

Fusion 360 Online Challenge

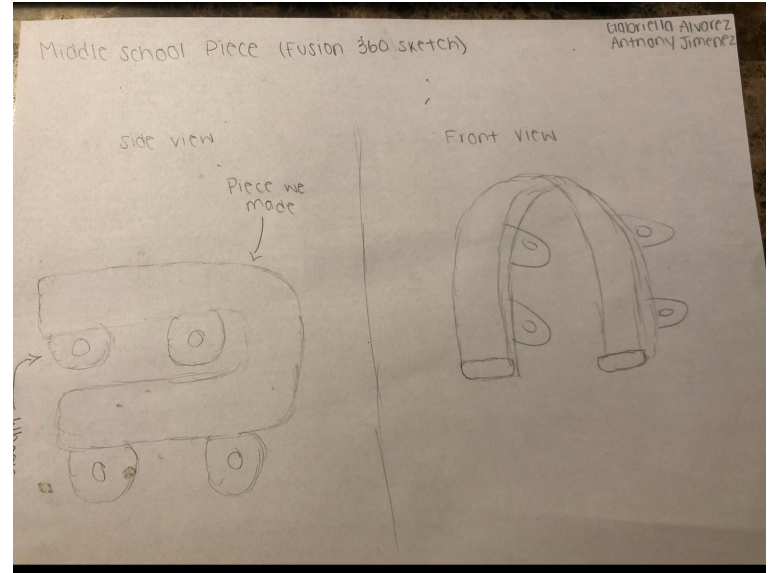


Nicolas Valdes
Kevin E. Olazabal
Sebastian Lopez
Carlos Botella
11476M

Sketch

Vex IQ piece

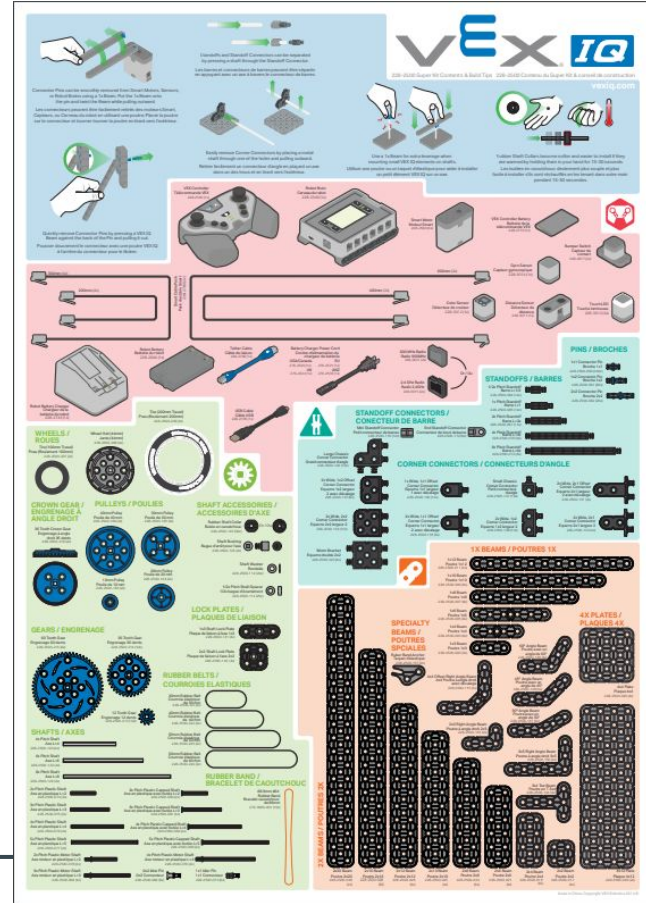
We decided on making a sketch to make our work easier to work on a base. This helps us use a more visual reference we can understand.



Measurements

For this project we decided to by VEX iq measurements. In Vex iq we identify the piece with the holes. So for example we would call out “ I need a 2 x 10 where the 2 would be the width of the piece and the 10 would be the length of the piece.

Sides: 2 x 4
Front 2 x 6

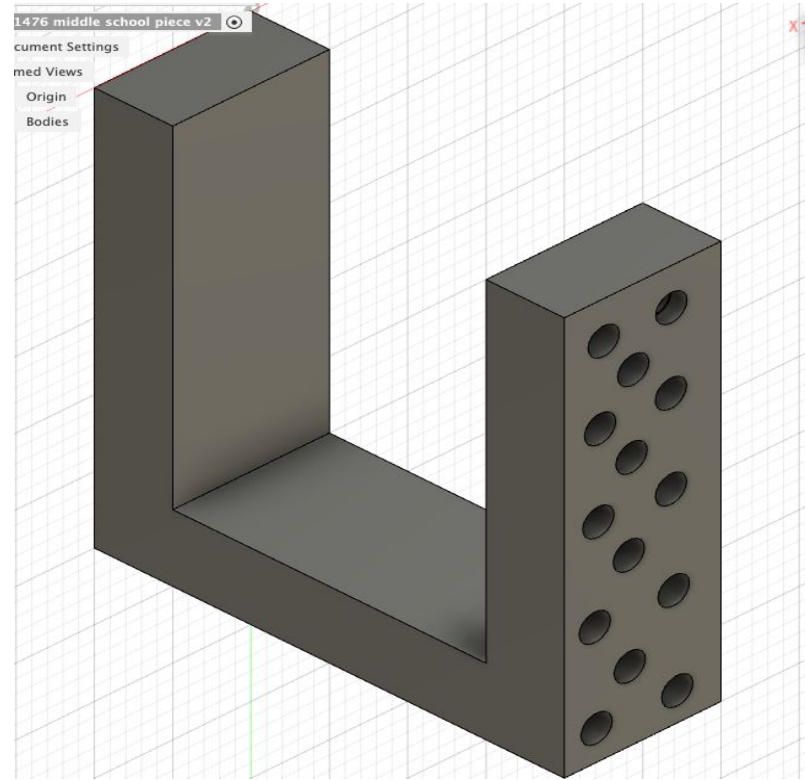


Observations

We saw in competition that robots were very top heavy and bent the chassis and in some cases caused damage like it fell apart. As we discussed and tried to find a solution to the problem. Eventually, after many ideas we came up with a piece that would fit the chassis just right and it would keep the robot upright and not all over the place. The U-Piece will solve this problem that many robots face and with this one simple piece an entire robot can be saved.

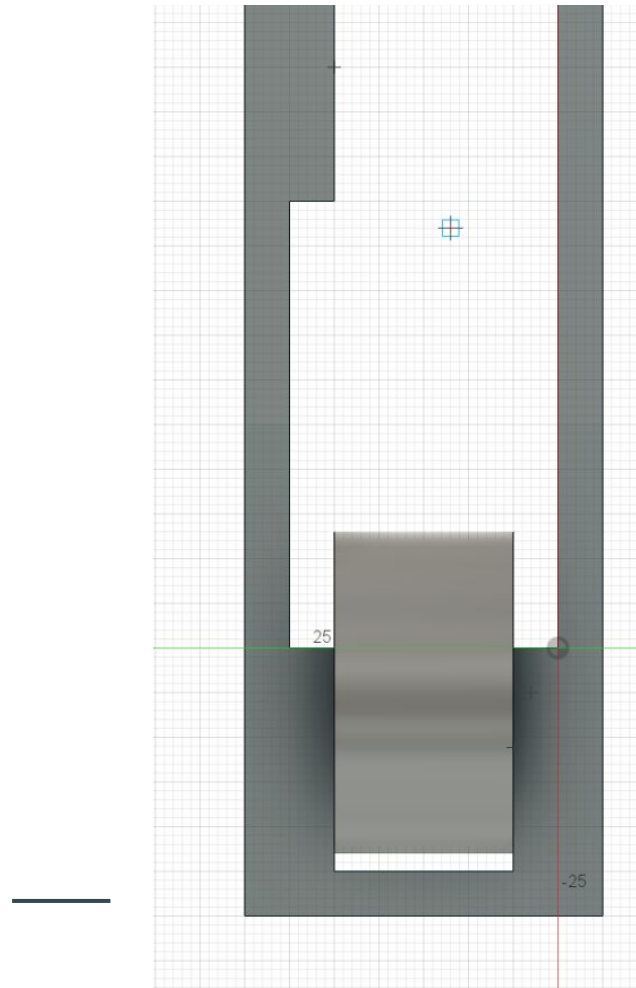
First Draft of The U-Piece

Here we can observe the figure and the shape of it. Helping us visualize how it will work.



$\frac{1}{3}$ of the chassis

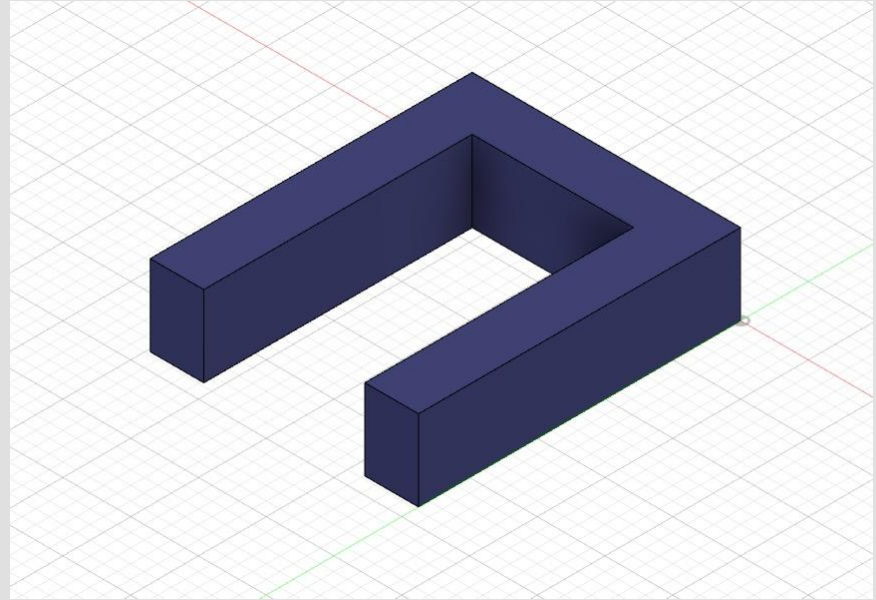
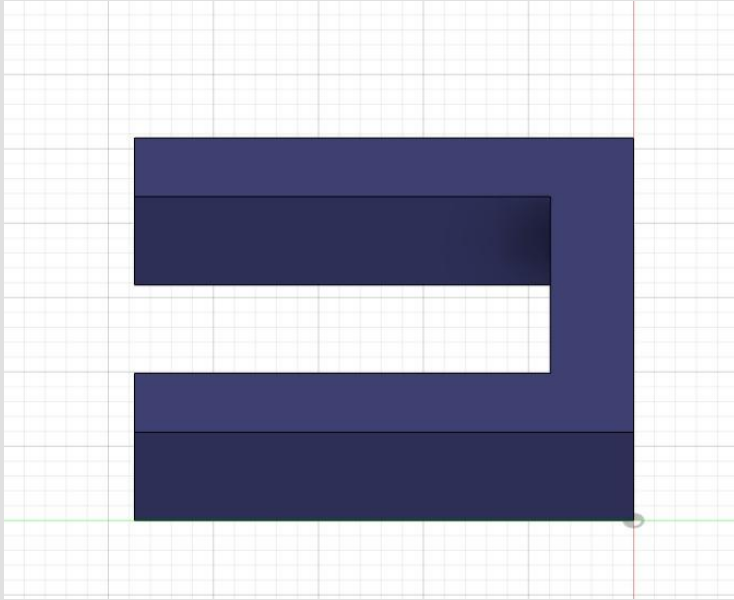
Here is the piece integrated into the chassis. After developing this piece we realized there was a weak point. We can't have the piece in between of the beams we need to have the U piece around the beams to prevent the pins of detaching from the side of the piece so we started again with what we know.



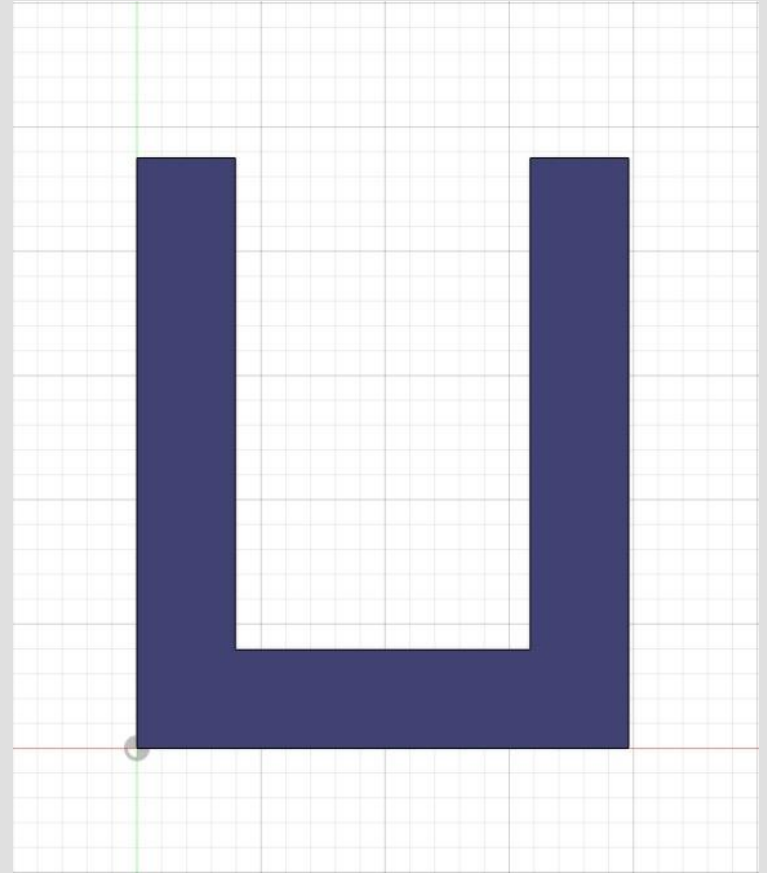
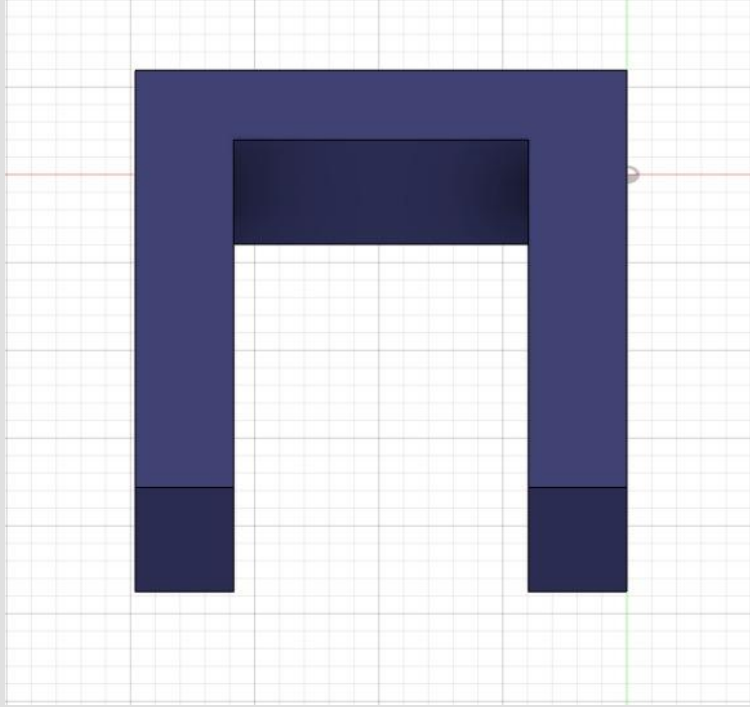
Changes

We decided to do a more detailed sketch on fusion 360 and we started over. We also color coded our piece so it can be more easily seen.

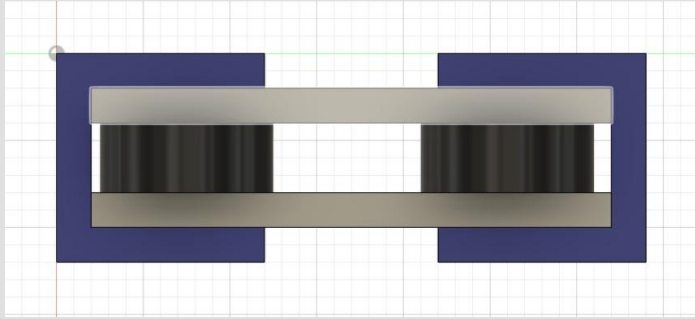
Pictures



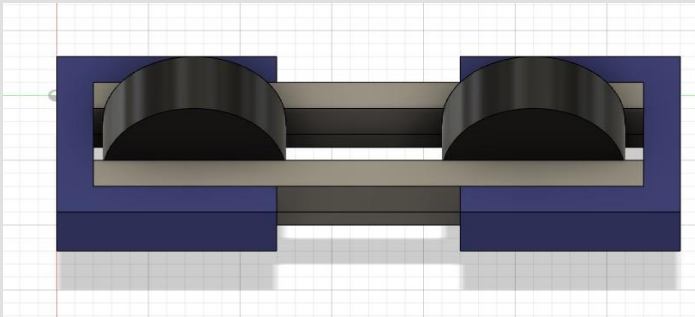
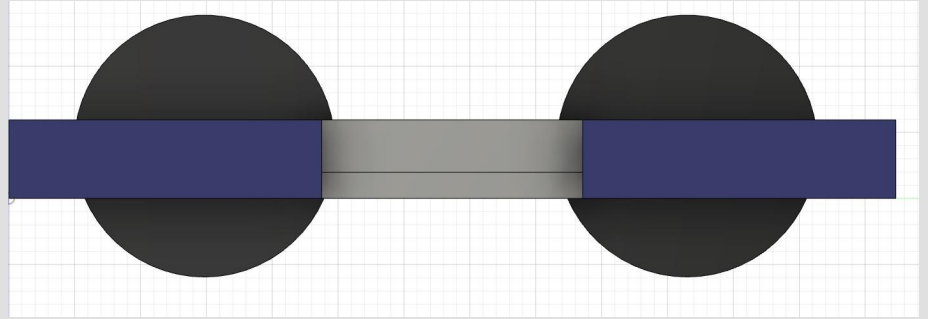
Piece in different angles



Piece in different angles



The U-Piece that we added reinforces the wheel and the chassis by surrounding the beams making it a more secure structure.



This is an overview of what the U-Piece that we created. As you can notice from our last PowerPoint, the chassis looks stronger and more durable.

