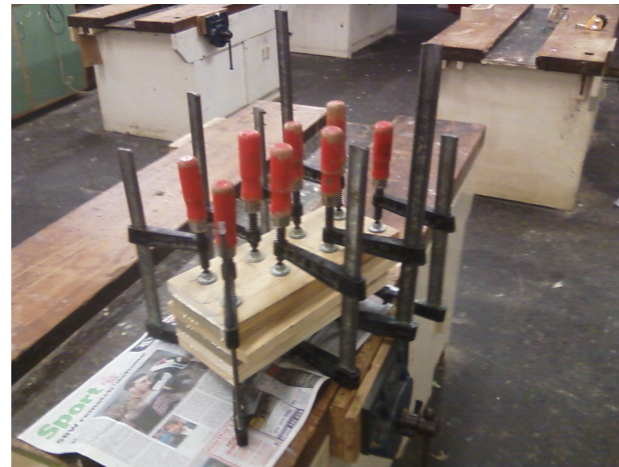


Photographic Diary

Photographic evidence of construction



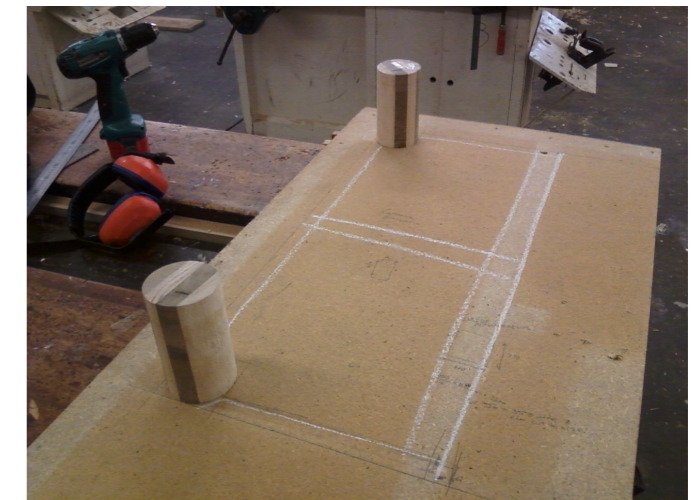
The first part of the construction is building the jig that will be used to bend the wood around. The curved part will be made on the lathe. For this part a few off cuts of pine will be used and glued together to get the required thickness.



These were all cut to the same length before they were glued together. With a layer of PVA aliphatic glue in-between each piece they were clamped in place using 8 F clamps and left to dry so the glue will cure.



Once the glue had set the pieces of wood were turned on the lathe. Mr Davies then cut them to size on the table saw as this was a dangerous process. While using the lathe and table saw the correct workshop safety procedures were followed. We always had covered shoes on, ear muffs, glasses and face masks when required.



Now that the corner pieces have been made I started to put together the jig. This meant that I accurately marked out half of the mirror frame so that I knew where to put the corners. It was very important at this stage to keep the lines straight and square. The corners were screwed in place.



Here I am using the drop saw to cut out the sides of the jigs, making them the correct size. I am wearing earmuffs and glasses to protect my eyes and ears from the loud noise and possible fragments of wood.



Then the other pieces of the jig were cut out. The wide bits of pine were cut with a 45 degree angle so that they would fit snugly to the corner pieces. These were cut carefully on the table saw, using safety glasses, earmuffs and shoes to protect my eyes, ears and feet. Once the side had been screwed in they were reinforced with another piece of wood to keep it square when in got glued together.



Now I got ready to cut out the sides of the mirror. I found some old custom wood that would be suitable and used the table saw to cut it down to 130mm width. Making sure that the edge was flat against the fence and my fingers were a safe distance away from the saw.



In this picture I am cutting the kerfs in the wood, allowing it to be pliable and able to be bent around the jig. To do this correctly I had to carefully mark out where the kerfs would be cut and make sure that the wood was square with the fence when I was cutting them. Also I had to make sure that I was being safe with the saw and that I had my hands a safe distance away and earmuffs and glasses on.

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Then I put the jig and the method on a full side scale test. I put gladwrap down to protect my jig from the glue setting on it, then clamped the custom wood to the jig, along with a rope mechanism to keep it tight around the corners. Then the kerfs were filled with glue.



In the end the method didn't work well at all, some of the kerfs split and the corners didn't go tightly around the corners. I couldn't work out why, as it had gone well in the previous tests. Then I realised that I had made a stupid mistake and confused radius and diameter and ending up making it half the size needed. This meant that I had to start again...



I started again by gluing some pieces of pine together and turning in on the lathe, this time to the correct thickness of 164mm. This would mean that the outside radius of the wood would be 100mm. Which is the same as what I had designed.



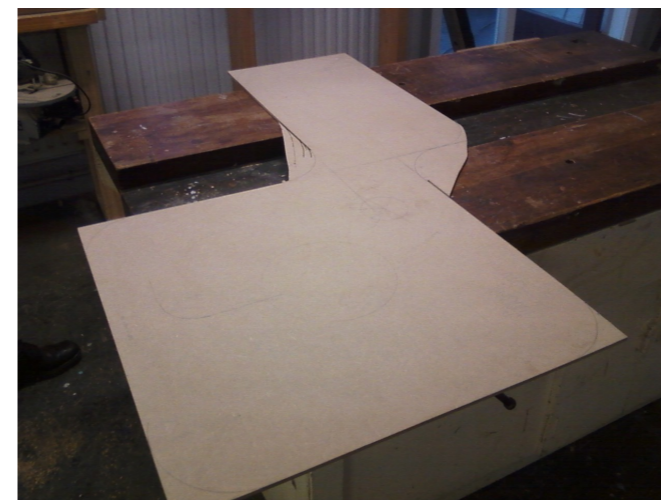
The final touch of giving the wood a quick sand left the corner of the jig a clean finish. Because of the dust that is created when using the lathe I make sure that I am wearing the correct safety equipment, dust mask so I don't inhale too much dust, glasses to protect my eyes, earmuff for my ears and of course covered shoes for my feet.



The jig was then used to test a new method for gluing up the kerfs, but sadly this didn't work to well. The jig worked well but the mixture of wood dust and aliphatic glue didn't set hard enough. This meant that it was time to start the main component of the storage unit. So that we can use this method to glue together the mirror if we need to. Because of the time which has been wasted on making the mirror it has now become a summer job and will not be completed until after exams have been finished otherwise I will not get the exam results that I want. (My client is aware of this and just wants the storage unit to be completed)



The first thing that I had to do was mark out the design on a piece of 6mm custom wood. This would become the jig that is used to cut out the 'gaskets' that would be glued together to make my final product. The custom wood was cut to size using the table saw.



The straight lines were cut out using the table saw then the curved parts were cut out using the jig saw. This was the easy part of making the jig...



Next I had to shape the curves using sandpaper and the two different spoke shaves. Then the final thing that needed to be done to the jig was to coat the edges with resin so that they would become harder and more hardwearing.

Photographic Diary

Photographic evidence of construction



The next job that I had to complete was cutting out 24 pieces to be routed so that it would end up with the correct thickness once they were glued together. I marked out 4 outlines on each sheet of custom wood and then used the jig saw to cut an outline 3mm around the line.



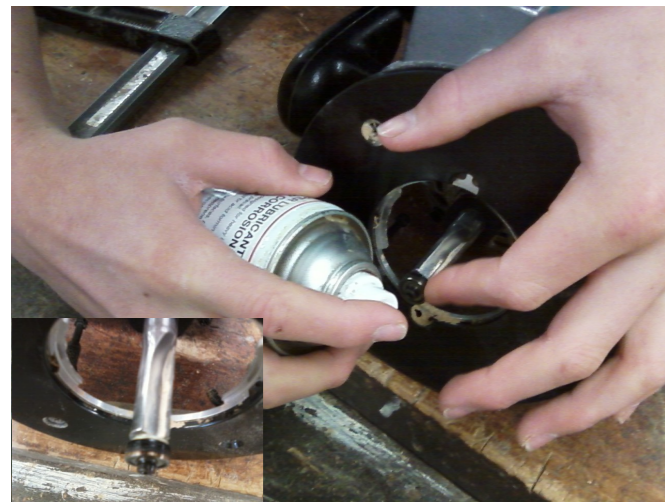
This is what the stack looked like after I had cut all of them out using the jig saw. Mr Davies thought that it might be too thick, so I got the client in to discuss this.



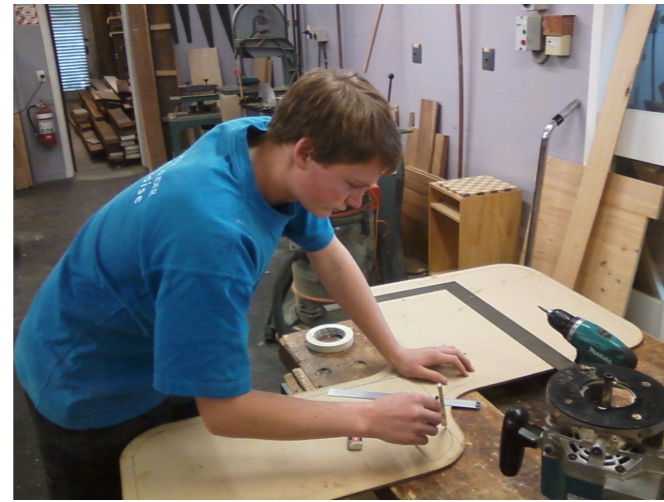
She was happy and didn't have an issue with the thickness as it didn't matter because in the bathroom where it will be located it won't be in the way.



Now it was time to start routing the gaskets to the exact shape that is required. The jig was screwed into the 18mm custom wood, then clamped in place. The router had the copy cutter tool on the edge of it so it copied the jig every time. This meant that by the end I had 24 copies of the jig. A vacuum cleaner was used when I was doing the routing so that the dust wouldn't go everywhere.



One of the problems that occurred when I was using the router was that after I had done a few pieces the bearing started to seize up, this meant that it cut into the jig a little. (Which would be something that I would have to sand out later). After I had realised the problem I made sure that the bearing was well lubricated so that it wouldn't happen again.



Now that all the outsides of the unit had been completed it was time to get started on the inside. The first thing that needed to be done was to have it all marked out to the correct thickness. Making sure that there would be enough room for the recycled drawers to fit in.



During this process I got the client in to see how he would like middle part between the two storage compartments. It could either be thick or thin. In the end he chose the thick one as it would be stronger.



Next I had to cut out the inside. I did this by routing the inside edges using a small router which had a fence on it. This kept it the same all the way around. This meant that all of the straight edges had been completed. Again all the safety equipment that was needed was worn including shoes, earmuffs, glasses and a face mask.

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Here I am using the jig saw to cut the corners of the jig roughly, before spoke shaves and sandpaper is used to finish it off. Once the jig is perfect the inside edge is coated with resin to make it harder and more hard wearing.



This time before I use the jig saw to cut beside the line roughly, I needed to drill a hole in each end for blade so that it can actually cut the outside. This took a while as I had to cut 48 different holes.



Now, just like I did when I was cutting out the outsides using the jig saw I have done the same for the insides, making sure that I was only 3mm away from the proper line. Once this was done the inside is ready to be routed.



When the jig sawing was finished, it was time to start the router. The jig was screwed in carefully so that the outside is the same as each piece. Then the copy cutter copied the jig. It was essential to wear the correct safety equipment as this process got quite dusty as it was hard to vacuum everything because it was in a place that is hard to get. Earmuffs, glasses, shoes and a dust mask were required at all times. I also needed to make sure that the bearing didn't seize up.



Now that all of the pieces are cut out to the same size they are ready to be glued together. The method that I used was to put a layer of glue between the 6 pieces then add weight (the off cuts) to hold it together as the glue is left to cure. It was easier to glue the pieces together in smaller parts to make sure they were in line with another.



Now that all of the pieces had been glued together it was time to let the sanding process begin. The main focus was to get the inside flat so all 4 pieces could be glued together. To speed up this process I got some of my friend to help out so that this job could be finished before term 4. Where the pieces were out of line builders fill was used to fill in the gaps.



Once all the small pieces had been sanded it was time to glue them all together. As you can see the same method was used. A square was used to check that the sides were square before it was left to cure.



This is where the real sanding and bogging was done. The first thing that I needed to do was get the insides and outsides flat. To do this I used a hand plane. Once they were all flat I used the sander and a cylinder block to make all the surfaces nice. Where they were not nice and flat I again used builders fill to fill up the dips and where the pieces were out of line. This process took a long time and was repeated over a number of weeks. (when I was sanding I wore ear muffs to protect my ears and a dust mask to stop so much dust from being inhaled)