ROBOT CLAW •2014-15 VEX CAD Robotics Engineering Challenge •Report by Junita Ahammed

In my technological design class, a very important component is learning and understanding the importance of mechanical and industrial design. One of the projects in this class was creating a part on a CAD program that will improve the functionality of our VEX robot. The original claw was small in length and was not robust enough to pick up heavy items. I decided to create a new claw that will enhance performance in different challenges. After many sketches, I designed a new claw that was bigger, had more "teeth" for added grip and also a wider bend to grab wide objects.

Originally it was created on AutoCAD, but it required more specific modifications in order to be an improved claw. So I designed and created the claw on another CAD program, SolidEdge, which is great for creating mechanical parts. The first time it was 3D printed, the claw was strong. When we tried placing the claw on the arm, it did not fit. After careful planning and designing, the claw was 3D printed again. It was printed out successfully and is now on our robot in class working well and can perform various tasks. It is compatible with all the parts on the VEX claw. It is very simple to attach and stays on perfectly.

The design of the claw is very efficient, simple, and elegant, meeting the requirements for this CAD challenge.