

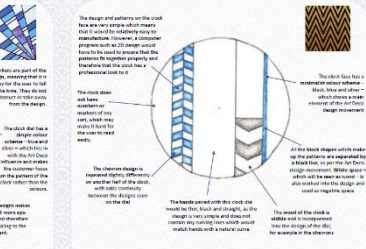
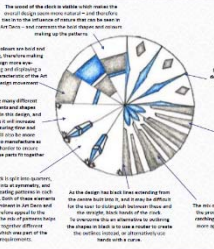
GCSE Product Design at SWGS

Initial Ideas

The clock is made from wood which is solid. It is made from a solid piece of wood. The clock is made from wood which is solid. It is made from a solid piece of wood.

Relevant design specifications

- It must be made from a solid piece of wood.
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Client feedback:
 "The design of this clock is quite simple, however, I think it would be quite hard to tell the time as the numbers or markers around the edge of the face. I like the chosen design as it is modern but not too busy. I like the chosen design as it is modern but not too busy. I like the chosen design as it is modern but not too busy."

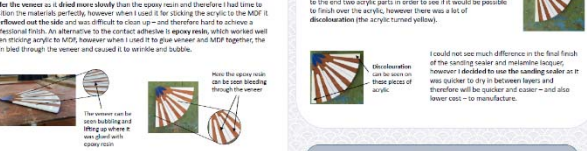
Positives:
 - The wood is a nice material to use.
 - The design is simple and easy to make.

Negatives:
 - The clock is a bit small.
 - The hands are a bit thin.

Testing of adhesives and finishes

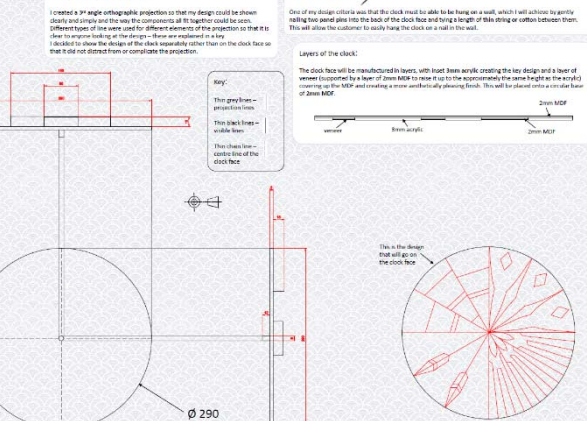
There are many different adhesives on the market, and I will need to research a variety of the ones available to me in order to find out which one will be most appropriate for sticking together the various components of the clock.

Testing adhesives:
 - I tested both contact adhesive and epoxy resin for gluing the following:
 - MDF to MDF
 - Acrylic to MDF
 - Veneer to MDF



Conclusion:
 Epoxy resin will be used to glue the acrylic to the MDF clock face, as it did not overflows between the materials unlike the contact adhesive. However, I will have to use contact adhesive to stick the MDF under the veneer to the MDF base, and the veneer to the MDF as it is easier to use (does not dry as quickly as the epoxy resin) and does not bleed through the veneer and cause bubbling - and therefore a less professional finish.

Final design



Diary of manufacture

Stage	Description
1	Laser cutting components 1 and 2 from blue and white acrylic respectively using dimensions provided for 200 degree bending.
2	Laser cut component 3 in veneer using dimensions provided for 200 degree bending. Ensure that every edge is properly cut, when using the table saw, ensure you are using the correct blade.
3	Paint component 3 with black oil (during step 4 but changed due to availability of the black oil). Ensure that the paint is applied evenly and that the surface is smooth.
4	Laser cut components 4 and 5 in MDF using dimensions provided for 200 degree bending.
5	Assemble components 1, 2, 3 and 4 together properly. Use adhesive to ensure quality of product.
6	Glue components 4 and 5 using contact adhesive, ensuring that the adhesive is applied evenly and that the surface is smooth.
7	Glue all parts of component 1 to component 2 using epoxy resin, ensuring that the adhesive is applied evenly and that the surface is smooth.
8	Glue all parts of component 3 to component 2 with epoxy resin. Make sure that the adhesive is applied evenly and that the surface is smooth.
9	Using contact adhesive, glue component 5 over the top of component 4. Ensure that the adhesive is applied evenly and that the surface is smooth.
10	Remove excess/overflowed contact adhesive using white spirit. Ensure that the surface is smooth and that the adhesive is removed completely.
11	Apply a base layer of sanding sealer over the entire surface of components 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. This can be done by pushing the sealer around the edges of the body.
12	Remove base coat of sanding sealer and then use white spirit and sandpaper to remove the sanding sealer. Repeat this step 5 times or until desired finish has been achieved. Ensure that the surface is smooth and that the sanding sealer has been removed completely.

