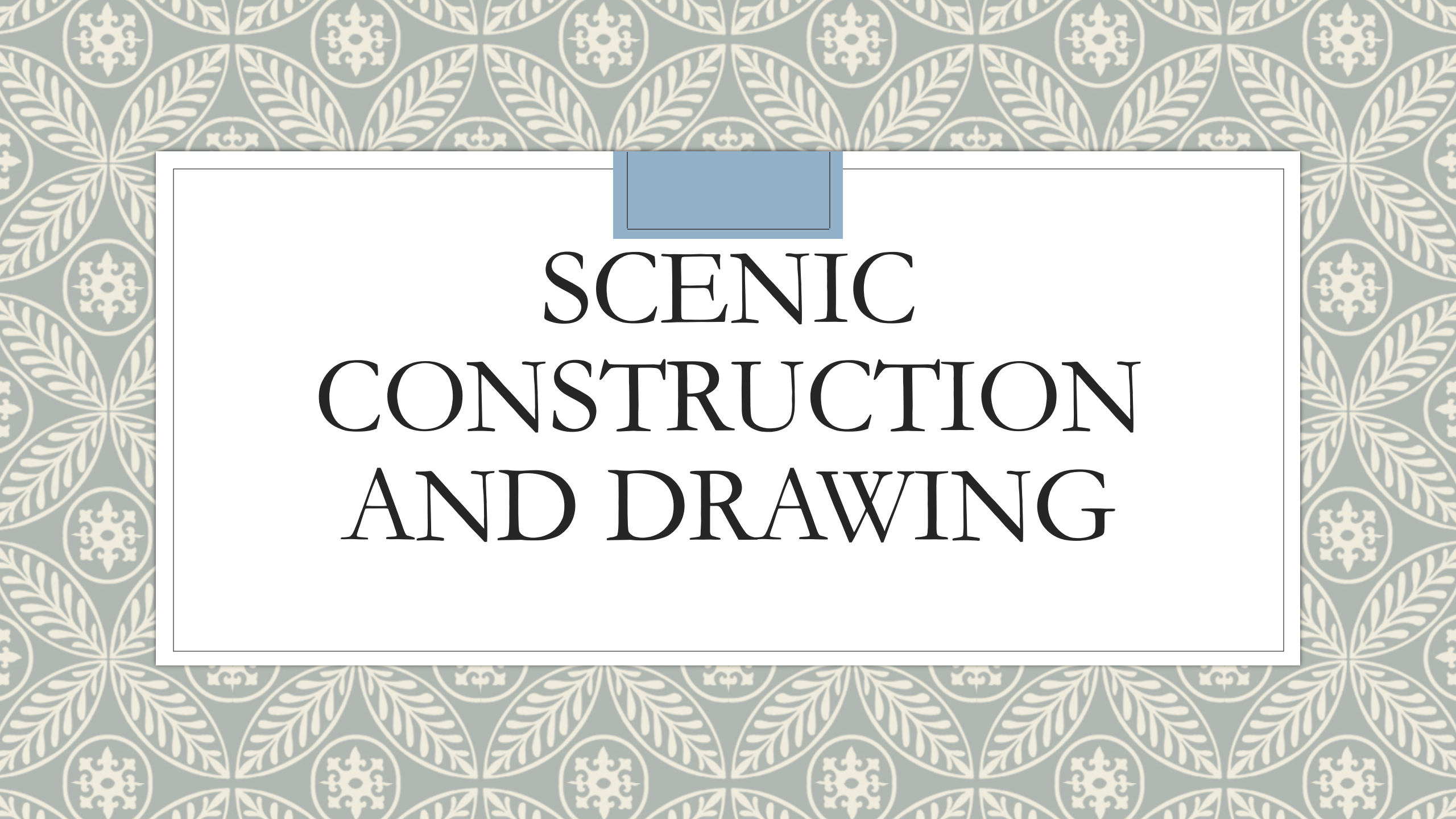


AI

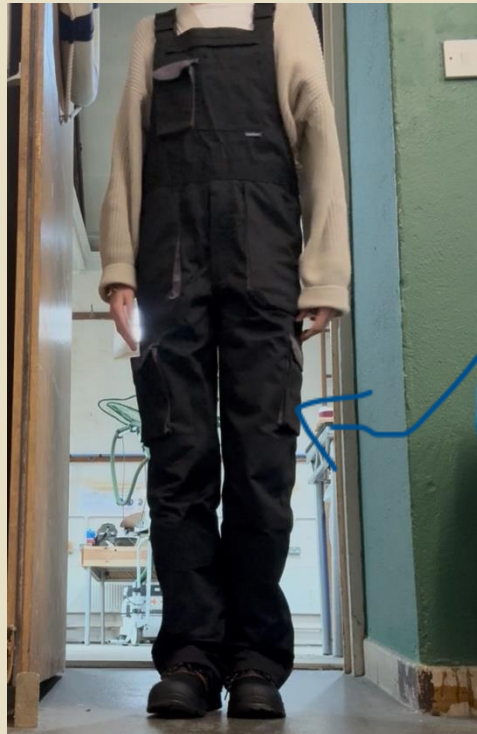
I confirm that I have not used any AI tools in the research and creation of this assignment. I confirm that I have not presented any AI generated materials as my own work. I confirm I have copies of my drafts, notes, and other resources I used, which I may be asked to provide in evidence.



SCENIC CONSTRUCTION AND DRAWING

PPE

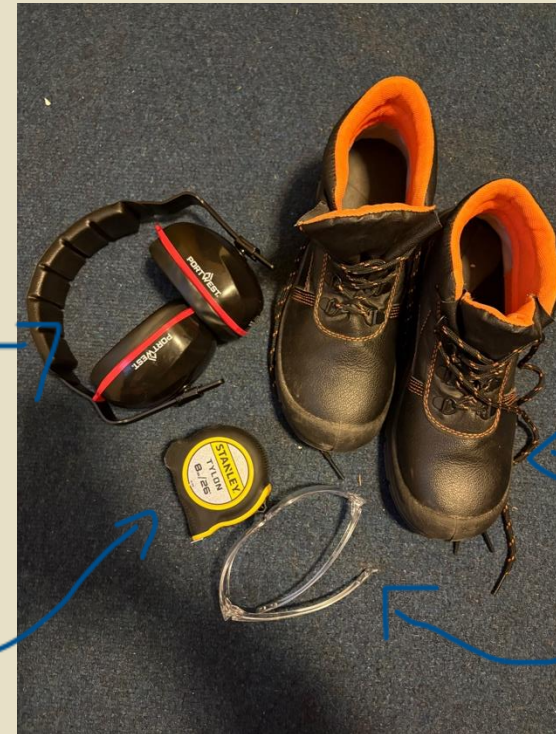
We have PPE (Personal Protective Equipment) to keep us safe when working in the workshop.



Overalls

Ear
defenders

Measuring tape
(but that isn't
PPE)



Steel toe
capped boots

Goggles

Tools



Rail saw



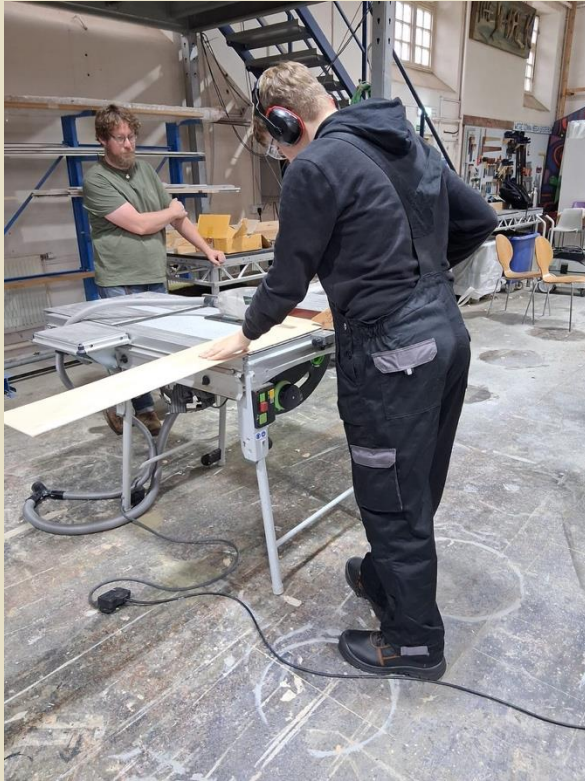
Jig saw



Saw



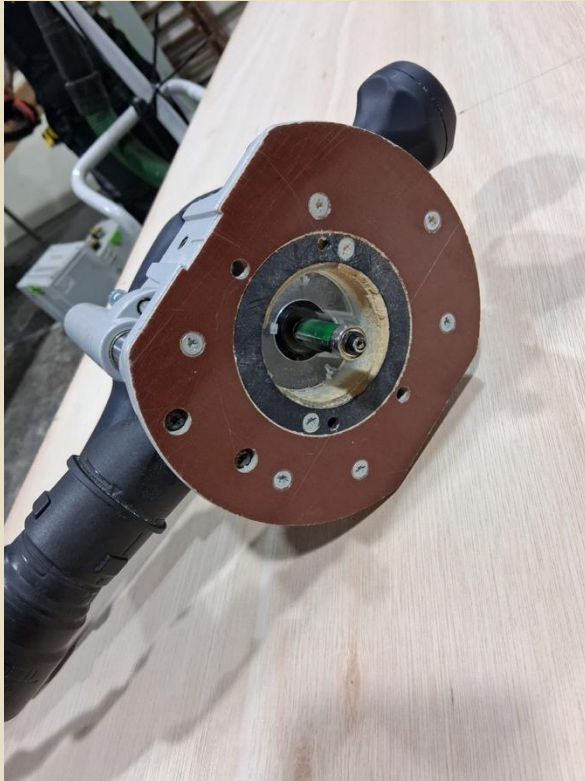
Staple gun



Saw



Staple



Router



Polycutter



Handles



Drill



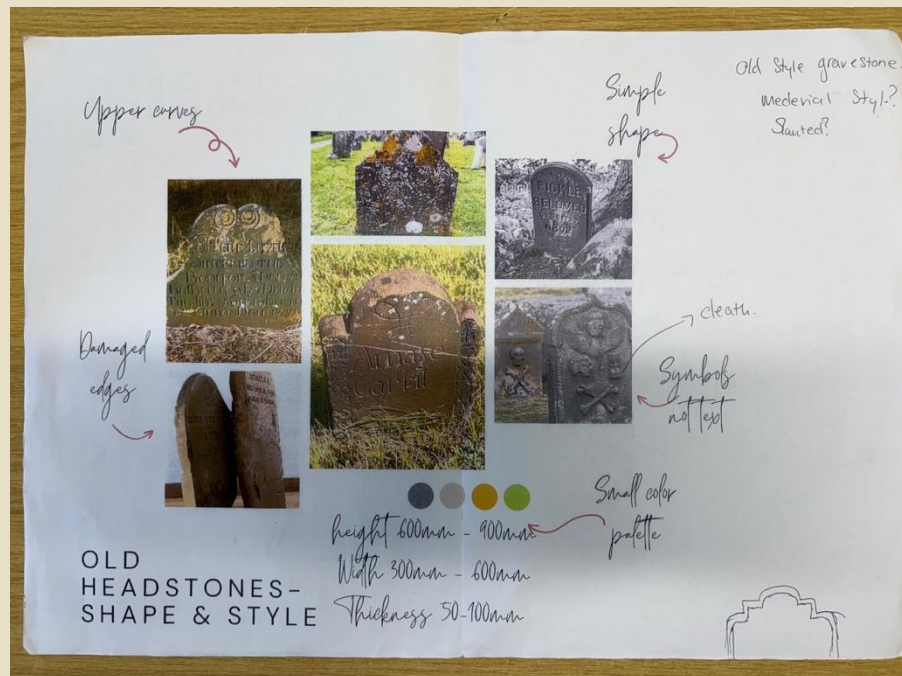
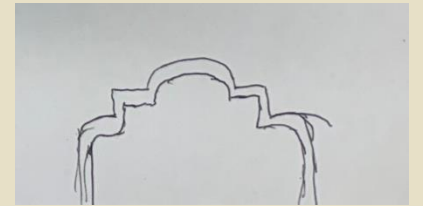
Practice



GRAVESTONE

Our idea...

For my group's gravestone idea, we wanted to make a medieval style gravestone that was worn out. We didn't want a modern shiny granite gravestones as they are quite boring and lack character. We want to decorate it and add symbols that represent.

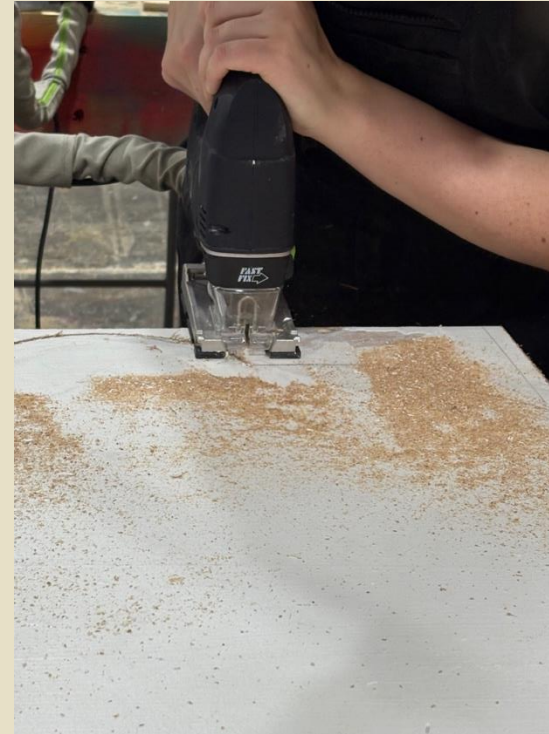


This is the design we produced for our gravestone. It was inspired by the medieval styled gravestones.

Constructing...



- First, we 400mm across and chopped it off using a rail saw.
- We measured out the design onto the wood using a pencil.



- We then used a Jig saw to cut out the design as it was the easiest way to cut out the curves into the wood. We pulled the piece of wood away from the table, so it was hanging off the table to cut the wood.
- We repeated this process twice to do each side.



- Then we chopped 1cm of the ends of the 3:1 timber to make it 90 degrees.



- Next, we measured the middle of 3:1 timber and cut it in half using a saw to make a frame from the gravestone to hold the sides together. This will give the gravestone the thickness of 80mm.



- To put the frame together we used wood glue and the staple gun to attach all four corners.



- We then attached both sides of the gravestone to the frame using wood glue and the staple gun.



- We originally made it too tall, so we had to chop off the end a bit.
- Next, we were wondering on how to do the curve of the gravestone. We first thought of using plywood but then our lecturer mentioned expanding foam, so we decided to use that.
- We wet the surface of the gravestone with some water and then used the expanding foam on it and let it set.



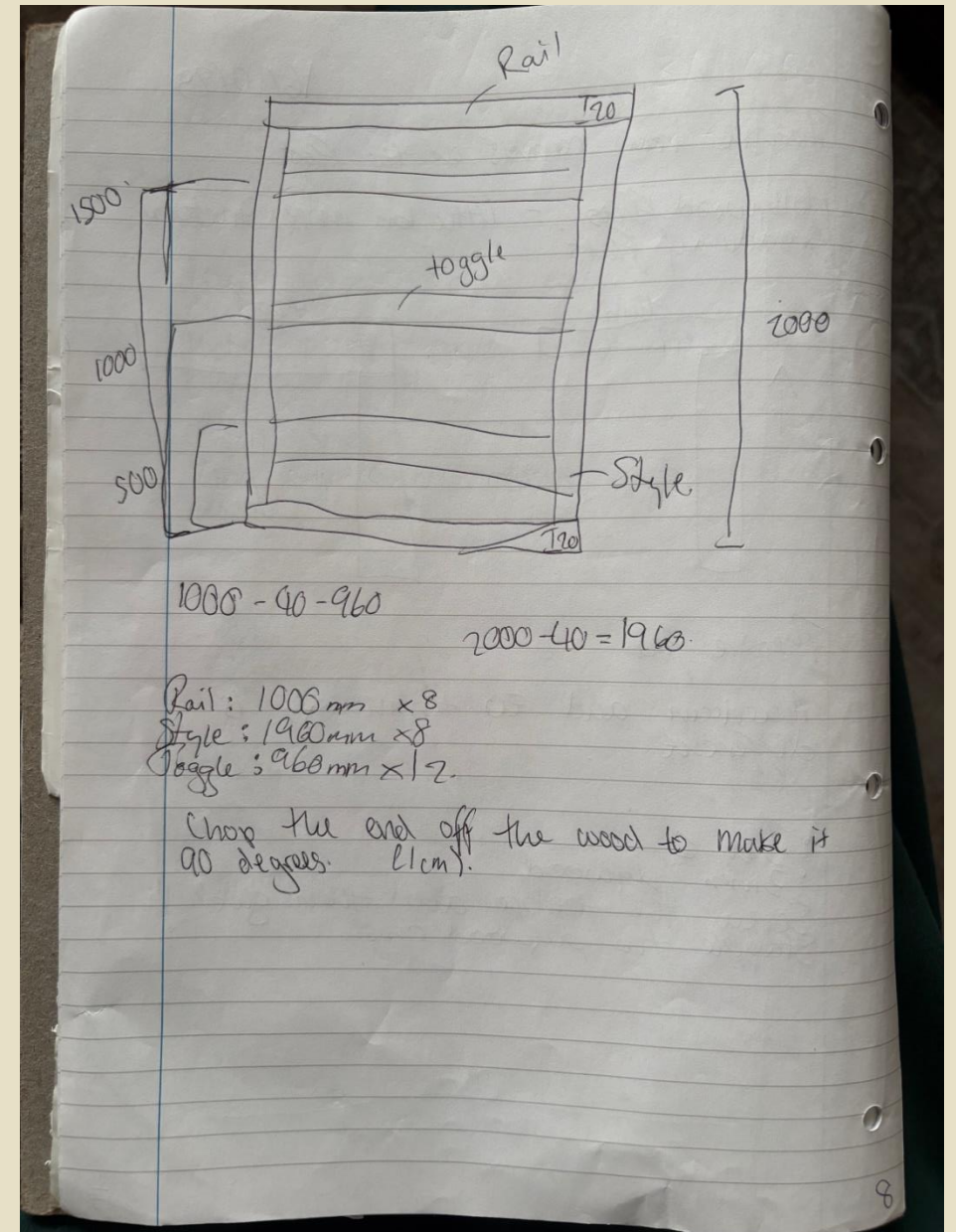
- Next, we sanded the foam down to be inline with the grooves.
- This is our finale outcome of our gravestone. I'm very happy with how it came out and it looks very similar to our design we did. However, next time I wouldn't make it as big as it is because I feel that it is on the big side and would look better being slightly smaller.



FLAT

Sketch

This is the sketch of the flat that I am going to build. It is 2000mm high and 1000mm wide. We need to take of 20mm of the height (2000mm) because that is the thickness of the wood to place the toggles evenly to support it in the middle. For one flat we will need 3 toggles, 2 styles and 2 rails to assemble the flat.



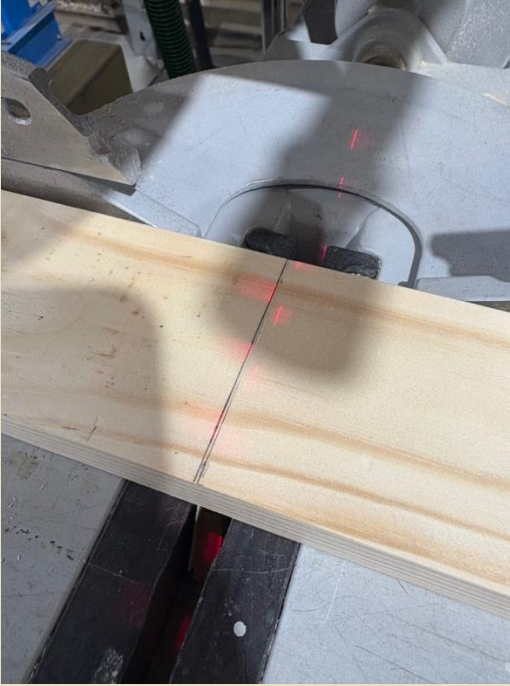
Constructing



- First, we cut off 1cm to make the wood 90 degrees so our measurements will be accurate and so the timber sits flush.
- Then we measured 196cm on the tape measure to build the style, we did 2 of those.



- We then cut the timber at the measurement of 196cm using the saw.



- Every time we used a new bit of timber we would saw off 1cm of the end to make it 90 degrees.
- We then measured two 100cm bits of timber and cut it with the saw to make the rail. Measure one, double check it and then cut and repeat another time.
- Next, we measured 96mm on the timber and repeated that three times to make the toggles. We cut it up using a saw. Measure one, double check it and then cut it and repeat two more times.



- Then we drilled two holes at the end of the rail on either side on both rails. We used the screwdriver to do this, using the setting of 2 and the drill setting on the wheel.



- We then used wood glue to glue the rail and style together and screwed them together using the screw settings on the drill, 1 and 8 on the wheel.
- Next, we glued the ends of the toggles and placed them in at their measurements 500mm from the bottom. We then drilled holes inline with the toggle using the drill and then screwed it together. We repeated this step 2 other times.



- This is the frame all built and put together ready to have the plywood attached on either side.
- We then cut the sheet of plywood down using a rail saw so that it would measure 2000x1000mm (HxW).



- Next, we glued the plywood down using wood glue. We realised that the plywood didn't sit flush as the frame was bowing so we used a clamp to line up the plywood and the frame to make it flush.
- Then we used a staple gun to staple the sides going against the grain.
- We repeated this for the other side too.



- Then we sanded down the edges using a powered sander as the edges didn't line up with frame and needed to be smoothed out.



- Next, we made two braces for the flat to go either side. The triangle part of the brace is made by cutting a 581mm bit of 3:1 timber and angling the ends by 31 degrees one side and 60 degrees the other side. We repeated this step four times. We used the saw to do all the cutting.

- Then we measured 600mm on the timber and repeated this four times to make the bottom part of the brace. We used the saw to cut these pieces of wood.





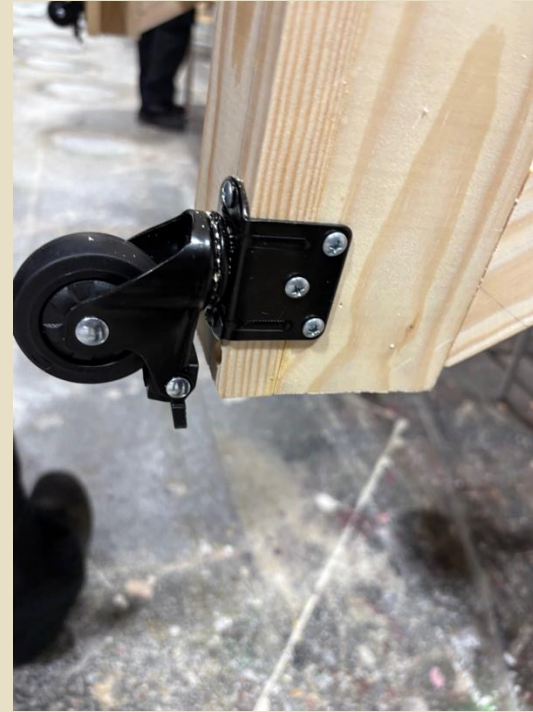
- Next, we took the 600mm bits of timber and glued them together and drilled holes in them and screwed them together whilst holding them together and trying to stop the two pieces of timber separating from each other.
- We hung it off the end of the table to make it easier to work with and we drew a line to show where the other piece of wood line up with.
- We repeated this process another time to make another one.



- We then glued the 60-degree sides together to form the top of the triangle. We then stapled them together using the staple gun. We did it again to the other two pieces of wood.
- Then we attached the triangle to the 600mm bits of wood using wood glue and the staple gun the staple them together and we repeated this process again to make two braces.



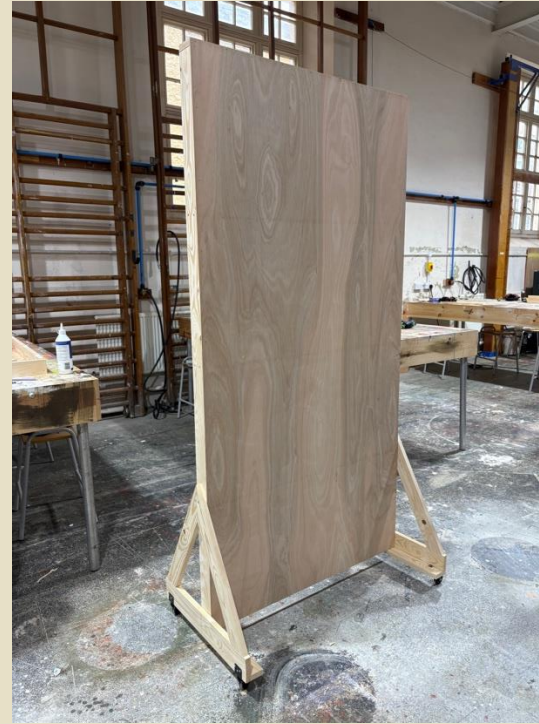
- We then lined up the braces to the flat and drilled two holes in the centre and screwed the brace to the flat.
- We also did this process at the top of the brace.
- We did this process for both of the braces.



- Next, we got the wheels and marked where they were going to sit on the corners of the braces. We then drilled holes for where we were going to screw the wheels too. We repeated this process for all four wheels.
- We then got the wheels and attached them using screws and a “Christmas cracker” screwdriver. We repeated this process for all four wheels.



- Now was the moment of truth and we stood up the flat to realise that it had a lean to it, so it was wobbly and not suitable for the stage.
- To fix this we figured out which brace was uneven, unscrewed the top screws on the brace. Let gravity sort it out so it was flush to the floor and screwed it back together.



- This is the finale outcome! It turned out very well and stands evenly. I'm very happy with how it turned out because it stands up and is neat and presentable. Next time I would rub out the pencil lines to finish it of and to make sure all the wheels are flushed to the floor first time to save time.

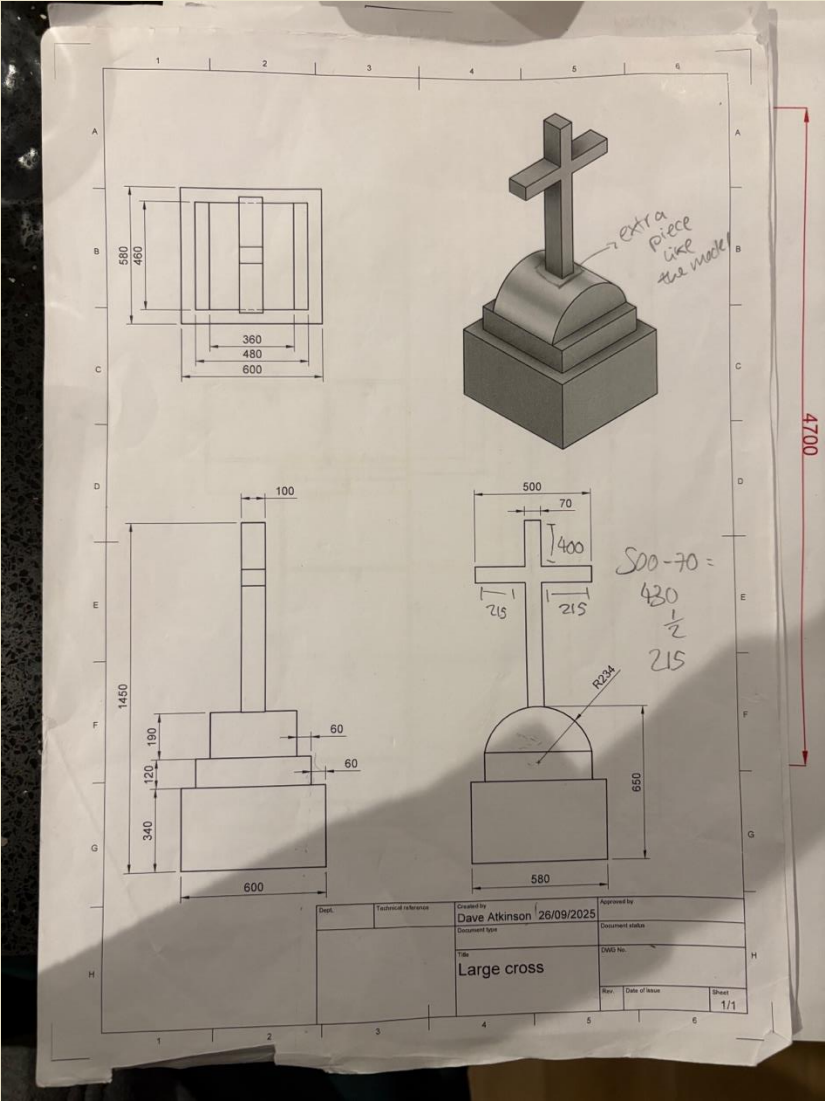


LARGE CROSS

Sketch

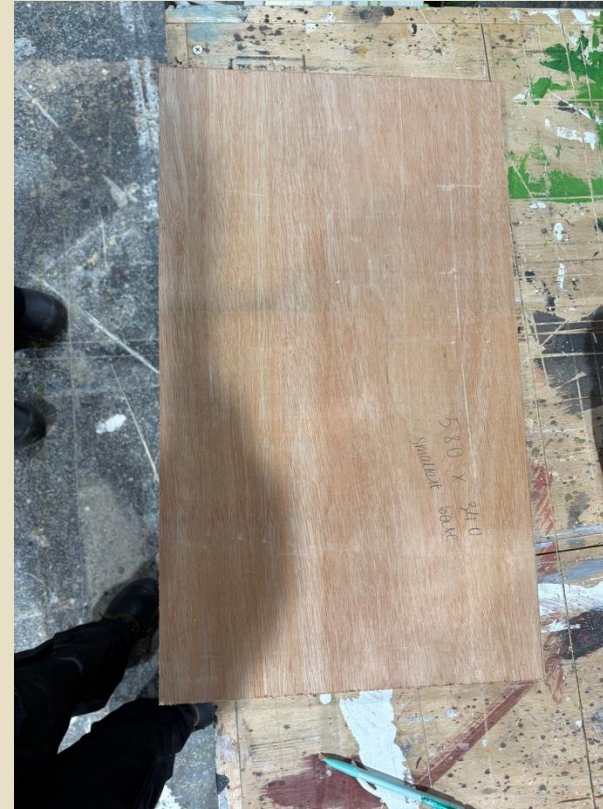


3D model





First, I cut out the
longest base 600x340



Then I cut out the
smallest base 580x340



Then we got four bits of 3:1 timbre and measured them to size and glued and stapled them down. For the cross.



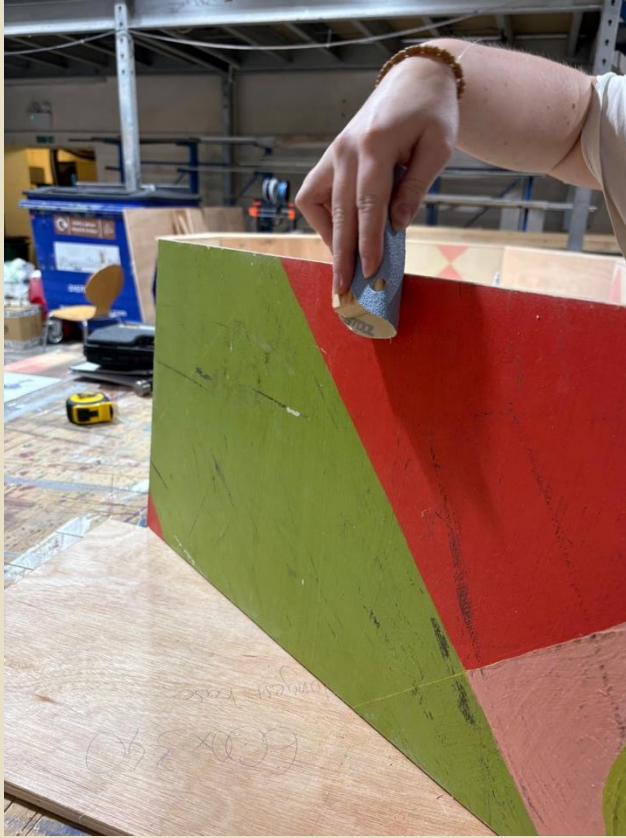
Then we did the side bits of the cross and measured four bits of timbre. Glued and stapled them.



We then used wiggle pins to put it together.



We then did the top, 580,600.



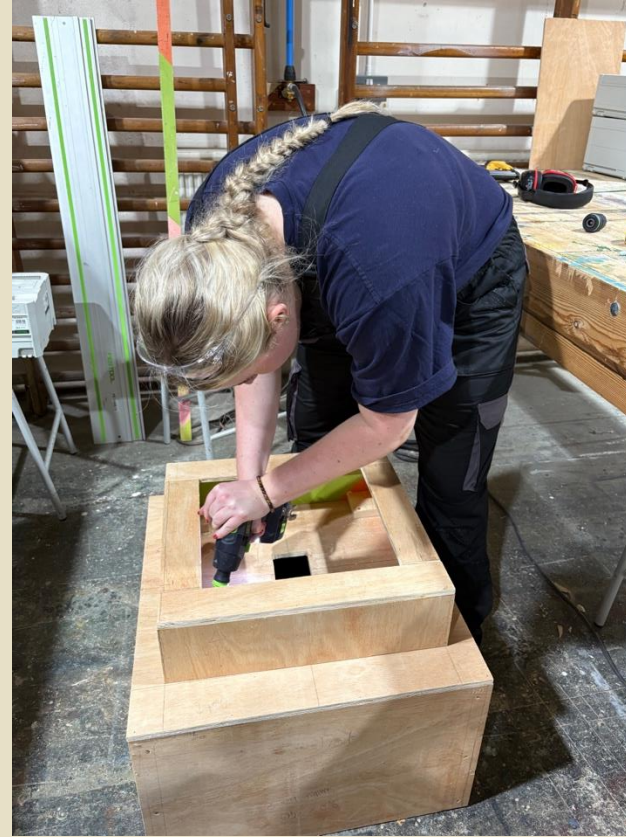
We then sanded down the edges.



I then made the box a frame out of timbre.



We then made a hole in the middle to insert the cross.



We then built the small box to on top of the big one and screwed it in place.



We the marked the curves for the top of the box and used the jigsaw to cut it out.



Our cross was too big, so we cut the end off to make it more in proportion.



We thought about attaching it to the end to make it long enough to stick out the top.



This is the cross shortened.



We then screwed
a bit of timbre at
the end.



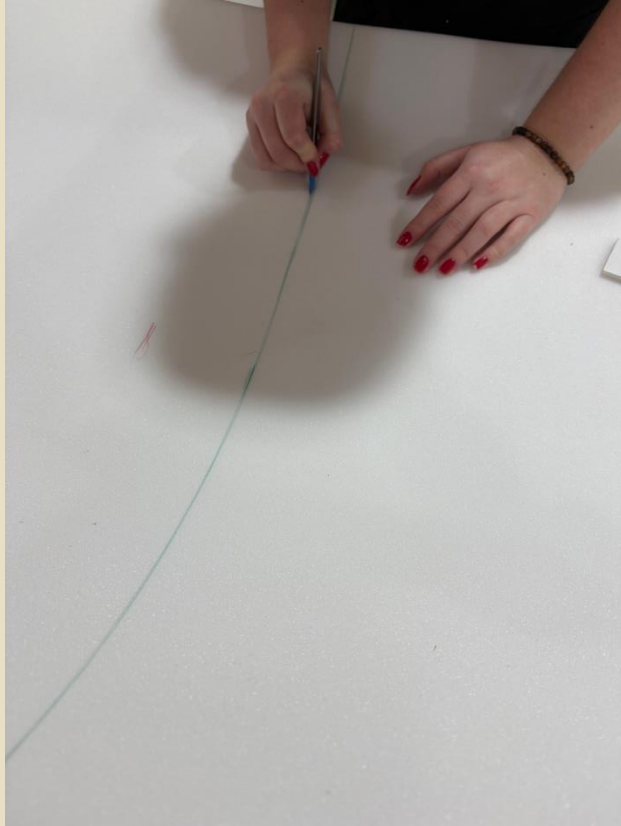
We then attached the
excess top bit to the
end to make the cross
the right height.



This is it the
correct height.



We then built the curve
and attached it to the top.



We then cut out
foam to make the
curve.



This is it cut
out.



We then nailed the foam to the curve.



We cut sheets of plywood to hide the holes at the top of the cross.



We attached the cross to the box by screwing two bits of timbre to hold and screw the cross in place. We then sanded it all down.



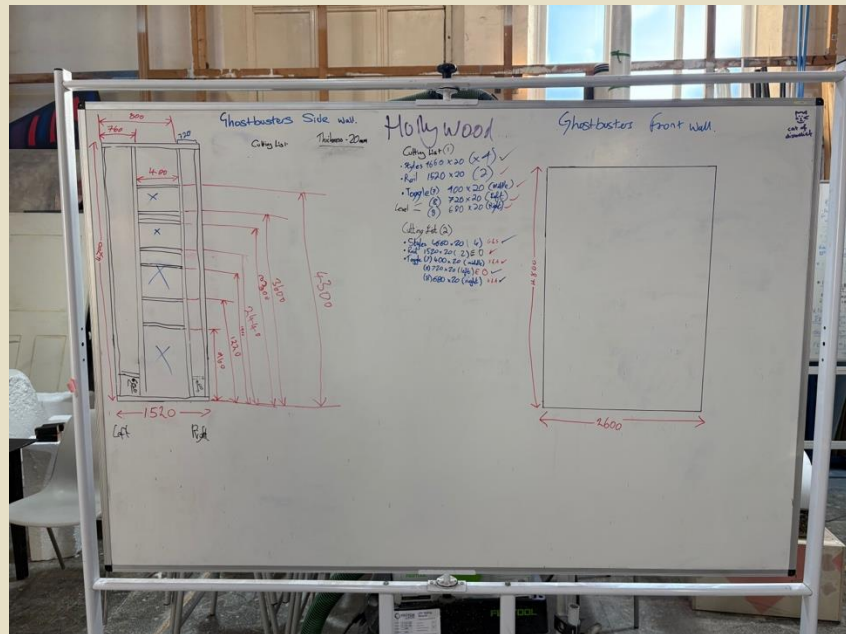
This is our cross gravestone all done and put together. I like how it turned out because it looks exactly like the drawing. Next time, I would get the measurements right first time for the cross to save time.



GHOSTBUSTERS BASE

Plan

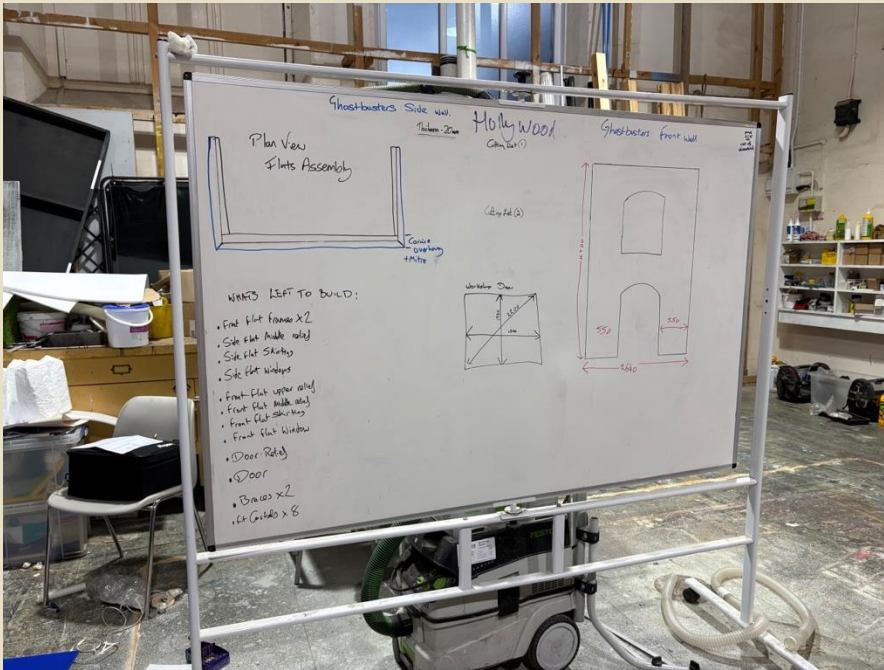
Cutting list-



3D model-

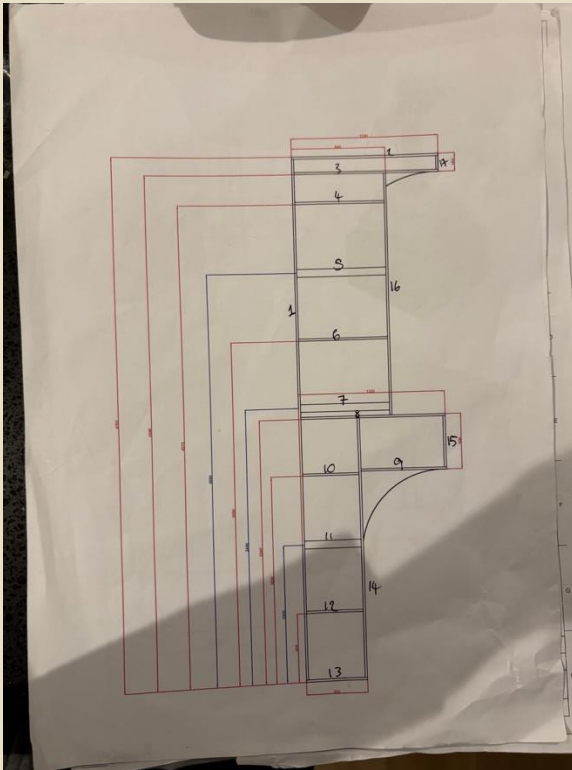


Plan

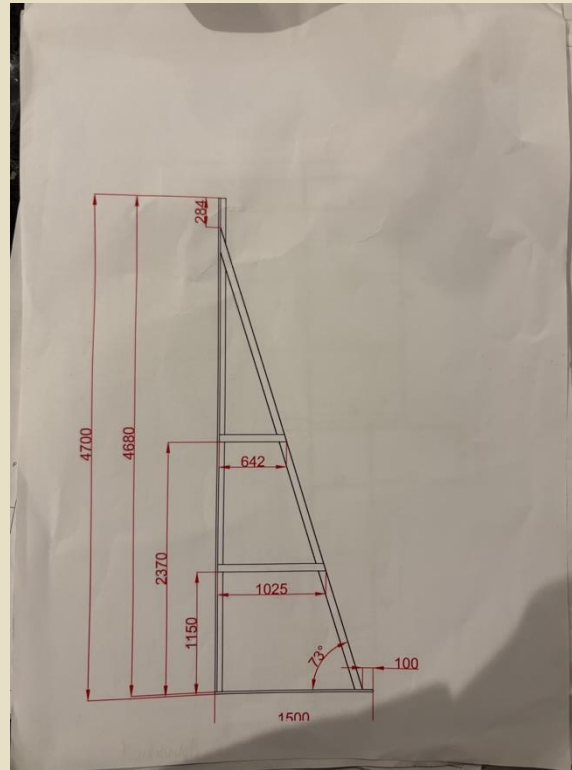


This is our cutting list for the front of the ghostbuster base.

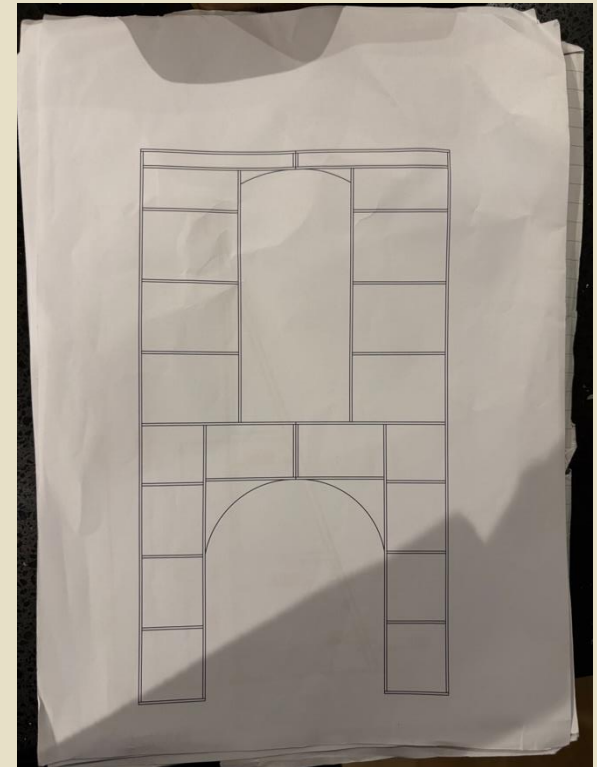
Plan



Left half of the
front



Brace



What the front
will look like



We cut out the styles for the side walls. Using a saw and timbre.



We then cut out the left toggles using a saw and timbre. 720x20



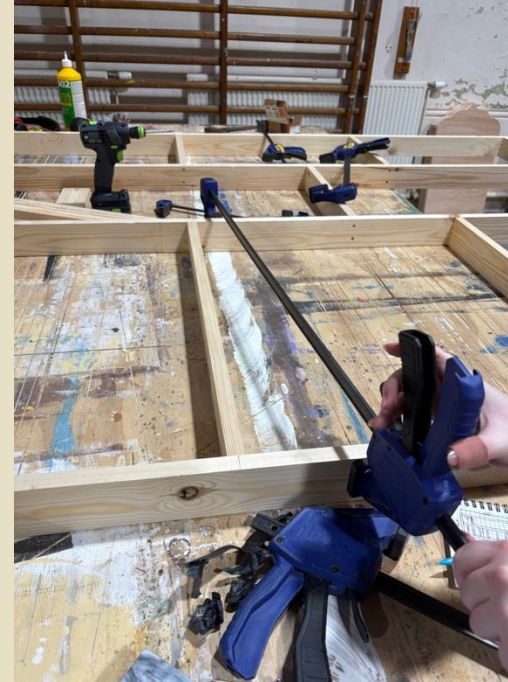
We then cut three rails up.



Then we cut the right toggles 680x20



After we had cut all the required wood we started to build the side wall.



We clamped the frame to help make sure it wasn't bowing.



This is the side wall complete.



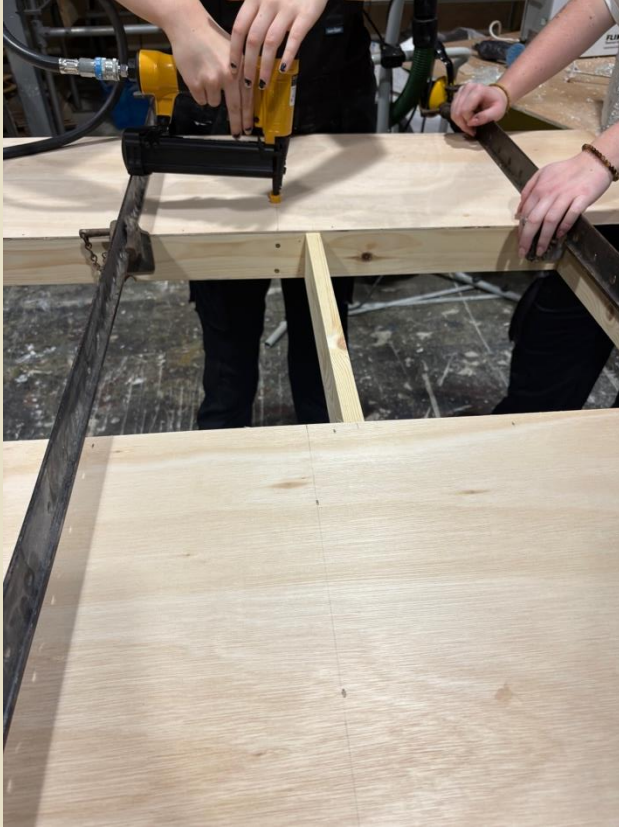
Next was to clad the side wall. We had to do either side and not the middle. But the middle edges.



We noticed a screw sticking out so we fixed it.



We glued down the cladding and the stapled it. We used big clamps to hold it in position.



Then we did the other side.



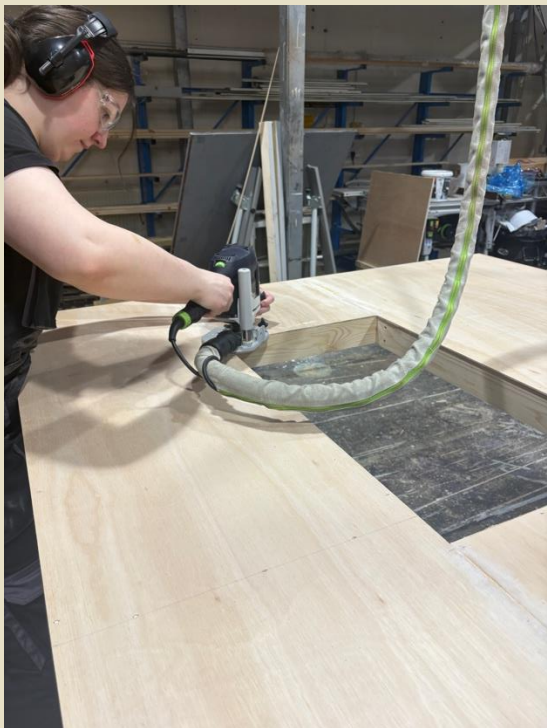
We then added an extra bit of timber in the middle to make the window.



We the sanded the edges.



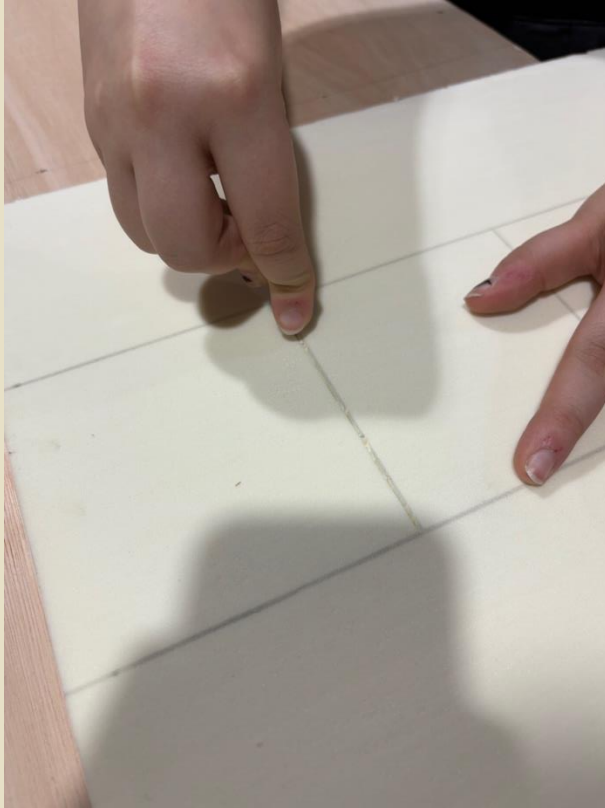
We then filled in the edges.



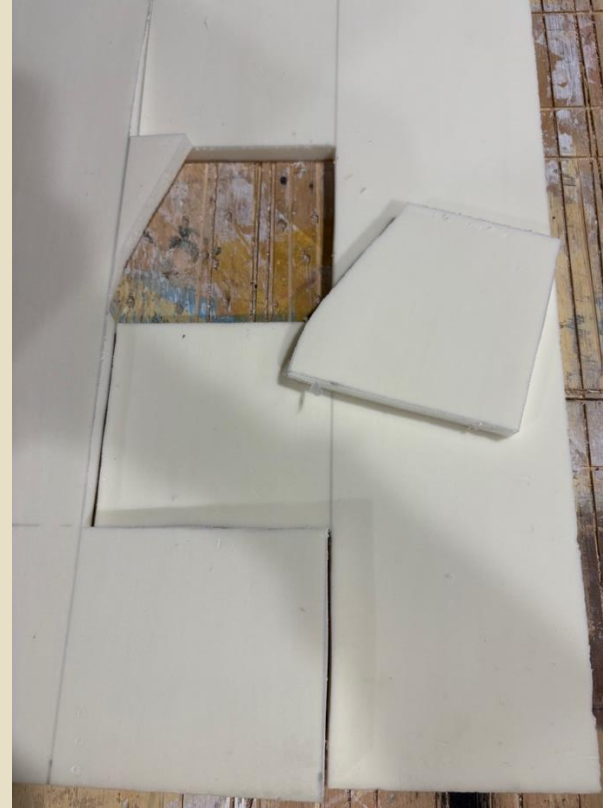
We then made the edges flushed to the frame.



Then we began to measure the foam.



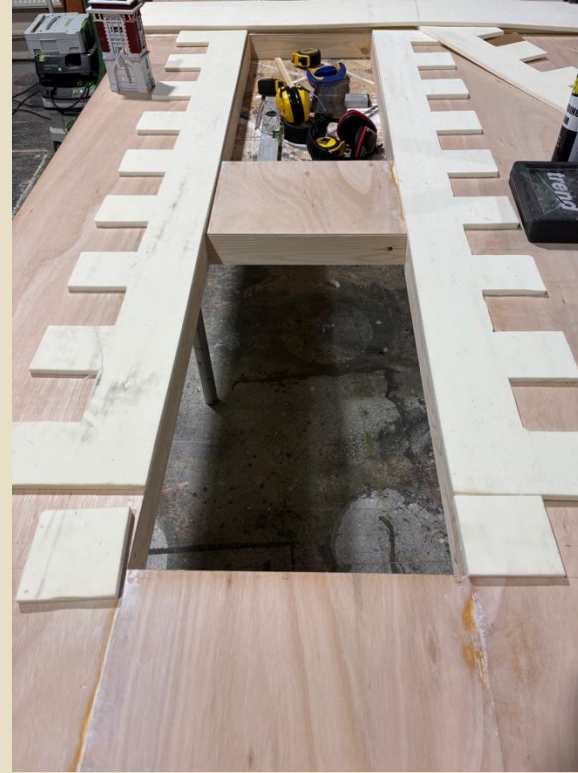
We then cut out the detailing to make the details along the wall.



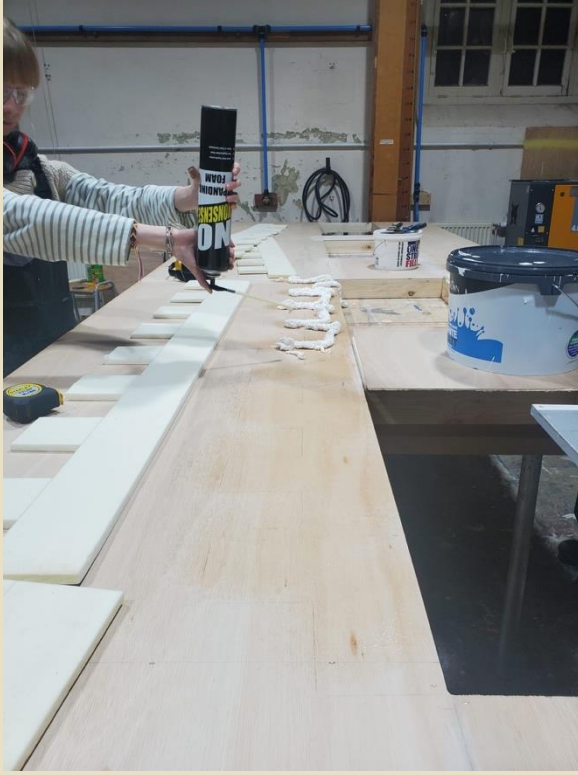
The foam was very brittle and could break very easily.



This is the foam all chopped up, and we aligned it to see how it would look.



We then realised we were too short, so we cut off extra squares of excess foam to finish it off.



We then sprayed the wood with water and then added the expanding foam. Then places the foam on top.



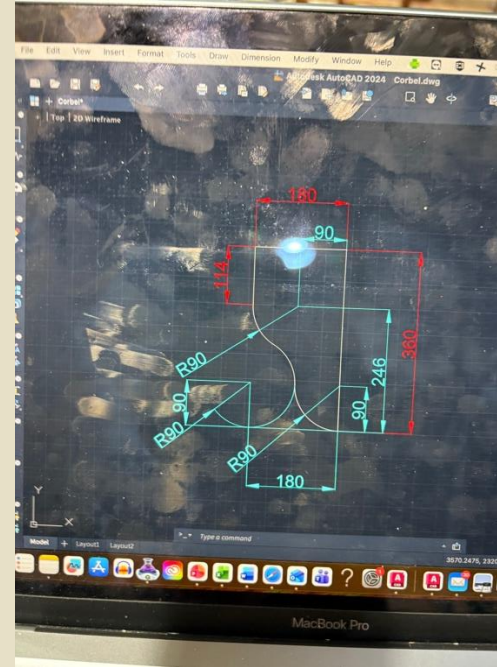
We then placed heavy objects on top to make sure the foam was flush to the surface.



The next morning, we cut off the excess expanding foam to neaten it up.



We then used filler to fill in the gaps.

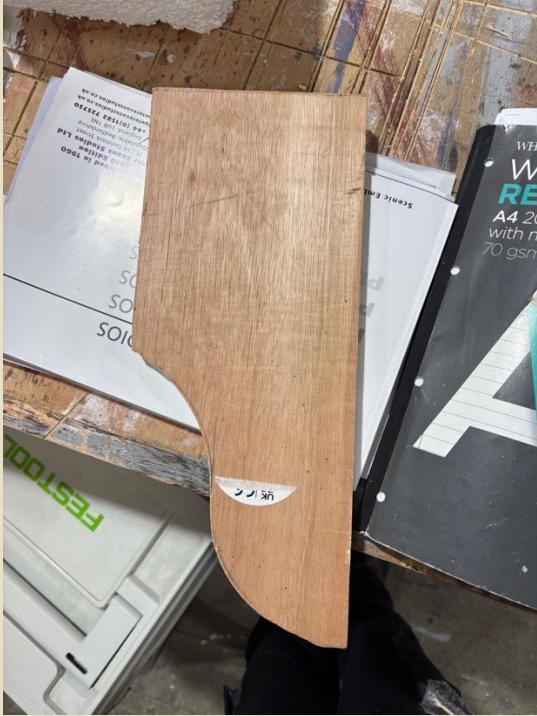


Felix and I were tasked in making Corbels. This is the CAD drawing.



We measured it out
and marked it on
wood and used the
jigsaw to cut it out.

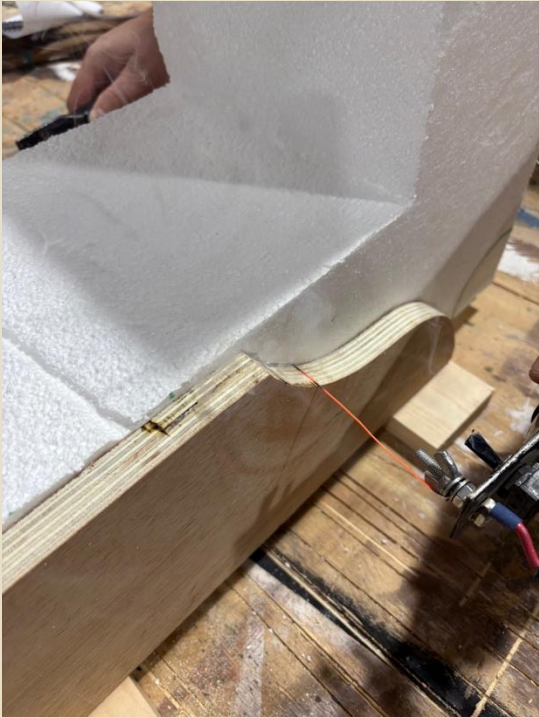




This is it done. We did another one.



We then added bits of timbre at the back to make this frame.



We then placed the styro foam in the frame and used hotwire to cut it.



We then went over it again to make it neater.



We then started doing the skirting for the top of the flat.



We ended up cutting them in half as they were too big, we made 8 of these.



We then decided the position. I liked the one that didn't sit on it but we went for the one that did sit on it.



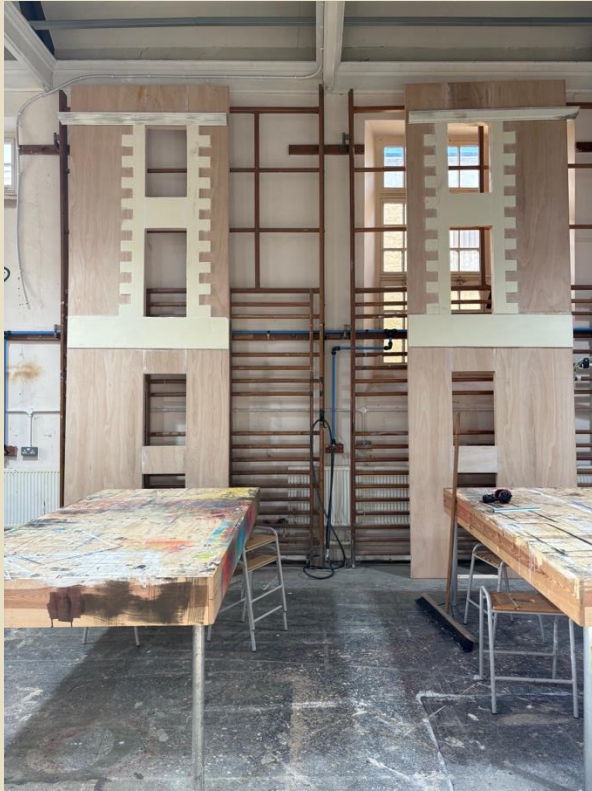
We then lined up the cladding on both sides.



We marked where the edge of the cladding is a drilled holes into it.



We then screwed in screws.



This is the two side walls done.



This is how much we were taking off the edge so it would sit on the skirting board.



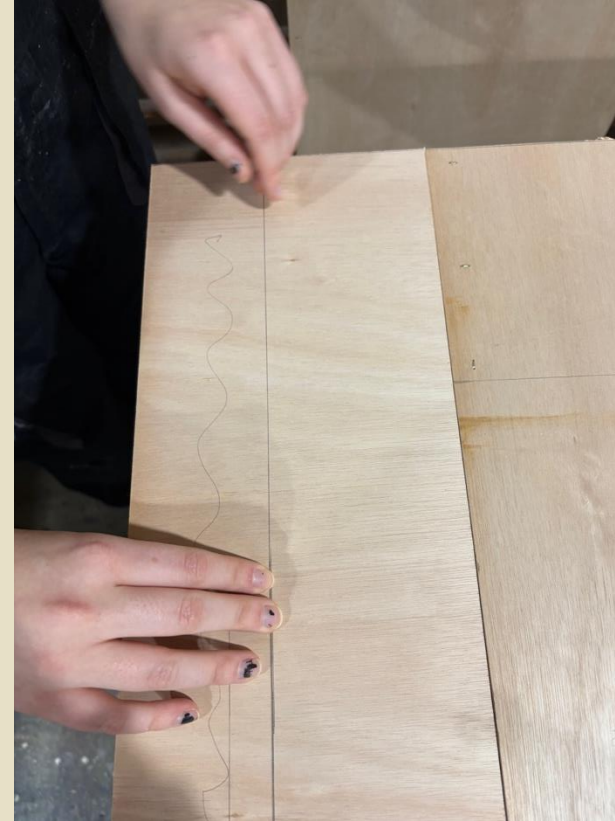
We then built the side walls. This is the left side which is the one my group was in charge of. We cut all the pieces off the cutting list we made. We used wood glue and screws.



We then filled in the gaps with filler.



We then cut
cladding out
of plywood.



We then attached it and some
of them had an overhang so
we could cut the arches.



We then stapled and glued them.



We then attached the two sides together using nylock bolt and a bar.



This is it stood up.
We then measured
where the arches
would go.



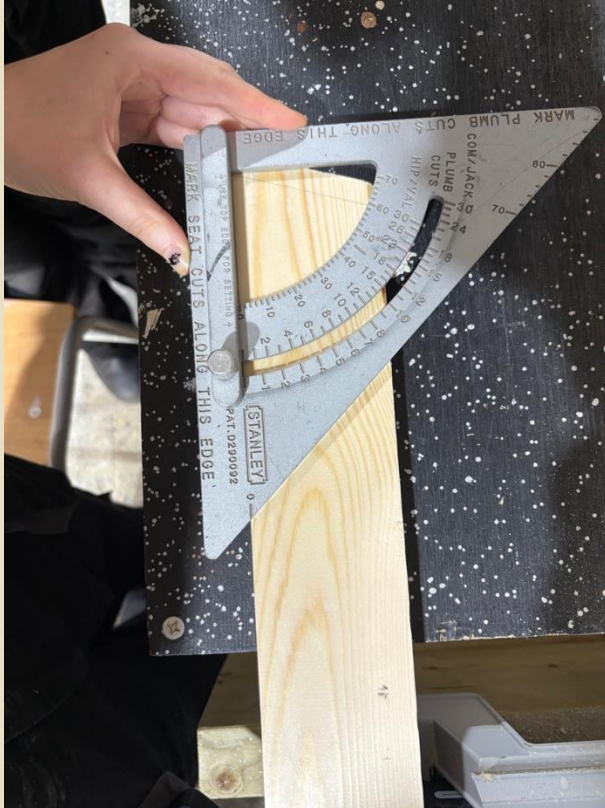
It got stuck on the
wire.



We then jig sawed the arches out.



And used the router to make the edges flush.



We then measured everything to build a brace.



We then attached it by drilling and screwing it together.



We attached the other side.



We repeated this step 2 times.



This is both braces done.



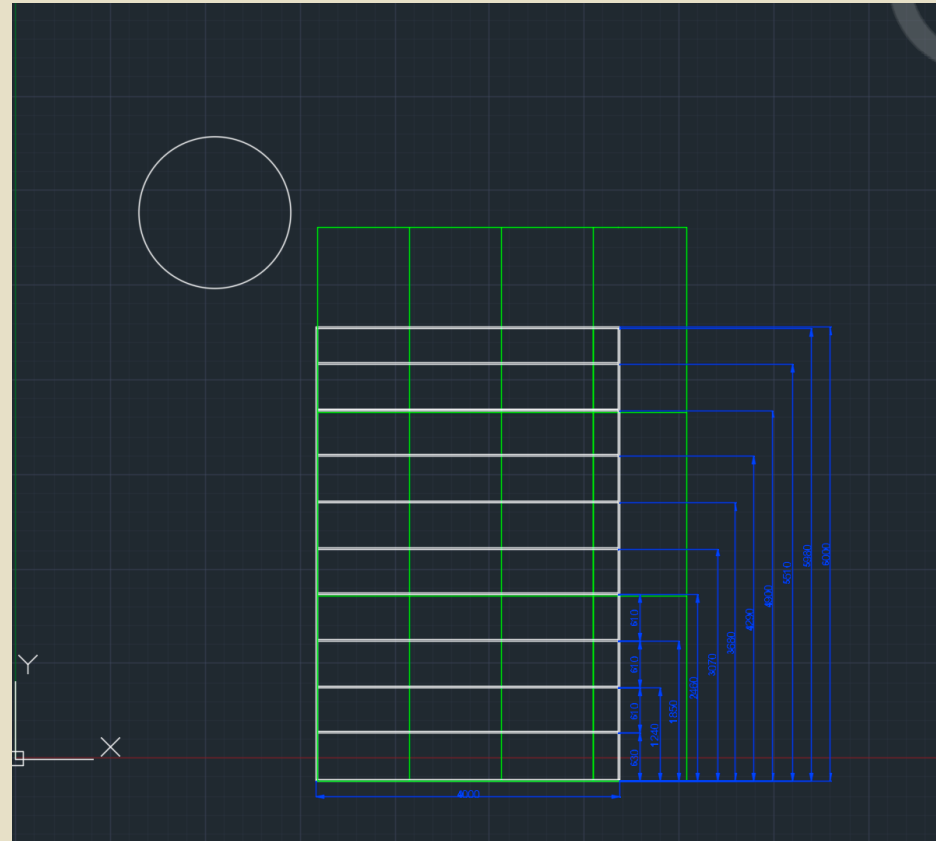
This is the front done to as much as we could because we ran out of time.

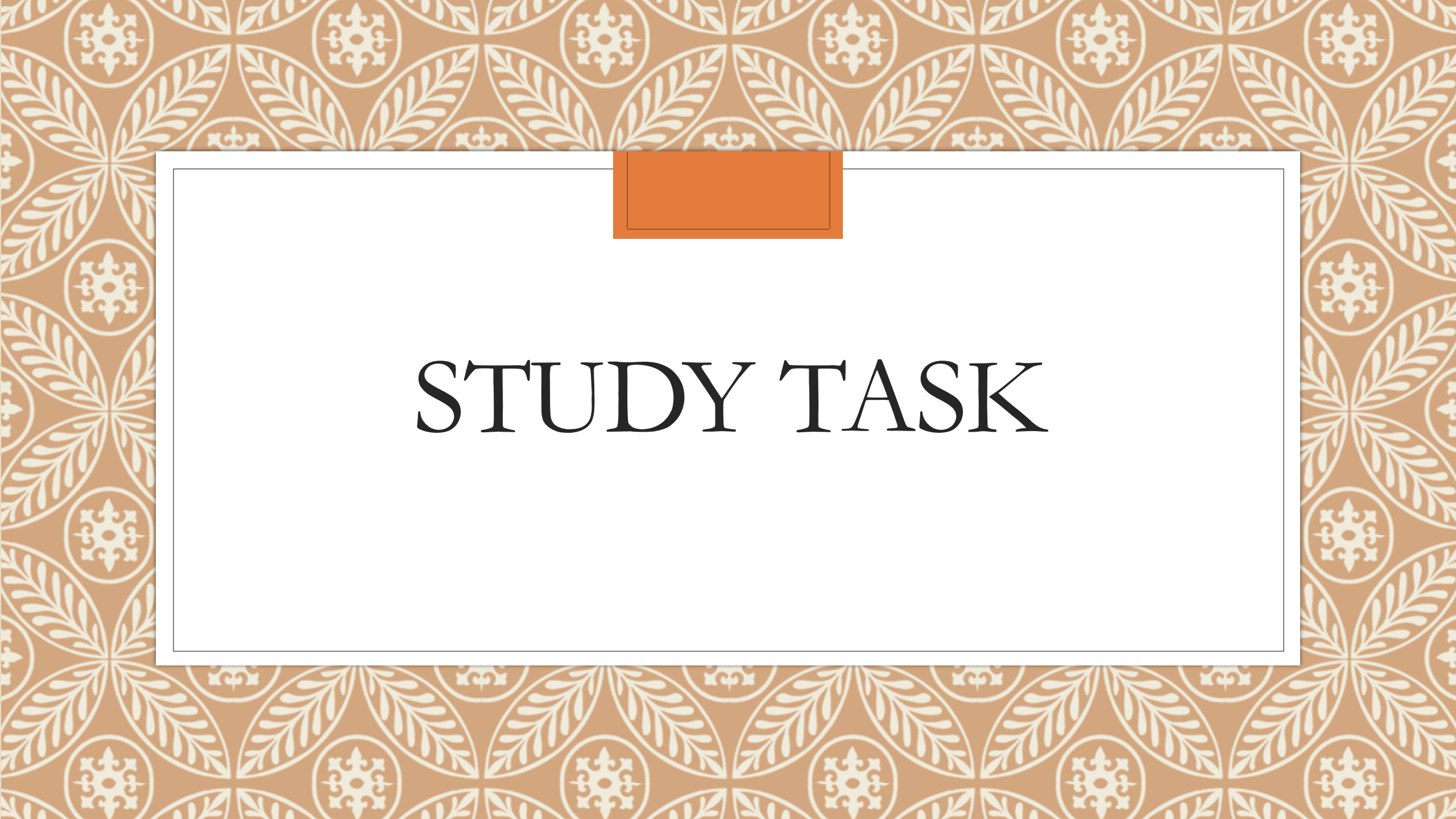


CAD

Flat

We practice using CAD in class
and this is the flat I made.





STUDY TASK

From any drawing provided produce a cutting list for the flat. Estimate the overall amount of wood used and estimate what the difference would be if the flat were to be constructed using the Hollywood method. How do you think these two flats would be used –what are the advantages/disadvantages of each.

One side of the ghost busters base cutting list-

- Styles 4660 x 20 (4x)
- Rail 1520 x 20 (2x)
- Middle toggle (400 x 20 (7)
- Left toggle 720 x 20 (8)
- Right toggle 680 x 20 (8)

I estimate that we used 100 meters of wood. This is a Hollywood method so for Broadway I think it would be 90 meters of wood. Broadway is thinner and saves space but not built for heavy duty. Hollywood is thicker, reusable but are heavier.

Research four different types of rostra used in theatre. How are they built and why is there a need for using different methods? Give advantages and disadvantages of these. From books in the library and digital research, find picture references of a set that uses rostra and explain what type you think may have been used.

Proscenium-

Have an architectural frame known as the proscenium arch but not always arch shaped. They are deep and sometimes raked meaning it has a gentle slope rising away from the audience. Sometimes they have an apron. Opera, Ballets, Musicals etc

Thrust stages-

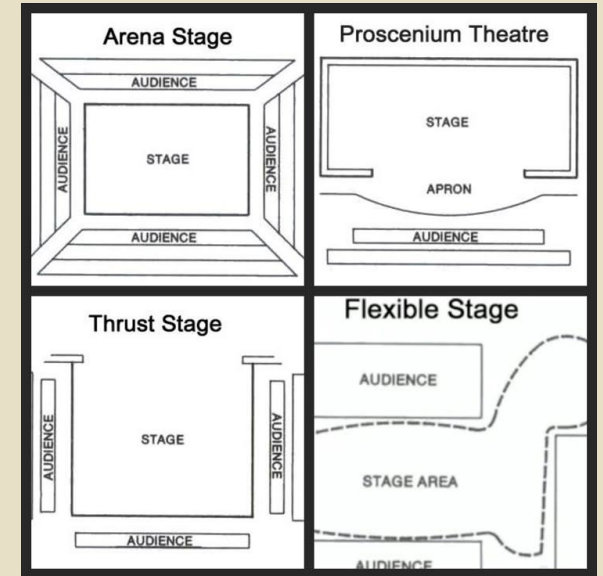
The audience are three sides of the stage. Not always square but sometimes semi-circular or half a polygon. This creates intimacy between actors and the audience. Comedies, TED talks etc

Black box (flexible)-

Flexible performance spaces, a single room painted black, the floor and stage are the same level. Good for temporary set up for seating in several ways for loads of productions to be presented. Interactive play etc

Arena theatres-

Large scale auditoria and have central stage and the audience on all side. Stage area is usually rectangular, like a sports arena with tiered seating. Circuses, stories etc



Research theatre trucks. What they are, how they can be moved and what safety measures need to be put in place when doing so. Find examples of sets that use trucks and research about and fill out a risk assessment for using a truck.

They are a moving platform to move a piece of scenery that is built to help with scene changes. They are moved by wheels, and the safety measures are planning the move, securing the load, correct handling and clear communication to those around.

I found a risk assessment of one online –

<https://thestagebus.com/wp-content/uploads/2024/06/Risk-Assessment-Truck-June-2024.pdf>

Research how treads are made – consider form and function. Are all treads built in the same way, what are the safety regulations for the use of treads –i.e. where does the critical angle come into play and why is it so important? Is the use of handrails necessary? What is important about tread and riser sizes? How do you stop noise? Again, find references to sets that use steps or treads. (Internet or books in the library). Why would you normally not clad these in Shuttering Ply, but when may this be possible?

There are opened-carriage stairs and closed-carriage stairs. There are three main components The Tread is a horizontal surfaces where someone walks on it. The Riser the vertical element that fills the space between the back of tread. The Carriage that give structural support to carry the weight of the stair climber. There are independent stair that is self supporting. A dependent stair that relies on a structure of the upper level to support the weight of someone climbing it.. Basic stair starts with $\frac{3}{4}$ plywood. Some are 2x4 but some are as light as 1x3. Usually, the front of one tread is even with the riser that fills the space between it and the tread below and it doesn't have a over hanging lip. Far eastern plywood – red hue. Shuttering plywood- soft wood and cheap (would break). Marine grade plywood (for water). Phenolic plywood (resin coated).

What are revolves and how can they be operated? Is it possible to operate a revolve on a raked stage? As usual find images to supplement your research, start to widen your research area and try forums – speak to people in the industry.

Standard is a round floor or turntable within the stage floor that spins around a central pivot point, and it is driven by a motor and is then controlled by an automation operator. Operating a revolve on a raked stage involves custom engineering to align the turntable flush,



I would like you to find 2 references to theatrical or screen design that you find interesting in a scenic construction sense. These can be found from shows or events you have seen or been involved with, you may know how it was made or have no idea at all! The idea is to bring something to the table that will generate an interesting discussion between us. Bring 3 images of each design you like.



Research into welding and metal working, what are the different types of welders, why are they different? We know wood comes in a variety of sections (3x1, 3x2 etc) but in what forms can you buy lengths of metal?

Welding is where you attach two or more parts together by heats, pressure or both forming a join as the parts cools. Slot weld is two overlapping components, and a Plug weld is done by filling a hole in one component. Standard sheet metal sizes are 48x96, 48x120 and 60x120. Can cut to custom sizes.

Find out about the different types of plywood used in scenic building. You may need to think laterally on this one and look much further afield than just books in the library. Explain how they can be used in a context.

Birch plywood- furniture, children's toys, high end packaging

Hardwood plywood- Joinery, furniture, shelving and all types of millwork

Softwood plywood- Structural work, flooring, walls, roofs, fencing, windows, detractive purposes

Marine plywood- Marine environment, structural work, outdoor furniture, porches and decking

Shuttering plywood- Construction, ceiling and walls, shaping and holding concrete.

Name four ways that flats or sets can be joined together. Explain the advantage and short comings of each method. Also write a comparison between our workshop and the ones we have seen on visits.

Battening- using 1x3 timbre across the back of two or more flats to bring together the joints. You use screws or nails.

Keystones and corner blocks- glues and stapled over the joints on the back of the frame.

Metal Mending plates or straps- predrilled holes can be screwed to the back of the flats across the joints.

Bolting- Frequently assemble sets and the holes are predrilled to allow flats to be bolted together.

What are the benefits of using metal to build scenery? Show at least three examples to illustrate your answer and show that you understand these. This means that your answer should not just be a picture but be accompanied by notes referring to these points. Over the next couple of weeks go back over your process workbook and readdress any areas that you consider you have not fully recorded. Does your workbook clearly show your learning journey so far? It is not a case of recording merely what you have done in class but where did you start from and where are you now? Consider mistakes and successes alike. Look at 'how is my work marked'.

The benefits of using metal is it durable, the design is flexible and its efficient in construction.

Research how you could construct a tree which has cast members climbing on it. How would it be fixed to the stage and how could you make something so prominent not overwhelm the stage. This should include materials and some estimate about cost, time and resources needed. Don't panic-just think it through.

- Need a huge budget
- Big health a safety risk
- Maybe build a simple climbable structure and place two-dimension tree in front of it.
- Can make a fibreglass tree that is welded steel internal frame but not capable of bearing weight as when people climbing it would affect the centre of gravity.

Explore what materials you can use to clad scenic elements that need to be three-dimensional. You should include any protective coatings and explain why they are necessary.

Rigid Materials-

- Plywood
- Polystyrene
- Acrylic and Polycarbonate sheets

Flexible Material-

- Muslin
- Vacuum formed plastic
- Foam

Metal-

- Aluminium

What happens when something goes wrong – individual scenarios will be handed out to you in session – good luck!

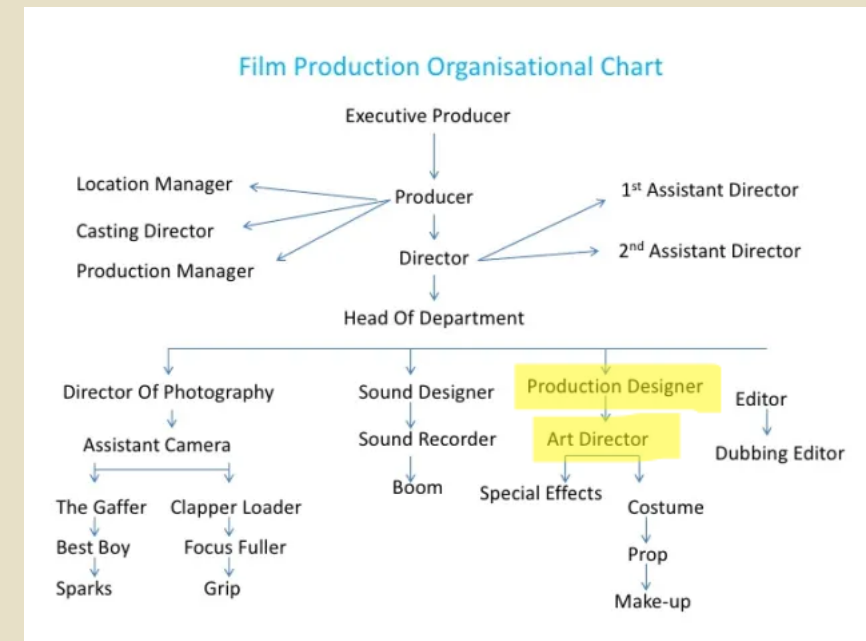
Further on in the PowerPoint, slide 91

What is the role of a Production Manager and art director as far as Scenic Construction is concerned? Consider their full job description

and responsibilities - find an example of a management hierarchy, typical of a theatre company and film set setup.

Production manager is making sure the manufacturing processes run reliably and efficiently. You do things like planning, estimating, negotiating, overseeing production processes etc

Art director is responsible for overseeing and managing the visual aspects of a projects like advertisements, film etc. They ensure the artistic vision and aesthetic direction of a project are effectively communicated and executed. They do creative concept development, team management, client interaction etc

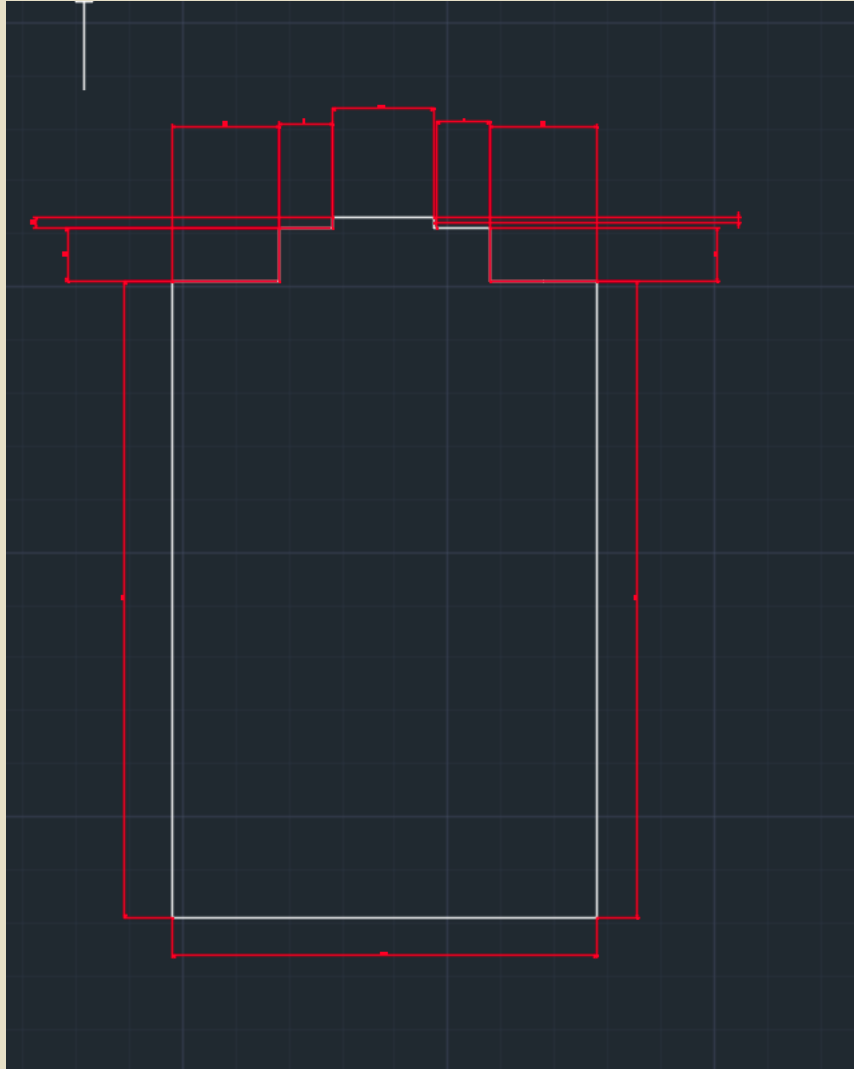


Going back through your own experiences now, how would you have scheduled the build you have just undertaken? Where could time be saved, or planning altered? From the records that you have kept review how much each piece of scenery has cost (labour not included, though extra points for those who can show how many people hours were actually involved). Spend the next week going through this, putting together material suppliers and contact details and price lists etc. How much time and money was wasted? (This is a valuable learning curve and not one you are judged on).

I would have scheduled the build hour by hour to make sure I stay on task. Time could have been saved if we all didn't talk and stand still a lot. I reckon in total the sceneries costed £400.

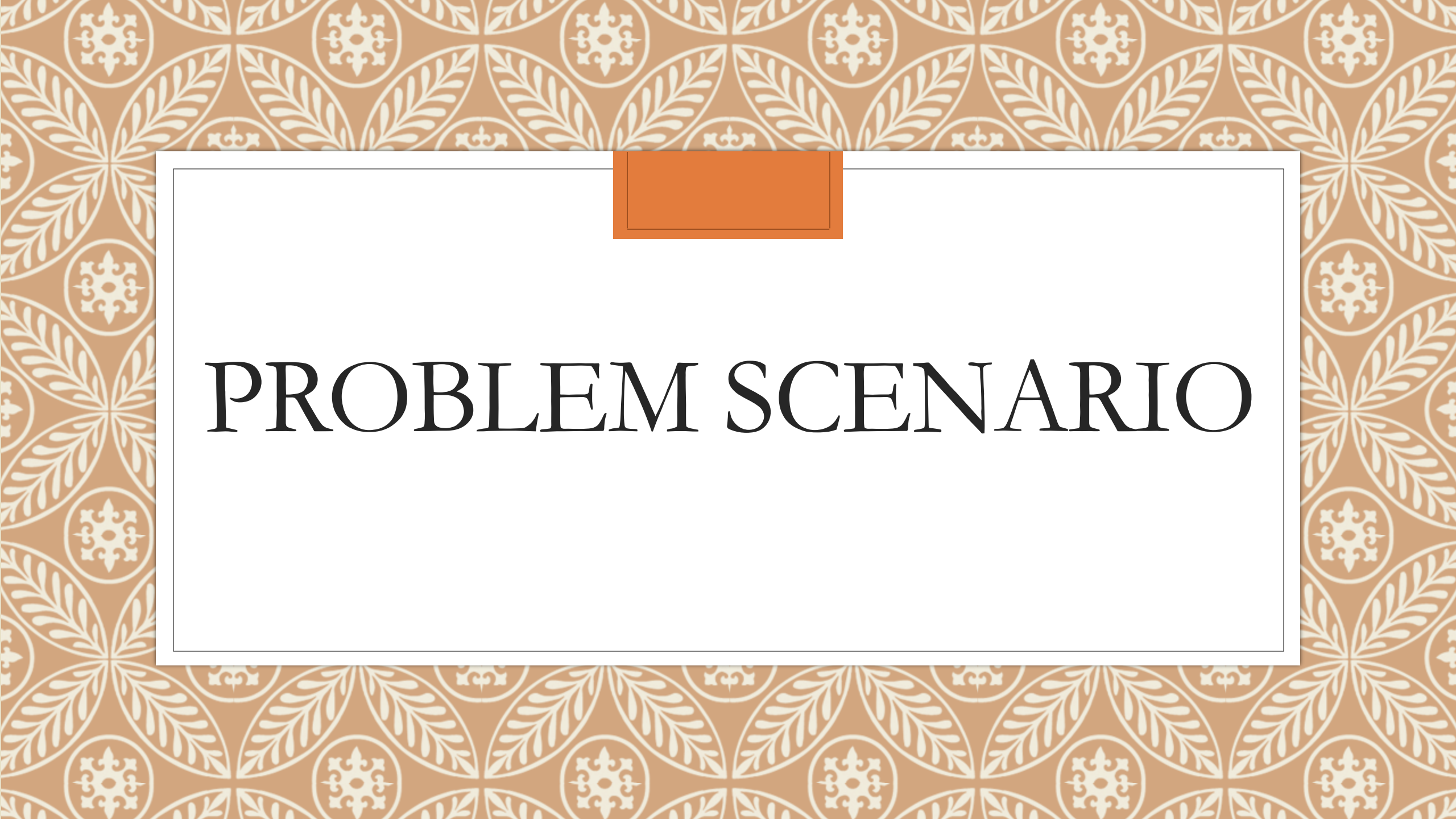
Some supplier's ideas-
Flint, west wood timbre

Produce a CAD drawing of scenery. This must be a third angle orthographic projection.



My gravestone drawn up in CAD.
Some of the edges should be curved but I
couldn't figure it and ran out of time.

I really enjoy CAD and being able to see how things will
look and some sort of plan.



PROBLEM SCENARIO

Your customer wants you to make a set that will cost £5000, that will cover the materials but not your earnings, what are your next steps?

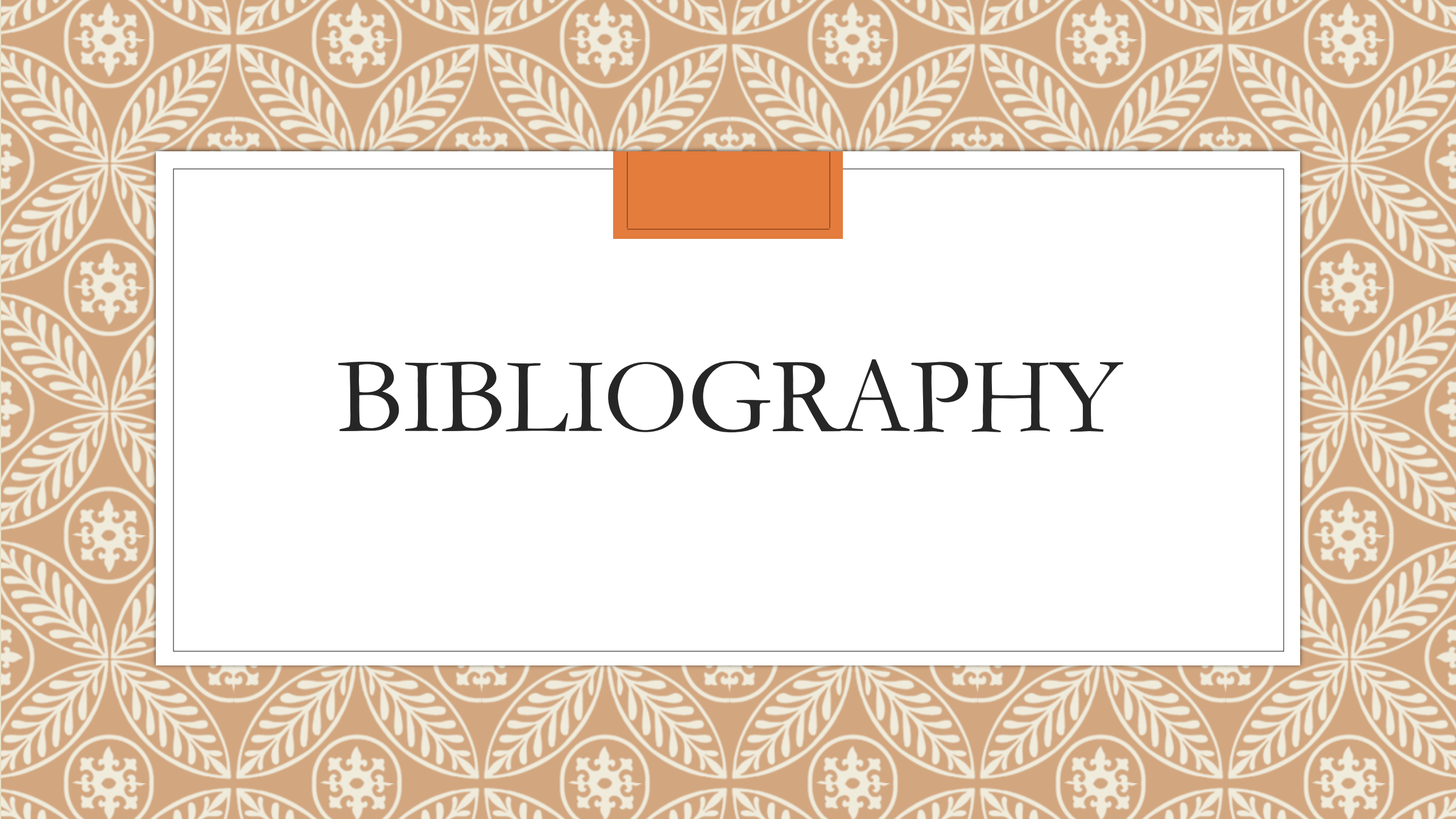
I would either ask for a percentage of the earning from the show, or I talk to the customer to increase the allowance, so I get earnings from it.



OVERVIEW

Overview

Overall, I enjoyed doing this module because I got to be hands on with everything instead of sat in a classroom. I really enjoyed learning and using the tools. I'm also proud of myself for giving everything ago even though I was unsure and under confident. Next time I would be better with my time management as I have run out of time.



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BOOK