever seen before.

(IMDb, Year Unknown, b) →



(Star Wars, Year Unknown)



My Thoughts:

What lets the movie down is the interaction of the physical and digital. Throughout most of the film the actors are looking in the wrong place when talking to a CGI character, throwing the suspension of disbelief way out of the window and reminding you that there's nothing there in front of them. I found the CGI cityscapes and landscapes beautiful and perfect at capturing these fantasy worlds. The plot was, in my opinion, more interesting than *A New Hope*. I feel like I was gripped a bit more, but *A New Hope* definitely overpowers the prequels in terms of production design and technology.

Star Wars Prequels

Star Wars: The Phantom Menace (1999) d. George Lucas, Star Wars: Attack of the Clones (2002) d. George Lucas, Star wars: Revenge of the Sith (2005) d. George Lucas, Production Designer was Gavin Boquet. *(SomeDisneyGuy, 2018, b)*

The technology of the prequels was much more advanced than the original trilogy due to the decade between them, CGI took over from practical effects, and many people felt it took away the realism and attention to detail that the originals had *(GigaLore, 2025)*.



(Newbold, 2024)

The original trilogy was inspired by WW2, whilst the prequels took from an art deco style and a more polished look compared to the roughness of the originals. The original trilogy pioneered motion control cameras, before this, models were moved through static shots, now the camera is moved around the model in front of a blue screen, creating a new speed and intensity to fight scenes compared to the slowness that previous sci-fi films had. Each shot of the models were combined together using an optical printer to create the final shot.

The prequels were some of the first films to create a CGI world but were not considered that successful due to the newness of the technology. For example, Ja Ja Binx felt too separate from the scenes and the actor interactions. The second and third prequels were shot completely digitally and began replacing older puppets with CGI, as well as replacing matte painting shots, so that all storm troopers were CGI as well. Whilst the sequels returned to the practical techniques of the original movies, combining these with the improvements in equipment and technology. *(NowThis Nerd, 2017)*

ILM Technology and Methods

Vista vision is a high resolution widescreen camera using 35mm film with an aspect ratio of 1.5:1, before the 1950s all cameras were an aspect ratio of 4:3. this was created in 1954 *(Abreu, 2021)* and the original star wars trilogy uses vista vision in order to create sharp frames whilst using special effects, with no optical printer for it, they adapted vista vision into the Dykstra Flex camera with a compatible optical printer. *(Bria, 2024)*

60 frames per second is the standard rate for movies. Motion blur reduces eye strain as 60 fps allows more to be captured and combined to make a smoother motion, imitating eye movement, whilst reducing motion blue in comparison to other frame rates. *(Bakaus, 2015)*

Rotoscoping is a method of manually altering film one frame at a time, invented in 1915 by Max Fleischer, it can be used by projecting film onto glass and manually drawing onto it, but more recently can be done with a computer. They used this technique in creating the lightsabre effects. *(IntoFilm, Year Unknown)*

Dykstra Flex is a motion-controlled camera system and is the first computer-controlled camera for filming models. Created by John Dykstra in Illuminated Light and Magic for the Star Wars films. On a boom and track setup. *(Grokipedia, 2026)*



(Ward, Year Unknown)

Matte painting is a low budget technique allowing you to replace elements in a shot, used since the early 1900s. You can combine these paintings with models and effects. Commonly used for wide shots of landscapes and cities, star wars used it to create the backgrounds of certain locations as well as the wide shots of all of the storm troopers lined up. Painted onto glass panes in oil paint and placed behind the actors. *(DeGuzman, 2023)*

300 (2006)

Summary: Directed by Zack Snyder, with Production Design by Jim Bisell *(IMDb, Year Unknown, c)*, 300 follows the battle between the Spartan and Persian army. Led by King Leonidas, a mere 300 soldiers fight to protect Greece from the invasion of the Persian Emperor Xerxes.

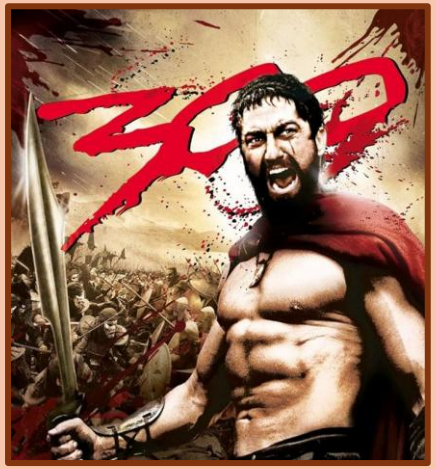


←*(Brayton, 2007)*

It was created with green and blue screens with only the immediate floor and boulders/rocks they interacted with being real *(Root Studio, 2024)*. 90% of the footage required digital effects. The performances were emotional and real despite the complete lack of substance (excluding other actors) to interact with. The film uses the crush technique, which is a high contrast effect that flattens and removes the contrast within shadows *(Baggs, 2017)*, making the characters 'pop' in a comic book style, referencing the visual feel of the original comic book with the same title *(Capoccia, 2025)*.



(Kim, Year Unknown)



←*(Amazon, Year Unknown)*

Digital techniques became extremely popular in the early 2000s as people began to explore its capabilities. This film was shot in an indoor studio in winter. All backdrops and armies were added digitally, with many films choosing digital routes due to costs.

My Thoughts:

I don't tend to watch war movies or really enjoy them, although I find them gripping, I'm just not a fan of the genre. I was happily surprised by the movie 300 and I think a large part of that was due to the style of filming and production design, which used the CGI and almost 'over-editing' to create an incredible comic book effect. I think it's definitely a great example of how far visual effects had come in the space between the Star Wars Prequels and this movie, along with the development of actors being able to react and interact realistically and effectively with nothing there in front of them. I found the performances incredible and, after looking at some behind the scenes shots, extremely impressive in their realism.

Gravity (2013)

Gravity (2013) directed by Alfonso Cuaron, Art Director was Mark Scruton and Production Designer was Andy Nicholson. *(IMDb, Year Unknown, d)*

Summary:
Gravity follows two astronauts fixing their spaceship in space, when a debris storm of broken satellites crashes into them and leaves them stranded. Running out of oxygen and time before the debris makes a full orbit and hits them again, they race to make it to the next space station to get home safely.



(IMDb, Year Unknown)

Technique and Production:
They used a light box technique to capture the light from the Earth, Sun, and stars, using a box lined with over a million LED lights. They used computer-controlled cameras, robotic arms, and pre-programmed movements to create repeatable complex shots. Developing a lot of the technology specifically for this movie.
Combining this with real shots of Sandra Bullock's character when inside the spaceships and space stations, attaching her limbs to strings so that she's suspended as if floating. *(Slate, 2018)*

My Thoughts:
I was a bit hesitant towards the movie Gravity after learning how much is CGI and that only their faces and helmets are real, as I prefer and value physical aspects and creative solutions within productions. At first, I was focussing too much on the movement of their suits and thought it looked quite obviously fake, but after a while I forgot about that and began to really appreciate how clever and realistic the movement in space is because of the fact they used CGI. The constant spinning and floating is perfectly disorientating. In a way they did creatively solve the problem of how to capture space travel, and I think this movie has made me appreciate digital elements more than I used to.



(Wickman, 2014)

The Mandalorian

A 2019 series in the Star Wars universe, taking place 5 years after Return of the Jedi (1983), directed by many different people with Rick Famuyiwa directing the most episodes. Designed by Andrew L. Jones and Doug Chiang *(IMDb, Year Unknown, e)*.



(Seymour, 2020)



(Coldewey, 2020)

Virtual scouting – you can make the backdrops and use VR headsets to explore and plan the camera angles for filming, The Mandalorian still uses physical set and aspects, is it the perfect middle ground between the Star Wars prequels and the originals.

ILM worked on this production, using real time rendering to create backdrops. Using The Volume LED screen which is 20 feet tall and 75 feet in diameter. Anything you design can be on screen in 24 hours, making a quicker design process that cuts out the construction process. It allows for a better performance, uses Unreal Engine to render, and can move locations in the same day easily. You can shift the world easily to edit the location angle. LED screens are good at creating vehicle movement in an effective way, you can also build sets in front of them (e.g. spaceship/bridge) (*Industrial Light & Magic, 2020)*



(NSE LED, 2024)

LED Screens

LED = light emitting diode.

LED screens produce lots of light using very little electricity. They use diodes as pixels to create images. The first LED display was created in 1962, with full colour becoming available in the late 1980s. Regular light is created with a heated filament, LED light is considered a cold light as the light is generated within the diode itself, making them extremely energy efficient. *(Insane Impact, Year Unknown)*

(Latvis, 2023)



(Roe Visual, Year Unknown)



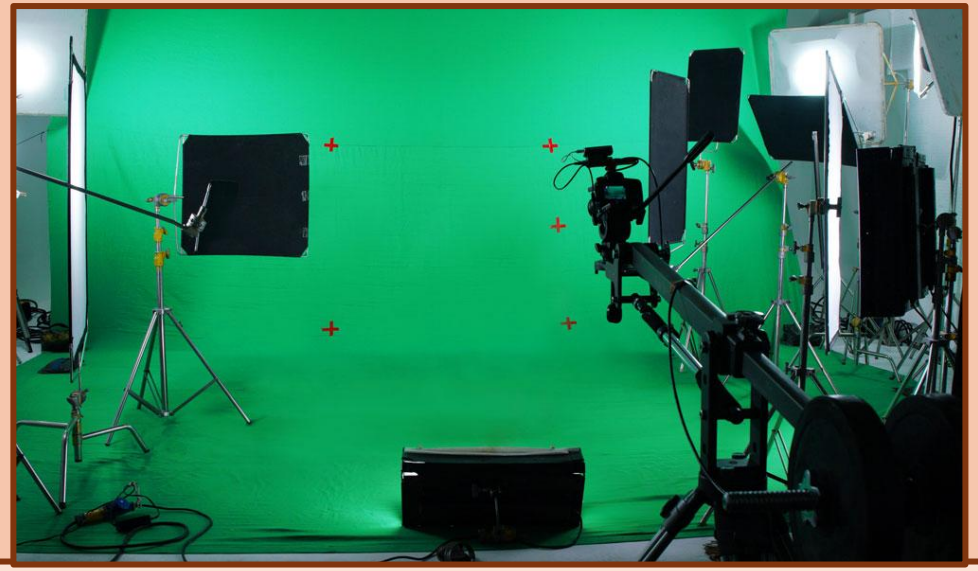
(Latvis, 2023)



LED Volumes were developed by ILM for The Mandalorian. They are a large curved wall using high resolution LED screens. They project real time backgrounds that respond to camera movement, making them appear more natural and realistic. They were inspired by video games and virtual reality. *(Kane, 2025)*

Pros and Cons (Green Screen vs. LED)

(Noyes, 2019)



(SCAD, 2022)



Green screen:

<u>Pro</u>: Flexibility in post-production, low cost to set up, adaptable to a wide range of productions and requirements

<u>Con</u>: Can get light spill and require colour correction from the green reflection, hinders spontaneity and reactions from the actors

LED screen:

<u>Pro</u>: Real time interaction with the actors (2D can be good for static shots, 3D respond to camera movements in real time and often used for sci-fi) more streamlined production process, easier lighting integration

<u>Con</u>: Very expensive, a lot of pre-planning needed, glitches may occur, require lots of space

Green Screen → more decisions post-production

LED → more decisions pre-production

Green vs. Blue screen

Blue: less colour spill, less luminant making it good for dark scenes, needs more lighting, common colour for clothing
Green: cleaner key, less lighting required, good for daytime shots, uncommon clothing colour, can spill onto blonde hair
Skin tones usually consist of pinks and warmer tones, making blue and green a good contrast to people. You must consider the costume design when using blue and green screens. They must be evenly lit to avoid hot spots.

I love the idea of LED walls and the integration of real sets in front of them, but I dislike when they are used for static shots, it feels wasteful and unexciting from a production perspective.
(great from a digital perspective)

ux Machina, Year Unknown)



Examples of LED screens in productions:

Miles Roberts Production Designer, uses LED screens and Volumes in a lot of commercial work. Whilst Pixomondo use it primarily for sci-fi films. They used it for House of Dragon and Star Trek: Discovery

(Roberts, Year Unknown)

The Batman (Sanguineti, 2022)



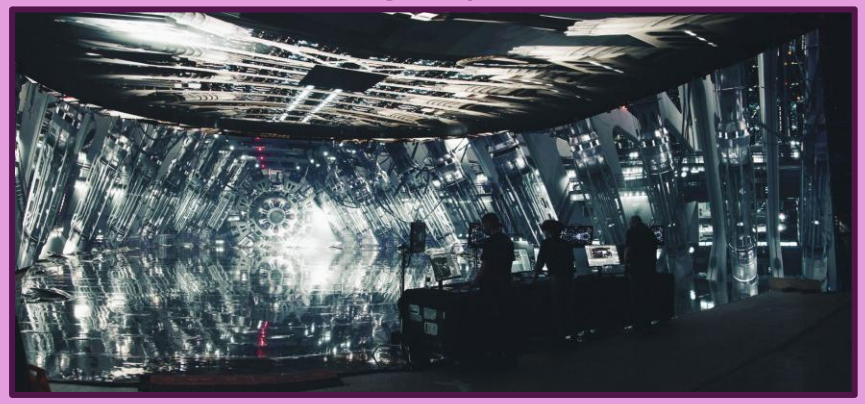




(Pixomondo, Year Unknown) *(Elstree Studios, Year Unknown)*

Megalopolis (Desowitz, 2024)

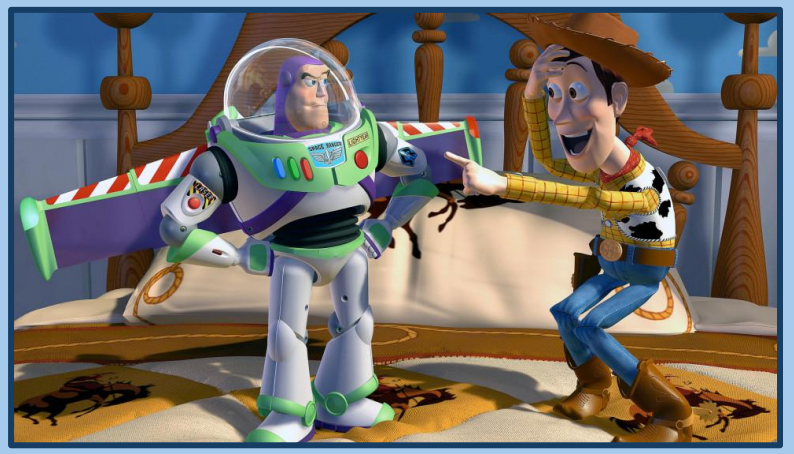




Timeline (Murphy, 2020), (ERMW, 2024), (Ross, 2020)

Lumiere brothers → creation of the motion picture camera in 1895
George Melies' Moon → superimposing, fading, double exposure, scale models (1902)
Introduction of sound → the Jazz Singer (1927)
Development of colour → 1902 hand coloured film, move into technicolour in the 1930s with Wizard of Oz
Animation → Fantasmagorie (1908) and Disney (1937)
1970s special effects → star wars and computer-generated effects
Pixar → computer graphics within filmmaking (1995) advancements in technology made it more reliable and effective
Shift from 35mm film standard to digital
LED Walls → 2000s, becoming popular in 2010s and with The Volume in 2019
VR/AR/XR → immersive experiences (Mandalorian is an XR experience, with Pokemon Go an AR experience)
Motion capture → Gollum → using real actors to create animated characters

(IntoFilm, Year Unknown, b)





(NYHED, 2019)



(Bidisha, 2018)



(IntoFilm, Year Unknown, a)

Models vs. VFX

Models have been used for decades, simulating large scale scenarios such as explosions, landscapes, spaceships on a much more manageable scale. All of the texture, lighting and camera resolution creates a realism superior to early CGI. It requires significant amounts of labour.

VFX development has meant it can surpass miniatures in realism. It can calculate light and physics but can be expensive. It has more flexibility.

The best result is a mixture of the two, both requiring immense detail in order to create realism. Interstellar uses a model for the space station and CGI for the black hole.

(*LightArchitect, 2025) (Neath, Year Unknown)*



(*LightArchitect, 2025)*



(*LightArchitect, 2025)*

Software: what software is good for what?

Premiere pro → (Adobe) video editing software *(Noble Desktop, Year Unknown, a)*
After Effects → (Adobe) animation, visual effects, manipulation of imagery *(Plummer, Year Unknown)*
Igloo Engine Core → shared immersive spaces, used for operating immersive spaces *(Igloo, Year Unknown)*
Unreal Engine → used for video game development, creating immersive 3D graphics *(Coursera, 2025)*
DaVinci Resolve → (free) video editing and colour grading *(Kennedy, 2024)*
Final Cut Pro → (apple only) video editing *(Noble Desktop, Year Unknown, b)*



(Vectors, Year Unknown)

CapCut → used for short form videos and social media content *(CapCut, Year Unknown)*
MadMapper → projection mapping on large scales *(Creative Technology Lab, Year Unknown)*
Resolume Arena → industry standard for live video mixing and effects in live performances, can be synchronised with audio and lighting *(ScreenPro, Year Unknown)*
Hippotizer → used in live events, handles playback, used by Strictly Come Dancing (if one camera goes down it swaps to backup which is synced with the original) *(Green Hippo, Year Unknown)*

Design Brief:

Create a small physical set and a digital backdrop to go alongside each other.

Created in the style of a screen test, each group will create a 60 to 90 second video of their final set and backdrop in the immersive room.

Some example options of scene ideas to choose from:

1. A train with a window looking out onto the scenery
2. A spaceship flying
3. A submarine
4. A race car
5. A Victorian horse and carriage
6. A sandstone cave
7. A café overlooking the Trevi fountain

Groups:

We were put into groups to immediately get started on brainstorming ideas. I am in a group with Anne Hyde and Mary Legg.

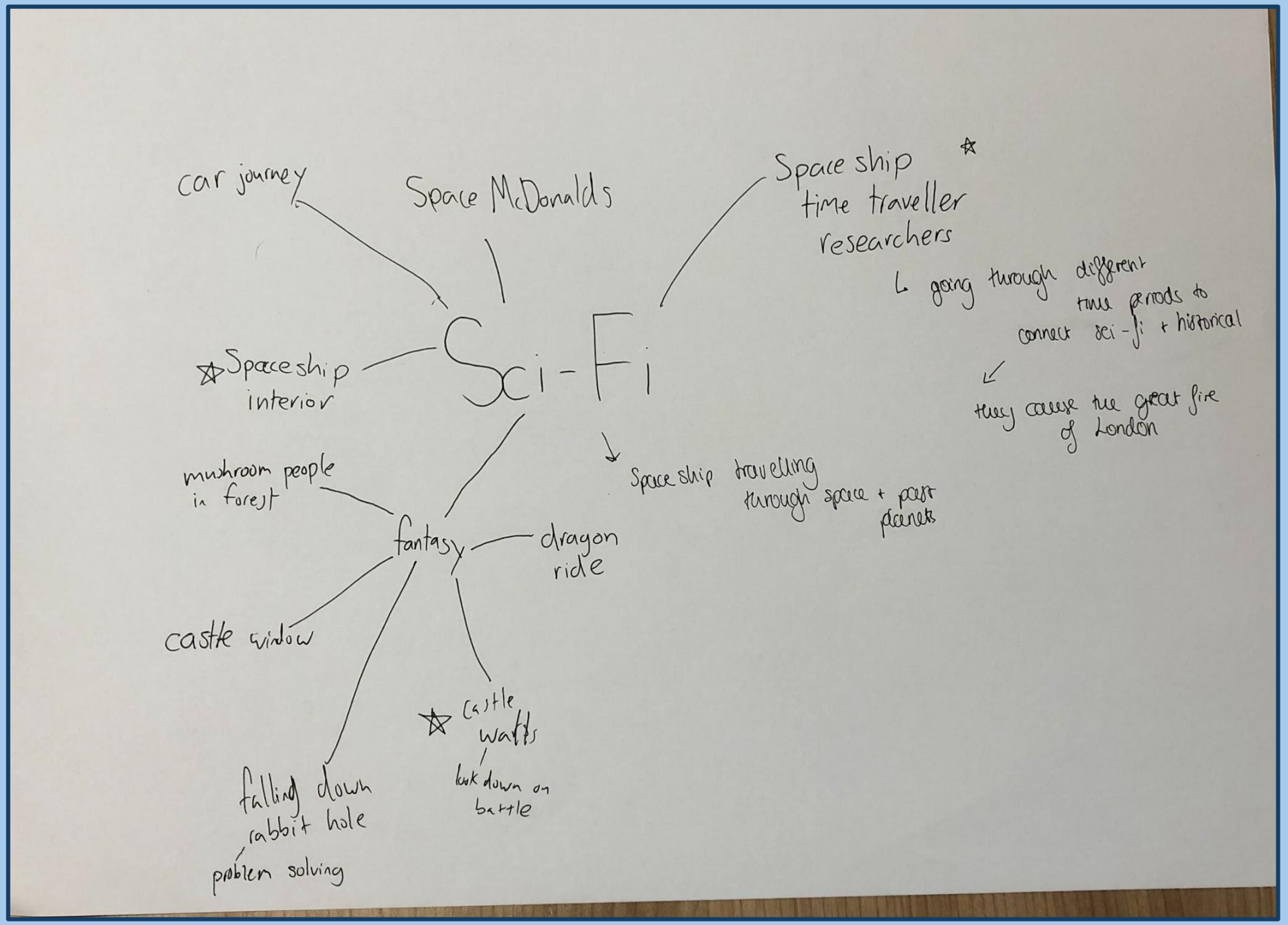
Budget of £100 per group, we will use one wall in the immersive room for the backdrop and the others for lighting.
Week 1 → research, software introductions, modelmaking and sourcing
Week 2 → designing and making
Week 3 → finished making
Week 4 → filming, editing, and presentations

To Consider:
- Experiment with how the light spills in the room
- Camera tests for pixelation
- Consider the distance between the set and the screen
- Limited to no construction in the room to protect the screens, one risk assessment for the whole class

Mind Maps

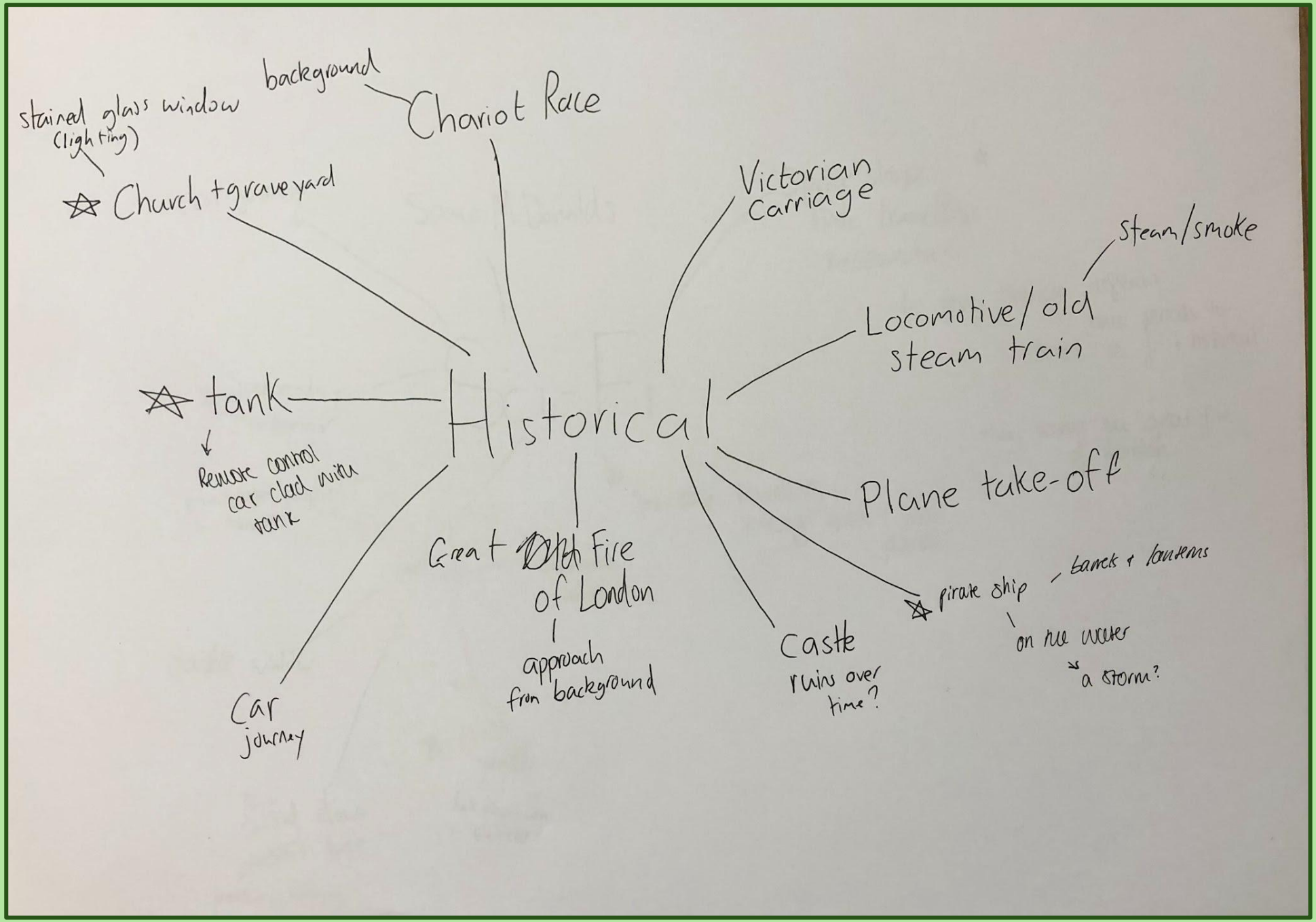
We made three mind maps on three genres we were interested in, brainstorming all the possibilities and options we had as well as discussing what we were specifically interested in. We favoured a futuristic style as we hadn't done that before, but also a period style as we love period pieces, adding in nature for a simpler and calmer approach to the project.

All mind maps were created as a group and drawn by Mary Legg.



Mind Maps

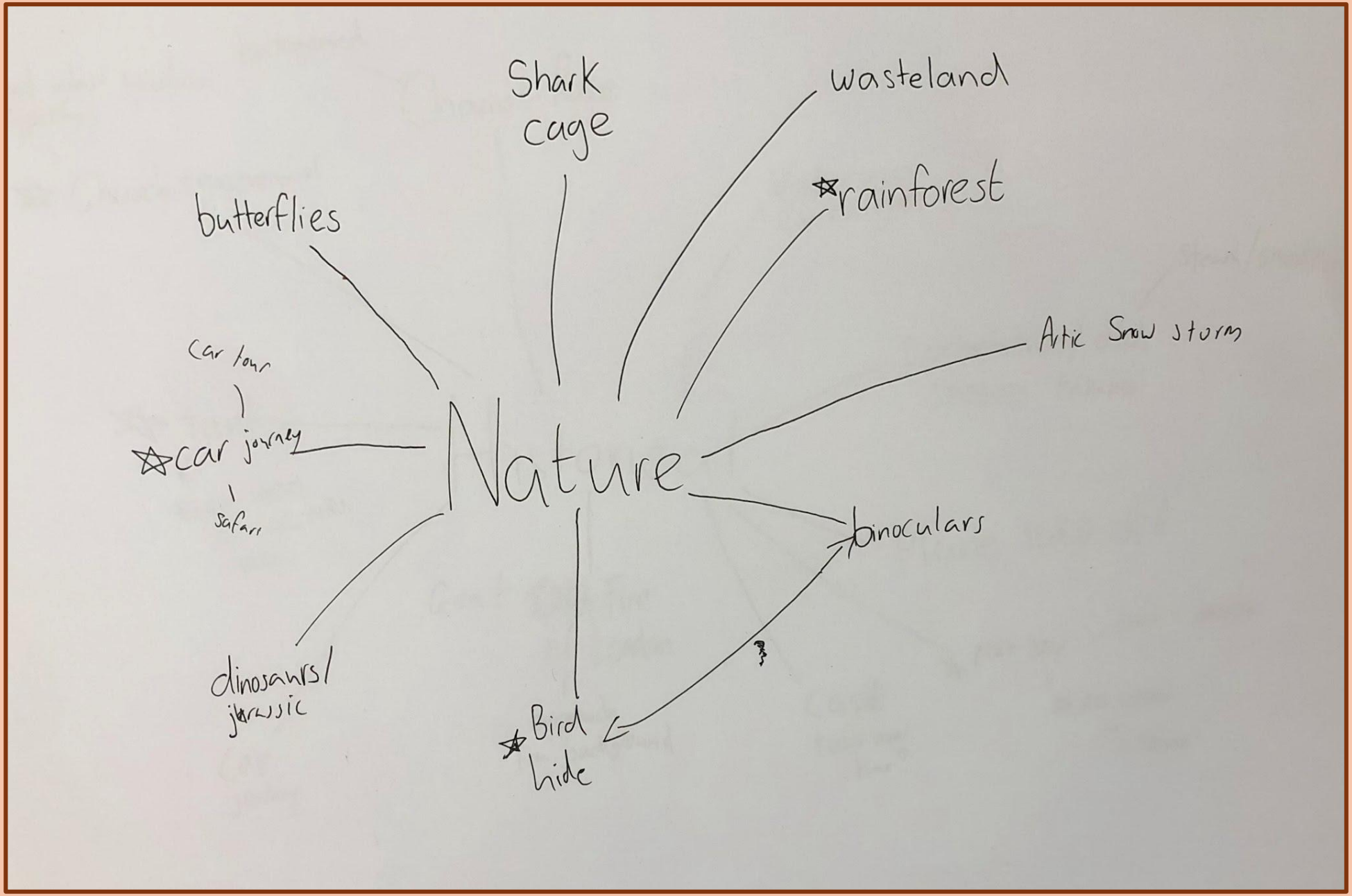
A lot of our ideas were around movement depicted in the digital screen whilst a physical aspect remained stationary – as this is what a lot of LED screens are used for, we started branching out into more interesting concepts including movement in the physical along with the digital, closer to the Mandalorian technique which I think is effective and what LED should be used for rather than just a replacement for green screens.



All mind maps were created as a group and drawn by Mary Legg.

Mind Maps

We were leaning towards a more visually interesting idea rather than our nature options, as we wanted more creative opportunities as well as something to challenge ourselves technically



All mind maps were created as a group and drawn by Mary Legg.

Prop and Furniture Store





Oil lamps → old period locations
Barrel → pirate ship options
Window → if needed to look outside
Mini cash desk → could be used as the interior of a shop looking into a street
Facebook marketplace: old dressers we could repurpose into a sci-fi control deck for a spaceship

We explored the prop and set stores to see if it gave us any inspiration for more concept ideas, we didn't gain much from these visits as we were struggling with the idea of creating a scale model for the backdrop rather than a life size version. Although looking on marketplace did influence our decision to add a spaceship control deck perspective to our options



Cameras and LED Screens

→Best to have the physical objects at a distance from the screen so that it is not in sharp focus
→Find a balance between screen lighting and conventional lighting, use minimal conventional lighting
→Moire effect is a rippled appearance that happens in grid patterns like mesh fabric and LED screens, it is the space between the pixels creating the effect, not the pixels themselves. Keep the camera in soft focus to prevent this, change angles, zoom, and distance.
→Try slowing the shutter speed to avoid the moire effect and the refresh rate
→Use a good quality camera
(Brompton Technology, Year Unknown), (Todd, 2023) and (Learn Stage Lighting by Above AVL, 2022)



(Cumming, Year Unknown)



(Han, 2021)

Developing and Discussing Ideas

Step 1 + 2 : Commitment and Analysis

We chose our three favourites from each genre and discussed what we would create for each one. Breaking it down into digital and physical so that we knew we had a balance, as well as brainstorming other aspects such as sound as we knew we wanted to incorporate sound for a truly immersive experience.

Historical:

4. Church and Graveyard:

Could be the exterior of the church looking in or the interior of the church looking out.
→ stained glass windows to experiment with lighting
→ sounds of a choir, bells, birds
→ gravestones visible
→ old church

5. Tank:

Model tank, possibly a remote controlled car made to look like a tank
→ bumpy ground on the base board as if on a battlefield
Digital → WW2 battlefield
Sound → explosions, gun fire, shouting in the distance

6. Pirate Ship:

Digital → stormy weather and the sea (big waves)
Physical → either a model ship or part of the ship
Could be the interior looking out onto the ocean
Sound → storm noises, sword fights, drunk rowdy pirates

Sci-Fi:

1. Time Travel:

3 Locations and time periods, in the future a group of researchers board a time travelling spaceship to explore the past
→ future: space station port (Treasure Planet inspiration)
→ middle location
→ London in 1666, they crash into a bakery and start the Great Fire of London, possible smoke coming from the spaceship in the digital backdrop.

2. Spaceship Interior:

Physical → Pilot chair at a control desk on a futuristic spaceship (LED lights and glowing buttons) a windscreen to space
Digital → the ship travelling through space and past planets

3. Castle Walls:

Physical → castle walls
Digital → looking down into the fields in front of the castle, possible approaching danger/army

Nature:

7. Bird Watching:

Camera technique to create the effect of binoculars, used to zoom in on the birds
Digital → birds in the sky and trees
Physical → bird hide
Sounds → nature, bird calls, old man noises, child complaining

8. Rainforest:

Surround sound → rain, animals, breeze in the trees
Physical → plant life, soil and dead leaves on the ground, mushroom man puppet as a focal point
Digital → rest of the rainforest background

9. Car Safari Tour:

Physical: Two people, one the driver and the other a passenger, framing of the car
Digital: tour of the terrain (flexible on location)
Sounds → car noises, animals, nature

Mood Board: Science-Fiction Time-Travellers



We then created mood boards for each of our favourite ideas from each genre. This is the mood board for the science fiction choice of time travel. For this concept we were looking at paintings of the Great Fire of London, including inspiration from the movie treasure planet and scenery of 1666 London, alongside spaceship and space station imagery.

Merk_12 (2021), Sally 4th (Year Unknown), Steam (2020), Roguecop (2021), Sally 4th (Year Unknown), Sally 4th (Year Unknown), Davies, S. (2016), Grivet, B. (2015), Fandom (Year Unknown), Jeater (Year Unknown), Alamy (Year Unknown), Sally 4th (Year Unknown), National Geographic Kids (Year Unknown)

Science Fiction Concept:

We had extra options on the second location of the time travelling concept, as we knew we wanted them to land somewhere else before 1666 London. Including events in between the future and 1666: the fire of Notre Dame (too much fire it would get boring and confusing), beheading of Marie Antoinette (too random and out of place), new years eve (not clear enough or significant), London 2012 Olympics (easy to convey and a good option), Battle of Waterloo (interesting and easy to convey, ship could get damaged),



1,200 × 720



1,280 × 584



573 × 439



1,200 × 800



960 × 540



1,280 × 945

London Blitz (best option as the researchers got the right location but the wrong year, easy to convey through sound and imaging, can connect in narrative as ship gets damaged in an air raid)

Mood Board: Historical Church and Graveyard



For the mood board of the Historical/Period piece genre we were considering a church and graveyard location, we looked at church exteriors and stained-glass windows for the option of playing with lighting, we wanted gravestones and the passing of time through daylight movement, looking at church interiors for the digital aspects which could include stained glass windows, leaning towards a calming atmosphere rather than a spooky one.

Blaze, S. (Year Unknown), Abbey Masonry (Year Unknown), Stuart, J. (2018), Graveyards of Scotland (2024), Diliff (2015), Wikipedia (2025), Devon Churchland (Year Unknown), Diliff (2014), Hunt, W. H. (1847), The Church of England Birmingham (Year Unknown), Jaritz, J. (2020), Visit Stained Glass (Year Unknown), Diliff (2014), Jebulon (2011)

Mood Board: Historical Pirate Ship



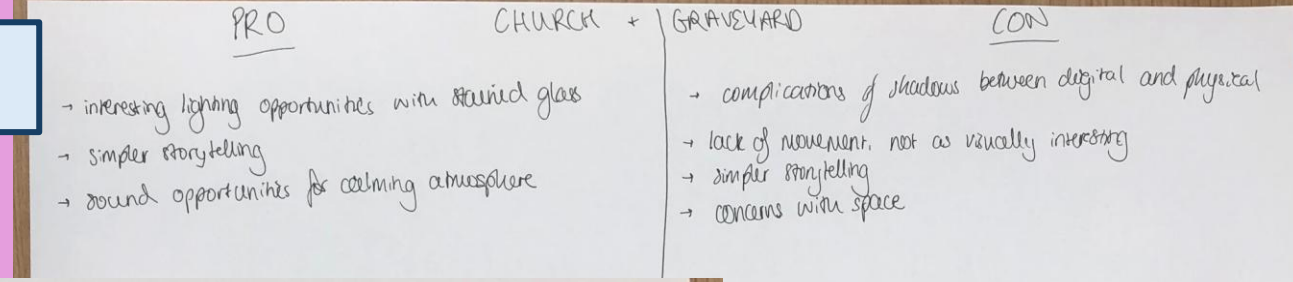
We then decided that we didn't want to expand on any of the nature mind-map ideas, as we felt there wasn't anything inspiring to work with. We created a mood board for the pirate ship instead. With a stormy sea with lightning, signalling danger. Interior of the pirate ship with a view to outside, barrels for time period accuracy, movement and swaying to simulate water

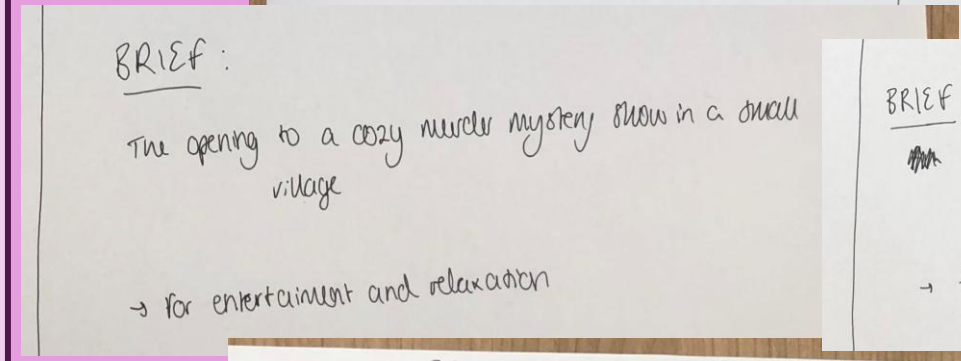
Rotten Tomatoes (Year Unknown), ErbePhoto (Year Unknown), Luhn, A. (2024), Sarto, D. (2023), Mist, S. (2023), Stock Cake (Year Unknown), Image After (Year Unknown), iStock (Year Unknown), IMDb (Year Unknown, k), Adum, B. (Year Unknown)

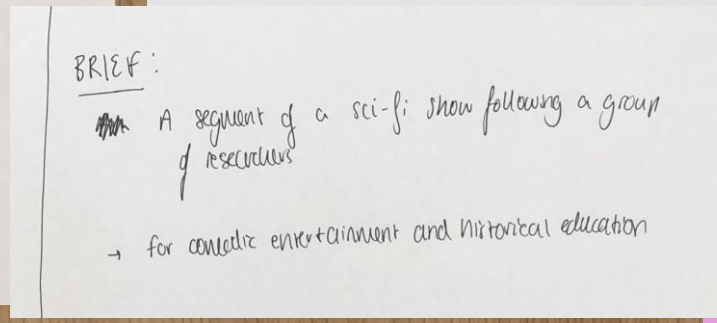
Decision Making

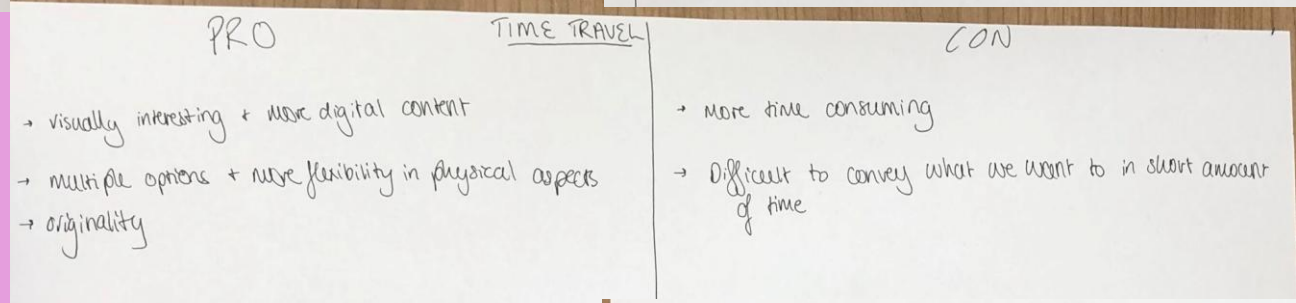
Step 1 + 2: Commitment and Analysis

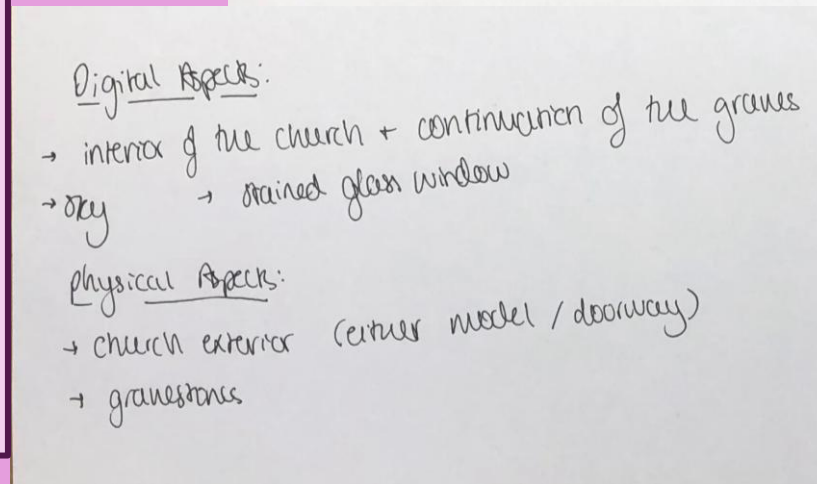
After creating the mood boards, we decided that the pirate ship wasn't an option due to finding it too difficult and the concept not stimulating enough for ideas. We moved onto creating a pros and cons list for our two final ideas, finding we had more positives for the time travel option and more negatives for the church option. We then created a sample brief for each concept, describing the context our screen test would be found in and the intended effect on the audience. We then made a brief list of all of our digital and physical aspect ideas for both concepts. After some more discussion, it was decided that we would do the time travel option, as the majority of our group liked the idea more and we found it more exciting and challenging, as well as more visually interesting and creative to produce. We felt we had more ideas for it but that it could also be easily adaptable to be made simpler and easier if we ran out of time.

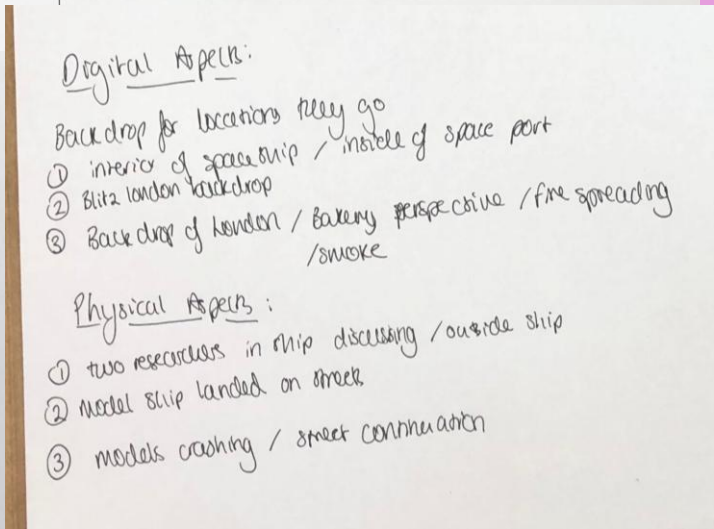






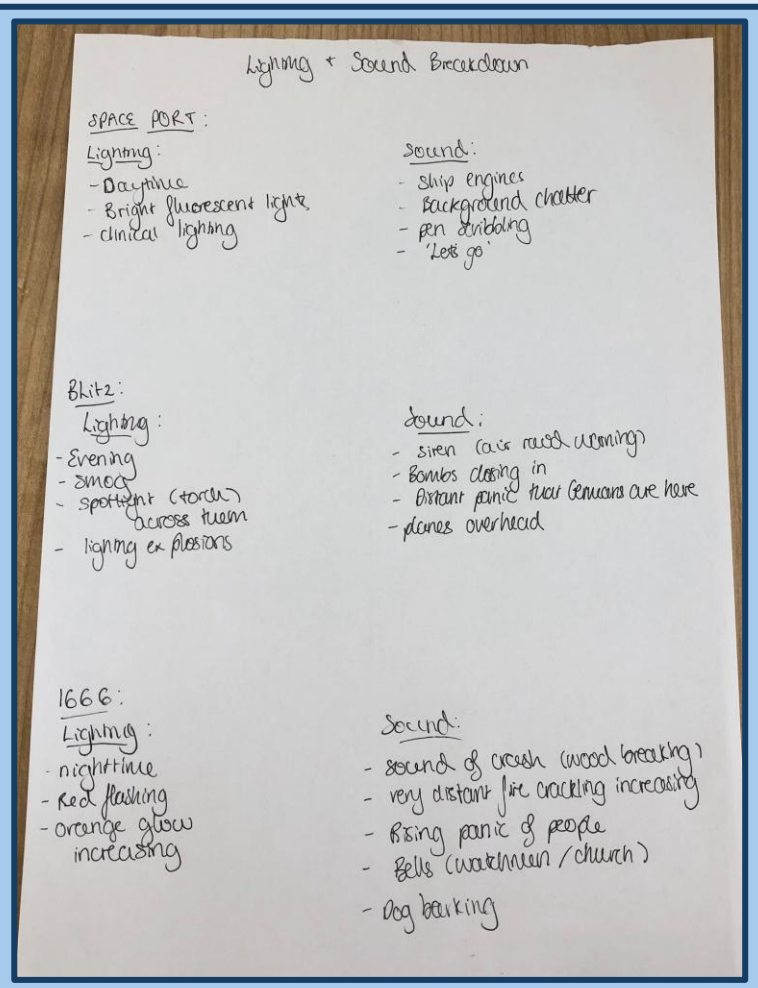






Decision Making and Breakdowns

Step 1 + 2: Commitment and Analysis



Lighting + Sound Breakdown

SPACE PORT:

Lighting:
- Daytime
- Bright fluorescent lights
- clinical lighting

Sound:
- ship engines
- background chatter
- pen scribbling
- 'Let's go'

Blitz:

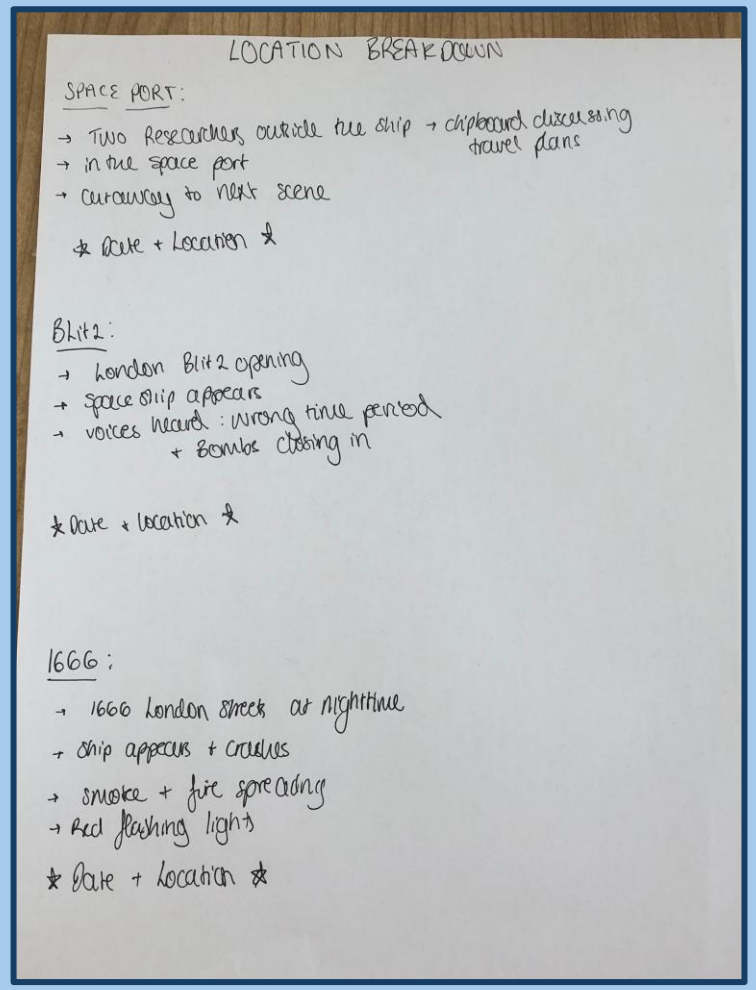
Lighting:
- Evening
- smog
- spotlight (torch) across them
- lighting explosions

Sound:
- siren (air raid warning)
- Bombs closing in
- distant panic that Germans are here
- planes overhead

1666:

Lighting:
- nighttime
- Red flashing
- orange glow increasing

Sound:
- sound of crash (wood breaking)
- very distant fire cracking increasing
- Rising panic of people
- Bells (watchmen / church)
- Dog barking



LOCATION BREAKDOWN

SPACE PORT:

→ Two Researchers outside the ship → chipboard discussing travel plans
→ in the space port
→ carousel to next scene

★ Date + Location ★

Blitz:

→ London Blitz opening
→ space ship appears
→ voices heard: wrong time period + Bombs closing in

★ Date + Location ★

1666:

→ 1666 London street at nighttime
→ ship appears + crashes
→ smoke + fire spreading
→ Red flashing lights

★ Date + Location ★

Once we decided on the time travel concept, we did a scene breakdown of the three locations we wanted to capture, and the short narrative arc the story would have. Breaking it down into the opening Space Port where the spaceship will leave from, manned by researchers from the future who intend to travel back in time to find out what started certain disasters such as the Great Fire of London in 1666. The next location is the Blitz in London, with the researchers having landed in the wrong year, an air raid begins and their ship is slightly damaged, they leave quickly. The final location is London in 1666, we see the spaceship crash into a bakery, and the researchers start the Great Fire of London themselves.

We then did a Lighting and Sound breakdown, to brainstorm all of our ideas for these aspects before we began designing and creating our physical and digital set so that we didn't forget about them. Listing our ideas for each scene and discussing how we could do this.

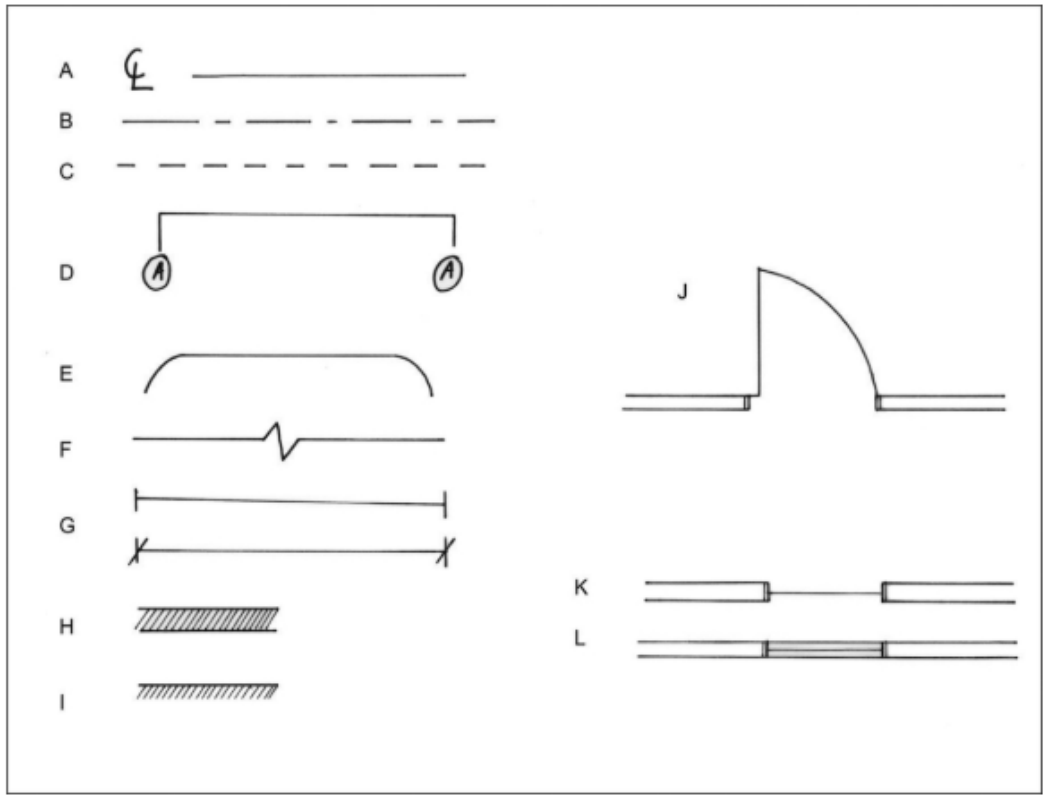
Research: Designing for Screen

Step 3: Research

(Shorter, 2012, Chapter 6)

Preparation in 2D for 3D Realisation

Proportioned representation can enable meaningful conversations. Technical drawings are a communication of construction. They help you find practical solutions and plan in immense detail. The camera picks up everything, attention to detail is important. The physical act of free-hand drawing helps you realise whether what you imagined is possible. Orthographic projections is breaking down an object into each side/angle of it, helping the 2D represent the 3D. Plan view (above), elevation (side), section, cross-section (cut in half). Your drawings should contain information like who drew it, the production, the date, the producer, director, and designer, what it's a drawing of and what version is it.



Symbols in drawings: A – centre, B – elevation, C – Hidden, D – Section, E – backdrop/Cyc, F – break line, G – dimension, H – double clad, I – single clad, J – door, K – Window, L – sash window.

When filming outside of studios you will need to survey spaces, measuring them everywhere accurately, creating free-hand proportionate perspective drawings, and taking many pictures of the space. Being able to note the dimensions and key information in an organised manner will help you turn these drawings into technical drawings. *(Shorter, 2012, Chapter 6)*

Research: Designing for Screen

Step 3: Research

More detailed Model-Making

Understand what type of model is required and the deadline. Never throw away window/door cut-outs and always use a sharp thin blade for precision. Doorknobs can be made from putty and wire. Hinges can be made from fabric or paper, sandwich the hinge between two layers to secure it. You can also create a pivot hinge with a wire going through the door, floor, and frame. Brickwork effects can be made in foam board by removing the top layer of paper and carving with a knife and pencil. Wallpaper can be printed but pay attention to pattern repeating. Stained glass can be done with acetate, some acetate you can print onto. Polyfilla is good for a stone effect and many other textured effects. Experiment with lots of different textural effects and qualities. Learn the basic forms of furniture building to speed up this part of the process, consider how much detail you put into furniture with how much time you have. Putty is best for soft and curved objects. Chandeliers can be made from glass beads on string. Always include a human form. Finally, photograph your model from many angles in many different lighting stages. *(Shorter, 2012, Chapter 8)*

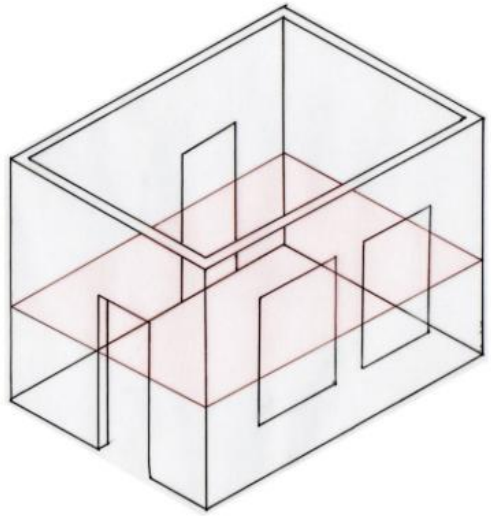


Fig. 88 The horizontal picture plane used for ground plans.

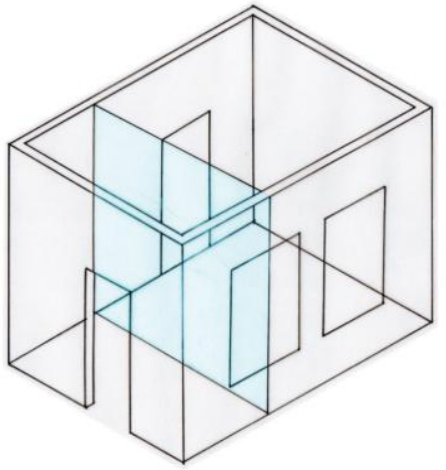


Fig. 89 The vertical picture plane used for elevations.

LED and Sci-Fi

Step 3: Research

Sci-fi short film made by Versatile Media Ltd. in 2022, entirely with an LED volume, allows for effective and realistic low budget sci-fi and fantasy shots. Opening up more opportunities for creatives to experiment with fantasy and sci-fi genres. It was made in 4 days, with no VFX in post-production and only 3 physical props (a rock, a hospital table, and a door)



(Versatile Media Ltd., 2022, a)

They also used the LED screens to create objects in the foreground of shots, using virtual focus pulls on the screens as well, rather than physical ones with the camera (as there was nothing in the foreground to focus on).
(Versatile Media Ltd., 2022, a) and (Versatile Media Ltd., 2022, b)

(Versatile Media Ltd., 2022, a)



They used depth within the digital rendering to create the illusion that the screen connected to the door, with the image reacting to camera motion, it was made believable.

(Versatile Media Ltd., 2022, a)



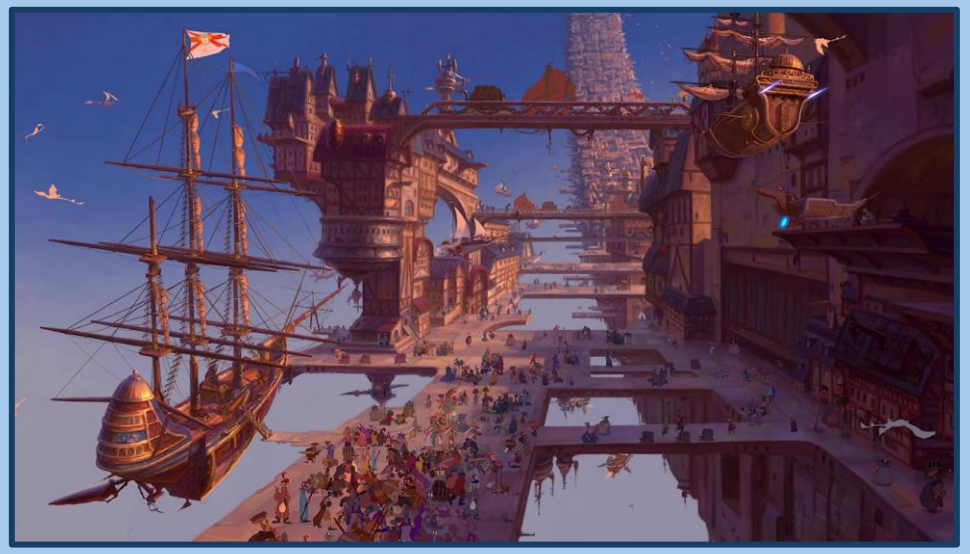
Treasure Planet

Step 3: Research

The 2002 Disney film, directed by Ron Clements and John Musker, designed by Frank Nissen and Steven Olds, follows a teenage boy who finds a treasure map and sets off on a journey to find the treasure on a spaceship. *(IMDb, Year Unknown, f)*



(Wallpapers, Year Unknown)



(Wallpapers, Year Unknown)

This is a very nostalgic movie for our group, we all remember the space port vividly, more like a dock than a space port, and the unique style of spaceships mimicking pirate ships. It has an interesting retro take on a futuristic sci-fi genre, straying from the clean and high-tech sci-fi route films usually take (such as Star Trek and Star Wars).

The ship creates a more rustic and personable effect, something closer to fantastical and whimsical, along with a sense of rationality in sea ships evolving to become spaceships. We also loved the steam punk influences.



(Boutin, 2025)

Space Stations

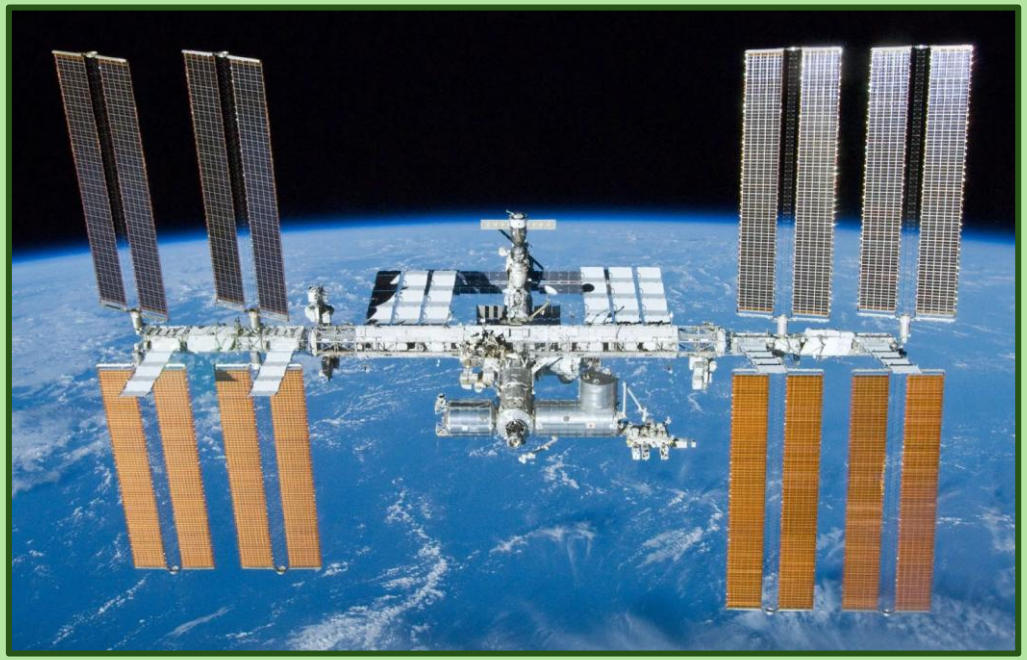
Step 3: Research

Real life space stations:

Space stations provide the ability for long-term space travel and have led to the development of water-purification systems. The first successful space station launch into orbit was in 1971, as of 2023 there are only 2 space stations in orbit, the International Space Station and the Tiangong Space Station. Astronauts on the ISS spend most of their day doing maintenance and repairs *(Kellond-Turner, 2023)*. Looking at real-life space stations, I can see they have many solar panels attached to them and that ships dock outside of the station, attaching themselves to it, rather than landing inside as many sci-fi films portray, meaning they are much smaller in size.

(Kellond-Turner, 2023)





(Kellond-Turner, 2023)

Space Stations

Step 3: Research

Sci-fi space stations:
The Martian (2015) directed by Ridley Scott and designed by Arthur Max *(IMDb, Year Unknown, g)*, the spaceship looks similar to modern ones today, whilst the habitation pods on Mars are all curved and round in their design, is this for better insulation?

Interstellar (2014) directed by Christopher Nolan and designed by Nathan Crowley *(IMDb, Year Unknown, h)*, the main space station has a circular design with cubic connections making up the circle, carrying ideas of an orbital design. The smaller spaceship that attaches is sleek and curved, presenting streamlined attributes, our group is interested in a more streamlined approach but not a curved design. It looks quite like a fish.

Star Trek → the Starship Enterprise is again very curved and almost bug-like, I think it's a strange and illogical shape for a spaceship and is mainly for aesthetic reasons and suggesting an impossible future of technology.

(Hutchinson, 2015)



(Betz, 2015)

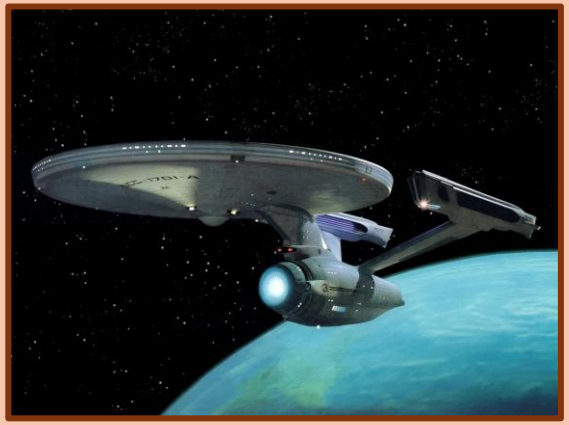


(Fandom, Year Unknown, a)



(Fandom, Year Unknown, b)





(MacManus, 2013)

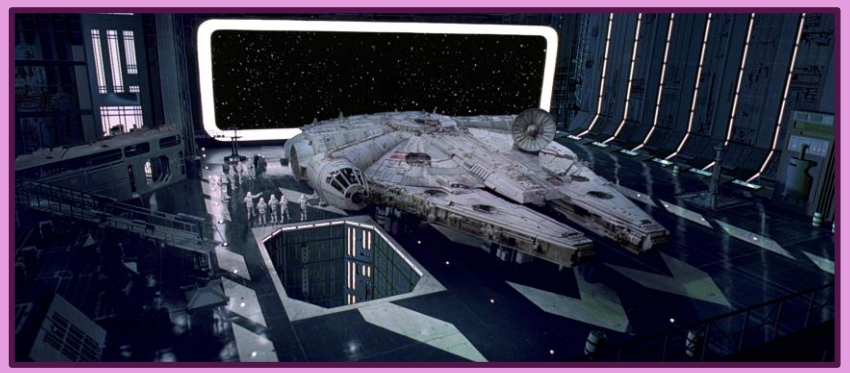
Space Stations

Step 3: Research

Star Wars → also a curved or spherical designs of their space stations and the Millenium Falcon. The clean interior of the Death Star is closer to what I've imagined for our own design of the docking bay/space port. I think it should have the cold colour palette and smooth design, although I think it should be dirtier and more lived-in.



(Star Wars, Year Unknown)



(Fandom, Year Unknown, c)

Prometheus (2012) directed by Ridley Scott and designed by Arthur Max *(IMDb, Year Unknown, i)*, the spaceships have a much more geometric design and comes closer to what I pictured. The film follows archaeologists/scientists exploring the history of a new planet, whilst our concept also follows researchers/scientists. I think this comes the closest to our design inspiration as we need a ship that is official in its design with no weaponry or ornate details, it needs to look structural and adaptable to climates, as well as if it's been through a lot of journeys.



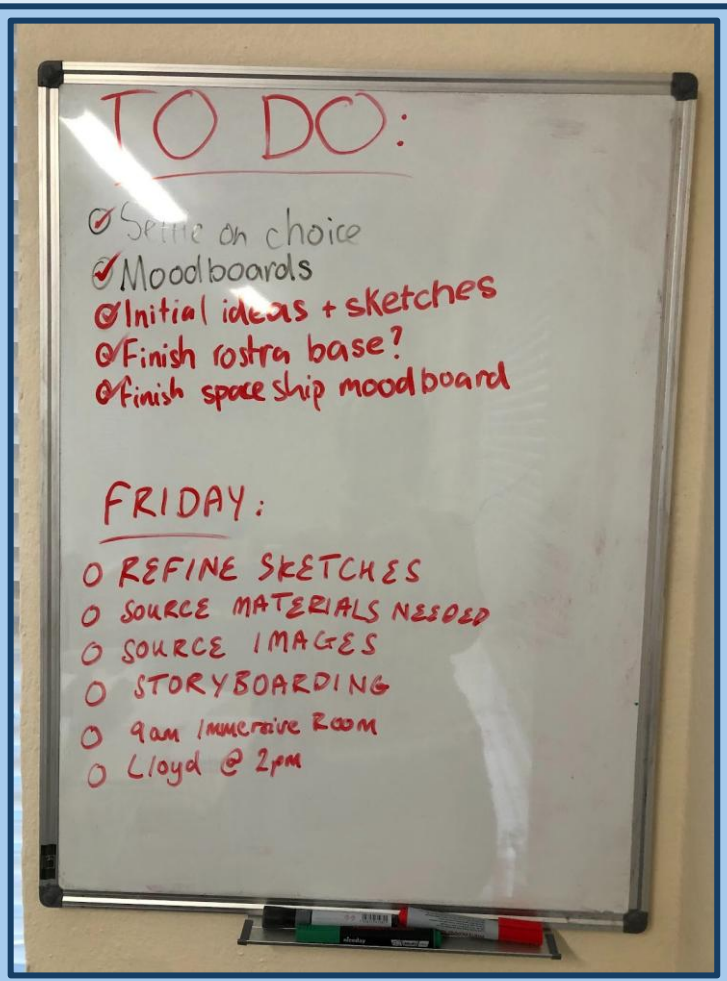
(NY Times, Year Unknown)



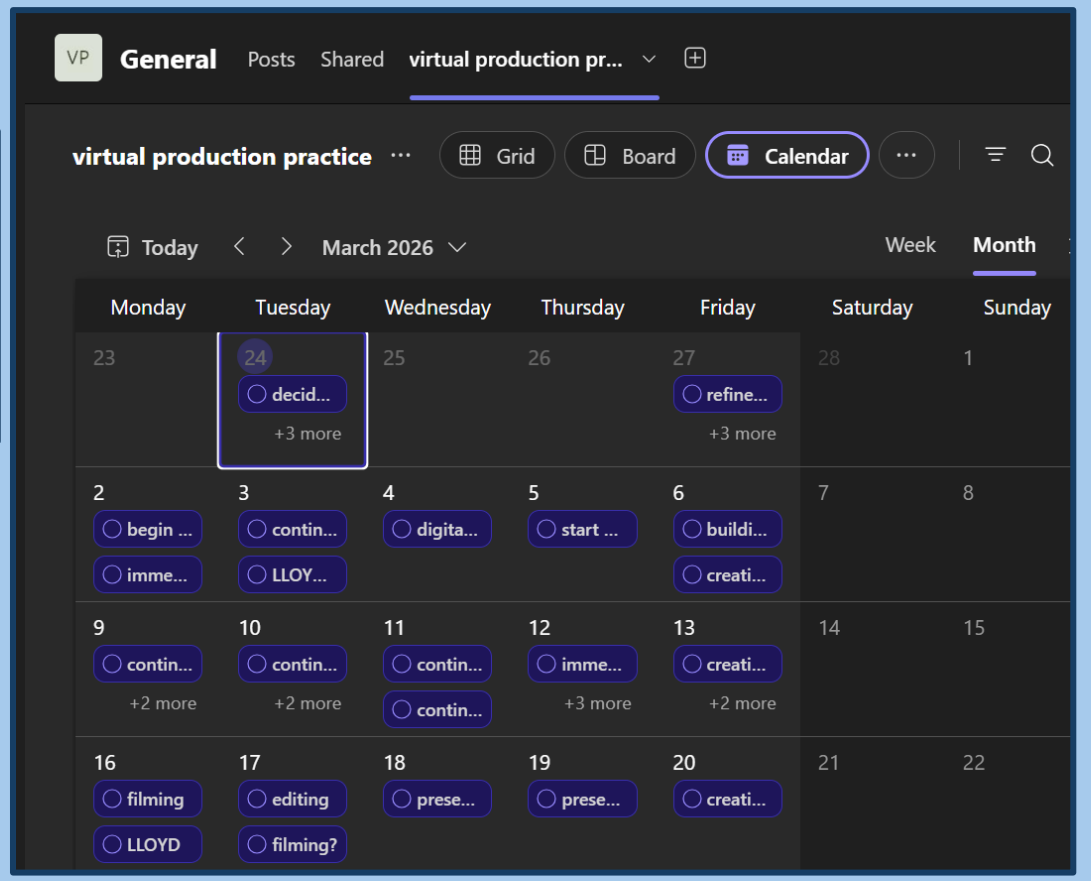
(IMDb, Year Unknown, i)

Schedule Making

I made a Teams group that we could create a shared calendar on for our group schedule. I started by mapping out the presentation and filming dates, scheduling space to prepare for the presentation and ensuring all building and editing was done ready for the first day of filming.



I roughly outlined the building and digital design process on the two weeks in between, having the digital stuff begin first in case we were waiting on any material orders. I made the deadline for material orders this Friday. I noted in each day we had Lloyd so that we knew when we needed to coordinate on digital designs and editing, as well as when we were in the immersive room, scheduling the Thursday before filming for testing lighting and sound in the space on our set.



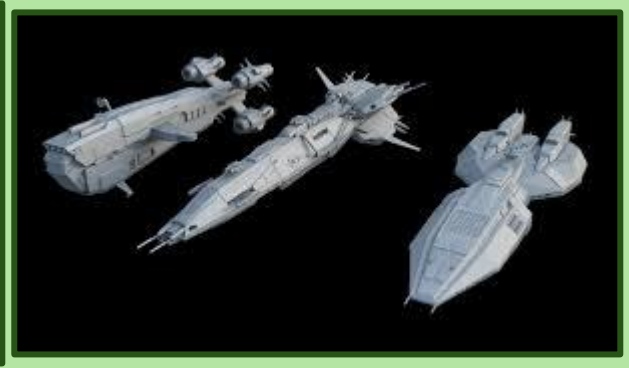
From this, I made the rest of this week refining sketches and ideas, finalising any materials to order, storyboarding our film so we knew exactly what we needed for the digital designs, and sourcing images that we want to use in these designs. This will mean we will have a storyboard to show Lloyd on Friday which will better explain our vision and concept.

Image sourcing and Reference Images for Initial Sketches

Step 3: Research



(NavinAE, 2014)



(3dmode, 2023)



(Stock Adobe, Year Unknown)



(Space Programs, 2016)



820 × 509



320 × 320





https://youtu.be/HnMaLbspOC8?si=qg0CNQwBj9Z6REo9



1,000 × 728

Image Sourcing - Blitz





daytime space port



multiple space station images

space port



city space port

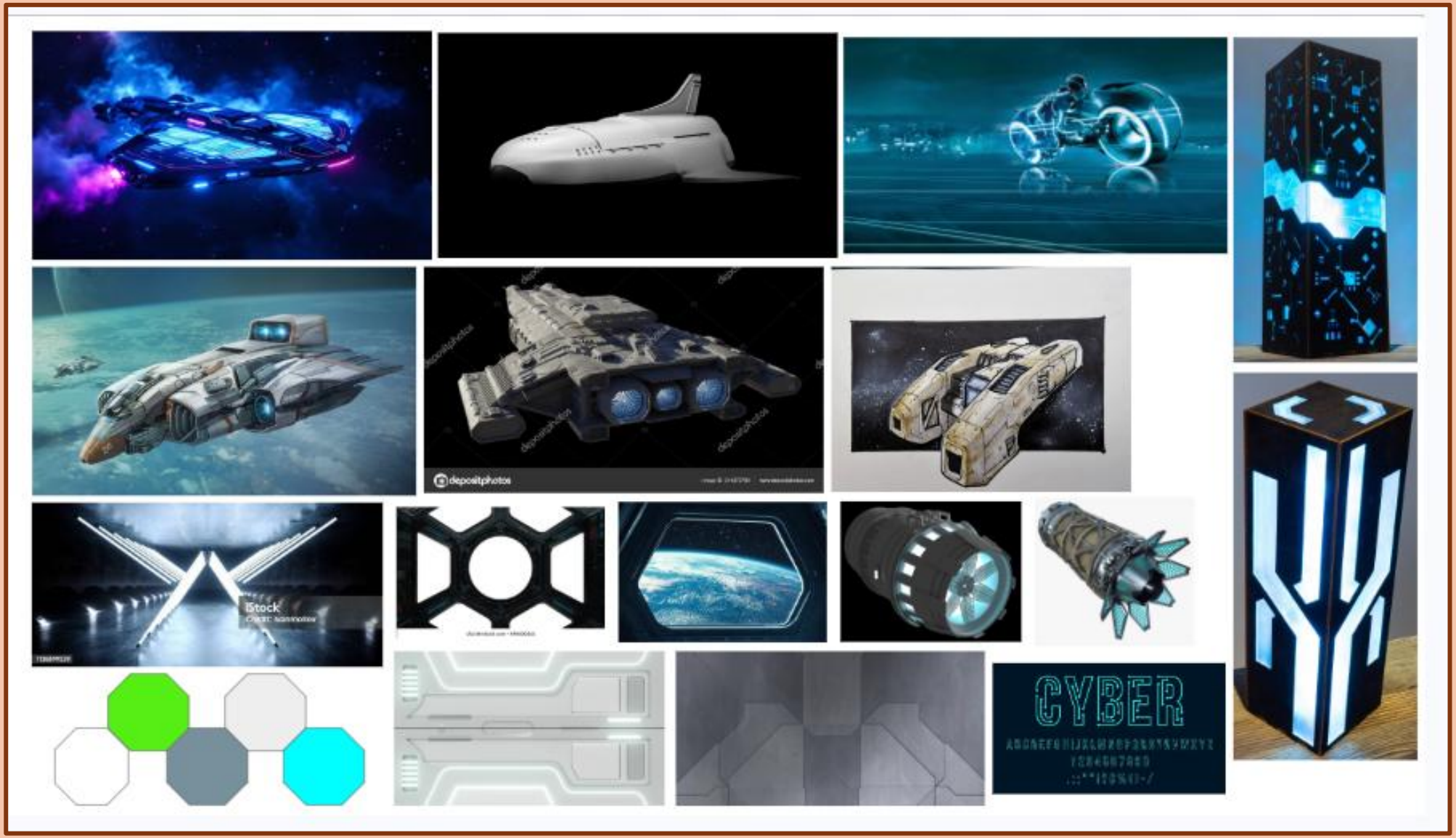


Etsy background - £4.92

Image Sourcing - Space Port

Spaceship Mood Board

Stock Cake (Year Unknown), MU Space Corp. (Year Unknown), Disney (Year Unknown), Davlevic, E. (Year Unknown), Internet Archive (2021), Deposit Photos (Year Unknown), Yetanotherpenguin (2023), iStock (Year Unknown), Shutterstock (Year Unknown), Vecteezy (Year Unknown), Allyc123 (2013), Terremoto, O. (Year Unknown), Davlevic, E. (Year Unknown), iStock (Year Unknown), Stock Adobe (Year Unknown), Vecteezy (Year Unknown)



This is the mood board for the spaceship design and model, establishing a clear colour palette of greys, with some highlights of neon green and blue, leaning more towards the blue undertones.

This mood board was created by Mary Legg.

Inspiration

Airplane! (1980) directed by Jim Abrahams, David Zucker, and Jerry Zucker.



(Ste Vieira, 2012)



(Pets, Animals (...) & Rare Musical Stuff, 2018)

Designed by Ward Preston *(IMDb, Year Unknown, j)*. A spoof comedy film with satirical humour, following an airplane journey where the passengers fall sick and an ex-fighter pilot must land the plane safely. The opening scene of the place peaking through the clouds, imitating the iconic Jaws scene with the shark, as well as the shot of it flying through the sky, both clearly models used in a humorous light (using the low quality to create comedy).



(Gillespie, 2020) →



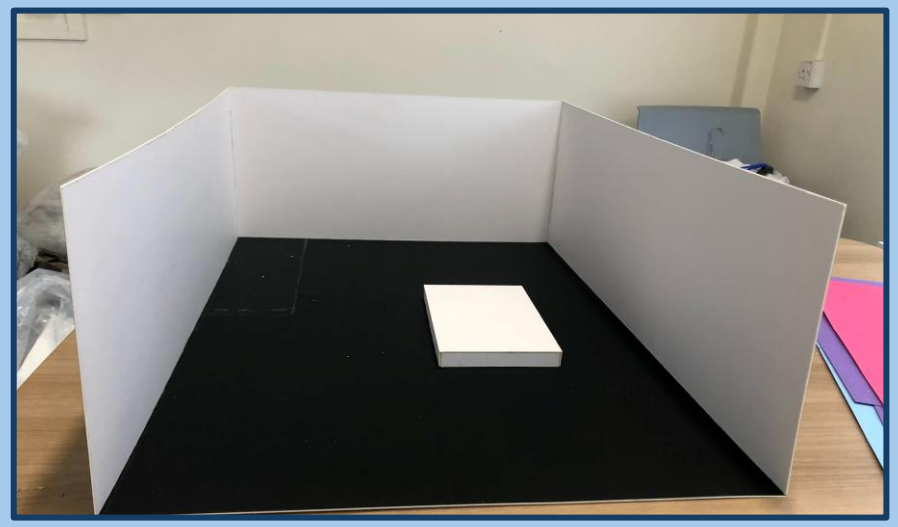
Back To The Future (1985) directed by Robert Zemeckis and designed by Lawrence G, Paull *(IMDb, Year Unknown, i)*. A high school kid goes back in time, travelling in a time machine car created by his mad-scientist friend. The iconic look of the time machine car is a Delorean. I wanted to look into the design process for this iconic symbol. The original idea was a refrigerator, the designers and writers clearly wanted to use a common object that the scientist has reworked for his experiment. They strayed away from this idea as they were concerned it would lead to children stuck in refrigerators. The next idea was a vehicle of some kind, so that the machine could be mobile. As it was not an outer space story, like our concept, it could be something stuck on the ground like a car, whilst we need flight ability, leaning more towards classic sci-fi spaceships. The Delorean car was ultimately chosen for it's futuristic look, with the gull-wing doors enhancing this effect. They wanted the design to be 'imperfect' as it's a creation built in someone's garage out of scraps *(Watkins, 2014)*. Whilst our design needs to be pristine and official, communicating it was built by professional engineers and owned by established researchers with regular maintenance on it.

← *(Watkins, 2014)*

Modelmaking the Immersive room and Rostra

Once we had the dimensions for the immersive room and had measured our rostra, I got to work on creating a model for the room and our set base. I chose 1:10, as although we didn't need the room that big, we needed the rostra as big as possible as we're working with a really small amount of space. We decided that if needed we could make a larger model of the rostra only. I cut everything out of mountboard. For the rostra I used the white side so that if we wanted to paint the model it would be easier. The rostra is 1980mm in length, 1220mm wide, and 154mm tall.



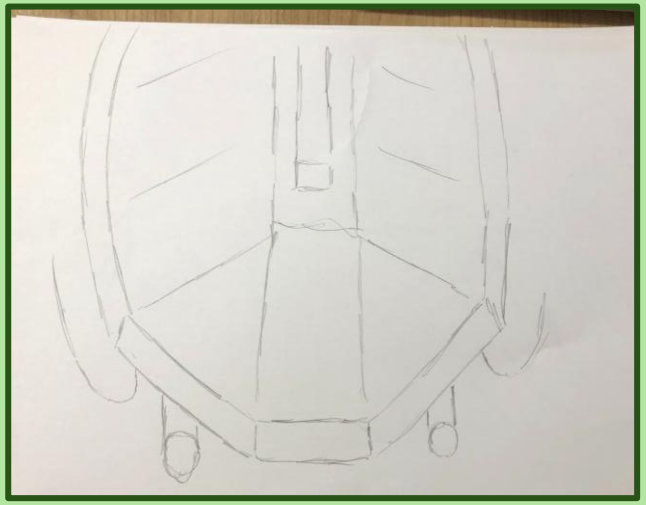


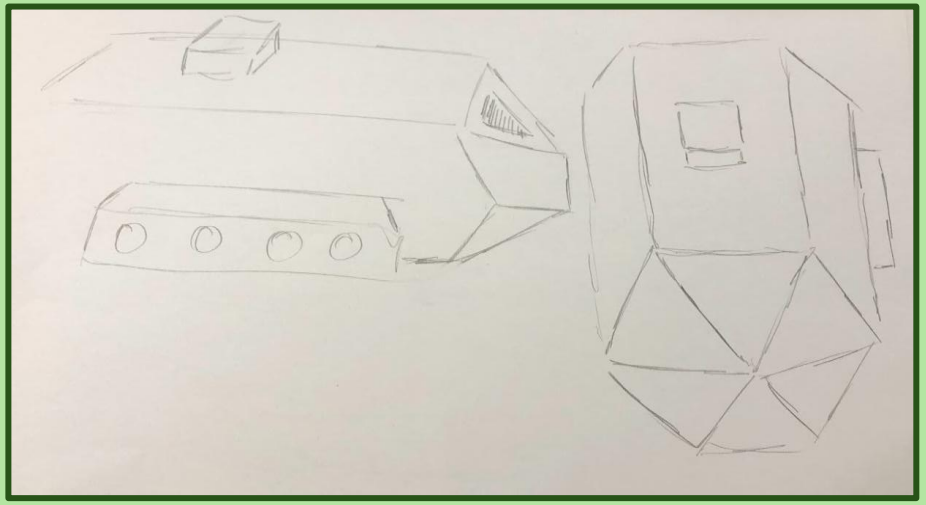
For the LED walls I used the white side also, the side walls being 6720mm and the middle wall being 4800mm, all being 2140mm tall. I glued this onto a black base to represent the floor inside the room accurately, as well as to help it fade into the background as it's not the main focus.



Initial Sketches

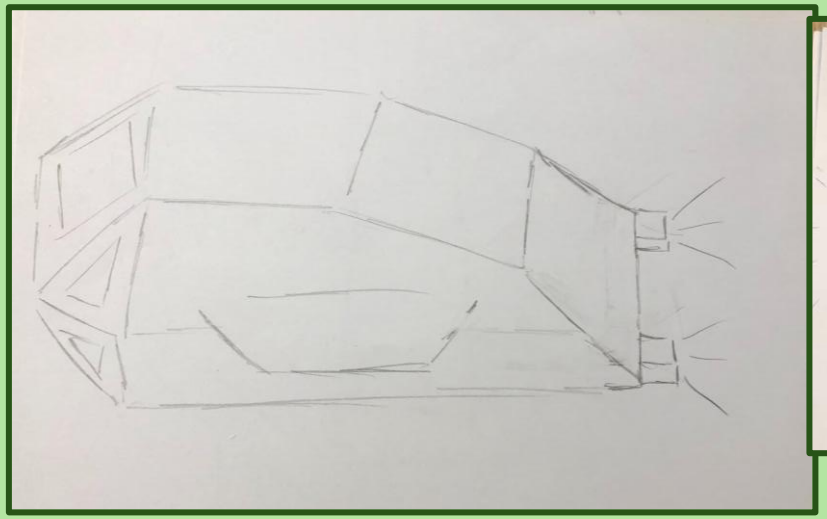
My initial sketches explored quite short spaceships that were stream-lined in their build and shape. I experimented with angles and wing shapes, as well as a variety of window options. I used the reference images for inspiration as well as the spaceship mood board for reference. After discussing with the rest of the group and their own sketches, we all knew we preferred the stream-lined style and would refine these sketches to discuss further.

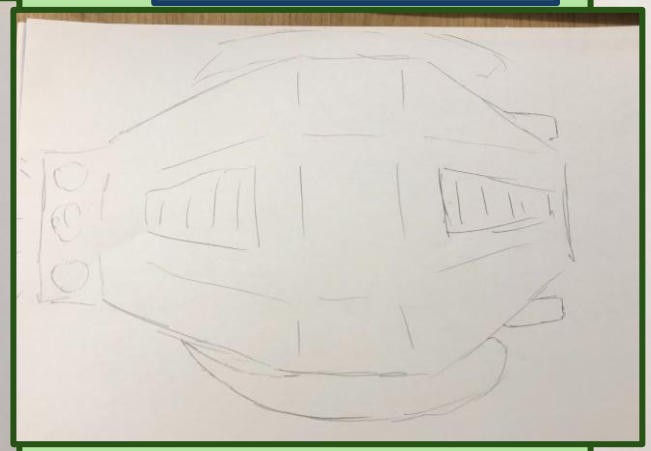


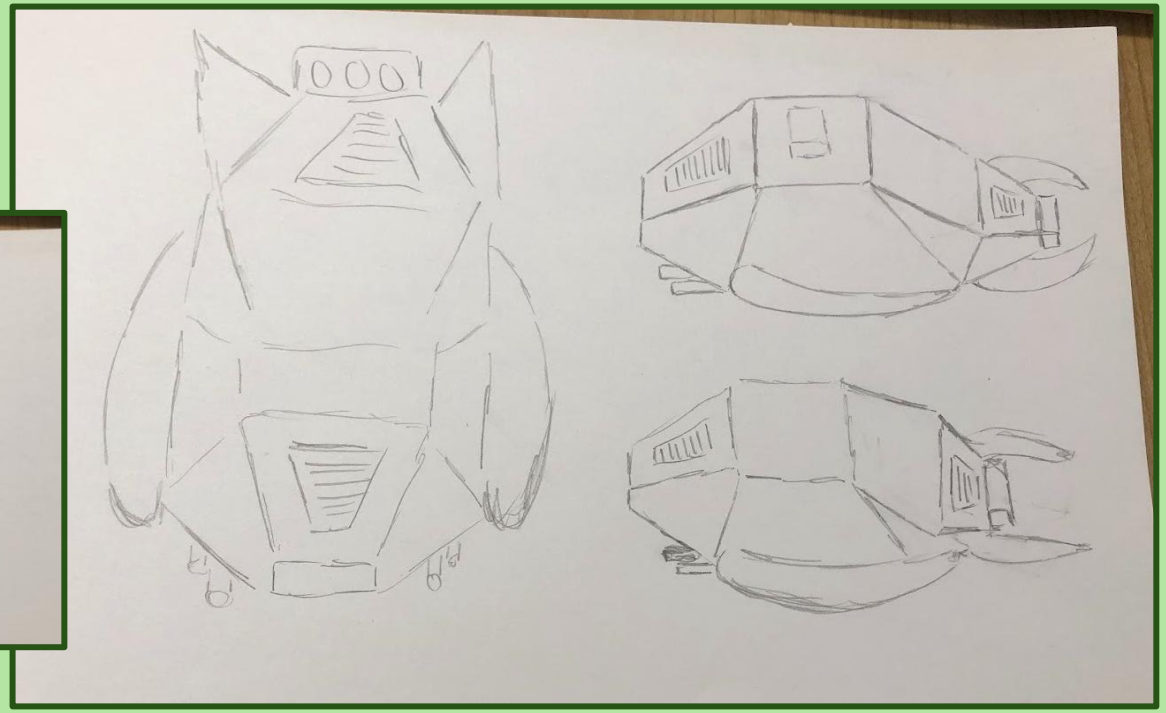


This is my favourite of the sketches that I would like to expand on, I really like the shape and simplified detail that I think would be achievable in a model but still visually interesting and ‘realistic’

Step 4: Incubation







Research: Filmmaker's Guide to Production Design

1. Production design as a narrative tool

Locations should reveal information about the character's position (economic, social, etc.). The researchers in our story should not relate to their surroundings as they're out of their natural environment, the 2nd and 3rd scenes should completely contrast them. *(LoBrutto, 2002, p. 13)*

2. Special Effects

Effects need their own list and organisation, as well as the consideration of the consequences they will have on the production, consider if something needs to be duplicated. The production designer should be involved with all CGI elements like they would be for all physical elements. *(LoBrutto, 2002, p. 22)*

3. Research

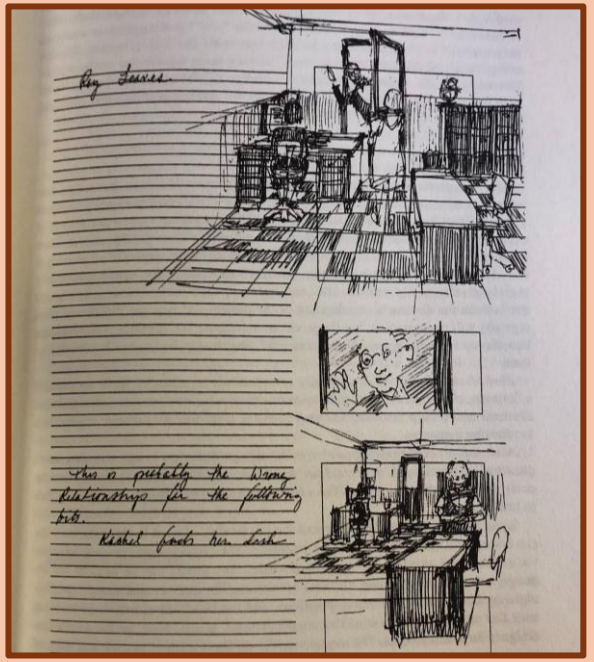
Production designer Christopher Hobbs (1999) "never recreate a period … attempt to reinvent it" "it's a theatrical medium" *(LoBrutto, 2002, p. 33)*

Create a file library of images (real from location, magazines, other period films) *(LoBrutto, 2002, p. 343)*

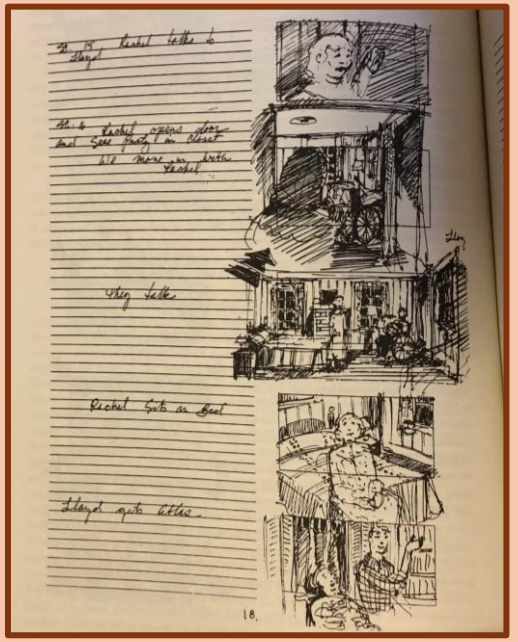
Make use of paintings for time periods that lack photography → this will be helpful for our 1666 location (*LoBrutto, 2002*, p. 35)

Words can stimulate visual inspiration, don't forget literature, *(LoBrutto, 2002, p. 38)*

(LoBrutto, 2002, p. 61)



(LoBrutto, 2002, p. 60)



4. Production Designers responsibility to the art department

Supervise all aspects and lead with your vision. They go to directors for creative issues and producers for financial matters. *(LoBrutto, 2002, p. 56)*

5. Art department in early stages

The screenplay will give you all the information you need, organise it meticulously, plan according to the production manager's schedule for your deadlines, pay attention to film credits for inspiration films, they will tell you what specialty skill sets you might need. *(LoBrutto, 2002, p. 56)*

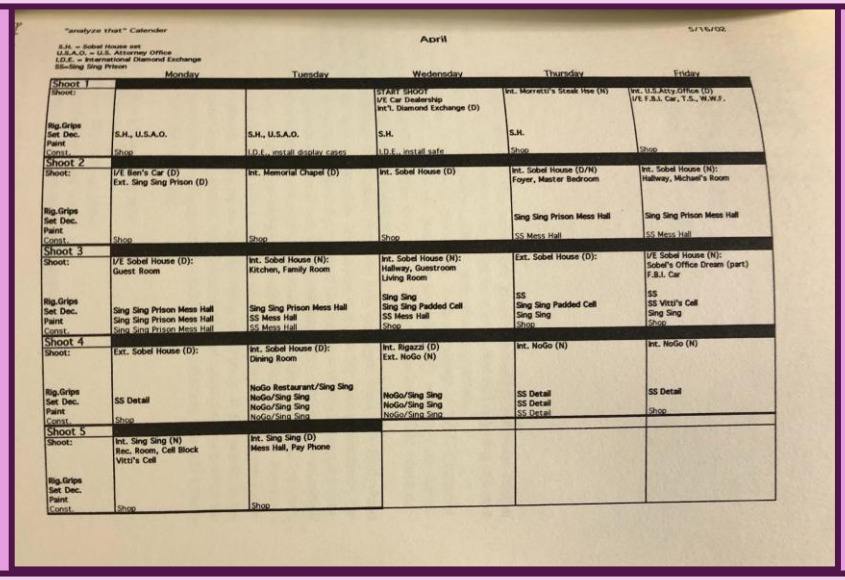
Filmmaker's Guide to Production Design

6. Storyboard
Can range from expressive drawings to simplified stick figures. Low budget productions might have the production designer storyboard the whole film, but it should always be a combination of the director, cinematographer, and production designer. It will show what is in frame that needs designing. Production illustrations will be equally important. *(LoBrutto, 2002, p. 62)*

7. Period Films
You must address the specificity of the timeframe with visual clues. A generalisation of a period is an injustice to it. The more specific the date, the easier to design. Even if the time period is not stated to the audience, it must be agreed upon with the whole production team. *(LoBrutto, 2002, p. 103)*

8. Genres
Genre is just as important to establish as time and location. We are making a sci-fi genre piece combined with a period piece. Familiarise yourself with the sci-fi principles to build off of. Science Fiction (*LoBrutto, 2002, p. 123*). Futuristic worlds, space vehicles, and extra-terrestrial beings. Ensure it looks lived in not just new and different, there is life that has interacted with this environment for a long time. *(LoBrutto, 2002, p. 111)*

9. Scheduling
All art schedules depend on the shooting schedule, work with the production manager who creates this schedule. Maintain daily communication and a clear plan working backwards from the deadline. *(LoBrutto, 2002, p. 132)*


"analyze that" Calender — April

	Monday	Tuesday	Wednesday	Thursday	Friday
Shoot 1	S.H., U.S.A.O.	S.H., U.S.A.O.	START SHOOT I/E Car Dealership Int'l. Diamond Exchange (D) S.H.	Int. Morretti's Steak Hse (N) S.H.	Int. U.S.Atty.Office (D) I/E F.B.I. Car, T.S., W.W.F.
Shoot 2	I/E Ben's Car (D) Ext. Sing Sing Prison (D)	Int. Memorial Chapel (D)	Int. Sobel House (D)	Int. Sobel House (D/N) Foyer, Master Bedroom Sing Sing Prison Mess Hall	Int. Sobel House (N): Hallway, Michael's Room Sing Sing Prison Mess Hall
Shoot 3	I/E Sobel House (D): Guest Room Sing Sing Prison Mess Hall	Int. Sobel House (N): Kitchen, Family Room Sing Sing Prison Mess Hall	Int. Sobel House (N): Hallway, Guestroom Living Room Sing Sing	Ext. Sobel House (D): SS Sing Sing Padded Cell	I/E Sobel House (N): Sobel's Office Dream (part) F.B.I. Car SS SS Vitti's Cell
Shoot 4	Ext. Sobel House (D): SS Detail	Int. Sobel House (D): Dining Room NoGo Restaurant/Sing Sing	Int. Rigazzi (D) Ext. NoGo (N) NoGo/Sing Sing	Int. NoGo (N) SS Detail	Int. NoGo (N) SS Detail
Shoot 5	Int. Sing Sing (N) Rec. Room, Cell Block Vitti's Cell	Int. Sing Sing (D) Mess Hall, Pay Phone			

(LoBrutto, 2002, p. 133)

10. Digital Production Design
Pre-digital: matte painting (ideal for fantasy/sci-fi), projection, miniatures (strangers on a train carousel) → our model spaceship, water tanks, backing (landscape image)
CGI: visual sets the camera can move through, explosions without replacing set, endless possibilities
A merging of graphic artists and production designers produce the most effective results. *(LoBrutto, 2002, p. 165)*

London Blitz


Daily Mail

FOR KING AND EMPIRE

TUESDAY, DECEMBER 31, 1940

ONE PENNY

SHERLEY'S

LATE WAR NEWS SPECIAL

Bluemels

Hitler Planned Monday Swoop

London was to Blaze First

By NOEL MONKS, Daily Mail Air Correspondent

HITLER meant to start the second Great Fire of London as the prelude to an invasion.

This was the belief held in well-informed quarters in London yesterday.

The Nazis planned to set big fires burning all over London before midnight.

WAR'S GREATEST PICTURE: St. Paul's Stands Unharmed in the Midst of the Burning City

America Moves

BIG ARMS FLOW HAS BEGUN

LATEST

MORE U.S. AID FOR GREECE

ADMIRAL LEAHY REACHES EUROPE

(London Museum, Year Unknown)

The London Blitz began on the 7th of September 1940 and ended in May 1941, Britain experiences 57 days straight of bombing from Nazi Germany during the Second World War. After WWI, Germany signed the Treaty of Versailles, but in the 1930s they began breaking the agreements and rebuilding their military. With Hitler gaining power in 1933, Germany began wanting to expand their territory, and in 1938 with the Anschluss they took over Austria. In 1939 Germany invaded Poland and this led to Britain and France declaring war on Germany *(IBFBS, 2020)*.



(London Museum, Year Unknown)

London was the main target during the Blitz, but many other cities were affected too, such as Birmingham, Liverpool, Bristol, and Sheffield *(Imperial War Museum, Year Unknown)*. Leaving many places unrecognisable.

In preparation of the war, gas masks were handed out, children were evacuated to the countryside, communal shelters were built, and blackouts were enforced so as to stop planes navigating with city lights (this means in our Blitz scene there needs to be no streetlights visible) *(Battle of Britain, Year Unknown)*. On the 10th May 1941 a blaze from the bombing started a fire larger than the Great Fire of London, this could be the link the researchers mistook and ended up in the wrong time zone. The docks were main targets to cut off supplies, leading to rationing books limiting how much food you could buy. Sirens would warn people of possible air raids, signalling for them to take cover. A famous image of St. Paul's Cathedral became a symbol of hope as it remained standing after an air raid. *(London Museum, Year Unknown)*



(London Museum, Year Unknown)

London in the 17th Century

1603 plague epidemic, the transition from the Tudor era to the Stuart era after Queen Elizabeth I's death in 1603. 1605 Gunpowder plot, attempted assassination of King James I by a catholic group. English Civil War 1642-1651, leading to King Charles I execution in 1649 and the replacement of the monarchy with the commonwealth, ruled by Oliver Cromwell 1653-58 and his son Richard until restoration of the monarchy in 1660 with King Charles II. 1665 Great plague of London, killing a quarter of London's population. 1666 Great Fire of London *(London Histories, Year Unknown)*.



(Maple Timber, 2025)

(Jeater, Year Unknown)



Life in 17th century London: England became richer as trade grew alongside the reputation of merchants. All political power remained with rich landowners. Nobility → gentry → yeomen (farmers) → tradesmen. The upper and middle classes got richer, but little changed for the poor. 1601 act appointed an overseer in parishes, creating local taxes for poor and providing work for the unemployed, punishing those who refused to work. Rich houses were built in the west and poor houses were built in the east. (the bakery was in the east section). In the early 17th century, you could hire carriages (realistic to hear horses in the background). Oil lamps in streets were introduced in 1680s so the streets would have been dark at the time of the fire. In the early 17th century, Inigo Jones introduced the classical style of the architecture (banqueting hall in Whitehall). Late 17th century the poor had glass windows, brick and stone buildings, and chimneys. *(Lambert, 2025)*

London in the 17th Century

Houses and buildings: compact and low ceilings, exposed wooden beams, tight stairwells, stone/brick walls, thatched/tiled roofs. The influence from the classical and renaissance art meant there were many new builds during the Tudor period, the English Civil War put a holt on this until 1670, this means that many older style buildings would have remained, leaning towards a Tudor style rather than a classical style. The poorer and smaller buildings would have remained in the Tudor style with timber frame structures *(Boast, 2024), (Wilkinson, Year Unknown) and (Expreality, 2023)*. Thatched roofs were banned in London in 1212 after a fire killed 3000 people, all new buildings had to have tiles/shingles/boards *(Jeater, Year Unknown)*.



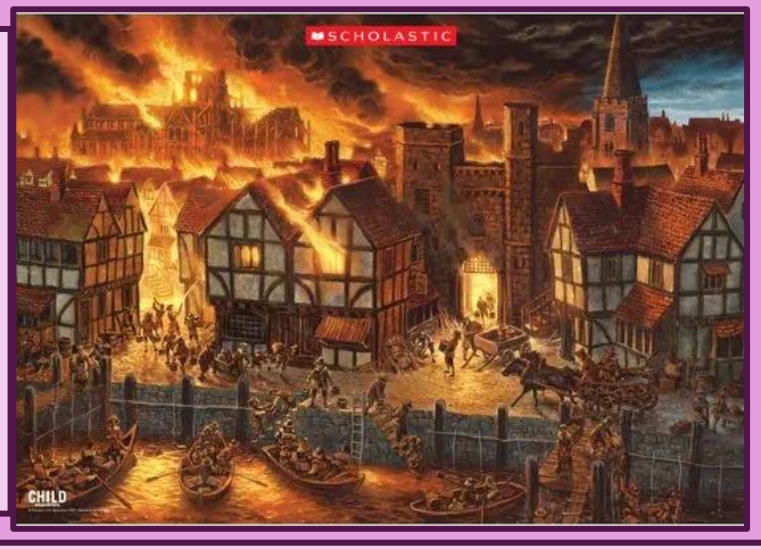
(Skinner, 2024)

In 1666 there wouldn't have been thatched roofs in London, at least not many *(Jones, 2021)*. Timber on the exterior emerged in the Medieval period as there was an abundance of timber, the framed spaces were filled with plaster/brick meaning there was flexibility towards local resources. Known as half-timbering, the wood was dark coloured or tar treated for the distinct black and white look *(Maple Timber Frame, 2025)*. The reason for the overhang on houses, an iconic symbol of the Tudor style, is unknown, some believe it was to maximise space and some believe it's because homeowners were taxed on the space the ground floor took up and so built outwards higher up to get more room for less money *(Skinner, 2024)*.

The Great Fire of London

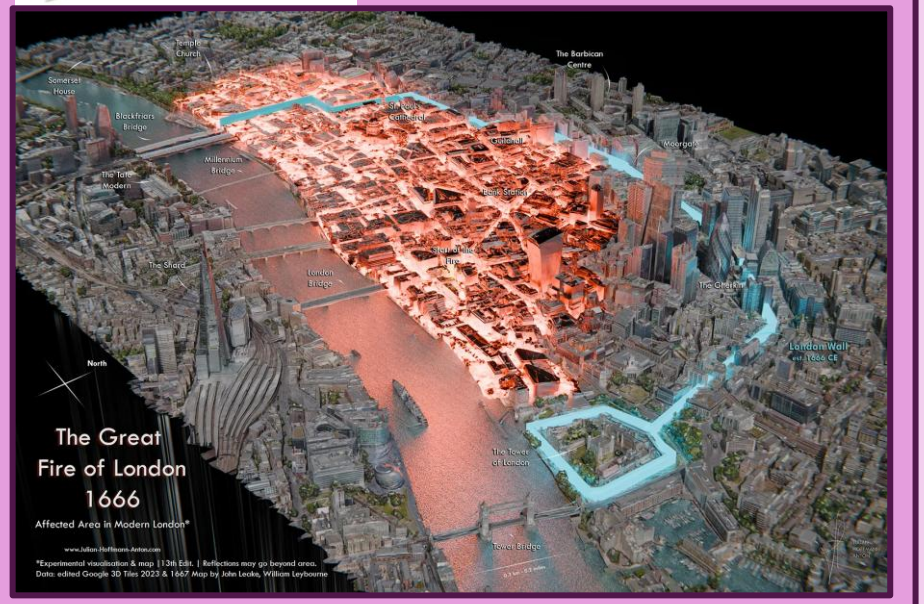
(Starbeck Educational Resources, Year Unknown)

It started at 1am on 2nd September in Thomas Farriner's bakery in the South-East of London on Pudding Lane. It lasted 4 days causing today's worth of £37 billion in damage. A dry summer and strong winds caused it to spread so dramatically destroying approximately a third of London's buildings. Leaving around 100,000 people homeless. It spread through houses, church halls, and grand halls. A common misbelief is that the fire helped stop the Great Plague of 1665, this is wrong as hygiene standards didn't improve, and people were dying before and after the fire from the plague *(Jeater, Year Unknown)*. The 1667 rebuilding act meant all exteriors of buildings had to be out of stone or brick. No one knows how the fire actually started, but it was found by Thomas Farriner's apprentice Thomas Dagger.





(London Museum, Year Unknown)



(Houghton, 2025)

Houses nearby stored oil, tar, rope, and brandy, accelerating the fire. Along with houses being built in cramped conditions. The fire wrecked the original St. Paul's Cathedral. One source says the destruction scale was larger than the Blitz, whilst another source says that the fire on the 10th of May 1941 was larger than the Great Fire of London, although it's uncertain which is correct, I believe it's more likely for the Blitz to have done more damage as it's a more modern source and documentation. Either way, both events caused extreme destruction to London's architecture. Some people fled to the river and others left to the fields outside of the city, some people robbed and looted. Buildings were pulled down in order to stop the fire spreading and King Charles II rode around on a horse paying people to help stop the fire. There was no official fire brigade, only local people with buckets of water. The King later sources housing and food for those left homeless. A lot of the rebuilding after the fire kept the same structures as before, but some streets were made wider and more was made of brick and stone. *(London Museum, Year Unknown)*

Modelmaking for Film Research

Modelmaking for film consists of making a lot of copies of the same object based on the contexts they're required in (explosions, alterations of time). A modelmaker needs to break down the object into simpler and easy shapes, I need to start by breaking the spaceship down into approachable shapes for building. It involved casting, mould-making, sculpting, metal, welding, painting, finishes, and costume making. You need to establish colour themes and test materials, important to have a mood board/colour palette and a test model of the spaceship. I need to consider the scale of the spaceship in relation to the digital images and the Tudor Houses. You need good communication of what is possible with the other departments/crew and a good understanding of the structure of objects, as well as the filming process and how it will be used/seen. Important software for 3D animation modelling: Blender, Maya, RenderMan, 3Ds ax, whilst good materials for physical models: casting foam, latex, silicone, modelling clay such as plasticine. Modelmakers work with concept artists, character designers, riggers, animators, and directors. Some modelmaking firms are Artem and Asylum. *(ScreenSkills, Year Unknown)*

(Neat, 2021)





(Neat, 2015)



(Neat, 2015)

Modelmaking for Film Research

Architectural models are a big part of the modelmaking industry. They require pristine and minute detail accuracy, whilst film models require them to fit into the world aesthetically and add to the environment, so will include more scenic art approaches such as aging and distressing. Models are mostly used now with CGI. Commercials also use a lot of models. Production designers are trained to create their own models but if the production scale is large enough, they will hire external people.





(Miniatura, Year Unknown)

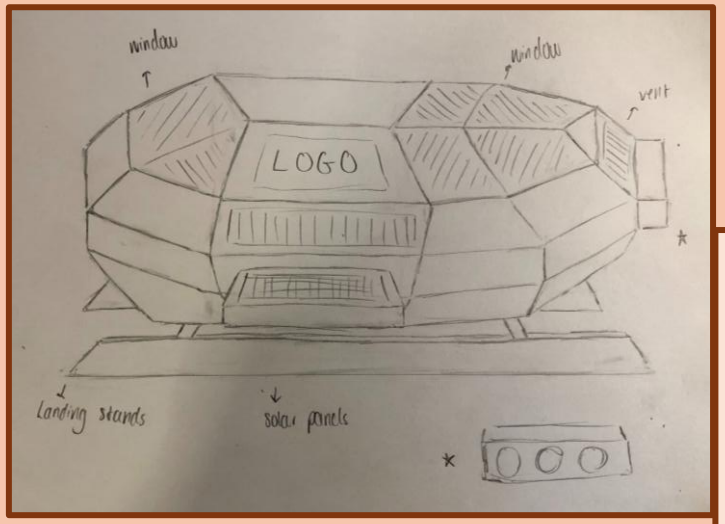
(Miniatura, Year Unknown)

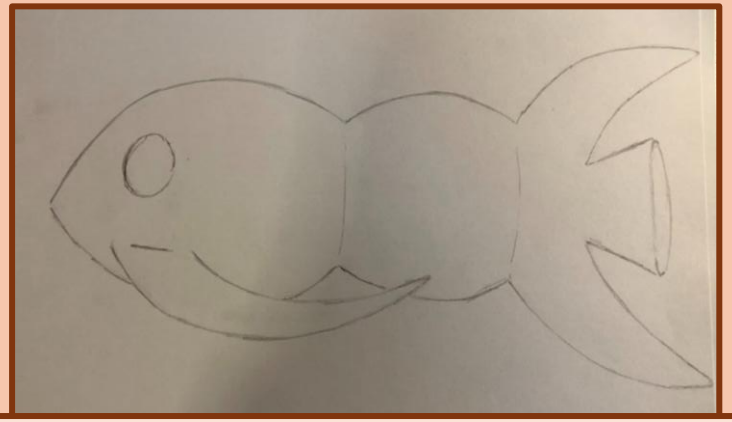


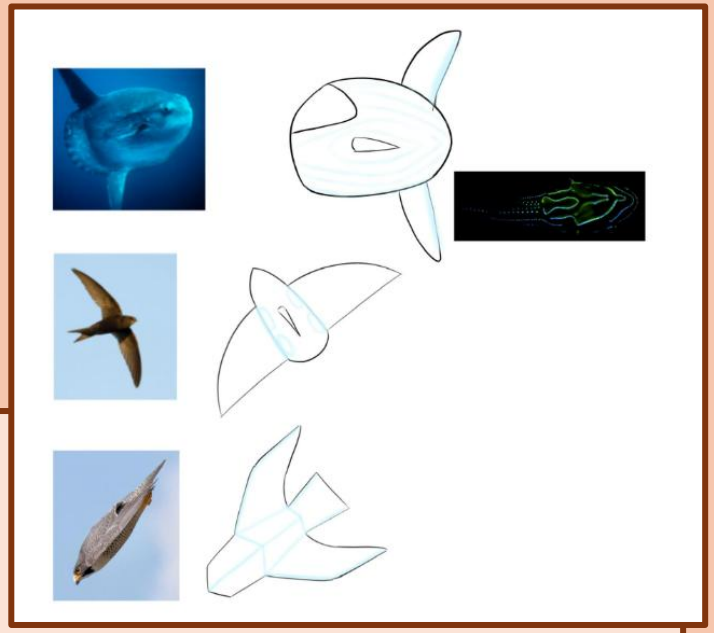
White card models are a very basic representation during the design process, whilst the refined model is information for the scenic art and the finalised design. For modelmaking in theatre contact designers, for modelmaking in film contact companies. *(Neat, 2021)*

Importance of surfaces *(Neat, 2015)* → not to make the audience believe it's real but to make them forget about it. Important to research your materials (the metal of the spaceship is reflective?) consider how it reflects light and how you can imply this, adding shading to the spaceship?
Create a stock of samples with labels and details that you can look back on in future productions. Warping → when exposed to solvent not water, card and paper will not warp, you should seal them for longevity. Polyfilla → good at creating textures as well as smoothing gaps, I've used it before in independent modelmaking outside of the course, I think it's perfect for the smooth look that the spaceship needs (as it's a smooth metal surface and the joins shouldn't be a visible detail). 3D models are really important in modelmaking for film, I need to better understand Fusion in order to improve on this front. There is more perfection in models for camera, in a similar way to architecture. The French curves tool is good for drawing curved lines. You can also create hidden joins with foam board, removing the foam from the end, leaving the thin paper you can stick to the adjoining piece to hide its exposed foam. *(Shorter, 2012, Chapter 7)*

Refined Sketches

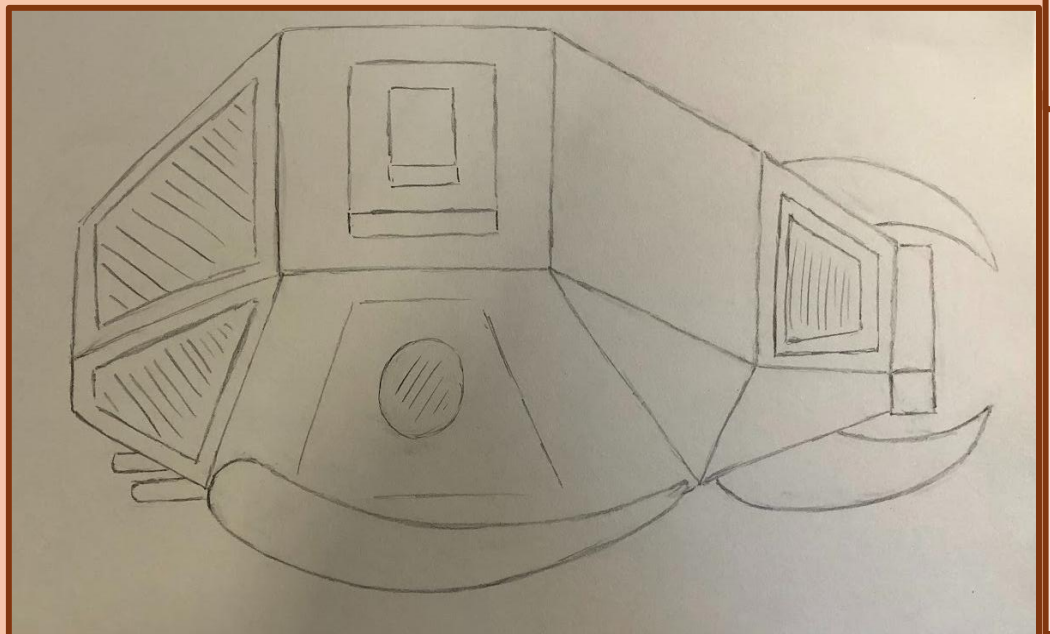




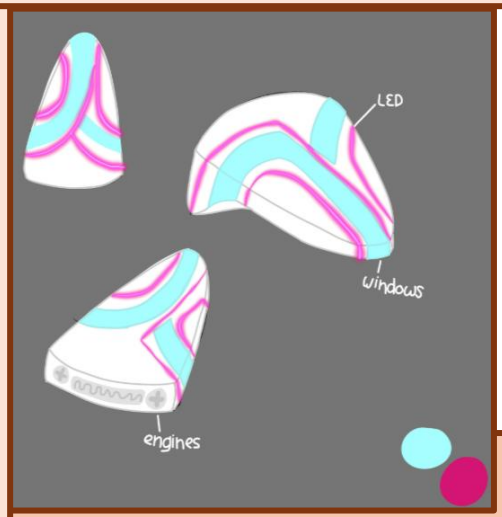


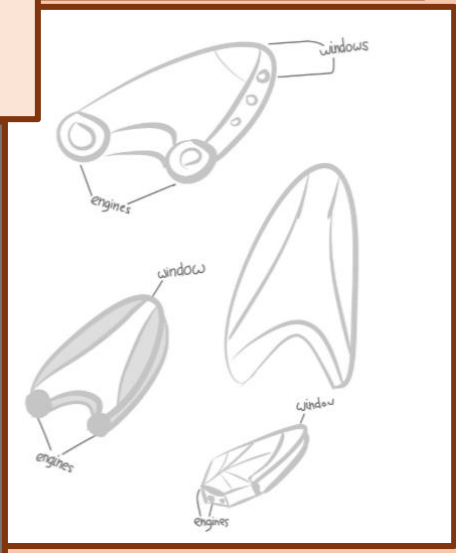
We then created refined sketches based on our discussions on our initial sketches, preferring a streamlined design. I created three versions with a variety of shapes, one leaning towards a curved fish-like design, another leaning towards a space rover researcher pod, and the final one is an expansion on my favourite of the initial designs.

Step 5: Selection



The images to the right are Anne and Mary's refined sketches, drawing on ideas of LED lights and fish imagery. We decided to stray away from curved designs to make it an easier construction process, given the amount of time we had on it.





Immersive Room

- Surround sound system
- Samsung IER/IEA LED Display Panels
- 18.2m wide in total, 2.2m tall
- Pixel pitch: 1.5mm
- Resolution: 12160px width, 1440px height
- 7.1 surround sound
- 76 cabinets
- 55” Samsung touch screen, main output for the PCs
- Igloo core engine

.jpg, .png, .mp4, .mov, .pdf

There are quick controls underneath the active images to pin, mute, hide, and control a layer. Alongside image size controls. For 360 images and videos there is a true perspective option. You can break it up into mono and left and right, to alter the perspective. 60fps is what it uses but is adaptive to what you upload, keep all frame rates the same when mixing as it can cause stuttering. It likes .mp4 formats as well as .mov but has a built-in encoder to code a file into a different format. It can handle large files, and it is best to transfer it onto the server rather than through an external drive, you can also send files through Teams, but the Teams account can only be accessed within the room. Blip is a transferring website for creative platforms which can transfer large amounts in seconds. It uses a computer connection rather than a server for the transfer. The system is 64 bit but keep to 32 bit as the software prefers it.

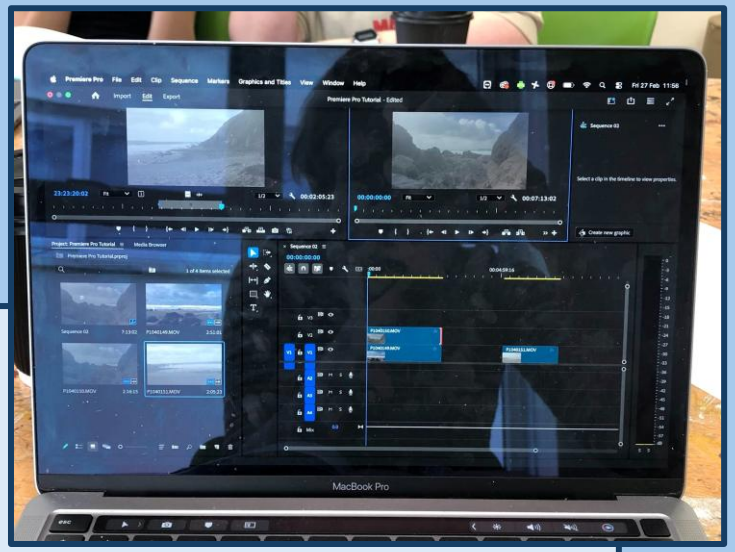
You can interact with touch screen, keyboard and mouse, or an iPad. Easier to do transitions in post-production rather than on the system. The screen is 12160 pixels by 1440 pixels. 4480 pixels x 3200 pixels x 4480 pixels.

If working in Adobe and you want to alter it, you can download onto the system so that you don’t have to render a new version and come back. We are not allowed to hang anything from the ceiling. We have to ensure everything is stable so there’s no risk of it crashing into the screens, no direct water but mist or haze is okay.

Sourcing: adobe stock website with ultra wide formats available, pixel bay (free), adobe firefly (AI), google street view (copyright).

Premiere Pro Introduction

Adobe Premiere Pro → select new project and the location to download so that you can find it easily, you can skip import mode if you don't already have your files to import.

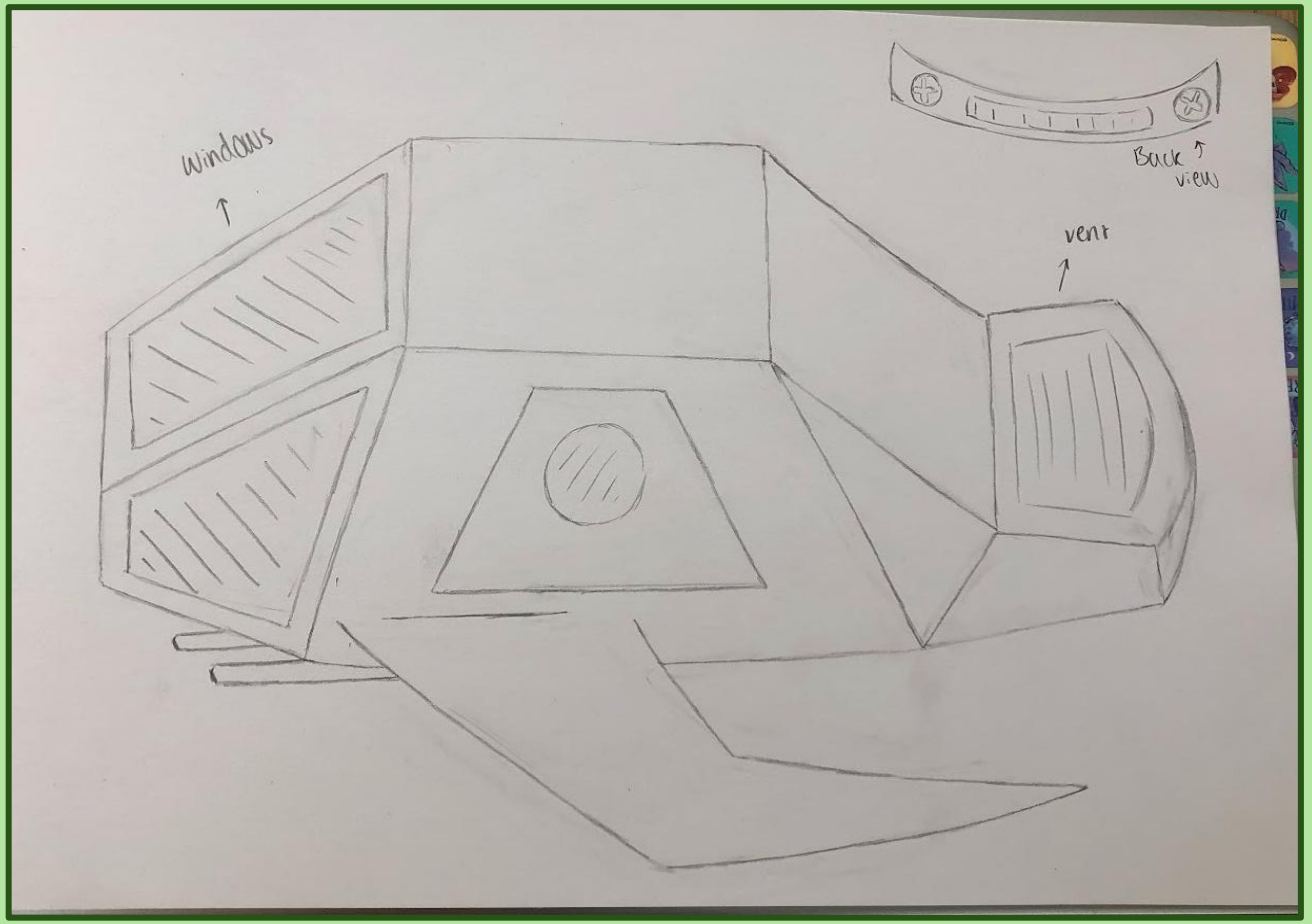


Timeline is your main editing space, program monitor is what your audience will see, use the files section to import content. You can double click tabs to full screen them. You can drag and drop files into the import and alter the format to a list or to the thumbnail images. You can watch through the videos you import before inserting them into the project. File → new → sequence (information you tell the project) always build in 1080p NOT 4K, filming in 4K and altering to 1080 is easier than the other way around. All files need to be in the same frame rate, otherwise they can be out of sync, the standard is 23 or 25fps. If you want to manipulate the speed of the video, filming in a higher frame rate would be better. You get 4 audio tracks and 3 video tracks.

Sound → as long as it's on the timeline, it will play, video is not the same (if layering then the opacity needs to change) the top layer of video will always dominate other layers. You can cut the videos and audio down in the source monitor before inserting, selecting I for in point at the starting point, and o for outpoint at the endpoint. You can drag audio only and video only if you want to. The magnifier tool can increase the size of small clips for fine editing. Command Z is undo. The razor tool can splice the clips wherever you click, highlight the edge of the clip to crop or extend it. Window → extensions → film impact dashboard → effects controls. Can change the image, change the anchor point, zoom, rotate, etc. to create a slow zoom you need to create a key change with the clock at the side, changing the anchor point can make it a smoother transition. Make sure to delete any key frames you accidentally duplicate. You can manipulate the shape of the key frames, making them bounce. You should save any effects you use along with the audio and video files. You can also alter filters and colour tools

Final Design and Discussions

We discussed what we liked about all of our refined sketches, liking the streamlined look. We felt we didn't want to create a curved and rounded spaceship design as it would mean using more malleable materials that we would probably need to order (such as foam or Plastazote, and the process of painting would need a priming solution) so we decided we wanted to stick with a more blocky and geometric shape that we could build detail onto. We combined our designs, using the main body of my personal favourite of my refined designs, the angular wings of one of Anne's designs, and the back end of one of Mary's designs (creating a more curved look here). I drew out the final sketch, labelling what were windows and what were vents. We could now move onto storyboarding and planning out what materials we needed.



Step 5: Selection

Storyboard

When making the storyboard, we starting by going through one scene at a time and discussing how we had each envisioned it and combining our ideas into one final version

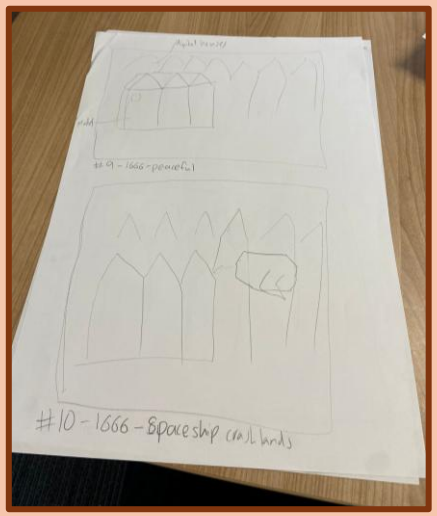


(Tardis Wiki, Year Unknown)



(Tardis Wiki, Year Unknown)

Mary drew out a rough temporary storyboard, as we wanted to create a digital version with our sourced images. We also collected more images for the Blitz scene to see our perspective options for the shot.









(SSAFA, 2022)

Space port – establishing shot (maybe edit the corridor shot to be open at the end and use scale to suggest it's a flight corridor rather than a small one)
Blitz – sky shot perspective, using puppetry with fishing wire to suspend the ship, consider spotlights and how to create them effectively in the digital backdrop, or maybe keep them in foreground to do practically. Make use of haze?

Step 5: Selection



(Floyd, 2018)

Material Discussions

As we were creating the storyboard, I created a list of materials we needed as we went through each shot and location. This included props and rented equipment that we already had, as well as the materials for the spaceship model and 1666 London street scene. We then made a highlighted key for what we needed to purchase (yellow), and what we needed to check the current stock of (blue), everything else we knew we had in the props/costume store or in our own possession.

Step 5: Selection

Blitz:

→ torches for spotlights in air raid
→ haze

1666:

→ model 17th century houses in foreground with space for model to crash behind (wooden style, do research)
→ foamboard ground to carve cobblestones into?

Rental:

→ camera
→ microphone for dialogue
→ table??

Space Port:

→ clipboard
→ paper with research project on it
→ pen
→ lab coats/appropriate costume

Model:

→ fishing wire
→ jewellery beads and string for details on spaceship
→ card/mountboard
→ foamboard
→ straws for engine tubes
→ acetate for windows? → mirrored acetate
→ LED strips

Sourcing Sound Effects

Before the end of the day, we decided to start looking into possible sound effects. We each chose a different scene to look into. I went with the space port scene, using the sound breakdown to gather a few options. I found multiple spaceship sounds, including movement, take-off, and ambience for the variety of states it will be in. I then moved onto background ambience for the space port, looking specifically at garage and engineering sounds, as I felt there would be repairs happening in the background and people preparing their ships for journeys, meaning a lot of mechanical noises. I then looked into background chatter to layer on top of this, I feel like a lot of the sources were too busy so was leaning more towards a waiting room level of chatter as it's not a busy location, I then gathered some pen scribbling options for the signing off of the clipboard documents.

Step 5: Selection

https://youtube.com/shorts/zyC7qFq9cPw?si=P4DAfgCjlqwEwzli - (Air raid siren)
https://youtu.be/XMo1OSadI1I?si=6EY_TLhQg_TZVbat - (german bomber old video)
https://youtu.be/YRex1Udiybs?si=6aAena3dJivCcP-y - (bomb sound effects)
https://pixabay.com/sound-effects/search/ww2%20uk%20bomb%20blast/ (a couple of different bomb audios (plus some other ww2 sound effects))
(This one would be good)
https://pixabay.com/sound-effects/film-special-effects-sound-effect-ww2-uk-air-raid-bomb-blasts-164347/

https://youtu.be/jmCp5UqN22Y?si=oo2QrQaUEobYtHwz - (idea of what it could all sound like)

https://youtu.be/F-cF06Y7V3Q?si=g-97P7WlymnXiFod - (Pov sleeping during the blitz) XD

Blitz sound effects

Spaceport sound effects

https://youtu.be/DydIK14AvXI?si=-1uPnhv_eBHIucJX (ambient spaceship noises)

https://youtu.be/I8OJzAs7CB8?si=BODQ8SbZrtPvRtBs (1.58 good take off sound effect)

https://youtu.be/D95dM2zBjRQ?si=7n3k9GvkFn2FmGWz (0.50 another good movement and take off sound)

https://youtu.be/pp877EHYWaQ?si=4P3EVl4T0TrnwQuT (spaceship movement)

https://youtu.be/eKA2CA5mOOw?si=OetkQMfb4SbqJDnm (6.25 background noise of repairs and movement)

https://youtu.be/sO6avqmq5xU?si=JpsyeNI3JeHQ0pz1 (background chatter from waiting room)

https://youtu.be/huGyFog4YWU?si=2agcYMpSb7HqYIzj (pen scribbling, sounds like a marker)

https://youtu.be/Vo4dSmfr6l8?si=uarQQk0kK7AdbayB (wide range, 0.38 is alright)

1666 sound effects

https://sound-effects.bbcrewind.co.uk/search?q=07024165 - horse hooves

https://sound-effects.bbcrewind.co.uk/search?q=07039310 - horse hooves

https://sound-effects.bbcrewind.co.uk/search?q=07054115 - church bell

https://sound-effects.bbcrewind.co.uk/search?q=07020073 - dog barking

https://sound-effects.bbcrewind.co.uk/search?q=NHU05008080 - fire

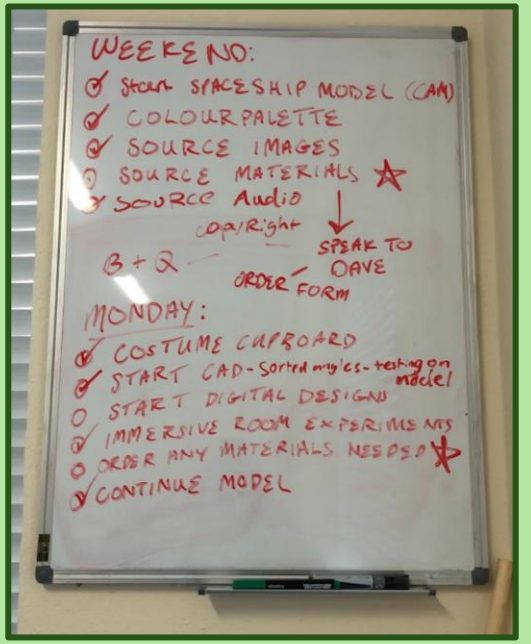
https://sound-effects.bbcrewind.co.uk/search?q=NHU05002102 - fire

Discussions and Decision Making



(Twinkl, Year Unknown)

This is the AR model that Mary found, created by students towards a project recreating Tudor England streets.



Step 5: Selection

- We decided not to use haze and instead look into adding it in After Effect
- We decided to experiment with flickering fire on the other scenes to reflect onto the physical props during the fire scene
- We need to look into permissions for content (messaging people for permission, considering prices, etc.)



(Visscher, 1616)

Each day we made a new to-do list on the board.

I looked at sound effect copyright information whilst others looked at images, I labelled next to each sound we had sourced the price or conditions of using it, we found that only the 1666 effects were free and all of our others cost too much to afford in our budget. After discussing with Dave, it was decided that we would ignore permissions and choose to not distribute it anywhere online.
We then discussed what roles we were interested in when we start filming, Mary discussed an interest in operating Q-Lab and the 1st AD role, I discussed wanting to puppet the model and work on the camera, whilst Anne also wanted to puppet the model.
We also visited the costume cupboard to collect the lab coats needed for our researcher characters, taking three just in case all of us needed one.

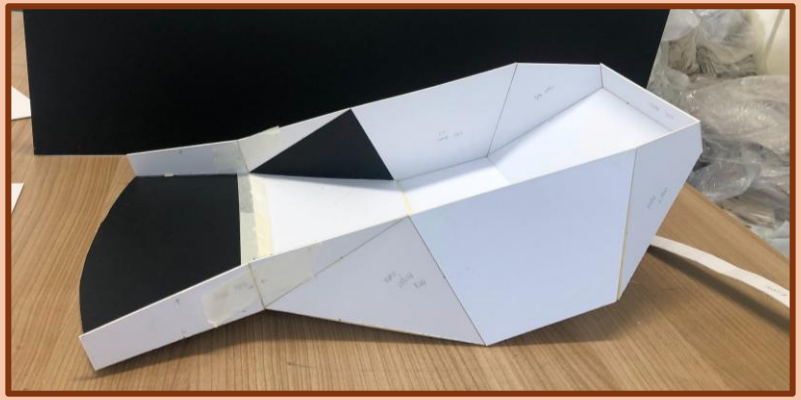




Model Making

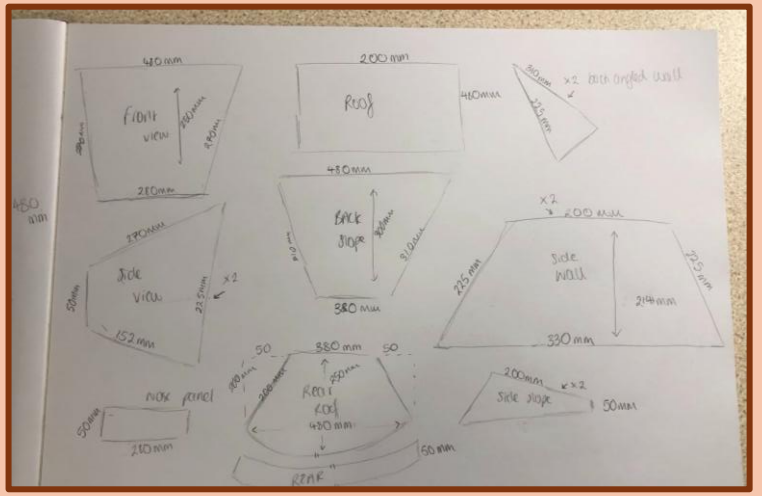
Step 6: Implementation



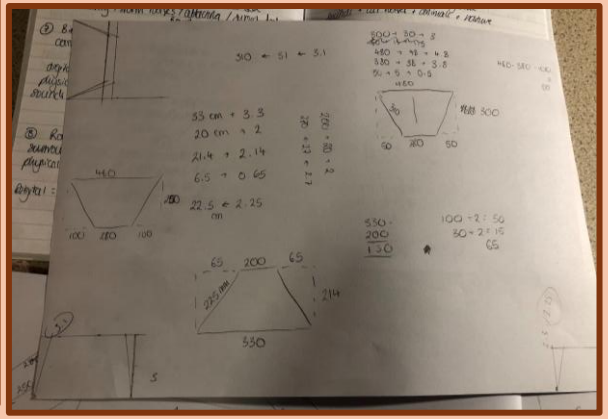




We decided that we wanted the model ship to be roughly the size of the scale box we made for the immersive room, which is 67.2 x 48cm, I realised that if I made this in 1:10 it would be 6cm and way too tiny to work with. I did a bit of research into what modelmakers in the film industry did in these cases but found that they made more of a personal scale for their desired use. So, I decided to make a 1:2 model of the spaceship. I sketched out each part using the final sketch I made of the spaceship and then worked out some rough dimensions to start experimenting. I then cut these out in mountboard, laid them out and began gluing them together, altering any pieces as needed (such as the rear bumper which needed to be a slightly different shape than I expected). As it was such an angular shape, I used masking tape to hold the pieces together whilst the glue dried. I realised that Polyfilla would be a great tool to smooth down all of the edges and corners for the final thing, we added this to our materials list.



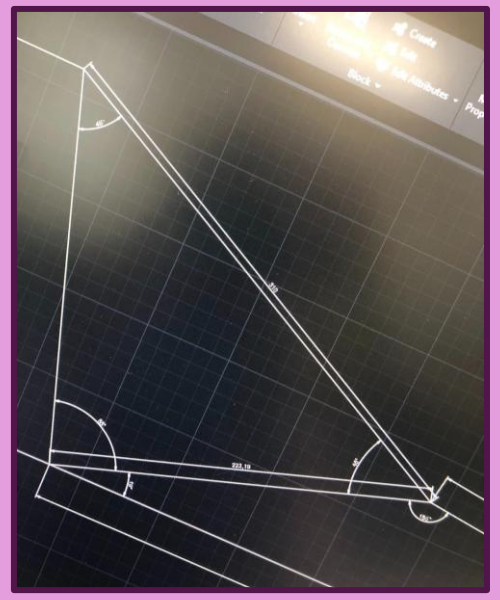


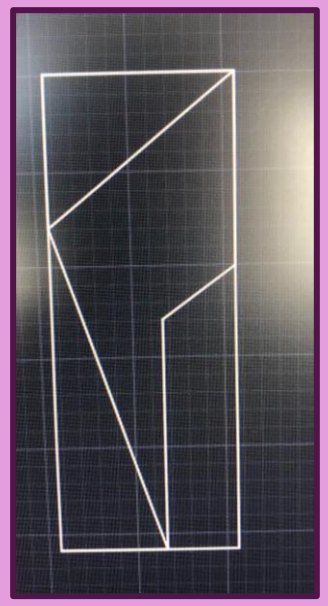


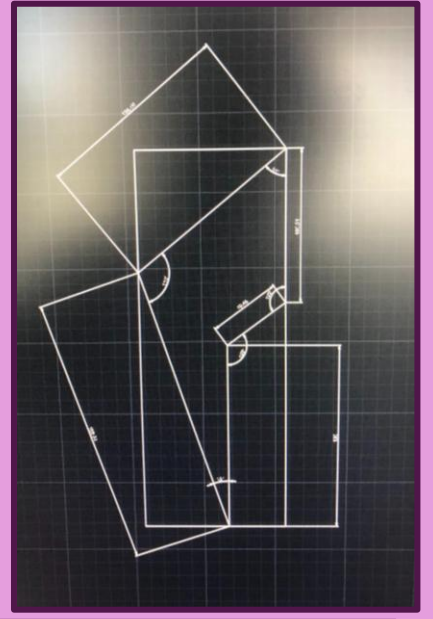


Using CAD to Problem Solve

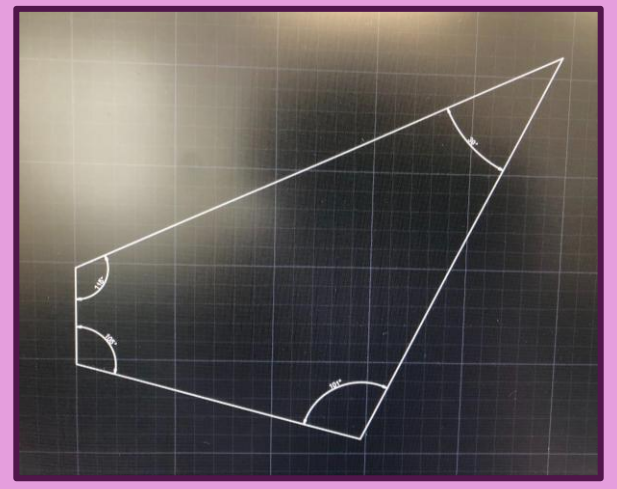
There were some shapes (mainly triangles) in the spaceship that I needed to use CAD for so that I could find the exact angles I needed to draw them out, along with certain lengths I couldn't find without these angles. CAD was really helpful in this process as it helped me realise certain lengths weren't going to work. I also used CAD for the wings, which I first drew in a 26 x 10cm box (for the real thing this would be 52 x 20cm) finding the angles and lengths of certain sides that I needed so that I could draw these out. I also used it for future reference, as I plan on using a circle and compass to create the rear bumper accurately and smoothly as it's the only curve on the spaceship.

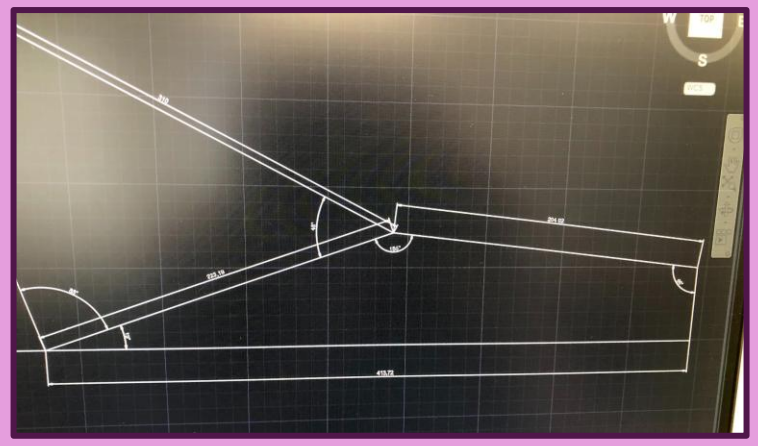




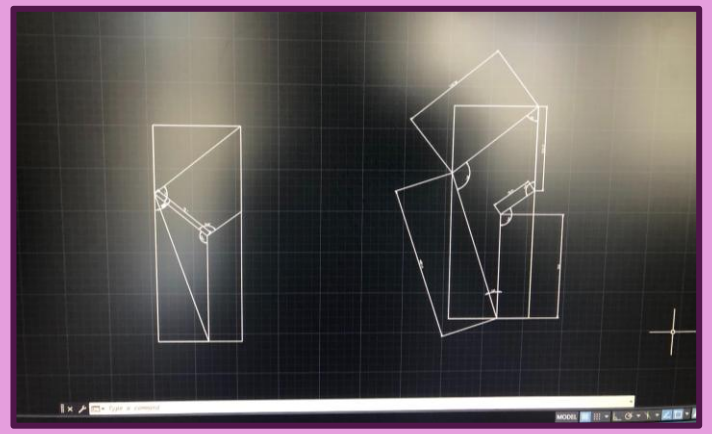


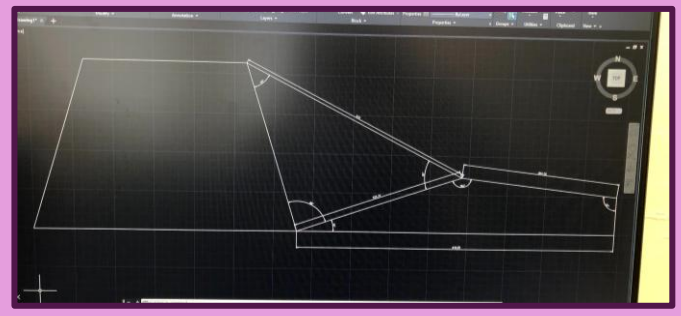
I was really glad to be able to keep practicing my CAD skills as I don't want to lose the progress I've made with it.





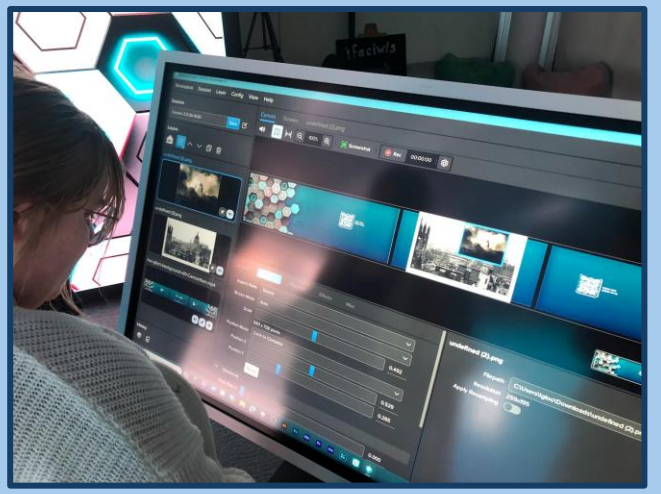






Experimenting in the Immersive Room

We took our sourced images to the immersive room in order to look at them scaled up on the big screen.



We found certain images were too blurry or too small. We also put up images of colours such as red and orange to imitate the reflection of the fire. Standing in front of these and layering them to see how we want to design the final thing and the scale they would need to be. This was helpful in eliminating certain pictures due to their resolution, as well as the rough layering to creating the initial ideas in how it will all come together and what questions we may need to ask Lloyd.

Step 6: Implementation













House Mood Board

Alamy (Year Unknown), Feltham, P. (Year Unknown), Twinkl (Year Unknown), Bromley Craft Products (Year Unknown), Stow, J. (1811), London Museum (Year Unknown), Dempsey, J., et al. (2014), Freepik (Year Unknown), Sarij (2013), London Museum (Year Unknown), Independent (2020), Jellicoe, J. and Railton, H. (1897), Cruikshank, G. (1835), Freepik (Year Unknown), Textures (Year Unknown)

Whilst I worked on the model of the spaceship, Anne and Mary put together a mood board for the 1666 houses we intended on building, finding some 3D designs created by students that would be great references and digital design options



Research: The Post Screen Through Virtual Reality

Screen boundaries: Physical + Virtual + the Movement Between:
The boundaries of the screen appears clear as the world ends where the screen does, but the virtual boundaries exist within the screen. The distinction between the two is important *(Ng, 2022, Chapter 1)*. With the LED screens we want to hide the physical boundaries and use angles to stay within the virtual boundaries, we need to understand how to film it in a realistic way.

VR as Inversion: Witness, Empathy, and Subjectivity
Another layer of immersion is emotional immersion, not immersion it is inversion. Once screen boundaries are forgotten they need to be immersed in the subject's experiences and empathise with them, it's basic storytelling. You become a virtual body witnessing their world, a fly on the wall. *(Ng, 2022, Chapter 3)*

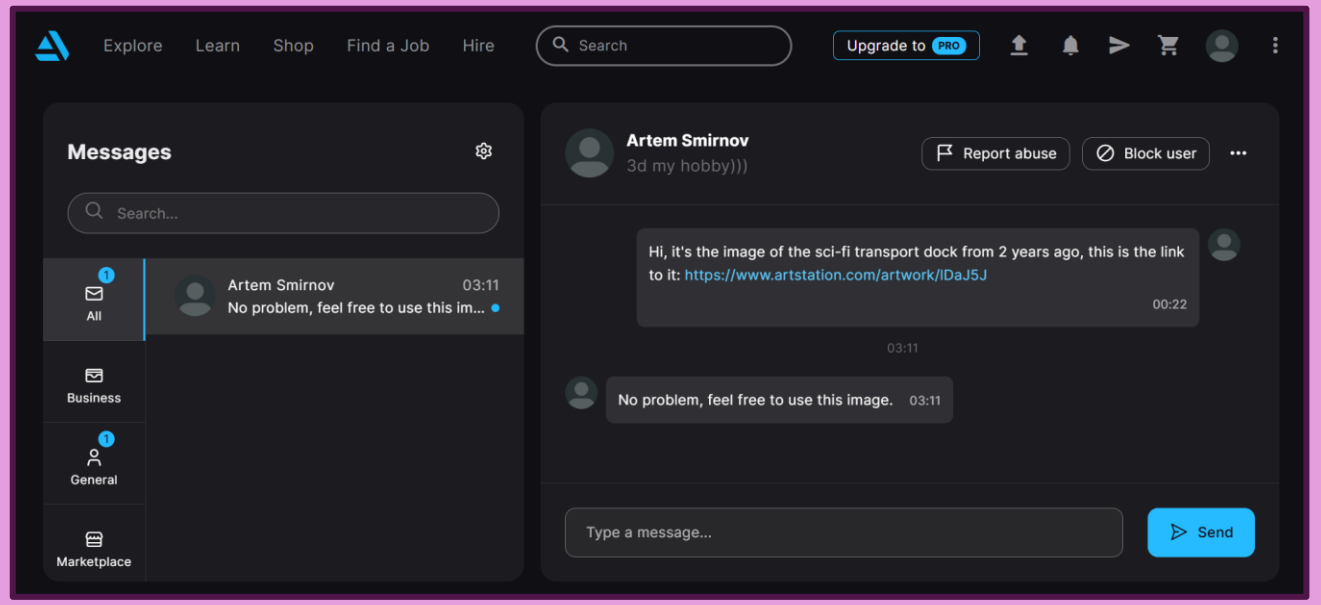
The Affective Surround: The Two Vector of Immersion
1st characteristic: a high degree of realism through colour, illusion of depth, and sound.
2nd characteristic: totalisation of senses, either with a 360-degree environment or a large part of their visual field, allowing viewer to forget the screen boundaries. *(Ng, 2022, Chapter 3)*

My Thoughts:
I don't think I gained much from this specific book, I thought that it would be a lot more engaging and interesting than it turned out to be. I felt there was a lot of content on boundaries between the audience and the screen, which is a huge part of VR and immersive technology, but didn't feel as relevant as I expected.

Crediting and Permissions

I intend on creating three designs for the space port to give us a variety of options, as well as to have back ups in case we aren't allowed to use any due to copyright.

I looked into the copyright around the images I had collected for the space port, finding one of them cost money, one was free, and the final one I messaged the creator to ask for permission to use and they granted me it. This was created by Artem Smirnov on Art Station. I explained the contexts it would be used in within my request.



I want to create a new artwork from an image I found on the internet

For an infringement of copyright to occur, it is not necessary that a work is copied in its entirety – copying a 'substantial' part of a work will also infringe. Taking an existing image and making an adaptation of it without permission will usually be an infringement of copyright.

In determining if a part is 'substantial' the courts have said that what matters is whether the piece that has been used (however small) could be said to be the author's own 'intellectual creation' (i.e. something that could qualify for copyright protection in its own right). Ultimately, only a court would have the authority to determine whether a given use is an infringement. However, it is worth bearing in mind that the courts tend to interpret the term 'substantial part' broadly, so even taking a relatively small part of a work can be regarded as infringement. It is worth being aware that such adaptations may be permitted if they fall within the scope of the permitted acts of parody, caricature or pastiche.

(Intellectual Property Office, 2014)

We then looked into copyright laws and guidance, in both a general sense as well as an educational sense. Despite deciding to not distribute, so avoiding copyright issues, it was really interesting to research into this.

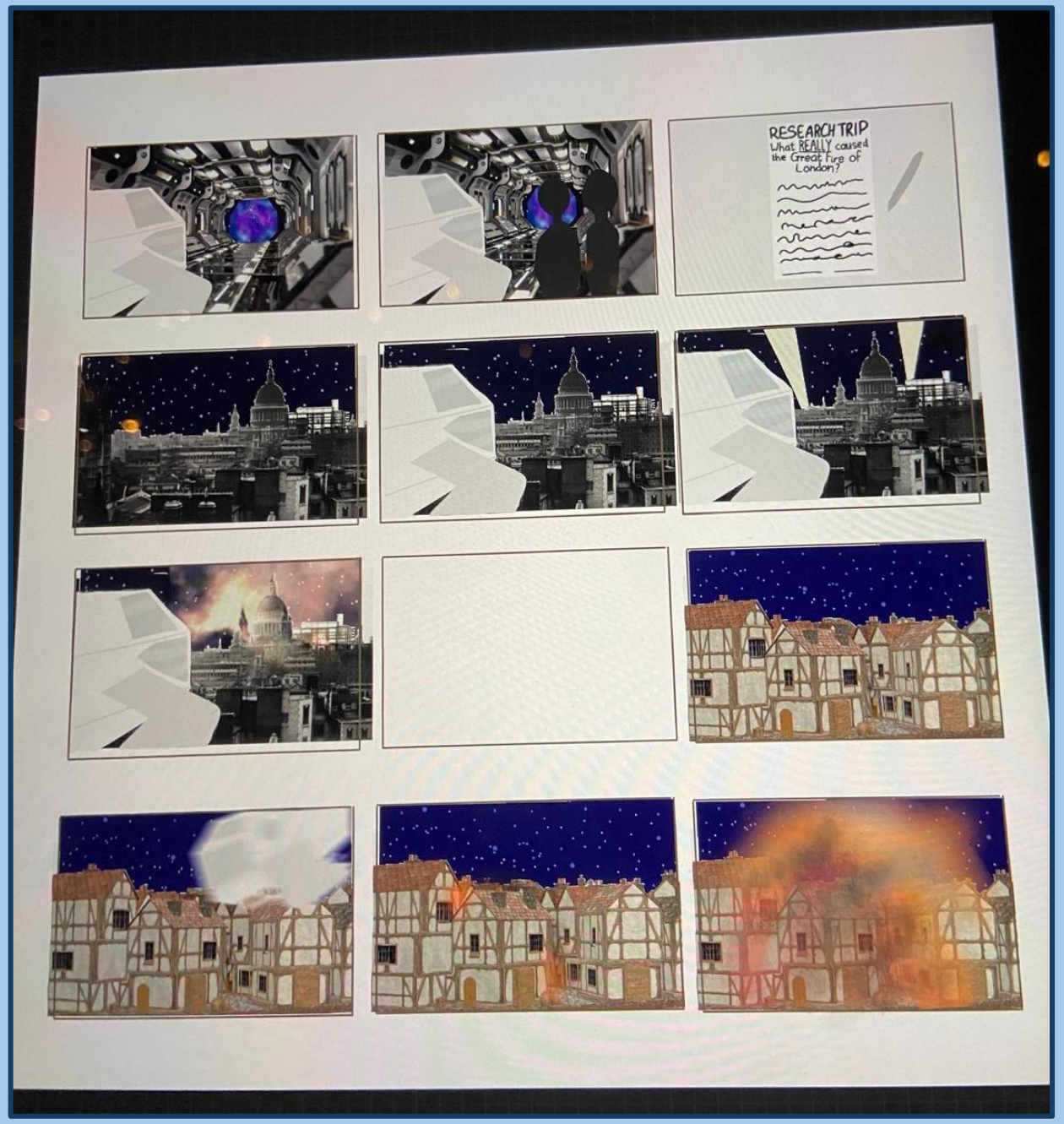
(Intellectual Property Office, 2021)

1. the work must be used solely to illustrate a point;
2. the use of the work must not be for commercial purposes;
3. the use must be fair dealing; and
4. it must be accompanied by a sufficient acknowledgement.

Refined Story Board

Mary created a refined storyboard based on the rough one we had made together. She used the images we had sourced and layered a sketch of the spaceship into these. I think this looks really effective and cool. I would love to try more digital storyboards in the future as I feel like it communicates the intended effect more accurately. Especially with such a digital course.

This really helped with our communication to Lloyd about our intended vision for each digital design, as well as helping me plan the shooting schedule later on in the project.



Order Forms

Step 6: Implementation

					Purchase Order:		
			For Internal use only, not to be sent to suppliers				
					Credit Card:		
			Date:	02/03/2026		Delivery Address:	
			Quote Number / Discount Arranged:		Requested by:		UWTSD Carmarthen
							College Road
					Dave Atkinson		Carmarthen
							SA31 3EP

Quantity	Unit Cost Ex. Vat	Vat Rate	Total Cost Inc. Vat	Description	Analysis Code	Cost Centre
1	£19.60	20%	£23.52	LEDs https://www.ultraleds.co.uk/tagra-ip20-24v-essential-cob-led-strip-light-8w-p-m-5-metres-50-metres		G7100
1	£4.95	20%	£5.94	Delivery		G7100
		20%	£0.00			G7100

					Credit Card:		
			Date:	02/03/2026		Delivery Address:	
			Quote Number / Discount Arranged:		Requested by:		UWTSD C
							College
					Dave Atkinson		Carma
							SA31

Quantity	Unit Cost Ex. Vat	Vat Rate	Total Cost Inc. Vat	Description	Analysis Code	Co Ce
1	£4.22	20%	£5.06	https://www.diy.com/departments/diall-white-nylon-fishing-line-l-100m-dia-0-4mm/1521328_BQ.prd		G710
1	£9.50	20%	£11.40	https://www.diy.com/departments/d-c-fix-gloss-argent-silver-effect-self-adhesive-film-l-1-5m-w-450mm/215039_BQ.prd		G710
1	£6.00	20%	£7.20	Delivery		G710
		20%	£0.00			G710

After we had checked the stock of the other items on our materials list, we then began sourcing the things we knew we needed to order. Anne sourced the LED strips, which we then met with Meilir to discuss our requirements and make sure we had selected the correct type of strips. We chose a continuous bead instead of separated diodes, to create a seamless effect that we felt was more appropriate, deciding to solder this together rather than buy specific connectors. I sourced the fishing wire and the reflective mirrored sheeting for the model spaceship, finding both from B&Q to lower delivery costs by ordering them from the same place. We intended to get lollipop sticks in town, unfortunately we couldn't find any, so we ended up ordering those as well.

Starting the Digital Designs

We each worked on one scene from film, I chose the space port as I had a particular interest in the futuristic and sci-fi aspects of the project, alongside my involvement in the creation of the spaceship model. Anne chose to work on the Blitz scene, whilst Mary worked on the 1666 scene. She used digital drawings of Tudor houses, whilst Anne worked on layering historical photographs we had found of London at the time with smoke from the fires and air raid.



Image above from Anne Hyde.





Images above from Mary Legg.

I started by downloading all of the source images we had collected for the space port, adding in some images of deep space to edit into these, alongside some clips of people walking to possibly add more movement in the background. I found it difficult to find stock clips from the right perspectives.



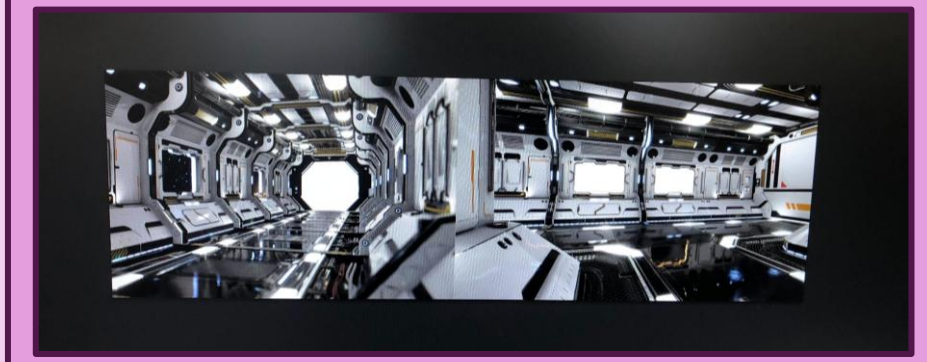
I then uploaded these into photoshop, starting with our favourite (but the one that costs money), I started with the space corridor, manually erasing the door at the end and the windows at the side so that I could layer a space image there and use scale to make the corridor look like a spaceship flight corridor rather than a human-sized corridor.

Digital Designs

Step 6: Implementation



I made sure to alter the canvas size to fit the dimensions of the pixels of the immersive room. I then layered the space images in to tidy up some of the erasing work I had done. I chose not to use the magic eraser tool as this removed a lot of the background I wanted to keep, manually erasing all of it.





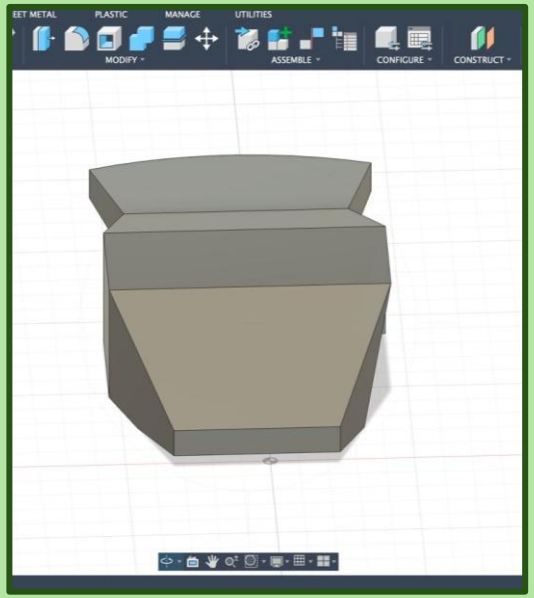
I then layered another view of the spaceship to try to blend these together to look like one room. As when we put the corridor on the big screen it was quite small, and although that's what will be in focus, I want it to look as though the world continues past the camera. I cropped the centre of the image and mirrored it to continue on from it. Lloyd then showed me that I could generatively fill the rest of the corridor image. Centering the corridor and selecting a square just inside the borders of the image, inverting this and selecting fill. This enlarged the image to what I needed it to be. I then decided instead of a static space view, I would layer a video into it. So, I deleted the background layer and exported the image as a .png so that the window holes would remain transparent. I then moved into Premiere Pro and sourced a few space videos, unfortunately most of these are difficult to use as they're quite short and are not easy to loop.

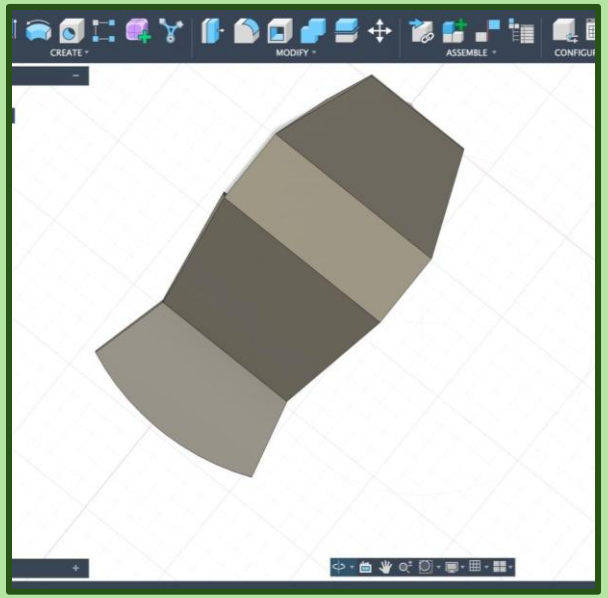


Fusion

Step 6: Implementation

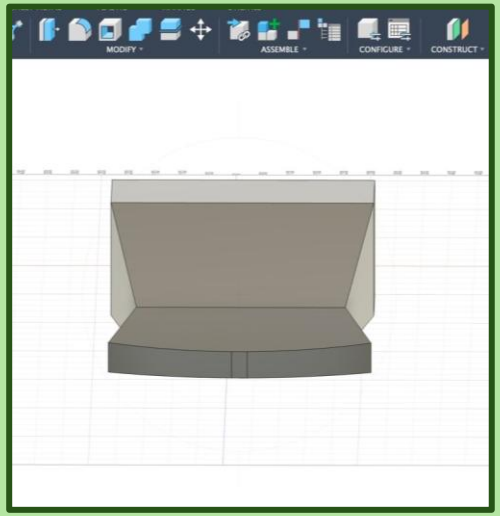
As there are no flat sides to the spaceship, I was uncertain on how to create a CAD drawing for the model, me and Dave decided to create one on Fusion instead. I worked with him on this. We started by creating a drawing of the plan view of the ship, as if it was flat, we extruded this by the tallest point of the whole model. We then worked in a side perspective, drawing triangles at the front and back to cut away from the model, creating the top and bottom angles.

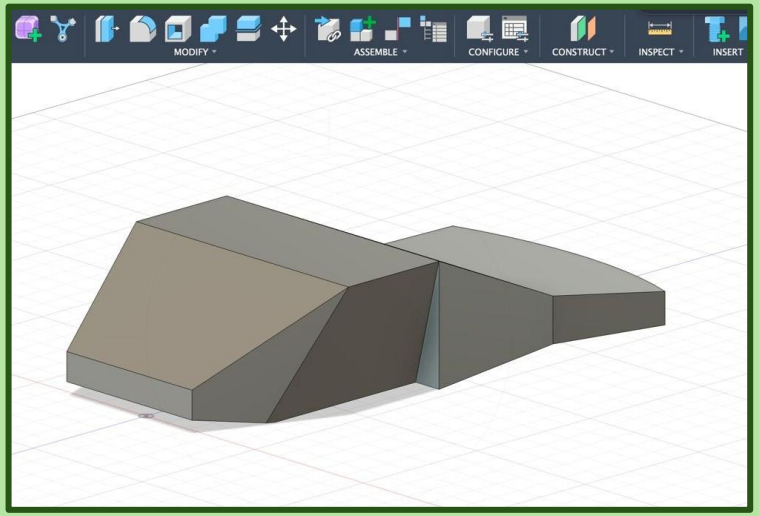


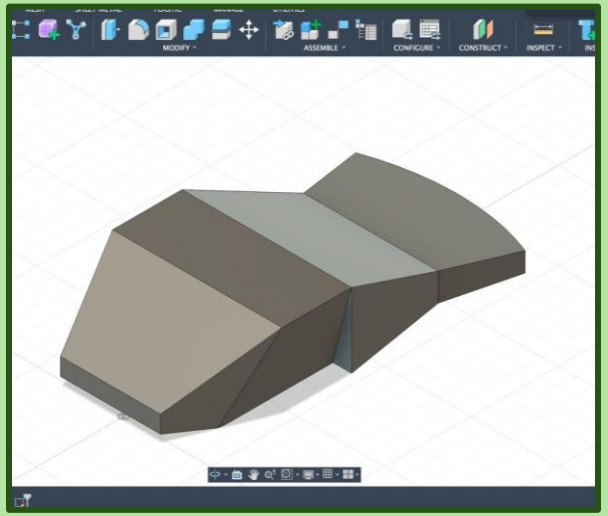


We then worked on the front perspective, attempting to create drawings to cut away the correct angles, this was difficult when we got to the back of the ship as there are three different angles that join together. We eventually decided that, as I wouldn't be using the drawing to create the final model, that it wasn't necessary to complete it.

I would like to work on my Fusion skills more to be able to problem solve the creation of an angular shape like this spaceship in the future.



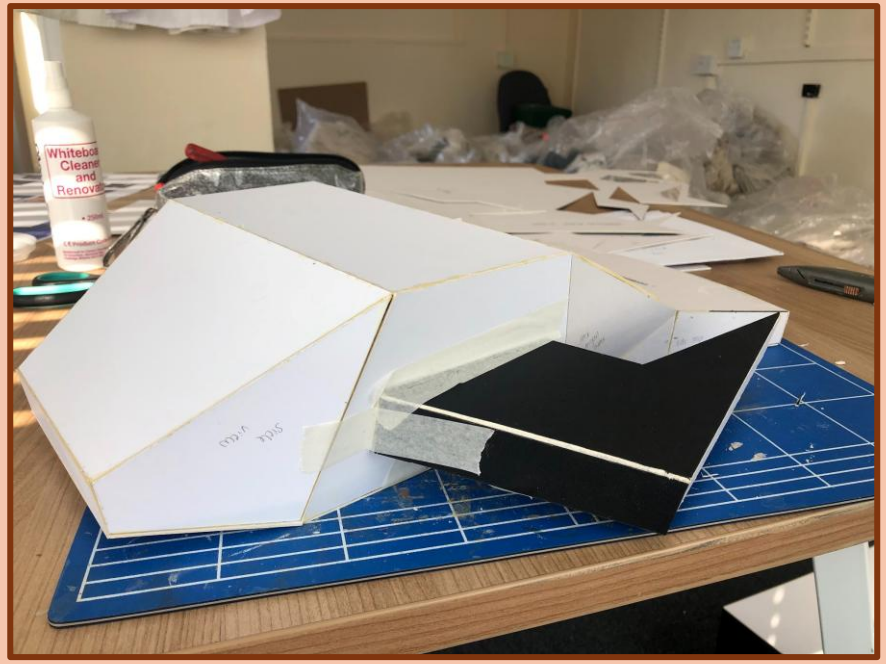




Finishing the Spaceship Model

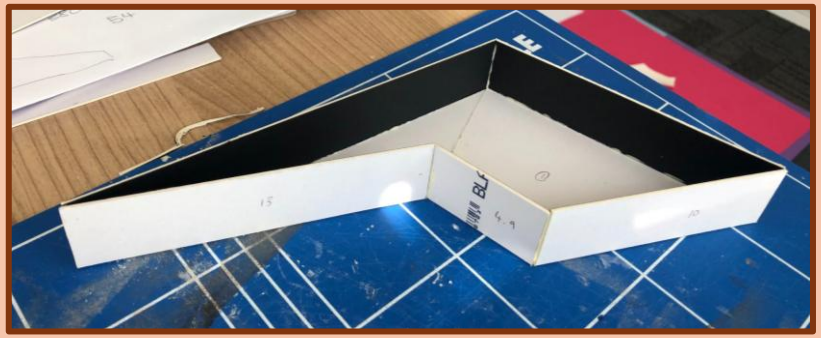
I then cut all of the pieces out for the wings, using the CAD drawing I had created for the measurements and angles. I made the wings 30mm deep, which will be 60mm in the real thing. After attaching the sides of the wings to the top piece, I realised that as I had cut some of the base pieces too short that I would need new pieces, I traced around the half-complete wings to get the bottom layer of the wing. I've decided to do the same trace-technique on the final model as it produces a cleaner result. I then positioned the wings on the model where I felt they worked and measure where they should sit.





I marked a line 30mm up from the bottom on both sides of the ship, I then marked the mid-point of the line and the mid-point of the wing so that I could line these up when glueing. I glued these down and held them in place with tape whilst they dried. I then found some straws to use for exhaust pipes on the ship.

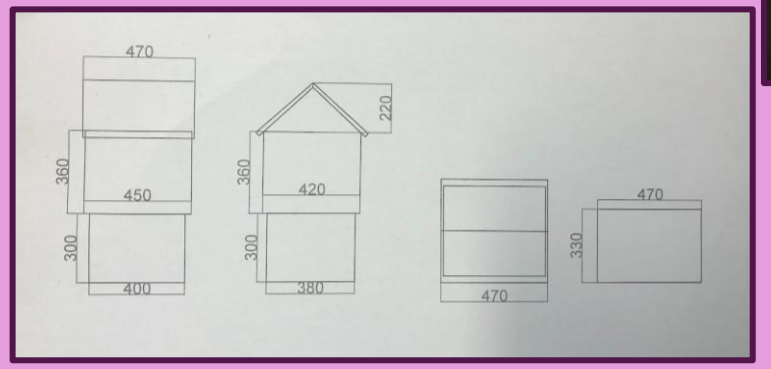
Step 6: Implementation

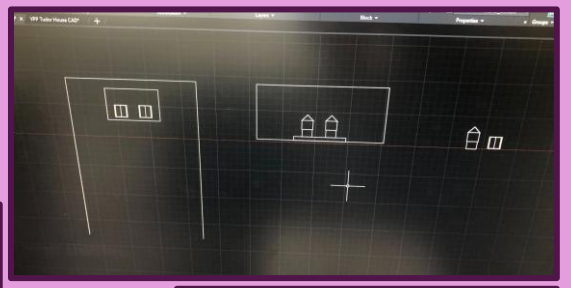




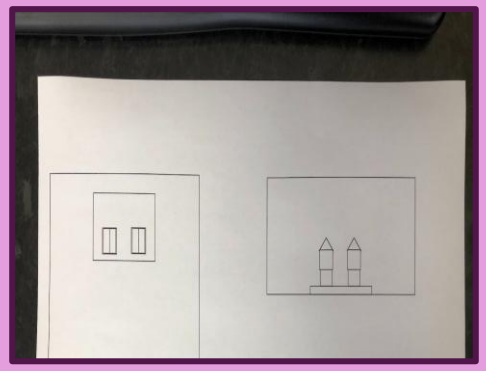
CAD for Tudor Houses and Ground Plan

Whilst Anne and Mary worked on the 1:10 model of the Tudor Houses, I created a CAD drawing for them. I started by creating two side views of the two-story buildings. I then drew the roof into the side view by measuring the height of the slanted roof from a flat perspective, I added the overhang of the roof onto this. I then replaced the walls sitting inside the roof with a dotted line to show that these were hidden behind the roof. For the other side view, I could draw the roof in without altering the perspective measurements. I then drew a plan view, altering the measurements again for the width to be as though you were looking at the roof flat. I drew a dotted square inside the plan view to represent the hidden walls of the building underneath the roof. I then drew out a rectangle with the actual measurements for the roof piece, without perspective distorting them. I created a new layer for the dimensions, changing the colour to green. I labelled all of the necessary dimensions for the houses.

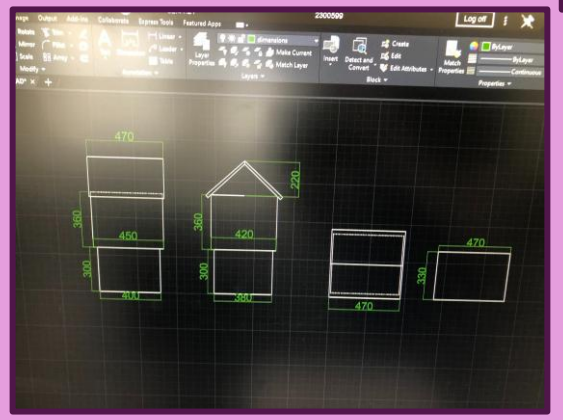












I also created a ground plan of the rostra in the immersive room from a plan view and a side view, adding in the two houses onto this, in front of the middle wall.

Refining the Spaceship Model

Step 6: Implementation

Whilst Anne and Mary began working on the final Tudor house models, I refined the spaceship model ready for painting. I started by sketching out the window frame for the front view of the spaceship, which in the actual model will be holes cut out for the mirrored sheeting to sit in (stuck on top of mountboard). I then created a vent for the back end of the spaceship, creating a 15x8cm frame and cutting 1cm thick slats, I've decided for the final model I will cut these slat thinner (making them 0.5cm in this model, so 1cm in the final model) and that I will paint them before glueing them down as they were difficult to paint. I then created a 10x5cm box to sit on the top of the ship to add more visual interest. I've decided that the wings are too fragile to support themselves. In the final model I will try hot glueing sticks to the inside of the frame which I will then hot glue to the body of the ship, maybe even inserting the sticks into the body. I will then go round the edges in more glue and then Polyfilla to secure them properly. I then began painting the model, working in grayscale as our mood board images are all grey toned spaceships. Creating some depth with shading certain areas. I painted the windows black as a placeholder for the sheeting.







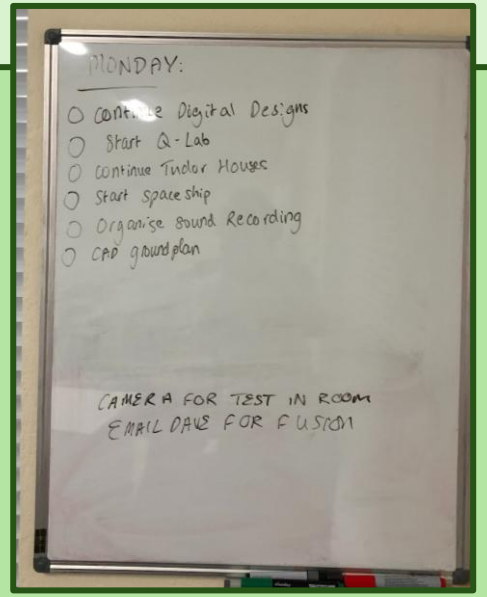


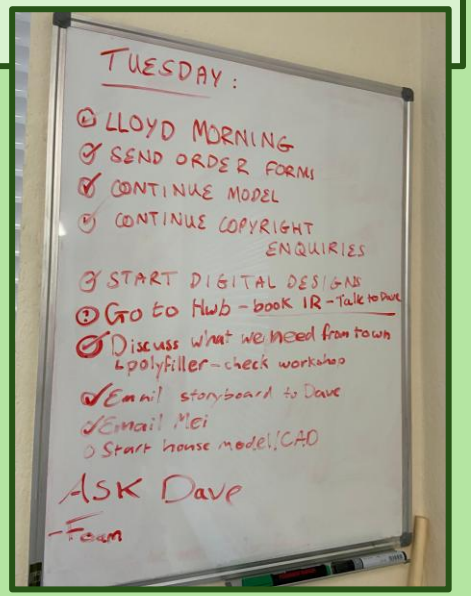




Immersive Room Tests

We were able to visit the immersive room quickly to test our images from the previous Premiere Pro session with Lloyd. We found Anne's London Blitz image was not blurry as we worried it would be. My image looked good on the screen, but I have concerns about scale, as I'm worried the spaceship will look too small with people stood in front of it. We will have to do more tests and scales before we start filming, maybe play with camera angles. Mary's 1666 image looked good, but we decided the houses needed to be much smaller to look right next to the models, filling the empty space with more sky.













We discussed the foam order with Dave, as we hoped to carve a cobblestone floor into it which we would attach to the rostra. We requested 25mm 8x4 that will cost around £14. We put up the printed-out story board on the wall and created a new to-do list for the day.

Developing my Digital Design

I then took an image of the spaceship from behind at multiple different angles and downloaded these as .jpg. I looked at the angles side by side with the space port I created earlier and chose which angle fit the perspective. I then uploaded this image into photoshop and removed the background, downloading it as a .png to keep the background transparent. I had to delete the background layer as I found it filled the transparent with white. I then created a new photoshop file to layer the spaceship over the space port, altering the scale of the spaceship to fit the port. I downloaded this as a .png and uploaded it into premiere pro. I then layered the stars moving through space background video to be seen through the doors and windows as though the space port was floating in space, I downloaded this as an .mp4. I saved all of the layers individually as well as the final video so that I could test these in the immersive room. I then printed off all of the CAD drawings I had created. We created a new to-do list for the weekend and Monday.



Meanwhile, Anne and Mary continued the Tudor Houses.







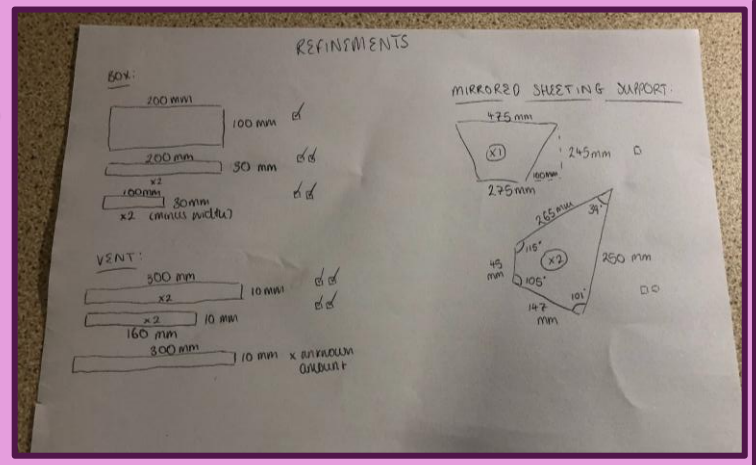
Step 6: Implementation

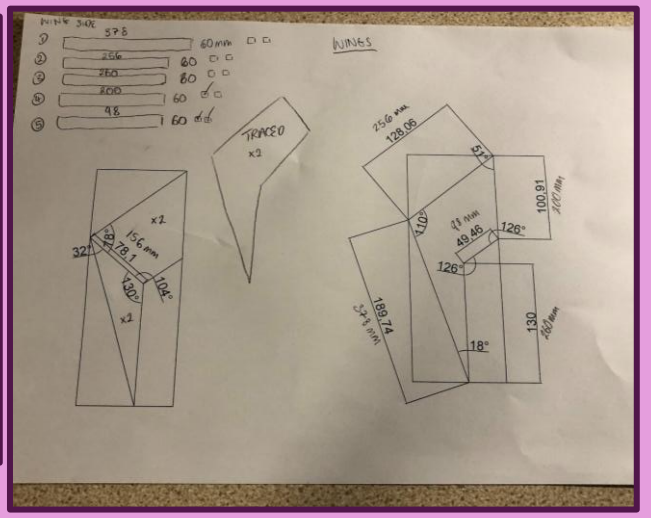


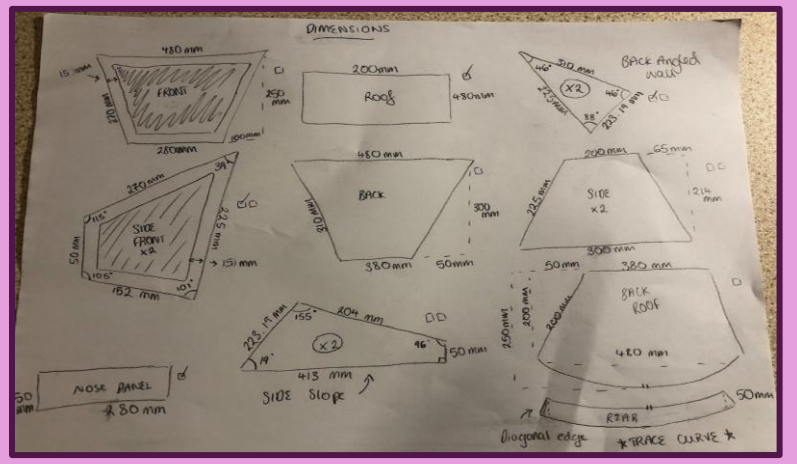


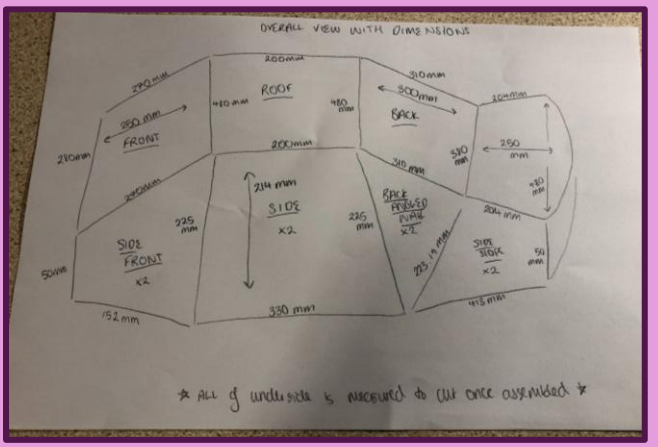
Refining my Cutting List

Before I began creating the final model, I wanted to create refined cutting lists and diagrams using the changes I had made through creating the scale model. Alongside creating a new list for the body, I created separate pages for the wings and the additions (such as the box on top of the ship, the vent, and the windshield supports to hold the mirrored sheets. I then began drawing out all of the parts I needed, using as many scrap pieces from Anne and Mary's Tudor Houses as possible and shape sorting to get as much out of each piece of mountboard. I drew out each piece before I started cutting so that I could make sure I had everything I needed.

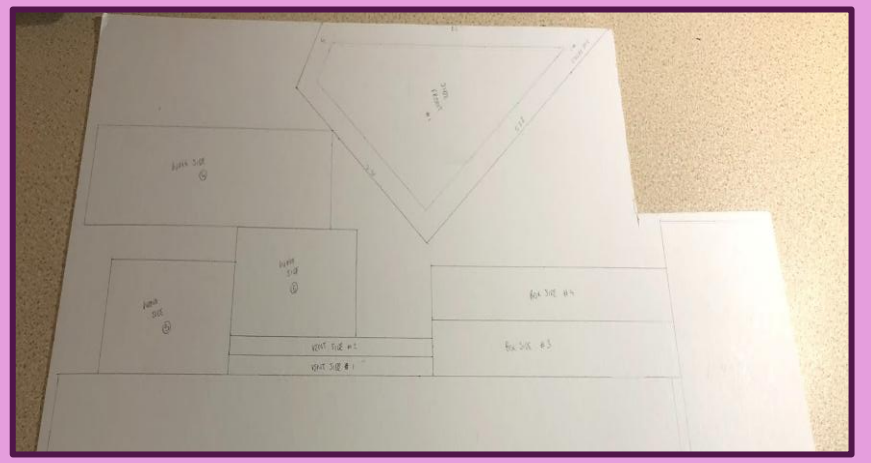








I attempted the compass idea to create the curve of the back of the spaceship, but unfortunately, I had to join many pieces of scraps together to create the circle and it wasn't the most accurate, I would like to try this again in the future because I think it's a good tool for accuracy.



Beginning the Final Model

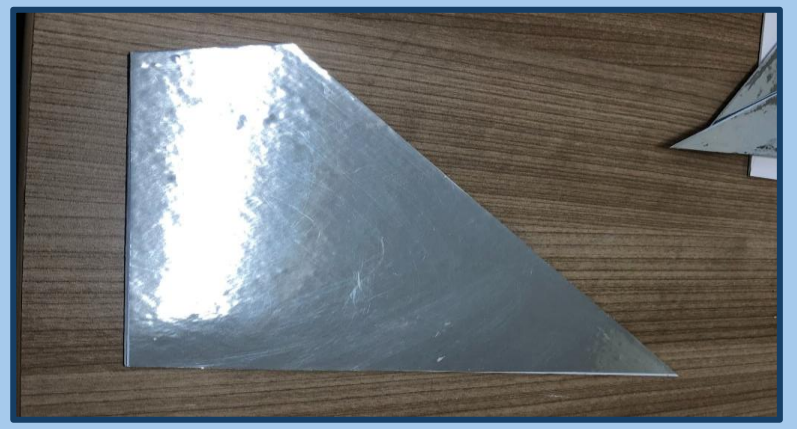
Step 6: Implementation

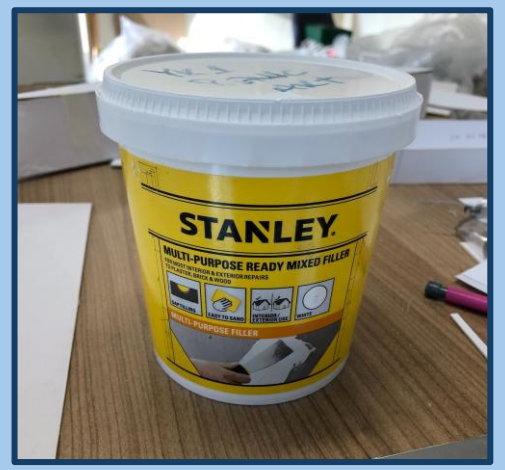
I started by putting together the box as that was straightforward. I then began putting together the wings, once the glue had dried, I used filler on the corners and edges to create a smoothness to the whole structure as I didn't want the material to be visible as it would lower the quality. I then realised I needed to cut one side off the wings as I wanted to connect it to the body with wooden sticks rather than just glue. I used a hot glue gun to glue a wooden skewer to the inside of the wing, just long enough to secure into the body, I glued it to another smaller stick to give it more support. I attached another wooden frame to the inside of the other wing. I then moved onto the windshields, tracing the three parts onto the mirrored sheet we had ordered from B&Q, removing the backing and sticking them down. I realised I had to re-do one of the side views as it needed to be mirrored. I then glued down the frames on top of them. After discussing with Mei, we decided to have the back of the ship hinge open so that we could store the battery for the LED strips inside the spaceship and have it hidden. We also decided I would paint over the white parts of the strips to disguise them.







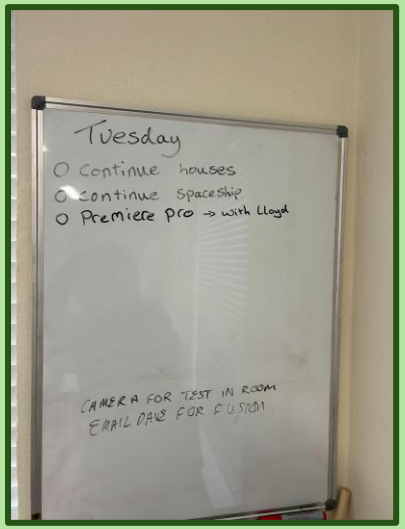


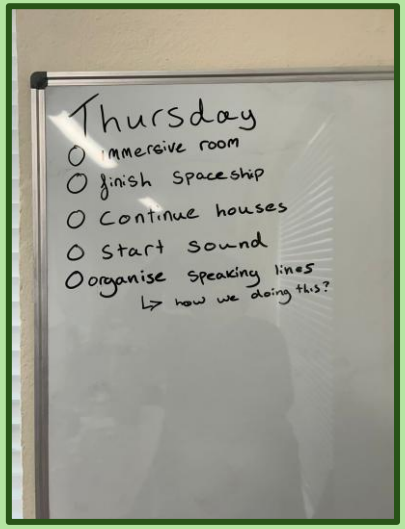


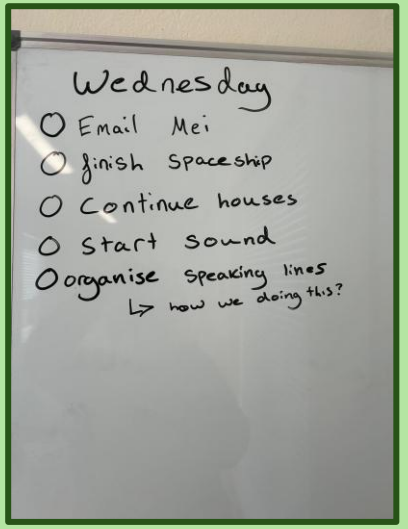


Developing Digital Designs

I started working on an alternative design for the space port to provide us with options if one doesn't work. I created two options of the alternative port, one that fits the smaller screen in the immersive room and one that fits the larger screen. I used the generative fill for both of these, selecting just within the image, inverting the selection, and selecting fill. I then layered the spaceship model .png on top and altered the size and position. I removed the background through the window using the eraser and saved this as a .png. I then layered the stars video in premiere pro, visible through the window of the port, slowing it down slightly. I then worked on creating shadows for the spaceship model, using the brush tool and lowering the opacity to make it look more like a shadow. I intend on taking pictures of the model's shadows for the refined digital design. I worked on adjusting the colours of the image to try and make the spaceship look as though it fits well in the image.











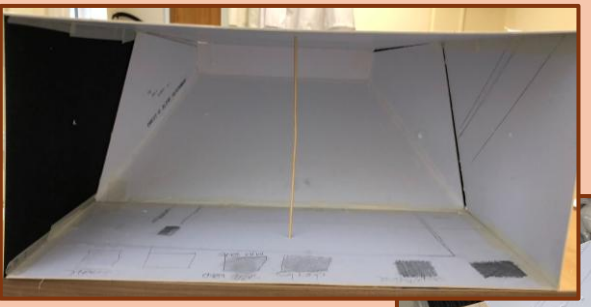
Model Making Continued

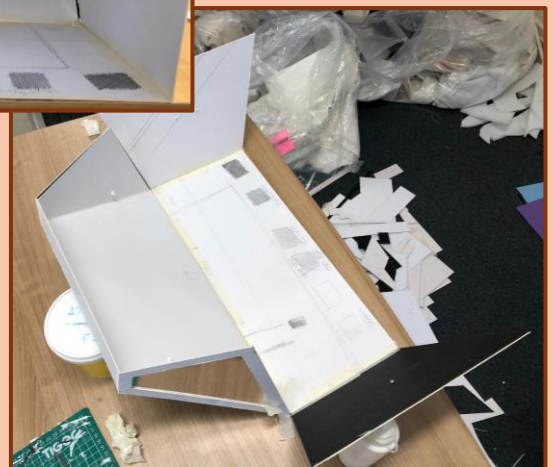
In the afternoon, I started by glueing the front of the spaceship together, holding in place with masking tape and once the side pieces had set, I attached the front panel. Once dry I smoothed a layer of filler into the joins of the mountboard to try to secure them. Whilst this was drying, I marked out where the wings would sit on the side pieces and marked the midpoints on the wings themselves, labelling which way up and which wall they joined too. I then measured and marked where the wooden skewer met the side wall and pierced a small hole in this spot. I then glued the side walls to the roof piece and then realised the side walls weren't long enough, so I recut these pieces and remarked the wing, re-piercing the hole. I held the walls to the roof with tape whilst they dried and then glued the front of the spaceship to the roof, glueing it to the walls once it had set slightly.



Process of glueing and holding in place with tape.







Wooden stick supporting the inside.

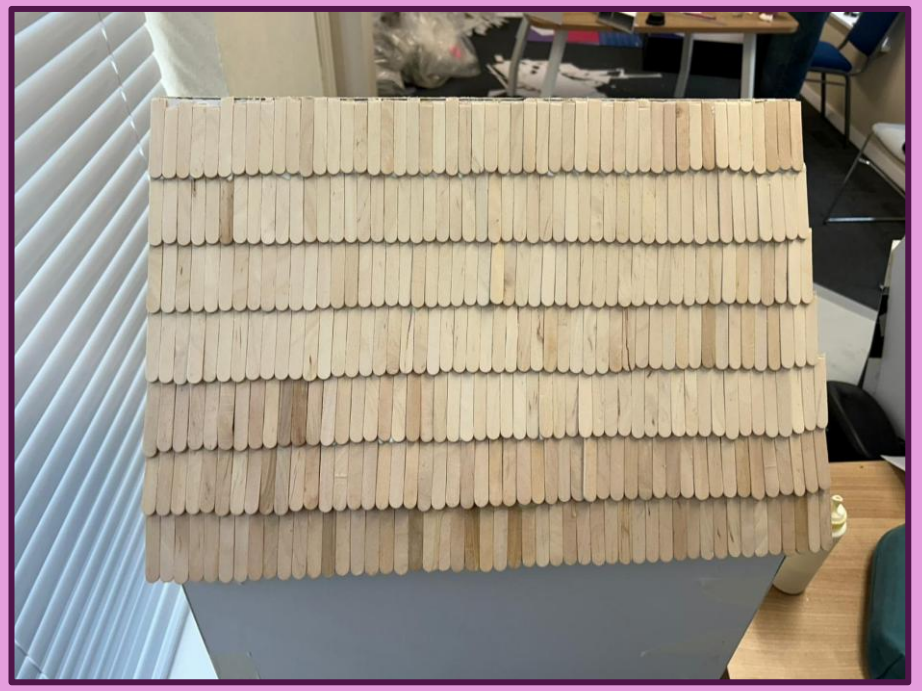
Whilst this was drying, I drew and cut out the bottom pieces of the ship, glueing them on and taping them securely. I decided to glue a wooden skewer to the inside of the ship in the middle of the base and roof to support the weight of the mountboard and stop it bowing in the middle. I cut a wooden skewer down and glued this on with a hot glue gun. I then moved onto the wings, as I thought it would be easier to attach these while the inside was easily accessible. I applied glue to the edge of the wing and then applied hot glue to the hole in the side wall, attaching the wing and hot glueing the stick from the inside of the ship to stop it moving. I attempted to hold it in place with tape but neither the tape or wood glue were strong enough. I decided to use the hot glue gun on the wing as the weight of it kept pulling it away. This worked well, I left this to set overnight.

Tudor Houses

Whilst I was working on the spaceship, Anne and Mary had been building the Tudor Houses. Once the main structures had been built, they began cladding the roof in lollipop sticks to mimic shingles, cutting these in half and ordering more as they calculated we didn't have enough to complete the roof. They also began working on the chimneys, with Mary painting the faux stone effect onto them.
Later on in the process, they painted a dark brown wash over the sticks that would represent the exposed wooden beams and the roof shingles. Painting a layer of white paint over the mountboard where there was any discolouration and testing them in the Immersive room in front of the digital backdrop to make an adjustments to the scale of the image.







Model Making Continued

I started the next day by attaching the second wing and going over the top and bottom seams with a hot glue gun. I then attached the back slope pieces to the roof, soon realising that in the scale model I had cut this piece in half to help it bend with the model, so I removed these and cut them in half, attaching them again. Whilst this was drying, I attached the back











angled wall pieces to the main body of the ship. I then traced out the bottom piece of the back section and attached it, along with the rear bumper, which I then trimmed down as it had an overhang. I was then able to attach the back piece to the main body.



Images following the process of construction for the model, before the attaching the of hinged back of the ship.

Whilst this was drying, I measured and cut the last bottom piece and attached this to the ship. I then went around the whole spaceship and applied filler to all of the joins and gaps to create a smoother effect. I used a spoon for the smaller gaps behind the wings.





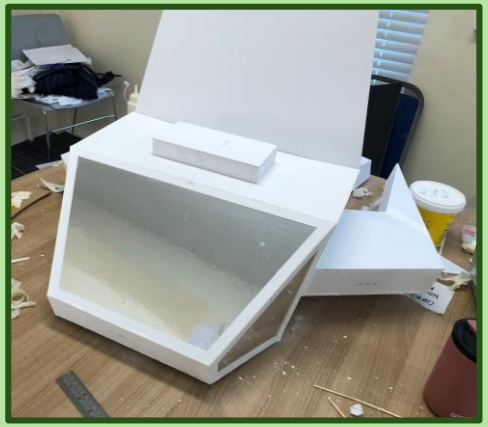
Model Making Continued

I then flipped the ship over and began working on the hinged back slope, which will be used to hide the LED equipment. As the side walls won't be glued to the slope, I decided to make a wooden frame inside the ship to stop the walls from bowing inwards. I made this with wooden sticks and a hot glue gun. This helped the back slope sit nicely on the spaceship whilst only being attached to one edge. I then applied glue to strips of masking tape which I attached half to the top edge, attaching the back slope to the other half of the tape, making sure it could hinge all of the way with a small gap, I propped this open to dry. Unfortunately, the back slope of the ship looks quite unprofessional, due to the hinged gap. I'm hoping to be able to make something to cover the gap or to possibly secure this slope down once the LEDs had been secured. I then glued the box attachment to the roof and began working on the vent at the back. I attached the frame pieces and painted the rear roof, as I remember how difficult it had been to paint on the scale model so made sure to paint it before anything was attached. I then cut out 38 strips of 5mm mountboard for the vent slats. I then painted all sides of these strips ready for glueing. I am planning on soldering the LED tomorrow, along with finishing the vent attachment, exhaust pipe attachment, and hopefully get a base coat done on the whole ship.













Immersive Room

In the immersive room, we started with Anne's Blitz scene, altering the volume and screen brightness – we decided the darker the background was the better, especially as it was meant to be set at night. We then moved onto mine, trying out my favourite option (the white space port) I realised it wasn't going to work with the angles and perspective. I then tried the alternative one I had created, and this worked a lot better, I took some test shots with the other's kneeling in front of the screen at a low angle. I decided I needed to create some colour gradients for the other two walls to reflect the light onto them and create an immersive effect. I then went to continue the LED work whilst Anne and Mary tested the Tudor scene.

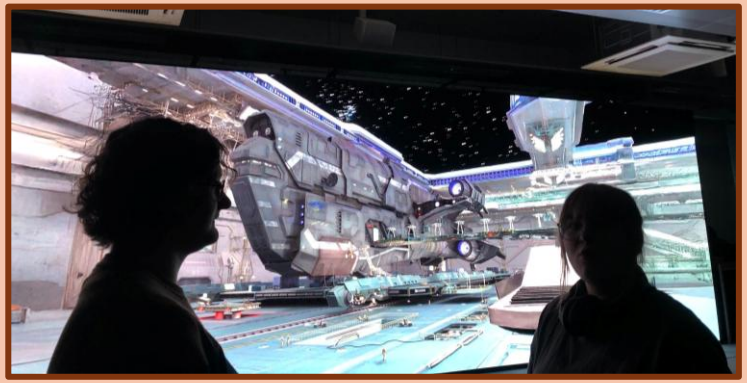








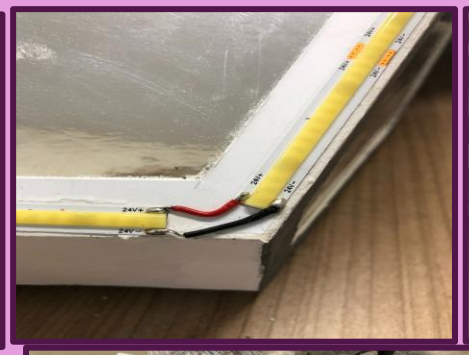




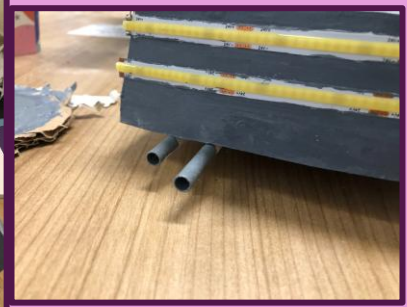
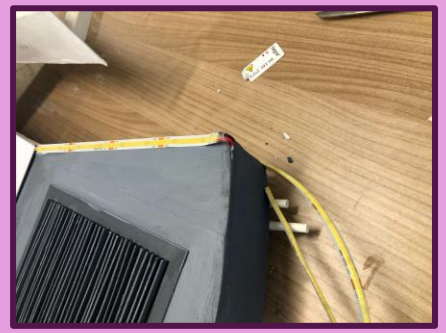
The image above is the test for the camera shot, ultimately helping me decide to choose this backdrop.

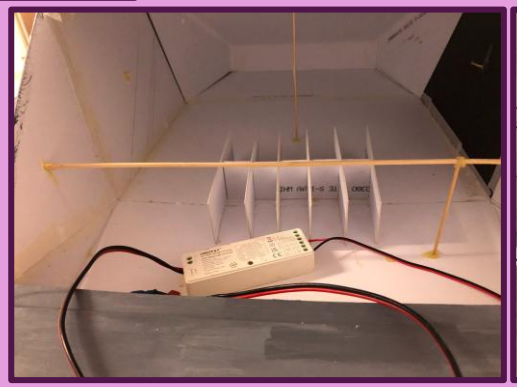
Model Making Continued

I started by glueing the strips of mountboard I had painted onto the vent and then measured the paper straws to have as exhaust pipes, I flattened the end and glued them down, applying filler to the end to create the idea it goes into the spaceship. I then began painting the base coat onto the bottom of the ship. Once we had all of the soldering equipment and LED tape, me and Meilir began working on attaching and soldering the LED lights. I started by measuring out and cutting the LED tape to where I wanted it to sit on the ship, creating a circuit going around the sides and front, ending with two strips at the back to act as futuristic engine lights. I made sure that the + and – sides of the tape were always the right way round, cutting the strips in the centre of the metal sections, unfortunately some strips had to be cut shorter than I wanted as the metal sections didn't align where I needed them to. Meilir then showed me how to solder these parts together, using a soldering iron and some electrical solder. He completed the first half and then I continued the rest.




Model Making Continued - Soldering

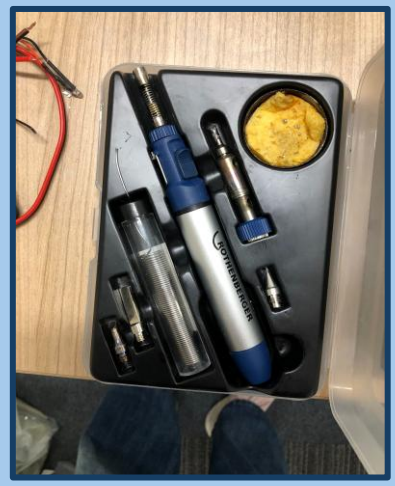
I started by using the wire strippers to take the rubber end off of the wire, I then cut it down to size and removed the other end. I used the soldering iron to heat up and apply solder to the metal part of the LED tape and the wire itself, pressing these together with the iron to secure them.











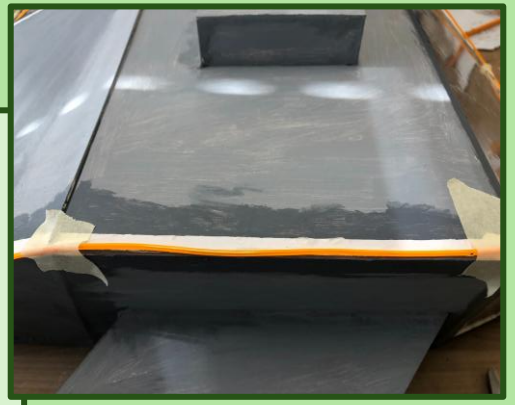
After each part connected, I wiped the iron onto a wet sponge to remove all of the excess solder. I found it quite fiddly in some parts as I was working with really small sections of wire, but I'm really proud of this work and really glad I got the chance to learn how to solder. We had some problems with turning the LED lights on, the wire from the LED strips is tucked through a hole I made in the corner of the ship, this connects to a controller which then connects to a battery. Although we had power, no light was coming out. I turns out we were using a 12-volt battery for 24-volt strips. We will see if it will work tomorrow once the new battery is charged up. Once the soldering was done, I worked on finishing the base coat all over the ship so that I could refine it the next day. Once the fishing wire is attached, I can refine the paint work to make it neater and then photograph it for the final digital designs.

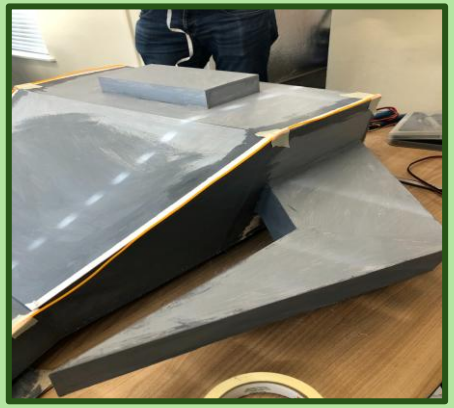




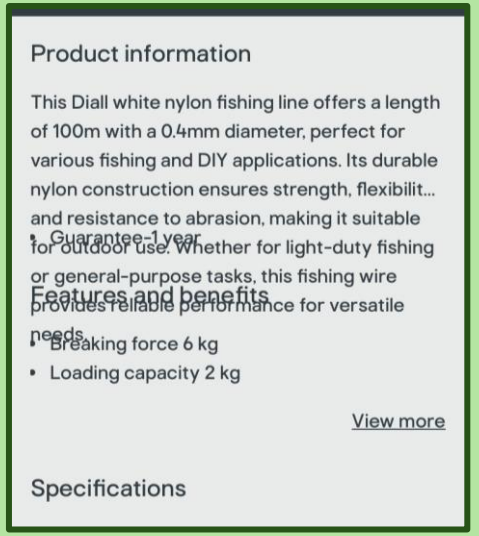
Problem Solving LED lights and Attaching the Fishing Wire

I started the day tackling the LED light issues we had the previous day, Meilir decided we would need new batteries (which we didn't have the budget for) and Dave suggested we swap out the 24V LED strips to the 12V strips we already had in stock, solving the battery issue. After removing the LED tape and heating the solder to remove all of the wires from it, Dave suggested we use a shoe-string type of light, in one continuous bead, connecting to a battery pack at the end. Unfortunately, the one we had had no battery pack, so we ordered one and I decided I would finish the model as though there were no lights and attach them if they arrived on time. Although this meant my soldering work was no longer necessary, I really enjoyed having the opportunity to learn that skill. I moved onto attaching the fishing wire, I looked at the capacity of the wire on B&Qs website, its loading capacity is 2kg, with 4 points of separate pieces of wire connecting to the model, this goes up to 8kg, this will work perfectly, especially as the battery pack is now a lot lighter than the previous 12V pack. I pierced through the corners of the spaceship with a needle and threaded through the wire, tying a big knot at the end to stop it from coming through. I cut these to roughly the same height and left them whilst I painted the model.





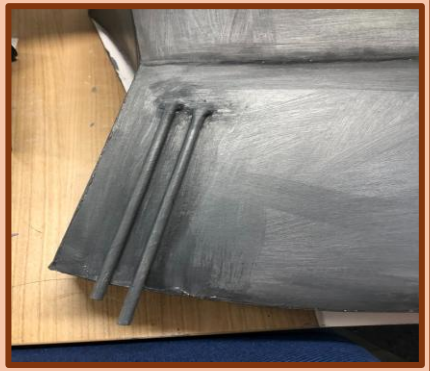






Painting the Model

After having done the base coat, I went over the whole model, refining the paint to look smooth and clean. I used a dark grey as the main colour and went around the edges blending a darker grey to give the model more depth and an edgy atmosphere. Making sure to wipe off any paint I got on the mirrored windscreen and the transparent fishing wire. Once this was dry, I flipped it over and painted the underside, I didn't do shading underneath as it won't be visible on camera, but I still gave it a thick and even coat. I then altered the wooden frame I created inside the hatch at the back. This was put there to stop the sides from bowing, unfortunately it had warped and continued to bow in a different direction. I broke off one of the sticks and hot glued it further in, fixing this issue.



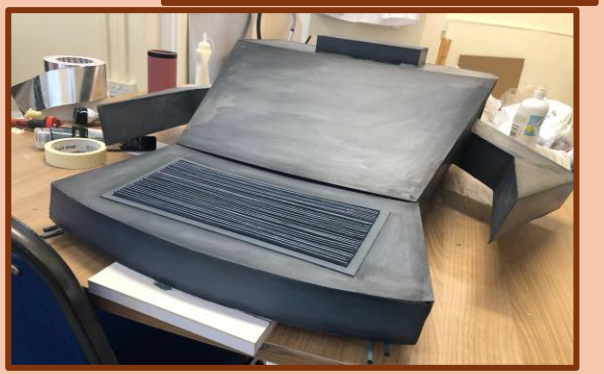








I then painted the edges of the inside so that if the hatch lifted slightly, it wouldn't reveal any white. I then photographed the model from the back at several different angles, all eye-level, for my digital designs. I grabbed four scrap wood blocks from the workshop, unfortunately I couldn't find rectangular ones, and sanded the edges down. I tied the other end of the fishing wire to these blocks and wrapped transparent tape around it to secure them. I then tested them with Mary, lifting the model and moving it about. The fishing wire held it perfectly without any worry of snapping, moving the model is easy but doesn't look great from the back, as the hatch gives the model a tendency to warp. I left plenty of slack on the wire, but if needed it can be wrapped around the block more and taped off again to shorten it.



Shooting Schedule

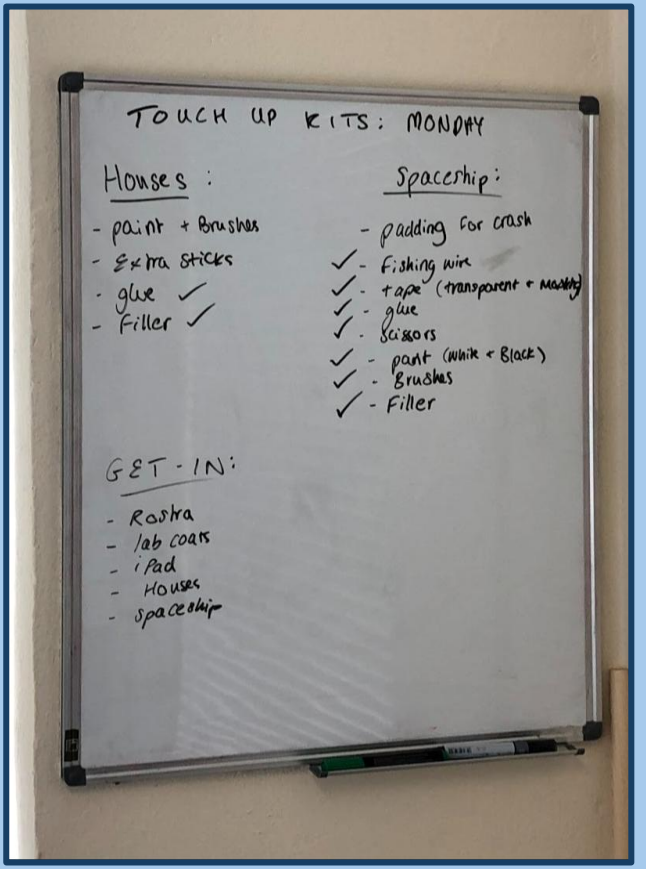
I moved onto creating the shooting schedule for Monday, I found a template online that I based my table off of, removing and adding certain columns as necessary for our specific project. Our group has been allocated the get-in at 11:45-12:00, our filming is 12:30-14:30, and our get-out is 14:30-14:45. we discussed the order the scenes should go in, and we decided to film them in order, as the model 'crashes' at the end and we want to make sure we've gotten all of our shots in case it breaks. I mapped out each shot, giving the shot a 5-minute set-up and 10-minute shooting time. I then went back through at the end and allocated more time to the London Blitz ending and the 1666 fire ending, as these may take longer involving the puppeteering. I then allocated more time to the set-up of the 1666 setting as this was the only scene we had set for. Leaving us 10 minutes left over as a buffer. I went through and detailed all of the props and costume needed for each shot, as well as details of what screen we were using, what lighting and sound were needed (although sound may not be played). I then went through describing the movement and angle and shot types of the camera, discussing transitions and any movement with the group.

After printing our shooting schedule, I realised I had forgotten the length of each shot, so I added this in with a pen within each shot type box.

Location + Year	Shot #	Subject	Shot type	Angle	Movement	Equipment	Sound	Set-up time	Start Time	End Time	Notes
Immersive Room		Get-In						11:45		12:00	Set: Rostra x1, Tudor Houses x2 Props: spaceship model x1, iPad x1, (padding for spaceship) Costume: lab coats x2 Touchup kit
Space Port, Year: 3666	1	Landscape of the space port loading dock, spaceships lined up	Establishing shot	Eye level	Static	Tripod	Background noise of space port	11:45 - 12:00	12:30	12:40	Rightside LED wall Lighting: Surrounding walls with background colours
Space Port, Year: 3666	2	Two researchers talking in the space port	Medium close-up	Low Angle	Slow pan to the right stopping on researchers	Tripod	Dialogue of researchers with background noise continued	12:40	12:45	12:55	Costume: lab coats Props: iPad Rightside LED wall Lighting: Surrounding walls with background colours
London, Nighttime, Year: 1940	3	Landscape of London skyline at night during the Blitz, smoke everywhere and	Establishing shot	Eye level	Static	Tripod	N/A	12:55	13:00	13:10	Middle LED wall Lighting: Low screen brightness and surrounding screens have the same image for
London Nighttime, Year: 1940	4	Spaceship arrives in the skyline, to the left of St. Paul's cathedral	Same shot, model enters	Eye level	Static	Tripod	Dialogue of researchers inside spaceship, noise of air raid and planes approaching, explosion ends the scene	13:10	13:15	13:35	Middle LED Wall Lighting: low screen brightness, surrounding screens have the same image for reflection Props: model spaceship
London, Nighttime, Year: 1666	5	Landscape of London in 1666, houses on a quiet street, a calm night	Establishing shot	Low angle	Static	Hand held	Calming background noise of horses hooves on cobblestones	13:35	13:45	13:55	Middle LED Wall Lighting: surrounding walls are the same image Set: rostra, 2x Tudor House models
London Nighttime, Year: 1666	6	Spaceship crash lands into houses in the background, flames emerge and spread rapidly.	Same shot	Low angle	Camera tracks the movement of the spaceship, once crashed it either stays static or slowly zooms out slightly	Hand held	Noise of spaceship crashing and flames spreading	13:55	14:00	14:20	Middle LED Wall Lighting: surrounding walls are the same image Set: rostra, 2x Tudor House models Props: spaceship model

Kit List and Final Tudor House Models

I then added a row at the top for the get-in slot, listing everything we needed to bring. I decided to create a kit-list for the get-in on the whiteboard for any touch-ups on the houses and the spaceship, as well as a list of everything we needed. Such as, glue, sticks, tape, fishing wire, paint, scissors, etc. we also discussed padding for the spaceship crash to protect it, deciding to bring some scrap fabric. It was decided that the morning of the shoot, whilst the other group is filming, we would rehearse the puppeteering, go over the schedule, pack the kit list, and move all of our items over to the T&L building.







Here are the images of the complete Tudor house model, including windows along with the exposed wooden beams. I think that Anne and Mary did an incredible job on these, especially with how time-consuming the shingled roof was for them.



Final Digital Designs

Once the model was complete, I could create the final designs for my digital backdrop. I first, in photoshop, edited the space port background, selecting the inside of the image, inverting it, and filling to fit the size of the screen (4480x1440 pixels) and erasing the sky seen through the window. I then deleted the background and saved this as a .png. I then opened a new file with a smaller screen size, and I edited the spaceship image I had taken (after comparing several to the angles of the space port itself to select the right one), erasing the background around it, and saving this as a .png as well. I then inserted this into the space port background, positioning it and resizing it until it looked right next to the other ship. I attempted to alter the colours of the image to make it blend better, but unfortunately it always looked out of place, so I reverted the colour back to normal.

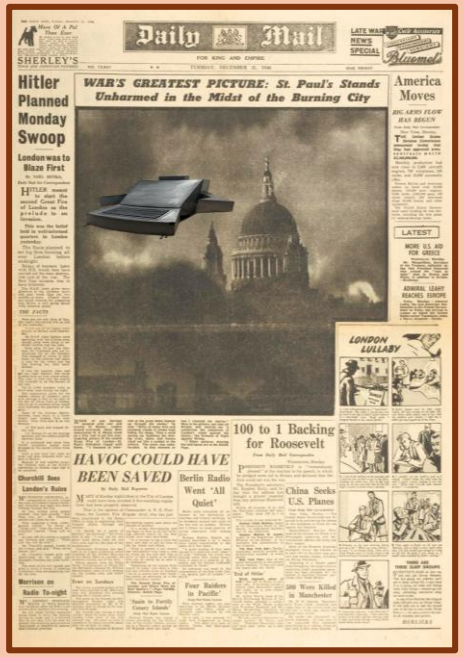




I then used the photo I had taken of the model as a reference and I drew in the shadow of the spaceship with the brush tool. Once I was happy with this, I saved the whole thing as a .png and moved it into premiere pro, I extended the length to 9 minutes, and copied in several of the star video background, slowing it down slightly and repeating until I reached 9 minutes. I then saved this as well.



Final Digital Designs





I sent all of my design files to the rest of the group, in case anything went wrong, and I sent them ahead to the IR Teams chat in case ready for Monday. During the shooting schedule creation, I suggested we have a newspaper clipping appear after the Blitz scene. I had found a newspaper article from 1940 with a picture of St. Paul's Cathedral which I thought we could edit the spaceship into, continuing the scene transition trend from the first scene. I downloaded the newspaper and opened it in photoshop, layering the .png I had created of the spaceship and altering its size to fit. I tried to edit the colour, but I struggled again, so I decided to add filters in my gallery instead of photoshop. I continued adjusting the brightness and shadows as well as the filter until it fit the rest of the image. I downloaded this file and set it to the rest of the group also.

I wanted to find a gradient for the opposite screen in the immersive room, I searched for gradients including purple, green, and grey until I found the one below, I enlarged it to fit the screen and sent this to the IR Carmarthen Teams account. I then printed off the shooting schedule ready for Monday.





(Freepik, Year Unknown)

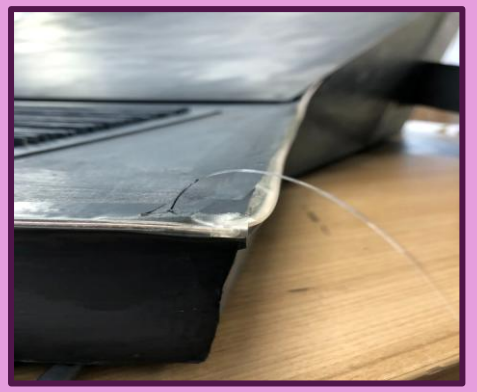
Finalising Lights on the Model

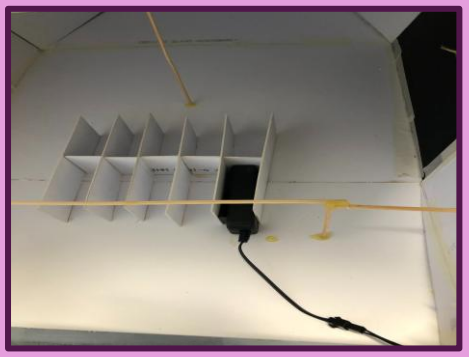
Once the new lights had arrived, I checked if they worked (using AA batteries) and I checked whether they would thread through the hole for the previous LEDs and they did. I threaded them through this hole and roughly taped them along the ship with masking tape to see how far they would cover. They made it all the way around but had an awkward length of excess so I decided to pull some more into the spaceship for the perfect length.



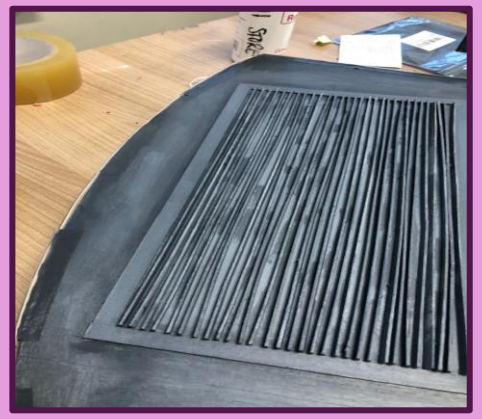


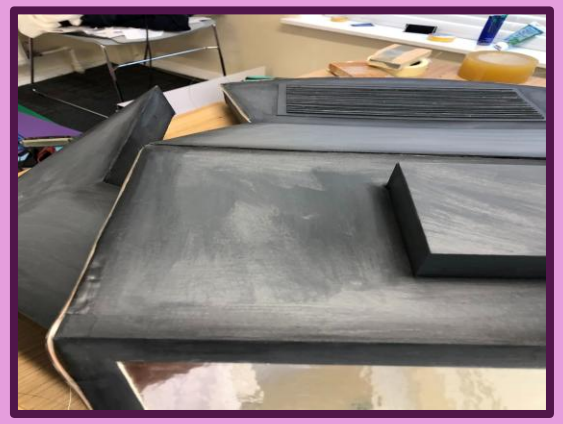
As these were one continuous light I altered where they sat by tracing them along the side rather than the top, avoiding the hatchback. I cut strips of thick transparent tape into thin long sections and began taping down the lights, avoiding taping at any corners and angles so as not to get bunching in the tape. I used masking tape to hold it in place whilst I refined it. Once they were all the way around, I double checked they worked and then got to blending out the tape.











As the tape was quite obvious and ruined the clean look, I painted over each piece at the top and bottom, leaving a clear gap for the light itself. I think I did quite a good job at blending the tape out but unfortunately at certain angles the light still reflects off of it making it a bit obvious. I was able to slot the battery pack into the structure I had made inside to support the previous battery, meaning it won't slide around whilst being puppeted.

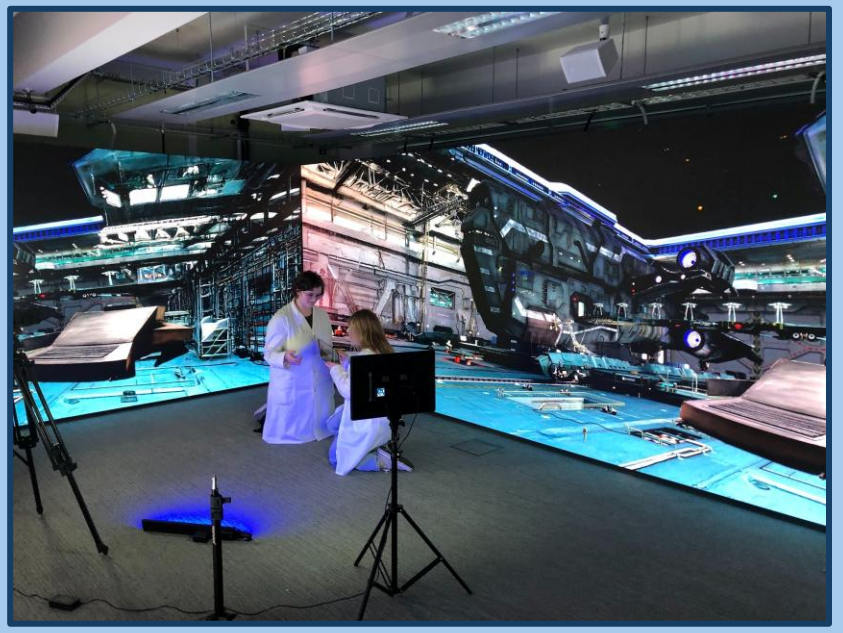
Filming Process

Space Port:

Mary: Are you ready to go?
Anne: Yes, just need to do the paperwork.
Mary: Sign this here and you're good to go.



In the morning, I packed the kit list that we had written up on the board, and then we began taking all of our props and set over whilst the weather was clear. Once we had all of our stuff on standby and the other group were filming, me and Anne rehearsed the puppetry of the spaceship as we were most interested in operating it. I planned to shorten the fishing wire strings before the Tudor scene as we felt it would be easier. We had the dialogue written up so that we could speak it whilst filming, despite the dialogue being edited over the top in post-production, so that we knew the length of the shots were correct.



We also went over who would be doing what for each scene, I had a preference for camera operating and puppetry, as I've never operated the camera before and wanted to learn more about it. We then assisted the previous group in their get-out and moved all of our stuff into the room. I began downloading and setting up my digital elements, placing the video I had made on the right-hand screen, a still image of the background on the middle screen, and the colour gradient I had found on the left-hand screen.

Filming Process

We adjusted the screen brightness and chose 50% as that helped bring out the shadows in the background. We then set up two LED lights on either side of Anne and Mary (who were acting in the scene) adjusting the temperature to a cold light (5600K) and the brightness to around 30% to match the background but still light their faces appropriately. We also added a floor light, casting a blue colour up onto their lab coats and faces to compliment the blue lights within the backdrop. I then rehearsed with Lloyd what I wanted the shot to be, discussing how we wanted to hold an establishing shot on the spaceship before panning to Anne and Mary, in order to not catch the edge of the screen, we decided to start zoomed in and slowly pan whilst zooming out onto the action of the shot. After practicing a few times, we filmed a few takes, in some I jolted the camera too much when I began panning but I think it came out great and looked a lot better on camera than I thought it would.

We then switched over to the blitz scene, Anne got up her videos, duplicating them to cover all of the screens for background light. We then held the model up in front of the screen to get the placement of the bomb dropping and to adjust the LED lights around it, making them a warmer colour (around 3200K). We wanted the spaceship to fly into the shot after a few seconds, to create an establishing shot of the new location, I realised it would be better for it to fly up into the shot rather than in from the side, so that the puppeteers wouldn't be visible. We filmed a few takes and then decided it would look better if the video played on all walls so that we could catch the explosion light on the front of the spaceship and the reflective windscreen. So, we filmed a few more takes of this and I experimented with some zooming and panning onto the front of the ship.





Blitz:

Cameron: What? Where are we?
Anne: We're in the wrong place! Quick! Quick! Get out of here!

Filming Process



We then began setting up for the Tudor scene, Mary began uploading the digital backdrop, whilst we moved the rostra to the middle wall, with a gap between the screen and the rostra for the spaceship to crash into, laying down a blanket to protect the model and positioning the model houses on the rostra. When experimenting with crashing the spaceship, we found that it would actually be better to lengthen the fishing wire rather than shorten it, so me and Anne began tying new wire to the model whilst the others moved the rostra set-up to the larger left-hand screen, giving us more space to work with.

Once the spaceship was ready, we practiced a few times, with Lloyd swapping out his lenses as it was a very low-level shot that needed to disguise where the spaceship was 'crashing', we also played around with a warm LED light cast on the houses which went away when the fire began. We filmed a few takes of this scene, trying out different angles and approaches to the crash, in the end we liked the versions where the spaceship crashes with the front towards the camera, as you can see the fire reflecting in the windscreen.



We were really happy with how all of the shots went and the efficiency of our changeovers and time management. We moved everything back into the other room, leaving the rostra for the last group, and transferred the files onto a hard drive which was uploaded to one of the mac books for editing. After lunch, we moved all of the models into the design room, wrapping them in bin bags to protect them from the wind and rain. We then cleaned up our working space, returning all of our supplies, wiping tables, and hoovering the floors, so that we had a clean space to edit in.

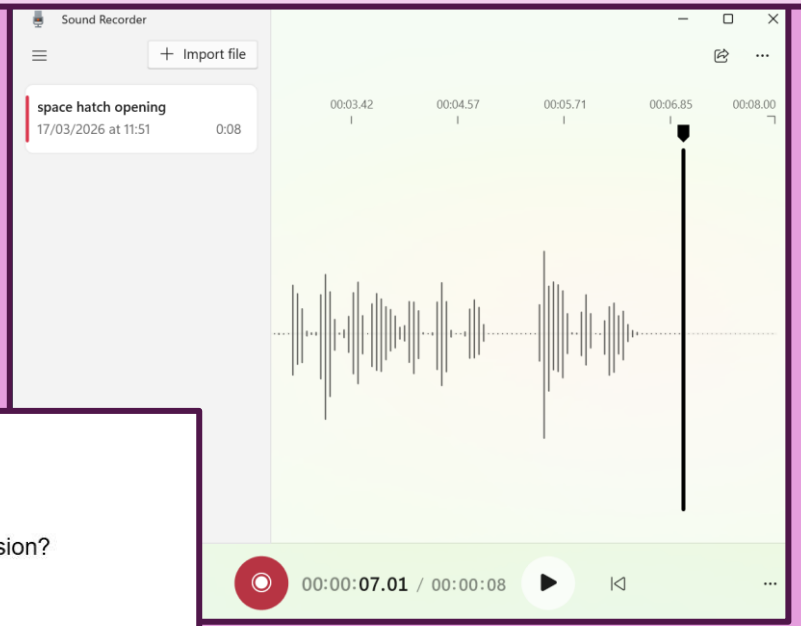
Editing Process

We started the day by watching through all of the takes and choosing one for each scene, organising these in a new folder. We knew we wanted to start the short film with a black screen and a robotic voice, stating the location and year in the bottom



corner of the screen. We temporarily imported a photo of a black screen and inserted the background noise ambient sound of a space port/garage that I had selected, altering the volume in the effects control panel. We then typed the robotic dialogue into google translate to record into premiere pro. We plugged the microphone into my laptop and recorded it into the Sound Recorder app, downloading it and importing to Premiere Pro. We then imported the space port video file and adjusted where it sat, deleting the previous black screen. As we were stuck in portrait mode, I googled the standard screen size for a TV and adjusted the sequence settings to match this, fixing the size of the image.

We cut down the start and end of the video to match the timings we wanted and added a fade to the start in the effects control panel, creating time stamps and adjusting the opacity. We then researched how to create text animations, adding the text box and words, then splicing the text box into the number of characters there were and cropping each splice so that the text appears one letter at a time.



We watched back the video of the scene and noted down what Anne and Mary said on screen. We then recorded the dialogue for Mary and Anne's conversation, recording one person at a time as the microphone is directional, we then edited it to line up with the video.

Space Port:

Mary: So are you ready for your mission?
Anne: Yeah, I can't wait.
Mary: You just need to sign this.
Anne: Okay.
Mary: Enjoy.

Editing Process

We then faded the video out and imported the photo of the contract. We wanted it to spin onto the screen. We created timestamps for the beginning and halfway through, creating 5 rotations in between. We then inserted a time stamp at the beginning, altering the scale to 0 and a timestamp when it stops rotating, increasing the scale to the full size of the screen. Cropping the length of the video with enough time to read it. We then downloaded a woosh and slap sound effect to layer over the top, as if the paper was slapping into the screen.



Proposed by: The CAM Research Foundation

Departure: September 2 3066

What REALLY caused the Great Fire of London

As proposed by
Dr J Hyde, PhD

Funding Status: Granted
Trip type: RESEARCH
Purpose of research trip: to investigate the cause of the Great Fire of London in 1666
Time Travel Destination: Drury Lane, London, 1666
Researchers on board: Dr J Hyde PhD, Professor Knott Einstein
Ship provided for trip by Minsitry of Time Travel, Ministry of Research, CAM Foundation, Saint David Ship Company
Depature Location: Research Spaceport 3, Red Wine Supernova Quad
Return Date: September 3rd 3066

I **Dr Jack Hyde, PhD,** understand that while partaking in the use of time travel that I must abide by the laws and regulations set out by the Ministry of Time Travel (see handbook) and I understand that if I do not follow these, I acknowledge that I can face criminal charges and have my funding stripped by the Ministry of Time Travel as stated under the Butterfly Law Section 5 Paragraph 70.

Dr Jack Hyde :)

Researcher Signature

Must be signed off by Ministry of Time Travel before depature. It is HIGHLY IMPORTANT to those wishing to travel into the past that you must NOT interfer or change any historical events (see the Butterfly Effect Law Sect. 1 Para. 3 and the Grandfather Paradox Regulations Sect. 3 Para. 30)

Blitz:

Cameron: What? Where are we?
Anne: We're in the wrong place! Quick! Quick! Get out of here!

We then imported the Blitz video and cut down the beginning to size. We recorded mine and Anne's dialogue, one at a time again, editing it over the top.

We then copied over Anne's white screen and explosion effect, layering it over the top of the video and scaling it up to fill the screen. We then cut all videos down to an appropriate size and began adding in sound effects, copying over Anne's air raid sounds and then



Daily Mail

Hitler Planned Monday Swoop

London was to Blaze First

WAR'S GREATEST PICTURE: St. Paul's Stands Unharmed in the Midst of the Burning City

America Moves

LONDON LULLABY

HAVOC COULD HAVE BEEN SAVED

100 to 1 Backing for Roosevelt

inserting an explosion that fades into a ringing sound. We then created the same spinning effect with the newspaper clipping and extended the ringing sound up to when the paper stops spinning, adding the slap sound effect here as well and cutting down the image to the appropriate time length. We then faded the newspaper out and imported the Tudor scene video, cutting down the beginning and adding a fade to it.

Editing Process

We then inserted the text effect at the bottom corner, altering the shape of the box so that all of the text was visible in front of the white houses. We decided we wanted another robotic voice recording here, so typed our dialogue into google translate and recorded this into the microphone, importing this into the project file. We then recorded several versions of the screaming as we needed to adjust our distance and volume near the microphone so that it wouldn't clip the audio.

Tudor:

Screaming

We imported this into it also, we lined them up layering them over each other and added some fades to the start of the screaming, lining it up with the video to the end of the crash and before the fire. Mary then imported all of her sound effects and lined them up ready for us to edit the levels and placement together. We then cut down the video at the end to cut out the point where the digital background stops moving.



As the crash sound effects cut out one part of the dialogue we wanted to keep, we decided to splice that part out and move it to the end of the crash sound. We then extended the fire sound effect so that it could play over the top of the credits. After the credits were done, we went back and added some sound effects we wanted but weren't sure we had time for, adding background chatter to the space port scene to add some depth and remove any awkward silence whilst they're miming a conversation, and a typing effect to the text that appears in each scene. We decided to layer a wind sound effect at the beginning of the Blitz scene to mask the typing effect fading out too early.

Planning and Rehearsing the Presentation

We then began to plan our presentation questions, we decided it would be best if we all answered two questions, as we felt there wasn't a lot to say for some parts and it would evenly spread the work. I chose to answer the first and last question, the first detailing the thematic connections between physical and digital elements, which I felt was appropriate as I worked on the spaceship model which appears in each scene, and the last asking what we would refine and I felt like I had a lot to say for that with my plans and intentions for the model itself and what I could push myself further in the digital aspects.

We decided not to have a Power Point, as we will be in the Immersive room with all of our physical elements available to reference. After we had prepared our answers, we rehearsed together, timing it with 8 minutes in total.

1. What visual or thematic connection have you established between your physical elements and the digital LED content?

Cameron:

The main physical element I worked on was the model spaceship, which appears in every single scene and so needed a strong thematic connection throughout. I think that choosing to incorporate the model into the digital backdrop of the first scene helped to establish its presence throughout the rest of the screen test. In the space port location, we created the colour palette and design to fit into the look and atmosphere of a high-tech futuristic location, based mainly in the science-fiction genre inspiration that many spaceships are grey and monochrome. The specific backdrop we chose, created by the user Artem Smirnov on the website Art Station, included more vibrant colours such as neon glowing blues and greens, which I followed through into the model itself with the lights attached and wired all the way around it as well as the lighting used reflecting up onto the actors. This helps to tie the technological vibrancy of the first scene through to the later ones, where we see the spaceship lit up or flashing its distress signal, as well as tying in the characters to the scene around them. As the later scenes take place in the past, in 1940 and in 1666, where the technology is vastly different, it was important to have a contrast between the model and the backdrops rather than a connection, the lighting on the spaceship helped to enhance this, as well as its metallic appearance and contrasting shape to the rest of the environments it visits.

We gave feedback on each other's sections, helping to add more to certain parts that weren't long enough.

3. Looking ahead, what improvements or refinements would you plan to make after your initial R&D tests with the combined setup?

Cameron:

I'll start with the improvements to the physical aspects, focussing on the spaceship. I initially planned to have 24V LED strips along the sides, which we ordered but unfortunately did not have correct battery voltage for and due to time constraints we chose not to swap them for the 12V strips and instead order this new light. This meant that the light emitted from this is a lot weaker than we intended and so doesn't appear very well on camera. Along with changing the lights used I think I would alter the design of them to be able to have more along the back to represent a futuristic engine glow.
In terms of the body of the model, I would have liked to have primed the card before painting it in order to avoid warping, specifically at the sides. And to have created a more secure and complex wooden structure inside of it to keep it rigid, this would have given it a more realistic solid look and would hopefully have disguised the hatched back better. I would also have glazed the paintwork with a gloss finish so that the lighting would reflect against it as if it was metal, again adding to the realism of the material it's supposed to represent.

In terms of the digital creations, having worked on the space port, I would refine the layering of the spaceship into the image by altering the colouring on it to make it better fit into this environment and feel less separate. I would also add more movement to the background, possibly people walking in the distance or fumes coming out of the exhaust pipes, animating the other spaceship as well as our own to add visual interest as well as realism to the idea that this is a large commercial space port that lots of people use.

Presentation

On the day of the presentation, we all worked together to move everyone's set and props over to the storage room in the T&L building. I then rehearsed with my group until 1pm when we all worked together to move and set-up each groups installation in the immersive room, doing one group at a time to avoid any accidents or damage to the screens. My group then rehearsed one more time and we decided to add an introduction to the brief that we had written to help establish to the audience what our aims had been throughout the project.



I feel like the presentation went well and I'm happy with my answers.





I really feel like the Q&A style works appropriately for practical focussed modules like this one and the Production Project module, but less so for more theoretical ones like Design Process. I think it helped to create a more casual environment where we could answer questions about our process and method, whilst also getting the opportunity to go in depth in specific areas. After the presentation we got to show the audience our set and props, demonstrating the puppet method for the spaceship, showing the video backdrop live, and discussing specifics such as the construction of the houses and the lighting on the model. I also got the opportunity to explore the other groups sets, which I really enjoyed as we've all been quite separated throughout the module. I thought the camera work on the Cowboy group's film was incredible quality and really skilled, as well as their digital and physical aspects blending really effectively. I also loved learning more about food props within the Space Bakery group's set and props and the different products they researched into, such as the glow in the dark food colouring, which worked incredibly within the jelly.

Step 7: Evaluation

Evaluation

My favourite part of this module has been getting the opportunity to research into and explore the career pathway of modelmaking for film. This is something I've been interested in for a while, as I love modelmaking and working with miniatures, and so getting to research techniques alongside industry examples (specifically within big budget films such as Star Wars) has been really helpful in educating myself to see if this is something I would genuinely be interested in going into. I've also really loved the digital side of the module, as although I usually avoid editing software such as Adobe Premiere Pro and Photoshop, I actually really liked the process of editing and learning more about what you can use it for. I've developed my modelmaking skills in terms of incorporating lighting into my models and what extra things need to be considered when it comes to this, including the technical aspects of battery voltage and soldering, alongside whether the model can take the weight of the battery and the structural integrity of a model. I've also developed my software skills, becoming a lot more comfortable with the software I mentioned earlier, Premiere Pro and Photoshop. I found envisioning the digital backdrops the most difficult part of this process, as unlike a model they're not something you can physically turn around and move about and so it's harder to consider the perspective of the camera and the angles you need to film it at, as well as the scale of the image itself in comparison to both your physical models and real people stood in front of it. It felt quite uncertain at times as to whether the scale would work out how I wanted it to, even after testing the images in the immersive room. I would have liked to develop my digital designs in a more complex way, as I felt my backdrop was a lot simpler to the rest of the groups.

Continued on the next page.

Step 7: Evaluation

Evaluation Continued

I think I've improved a lot in the digital side of things, especially in the immersive room itself. I got the chance to learn how to use lighting on the screens as well as separate to them, as well as how the camera picks up the screen and pixelation. I also got the chance to use the camera and learn a bit more about it, as this is something I was really interested in as I haven't really filmed anything before, especially not with a professional camera. I'm really happy that I got the chance to film some of the scenes, I think it will help in the future with envisioning shots and the angles we might need to film at.

I would really like to develop on my Fusion skills, as although I got the chance to learn the basics in the Production Project module and furthered these slightly within this module, I would really like to get to a place where I feel confident in recreating a complex shape, such as the spaceship, by myself in Fusion.

I will carry through my new modelmaking skills and considerations for the future, doing more research into this career path and more independent progression in this skillset. As well as my understanding of Adobe software in order to build off of that, especially as my research for Creative Industries has shown me that many Production Design and Production Design Assistant roles require an adequate understanding of Adobe Photoshop.

I'm really proud of how the final shots came out on camera, I know that we worked hard towards minimising the possible mistakes in scale and proportion with our models, doing tests in the immersive room for this. I was quite doubtful about whether some shots would work out on the day, specifically the space port scene with the two people standing in front of it. I had a lot of concerns about the scale of my digital design but I'm happy with how it came out.

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