Team 56445B’s

Make It Real CAD Design Challenge

My name is Cade, the creator of our piece for the Make it Real CAD online challenge, from team 56445B Apollo VI, and I will be telling you about our custom piece for the Make It Real online design challenge. Our piece is a wedge used for picking up things such as spheres, like in the Vex IQ Squared Away challenge that my team is competing in this year. We made this piece to help with the fact that you cannot pick up things easily without motors because there can sometimes be a limit on the amount of motors you can use.

The piece was made on a website called TinkerCad. We used the website by first making the piece, we did this by getting a rectangle and a triangle then we scaled the piece to the appropriate size, finally we put holes in the back of the piece. We then exported it from the TinkerCad website and imported it to a website called Ultimaker Cura, and 3D printed it. We also used the 3D printer NWA 3D, there is also picture of it printing below. This particular 3D printer is very useful for making custom pieces like ours and we have used it many times before in different projects and has a size limit of 14 cm by 16cm. Anyway the piece measures to be 133 mm by 115 mm by 21mm which is just barely small enough. I also learned how to put holes in the pieces that you are making. I am also planning to use the software again for other projects such as this one.

Now let’s talk about how this software can help other teams, one other thing you must use the Ultimaker Cura to 3D print something or else you will not be able to put it on the flash drive to 3D print it, and I don’t know if this is with all 3D printers but I know you need to do this to send it to the NWA 3D. Now let’s talk about how this software can help competitive teams like my team. This software can help competitive teams by allowing them to make any pieces they like. For example, the 7th and 8th grade teams needed a gear, but there were no gears in the size they needed. To fix this they got on TinkerCad and designed the the kind of gear they needed with the exact size down to the millimeter, than they sent it to Ultimaker Cura and 3D printed it. When it finished it was the perfect size and they used it on their robot.

Now let’s talk about how this can help a person with a job that requires you to 3D model things so you can have a plan. This can also help me in my career because I may need to know how to do 3D modeling. For example, a rocket scientist needs to know how to design things and you can’t easily draw something in 3D so you would have to use a 3D designing website, like TinkerCad. This would make their jobs a lot easier, this also applies to other people with jobs like the one I just talked about. One more of those jobs is an architect. I say this because architects have to design houses on a blue print and they can’t just draw a 2 dimensional house they have to draw in 3D, which requires a lot of time and patience. Even the students in my class have used the website easier. Instead of having to draw a 3 dimensional shape we can just create it on a website like TinkerCad.