

This week my researched focus on creating different objects, some of which are a constant width in two different 3D object creating softwares. It will cover why I chose these softwares and a comparison of the two softwares. I will also be looking at different materials in particular steel and aluminum to look at their uses and limitations for 3D printers.

Blender (3,4,5,6)

I downloaded this due to its high end nature even though it is free to download and because it was recommended to me by some friends. It is fairly small, fast to download and easy to find. It has a lot of resources online to help use the software and actually fairly easy to learn how to use, as I was able to make a sphere with just one click. When making complex shapes that are not prebuilt however it is a long process but can be figured out by messing around.

Netfabb-Basic 5.2.1 (7)

I downloaded this one because it is one of the tools the library uses and it looked like it was going to be easy to use. The tools were well laid out but were not very intuitive unfortunately and some of them required buying the upgraded versions to use. I could not create the reuleaux triangle due to the fact that the nature of the tools I needed to create it were only available in the purchased version. Creating the Other two shapes was very easy however as they were already prebuilt.

Comparison (3,4,5,6,7)

I found Blender to be a lot better to use as I could actually make the reuleaux triangle unlike Netfabb. Both were easy to find and download and had fairly well laid out tools and instructions online. Both softwares made it extremely easy to create the other shapes as they already had them prebuilt in. The unfortunate nature of Netfabb requiring you to purchase the upgraded version such that you could use all the tools was a real drawback for supposedly free software. In the end I would use Blender over Netfabb, as blender is completely free and gives you all the tools you need to create whatever you can think of with a very easy learning curve.

Materials (9,10,11,12,13,14)

The metals that are used most are titanium, aluminum, and stainless steel that are all in a powder form. These are only used right now by big companies as the machines themselves are extremely expensive right now with one million dollar plus price tags. There are also 3D printers that can print with liquid metal which is a very useful metal for circuitry. Certain companies are working on coming up with 3D metal printers that are magnitudes cheaper which will hopefully help to bring these technologies to the general public or at least small end businesses and schools.

Accuracy (9,12,13,16)

3D printers can be extremely exact as they are being used in manufacturing lines by companies such as General Electric and Airbus. However to get this type of accuracy the machines themselves are extremely expensive and the normal school would not be able to afford them. They have also been used to print off parts for fighter jets which shows how exact a 3D printer can be.

Biography

- 1) HYPERLINK "<https://www.youtube.com/watch?v=cUCSSJwO3GU>"<https://www.youtube.com/watch?v=cUCSSJwO3GU>
- 2) HYPERLINK "<https://www.youtube.com/watch?v=AoueExyXkWY>"<https://www.youtube.com/watch?v=AoueExyXkWY>
- 3) HYPERLINK "<http://blender.stackexchange.com/questions/10511/how-do-yo-make-custom-shapes>"<http://blender.stackexchange.com/questions/10511/how-do-yo-make-custom-shapes>
- 4) HYPERLINK "<http://bakerfield3.deviantart.com/art/Reuleaux-tutorial-368633185>"<http://bakerfield3.deviantart.com/art/Reuleaux-tutorial-368633185>
- 5) HYPERLINK "<http://wiki.blender.org/index.php/Doc:2.6/Manual/Modeling/Meshes/Selecting>"<http://wiki.blender.org/index.php/Doc:2.6/Manual/Modeling/Meshes/Selecting>
- 6) HYPERLINK "http://en.wikibooks.org/wiki/Blender_3D:_HotKeys/3D_View/Object_Mode"http://en.wikibooks.org/wiki/Blender_3D:_HotKeys/3D_View/Object_Mode
- 7) **Netfabb-basic pdf manual (download link:** HYPERLINK "http://www.netfabb.com/manuals_download.php?nid=&fid=31"**www.** HYPERLINK "http://www.netfabb.com/manuals_download.php?nid=&fid=31"**netfabb** HYPERLINK "http://www.netfabb.com/manuals_download.php?nid=&fid=31"**.com/** HYPERLINK "http://www.netfabb.com/manuals_download.php?nid=&fid=31"**manuals** HYPERLINK "http://www.netfabb.com/manuals_download.php?nid=&fid=31"**_download.php?nid=&fid=31)**
- 8) HYPERLINK "<https://www.youtube.com/watch?v=ebRI4kFmR7U>"<https://www.youtube.com/watch?v=ebRI4kFmR7U>
- 9) HYPERLINK "<https://www.youtube.com/watch?v=zApmGFDA6ow>"<https://www.youtube.com/watch?v=zApmGFDA6ow>
- 10) HYPERLINK "<https://www.youtube.com/watch?v=i6Px6RSL9Ac>"<https://www.youtube.com/watch?v=i6Px6RSL9Ac>
- 11) HYPERLINK "<https://www.youtube.com/watch?v=tkwd2YXNy9I>"<https://www.youtube.com/watch?v=tkwd2YXNy9I>

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12) HYPERLINK "http://3dprint.com/9592/matterfab-reveals-their-affordable-metal-3d-printer-an-order-of-magnitude-cheaper/"<http://3dprint.com/9592/matterfab-reveals-their-affordable-metal-3d-printer-an-order-of-magnitude-cheaper/>

13) HYPERLINK "http://3dprinting.com/news/uk-fighter-jets-fly-3d-printed-parts-first-time/"<http://3dprinting.com/news/uk-fighter-jets-fly-3d-printed-parts-first-time/>

14) HYPERLINK "http://3dprinting.com/materials/metal/3d-printing-with-liquid-metal-breakthrough-for-stretchable-electronics/"<http://3dprinting.com/materials/metal/3d-printing-with-liquid-metal-breakthrough-for-stretchable-electronics/>

15) HYPERLINK "https://www.youtube.com/watch?v=hmxjLpu2BvY"<https://www.youtube.com/watch?v=hmxjLpu2BvY>

16) HYPERLINK "https://www.youtube.com/watch?v=Ak03wmi-3FE"<https://www.youtube.com/watch?v=Ak03wmi-3FE>