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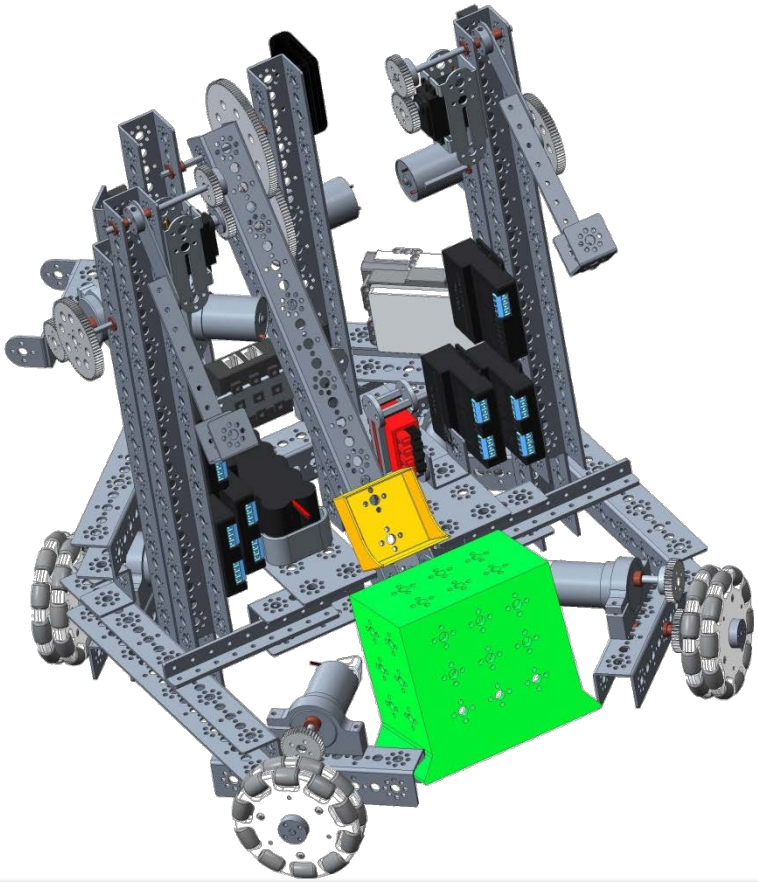
Robots, Pizza & Modeling

Dr. Jordan Cox, Scott Morris, Chris Carr, Mark Cheli
PTC FIRST Support Team

Monday May 12, 2014



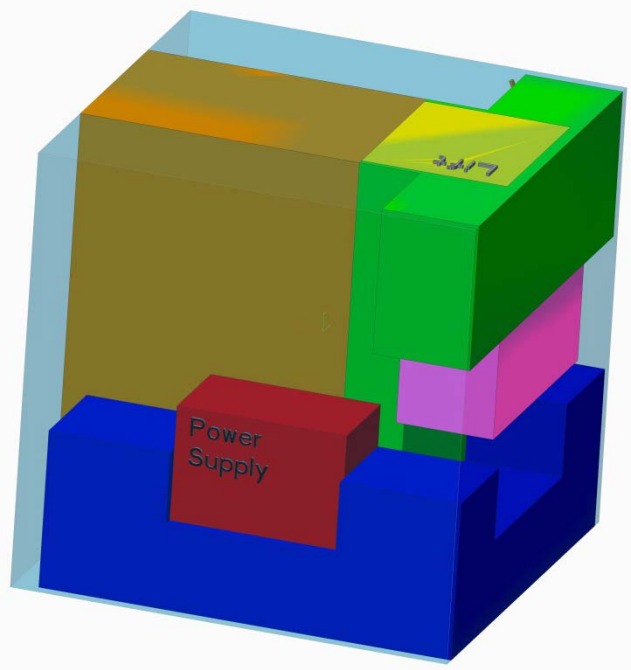
Welcome

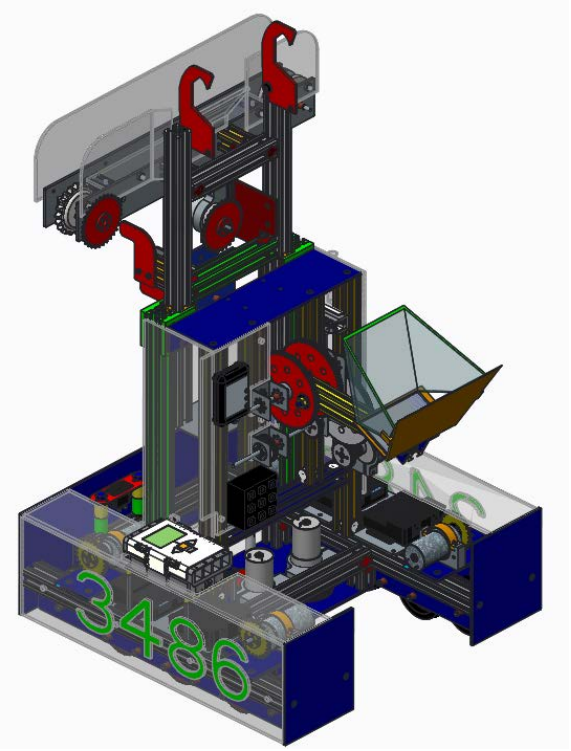
FTC Teams to PTC Headquarters

Agenda

Engineering Best Practices

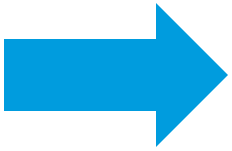
- 4:00 Pizza and Welcome
- 4:30 Systems engineering
- 5:30 Subsystem detailed design
- 7:00 System integration & simulation
- 8:00 Show & Tell
- 8:30 3D Theater
- 5:00 Coaches & Mentors Mtg.
  - NE FIRST Organization (Loretta Bessette)
  - PTC Resources (Jordan Cox)
  - STEM Certificate Program (Alyssa Walker)

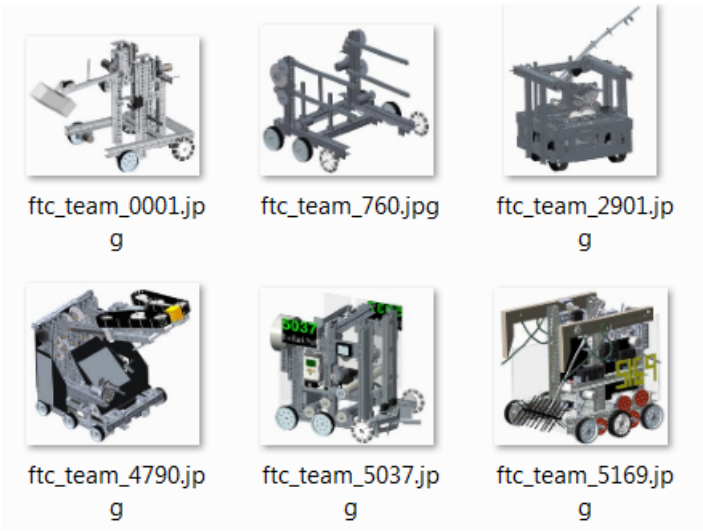




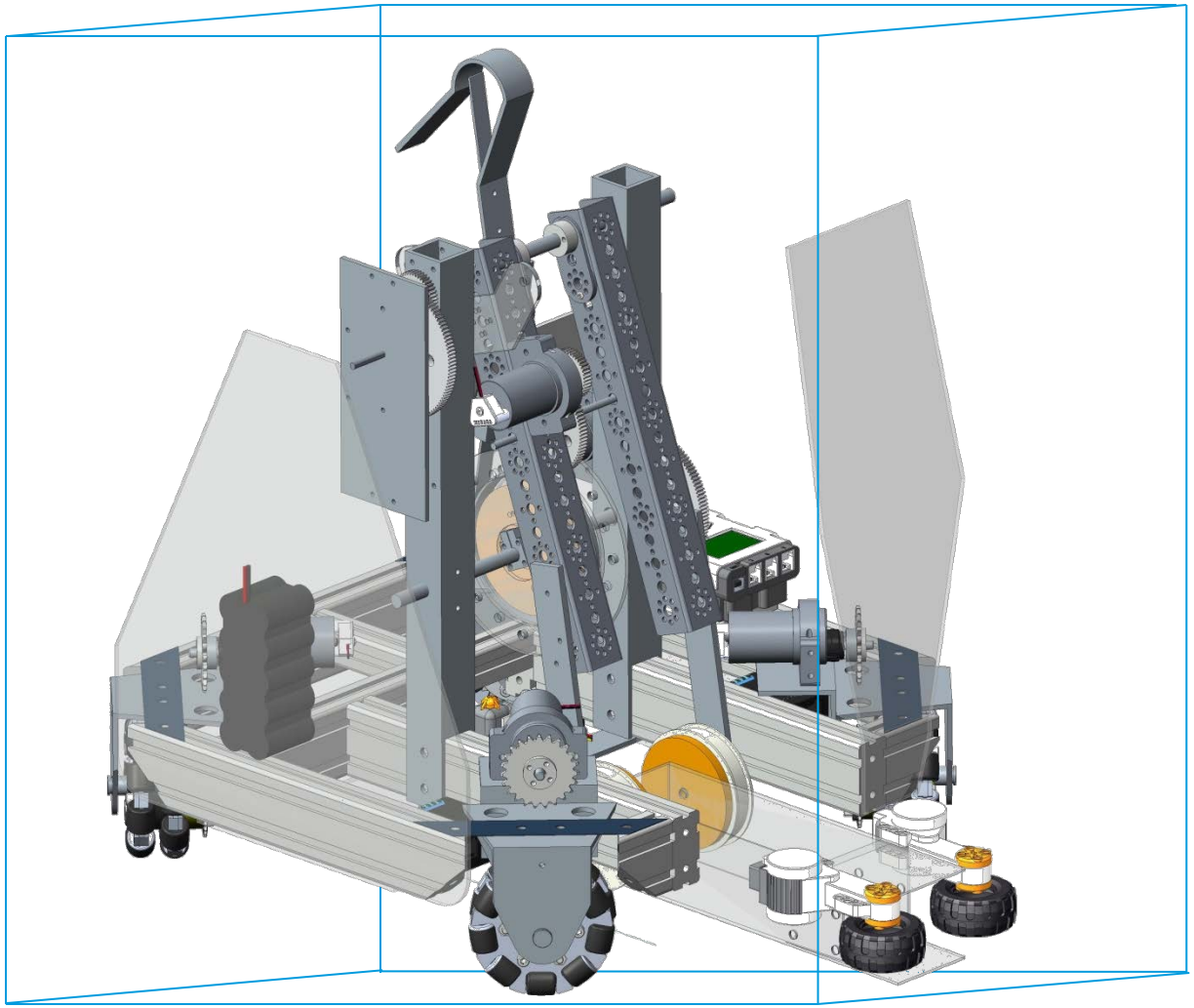
Divide into Teams and Assign Robots

Team Alpha
Team Beta
Team Gamma
Team Delta
Team Epsilon
Team Zeta
Team Eta



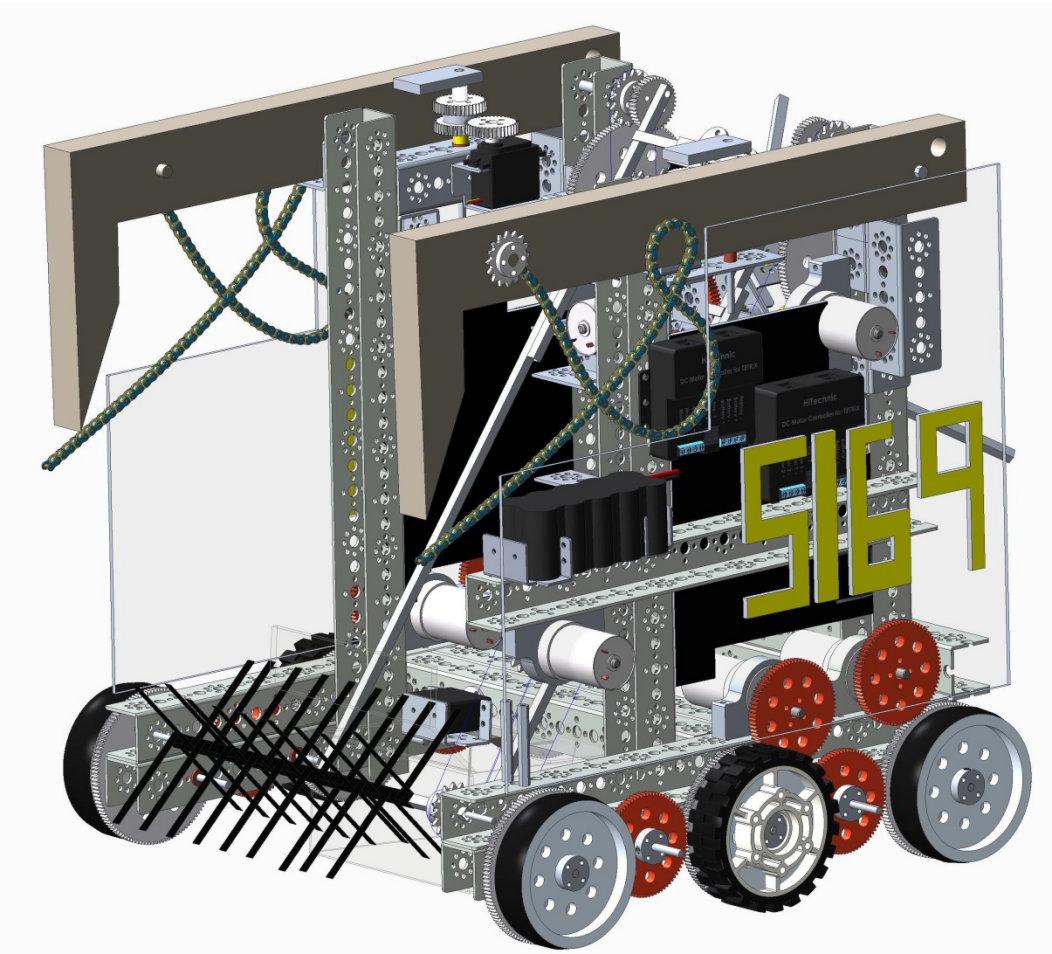


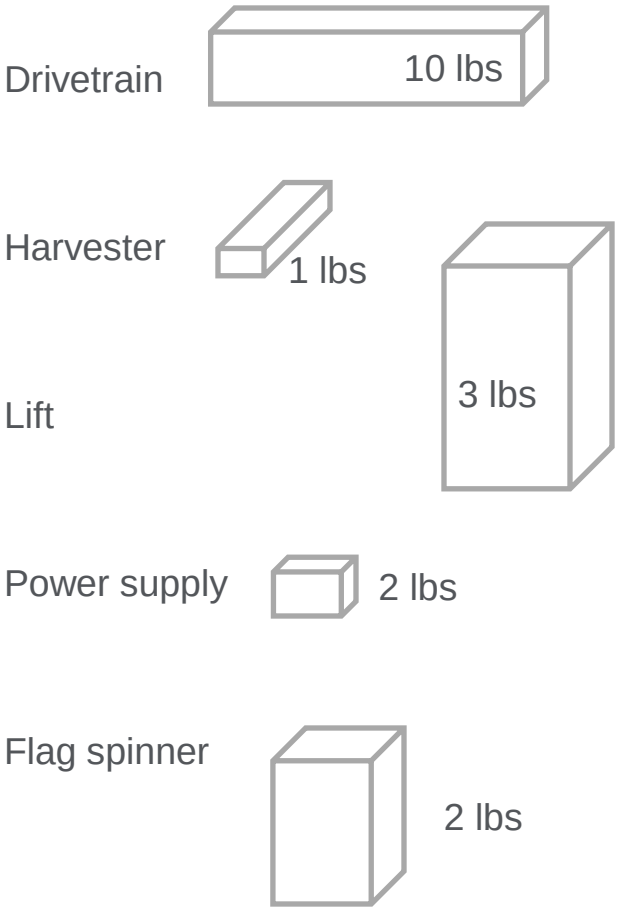
Create a rectangular box that will hold your robot



Divide your robot into subsystems

Then create rectangles to enclose each subsystem





Assign Weights

Calculate overall weight and Center of Gravity

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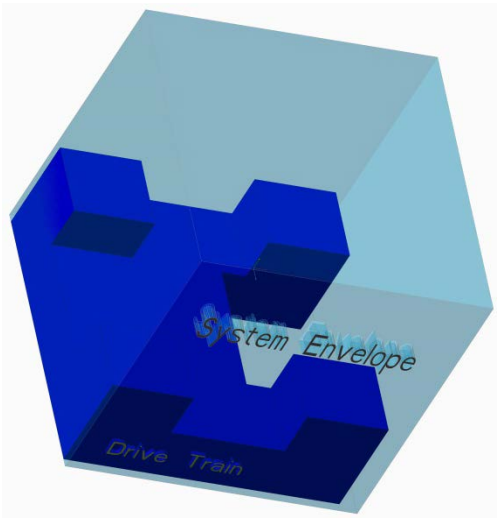
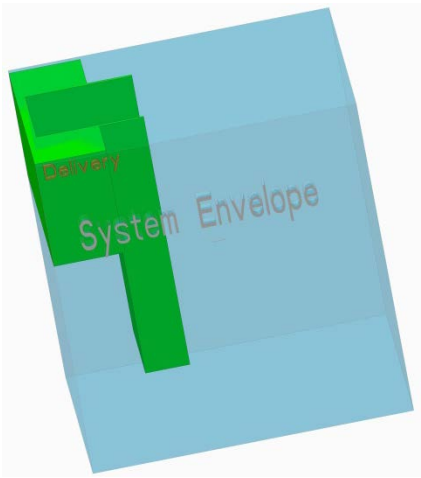
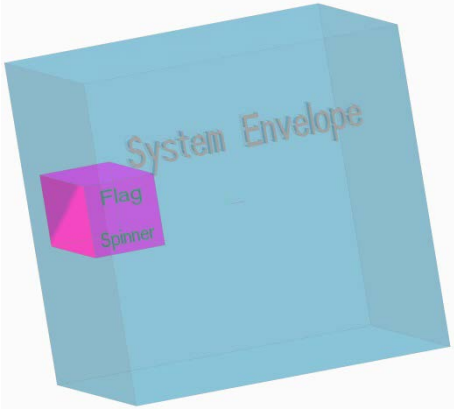
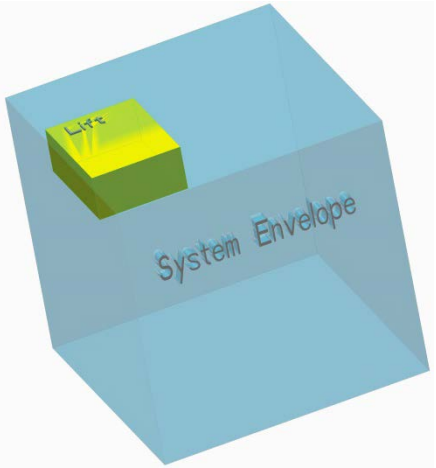
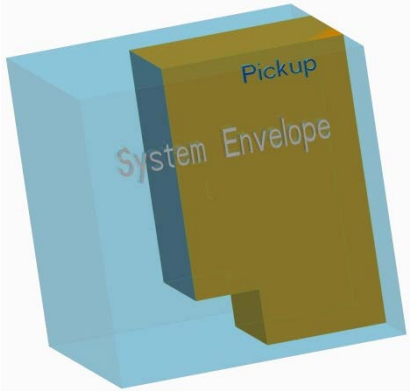
Team 3486 Techno Warriors PTC Design Award Winners FIRST World Championship

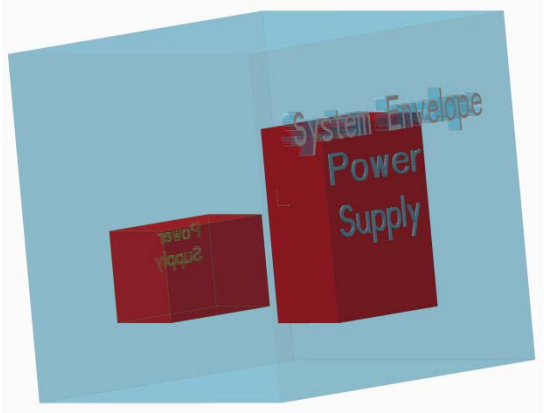


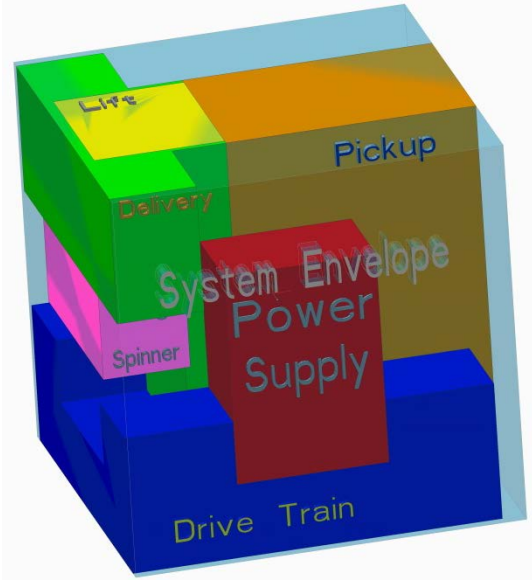












Subsystem Detailed Design

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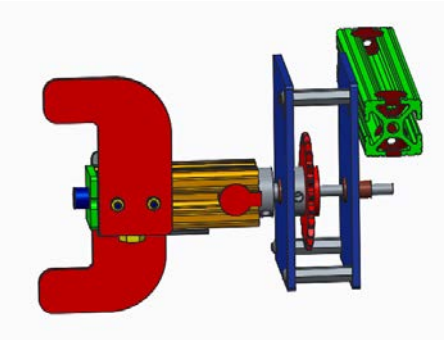
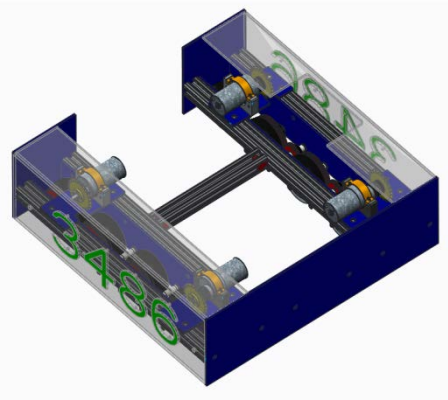
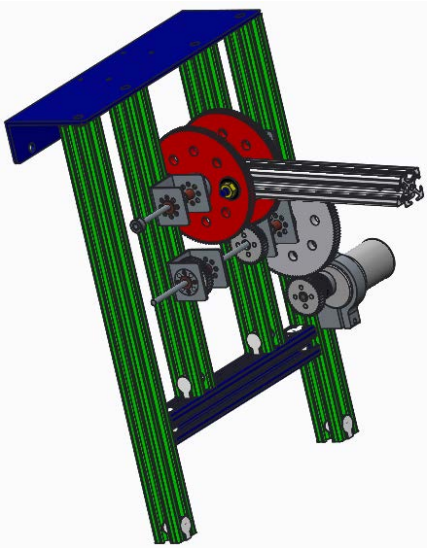
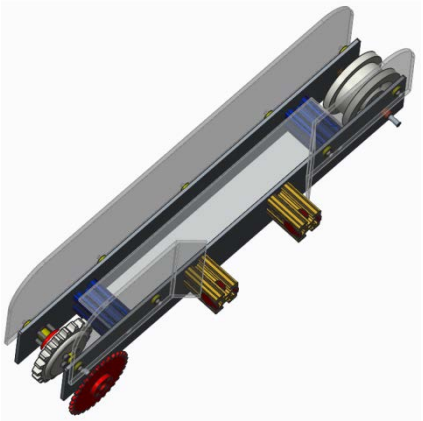
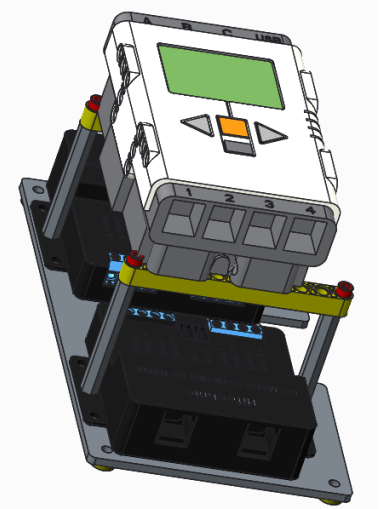
Divide into subsystem teams and model your subsystems using the kit of parts







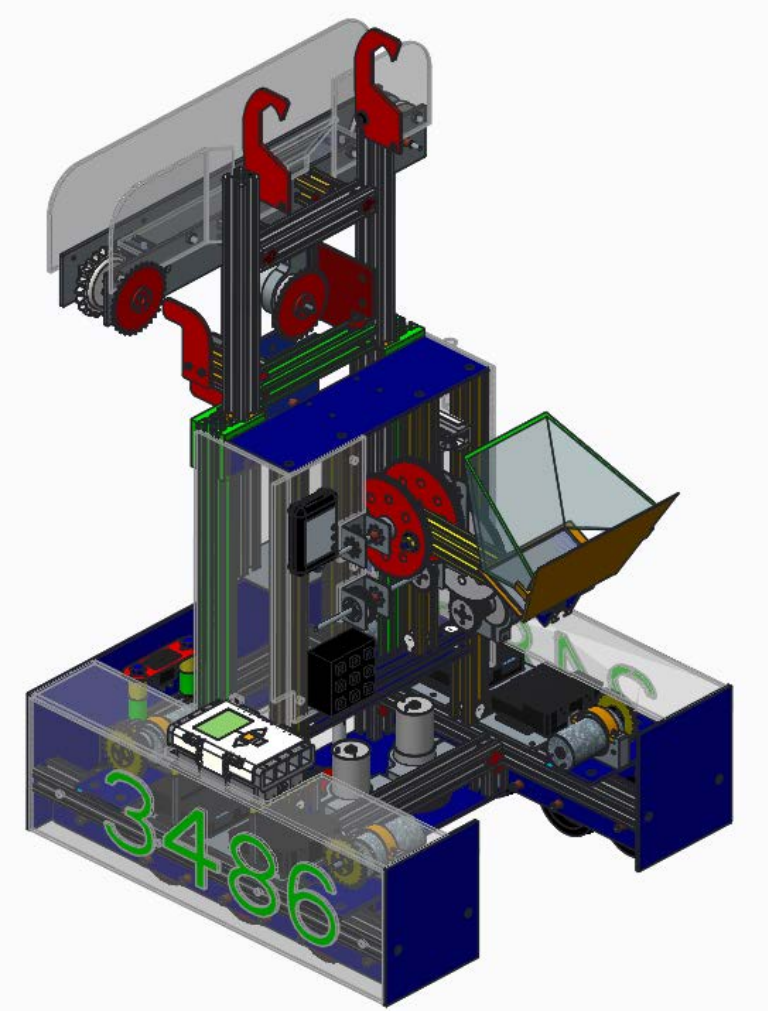


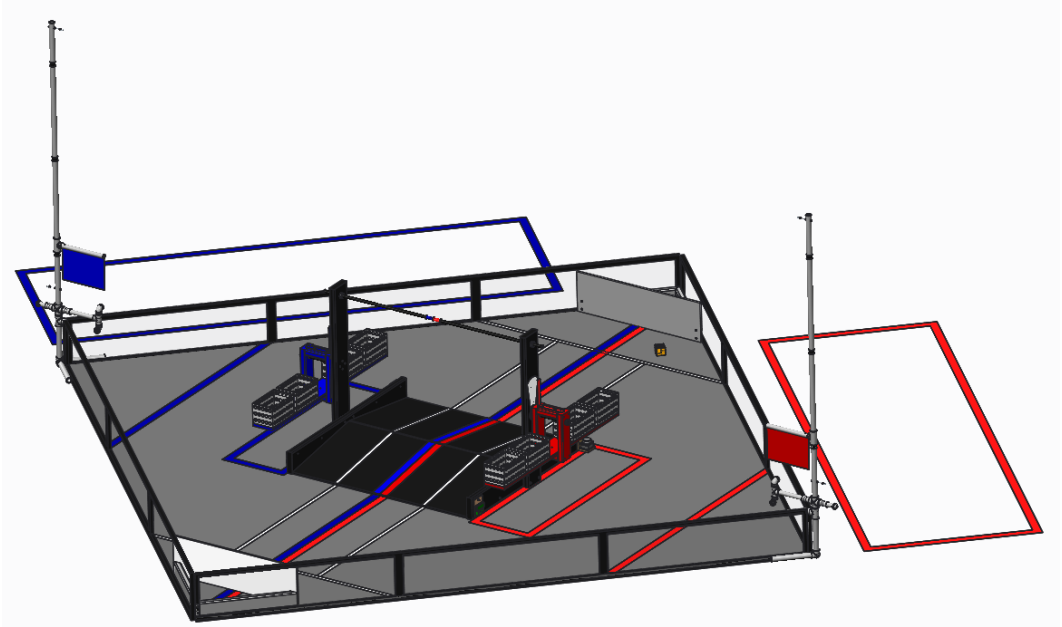


FTC Tetrix KOP - Block Party!
Download All CAD Models

Integrate them into the Full Assembly

Place it on the field and do simulations





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