

Limitations

List the limitations of the CNC Router and explain how these will affect your product

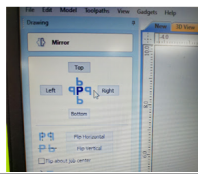
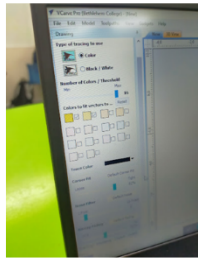
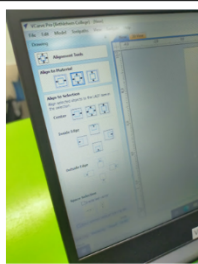
-Tool bits. The school only has limited tool bits to put into the machine so it limits what I can do on projects

-Time. Since there are only two CNC machines and a whole class doing this topic I will have a limited amount of time to do it. Since I finished the coding before most of the people in my class I got to be one of the first people to used the router so I did not have to wait long.



1

-Size. Since the CNC router has a limited area to work on the size of my project will be limited to the bed size of the machine as well as the height being limited as well.



-Material. Due to covid the types of materials that we can work on is limited. Due to this project needing two different coloured wood and us only having access to two different woods, we only got to choose which one was going to be the background and which one was going to be the picture.

VCarve function	Explain why you used this function	Screen shot
Mirror tool	Used the mirror function to flip the design vertically, so that the image could be viewed in the correct orientation through the clear acrylic plastic	
Tracing tool	Used the tracing tool to trace the outline of the picture. From this I can code if I want the inside or outside of this outline to be cut out.	
Alignment tool	I used the alignment tool to put the image in the centre of the work so when I use the router to cut it out it will be in the middle of the wood.	

2

Set correct zero position (X, Y, Z- depth)	I made the starting point, for where the tool path should start, in the middle of the wood on which I am working on. So when I am setting up where I should put my wood I have to move the tool bit so it is touching the middle of my piece of wood and the I'll zero the X, Y and Z. I have to do this because if not the image getting cut out would be wrong. If X is wrong the image would be moved up or down. If Y is wrong the image would be moved sideways. If Z is wrong the image would be cut too deep or shelve	
Set required feed & spindle rates	We put the feed and spindles rates down to 40-60%. We do this because if it too fast or too slow it could cause damage and reck the wood.	



Dust <div style="text-align: center; margin-top: 100px;">3</div>	Vacuum	
Sound/hearing lost	Earmuffs	

Evaluation

Critical thinking:

What are your thoughts on the finished products;

- Accuracy in relation to the Vcarve software preview,
- The quality of your finish (engraving, cut outs etc)
- Any problems you encountered
- Future refinements that could be made

4



My overall thoughts on my project is that it is pretty accurate and well made. The accuracy is good considering that all the lines are curved while the router works better for straight lines. The quality of my finish is good as well as there are no gaps between the two pieces of wood. The only problems I encountered were not putting the clamps out far enough (the tool bit hit them) and someone stealing one of my shoes so one or two of the days I could do nothing. For the future I think the best refinement would be to make the picture not as detailed and have as many curved lines as it took a while to cut out and it could have ended badly if I did not clamp it down or something. Overall I am very happy with my project.