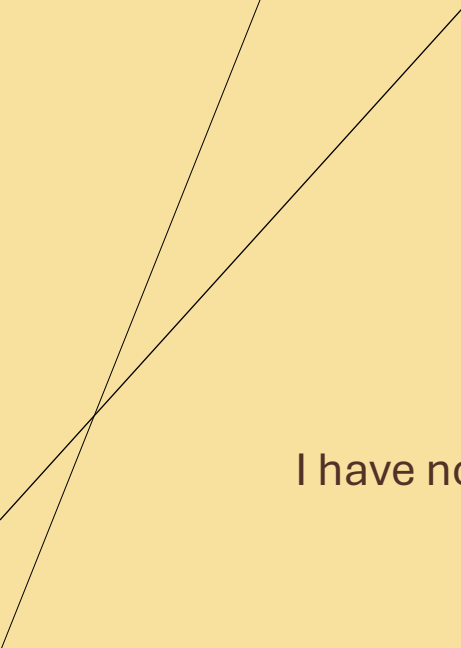




VIRTUAL PRODUCTION PROJECT

Anne Hyde 2416801

A decorative graphic in the top-left corner consisting of several thin, dark lines that intersect to form a series of triangles and quadrilaterals.

AI STATEMENT

I have not used any AI to the best of my knowledge apart from Grammarly, which was provided through my Disabled Student Allowance.

TASKS

Task 1 - You will focus on compiling a process workbook – a record of all the areas covered in your lectures along with ideas on how this newfound knowledge contributes to your methodology. This process workbook will take the form of a written and illustrated document (digital or physical) or sketchbook. Your process workbook will outline your journey through the module and reflect on your learning and skills gained, it should include - Research and development, technical logs of processes undertaken, A clear pathway of your decision-making process. You must use Harvard referencing and create a bibliography for your reading and research. This will be submitted via Turnitin or handed in directly to the lecturer. You will be assessed on your ability to select a range of appropriate methodologies and procedures –

- 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.

TASKS

Task 2 – Produce physical and digital production elements for the 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. Although this is not considered a full 'performance' you will need to understand the context that your elements exist in and show its full potential for a 'performance'. You will speak for approximately 10 minutes each.

Task 4 - Reflect upon what you've learnt throughout the module and commit those thoughts and reflections to a five-hundred-word evaluation. This will be at the end of your process workbook.

BRIEF

We came up with our own brief which is:
a segment of a sci-fi show following a group of researchers, intended for comedic entertainment and historical education

TIMETABLE AND GROUPS

We created a timetable to help us understand when Lloyd will be here and when we have the immersive room booked and were put into our groups.

Week 1

Monday 23rd – in all day

Tuesday 24th – in all day

Friday 27th – in all day IR 9 am with Lloyd in the afternoon

Week 2

Monday 2nd – in all day IR

Tuesday 3rd – in the morning with Lloyd

Wednesday 4th – in morning

Thursday 5th – in all day

Week 3

Monday 9th – in all day

Tuesday 10th – in all day with Lloyd in the morning

Wednesday 11th – in morning

Thursday 12th – in all day IR 10-1

Week 4

Monday 16th – in all day filming with Lloyd (09:00-16:30)

Tuesday 17th – in all day IR 09:00-16:00

Thursday 19th – final presentations afternoon

There are three groups for the module

Group 1 – Annie, Alice, Charlie

Group 2 – Mary, Anne, Cam

Group 3 – Alaya, Ant, Sarah

THE IMMERSIVE ROOM

The dimensions of all of the immersive room screens are:

Height: 2.14m

Screen 1: 6.72m

Screen 2 (middle): 4.8m

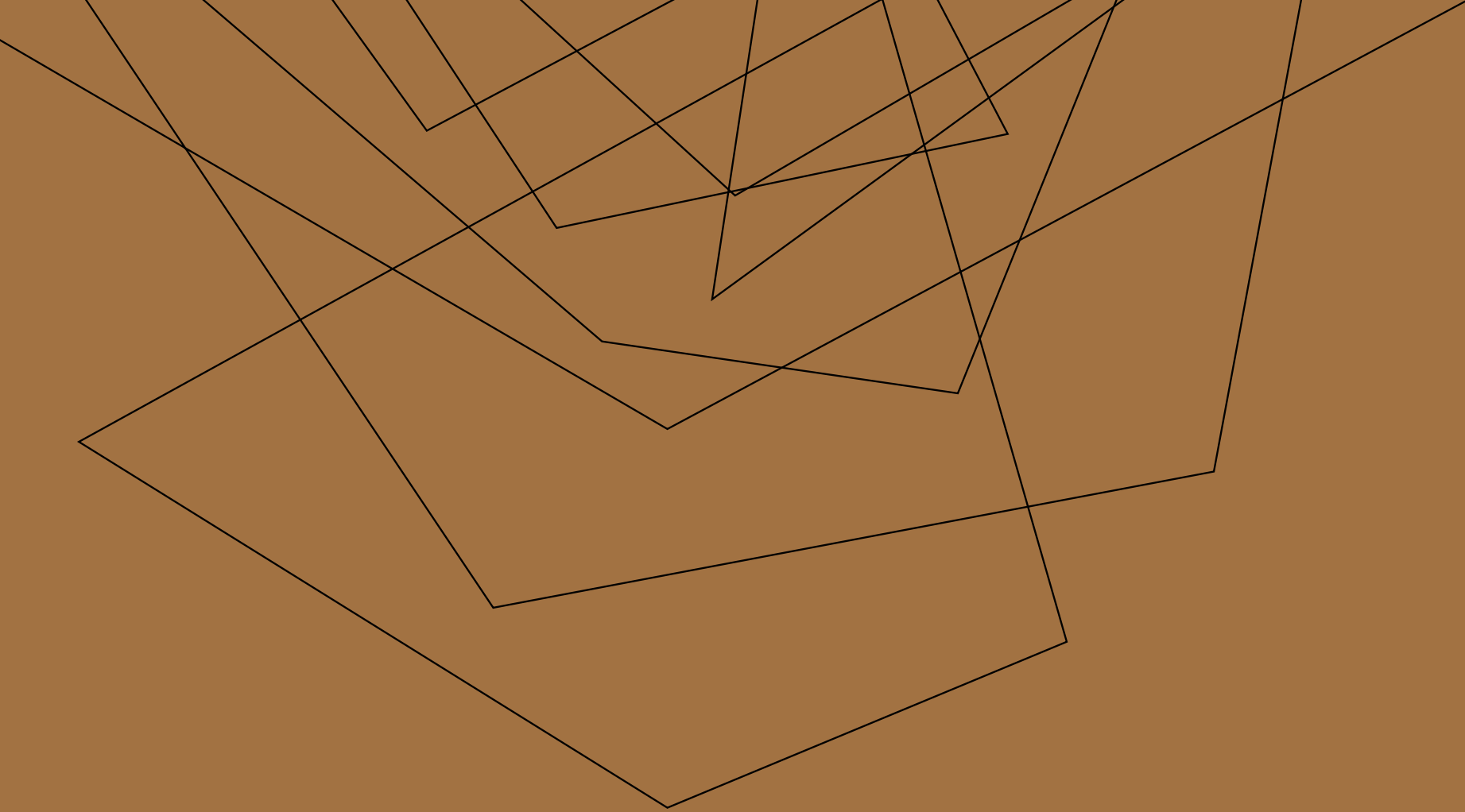
Screen 3: 6.72m

Total Length: 18.24m

The pixel measurements of all of the screens is 12160 x 1440 pixels

One of the longer sides = 4480 x 1440 pixels

Small side = 3200 x 1440 pixels



RESEARCH

STAR WARS

To begin our research into virtual production, we watched the 4th Star Wars film in the series of films but the first one ever made *Star Wars – A New Hope* (Star Wars – A New Hope, 1977) to get an idea of how they used detailed scale models and computer motion photography combined with CGI to create the effects of the ships in space and to make things look huge when there isn't enough space or money to actually build the ships life-size (Star Wars | Visual Effects Through the Years, n.d.). We can see this from one of the photos on the official Star Wars website (Star Wars, n.d) such as the one on the left. The other two photos were taken from IMDB (IMDB, 2026). This was a really clever idea, and my group is thinking about potentially doing something similar with our video.



300

300 is based on a comic about the Battle of Thermopylae which happened in 480 BC. (300, 2007). It made extensive use of CGI for the battle scenes, but combined blue screen technology with large physical sets for anything that was close enough for the actors to touch (Few Against Many: 300, 2020). Blue and green screens are useful for this technology because they are colours which are not found in human skin tones, so the actors stand out against them ('Technology', 2020).

Images from IMDB (IMDB, 2026)



GRAVITY

About 80% of Gravity was created through CGI. It featured complex, slow-moving camera shots and used a robot which moved the camera around in a pre-programmed way to make the smooth rotating shots. It took them 4 years to make the film as they had to keep creating new technology to get the shots they wanted.

Images at the bottom from IMDb (IMDB, 2026), Images at the top from Gravity (Gravity, 2013)



WHAT ARE LED WALLS

LED walls can be used in filming. They are used to create backgrounds for films and TV shows like The Mandalorian. The Mandalorian uses screens when the characters are on alien planets; having LED screens with the world on them means you don't have to build a huge set with everything you need. It also means that you don't have to edit scenes frame by frame, as you have to on green or blue screens, and add the background in post; it's already there when recording. The screens can also be tracked by the camera so they will move the image when the camera moves to help the perspective shift and make it look natural (Zaid A, 2025). Green screens have traditionally been used when special effects or different backdrops are needed, but there are some issues with them, including the fact that the green from the sheets is sometimes reflected back on the cast, and so that has to be edited out in post; it can also create a fuzzy outline around the actors, which makes the images look unconvincing (Pixite, 2024).

THE MANDALORIAN

I have never seen The Mandalorian before, but I wanted to understand how they used the LED screens, and so I looked into the behind-the-scenes aspects by watching the documentary ('Technology', 2020).

Jon Favreau points out that with CGI there are things you can't really fake in post-production, such as interactive light or shadow on someone, which never look good when added afterwards. This can be seen in the image from Iron Man (2008), where the metal suit would actually reflect the things around it, especially in the gold parts (IMDB, 2026).

Jungle Book had digital sets with video wall panels that cast interactive light on the actors, but the blue screen was time-consuming because everything had to be moved if the camera angles were changed, as they worked better. The Lion King used game engine technology (consumer-facing VR equipment), allowing camera operators to work within the VR, where there is no latency, and you look at the real thing.

Mandalorian built on these technologies. It was the first show ever to use in-time rendering in milliseconds on an in-camera video wall with set extensions and effects. They used a 75' diameter circle with a ceiling, all made up of LED screens, called the LED Volume. It displays the digital recreations of locations, etc., taken from photographs and rendered as they are in video games. The critical thing is to give the visual effects/art department enough time to build the visualisation and sets that would match - for example dirt on the ground to match the dirt on the screen, or part of the spaceship appearing in 3D and part on the screen.



THE MANDALORIAN

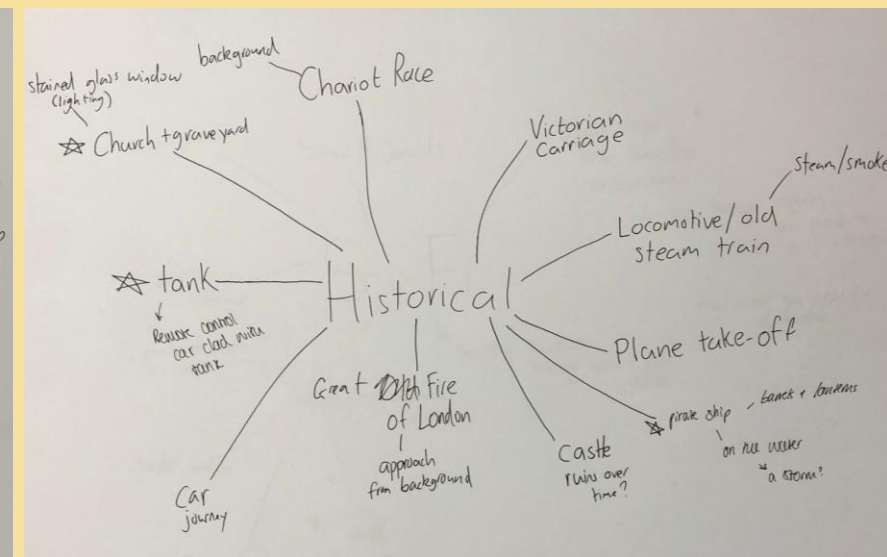
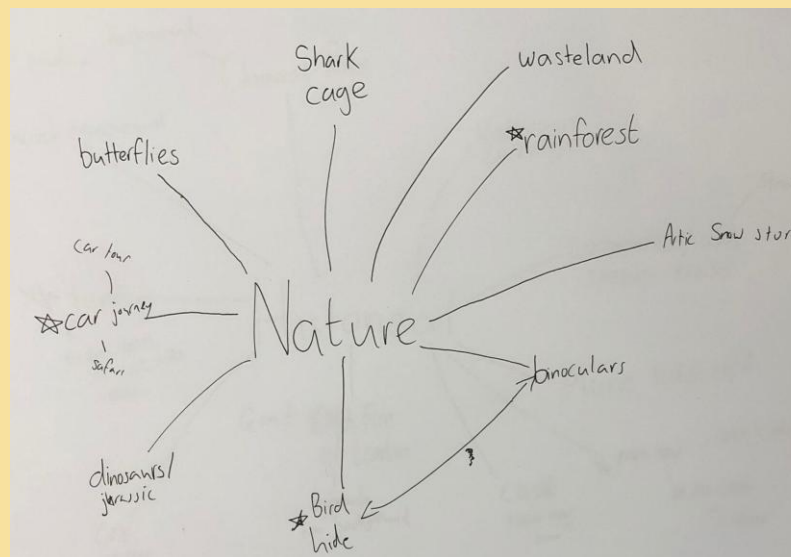
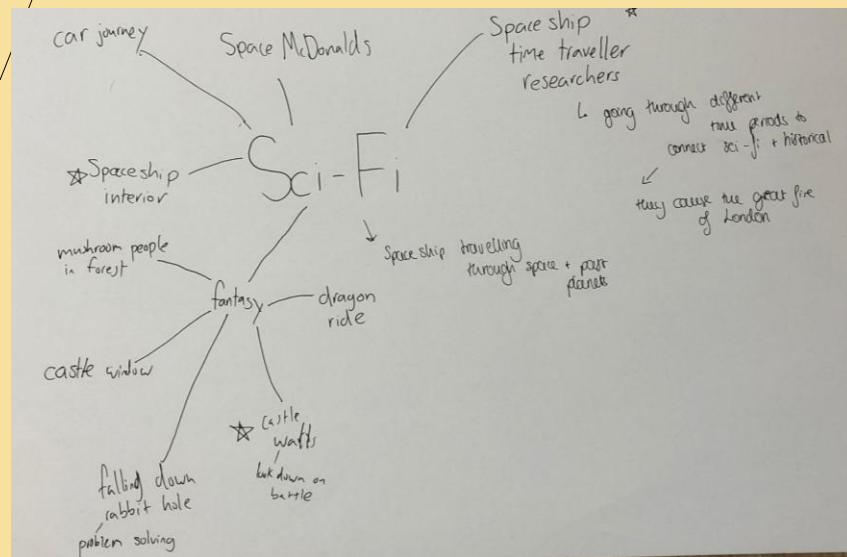
The crew and cast of The Mandalorian argue that using The Volume (Industrial Light and Magic, n.d. ; ‘Technology’, 2020) has several advantages:

1. It allows the cameras to capture everything at the same time and therefore makes the process much quicker
2. It creates all the natural light and shadow effects, including ambient light.
3. It allows cameramen to compensate for different exposures more effectively.
4. It allows designers to use reflective materials in the costumes, because the reflections come naturally from the screens rather than being added in post-production.
5. Because the content of the LED Volume is motion-tracked from the camera, it allows for perspective and parallax change as the camera moves. In short, the content on the wall changes as the camera angle changes, meaning that the whole set doesn't have to be recreated every time a different creative decision about camera angles is made.
6. It removes the pressure to film sequences such as sunsets/dawns in a short space of time, because the digital version can simply be reset.
7. It's easier for cameramen and the rest of the creatives, including the actors, because it works much more like a built set than the green screen did. For example, set decorators can make changes and touch up/adjust the physical builds immediately because problems can be seen straight away.
8. It allows directors to look at footage in the cutting room straight away, so they can see if any changes need to be made while the lighting and physical builds are still set.
9. It is much more immersive for the actors – they can see the set around them making it easier to perform because you don't have to guess, and everyone understands the concepts in the same way



CHOOSING GENRES

The first thing my group did was come up with some genres we were interested in. These were sci-fi, nature and history. We then came up with as many ideas as we could using these themes and created mind maps. We then put a star next to our three favourites from each category to pick apart further.



OUR 9 IDEAS

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 (see Treasure Planet inspiration on moodboard)

→ 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.

At this stage, no decision was made over physical and digital elements

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

OUR 9 IDEAS

4. Church and Graveyard:

Could be the exterior of the church looking in or the interior of the church looking out so physical/digital elements depend which aspect we go for

- 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

Physical → bumpy ground on the base board as if on a battlefield

Digital → WW2 battlefield

Sound → explosions, gunfire, 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

OUR 9 IDEAS

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:

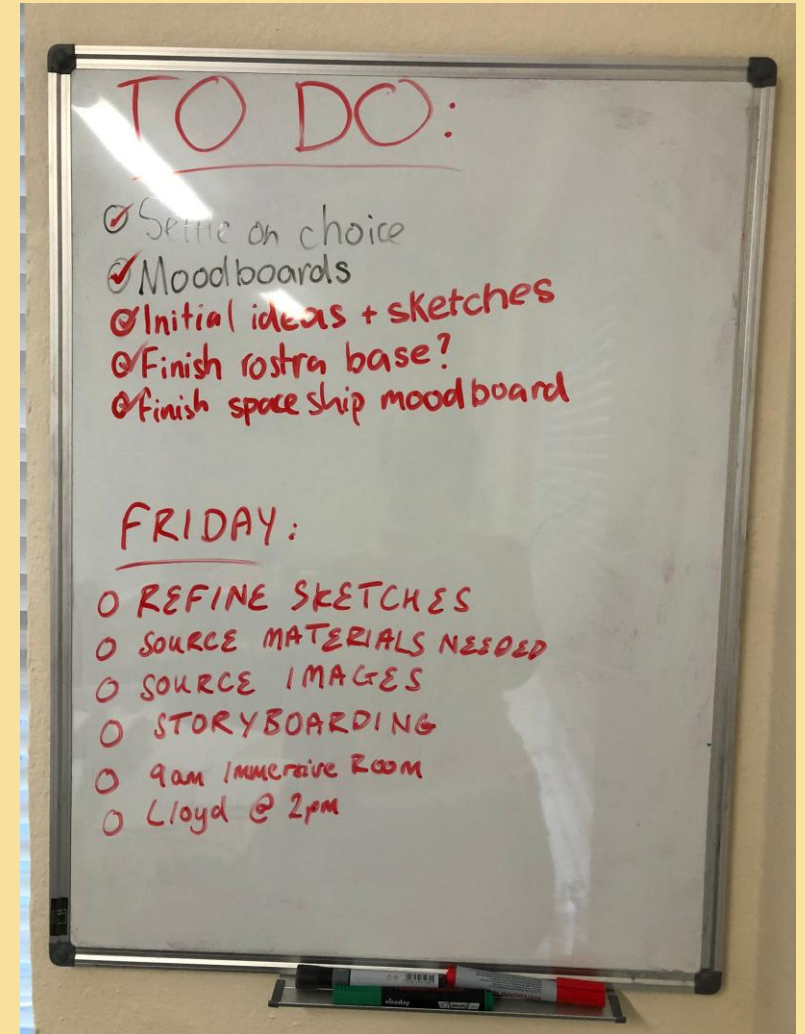
Physical: Two people, one the driver and the other a passenger, framing of the car

Digital: tour of the terrain (flexible on location)

Sounds → car noises, animals, nature

TO DO LIST

We then created the to-do list for Tuesday and Friday, so we knew where we needed to be by the end of the week.



NARROWING DOWN OUR IDEAS

We then made a list of pros and cons for each of the ideas, and we also wrote out a potential brief for each of the ideas. The last thing we wrote was the digital and physical aspects of each of the ideas. Many of the advantages were related to how interesting the projects were and what we could learn from doing them, but often the disadvantages were to do with plot – what could actually happen even though the environment might be interesting.

PRO

TIME TRAVEL

CON

- visually interesting + more digital content
- multiple options + more flexibility in physical aspects
- originality

- more time consuming
- difficult to convey what we want to in short amount of time

Digital Aspects:

- Backdrop for locations they go
- ① interior of spaceship / inside of space port
- ② Blitz London backdrop
- ③ Backdrop of London / Bakery perspective / fire spreading / smoke

Physical Aspects:

- ① two researchers in ship discussing / outside ship
- ② model ship landed on street
- ③ models crashing / street communication

BRIEF:

A segment of a sci-fi show following a group of researchers

- for comedic entertainment and historical education

PRO

CHURCH + GRAVEYARD

CON

- interesting lighting opportunities with stained glass
- simpler storytelling
- sound opportunities for calming atmosphere

- complications of shadows between digital and physical
- lack of movement, not as visually interesting
- simpler storytelling
- concerns with space

Digital Aspects:

- interior of the church + continuation of the graves
- sky → stained glass window

Physical Aspects:

- church exterior (center model / doorway)
- gravestones

BRIEF:

The opening to a cozy murder mystery show in a small village

- for entertainment and relaxation

NARROWING DOWN OUR IDEAS

From this, we then chose the time travel idea as we liked it more and had written down more pros than cons. We then tried to decide where and when the researchers were going to accidentally turn up. We narrowed this down to one additional scene, as we didn't want to come up with more than we could physically do in the time we had. We came up with 6 ideas;



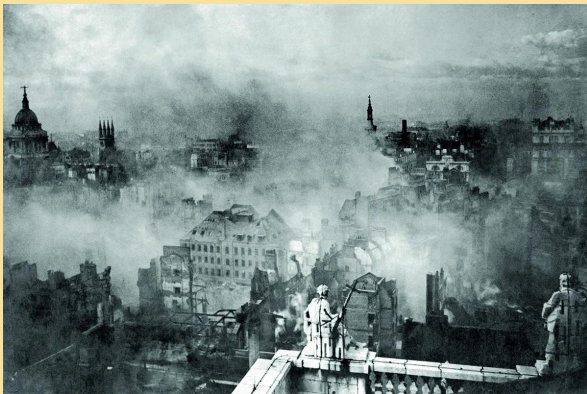
1. Notre Dame fire (Langsdon, 2019)



2. The Battle of Waterloo (Sadler, 1815)



3. The beheading of Marie Antoinette (Anon, 1793)



4. The London Blitz (Anon, 1940)



5. The London 2012 Olympics (International Olympic Committee, 2012)



6. Modern-day New Year's (SIMarsden, 2017)

NARROWING DOWN OUR IDEAS

In the end, we decided to choose the London Blitz because we thought it would be funny to have the researchers accidentally turn up in London at the wrong time, and it would also lead to a better explanation of why they crash-land into the bakery, as their ship has been damaged in the Blitz. This means that in the end, our design decisions were made on the basis of allowing us to create a strong plot - the design was there to support and enhance the story, not the other way around, reflecting how it would normally be in industry.



The London Blitz (Anon,
1940)

NARROWING DOWN OUR IDEAS

LOCATION BREAKDOWN

SPACE PORT:

- Two Researchers outside the ship → clipboard discussing travel plans
- in the space port
- cutaway 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 streets at nighttime
- ship appears + crashes
- smoke + fire spreading
- Red flashing lights

★ Date + Location ★

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
- smoke
- 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

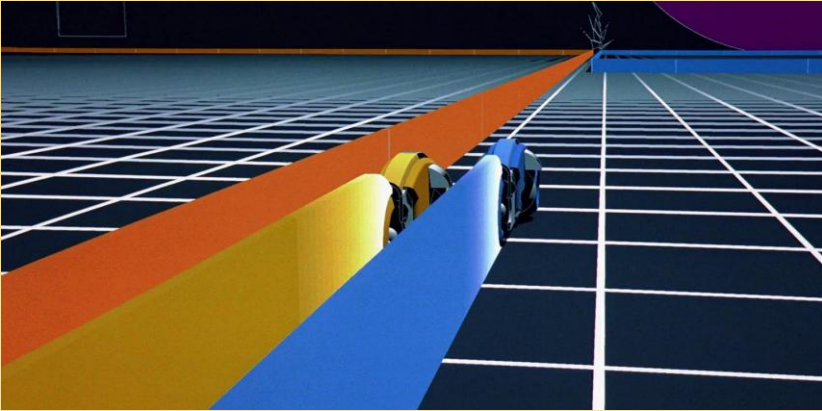
Sound:

- sound of crash (wood breaking)
- very distant fire crackling increasing
- Rising panic of people
- Bells (workhouse / church)
- dog barking

We then worked out exactly what we wanted to do for each scene, writing down our lighting and sound ideas. This was really helpful as it solidified the ideas in our minds and ensured we were all on the same page. This highlights our collaborative approach. Time is well spent planning in this way as it helps to ensure that the process is straightforward, prevent misunderstandings and makes the rest of the work quicker. It also makes it easier for other members of the team to step in to help if there is a problem, because they already know the plan and the nature of the task.

WHAT IS TRADITIONALLY USED IN DESIGNS FOR SCI-FI/FUTURISTIC WORLDS

When I think of sci-fi, I think of LED lighting, but specifically LED strips inside all of the buildings. I also think of dark backgrounds with vivid coloured lighting, such as these images from Tron (Tron, 1982) and Tron Legacy (Tron Legacy, 2010) (IMDB, 2026).



WHAT IS TRADITIONALLY USED IN DESIGNS FOR SCI-FI/FUTURISTIC WORLDS

I also think of Sci-fi as having buildings being clean with sharp angles and geometric designs. I also tend to picture sci-fi set in space.

Clockwise from top left: Star Trek: Starfleet Academy, Project Hail Mary, Star Trek, Doctor Who (IMDB, 2026)



LED LIGHT STRIPS



Seamless 4mm Warm White | 24V | 9W

★★★★★ 17 Reviews

£8.99 ~~£10.05~~
(£7.49 Ex VAT per metre)

METRES REQUIRED:

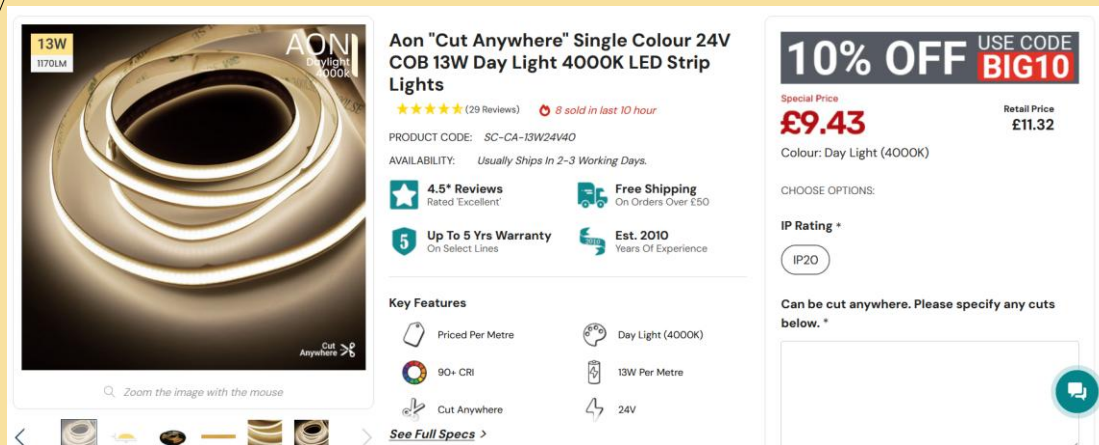
1

Add To Cart

You save £1.06 per metre - limited time offer

Order within 1 hours, 47 minutes, 51 seconds
For delivery on Wednesday, 25 February [Info]

As we knew we wanted LED strips for our ship model, as we liked the lighting in TRON, I decided to look into places to get them. We wanted solid light strips so you couldn't see the bulbs, and we also wanted cold white lights to give the ship a futuristic look. The first I found were from LED Space (2026), but these had to be soldered on the underside, and we wanted something that would be less time-consuming because we only had 4 weeks to complete the project. I also only found the thin strips in warm white light, not cold white light, which wouldn't give the futuristic effect we wanted.



13W 1170LM AON Daylight 4000K

Aon "Cut Anywhere" Single Colour 24V COB 13W Day Light 4000K LED Strip Lights

★★★★★ (29 Reviews) 8 sold in last 10 hour

PRODUCT CODE: SC-CA-13W24V40

AVAILABILITY: Usually Ships In 2-3 Working Days.

4.5* Reviews Rated 'Excellent'

Free Shipping On Orders Over £50

Up To 5 Yrs Warranty On Select Lines

Est. 2010 Years Of Experience

Key Features

- Priced Per Metre
- Day Light (4000K)
- 90+ CRI
- 13W Per Metre
- Cut Anywhere
- 24V

10% OFF USE CODE **BIG10**

Special Price **£9.43** Retail Price **£11.32**

Colour: Day Light (4000K)

CHOOSE OPTIONS:

IP Rating *

IP20

Can be cut anywhere. Please specify any cuts below. *

See Full Specs >

The next set were from WLED (2026). They could be cut anywhere but they also said you need to specify where you need to cut them, which made me hesitant to buy as I didn't know where exactly we were going to need the lights cut.

The next place I looked was at ArcLED (2026) as seen in the last screenshot. These looked promising, but as I was looking at them, Dave let me know that we already had some parts for LED lights from Ultra LEDs (2026). This would then make more sense to order from there the bits we don't already have from previous modules. This is not just cheaper but more environmentally friendly because it produces less waste. In future, we need to check what is already in stock before beginning the process, but it was still useful to have looked at the various stockists because now I am aware of some of the possible pitfalls with LED lighting, as well as the price range.



24V 10W CRI90 Free-cutting COB- Cut Anywhere!

- Overall Width: 10mm
- Wattage per Metre: 10W
- Cut points: Anywhere!

This product must be installed within a suitable profile or heat sink to maintain validity of our 5-year warranty

Colour Temperature:

4000K - Neutral White

Cut Length:

m: 1

Arc LED 2 core pre-soldered cable:

200mm 2 Core Cable Connection

£15.90

STARTING THE SCALE MODEL

Cam started doing the base for our scale model so we can have a visual representation of the sizes of the screen compared to the rostrum we had been given to put our physical materials on.

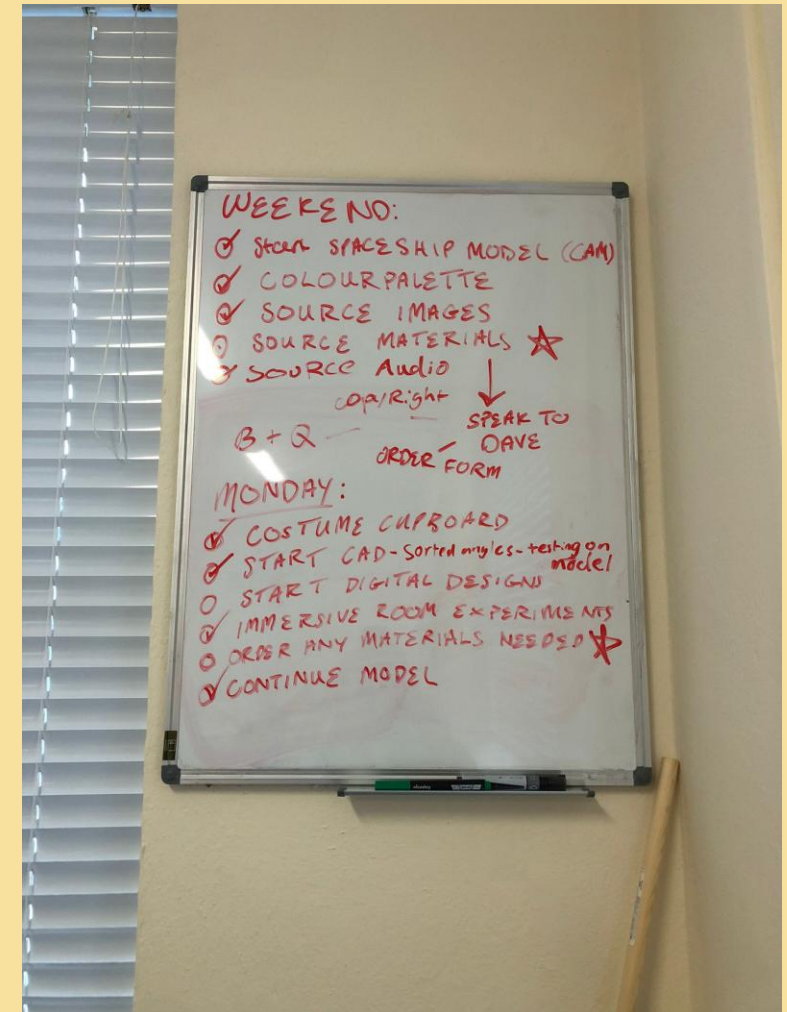
The model is in a 1:100 scale which makes it 67.2cm x 48cm. It enables us to plan so that our physical set would fit on the rostrum and see how much room we would have to work around the rostrum in order to film



WEEKEND AND MONDAY 2ND MARCH TO DO LIST

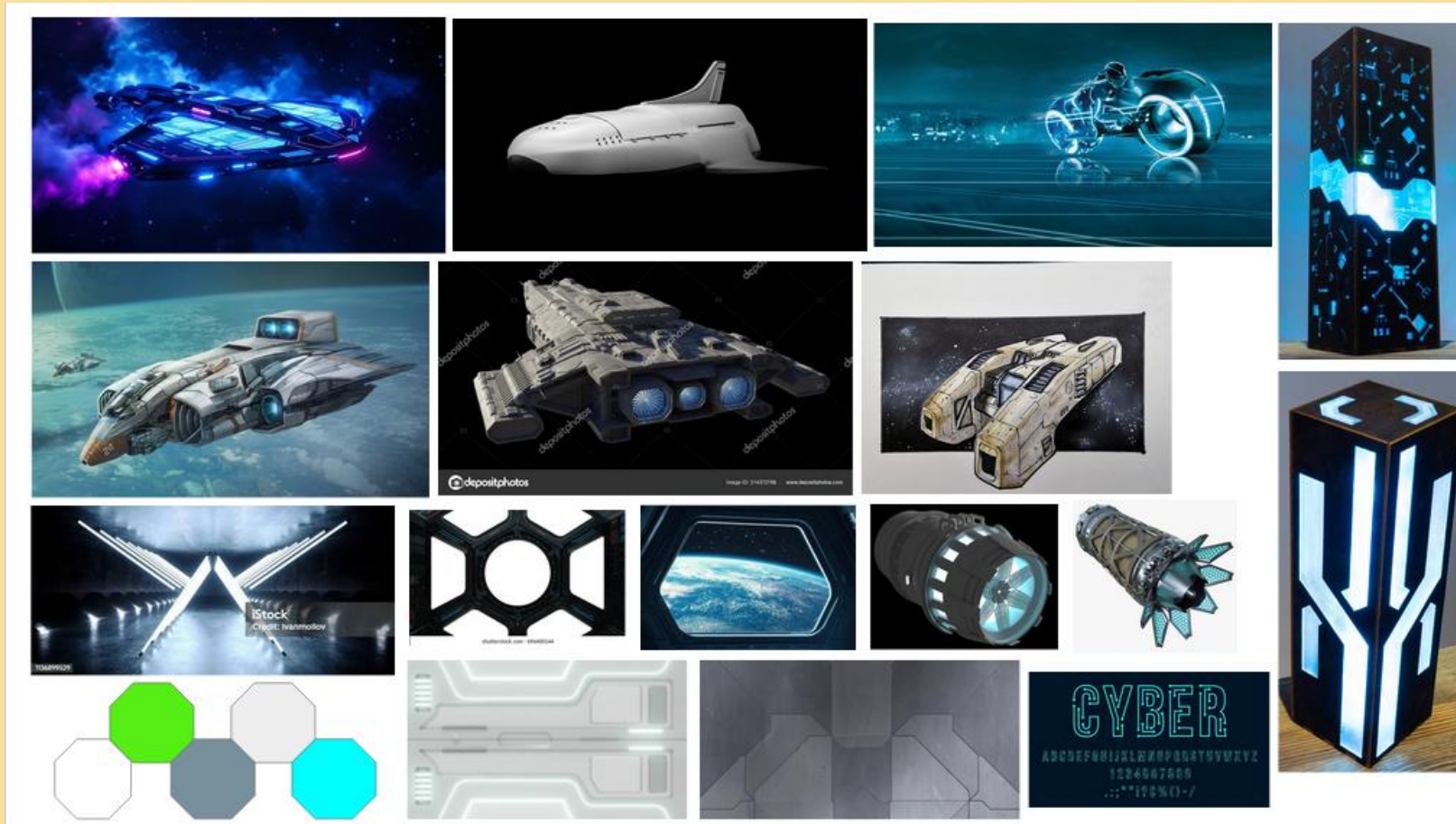
We then made a to-do list for Monday as we want to make sure we are keeping up to date with everything that needs to get done. This can also help us keep track of what we are unable to finish in the day and put it as the top priority for the next day.

We found that this worked really well to plan ahead and keep on top of tasks, which demonstrates the necessity to find a method of planning that works for everyone in the group. Using the whiteboard in the workroom was useful because everyone knew where to look and it was accessible to everyone. We could see which tasks had been ticked off and everyone was able to do it.

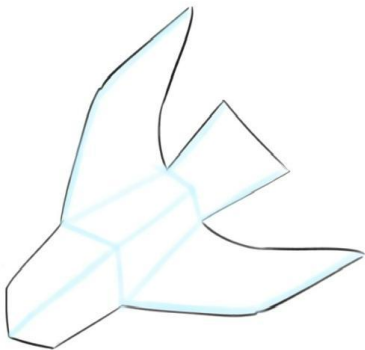
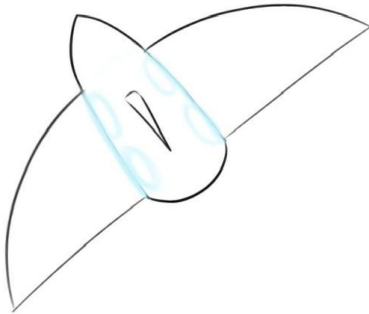
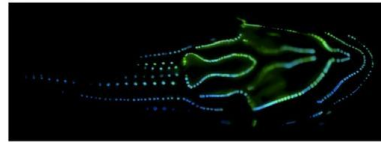
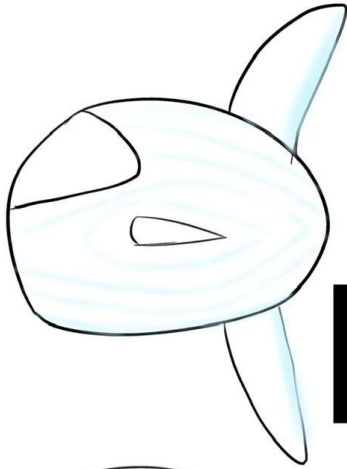


[illegible]

We made a moodboard for the model spaceship we are going to make, as we want to make moodboards for all of the physical aspects we will be making, as this will help us keep in mind what everyone was picturing when it comes to designing and building the ship. For this one, we can see the dominance of cool colour schemes and strong lines.

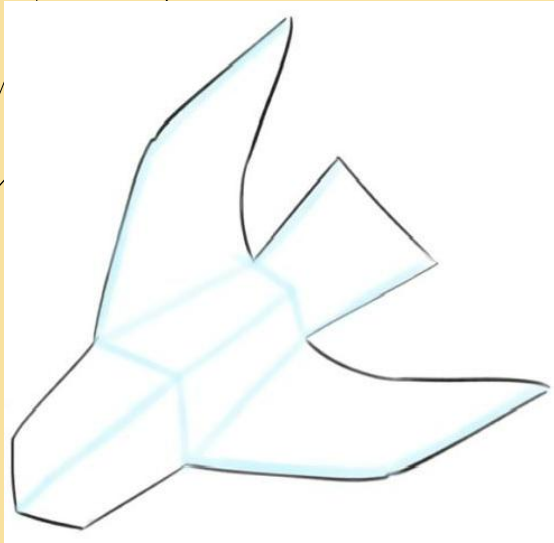


INITIAL SKETCHES

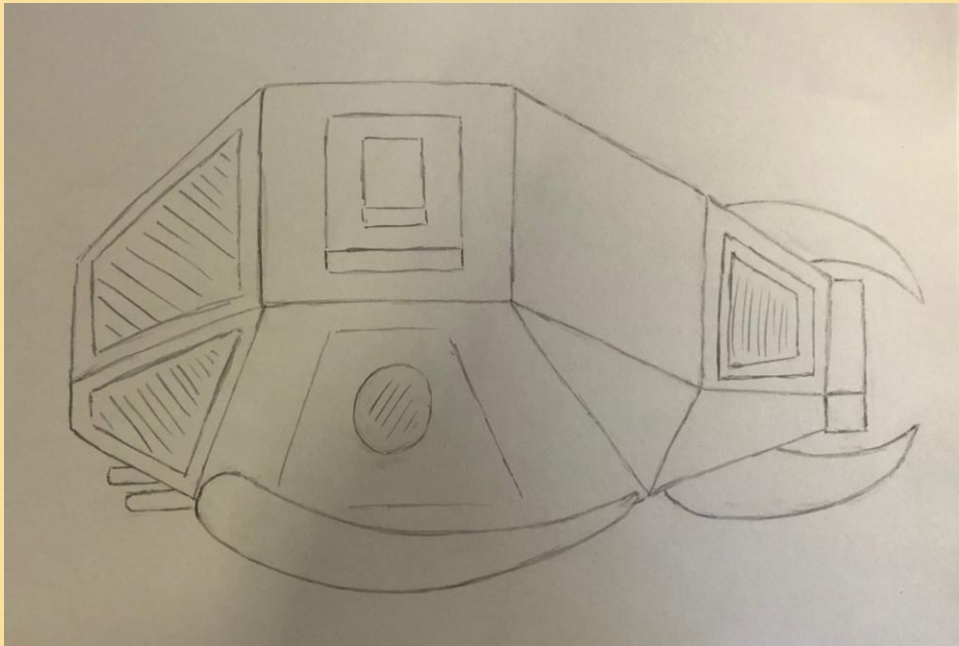


The next thing we did was come up with our initial sketches for the spaceship. These are my initial sketch designs. I decided to base them on fish and birds, as these animals are all streamlined even though they all look different, and so the ships would also be streamlined. I liked the sun fish as it is an interesting, unusual design. The Swift makes a slightly more typical rocket shape with some curved wings. The last design is based on a peregrine falcon. I chose this bird as it can reach high speeds when diving, and so would naturally have a very streamlined design. I also found a photo of a bioluminescent fish to use as inspiration for the LED strips we want to add.

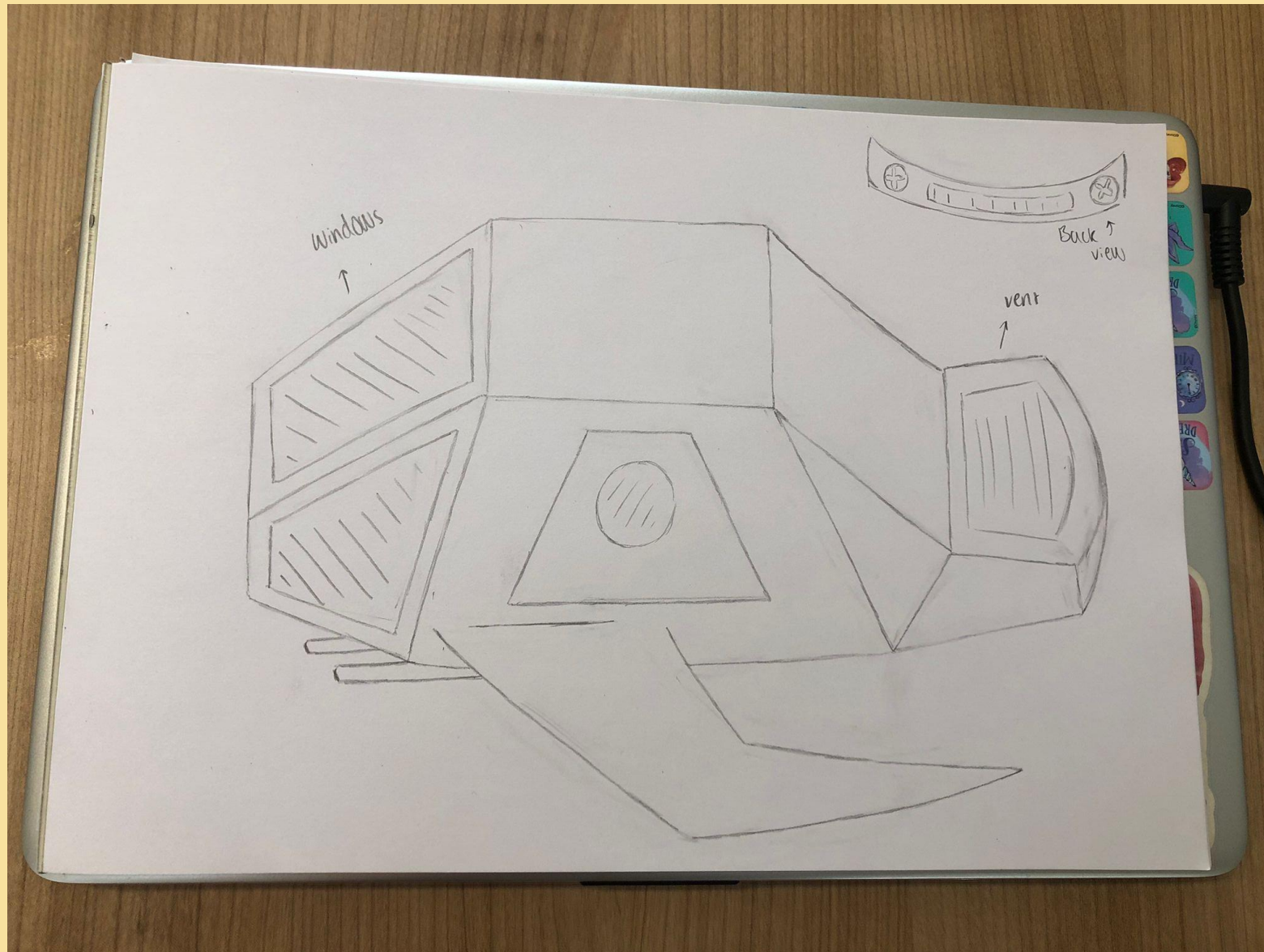
INITIAL SKETCHES



From our initial sketches we decided to combine the wings from the peregrine falcon design I came up with, the body of one of Cam's designs and the rocket/propellers from the back of Mary's preferred design. Because we were working collaboratively, we wanted to include an element of everyone's designs. This could have been a problem if we hadn't had such a clear direction to start with, but because we had discussed our aims at length and created moodboards, it meant that the designs were stylistically quite similar so the resulting desing didn't look like a mish-mash but actually fitted together quite well so it didn't need too much revision.



INITIAL SKETCHES



IMMERSIVE ROOM INTRODUCTION

During our introductory session for the immersive room we learned:

- how to send things to the screens, through Teams;
- the sizes of the screens;
- the format the files need to be to work with the screen:
 - H265
 - .mov;
- and where we can get images to use in our film:
 - Adobe's stock images,
 - Pixa bay,
 - Adobe firefly
 - Matterport (need code at the end of the link from the website to put into Igloo).

Firefly is an AI image generator, so there are significant ethical and moral issues to consider before using it, as it is based on large data models that are often stolen from other people's work without remuneration.

We were also told that they expecting updates for the screen around the time that we are supposed to be filming and they are planning on trying to hold back the update until we have finished filming so there's no overlap. Updates can change the way that the software works and that would make it more difficult, and possibly impossible for us to complete the project in time.

HOW TO USE PREMIERE PRO 1 – CREATING A NEW PROJECT

1. Create a new project
2. Location - do not save to automatic location (harder to find). Create a new folder for the project so it's easier to find.
3. Set the template to none as this will give you access to everything.
4. Select skip import mode as we don't need it for this project.
5. The screen is split into four sections: bottom right is the timeline, bottom left is the project files, top left is the program and top right is the source.
6. Double click on any part to make that box full screen - to get rid of this you double click it again.
7. Drag and drop files into the import file section at the bottom left. Go to file on the MacBook, click on new and then sequence, click on 1080p and 23.976 frames per second.
8. Build in 1080p not 4k as the computer can run this better.
9. Name the sequence and then it will come up with four audio tracks and three video tracks.

HOW TO USE PREMIERE PRO 2 - TOOLS

1. Audio can just be placed into the sequences and can play at the same time but with video the top layer is the only one that will be seen. You can however blend shots together to have both playing over the top of each other.
2. To select a part of the footage to use you can get to a point and hit I (for import) and then you get to the end of the clip you want and click on O (for outport).
3. To drag the scene over you click and drag it.
 - To drag only the video you click and drag the square
 - To drag just the audio you click on the three vertical lines.
4. Command Z is the back key.
5. The razor tool will cut up the audio/video.
6. The arrow will give you the opportunity to crop down the files so you can cut it to the exact point you need.

IMAGES FOR THE LED SCREENS

Learning to use Premier Pro was interesting as I had never used Premier Pro before and was glad to have got the chance to experiment with it as it helped me to understand the possibilities for using it in virtual production. We were then told to start sourcing the images we were going to need for the videos so we could get to work on it next time.

We found some images we could potentially use for the led screens and tested them in the immersive room. One of them is very blurry and so wouldn't work being scaled up to the full size of the screen.

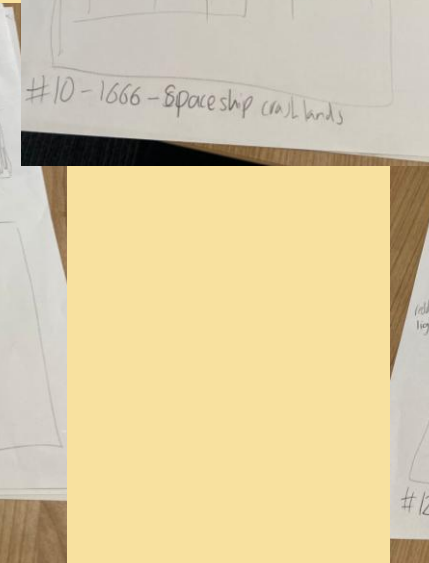
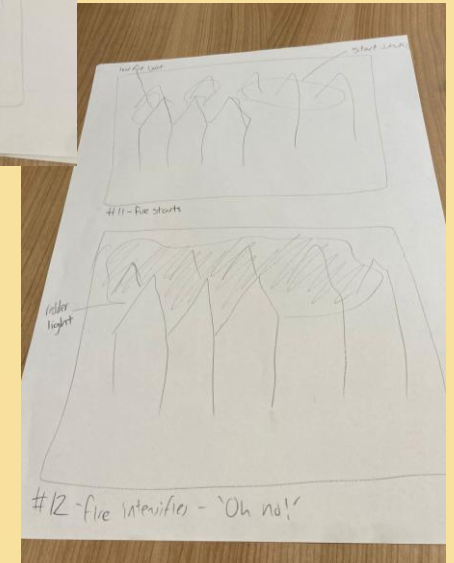
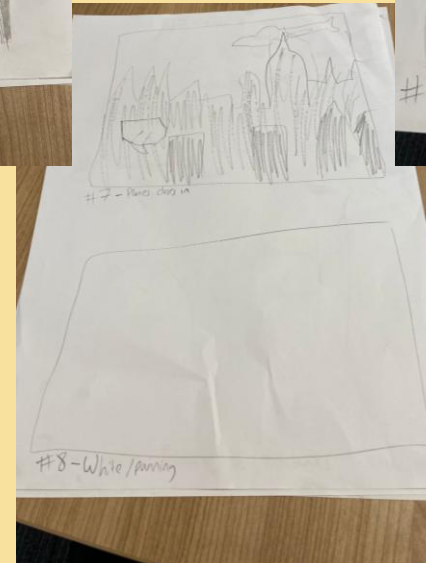
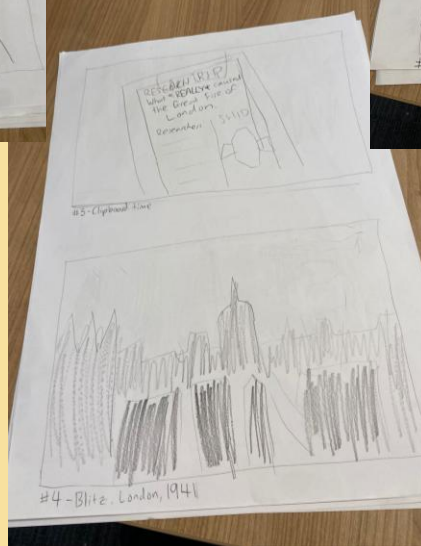
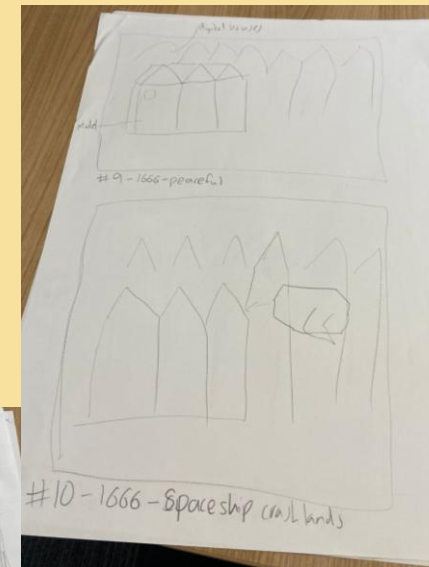
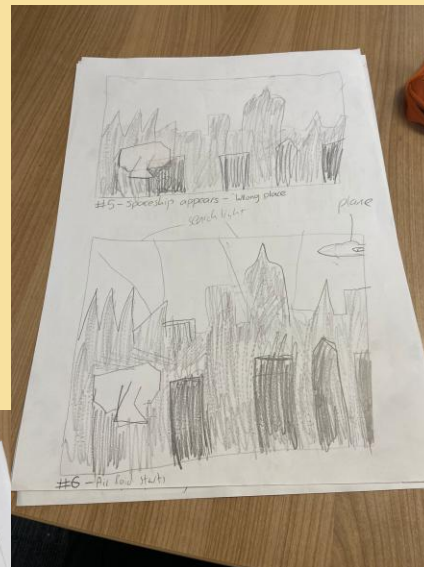


SOUNDS FOR THE FILM

We then all chose of the three locations and found some sound effects we can use based off each of the sounds we had written down. I chose to do the Blitz, Mary chose to do 1666 London and Cam chose to do the space port. This was so that we didn't end up all finding the same audios and accidentally skipping others. I found sound effects for an air raid siren, bombs and German bomber planes flying. I couldn't find any audios that would work for distant shouting so we have decided we are going to try to make that audio ourselves.

INITIAL STORYBOARD

Mary then sketched a quick story board with our ideas for the video. We discussed exactly what we were all picturing in each scene and from that worked out what would work for each scene. It was interesting to see how differently we had been picturing some of the scenes despite thinking we were on the same page. We discussed our ideas and went with the majority decision for each – a different way of collaborating to our other decision making processes.



COSTUME CUPBOARD

The first thing we did was go to the costume cupboard to find some lab coats for when we do our filming. We grabbed one for each of us as even though only two of us need to be in the film as then we have back ups if there's any problems or if any of us are ill on the day.



BUILDING MOOD BOARD

We then decided to work on our mood board for the model buildings we are going to make for the great fire of London 1666. We are going to use these as reference images for when we make the final houses we will be using on set so they look the same.

The mood board consists of four distinct images arranged horizontally. From left to right: 1. A historical painting depicting a city engulfed in flames, with a large building on fire and people fleeing. The text 'WILLS' CIGARETTES.' is visible at the top. 2. A model of a single timber-framed building with a dark roof and a chimney. 3. A cluster of several model houses, showing different styles of timber-framed buildings with red roofs. 4. A drawing of a single timber-framed house with a steep gable roof and white walls.[illegible]

COPYRIGHT RESEARCH

I did some research into the different types of copyright and how long they last. For images, copyright lasts for 70 years after the creator dies (anon, 2021). For audio, it is the same amount of time (GOV.UK, 2014). As most of our sounds have been taken from YouTube, none of them will be out of copyright if they are copyrighted. As we are protected as we are using them in an educational sense, we will still be able to use them in our film ; we just won't be able to post the film anywhere, as we haven't bought the rights to them (Intellectual Property Office, 2014). We decided we would try to reach out to the people/companies that owned some of the pictures to see if we could use them for our film as we would have to do if it were going to be posted anywhere and we also decided to look into how much the audios we have chosen would be if we were to buy the rights to use them.

Spaceport sound effects

https://youtu.be/DydIK14AvXI?si=-1uPnhv_eBHIucJX (ambient spaceship noises) \$3

<https://youtu.be/l8OJzAs7CB8?si=BODQ8SbZrtPvRtBs> (1.58 good take off sound effect) €22,95

<https://youtu.be/D95dM2zBjRQ?si=7n3k9GvkFn2FmGWz> (0.50 another good movement and take off sound) €24.95

<https://youtu.be/pp877EHYWaQ?si=4P3EVI4T0TrnwQuT> (spaceship movement) \$45

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

<https://youtu.be/sO6avqmq5xU?si=JpsyeNI3JeHQ0pz1> (background chatter from waiting room) → no mention of copyright rules

<https://youtu.be/huGyFog4YWU?si=2agcYmpSb7HgYIzj> (pen scribbling, sounds like a marker) → FREE TO USE

<https://youtu.be/Vo4dSmfr6l8?si=uarQQk0kK7AdbayB> (wide range, 0.38 is alright) → FREE TO USE

COPYRIGHT RESEARCH

1666 sound effects

<https://sound-effects.bbcrewind.co.uk/search?q=07024165> - horse hooves → free but must credit

<https://sound-effects.bbcrewind.co.uk/search?q=07039310> - horse hooves → free but must credit

<https://sound-effects.bbcrewind.co.uk/search?q=07054115> - church bell → free but must credit

<https://sound-effects.bbcrewind.co.uk/search?q=07020073> - dog barking → free but must credit

<https://sound-effects.bbcrewind.co.uk/search?q=NHU05008080> - fire → free but must credit

<https://sound-effects.bbcrewind.co.uk/search?q=NHU05002102> - fire → free but must credit

<https://youtu.be/jNE6cUcCOQA?si=FN0tvTg1gjJhZY9u> - church bell → free but must credit

<https://youtube.com/shorts/zyC7gFg9cPw?si=P4DAfgCjIqwEwzli> - (Air raid siren) → copyright unclear as it's a short

https://youtu.be/XMo1OSadI1I?si=6EY_TLhQg_TZVbat - (german bomber old video) → unclear as website has an unclear connection

<https://youtu.be/YRex1Udiybs?si=6aAena3dJivCcP-y> - (bomb sound effects) → no information on copyright

<https://pixabay.com/sound-effects/search/ww2%20uk%20bomb%20blast/> (a couple of different bomb audios (plus some other ww2 sound effects)) → free to use

(This one would be good)

<https://pixabay.com/sound-effects/film-special-effects-sound-effect-ww2-uk-air-raid-bomb-blasts-164347/> → free to use

<https://youtu.be/jmCp5UqN22Y?si=oo2QrQaUEobYtHwz> - (idea of what it could all sound like) → no copyright information

<https://youtu.be/F-cF06Y7V3Q?si=g-97P7WlymnXiFod> - (Pov sleeping during the blitz) XD → no copyright information

Blitz sound effects

ULTRA LEDS

At this point we were able to decide how what amounts of the materials we needed so I looked into which LEDs we should get for the spaceship model and noticed there was a sale on for one of the types of LED strips that was exactly what we wanted. This made them more budget-friendly, and so I quickly requested one of the order forms so we could get them ordered before the sale ended.



Tagra | Essential COB LED Strip Light | 320 LEDs p/m | 24V | IP20 | 8W/m | 5 & 50M Reels

EC24

~~£33.60~~

From £23.52 inc. VAT

Key Features

- Product Width: 8
- Lm/m (up to): 720 Lm/m
- Lm/W (up to): 90 Lm/W
- CRI: 90+
- Lightsource SDCM: ≤5
- Run Length (max): 5 m
- Available Colours: 2700K, 3000K, 4000K, 6500K
- Warranty: 3 Years

Select Length *

Select... ▼

Select Colour Temperature *

Select... ▼

-

1

+

Total

£23.52 inc. VAT

Add to basket



 **DATA SHEET - EC24**
PDF Download

 **EC24-65K-50M-90 Declaration Of Conformity**
Declaration of Conformity

 **USER MANUAL - COB LED STRIP LIGHT**
PDF Download

ORDER REQUEST FORM

✓ I then filled out the order request form for Ultra LEDs and Cam wrote out the order request form for B&Q for the fishing line and the reflective film so we could have our orders arrive in in plenty of time.

[illegible][illegible]

TUESDAY 3RD MARCH TO-DO LIST

TUESDAY :

① LLOYD MORNING

② SEND ORDER FORMS

③ CONTINUE MODEL

④ CONTINUE COPYRIGHT
ENQUIRIES

⑤ START DIGITAL DESIGNS

⑥ GO TO Hwb - BOOK IR - Talk to Dave

⑦ Discuss what we need from town
↳ polyfiller - check workshop

✓ Email storyboard to Dave

✓ Email Mei

○ Start house model! CAD

ASK Dave

-Team

LLOYD

Lloyd came round again to help us create the animated scenes in Premiere Pro. Unfortunately, my group hadn't done the photoshopping that we wanted to do before we started animating, so we had to work on that first because it was the background that we were creating for the LED screens – this meant it had to be complete before we could do anything else.

Hopefully, even though we haven't started animating, this time we should be able to hit the ground running when Lloyd is next here, if we haven't started it before Lloyd is next in.

PHOTOSHOP

We each chose one of the eras to work on. I chose to do the blitz as I was interested in the challenge of adding some smoke into the image and blending from the background to the foreground. The first thing I did was remove the background of the image of London (pngkey, 2018). This worked well but left a white edge to the image. I then carefully removed the edge with the rubber and used the blur tool to make the outline less vivid. I then thought about how I was going to make the smoke. In the end, I did this by adding layers of Adobe stock images of smoke and changing the opacity. I then found the edges of the smoke were too harsh, so I used the rubber and turned the hardness right down so it faded the edges out more. I also added in some brown and light orange to make the smoke look more interesting and almost like the horizon was on fire.

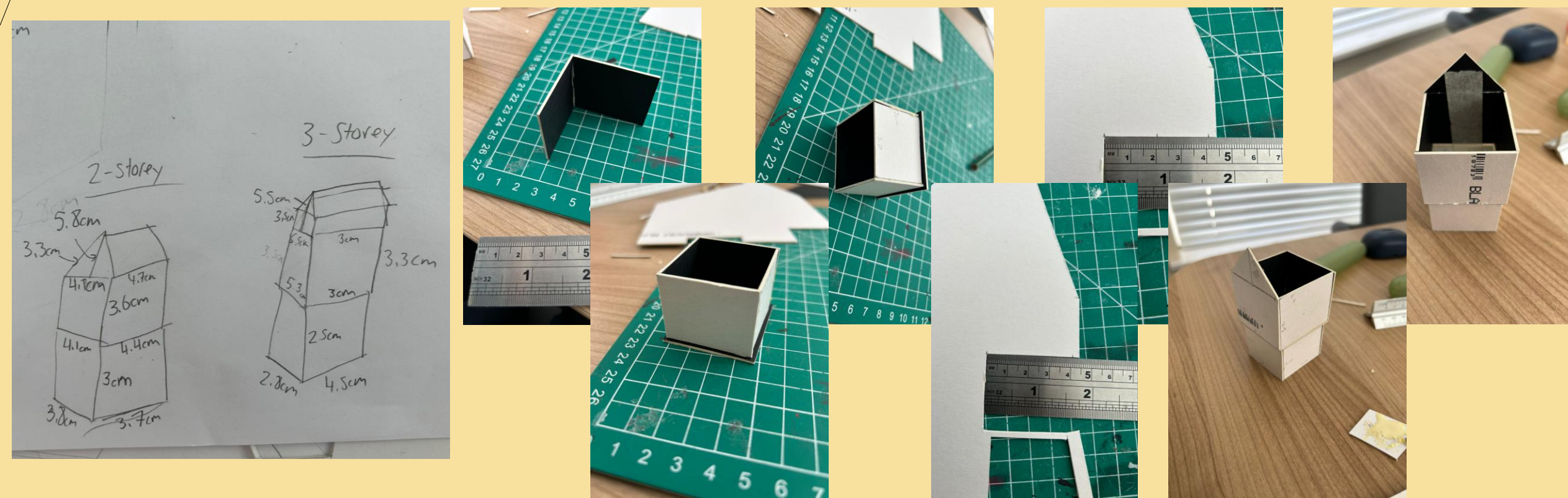


PHOTOSHOP

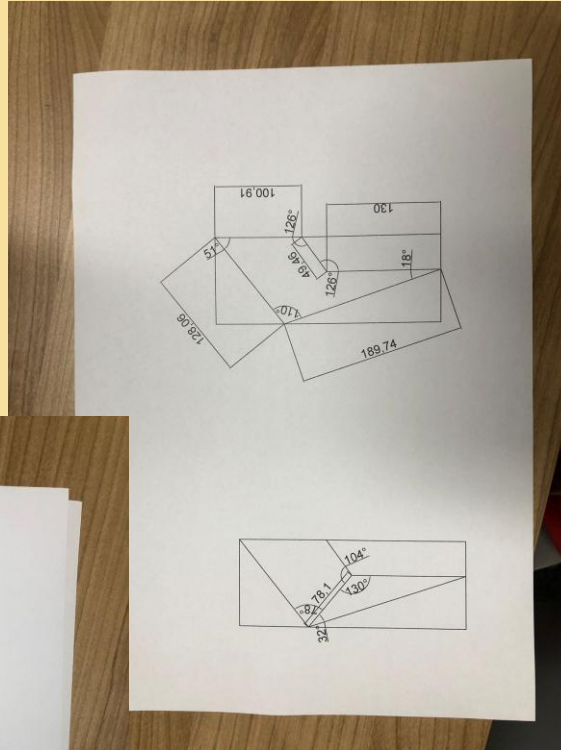
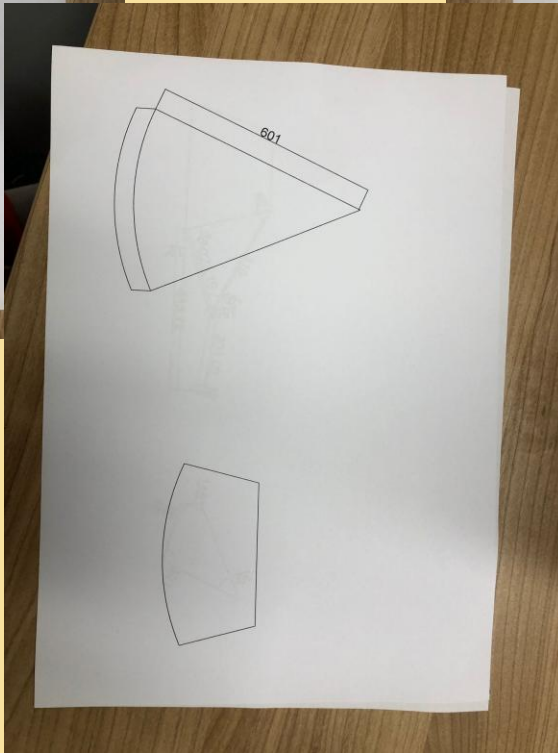
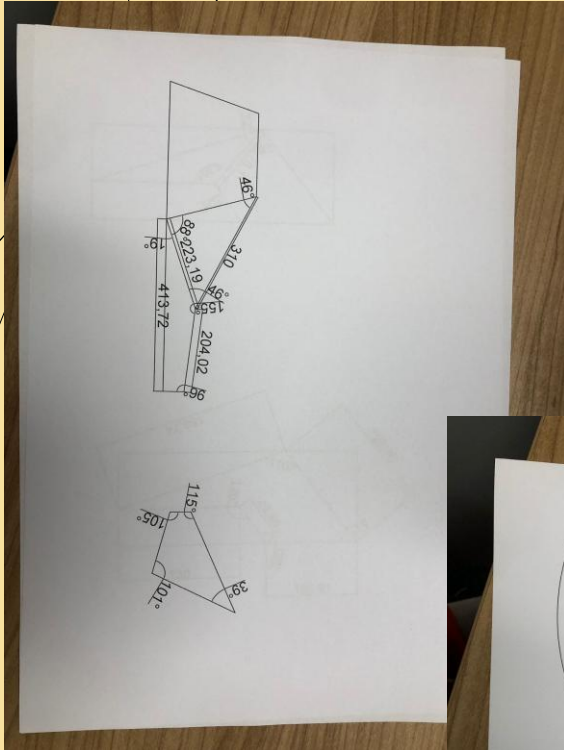


SCALE MODEL HOUSES

I then emailed the immersive room to book a half-hour slot to test the images, so we know what the quality is going to be like for filming. In the meantime, Mary and I made some 1:10 scale buildings while Cam worked out how to build the spaceship and started building it. The first challenge Mary and I had was working out how big they needed to be. Mary printed off the image we are going to be using for the 1666 scene in the 1:10 scale so we could make the buildings the same size as the image. I then measured all of the sizes we would need to make the model and Mary drew them out so we had a visual representation of what we were going to be making. We then cut out all of the pieces and put the model together.



CAM'S WORK ON THE SPACESHIP

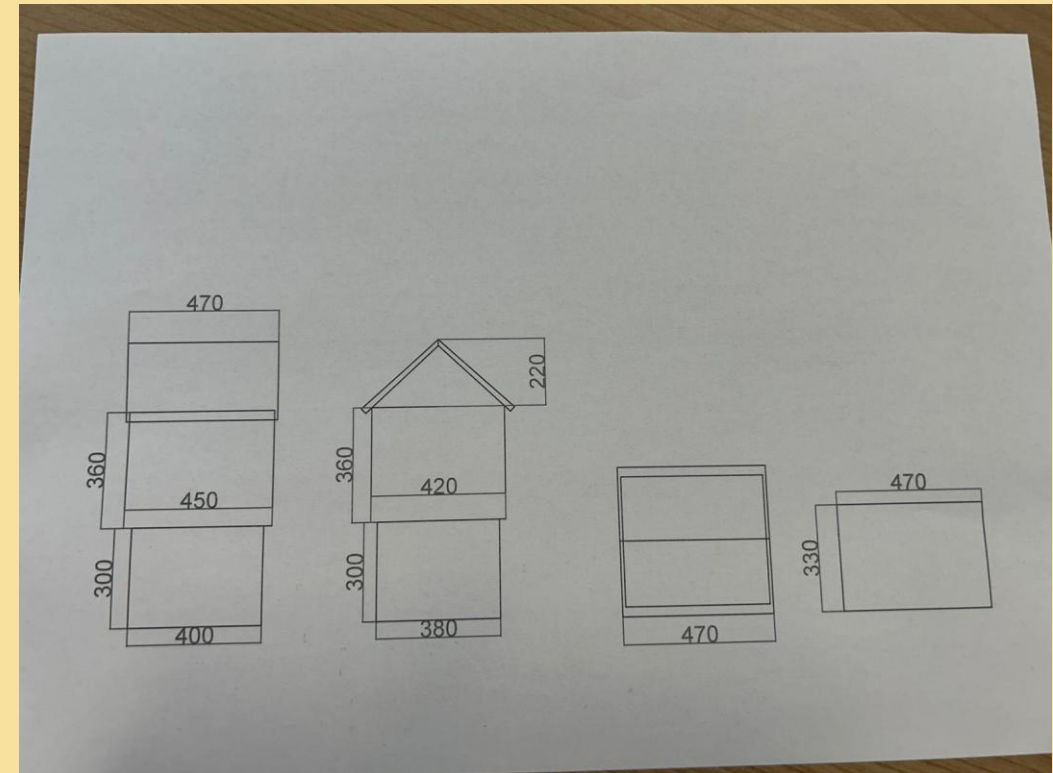


FIGURING OUT HOW TO CONNECT THE LED LIGHTS

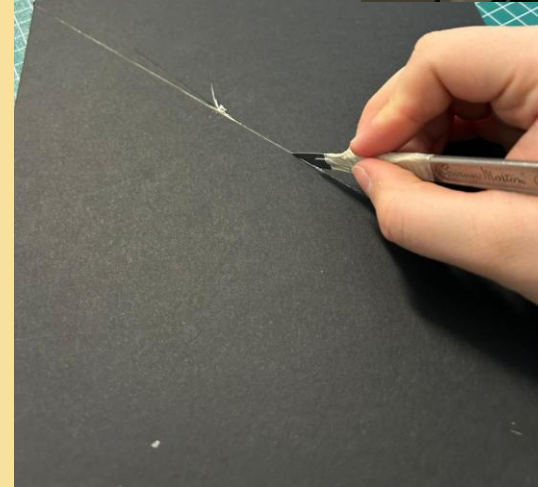
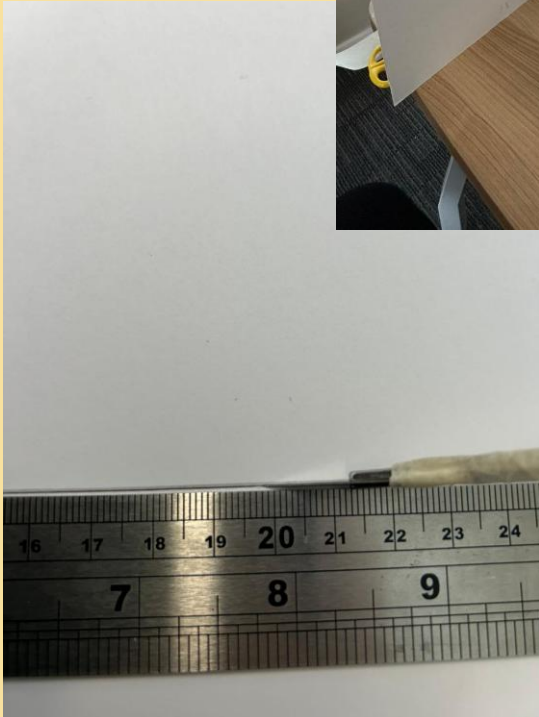
One of the challenges in set design and production is all the little things that come up as you go along. Individually these can be quite small and even quite quick, but together they can be time consuming. For example, as we were working with LED strips, we had to work out how to attach them together. We had to choose between soldering the links or using the connectors you can buy from the website. In the end, we decided we would solder the pieces together, as it would be cheaper and we would have more freedom with the angles we would need to put them at on the ship, which, as you can see on the previous slide, is built with a lot of sharp and irregular angles.

BUILDING THE BUILDINGS

Cam drew out the dimensions of the model houses properly on CAD and then started painting the model ship while Mary and I started to make the two buildings that the spaceship is going to disappear behind when it crashes. It was the same process as building the model version but on a larger scale. I was planning on making the sides of the building with the triangle at the top all one piece, but we only had two sheets of mountboard that were big enough to cut them out of, and Mary made a mistake while cutting her sections out and cut the wrong pieces out. This meant that I had to make do with cutting the triangles out too; it did make things a bit trickier to stay on properly, but I think I managed it well.



BUILDING THE BUILDINGS



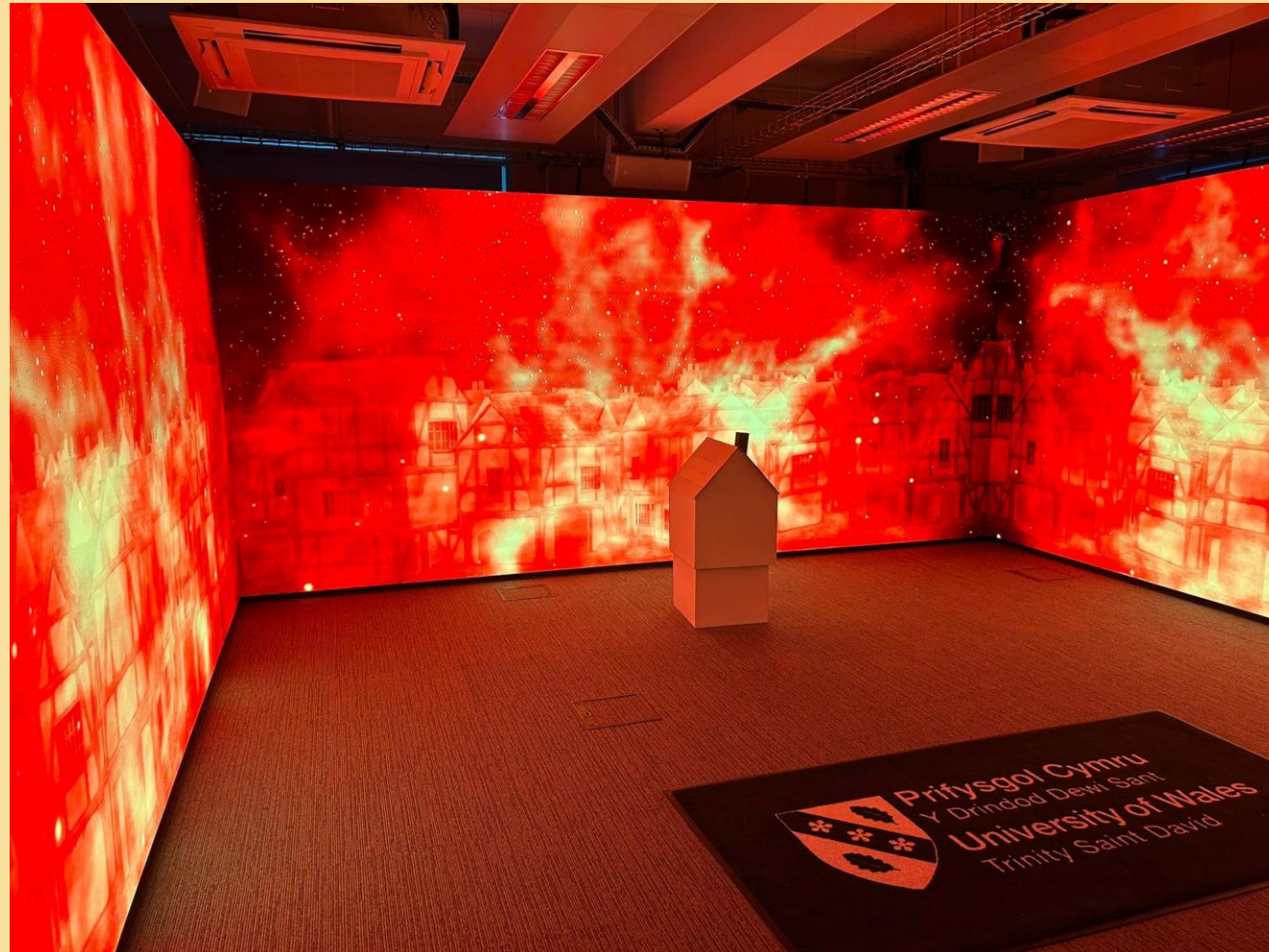
MAKING THE BUILDINGS

We also got to go to the immersive room for half an hour to test out all of the images we need for the locations for our film. The original image I chose was the most blurry out of all of our work but with think it will be usable and we like the design so are going to make it work. We also decided that Mary should add a bit more sky to the top of her image of 1666, as it's going to be quite a low-angle shot for the ship to be able to disappear properly behind the buildings. Cam's image is definitely the clearest and brightest out of all of the images but I think this works really well for a futuristic looking space port. Image quality is on LED screens and what effect this has - you need to choose carefully and they need to be similar to create internal consistency .



MAKING THE BUILDINGS

While we were in the immersive room we decided to grab one of the model houses and bring it over to make sure it was in scale with the backdrop as we had planned, and to see how the colours of the fire reflected off its surfaces. This was reassuring, as it showed that our careful planning with the card models had paid off – the house was the right size to fit with the digital backdrop.



MONDAY 10TH MARCH TO DO LIST

MONDAY:

- Continue Digital Designs
- Start Q-Lab
- Continue Tudor Houses
- Start Space ship
- Organise sound Recording
- CAD groundplan

CAMERA FOR TEST IN ROOM
EMAIL DAVE FOR FUSION

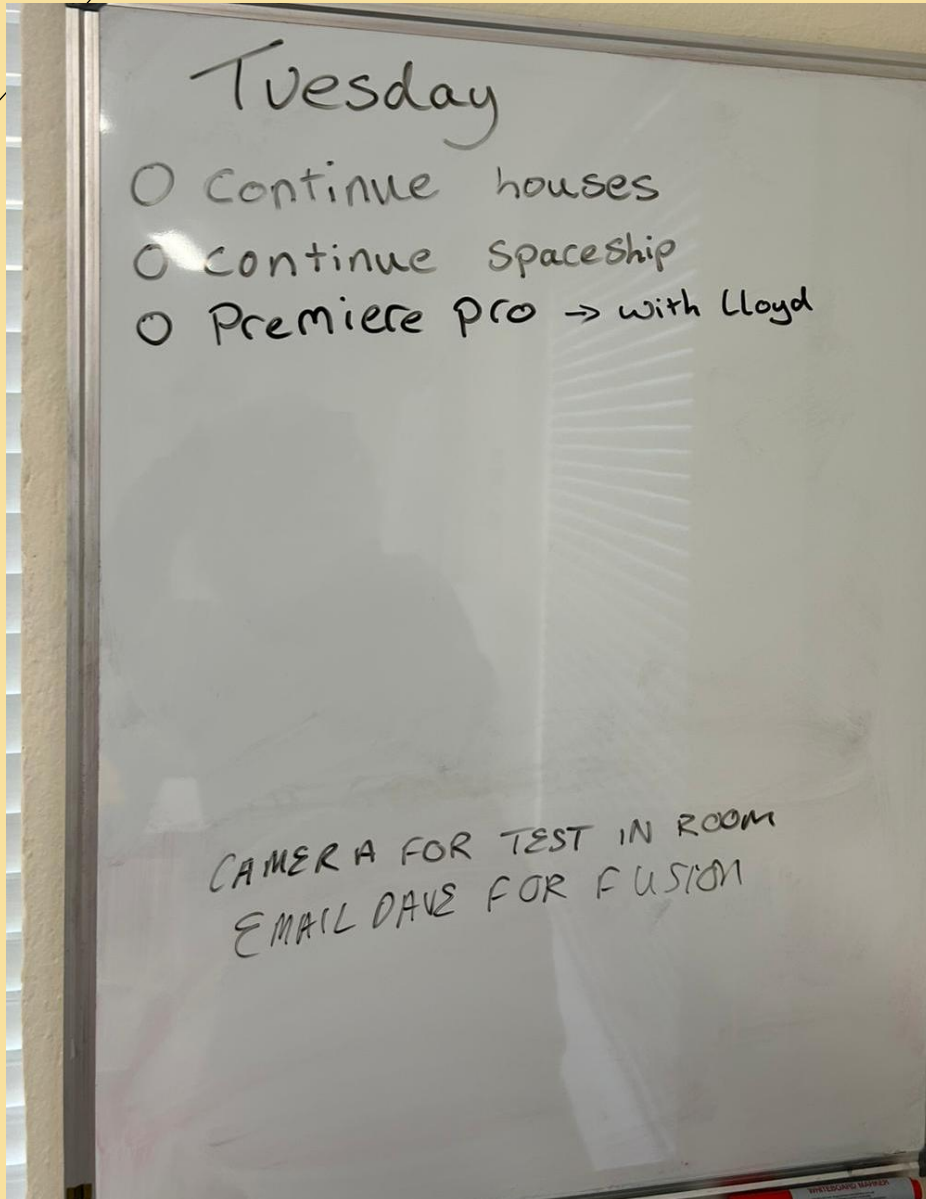
We have also been making sure to continue writing daily to-do lists so that we can get everything we need done in the day. This is the easiest way to keep on top of everything. We have, however, been forgetting to take pictures of them, so we will make sure we take pictures of them from now on.

ADDING THE LOLLIPOP STICKS TO THE ROOF

I spent some time trying to figure out how to add a 3D model of a German bomber plane, but couldn't find a way to add it in due to unsuitable file formats. When I couldn't get it to work, I moved on to cutting the lollipop sticks in half with Mary and then started adding them to the roof of the building. This was because I didn't want to get bogged down with one thing. This took a long time, and we realised after cutting a pack of 100 in half that there wasn't going to be enough to even cover one of the building's roofs, and so Mary quickly filled out an order form for more lollipop sticks. We cut the rest of the sticks in half.



TUESDAY 11TH MARCH TO DO LIST



We had assumed we could do a lot more than we could with Monday's to-do list, and so with the next one, we made sure to consider how much time everything would actually take. This meant that Tuesday's to-do list was a lot shorter than the previous few days as we would spend all morning on the digital side of things with Lloyd and the afternoon continuing the houses and spaceship.

DRESSING THE HOUSE

As we realised we didn't have enough lollypop sticks and Lloyd was in in the morning, we decided to work on Premiere Pro and the digital side of things. I managed to add a basic image of a plane flying over the image and dropping a bomb onto where the spaceship is going to be. In the afternoon, I placed the last pieces of the lollypop sticks that we had onto the roof of the building. I then took off the tape holding the building together and filled in any gaps with more glue to help reinforce it.



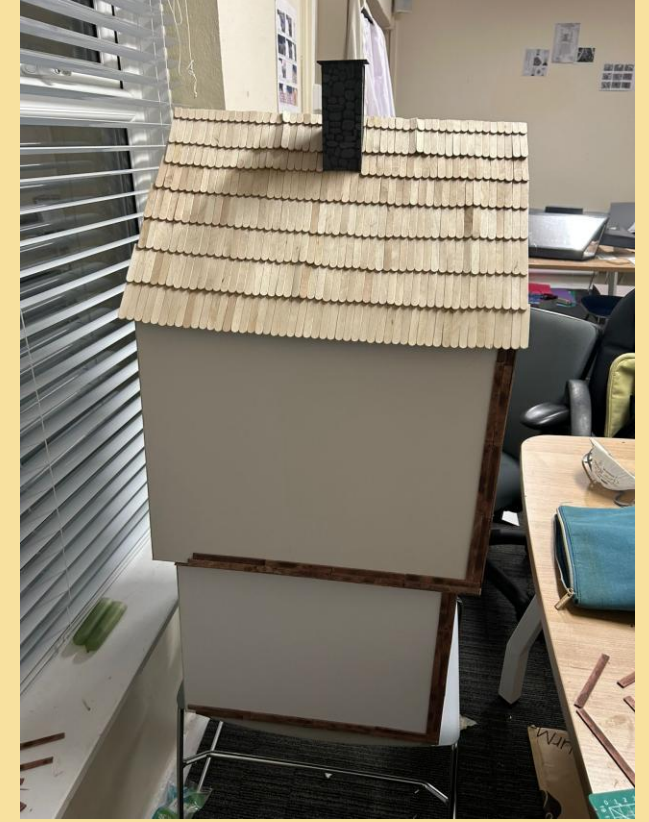
DRESSING THE HOUSE

When the rest of the lollipop sticks arrived, we got to work cutting the ends off so we could use them to create the rest of the roof and the wooden details on the house. It took Mary and me a couple of days to get them all cut down to the right sizes, and then we made a small bucket of brown paint at about a 1:1 ratio with water to cover all of the sticks quickly. This took us far less time than painting all of them individually and we had to wait for them to dry before we could start sticking them onto the buildings.



DRESSING THE HOUSE

Before I started sticking the sticks to the front of the house I painted on a layer of acrylic white paint so that I could cover some of the card printing that was on the model. This also gave the bonus effect that if I then ended up getting some paint of a different colour on it, then I'd be able to cover it up without the white acrylic paint looking obvious and out of place. I then stuck some of the sticks onto the model, cutting them down when I needed smaller pieces and trying to make it look as much like the VR houses as possible.



DRESSING THE HOUSE

The window was the most difficult part of cutting up the sticks, as I tried to make the frame as similar to the ones on screen as possible. This is really important in industry as the documentary on The Mandalorian showed – it is necessary to make the screen blend with the physical set (‘Technology’, 2020). This meant that they were cut down very narrowly, and the edges had to be repainted as they weren’t going to be hidden by any sticks next to them. To put the window together , I first put on the sticks for the window frame and then mixed some dark blue paint to make the shadows in the window, as it is on the digital screen. After the paint had dried I then added the internal sections of the frame.



DRESSING THE HOUSE

I then painted the roof of the house a dark red brown to match some of the houses on the digital backdrop. Mary did hers a different colour, as this makes it more realistic because houses were not uniform, so it would be more in the period. We also realised that we didn't have enough time to do the carving into the foam for a path between the houses like we were originally planning, so instead we decided to alter the angle of the shot we have planned to a lower angle looking up, so you wouldn't be able to see the rostra they were on.



FILMING SCHEDULE

We then created a filming schedule to make sure we had enough time to get everything done. This was crucial as we only had two hours to film everything we needed to as Lloyd was only in with his filming equipment for one day.

Location + Year	Shot #	Subject	Shot type	Angle	Movement	Equipm ent	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

		air raid starting									reflection
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

GET IN + FILMING

We then brought all of the models over to the immersive room to do the recording. This was quite terrifying as we didn't want the models to break in the wind, but thankfully, it was good weather, and we made sure not to walk through the windiest parts of campus. When the models got to the T&L building in one piece, we then helped the Space Bakes group carefully get their set out of the immersive room, and they helped us get our stuff in there. This made the transition from one group to the next run really smoothly and meant the next group could be in quicker.

When everything was set up we then started filming. We decided to film in the order we wanted the shots to be in, as the ship needed to crash-land at the end of the final scene, and we didn't want to risk the ship breaking if it crashed before we had done the blitz scene.

EDITING

After downloading the videos onto the Mac, we immediately started editing them in Premiere Pro. We knew what we wanted out of each scene, so when looking at all the different takes, it was easier to choose which to use. We still made sure we all agreed on the take we would use, so we were all on the same page with our ideas. This, however, meant it didn't take very long to choose them, and we could quickly get on to our next step: recording the lines. Since the first scene involved us talking in the recording, we listened back to what we had said and made sure to say exactly the same things so it would match up with the video. We couldn't use the original audio as there was too much background noise, and so you could barely hear us. We recorded our lines separately, as we were using a directional mic, so it would only really pick one voice up at once. This, however, worked in our favour, as it made it far easier to align the timing of the words with the video. The next few lines we recorded were much easier, as you never actually see me or Cam speak them, as we are shouting out of the ship. This meant there was much more freedom in what we said when.

Once we had edited all the sound into the right places, we added the background sounds. We checked that the volume of these sounds didn't override the voices and where they were too loud or too quiet, we altered the mix. This was a process of revision. Then we checked the video again to assess the overall effect. We found some places where there was silence. We decided that although silence can be very powerful in film soundtracks, there were some places where we didn't want it, for example, at the beginning of the Blitz scene where it gave an awkward effect such as the wind, which needed to overlap with the sound of the bombs dropping so that it seemed as if something had gone wrong with the film rather than creating tension. We decided to add a wind sound effect – although it is still quiet and creates a contrast with the bomb's explosion, it doesn't leave the audience wondering if the film has stopped. Finally, we checked the transitions between the sound effects. It was important not to have abrupt stops to effects such as the wind, which needed to overlap with the sound effect of the bombs dropping so that it sounded natural.

Q&A

How are you collaborating within your group to divide responsibilities between digital and physical design tasks?

One of the most obvious areas of collaboration was that before we started filming we assigned each of us roles based off of our priorities: Cam = operated the camera, did some puppeteering, and was the 1st AD as they wanted to know more about camera operation and were interested in puppeteering the model. I did puppeteering and acting as I was really interested in puppeteering the model as I'd never done anything like it before. Mary did the digital screen operation and did some acting as she wanted to do more tech stuff as she enjoys the tech side and wanted to learn how to operate the screen. The Blitz scene I was working on didn't need any additional physical elements, as Cam's spaceship was the only physical model needed for it, so I helped Mary by building one of the Tudor houses for her scene instead. This meant that we were all doing one scene digitally and one model for the recording. We then all came together to do the video editing as this included skills we all wanted to learn. The first thing we did was choose our favourite recording of each scene, as we had filmed each scene at least four times, trying different techniques each time. We then recorded the voice lines and put them into premiere pro, making sure to place them in time with when we said them when filming the space scene. After that we added the basic sounds to the backgrounds, these we had individually found for each of our digital scenes before we recorded them as we had already worked out what sorts of background noises we wanted for each one. When we had done that we decided to include some additional sounds for layering and making sure there weren't any gaps in the audio, these included the wind in the blitz scene and the sound effects we needed for the papers. The last thing we did was add in some fades and transitions to help each scene flow more naturally. This was all done collaboratively and we discussed everything as we wanted to show that we all have learned the basics of how to use premiere pro.

Q&A

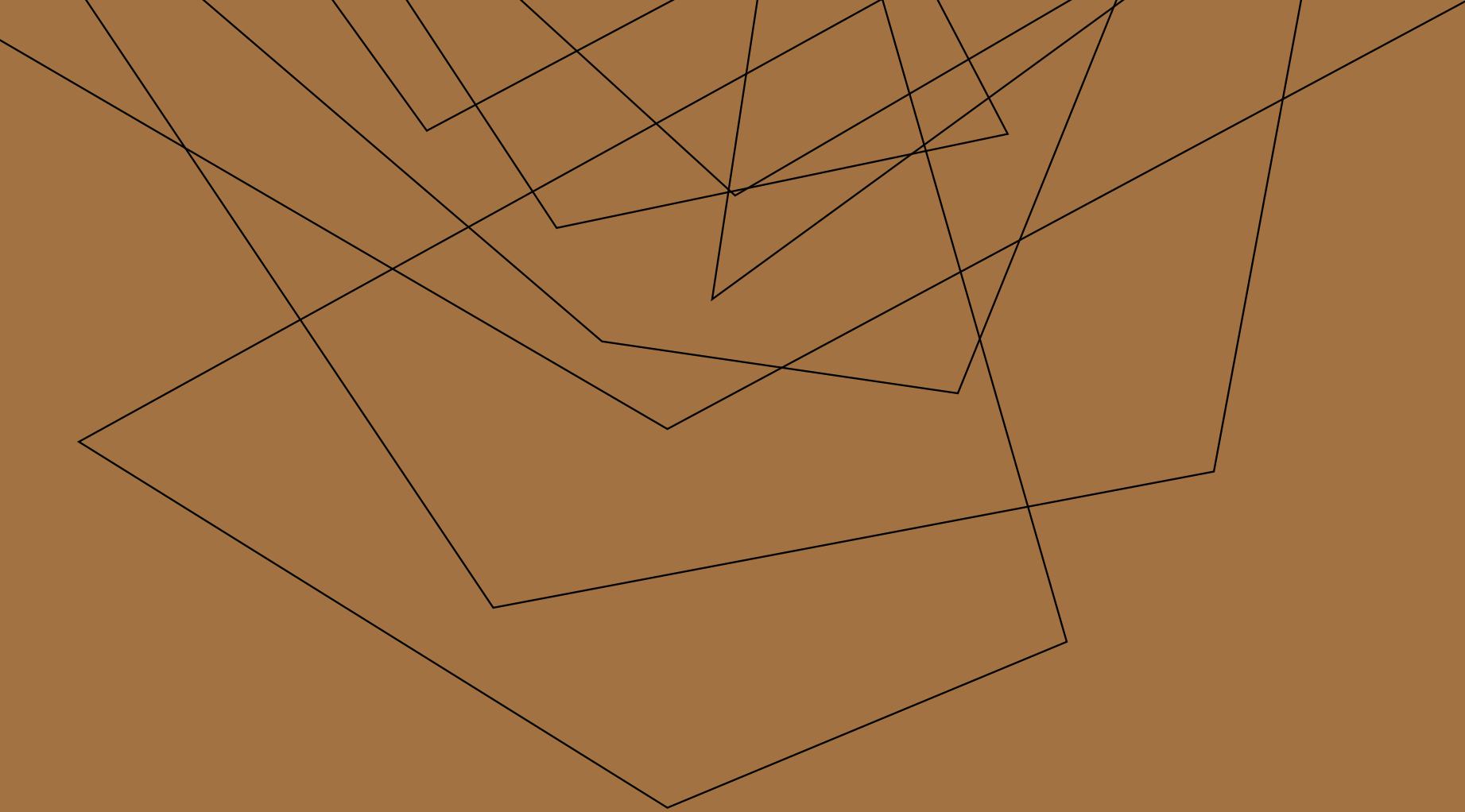
Looking ahead, what improvements or refinements would you plan to make after your initial R&D tests with the combined setup?

With the houses, I would like to use some more supports on the inside of the models to prevent the board from bowing.

This would also help reinforce them from the inside, and so there would be less worry about them coming apart.

For the digital aspects, I would also add some more movement into the background to make it more realistic. I'd like to have some of the smoke move so the scene doesn't look so still. I'd also like to add some more planes flying over in the back of the backdrop and maybe even add them dropping some more bombs in the distance, so when one is dropped onto the spaceship, it doesn't look so out of place.

In the future, when we record lines, we would like to do it in a better location. The room we ended up recording in was very echoey. But in the end, it did actually work for the scenes, as we were supposed to be shouting out of a metallic ship, but next time we would like to do this more professionally, so we can make sure there is no background noise or any echoes.



EVALUATION

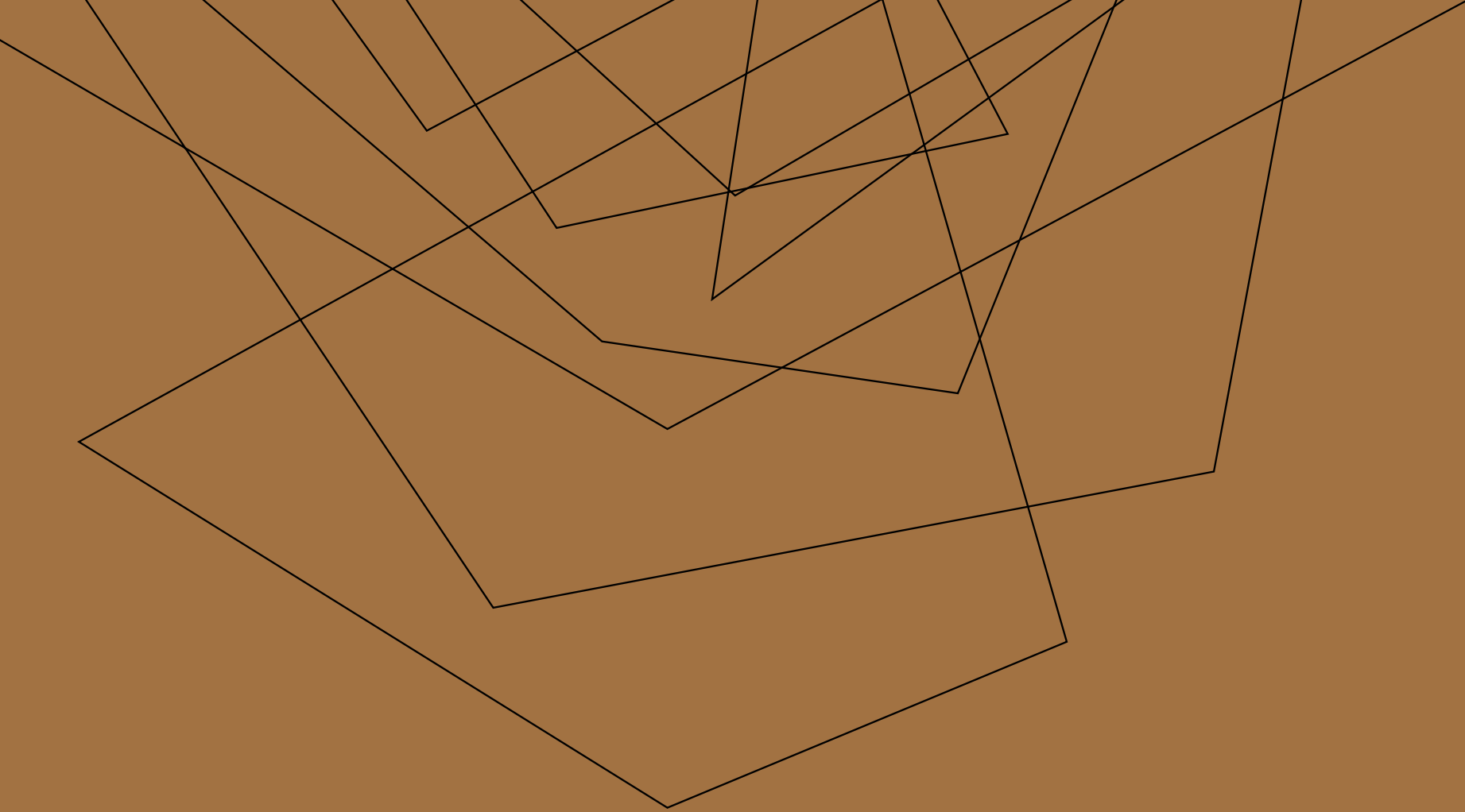
500 WORD EVALUATION

Surprisingly, I have enjoyed this module more than I thought I was going to. I enjoyed using Premiere Pro more than I thought I would, and it seemed to make a lot more sense than I was worried it might. This is possibly due to the fact that it reminds me of the music software I used to use in high school. This made it a lot less intimidating and so made me feel more confident in using it. It was also nice to see everything come together in the end and have everyone in the group working together on it. I also enjoyed creating the model house. It was a bit of a jump from making a small model bridge to a large model house, but I think it went really well, and I was really proud of how it turned out in the end.

As the final model was quite a bit of a jump from the last one I did, I have improved my skills quite a lot, especially in understanding how the size would impact how structurally sound it felt. I also think I have improved my understanding of how the digital side of things can help improve the physical and how they can be used to complement each other. We didn't have to build all of the houses for the 1666 scene, as we could use a digital backdrop instead. We only had to make two of them for the spaceship to land behind. This is really interesting as I never thought about how much they can impact each other to that extent before.

Going forward, I would like to keep experimenting with Premiere Pro in my own time, so I can remember how it works, reinforce my learning and develop my skills further. I would also like to improve the structural integrity of the large models if I ever do anything like it again by reinforcing the inside of the model. I think adding some braces to the inside of the model as support would have made it feel a lot stronger and more supported. This would also benefit the transportation of the model, as there would be less worry about it coming apart.

Although our planning was much better on this project and this helped a lot of tasks go to plan, such as testing the small card model house against the 1:10 scale image we were going to use for the LED screens to ensure that they were the right size before we started the full size build, there was one area where we could have planned better and it would have improved our outcomes. The lollypop sticks we ran out as we hadn't checked how many it would take. We should have used the measurements of the roof and the sticks to calculate how many we needed. In the event we had to order more and wait for them to arrive before we could complete the roof.



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