CougarTech 2228
2010-2011
Team Business Plan

1 Overview

About our Team

Team 2228 is a USFIRST FRC robotics team established in 2007. Our team is composed of 40 student members (10% female) and sixteen mentors. Our student run robotics team hails from the Honeoye Falls-Lima and Rush-Henrietta school districts located in Western New York. We attend the Finger Lakes Regional every year. We are sponsored primarily by Forsythe Technology, Parsons Engineering, Xerox, and Dynak. Other support comes from Smidgeons, Allworx and Mendon Foundation.

Mission

Our mission is to inspire young people to be leaders by engaging them in exciting programs that build science, math, engineering and technology skills. We strive to inspire innovation and foster life capabilities including self-confidence, communication and leadership. As a result of participation in FIRST, team members should learn:

- Machine design
- Computer programming
- Machining and electrical systems
- Positive attitude and team building
- Marketing
- Time management and project management

Vision

"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology heroes."

Dean Kamen, Founder of FIRST

History:

The Rookie Year

Team 2228 began in 2006 when a group of interested adults spread the word about regional competition, LEGO Leagues, and engineering design. To raise interest, technology teachers filled a bus with students and administrators and attended the Finger Lakes Regional Competition at Rochester Institute of Technology. Experiencing the spirit and energy of this competition energized the group.

The robotics grassroots community formed a steering committee led by Paul Fleming, a mentor for many years. The committee built a base of support for the new team by enabling participation of local companies for machining, transportation and food. Our start-up contributor, Alstom Corporation, supported the cost of building the robot, competition registration, travel expenses, teacher stipends, and team shirts. We also gained the support of the Xerox Corporation, Mendon Foundation, Sage Rutty Financial Services, and Guida's Pizzeria.

In our rookie year, Team 2228 won the FIRST Rookie All Star Award and the Highest Rookie Seed Award at FRC. This earned us a trip to the national competition in Atlanta, which proved to be a fantastic bonding experience for the team and good competitive start for a rookie team.

The 2008 Season
In the 2008 season, our most notable achievements were made in the Ohio Buckeye Regional where we made it all the way to the finals. Our retention rate for that year was ninety five percent, which we saw as a great achievement for a second year team.

How Two Teams Became One, the 2009 Season

In the 2009 season, Team 1930, The Comets of Rush Henrietta, New York found itself unable to continue as a FIRST robotics team. Losing the team was devastating for its most dedicated members especially since the school district could not provide assistance. The team was well respected and a symbol of technological innovation and scholarship. But there were no resources to draw upon. Early in November of 2008, members of former team 1930 came to HF-L to ask if there was any possibility of becoming part of team 2228. Without hesitation, the team unanimously voted to graciously accept seven complete strangers from R-H to their team. Since then, this relationship has become well cultivated.

Achievements for that year include advancing to the quarterfinals at the Finger Lakes Regional and participation in the Hartford regional. We also added Parsons Engineering as a sponsor. That year we received a generous donation from the Garelick family in memory of Lee Garelick, an important patron to the Rush-Henrietta team.

The 2010 Season
The 2010 season saw the loss of our lead sponsor, Alstom, a severe blow to the financial security of the team. Fortunately we received the continued support of Xerox, along with new support from Forsythe. We also earned a NASA grant, which allowed us to travel to Raleigh to attend their regional. We were semi-finalists in Raleigh and we attended the Finger Lakes Regional for our fourth consecutive year. We also continued the partnership with the students from R-H, who formed a rookie FTC team that school year.

2 Goals

Current Position
When Team 2228 began in 2007, Alstom Transport generously supported us for two years. Their financial support was more than enough to get the team started and to provide the team with a vision of a successful team. We have continuing support from Xerox Corporation and Honeoye Falls Lima School District. The Mendon Foundation provides the 501c3 income tax status for our contributors and most of our purchases. In the first years, local companies made small contributions to the financial well-being of Team 2228. SageRutty Financial Services, Guida's Pizzeria, Pittsford Federal Credit Union, Plascore Inc, Bristol ID, and Kirkland Oil all contributed. For one year, The Lee Garelick family provided transportation for the Rush Henrietta Comets. In 2009, the search for sustainable corporate sponsorship and grants began in earnest. Xerox provides some monetary and in-kind-

services every year, but our quest for continuing corporate sponsorship has not yet yielded consistent results. In 2010, we received a NASA grant, but in 2011, we were forced to ask the parents for a voluntary monetary contribution. Thus, our five year plan includes both financial and team goals.

Team Goals

- Recruit directly from the middle school in addition to recruiting from the LEGO teams.
    - Measurement: Attend a spring middle school event to recruit
- Expand our training efforts outside the build season to include:
    - Basic electrical skills
    - Sensors
    - Java Netbeans programming platform
    - Animation software
    - CAD, Inventor
    - Gears and gear ratios
    - Mechanical arms and actuators, pneumatic and electrical
        - Measurement: Each team lead will deliver a training module to their team before the beginning of the season.
- Add FTC to Honeoye Falls Lima High School scholastic programs to increase student skills and parent involvement
    - Measurement: Robotics incorporated into physics, technology and math curricula.
- Ensure that all members make a commitment to joining a team that meets all year not just during build season.
    - Measurement: Complete the team handbook in 2011
    - Measurement: Use the handbook as the commitment device in 2012
- Increase community service activities to ten per year.
    - Measurement: Starting point in 2010 is seven activities
    - Measurement: By 2013, achieve the goal of 10 activities
    - Measurement: By 2017, maintain a total of 10 activities every year.
- Involve new parents into mentor roles
    - Measurement: Add one parent mentor skilled in engineering each year
- Find several mechanical mentors to expand the number of work cells in the shop in order to complete the robot on a shorter time schedule.
    - Measurement: Advertise in local newspapers, newsletters and with FLL parents
- Strengthen ties with FLL.
    - Measurement: By 2015, have student FRC members as mentors to FLL
- Identify skills needed for each team lead so as to prepare a skills based succession plan
    - Measurement: Provide a mentor presented leadership seminar for the team leads before the beginning of the official season.
- Increase the number of FRC graduates earning college scholarships based on their participation in FIRST programs.
    - Measurement: Starting point is 6 FIRST scholarships per year. Increase that by one a year until we reach 10 every year. The goal of 10 shall be achieved by 2015.

Financial Goals

- Increase corporate sponsorship to assure that this team attends two regional competitions every year.
    - Measurement: Sponsor total of $20,000 for each season.
- Maintain a level of funding so that we do not have to ask parents for funding.
    - Measurement: In 2012, we don't ask for money by achieving sponsorship levels.
    - Measurement: By 2013, we have at least 4 sponsors able to provide consistent year over year funding in the range of $5,000 to $10,000
- Begin each September with the funding needed for that year's competition
    - Measurement: Examine the financial records at the end of each competition season and assess our success.
    - Measurement: Promote sponsor search among parents and mentors on an ongoing basis
    - Measurement: Win grants whenever possible.
- Explore methods of funding and find ways for teens to approach developing business relationships.
    - Measurement: Approach High School Business department for training ideas and delivery methods.
    - Measurement: Mentors commit to developing relationships and expanding personal networks to promote funding of this team.

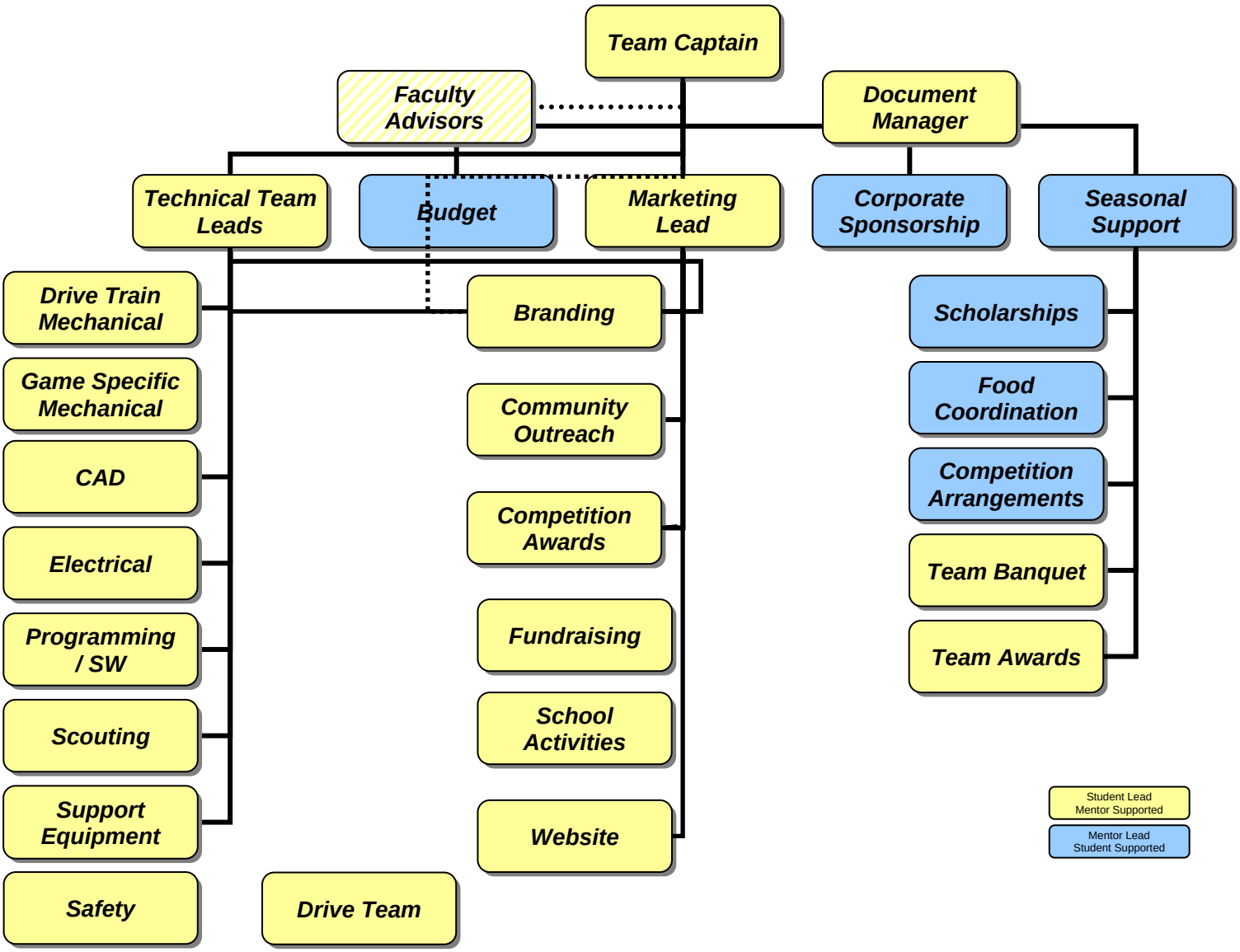
3 Meet Our Team

Team Organization

The leadership team is comprised of the team captain, faculty advisors, lead mentors and lead students of the following sub-teams:

- Technical Team Leads
- Budgeting
- Marketing
- Corporate Sponsorship
- Seasonal Support

The leadership team is empowered to make decisions that affect the entire team. They set direction for the team and are responsible for communication from the team to outside organizations. The leadership team is responsible for setting the proposed budget for the team and sub-teams as necessary. In the spring of the year, persons interested in heading each team are elected by majority vote of students and mentors. As noted in their nomination statements, the new leaders can focus on training, recruitment, fundraising, community outreach or off-season build. The strength of Team 2228 is in the passion of the student leadership.



Cougar Tech Team 2228

Technical (Robot) Division

The Technical Team Leads:

- Drive Train
- Game Specific Mechanism
- CAD
- Electrical
- SW / Programming
- Scouting
- Drive Team
- Support Equipment
- Safety

The technical team leads are responsible for all decisions regarding the robot. Any decisions or procurement requests outside of the agreed upon design bill of materials requires approval by the leadership team. All teams are responsible for ensuring that their specific tasks are completed on time and within the allotted budget.

Drive Train: Responsible for designing, procuring, assembling, and testing robot drive train. Perform drive train training, research, and development in the off-season.

Game Specific Mechanism: Responsible for designing, procuring, assembling, and testing robot device(s). These are devices that are specific to the year's game. Perform actuator training and research and development in the off season.

CAD: Responsible for drafting all the robot hardware elements. This team maintains the mass, properties, and other data on the robot. They are responsible for submitting the Autodesk Award to FIRST. They also perform training and process improvements relative to CAD in the off-season.

Electrical: Responsible for designing, procuring, assembling, and testing the robot's electrical system. They perform electrical system training, research, and development in the off-season.

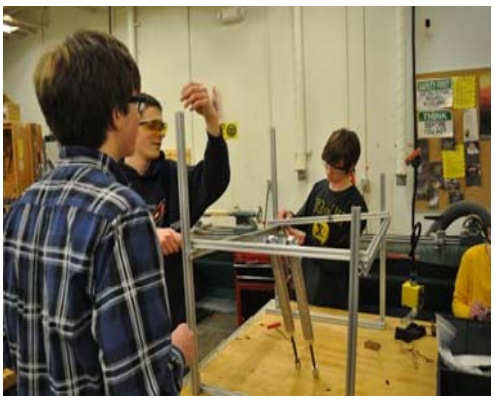
Programming: Responsible for designing, procuring, and testing robot control software. Perform programming training, research, and development in the off season.

Scouting: Responsible for evaluating other team's robots and assessing their strategic approach to game play during competitions. They develop and distribute sell sheets on our robot. The team is also responsible for providing input to the awards team regarding team awards during the competition.

Drive Team: Responsible for being well-versed in the rules and requirements of the game, staying up-to-date on any updates provided by FIRST, and ensuring that all team members are knowledgeable about all game play rules and requirements. Responsible for developing competition game play strategy, operating the robot, and playing the game during competition.

Support Equipment: Responsible for designing, procuring, fabricating, and testing field elements. Perform projects like crate and cart improvements in the off-season.

Safety/ Rules: Responsible for educating team members on safety rules, regulations, and procedures (team developed and school required). They are responsible for ensuring safety of anyone who enters the pit during competition.



Cougar Tech Team 2228

Additional Teams

Finance and Business Team

The finance and business sub-team is responsible for all business aspects of the team. This includes developing and execution of the 5 year business plan, managing all financial and accounting practices and procedures, developing and managing the team budget, procuring team materials, reporting financial status regularly, and providing a yearly financial summary to the HF-L school board in December. The finance and business sub-team also work closely with the fundraising team to ensure we are operating in accordance with all appropriate governing rules and regulations which were agreed upon prior to entering our sponsorship agreements.

Marketing Team

The Marketing sub-team consists of five additional teams: Branding, Outreach, Award Submission, Fundraising and Website. The work of Branding includes a team shirt that is redesigned every year, buttons, competition robot signage, brochures and any other way we find to display our team and FIRST. Outreach includes finding and planning for all community activities. Our best writers belong to the Awards team. In addition to the FIRST FRC awards, these writers also provide material for school and foundation newsletters, write articles for the local newspapers, create the chairman's video and write this business plan. Fundraising works closely with Outreach to develop opportunities to reach the community. Fundraising also actively recruits potential sponsors. Website maintains and updates the site information. In general, the marketing team participates in all aspects of team development except building the competition robot.

Team Support

CougarTech 2228 would not be able to function if it were not for the assistance of the team parents. Team support is primarily made up of parents who take on the leadership role in activities necessary to support the team. They are responsible for the following: assisting seniors in applying for FIRST scholarships, food coordination for build season, lodging and food arrangements when we travel to a regional, and the annual team banquet to celebrate our successes and the passage of leadership.

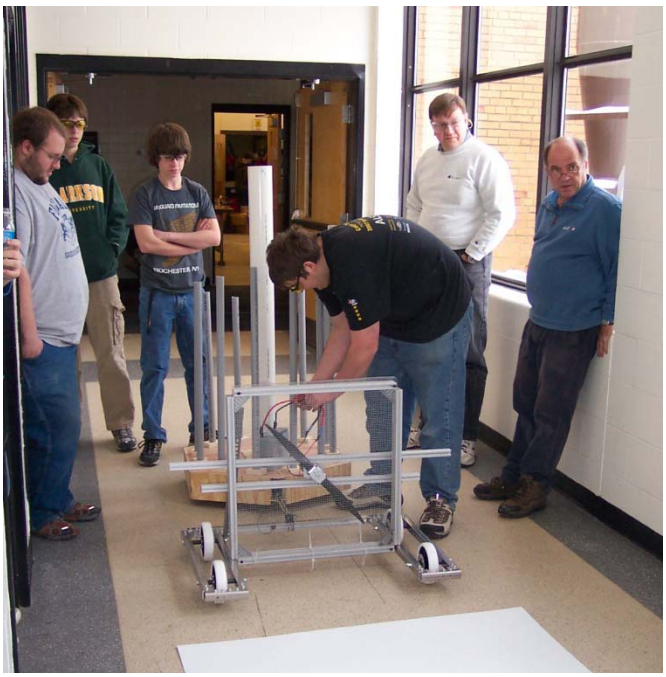
2011 T-Shirt

Front

Back

4 How is FIRST beneficial?

- ✓ This year, six students have received FIRST scholarships
- ✓ Almost all graduating seniors are entering post-secondary study in the areas of mathematics, science, or engineering.
- ✓ Students gain firsthand experience with science and technology from professionals working in the field.
- ✓ Introduction to a more competitive learning environment.
- ✓ It's fun.
- ✓ It creates opportunities for students to be involved in leadership.
- ✓ Students see how community service can touch lives.
- ✓ Students grow as a people by learning to be part of a team.
- ✓ Opportunity to develop interest and focus in Science and Technology
- ✓ Students learn to reap the benefits of hard work.
- ✓ Helps students decide on future careers.



5 Spreading the Message of FIRST, Creating a FIRST image

Cultivating an image that is both unique and memorable should be an important goal to any organization seeking to promote social change. Team 2228 has an entire division devoted to the task of enhancing, presenting and spreading our team image in our schools and community. This division includes the branding, awards, website, outreach and recruiting teams. Our branding team is responsible for the fabrication of our buttons, team logos and imagery. Additionally, they design our T-shirts, which are then manufactured at DePaul's, a sheltered workshop for handicapped adults. Our awards team creates a unique award for each year's game. We give awards to other teams for gracious professionalism, team spirit, game play, design, and rookie teams. Our website team works hard to keep an updated online profile of our team that contains very useful information about our team and about the FIRST mission. In competition, we try to present ourselves as an enthusiastic and supportive team. Our imagery includes banners, distinguishing foam cougar paws, our giant flag and of course the famous cougar suit. In our schools, team 2228 has been very active in promoting the FIRST competition. This year we presented at Family Wellness Night and at the Activity Fair, both events at HF-L. We also run a booth at Cougar Creations, which is an arts and media festival for HF-L.

6 Community Service, the Obligation of Giving Back

Team 2228 has done many projects over the past two years to serve the community that so graciously supports us. We believe that the message of FIRST extends beyond the robotics competition and the team alone. This year, our team participated in cardboard city, a fundraising event to aid the homeless. As part of the experience, participants must live in cardboard boxes for an entire night to simulate the life of a homeless person. Over the summer we did some garden maintenance and repotting for an elderly couple in the town of Honeoye Falls, we also helped with the Mendon Carnival and the Mendon Festival, where we ran a booth. Last year, we organized a breakfast with Santa for disadvantaged children in the city of Rochester. We bought the children gifts and demonstrated our robot to them. In the summer of 2009, we volunteered at Camp Smile, a camp for visually impaired children. We gave driving demonstrations with our robot and gave them a chance to drive the robot themselves. As part of the Team 2228 five year plan, we plan to increase our commitment to our community through more community outreach and service opportunities including Food-link and Relay for Life.

As part of our goals to spread the message of FIRST, Team 2228 has increased its involvement with the school system. This year HFL introduced "Pico-Cricket", a web based program that teaches elementary age children basic engineering and design concepts. We have also supported initiatives into the HF-L high school curriculum to increase the number of classes that cater to an interest in science and technology. One

of these initiatives is the development of an “Informatics” elective course at the high school in conjunction with RIT. Lastly we have cultivated a new relationship with GCC (Genesee Community College) that has lead to the launching of two new college courses to be offered to high school students. The courses include subject matter relating to biochemistry, cellular biology and human biology all popular subjects among students at the HF-L high school.

Community Activities:

- ✓ Camp Smile
- ✓ Breakfast with Santa
- ✓ Cardboard City
- ✓ Gardening and Plant Sale

Gracious Professionalism:

- ✓ FTC-FRC Mini-Bot Cooperation

Lego League:

- ✓ Our team has mentored and financed Honeoye Falls Lego League Team

Spreading the Message:

- ✓ Present and demonstrate the robot at Mendon Fireman’s Carnival every year
- ✓ Presented and demonstrated at Mendon Festival
- ✓ Gave a presentation to Honeoye Falls Elementary and Primary Schools
- ✓ Presented and demonstrated at Honeoye Falls Open House
- ✓ Presented and demonstrated at Honeoye Falls annual music and arts festival
- ✓ Presented at the HF-L activity fair
- ✓ Participated in Family Wellness Night

Newspapers:

- ✓ Mendon Foundation
- ✓ Sentinel Publishing
- ✓ Henrietta Post (Messenger News)

We volunteered and demonstrated, at a Breakfast With Santa, held in the Ryan Community Center in Rochester. Our team talked about math and science programs and how young adults can get involved with programs in their communities.

This year we supported our sponsor, the Mendon Foundation, and showed our robot at the Mendon Festival. We also talked about our schools robotics team.

This is our third year of dual membership between Rush-Henrietta and Honeoye Falls-Lima schools.

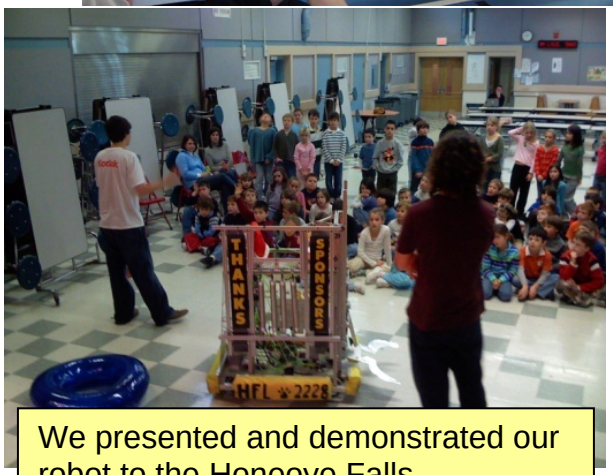
Every year we volunteer and showcase our robot at our local Mendon Fireman's Carnival. We talk about our schools robotics team and how it promotes advancements in technology.

Our team displayed our robot at the Xerox classic, a golf tornament hosted by one of our sponsors. We also invited other teams from the area to join us. We had three teams demonstrate with us including the X-Cats, 191.

Cougar Tech Team 2228

We volunteered and drove our robot at Camp Smile, a day camp for visually impaired children.

We invited all local teams in the Rochester area to an ice skating event.



We presented and demonstrated our robot to the Honeoye Falls Elementary and Primary Schools.

We loaned our robot to rookie team 3015 so that they could participate in an offseason “Ruckus” competition. We also gave this team assistance throughout the 2009 season.

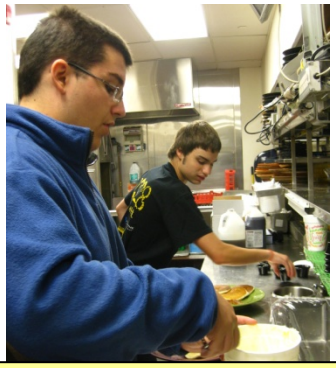
MENDON FOUNDATION

Our team has written articles for the Mendon Foundation newsletter and The Sentinel, a local newspaper. We have also had articles written about us in the Mendon Foundation newsletter, The Sentinel, HFL District News Letters, and the Democrat and Chronicle.

Everyone on our team is involved in designing the robot. For the first few days of build, we split into groups to brainstorm and later reconvene and present our ideas.

This year we showcased the practice robot at HF-L Wellness Night. We talked to community members about the importance of science and technology and allowed kids to drive the robot.

Several members of our team participated in Cardboard City, where students spent a night in a cardboard box to raise awareness of extreme poverty in the world.



To raise money for the upcoming season, we held a pancake breakfast at a local Applebee's.

Our mentors are actively involved in guiding the students with problem-solving and teaching students to be independent.

Team 2228 participated in the HF-L activities fair to recruit new members. This year, we gained 19 new members.

7 Balance Sheet-

	Budget 2008-2009	Actuals
Beginning Balance:	**$20,859.31**	**$20,859.31**
Revenue:		
Corporate Sponsors	$17,550.00	$7,010.00
Fund Raising	$1,250.00	$1,270.12
Regionals (parents)	$9,660.00	$9,766.04
Miscellaneous	$0.00	$1,088.70
Total Income:	**$28,460.00**	**$19,134.86**
Expenses:		
Marketing	$2,000.00	$1,429.98
Support	$750.00	$568.94
Ruckus	$350.00	$379.35
RIT Regional	$6,000.00	$6,000.00
FLL teams	$600.00	$600.00
Tools	$750.00	$817.77
Robot parts	$3,550.00	$4,141.27
Connecticut Regional	$4,000.00	$4,000.00
Regionals (food & tranportation)	$9,660.00	$9,237.10
Food & Banquet	$100.00	$312.46
Awards	$200.00	$66.78
Shipping	$400.00	$508.46
Miscellaneous	$100.00	$113.74
Total expenses:	**$28,460.00**	**$28,175.85**
Amount Left:	**$20,859.31**	**$11,818.32**

Our Budget Sheet helps to keep each sub-team aware of how much money is available for their use. We update this at least every other week to keep them current.
2008-09 is the model and goal for all our financial planning.

	Budget 2010-2011	Actuals '10-11
Beginning Balance:	**$10,189.63**	**$10,189.63**
Revenue:		
Corporate Sponsors	$5,000.00	$1,900.00
Fund Raising	$2,000.00	$1,226.00
Grants	$0.00	$0.00
Individual Contributors	$6,000.00	$3,720.00
Regionals & Ruckus (parents)	$0.00	$0.00
Miscellaneous	$0.00	$0.00
Total Income:	**$13,000.00**	**$6,846.00**
Expenses:		
Marketing	$1,200.00	$0.00
Support & Awards	$500.00	$23.92
Ruckus	$100.00	$122.37
Regional Registration	$5,000.00	$5,000.00
FLL teams	$0.00	$0.00
Tools	$350.00	$33.48
Robot parts	$3,500.00	$107.00
Regionals (food & tranportation)	$0.00	$0.00
Food & Banquet	$100.00	$0.00
Shipping	$500.00	$17.14
Miscellaneous	$100.00	$225.00
Total expenses:	**$11,350.00**	**$5,528.91**
Amount Left:	**$11,839.63**	**$11,506.72**

8 Cougar Tech Placement and Awards-

Award giver	*Year received*	*Event given at*	*Title*
FIRST	2007	FLR	Highest Rookie Seed Award
FIRST	2007	FLR	Rookie All Star Award
Xcats	2008	FLR	Outstanding Sportsmanship
Xcats	2008	Buckeye	Most Awesome fun team Mascot
Xcats	2007	Championship	Outstanding Sportsmanship
Xcats	2007	Championship	Coolest Giveaway
Xcats	2007	FLR	Best Alliance Partner
MOE	2007	FLR	Unique Design Component
Division by zero	2007	FLR	Rookie Sensation Award
Arctic Warriors	2007	FLR	Best team Spirit Award
Lightning Bots (team 2010)	2008	Buckeye	Outstanding Motivated
Ruckus	2007	Ruckus	Restless Spirits Spirit Award
Ruckus	2008	Ruckus	Henchmen Competition Finalists
Ruckus	2008	Ruckus	Deadheads Gracious Professionalism Award
Ruckus	2009	Ruckus	Henchmen Competition Finalists
Sparx	2007	Championship	Most Spirit Award

9 Website

In 2007, we initiated our website. For several years, we updated that website as needed. Finally in 2011, the website was re-launched. The purpose of the website is to spread the word of FIRST.

<u>Features of our website include</u>

Robot Pictures/Team Pictures

About the Team/Meet the team

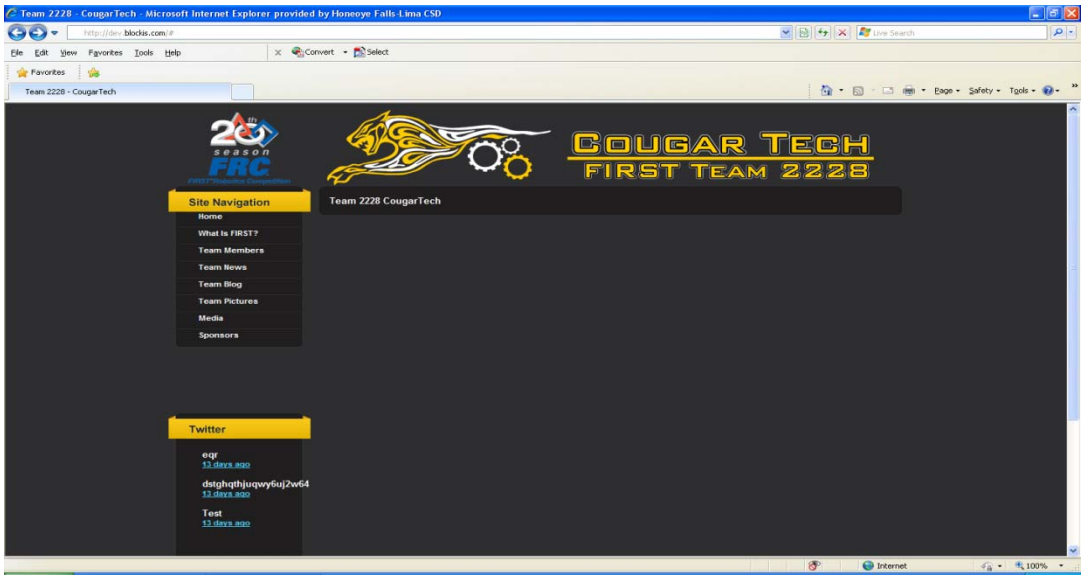
Sponsors

Twitter Link

Competition Info

Webcast Links

Team News and Updates



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