Recycled Full Storage Unit

91C's Recycling Online Challenge Submission



Challenge / Problem

The VEXMEN is the largest VEX club in the world. With over 30 VRC teams and almost 10 IQ teams, we have a large supply of parts. The mass supply can be difficult to keep organized, especially since storage and shelving units can be so expensive. To help keep our parts organized, we created a storage unit out of old VRC game elements.

Building

Structure

We first cut square holes into the Skyrise poles to be able to support the Starstruck fence bars without them spinning.



Next, we took angled pole holders and cut them so that they would be square to the ground. These were attached to Skyrise plates to help support the system.



Also, we attached legs using cut pieces of the Starstruck fence to help support the unit. These keep the unit from tipping forwards or backwards.



Bins

We put cubes on the Starstruck poles to act as the structure for the bins.



We then wrapped them with cardboard to create the walls of the bins so they would be able to hold objects. The cardboard was attached using hot glue.



Removable Organizer

Since VEX parts come in different shapes and sizes, we also looked into storage options for longer parts, such as axles. We decided to use Skyrise sections to provide small, yet long, storage options.



The Skyrise sections were drilled out to make it the most space efficient as possible. The game piece was attached to the Skyrise fence pieces with the use of the Skyrise autoloader.

Metal Storage

Since the VEXMEN also has a large supply of metal for all the robots, we also allowed space at the bottom of the storage unit for metal and other large parts. This was made using the goals from Toss Up and screwing them to the lowest fence bar and the second lowest fence bar.



We then hot glued cut cardboard onto the bottoms to be able to hold the parts. These goals proved to be very good for holding metal and other parts since they have such a large volume.



Testing and Evaluation

To test this unit, we put it in the club's storage room and filled it with parts. We wanted to see how much it could hold, and how easy it was to access parts.

What went well:

- Held lots of parts
- Easy to keep parts organized with all the different bins
- The angled openings made it easier to see what parts were where
- The system is light and easy to move

What to improve on:

• Was somewhat difficult accessing parts as it was difficult reaching hands into cubes, especially with the Starstruck fence bar in the way

Based on our testing and results, we feel that a storage unit similar to this one could be useful in a robotics, school, or home setting to help provide easy organization options.