



THUNDER ROBOTICS

HATTON/NORTHWOOD HIGH SCHOOLS

FIRST Robotics in ND

Hatton/Northwood

West Fargo

Cando

During the year, Thunder Robotics does many things besides competition.....



Serving prime rib at a robotic demonstration.





Help run a golf tournament. >>

Assist in a coyote hunt .



Parades and kids' tractor pulls.





But our primary goal is the FIRST Robotics Competition.





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This year's game had a Medieval feel to it, breaking through defenses and storming a castle's tower



Over 4000 teams across the world got the new rules at the same time in early January. >>

- ▶ We had 6 weeks to design and build our robot

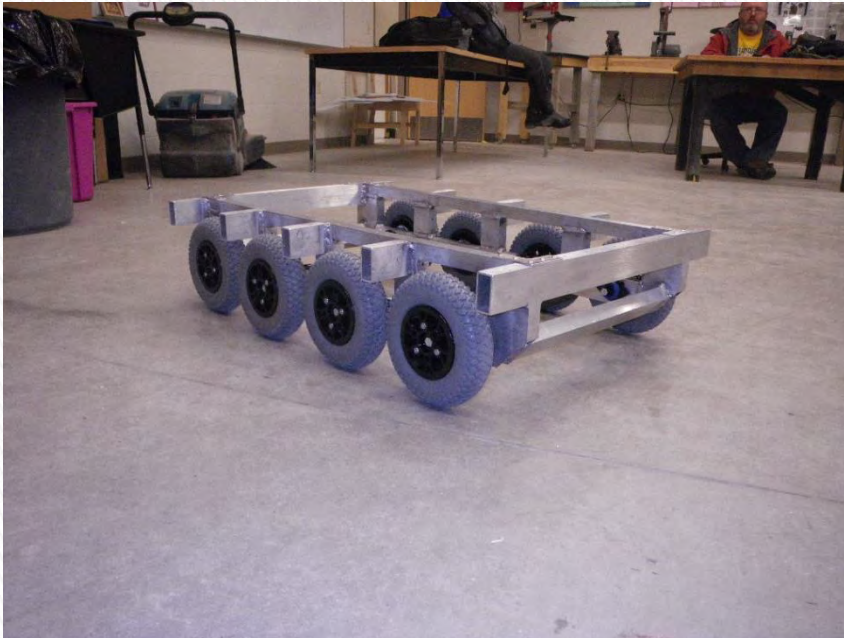
- ▶ The team wanted it to be quick, powerful and score in many ways



We met nearly every night and parents brought the team meals



It gradually took shape....and a name was given “The Rockpicker”

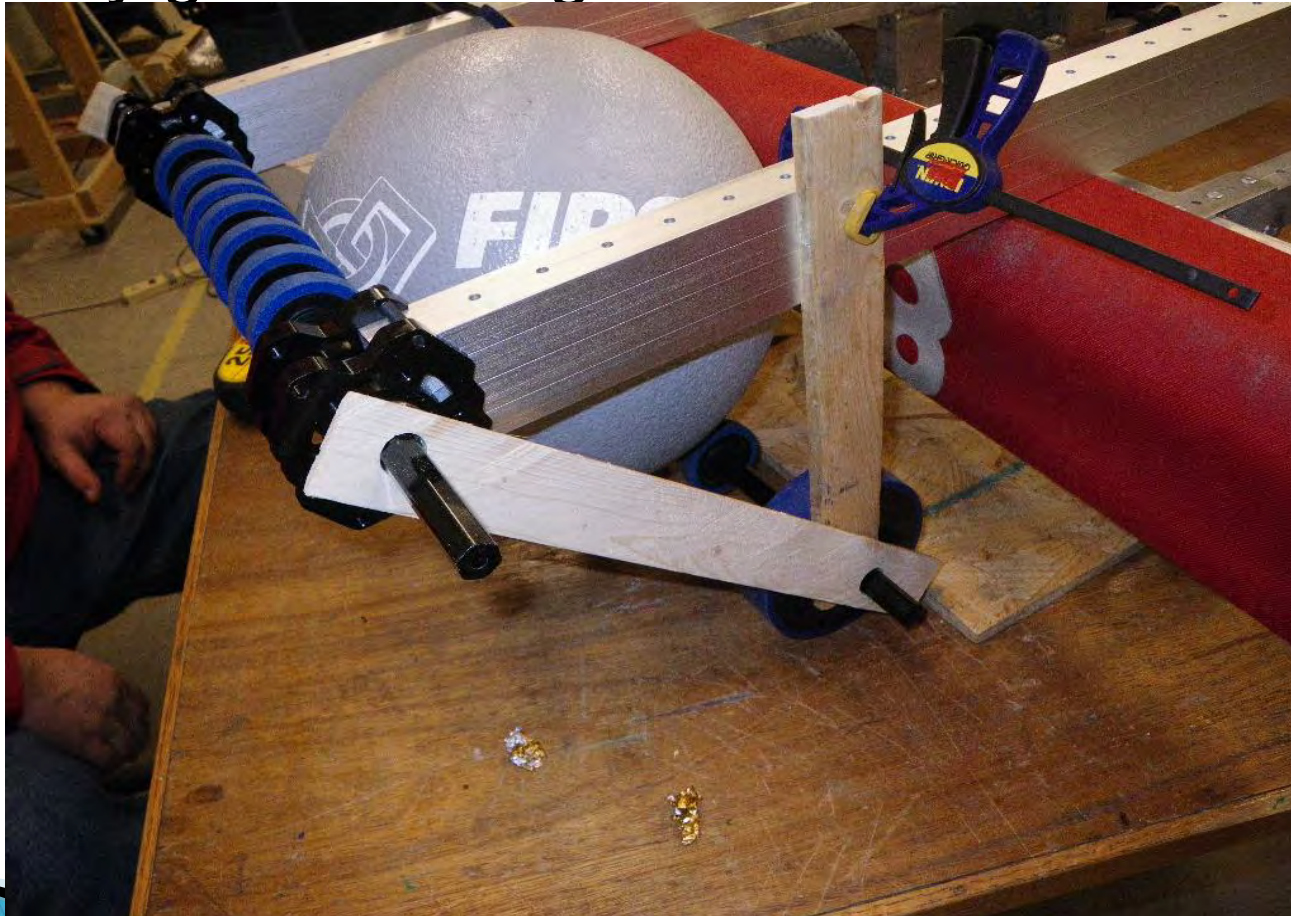


The early frame, 8 wheel drive

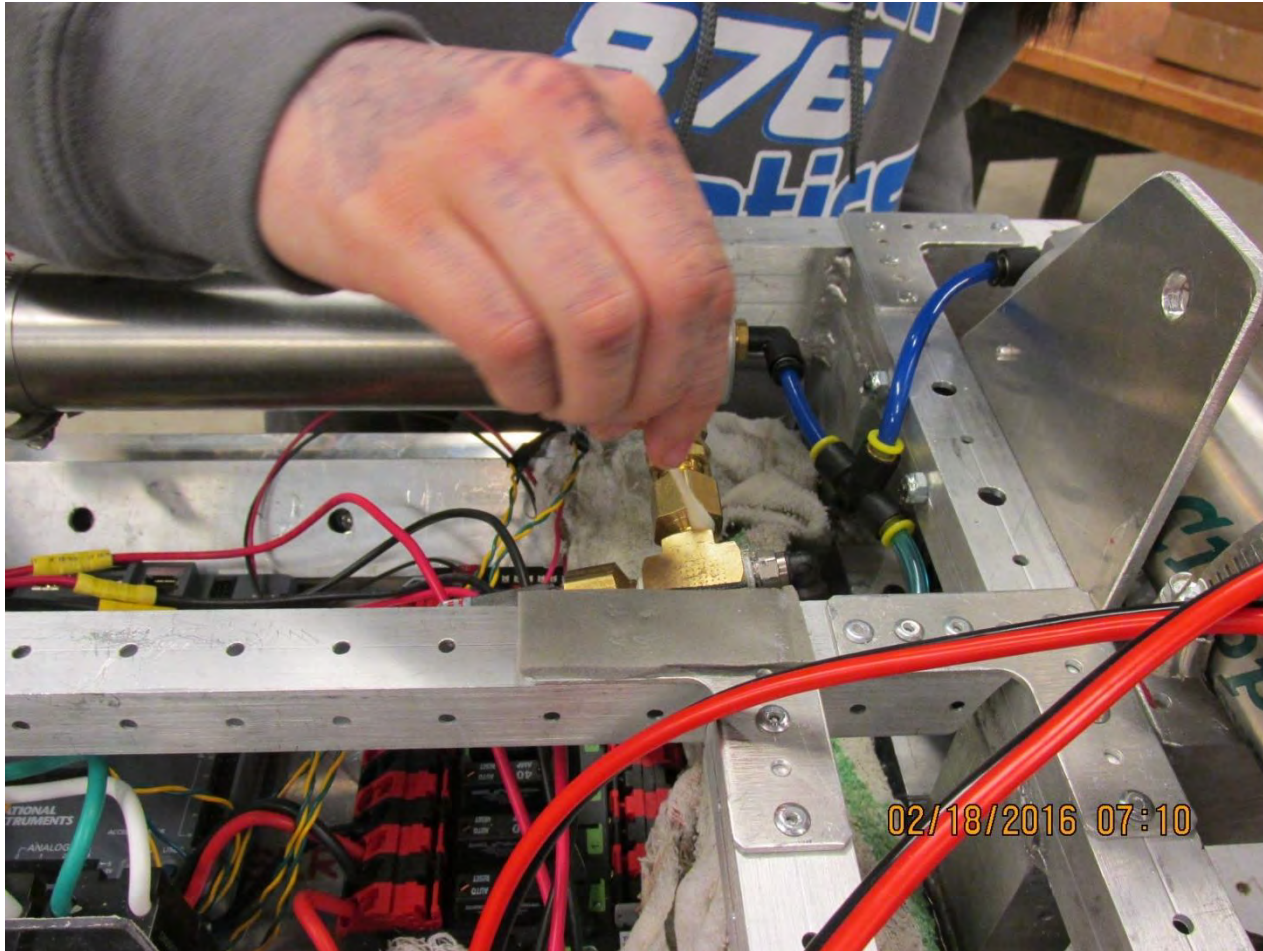


Using a pneumatic riveter.

Since it picked up and scored with large foam balls called Boulders, They gave it an agricultural name.



Students learned many skills...electrical engineering....



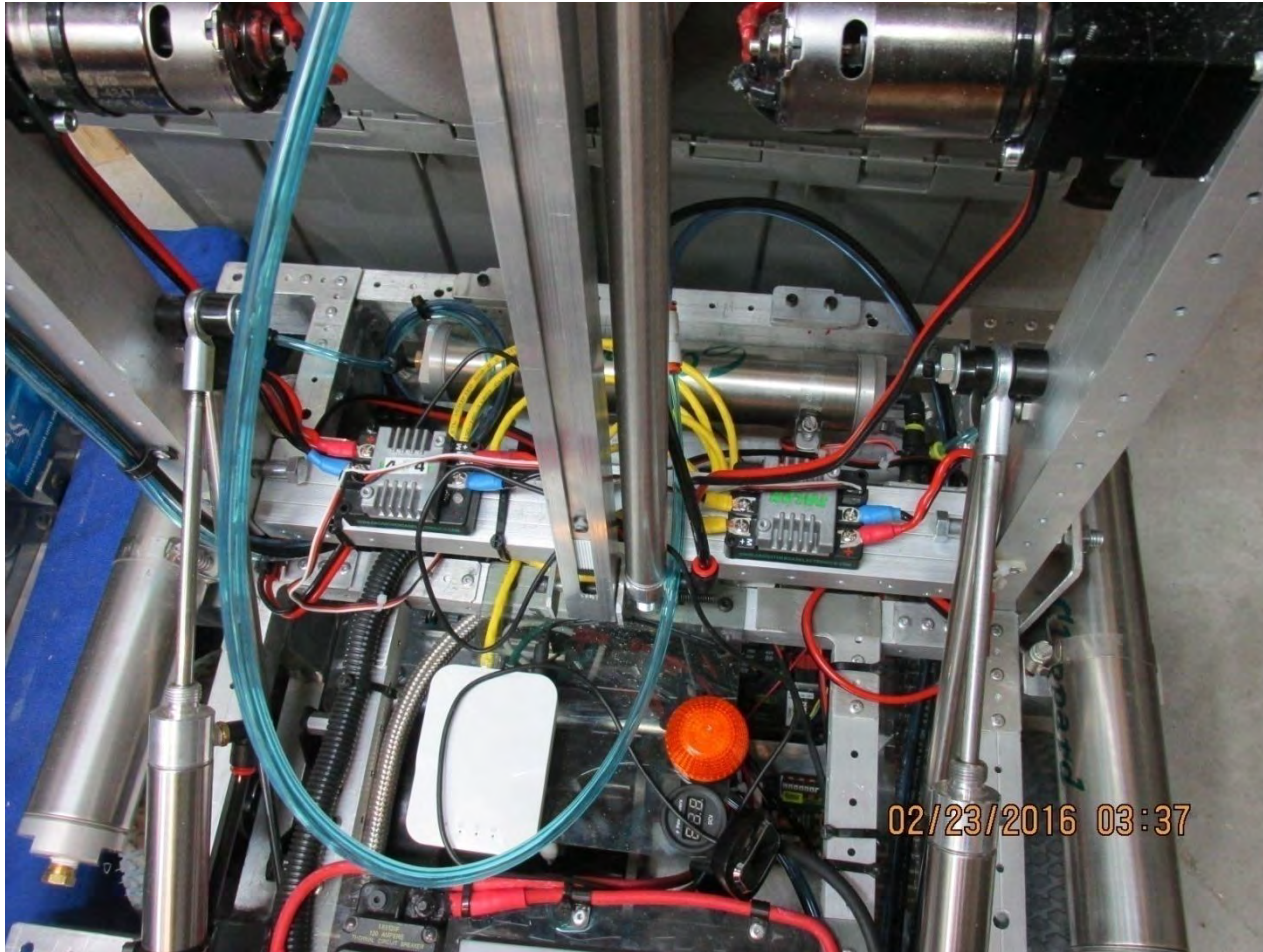
Computer programming....



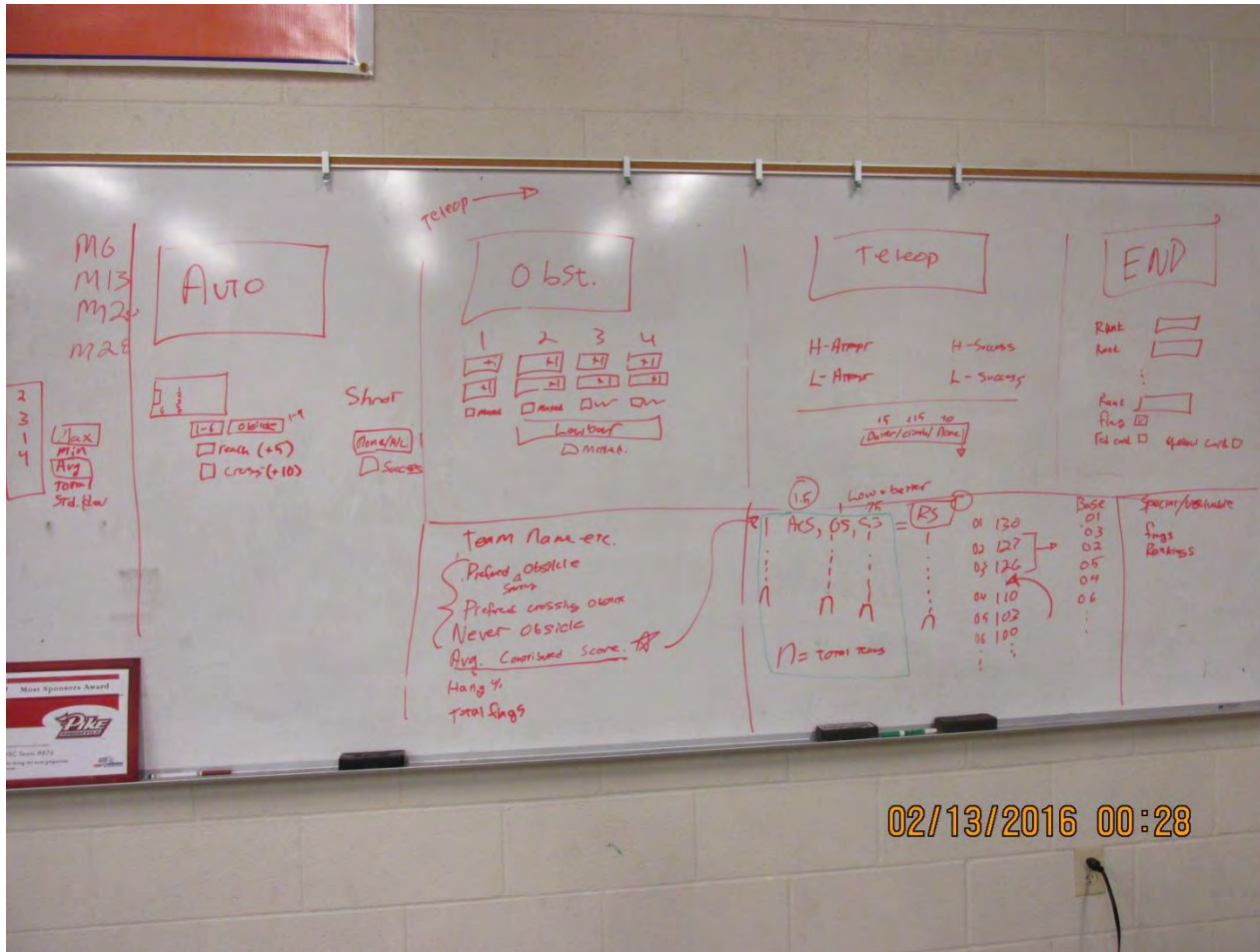
Mechanical engineering....



Pneumatic control...



And they had to deal with unusual problems...



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time deadlines....

- ▶ **Projects this week.**
- ▶ -Work on new autonomous on Labview 15 seconds.
- ▶ -students will finish their electronic registration.
- ▶ -Spirit group plan on activities. Balloons, Business cards, button design, etc
- ▶ -organize pneumatics and electr. Totes and cabinet
- ▶ -drive "Dave" and "Squirrel" for practice
- ▶ -Website work...links, photos, sponsors, highlights
- ▶ -organize Pit Cabinet.
- ▶ -Organize the scouting crew, who is lead scout?
- ▶ -Continue Work on Boulder grabber arm
- ▶ -potential Porticullis lifter apparatus
- ▶ -start wiring plan for the robot
- ▶ -sponsor list for cabinet
- ▶ -programming
- ▶ -scouting tablets
- ▶ -activities in Duluth...Peoria
- ▶ -sponsor decals
- ▶ - work on mount camera for sighting.
- ▶ - which students are going to Grand Rapids on Feb 21?
- ▶ **Only 15 days left!!**

And work together as a team.



ND Space Grant funding allowed us to continue to compete at a high level



Northern Lights Regional in Duluth

Duluth News Tribune

Thursday, March 3, 2016

duluthnewtribune.com

More than 90,000 readers every weekday

\$1.25

Robots have 'Stronghold' on DECC

By Anna Todd

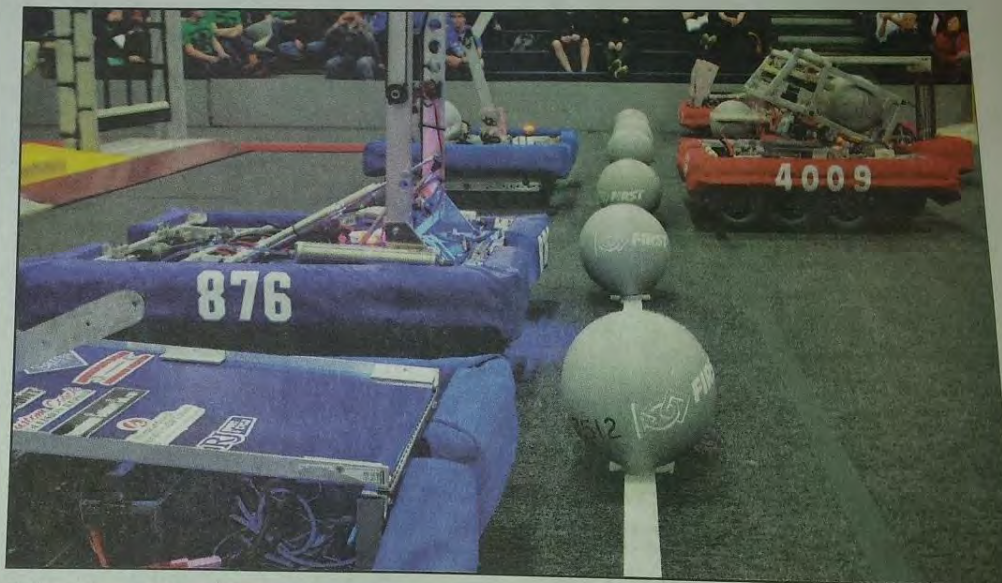
Media Department, Duluth East Daredevils

The Duluth Entertainment Convention Center (DECC) is at mass capacity with 123 robots under one roof.

As two robotics competitions are being hosted simultaneously, this Double DECCer is the largest regional FIRST Robotics event in the world. Teams join the fun from as far as 9,000 miles away to compete.

Each year FIRST (For Inspiration and Recognition of Science and Technology) assigns a new task for robots to complete worldwide. Teams have only six weeks to create a competitive robot. This year's game, Stronghold, uses a medieval theme and challenges teams to take over the opposing alliance's castle by navigating defenses, launching boulders and climbing a tower.

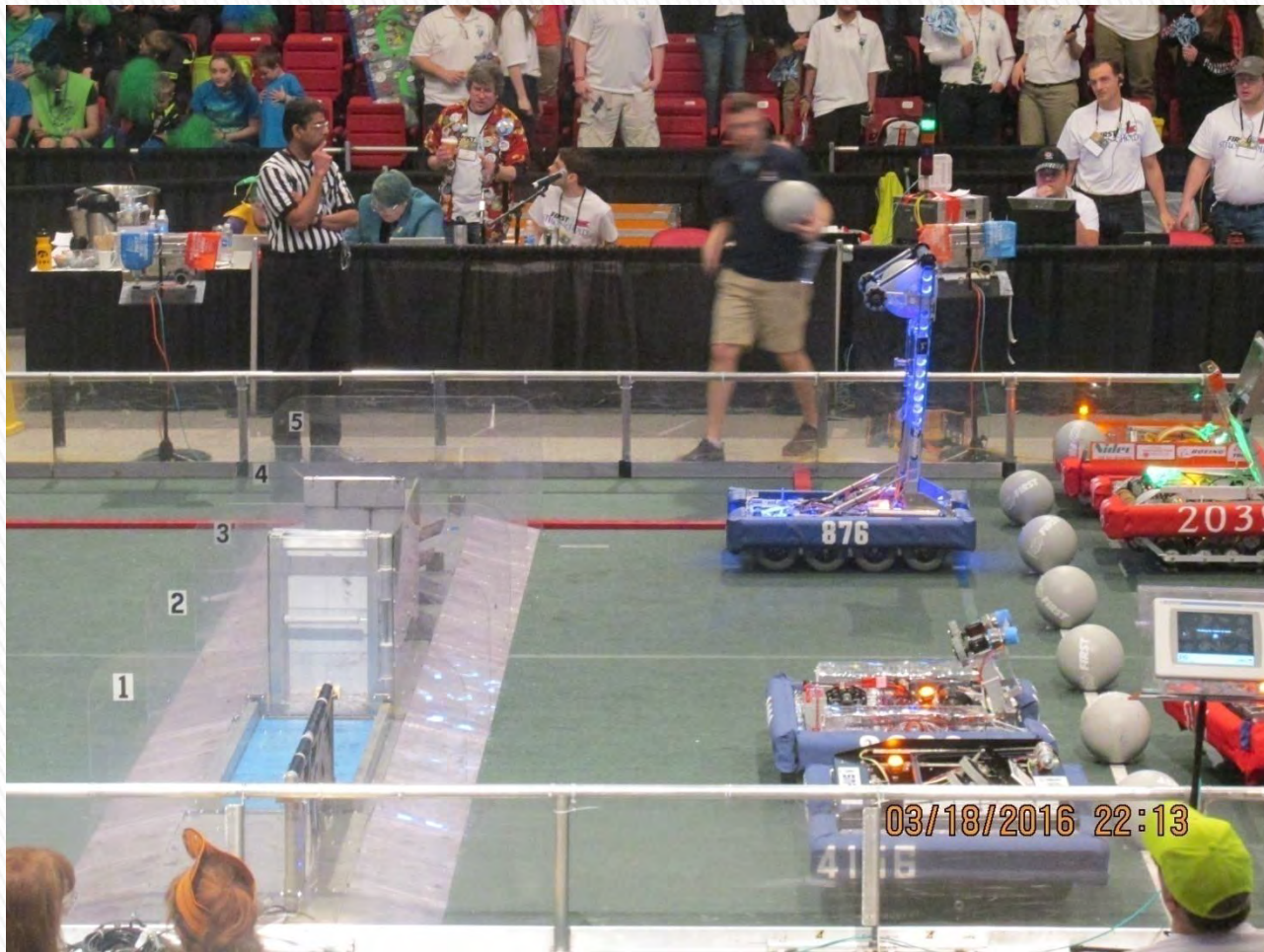
While teams take over other teams' strongholds, this competition is about more than just robots. "It's an excellent character-



Robots line up for action on the field.

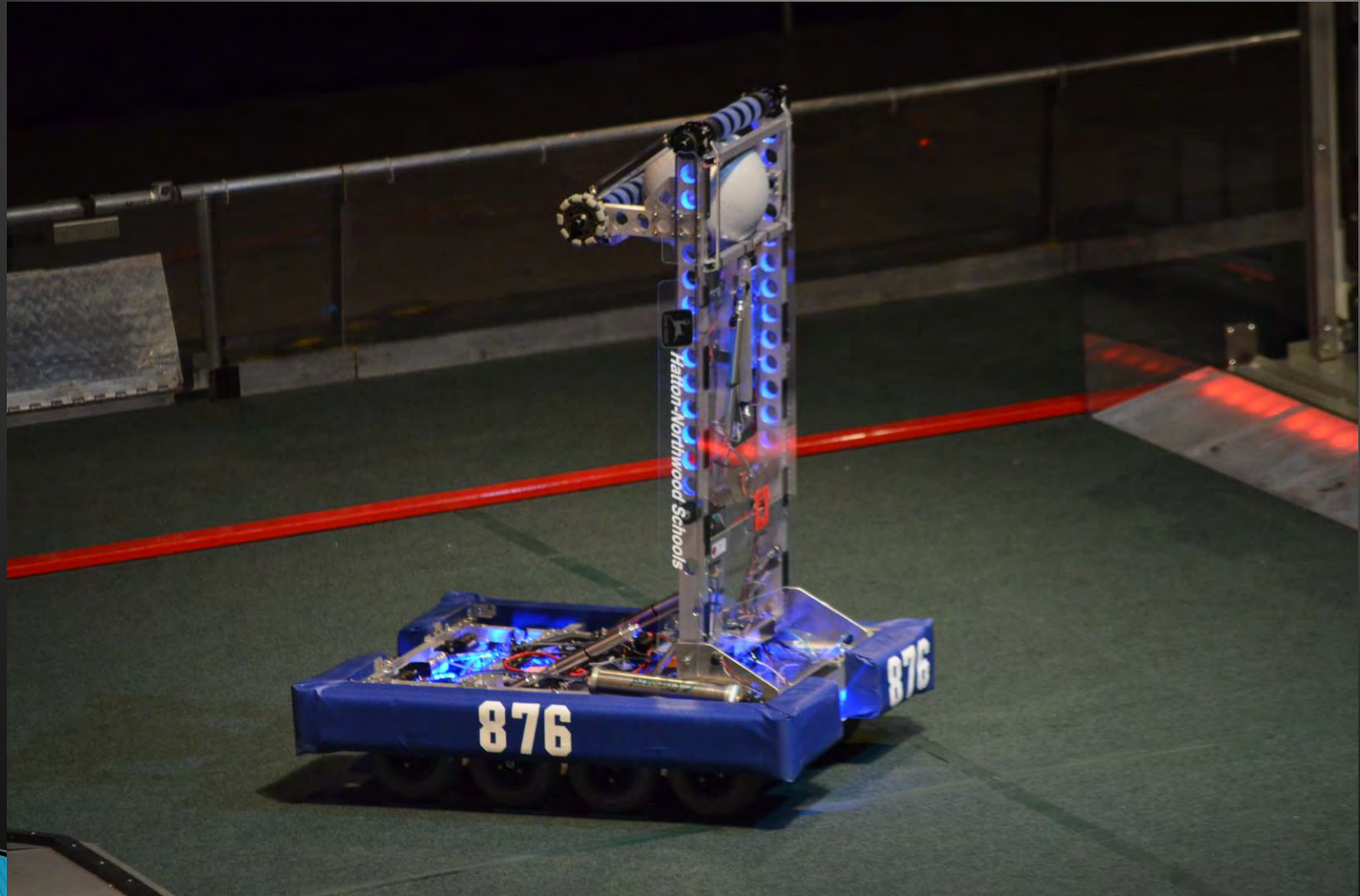
Photo courtesy of Anna Todd



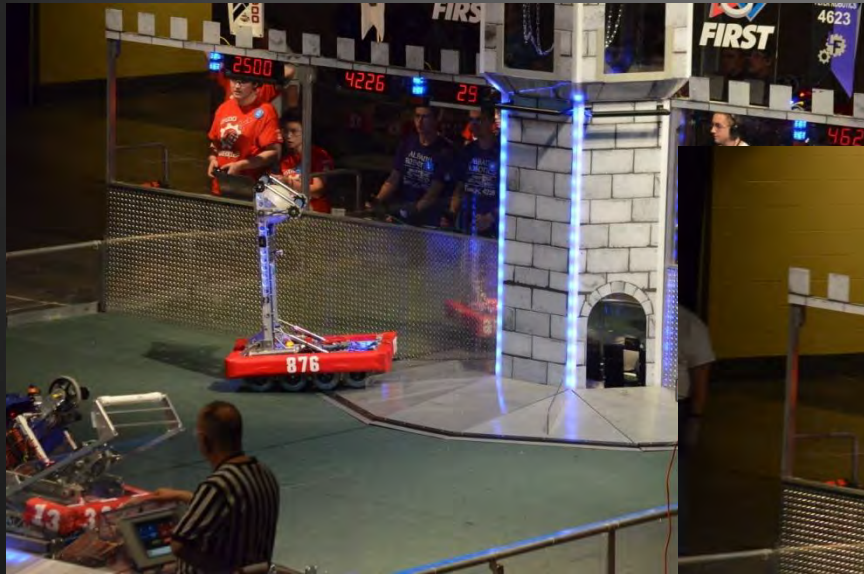


3 robots work together as an Alliance and compete against another Alliance.

Rockpicker could score



And scale the tower for bonus points!!



Team 876 placed 3rd out of 60 teams and won the Industrial Design Award!



THUNDER
ROBOTICS 876

2 weeks later, we competed
against 40 teams from 7 states in
Peoria, IL



The team overcame mechanical problems.....



And took 1st place!!

schedules, as well as tanks and scores, will be available on the Blue Alliance website or through the FRC Spyder app (available for both Android and iOS), as well as on Facebook, YouTube, and Twitter, as well, using #ILFRCCIR.

FIRST Final 2 of 2 **FIRST STRONGHOLD**
Central Illinois Regional

Red Alliance		Blue Alliance	
1	2481-876-2220	3	1756-1736-4156
	20		45
Boulder	70	Boulder	25
Defense	55	Defense	55
Blue Penalty	5	Red Penalty	0
Challenge/Scale	20	Challenge/Scale	25
VICTOR!	170	150	

FIRST Central Illinois Regional 423 / 43,123 USTREAM LIVE

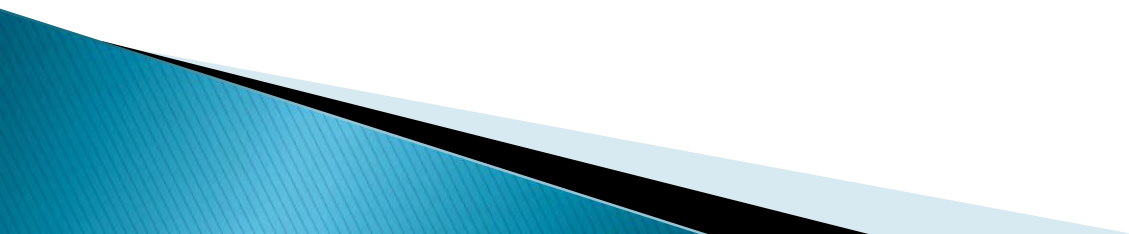
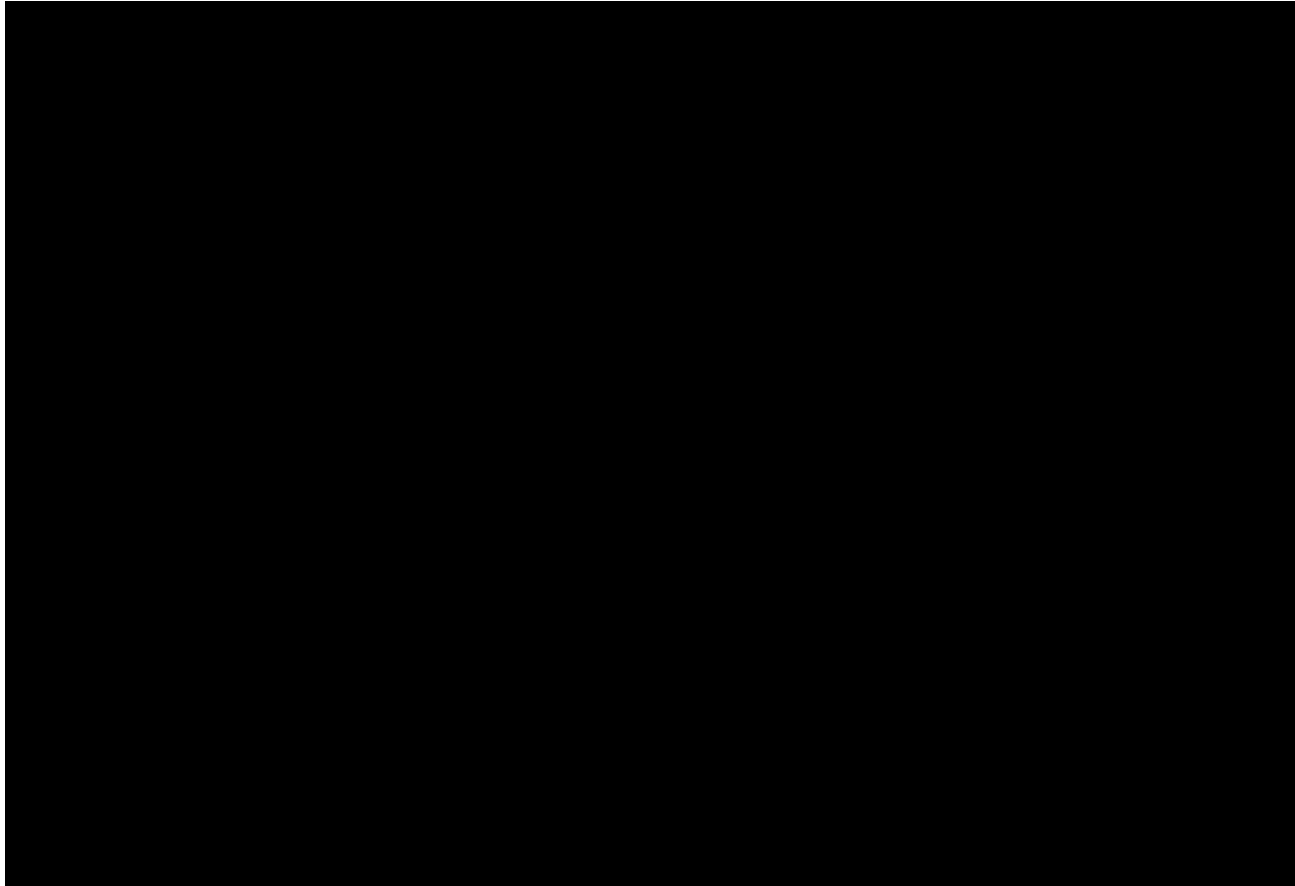


Our next stop is the World Championships in St. Louis.



<https://www.youtube.com/watch?v=yp-Jb0bQFRE&list=PLGEVWSs4MszgFkssO-bbOd4Xts47NMjgIG&index=83>

A Duluth regional match .



1. Bison BEST
2. VEX robotics
3. LEGO League
4. FRC– 3 teams