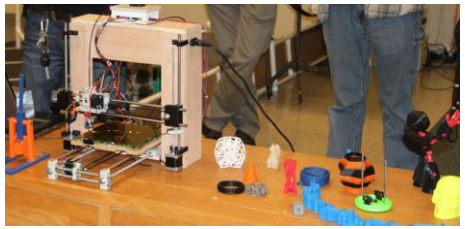

3D Printer

This year one of our new mentors graciously offered us the use of his 3-D printer for prototyping. We printed pieces many times in our design process as our ideas evolved. We also use it to print out key chains to give away at tournaments.

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Robot Design Process

Our students drive our design process and do 100% of our CAD. We use a three-step design process using CAD and prototyping heavily which leads us to a well thought out building phase in which students machine a majority of our parts. Our engineering and machining mentors advise students and teach them the industry standards through a robust design process.

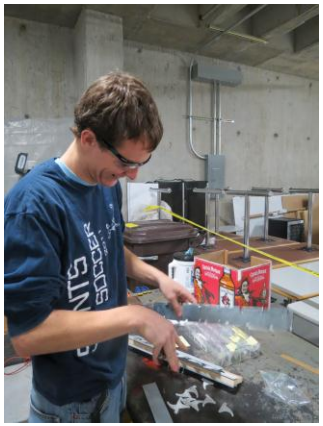
Design Process

Prototyping

The second step in our design process is prototyping. We take what we have designed in CAD and build a rough model of it out of wood, cardboard, duct tape, 3D printed parts or any other scrap materials we have. Once we have tested our theory and proved that it works, we can start to build our final design out of metal or plastic.

CAD

CAD was an integral part of our design process this year. Using the tools in Autodesk Inventor allowed us to simulate the load on our climber to ensure the design was structurally sound before sending drawings to our laser cutting sponsor DLC. Hundreds of hours were spent CADing all of the mechanical systems of our robot before fabrication.



Building

Especially in the design process, our mentors play a very significant role. With their vast knowledge and expertise, we have been able to work through and test ideas and concepts very rapidly, a boon that has saved countless hours over the season. With our mentors' help, we were able to design and build a much better climber and robot than otherwise would have been possible. Thanks Mentors!