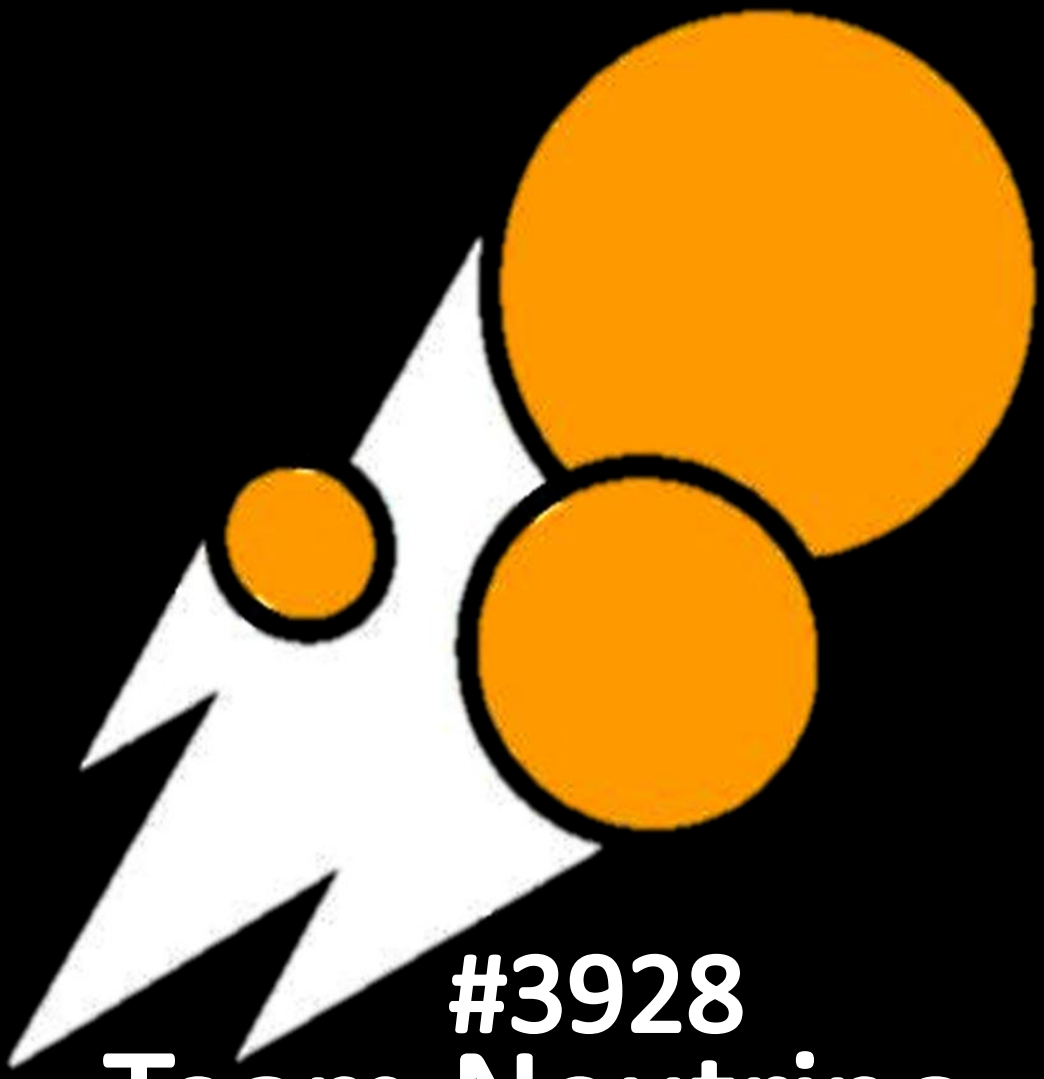
2013



#3928
Team Neutrino

Ultimate Ascent

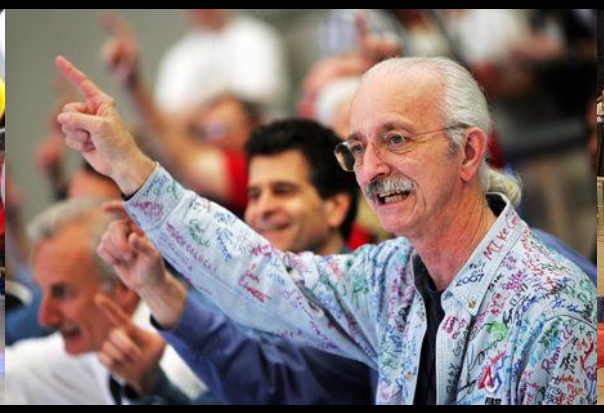
Table Of Contents

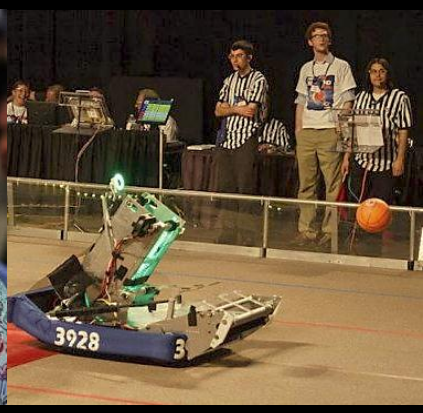
What's *FIRST* ?

FIRST® is a not-for-profit organization that designs fun, motivational programs to help young people aged 16-18 discover and develop a passion for Science, Technology, Engineering, and Math through challenging robotics competitions.

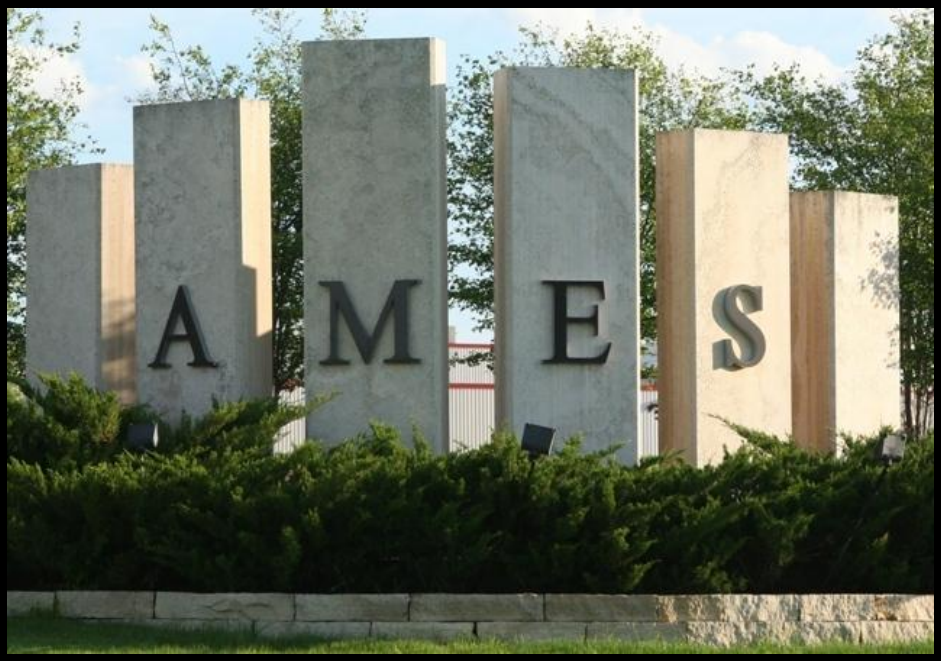
The Mission of *FIRST*

to inspire youth to be the science and technology leaders of tomorrow by engaging them in exciting Mentor-based programs that build their skills, inspire innovation, and foster well rounded life capabilities including self confidence.





Team Neutrino is a 2nd year team from Ames, Iowa and will be attending the Greater Kansas City Regional and the Minnesota North Star Regional. The team is partnered with Iowa State University College of Engineering and the Story County 4-H program.



Team History

Team Neutrino started with one of our students being invited to attend the FIRST Minnesota North Star Regional by her grandfather, a mentor on team #2977. After being inspired by the mission, community, and the competition, she decided it would be great to have a FIRST Robotics team in her area. She began with her school's engineering club and writing a proposal to the principal. After gaining permission, it became apparent that the team needed a coach, mentors, and funding. With the help of her mother, they applied for the JCPenney's grant for rookie teams. After contacting the regional director for this information, they connected with a student at Iowa State University looking to start a FRC team. It was a match made in heaven. The team then started having meetings before gaining students to work out the details like how the team would run and space and funding issues. After this, the team was ready to add students. They spread the news that Ames, Iowa had brought back a FIRST Robotics team. Neutrino then gained the dedicated mentors, students and coach they have today.

2012 Team Picture

After the 2012 season was over, the team's main workspace at Ames High School was disbanded so alternative plans were needed. Fortunately enough for the team, they were invited to join the Story County 4-H Program as Iowa's FIRST 4-H FRC Team! The team was excited to partner up with ISU Extension Outreach for the exciting year to come along with many more years.

Meet the Team!

Conor Albinger, Matthew Coyle, Robert Bingham, Matthew Devig, Kyle Gass, Jeremy Grzywacz, Josh Johnson, Matthew Klocke, Trey Miller-Dean, Dagney Paskach, Sarah Pinkerton, David Runneals, Bojun Song, Rachael Stammer, Timothy Steward, Tyler Witte

2013

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Team Neutrino

Build Season

2013 Kickoff

Kickoff marks the start of the 6 week build season. The team watched the live stream from NASA then started brainstorming about how to play this year's game, Ultimate Ascent.

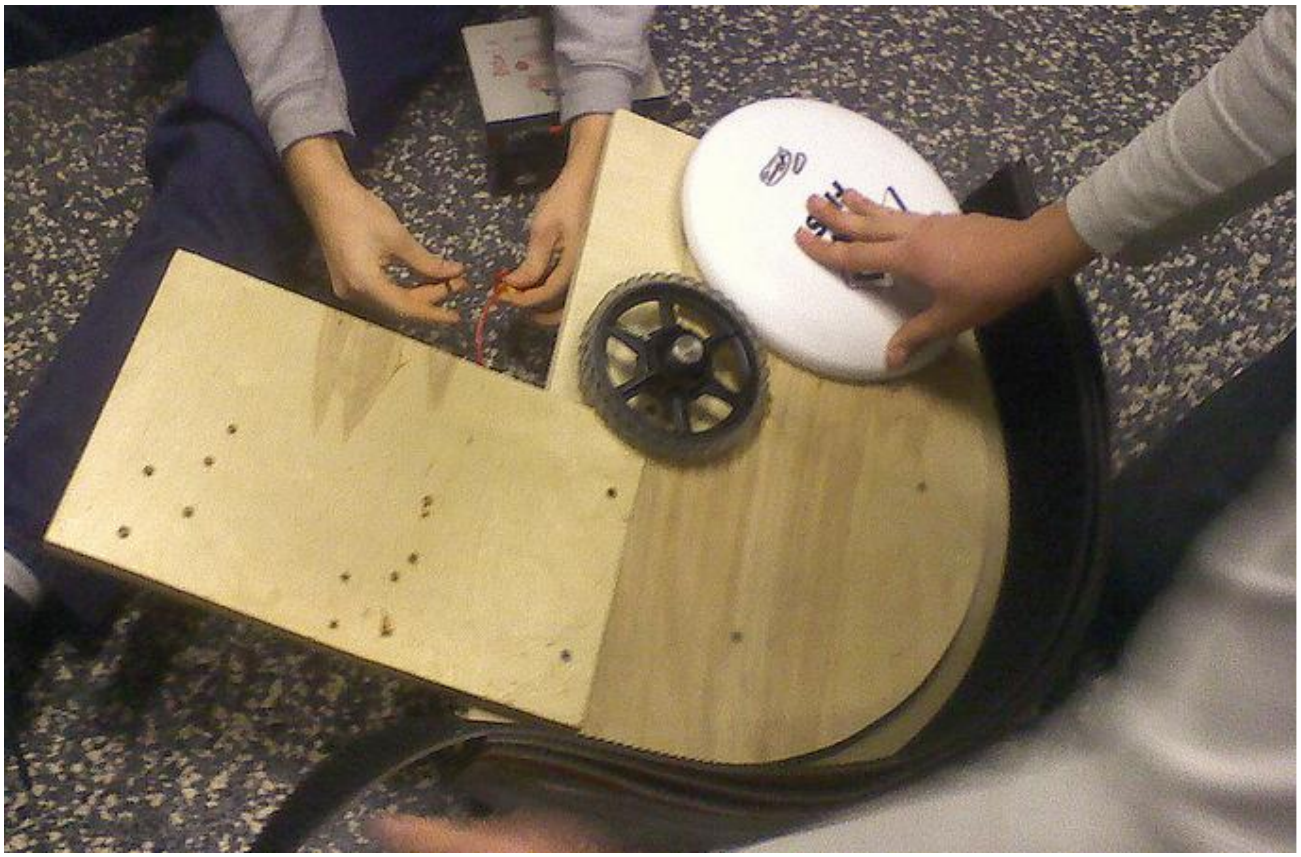
ULTIMATE ASCENT

An important part of each year is reading and understanding the rules. After the rules were read mentors of the team lead a team discussion to figure out the strategy for the game

The kit of parts was received and inventoried

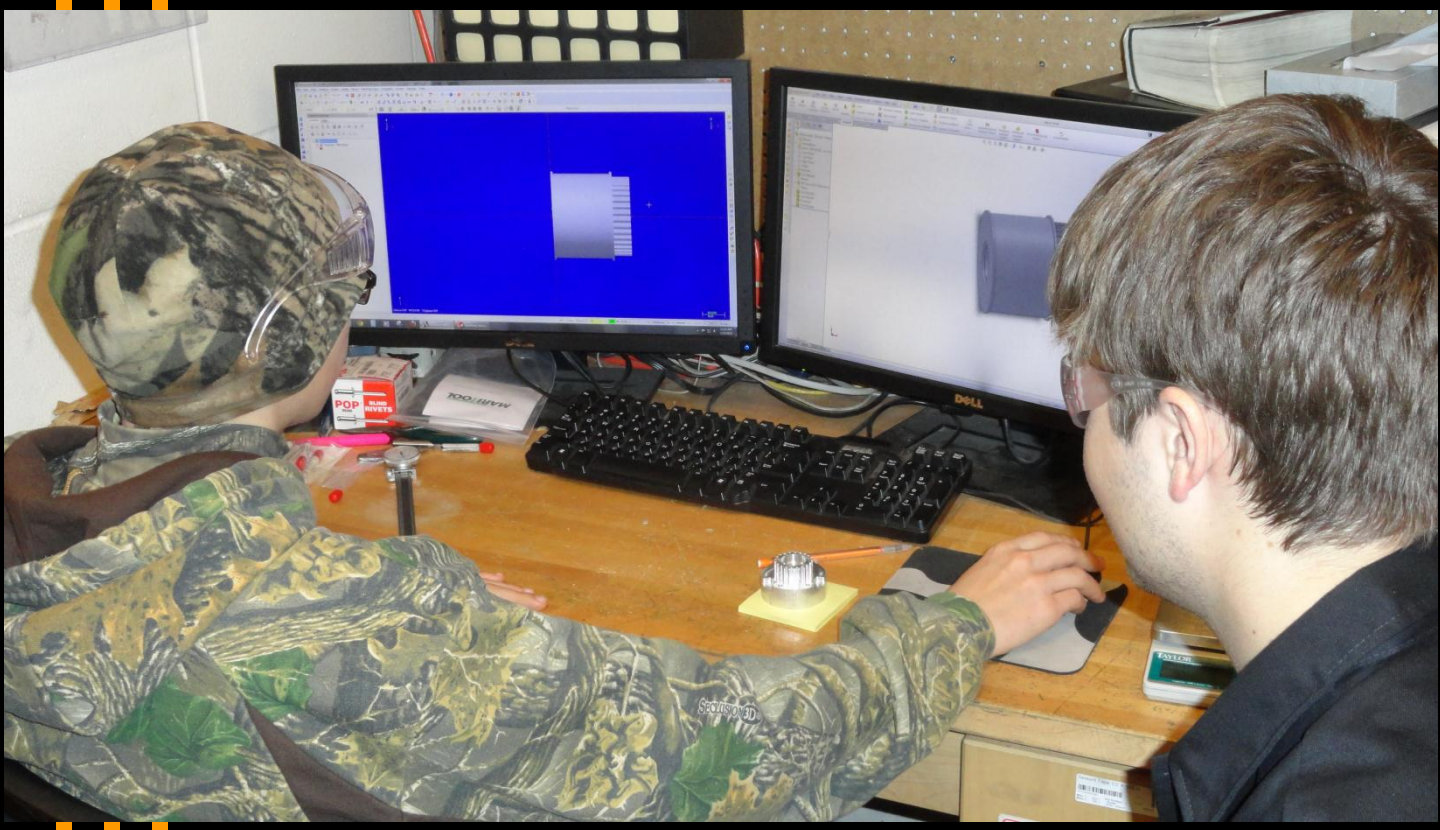
The Pyramid

Pieces of the playing field were build to use when testing and driving the robot.



Choosing a Shooter Type

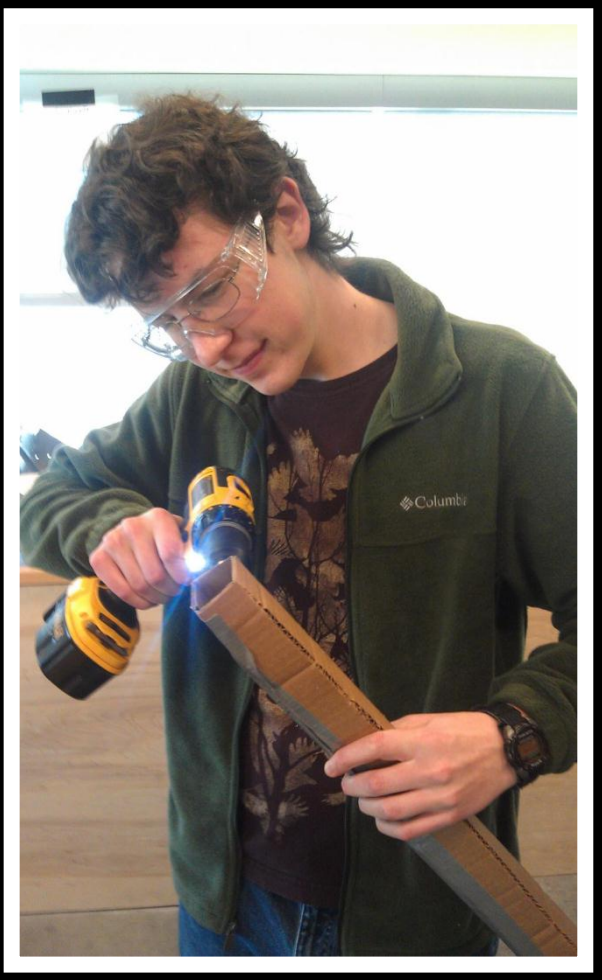
Multiple Shooter designs were prototyped to figure out which on would launch the Frisbees the best.

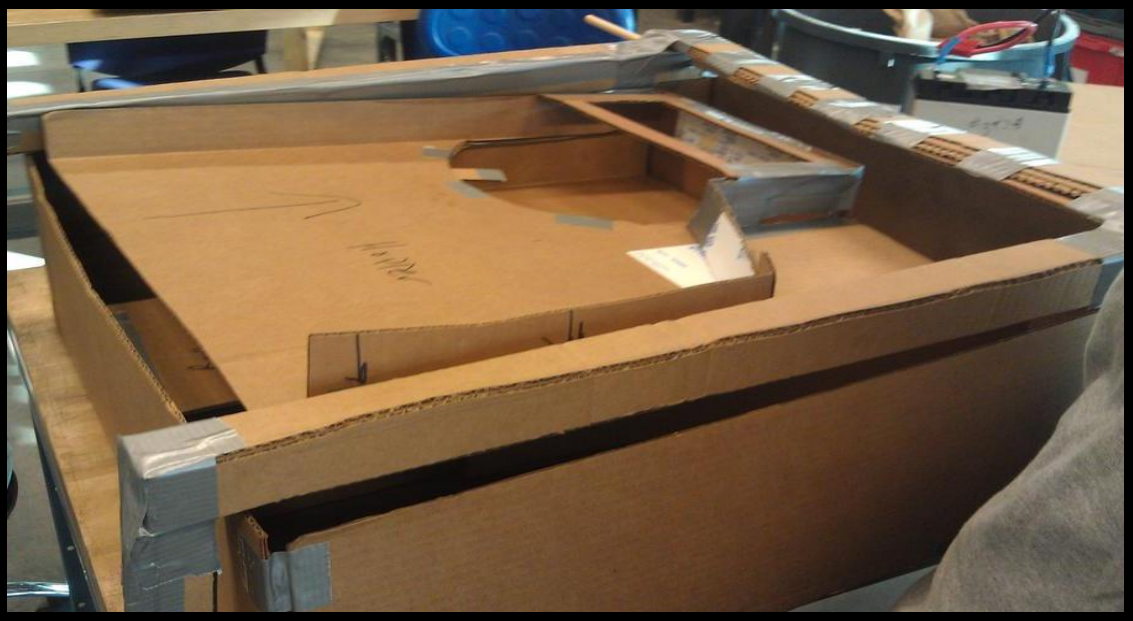


After deciding on a strategy and basic concept, the robot design was drawn using a CAD program.

Prototyping

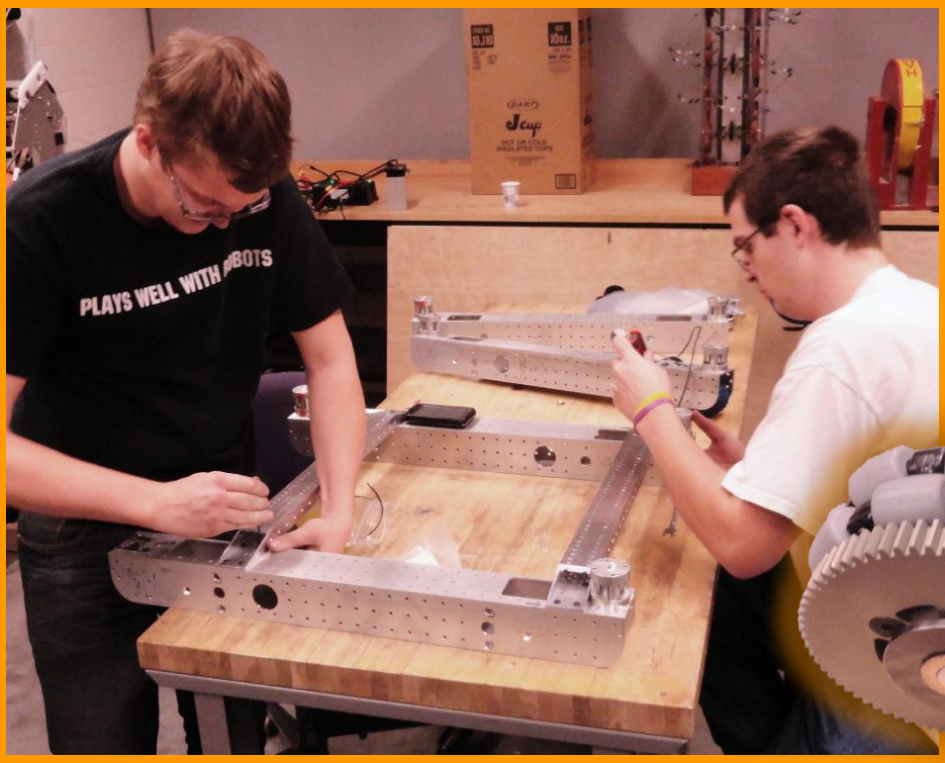
Based on the CAD model, a cardboard prototype was build to help visualize how it would all fit together.



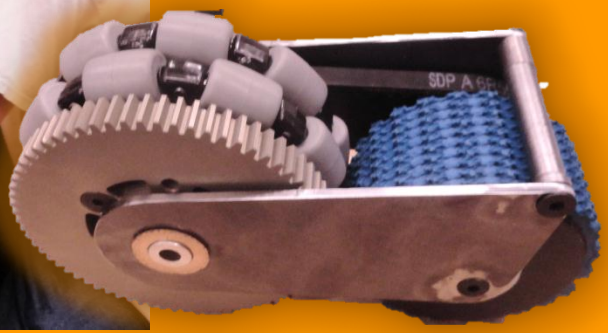


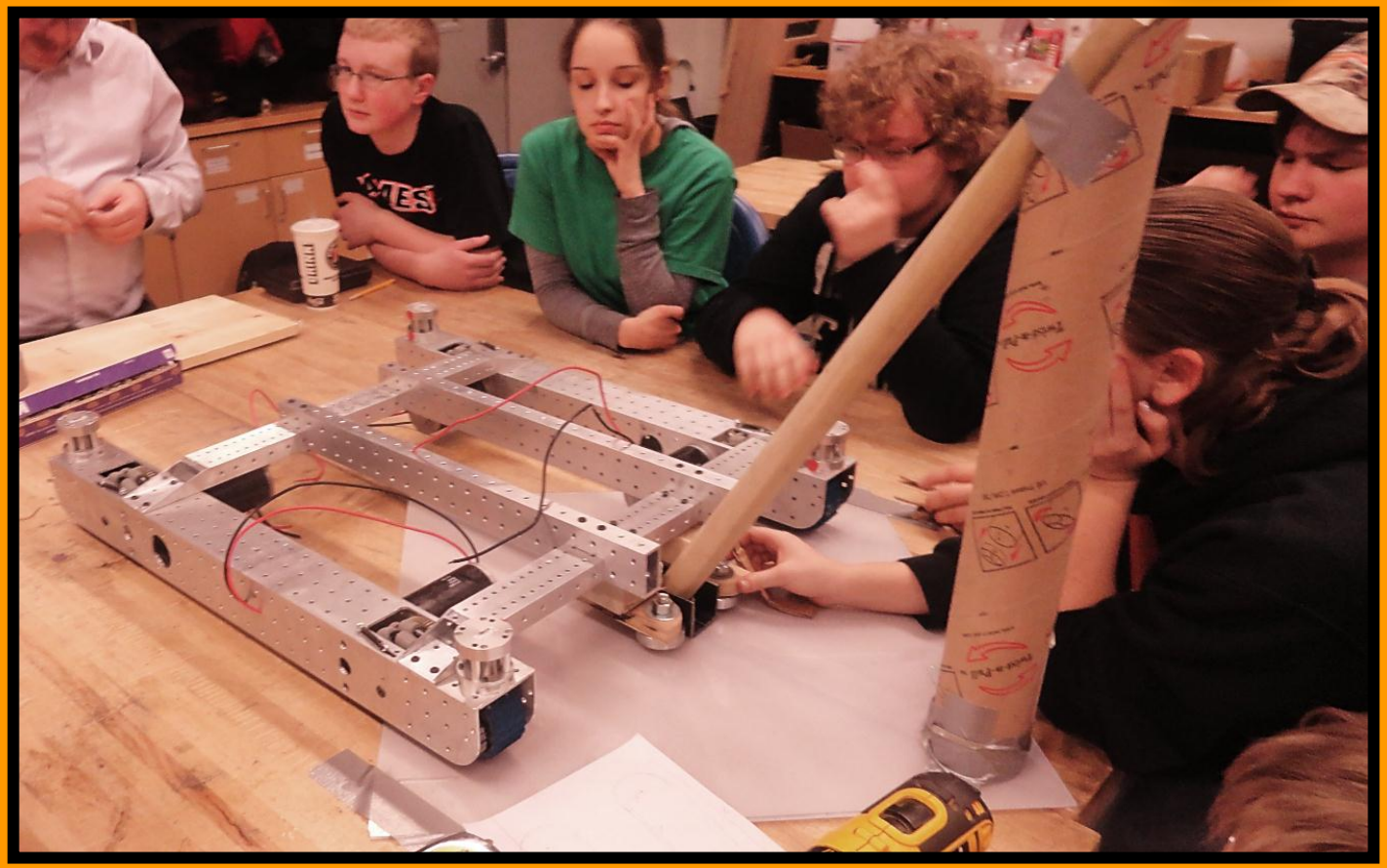
Making Parts for the Robot

Building the Drive Train



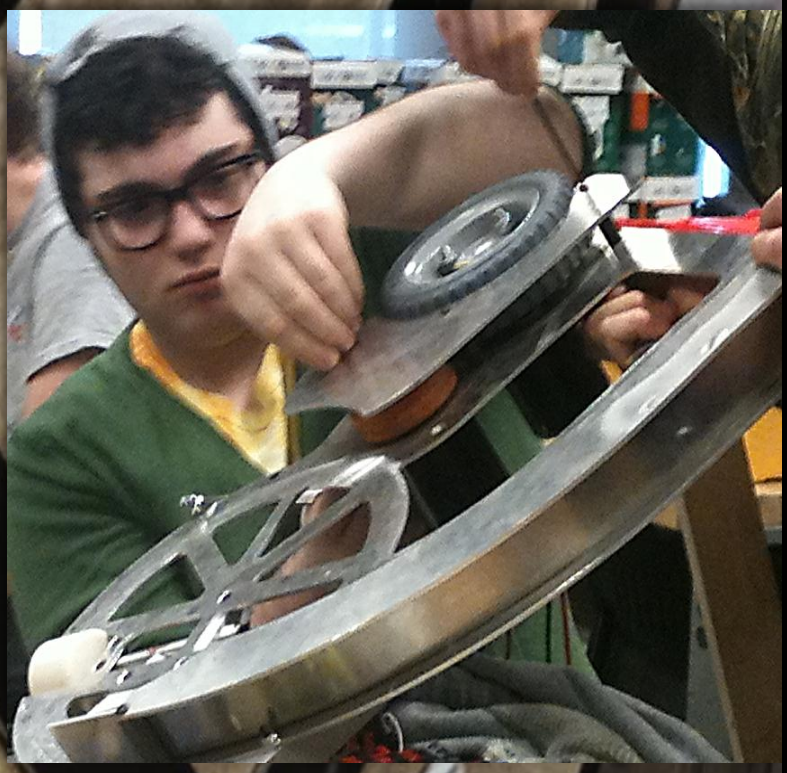
2 drive trains were assembled. One was used for practice and the other was for competition.

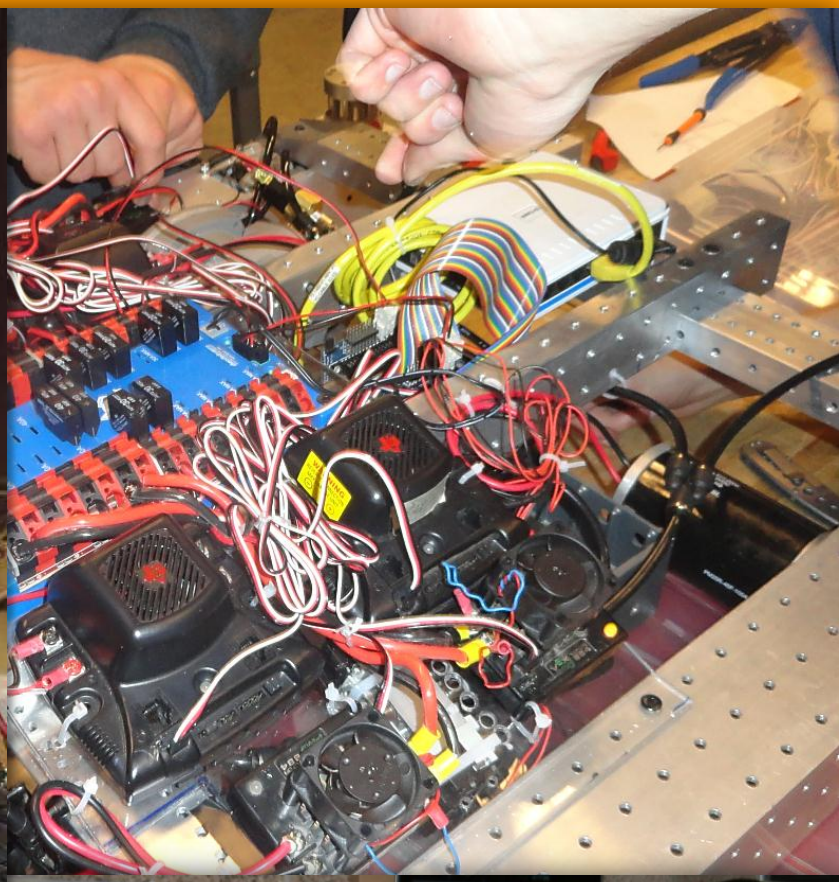


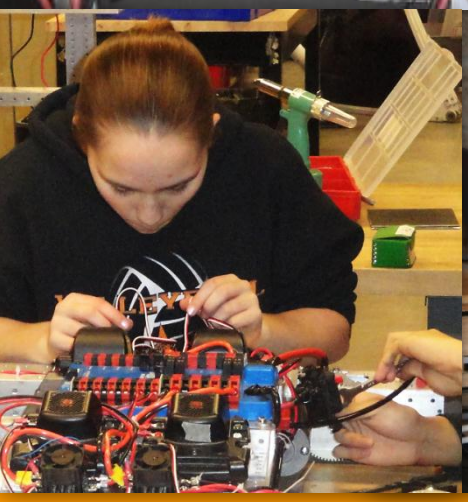


Based on the CAD model, the shooter was assembled and mounted on the drive train

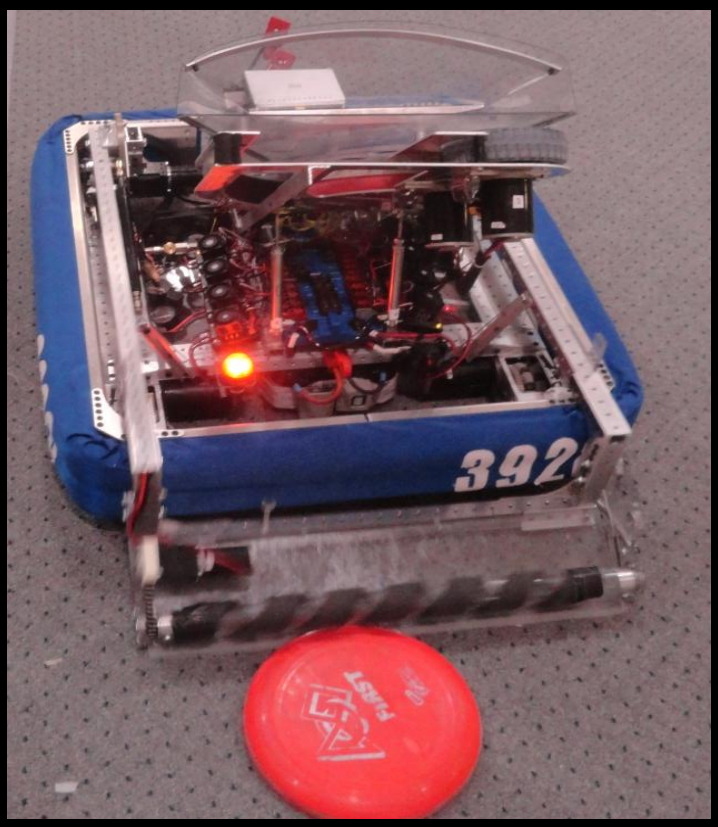
Building the Shooter

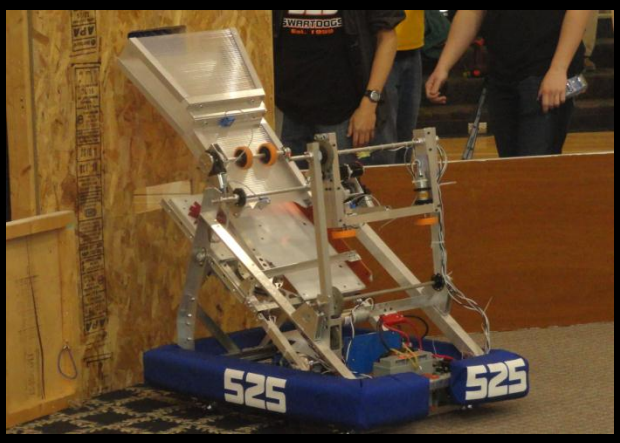




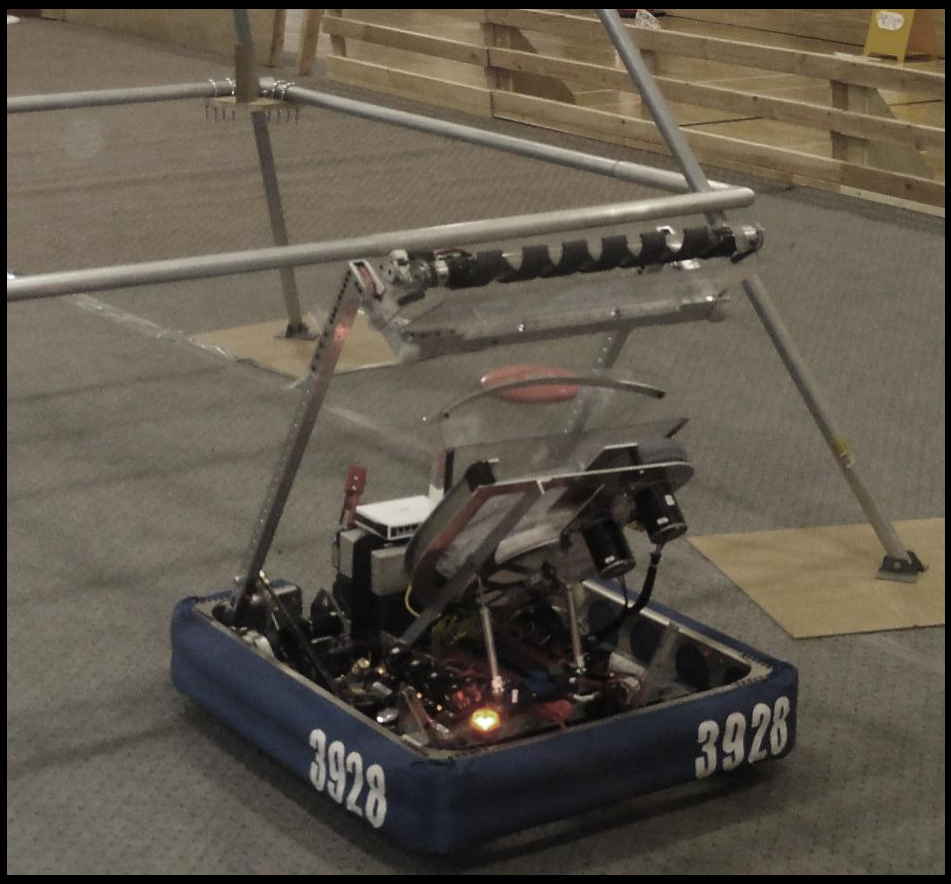


Programming and Wiring the Robot





Scrimmage with Team #525



Team Neutrino went to Cedar Falls, Iowa to test out the robot and practice driving with Team #525, The SWARTDOGS

Robot Open House

The Team hosted a Robot Showcase to demonstrate the robot for friends and family before it went into the bag. Tours of the build space were also offered.

2013

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Team Neutrino

Off Season

Off Season

- Science Center FLL Regional
- 4-H Story County Community Service
- STEM Town Hall Meeting
- Cow Town ThrowDown
- Ames Middle School FLL Presentation
- Nevada High School Presentation
- FLL Iowa State Championship
- Iowa State Fair
- Super Summer
- STEM Day

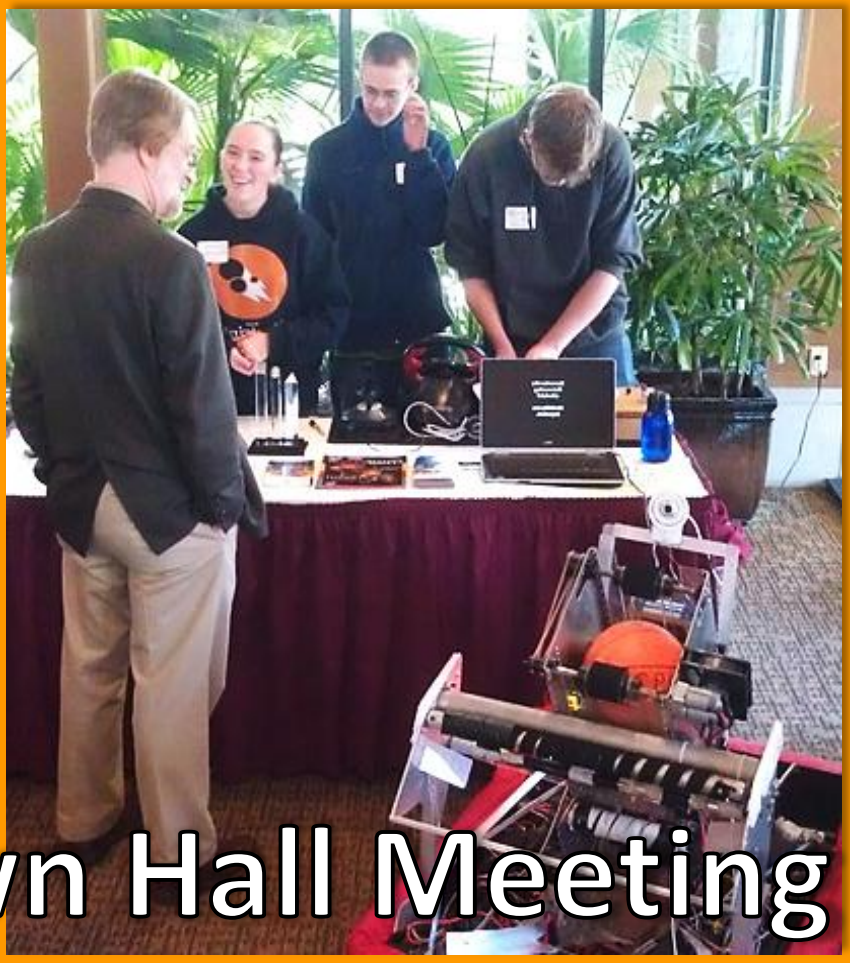
Science Center FLL Regional

On November 7th members of Team Neutrino volunteered at the Science Center of Iowa's FLL Regional.

4-H Story County Community Service Project

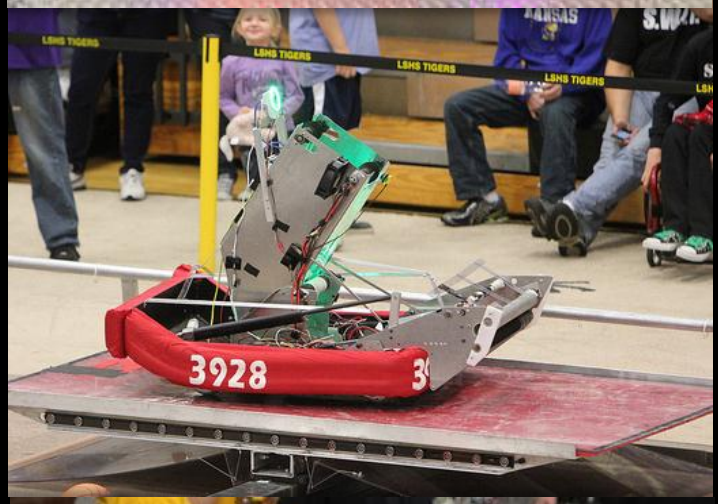
Members of the team built doors for the Story County Extension Office cabinets.

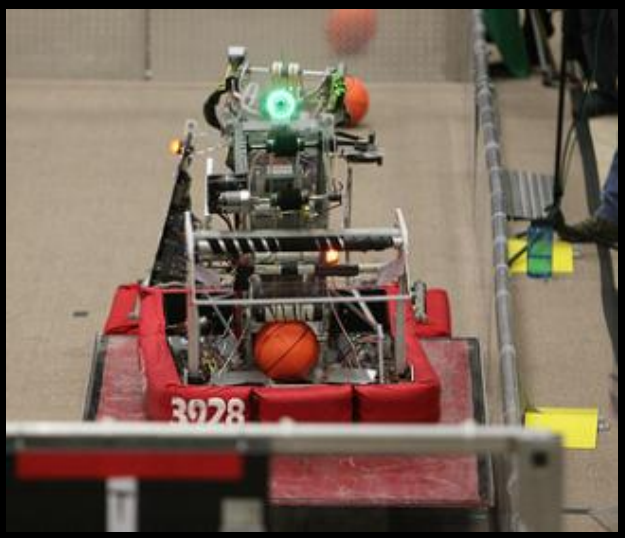
Team Neutrino was invited by the Iowa State University Extension to present the robot at the STEM town hall meeting. This led for an opportunity to talk to many Iowa State University Extension Staff members and State Representatives.



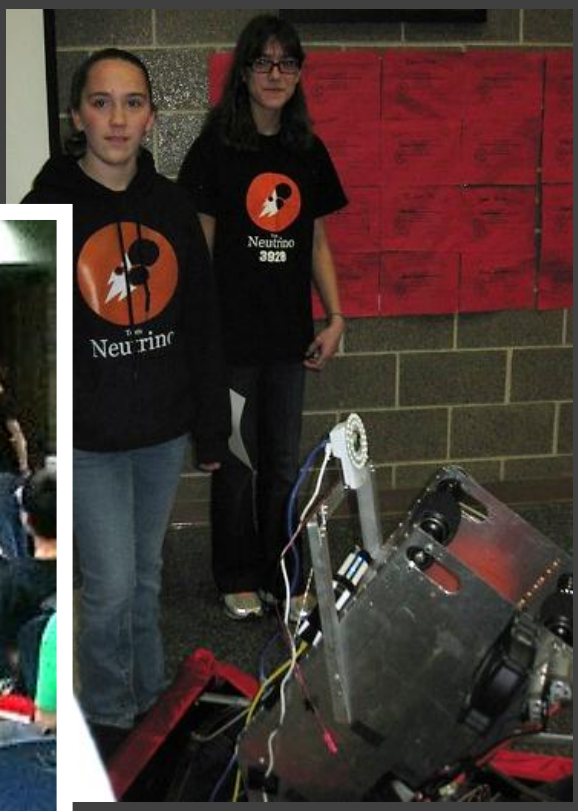
STEM Town Hall Meeting

Cow Town ThrowDown





Ames Middle School FLL Presentation



Nevada High School Presentation

The robot was demonstrated to three 5th and 6th grade FLL teams, one 7th and 8th grade FLL team, a Physical Education class, and the principal of the high school.

Check out our website for video footage of the presentation.

FRC Team Neutrino The FIRST Robotics Competition hosts events much like the one you're at today. Team Neutrino is here to show off their robot in action for you to see!

Iowa FLL State Championship

Team Neutrino Demonstrated the Robot to FLL teams and visitors at the Iowa FLL State Championship, those on the team who did not help with FRC volunteered at the tournament.

Iowa State Fair

Super Summer 2012

June 4-15, 2012

Opportunities for High-Ability Students Entering Grades 2-9

Ames Middle School
3915 Mortensen Road
Ames, IA
515-268-2400 (available June 4th)

LEGO MINDSTORMS ROBOTICS **(COURSE 410)**

Members of the class will learn to build and program robots using the LEGO Mindstorms NXT kit and software to carry out tasks on a collection of LEGO models, similar to the FIRST LEGO League robot challenges. Beginning students will learn basic programming techniques such as moving the robot forward a predictable distance. Advanced students will learn to use loops and switches to create more sophisticated programs and solve more complex challenges. Advanced students will create their own challenge course. Please note that robots my NOT stay together from one day to the next, unless other arrangements are made.

Grades 6-8 Limit 15

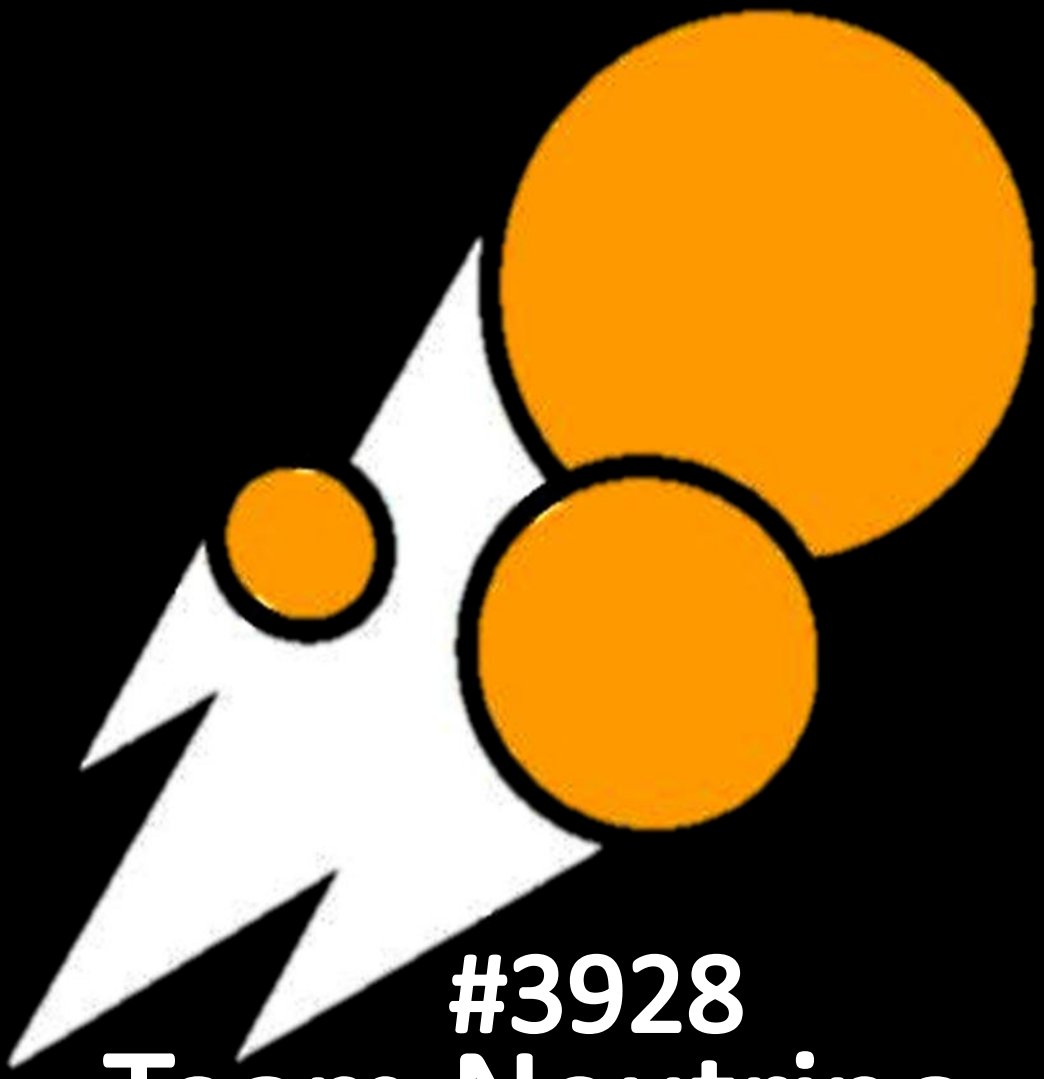
Class Period II - 10:15-11:45

Instructor: Dori Pinkerton, Des Moines Public Schools (Math Teacher)

STEM Day

Today, Team Neutrino attended STEM Day at the Iowa State Capitol with part of our Ultimate Ascent robot. We talked with state lawmakers educating them about FIRST and the benefits of FRC. Also in attendance were our friends from Team 525 Swart Dogs and 4646 Des Moines CoLab along with FTC Team 6420 and several FLL teams. We hope that our state legislators recognize the importance and benefits of FRC and the other FIRST programs and hope they continue their support of FLL and FTC along with adding FRC to the list of programs funded through the Iowa STEM initiative.

2013



#3928
Team Neutrino

Marketing

The Website

During the 2013 season Team Neutrino developed a website (www.teamneutrino.org). The website offers more information about the team as well as other helpful information on areas relevant to the team.

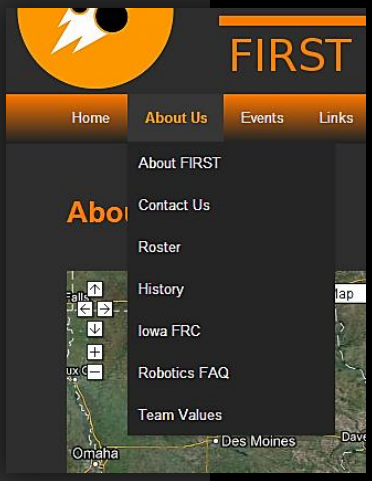
Just a couple of the useful links offered from the site. There is also a blog about what the team is currently doing, check it out online!

Links

Contact us if you would like a link placed here.

Local FIRST Teams

- Flying Monkeys FLL Team – The Flying Monkeys FLL Team based out of Ames is recognized world-wide for their development of the BOB-1, a prosthetic hand device that helped a 3-year-old to write. The BOB-1 currently has a patent pending. We are lucky enough to have a former Monkey a.k.a. Monkey #2 on our team! Click here to see the ABC Nightly News story about the BOB-1.



Other Local Clubs & Groups

- Iowa Lego Users Group – A group devoted to all things LEGO.

STEM Links

- The Story Behind the Science is a website that profiles different types of professional scientists.

Robots in the News

- Cambridge University announces research centre to study the risk of robots taking over the world
- This Crazy Bass Guitar Robot Shreds Like a Total Machine
- This Robotic Water Snake is Both Graceful and Utterly Terrifying
- Watch This Adorable Horde of Intelligent Swarm Robots Play Piano
- Uncrashable Rolling Robot Takes To the Skies To Avoid Obstacles - Gizmodo, 11/29/12
- A Genius Dad Made a Flying Quadrocopter to Walk His Kid to the Bus Stop - Gizmodo, 11/29/12

Tri Fold Brochure

What is FIRST Robotics?

FIRST®
For Inspiration and Recognition of Science and Technology.

The mission of FIRST is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

Founded by Dean Kamen in 1989, FIRST develops accessible, innovative programs to motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills.

For more info on FIRST
www.usfirst.org

For more information about our team visit our website at:

www.teamneutrino.com

Team
Neutrino
FIRST Robotics Team #3928

www.teamneutrino.org

The robot above was designed to play a game using basketballs. Students of the team work together to create complex systems to help the robot best complete the challenge. Below is a picture of a swerve module, which allows to robot to achieve omnidirectional motion, or motion in all directions.

About Team Neutrino

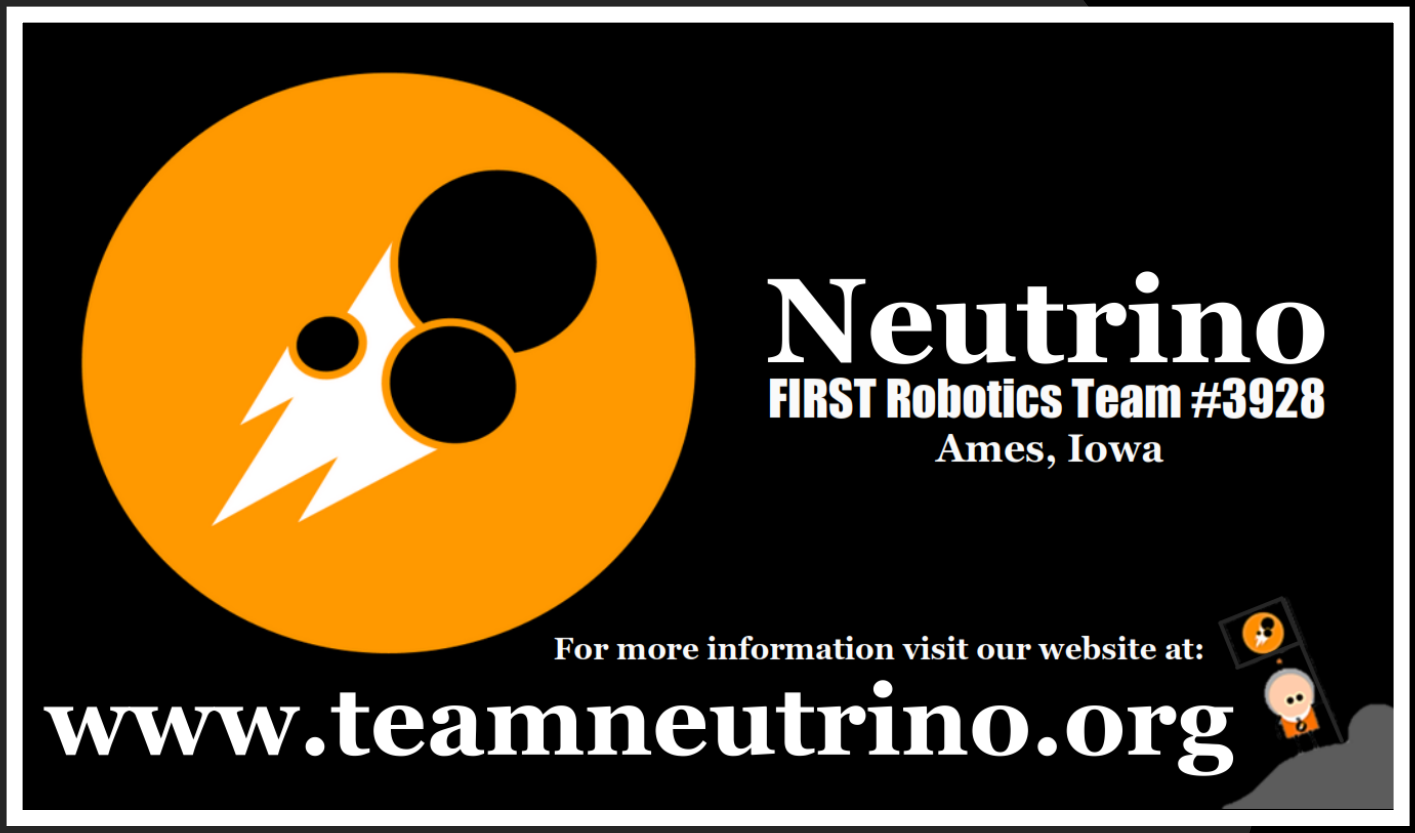
Team Neutrino faces the exciting challenge of building a robot to compete in FIRST Robotics Competition events. The team is composed of high school students from the Ames, Ballard, and Nevada area . Each year a new game is released in the first week of January. The students have 6 weeks to design, build, and program the robot. Students work along-side mentors to solve problems and learn about the field of engineering. Students are also responsible for marketing the team, creating a positive team image, designing a website, and fundraising. Team Neutrino students also volunteer their time to community events such as mentoring children through summer camps, providing robot demonstrations and doing community service projects.

A unique varsity Sport for the Mind™ designed to help high-school-aged young people discover how interesting and rewarding the lives of engineers and scientists can be. Throughout the FRC experience, students gain maturity, build self-confidence, learn teamwork, and gain an understanding of professionalism. They learn skills along the way that all but guarantee them extraordinary career opportunities.

Community support and sponsorship is important to maintaining a sustainable team. Selling the FIRST Green e-watt saver LED light bulb is one of the ways the team works to raise money for registration fees, robot parts, and competitions. These light bulbs last 33 times longer and are 80% more efficient than a standard light bulb. If you are interested in these light bulbs or sponsoring Team Neutrino, visit our website.

This brochure was developed as a way to educate the community about our team, FIRST Robotics, and the Mission of FIRST.

Business Card



A business card was designed to direct people to the website to learn more about the team. The front has the logo, name, and number, and the back is plain white for use of writing on and other information if needed.

Buttons for the team as well as buttons for mentors of Team Neutrino were designed and made to hand out at the competitions.

Button Design

Team
Neutrino

FRONT

The front of the Shirt remains the same from year to year, and the back is updated with the sponsors for each year.

BACK

3928

SAUER DANFOSS

QUALITY MANUFACTURING CORPORATION

JOHN DEERE

AREN HILL

C.I.T Signature TRANSPORTATION

jcpenney

IOWA STATE UNIVERSITY®
College of Engineering

18 USC 707

Shirt Design

Sponsorship Thank You Poster

Thank You for Supporting

Team Neutrino

to inspire youth to be the science and technology leaders of tomorrow by engaging them in exciting mentor-based programs that build their skills, inspire innovation, and foster well rounded life capabilities including self confidence

FIRST Robotics Team #3928

2012

www.teamneutrino.org

Sponsorship Letter

Neutrino
FIRST Robotics Team #3928

To our business community,

I'm a student from FIRST robotics team, Team Neutrino #3928.

FIRST stands for "For Inspiration and Recognition of Science and Technology". FIRST aims to inspire and motivate students to pursue education and careers in science, technology, engineering, and math through robotic competition. At the beginning of each year, a new game is introduced and teams have 6 weeks to build a five-foot robot that weighs 120 pounds. If you would like to know more about FIRST, please visit www.usfirst.org.

Team Neutrino is a community robotics team located in Ames, IA. We are in the middle of our second season. Our team will be attending the North Star Regional in Minneapolis Minnesota and the Greater Kansas City Regional in Kansas City Missouri. The competitions are three days long. Teams that place in Regional Competitions attend the International Championship, hosted St. Louis, MO.

If we reach our goal of $16,500, we plan on using it to cover the costs of registration ($6500), robot parts and electronics ($5000), and other miscellaneous costs such as travel/lodging ($2500). We hope to qualify for the Championship Event in St. Louis, which would require us to raise even more money ($5000 for registration).

We appreciate any contribution to the team. Not only does the team need monetary support, we are in need of marketing materials, tools, mentors, fabrication of parts for the robot, and community support. Any contribution is greatly appreciated, and to say thank you we advertise your support wherever we go through our levels of sponsorship:

Diamond ($5000+) - Large Logo on Robot and Banner + Platinum Advantages
Platinum ($2500+) –Small Logo on Robot + Gold Advantages
Gold ($1000+) – Small Logo on Banner + Silver Advantages
Silver ($500+) – Logo in Pit and on Team Shirts + Bronze Advantages
Bronze ($250+) – Mention on Team displays + Honorable Mentions
Honorable Mentions (50+) - Mention in Team Literature

We appreciate your time and consideration in supporting our team!
Please respond to neutrinofrc@gmail.com.

Thank you!

A letterhead was designed and used on team documents. Above is a letter used to inform businesses about sponsoring Team Neutrino.

Open House Program

2013 Robot Open House

Neutrino

FIRST Robotics Team #3928

During the past 6 weeks the team has been hard at work designing, building, and programming a robot to perform this year's game, Ultimate Ascent.

Conor Albinger
Matthew Coyle
Robert Bingham
Matthew Devig
Kyle Gass
Jeremy Grzywacz
Josh Johnson
Matthew Klocke
Trey Miller-Dean
Dagney Paskach
Sarah Pinkerton
David Runneals
Bojun Song
Rachael Stammer
Timothy Steward
Tyler Witte

Team Neutrino will be attending the Greater Kansas City Regional (March 14-16) and the Minnesota North Star Regional (March 28-30). For more information visit www.usfirst.org

www.teamneutrino.org

February 18, 2013

FIRST®
For Inspiration and Recognition of Science and Technology.

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For more info on FIRST www.usfirst.org

Team Neutrino

FIRST®

Sponsors

Quality Manufacturing
Sauer Danfoss
CIT Signature Transportation
John Deere
Aren Hill
JC Penney
Story County 4-H
Solidworks
Boyd Lab
Chase Signs and Graphics
Alpha Copies

Above it the program that was handed out at the Robot Showcase. The names of students on the team as well as general information are on the front. The back has the current year's sponsors, pictures from the build season, and information about FIRST.