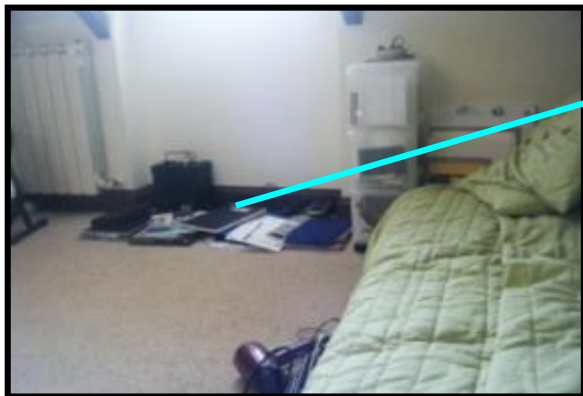


Introduction to the situation

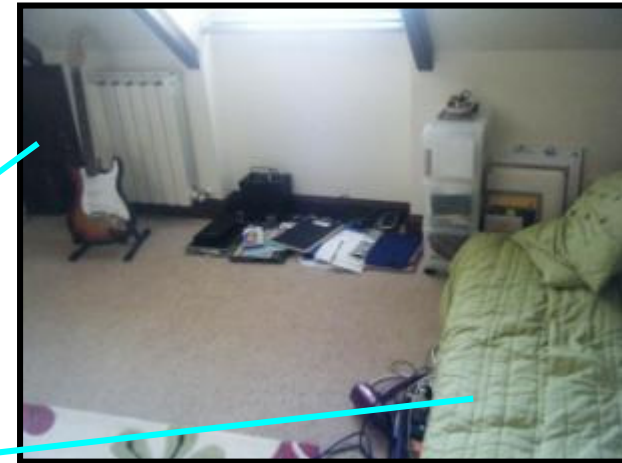
I have chosen to make my GCSE design project based around this design task.

Design Task 11

'A major high street retailer wishes to market a multi purpose, modern style, small coffee table aimed at the first time buyer. The product could include some storage space. Design and make a coffee table for this target market.'



The sofa and television, a living area which could do with a coffee table.



This is the mess of books, art and gadgets that needs a place to be stored.

Situation

In my bedroom there are lots of books and gadgets on the floor, in a space which could be used for something useful instead.

As this area is by a sofa and television, it would be the perfect area for a coffee table, and it would have storage space which would get rid of a lot of mess. Also, in my house I only have one coffee table, which is very small and has no storage space.

Situation Continued

I think that this is a situation that quite a lot of people have, so this design idea could appeal to quite a wide market.



It has no storage space at all.



It is a very simple and traditional design for a coffee table.



This is the only coffee table that I currently have, it is too small as it can barely fit a chess board on top of it.

The Brief

I intend to design and make a coffee table which is small to medium sized, I would like it to be in a modern style and will have room to store and hold books ,gadgets and other objects, possibly drawers.

Research

My target market

I think that if I was going to market my product that my target market would be for people around the ages of 20-35. People who have just bought houses and they are looking for the more modern look.


Primary Research

My Primary research is the photos I have taken of coffee tables that I already have which helps with detecting problems which I could solve in my own design.

Secondary Research

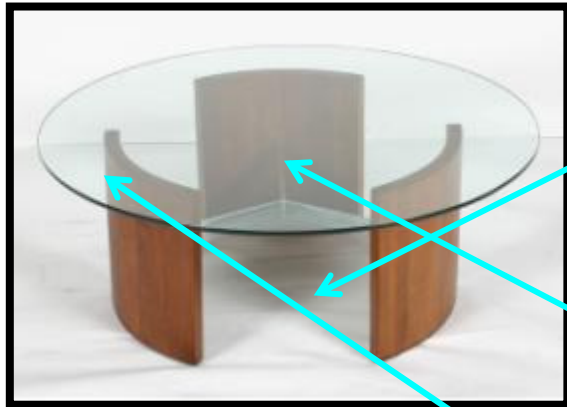
I have found a list of woods with their uses, cost, properties and special features which will help me choose a good wood for my coffee table.

I went on to Google and searched for 'modern coffee tables' there were a lot of search results meaning there is a good interest in this product.



Results 1 - 10 of about 5,450,000 for modern coffee tables. (0.25 seconds)

Existing Products



<http://www.antiquehelper.com/auctionimages/44448t.jpg>

This design has no storage space with out it looking messy, because the only place would be underneath and you can see there.

I like the contrast of wood and glass, it gives a more modern look.

I think that the glass could be a problem because it may be fragile and in a family home, this may not be very suitable.

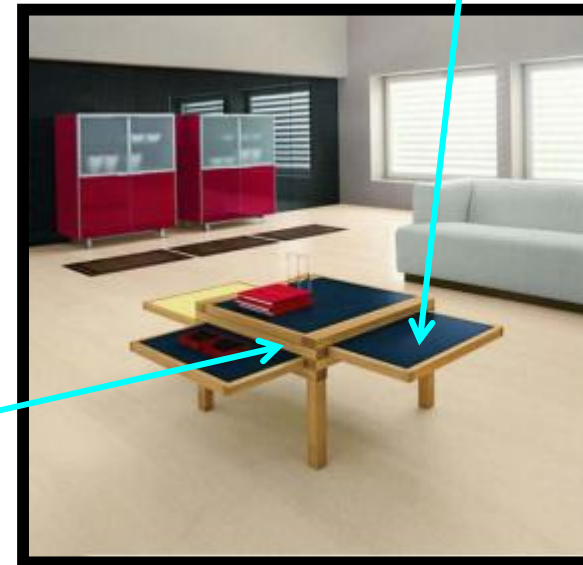
Conclusion

I think that I might use wood with glass but the glass on top as glass on its own may be too fragile and wood on its own may stain if things are spilt. I may also use pull out layers but with drawers too so there is storage.

I think the only down side to this is that there is no storage room.

Good Points
Bad Points

I like the extra pull out layers inside the table because it is a small coffee table but if you need more room you can get it instantly. It also has quite a modern look



<http://www.kabmurungraya.net/wp-content/uploads/2009/11/excellent-coffee-tables-furniture-1.jpg>

More Existing Products

Good Points
Bad Points



This has storage space for books and magazines but not so much for gadgets and the smaller things.

It's also a modern style and is quite small which fits the design task perfectly.

<http://www.furniturehomedesign.com/wp-content/uploads/2009/04/scando-coffee-table.jpg>

It's a very traditional looking coffee table, which is not what I am looking for.



I like the lift up tops but I think it would be better if there was just one lift up top.

Conclusion

I like the storage space in the above picture as it is different and it's good for what people need to store such as books and magazines. I think that to make the table on the right look better I would only have one compartment for the lift up top.

http://1.bp.blogspot.com/_tfGC7tOlrdk/SGqPt cXPBRI/AAAAAAAAADk4/aE_ICAWg9fc/s400/coffee-table-CD-storage.jpg

Design Specification

For the Client

- 1) There should be some storage space
- 2) It should be small but not so small that it can barely fit a chess board on.
- 3) It should have more than one storage unit so that different things can be stored in different places.

For the designer

- 1) It should be modern styled and different.
- 2) It should not be very expensive to make.

Reasons

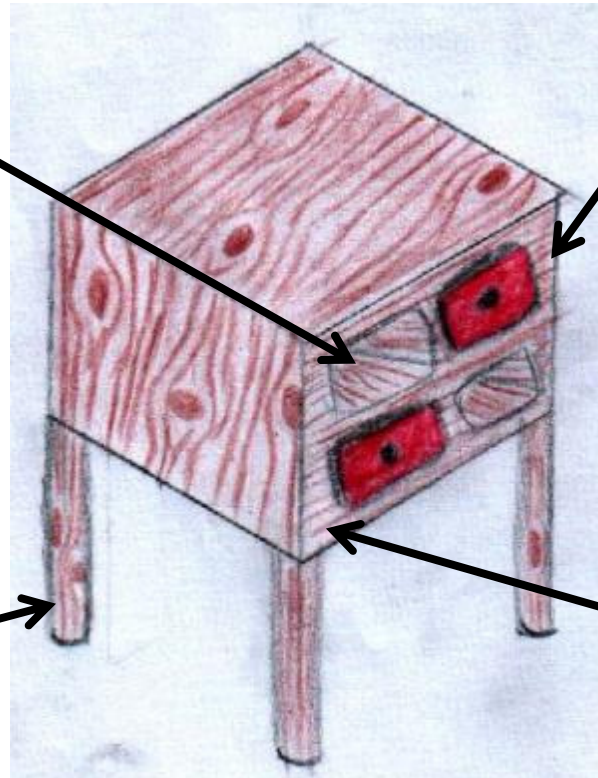
- 1) So that it is useful for more than one thing and prevents mess.
- 2) So that more than one person can use the coffee table at a time
- 3) So that different sized things can be stored in different places

Reasons

- 1) So that it catches peoples attention and is not that same as other coffee tables.
- 2) So it will not have to be sold at a ridiculously high price so people do not buy it.

Initial Idea #1

These holes in the table would go back as far as the drawers go back, it would probably be useful for storing magazines and books.



These Drawers would be made out of something like coloured plastic to give it a more modern look

I think the problem with this design is that the legs are too thin and could be quite fragile.

It would be made out of a lighter wood than shown, as it would give more of a contrast of colours.

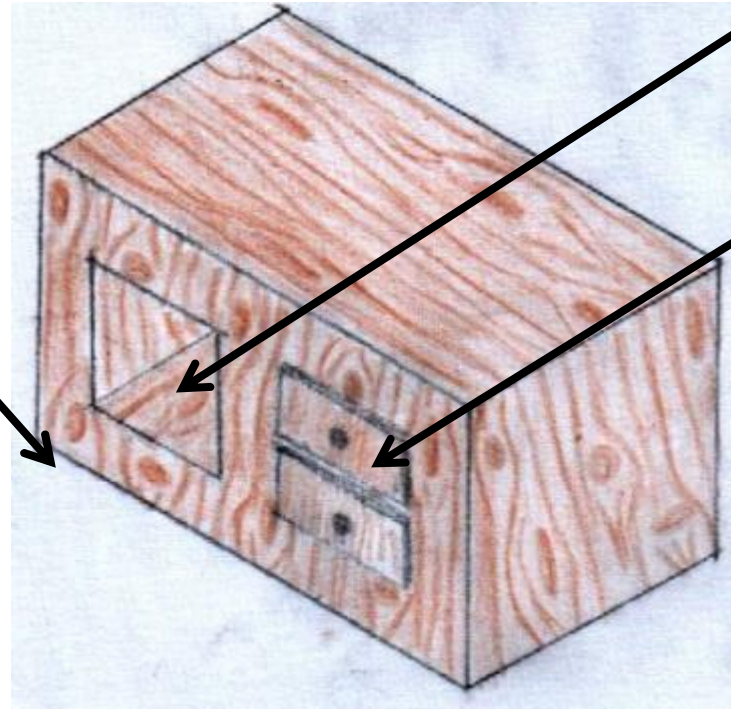
Conclusion

I think that this design is very basic and simple and not very unique. I like the colours on the drawers as they make it a bit more modern and different. I also think that it may be a bit too small to be used for a coffee table.

Initial Idea #2

This design has no legs, which I think gives it a modern look, as it's more unique.

I think this design is too square and boxy, which is never too eye catching.



There are two different storage units in this design, drawers and a hole. The drawers are useful for smaller things and the hole for larger things.

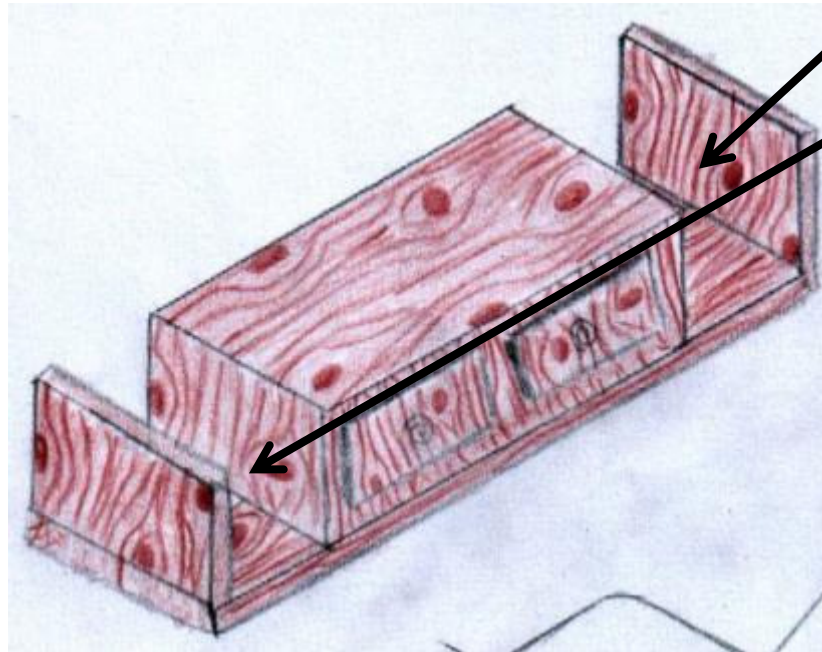
Conclusion

I think the fact that it has no legs is a good idea, as it's quite different to other coffee tables and makes it look a little bit more modern. I think the problem with this idea is that it is too boxy and it is not very unique and eye catching. The specification mentioned that it should have storage, and I think this design has two good methods of storage, but again the storage units are a bit square and boxy as well.

Initial Idea #3

I think these two storage units and the fact that there are no legs, make it look more modern.

I think this is a good design because it is different and a unique shape.



These would probably be used to store books and magazines and other larger objects.

I think that this coffee table should be made out of a lighter wood because I think it looks more modern.

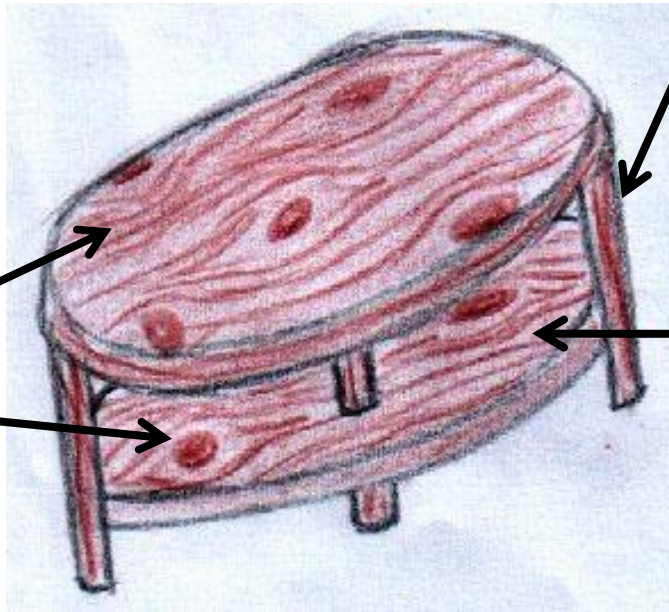
Conclusion

I like this design because it's a very unique shape and has no legs, making it lower which looks more modern. I also like the storage units on both sides of the table because they are different, but still useful. The one thing I think that could change in this design is making some corners rounded as it is a bit too square and boxy at the moment. It is also a bit too low lying so I could make it a bit taller.

Initial Idea #4

This design is very curved and circular which I think is making it have a more modern styled look.

It has two levels which enables it to hold more objects.



One of the bad sides to this design is that I do not think that the legs would actually keep the table itself up.

There is not really any storage space that things will not fall out of.

Conclusion

I do not think that this is a great design because there are no storage units at all apart from the bottom level, but objects are visible which can look quite messy with smaller things and items can also fall out as there is no barrier. So if I did choose this design I would have to create a small barrier on the bottom level for storage purposes. Also I do not think that the legs on this design would do the job of keeping the table up as they may be unstable and wobble.

Initial Idea #5

There is no storage units but there is a gap in the wood which you could put things in.



The thing in this design that gives it the more modern look is the glass.

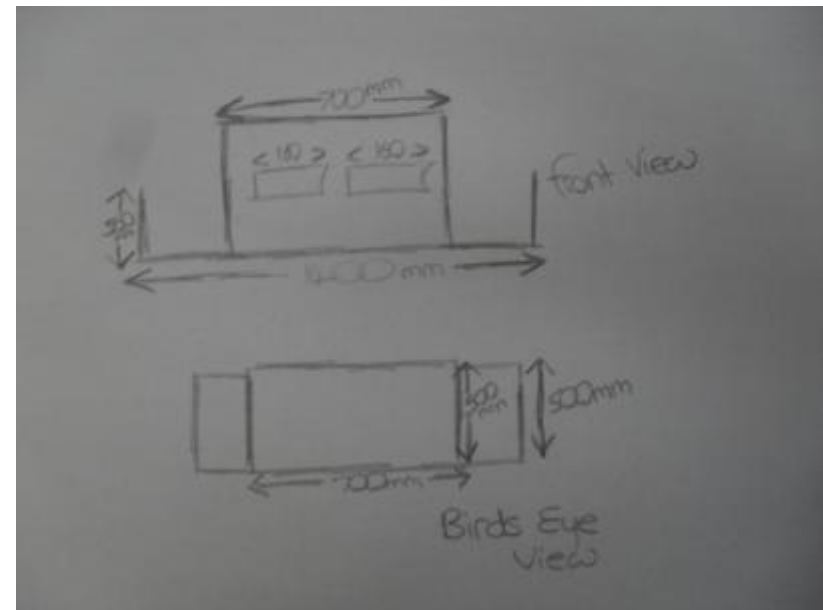
Conclusion

In this design, I like the fact that there is glass as it gives it a more finished and modern look, but I think that the glass should go on top of the wood as if you do put things underneath the table, you can see them and it may look quite messy and unprofessional.

Development

I have chosen to develop design number 3.

I decided to get some measurements that I will use for the coffee table, I did this by using a measuring tape on the floor and around chairs so that I could get a realistic idea of how big it needs to be.



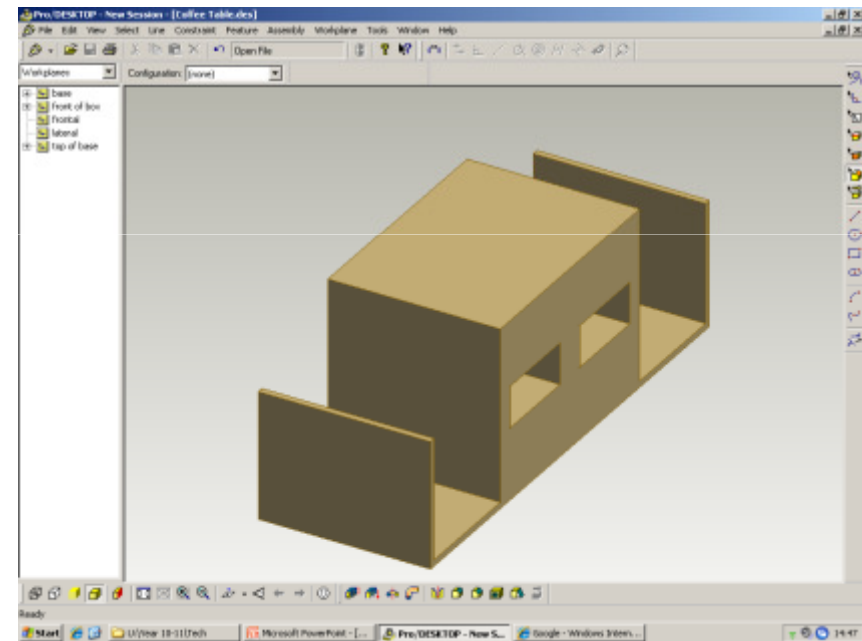
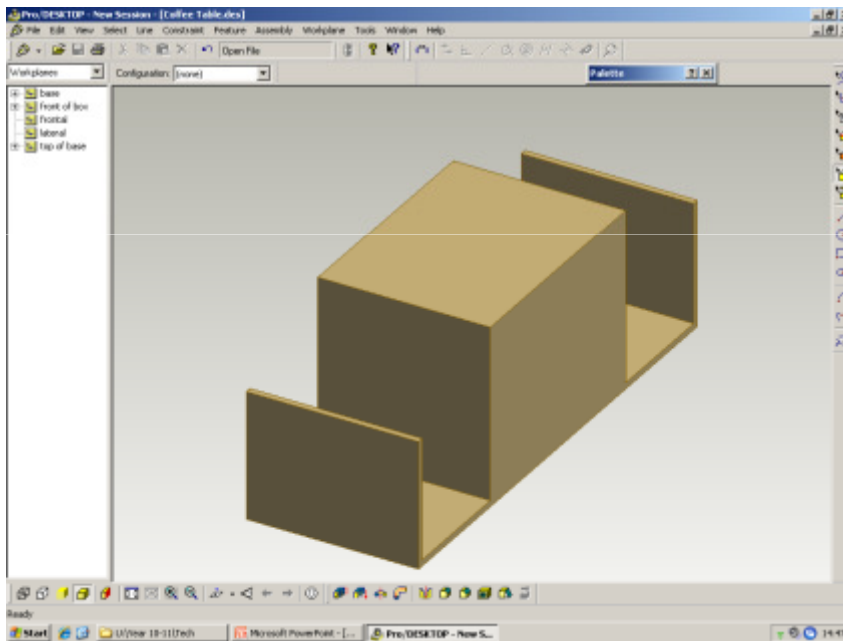
These are my sketches with the measurements on of my first developed design.



This is a model of my coffee table. All the measurements are divided by 10, so it is a 10th of the real scale of the coffee table.
The 50 pence piece is just to show the scale of the model.

Pro Desktop

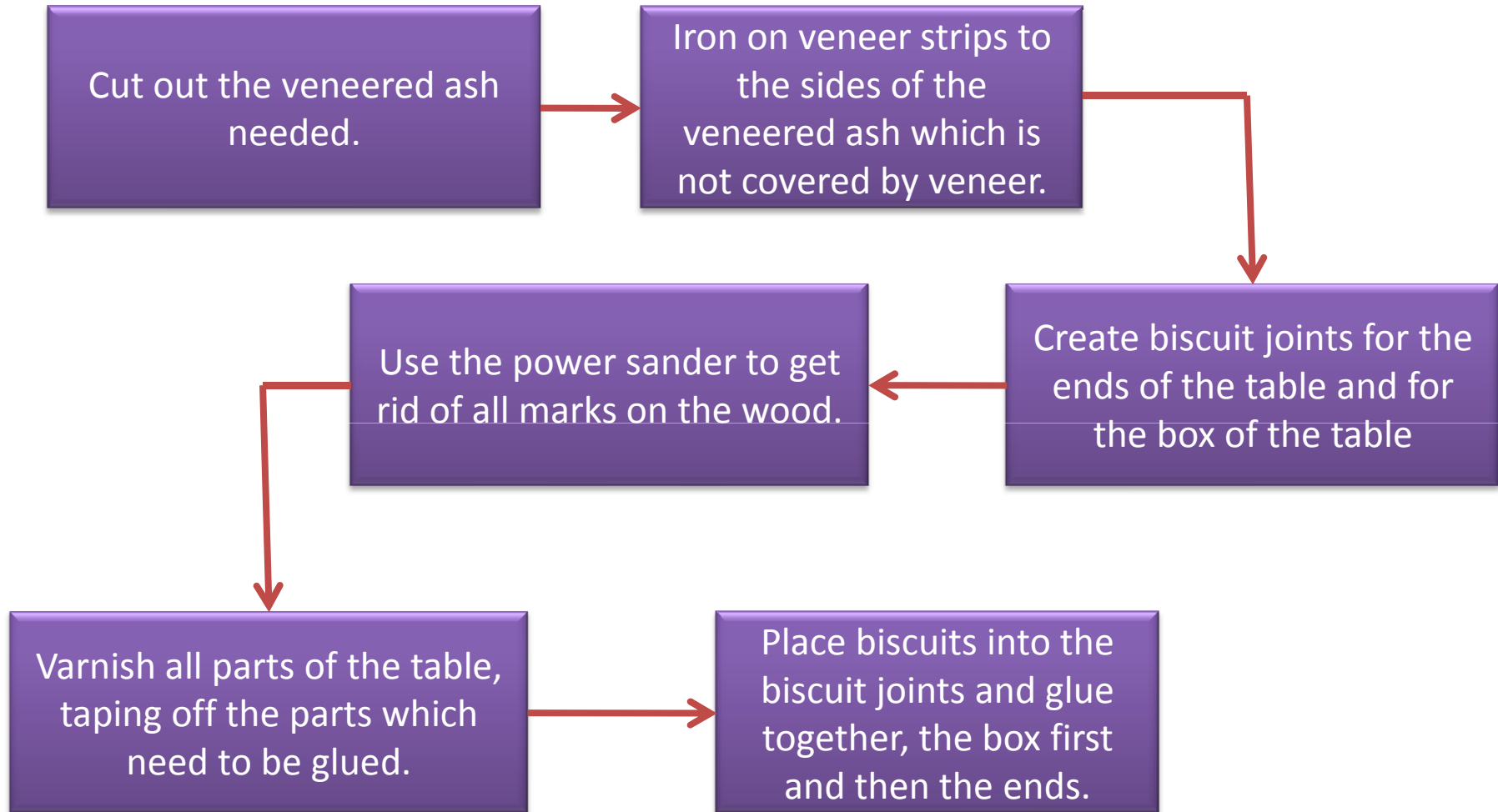
This is my first Pro Desktop drawing of my initial idea of the coffee table, I drew the base first and extruded it to the approximate width of the wood. Then I extruded the main box and each side. I then made a new workface on the front of the box so that I could then extrude the holes for where the drawers will go.



Parts List

PART NUMBER	PART NAME	NUMBER OFF	CROSS SECTION	LENGTH IN METRES	MATERIAL	COST/METRE	TOTAL COST
1	Bottom of table	1	500x19	1.4	Veneered Ash	£8.58	£12.01
2	Short Side Main	2	500x19	0.462	Veneered Ash	£8.58	£7.93
3	Long Side Main	2	462x19	0.7	Veneered Ash	£8.58	£12.01
4	Top of Table	1	500x19	0.7	Veneered Ash	£8.58	£6.01
5	Sides	2	500x19	0.35	Veneered Ash	£8.58	£6.01
						Total	£43.96

Plan of Making



The Making

First of all, I had all of my veneered ash cut into the shapes that I needed. The picture on the right shows the bottom of the table and the ends of the table.

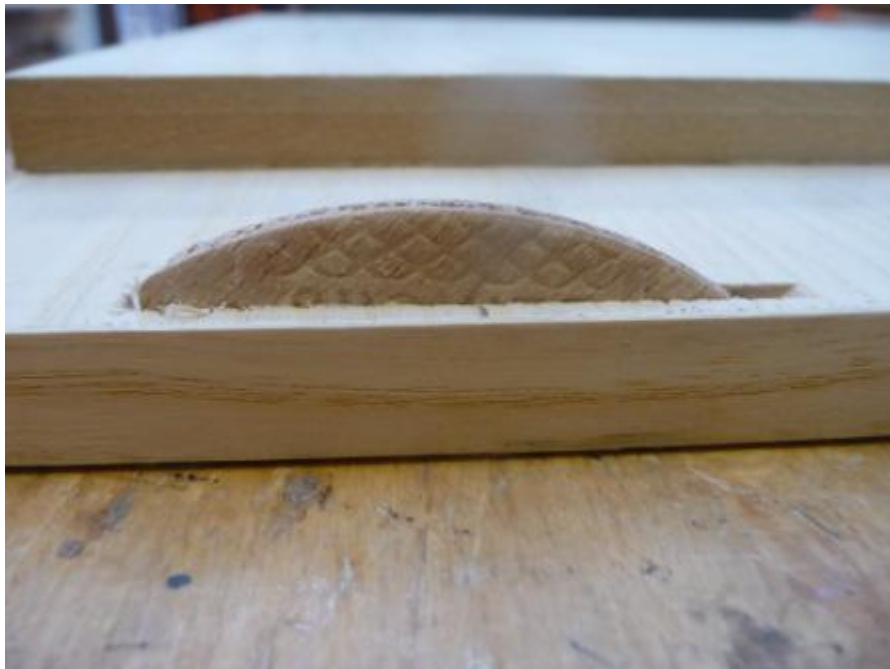


Because this is veneered wood that has been cut up, there is no veneer on the edges of the wood so I had to get some ash veneer strip and iron it on, using a small spare piece of wood to push it down to make sure the glue was in contact with the wood. Then I got rid of the excess veneer by using a plane, carefully making sure I did not plane the wood as it would go through the veneer and not look very professional and neat.



I then marked out where I needed to make the biscuit joints by making a mark at the ends of the bottom of the table, one right in the middle and two 50 mm in from the side. I did three biscuit joints in exactly the same places on the two pieces of wood that I needed to join to the base.

When using the biscuit joiner, I had to wear safety goggles and have a Hoover near because of all the sawdust it was releasing.





I thought that having everything square and rectangular made the table look a bit boring so I decided to make a curve on the ends. I did this by using a bendy piece of wood to create a curve and marking the curve in pencil, I then cut it out on the band saw so that you could still just about see the pencil line and then used the sander (shown on left) to sand it down to the line and create a smooth curve.

I then ironed on some ash veneer strips to all the edges apart from the bottom because that needed to be glued to the base of the table.

Because the ends of the table would not be very strong on their own, I thought that they might need some reinforcements to make sure that the edges of the table were not fragile and easily broken.





I cut one out and then used it as a template for the rest of them.

Because these were only small parts, instead of making them out of ash veneer, I cut them from real ash wood. I cut the wood out using the band saw.

When using the band saw, I had to wear safety goggles in case any wood came flying off, tie my hair up and tuck my tie into my shirt because loose clothing and loose hair could be dragged in by the saw. I also had to make sure that my hands were never in line with the saw as I could slip and badly injure myself.

I had to get my teacher to chamfer the edges of these because it was too dangerous for me to do.





Before gluing and varnishing all of the base of the table together, I had to use a power sander to get rid of any unwanted marks. But I had to be careful because if I sanded too much it would go through the veneer.



Also before gluing and varnishing, I needed to iron on some veneer strips to the bottom of the table.



I had to make a slightly diluted varnish so I put some varnish into a tub and then I put some white spirit in, about 10% of the volume of the varnish.



For varnishing, I had to use masking tape to cover the areas that needed to be glued.



Gluing the ends of the table to the base, I put glue in the biscuit joints (then placed the biscuit in) and along the rest of the part that needed to be put together with the other piece of wood.





I clamped together the box after I had applied the glue. I did not place the clamps directly onto the wood as it may have left marks so I used some small spare pieces of wood.



I had to be careful when clamping the box as sometimes the clamps could push the box out of line so that it was not square. After I had glued, I got a piece of ash veneer cut out that was the size I needed for the top of the box. I left it until now so that I could get a more accurate fit. I then made biscuit joints so that I could join the top of the box to the box.



I marked out on the box where it needed to be biscuit jointed on each end (75mm from each side and one in the middle). I then made the joints and then placed the box onto the base and marked where the base needed to be biscuit jointed and then made the joints.





Once I had finished cutting out all of the biscuit joints, I then glued together the box and the base of the table. Once the glue had dried, I used the power sander to get rid of any unwanted marks on the box from where I had marked for the biscuit joints. Finally, after sanding I varnished the box.



The Finished Product





Industrial Production

If I were to industrially produce my product I would choose from either mass or batch production.

Mass production

Advantages

- Many of the same product can be made cheaply and quickly.
- Cheaper than batch production.

Disadvantages

- If something goes wrong with the product, you cannot tell until a few are made.
- There is less quality control involved.
- Difficult to finish and paint products in mass production.

Batch production

Advantages

- There is more quality control.
- You can vary the products more.

Disadvantages

- If something goes wrong you need to stop the machines and re-configure them and the output must be tested again before the next batch is released.

I think that I would make my product using Batch production as there are more disadvantages of Mass production and shapes of the table could be varied for a bigger range of styles and there would be a higher level of quality control, which overall would make the product look and be better.

Evaluation

My Evaluation: I think that the storage space on my product is very useful for books, magazines and DVDs. I think that it is good as it is very accessible but it may have been better if there was storage that could hide the objects.

I also think that it is a decent size as it is big enough to comfortably fit two or more people around and it can easily be used for board-games and such. It's also at a good height to sit down on a sofa and put a laptop on the coffee table.

I think that I have achieved a unique and different style. I think that having the ends rounded was a good idea as it is safer and makes it look less square and more modern. I feel that the table fits the environment very well.

If I could change any features, I think I would add another method of storage, I think that having the top as a lift-up hinged top would be very useful as you would not be able to see the objects and you could store a lot in the empty box.



Evaluation

Comparing the final product to the design specification and the original design task:

- **There should be some storage space** - I have included storage space, on the sides of the table.
- **It should be small but not so small that it can barely fit a chess board on** - It is a medium sized coffee table, maybe a bit bigger than I had first thought to do, but it is not too big.
- **It should have more than one storage unit so that different things can be stored in different places** - There is not more than one storage space as I did not have time to make drawers for the table.
- **It should be modern styled and different** – I feel that I created quite a different and unique design.
- **It should not be very expensive to make** – As I made it out of ash veneer it was a lot cheaper than if I used real ash wood.



Evaluation

I asked a few friends and family members what they thought of my coffee table:

Abbee, 15

“It’s smooth and accessible, I also really like the colour as it gives it a modern look. The only downside to this design is that the edges could be dangerous and I think rounded edges would be a bit safer.

Sue (Mum), 46

“It is very sturdy, there is a useful storage area for books and DVDs. It is a nice and suitable height for a coffee table. But I think that there should be a bit more storage such as holes/drawers or a lift-up hinged top.

Ciara, 18

“Rounded edges would look better and be safer. The storage units are very practical, I also really like the colour. It’s a very unique design and would catch my eye.”

Alan (Dad), 39

“It is a very novel design. There is plenty of space for magazines and such. There is a large area that could have been used for more storage such as drawers. It is a good size, sufficient for two or more people to use. It could also be multifunctional as it could be used as things such as a TV stand and the storage unit could store DVDs.”