

Team
2220

Eagan High School *FIRST* Robotics

2014 Chairman's Scrapbook



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Introduction

"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, that foster well-rounded life capabilities including self-confidence, communication and leadership."

Team 2220 Mission Statement

Team 2220 Blue Twilight is a FIRST Robotics team from Eagan, MN. Embracing the goals of FIRST, Blue Twilight doesn't just build robots. We work to build students and a community with a appreciation for STEM and FIRST.

What goes into our robots is more than just metal, and code. Our robots are not just built, but engineered alongside our many professional mentors. Our students spend days brainstorming, prototyping, and transforming ideas into mechanisms on our robots using professional CAD software. Students on our media sub-team constantly take photos and write articles to keep our social platforms up to date. Our electronics group builds light up badges, hats, and other accessories to help our team light up robotics" at competitions. Students write applications for grants and present to sponsors to ensure team sustainability. The many and varying talents of Blue Twilight work year-round to create not just robots, but technologically literate and critically-thinking students.

To spread this inspiration to the community, Team 2220 also creates and supports many community events. Team 2220 supports FIRST across almost every level. Supporting FLL by hosting scrimmage events and buying robot kits for teams. FTC is also supported through the use of shop tools and connecting these teams to sponsors. We also support these programs through student and adult mentors to help guide teams.

With our participation and interaction with the community our team has a strong presence in Eagan, MN. We take part in the annual 4th of July parade, present to local companies and host events such as the STEM Career Fair. We engage companies by participating in design reviews and demonstrating our robots, often letting them drive. One event leading to a competition between employees trying to score the most points using our robot.

In summary, Team 2220 creates an impact in the lives of our students and our community through first hand experiences with technology and robotics. Our students leave our program with an appreciation for STEM fields. The community is left with a strong impression of FIRST and robotics. And our program is stronger through the efforts of Team 2220.



History



2006

Founded
Less than 20 students and mentors

2007

First competition season

2008

Hosted first Week 0 event
Founded State Fair robotics competition
Website Award (2)

2009

Regional Engineering Inspiration
Quarterfinalists

2010

Chrysler Team Spirit Award
Semifinalists

2011

Judges Award
Quarterfinalists

2012

Regional Finalists
Regional Engineering Inspiration
Woodie Flowers Finalist
Jim Lynch

2013

Quarterfinalists
Regional Chairman's Award
Imagery Award (2)
Deans List Finalist
Christina L

Team 2220 By the Numbers



Students

75%

of graduates in or studying to work in STEM fields



mentors

100

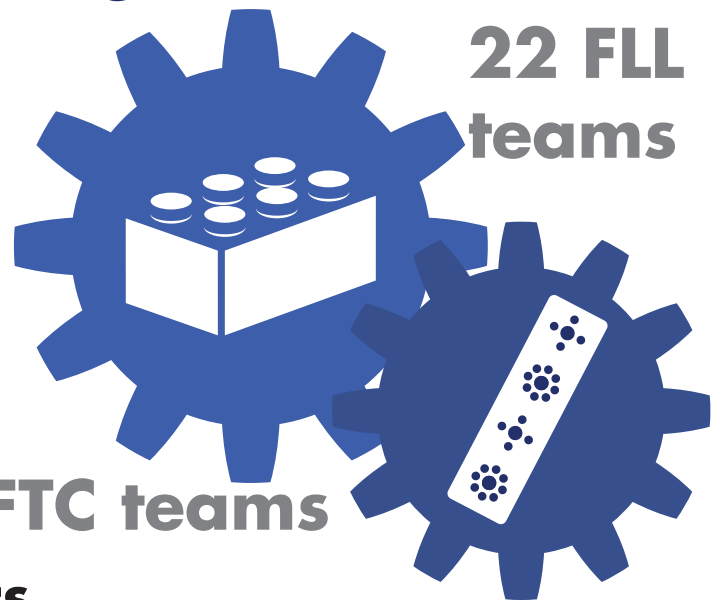
documented outreach activities

14

Robot scrimmage events
across FLL, FTC and FRC

Eagan FIRST Robotics

**22 FLL
teams**



VOLUNTEER

350

Volunteer Hours
at FIRST events

10 FTC teams



What people are saying about Team 2220

"As we progressed through the build season and prepared for regions, I received emails on a regular basis from the Blue Twilight advisors and team members. Their concern was genuine and without their insight and assistance, we would not have been as prepared as we were. Whether it was pit set up or lunch arrangements for the team, I knew that I could count on sound advice from the Blue Twilight team."

- Valorie Rose, FIRST Robotics Advisor, Rebel Alliance Team #4624

"I was very impressed by the Blue Twilight team. Your students should feel confident in knowing that the skills of teamwork and collaboration they learn during this competition will not only help them if they choose to enter STEM related jobs but in any career field"

- Senator Al Franken

"The students of Dakota Hills Middle School feed into Eagan High School and with [their FIRST Lego League support], we have benefitted from a strong partnership and presence of both Mr. Lynch and the members of the Eagan High School Robotics Team."

- Trevor Johnson, Principal of Dakota Hills Middle School

"The Eagan Robotics Program has been very helpful to me and my team, The Green Girls #7190. The use of the tools, machines and supplies and assistance from mentors has been very valuable to my team. We have fabricated many parts and learned so many mechanical skills already! Another helpful aspect is being able to help and get advice from other Eagan FTC teams. I have learned so much and am thankful to be part of the program."

- Zoe B, Member of FTC Team 7190 Green Girls

"Your students who were manning the Lego table helped many of the younger children to create their own robots and make them work. They kept my grandson enthralled for almost two hours! Please thank them for all their work and for being great examples. You should be very proud!"

- Catherine G, grandparent participant in the FLL booth hosted at the Minnesota North Star Regional



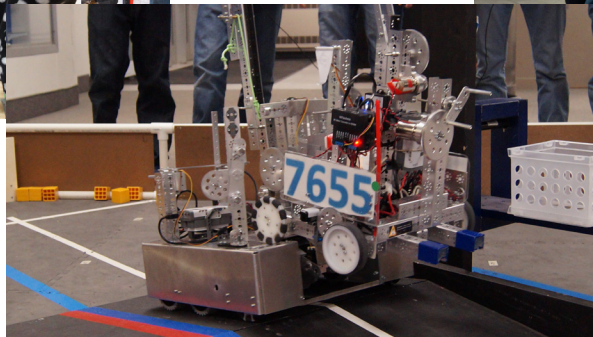
Eagan *FIRST* Robotics

Program Overview

To help maintain the rapid growth of FIRST programs in Eagan, Team 2220 created the Eagan FIRST Robotics program. This allows the team to market our FLL, FTC and FRC programs as a whole. We create a sense of unity between the programs, encouraging cooperation across levels. Eagan FIRST Robotics includes the 22 FLL teams, 10 FTC teams and FRC team. The primary focus is on FTC and FRC, encompassing 140 students grades 7-10 and 65 mentors from the community. Teams involved share resources while working collaboratively to improve and promote all programs

"Eagan Robotics and FTC has influenced me in many ways, and I have learned many new things through being a member. First, the influence on me is very good. I have been pushed to learn new things, adapt to time crunches and driving situations, and also be creative and ingenious. These skills have helped me in building the robot and driving it, and also with much more. Secondly, Eagan Robotics and FTC have helped me gain many things. I have gained things such as knowledge, skills, friends, and more. They have helped me become a robot builder and driver, and let me collaborate with my friends to make the best possible robot! I love being a part of Eagan Robotics and FTC, and can't wait to enter the State Tournament next year!"

- Will W, FTC Team 7655 The Q is Silqent



"Eagan Robotics has been extremely helpful to all of the teams in Eagan. This year there was a ton of new people that were in 8th grade or below, so Eagan does a good job in getting younger people interested in FTC. Eagan also provided a space to practice on a real field and share ideas and help other teams. Eagan Robotics fully supports the visions of FTC and makes me enjoy doing FTC."

- Connor W, Eagan FIRST Member

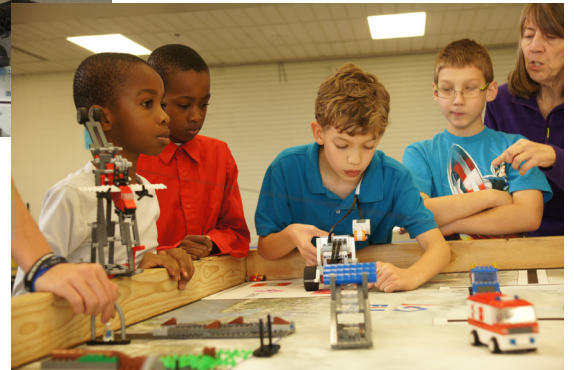
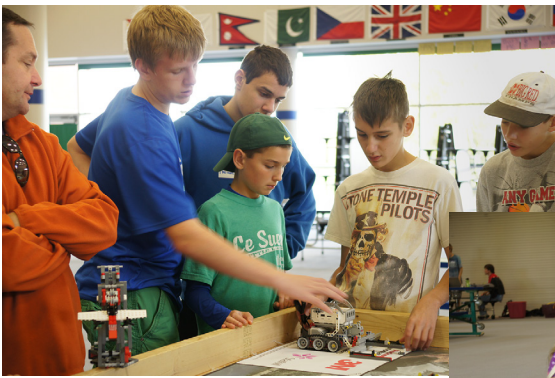


Eagan *FIRST* Robotics

FLL Support

The 22 FLL teams started by Team 2220 form a feeder program of students that help Blue Twilight grow. Our FLL program is the product of years of work and nurturing. In 2011, we earned a \$5000 grant from US Bank to buy enough FLL kits to start teams at almost every elementary school in our school district. We have continued our support by mentoring over 15 teams over the past 4 years, as well as building five fields for our teams.

We support our teams through the competition season by hosting a practice tournament for local teams before their competitions. This event allows us to help local teams that we don't mentor prepare for their competitions. Students and mentors from Blue Twilight volunteer at tournaments as well in many positions.



"Our FLL team would like to thank you and the Eagan Robotics team for organizing the practice tournament at the beginning of the FLL season. The practice tournament gave us the opportunity to test our robot in head-to-head competition. Our robot won the head-to-head competition at [the] regional tournament and we finished 7th on the robotic runs at state

Thank you also for inviting us to come to an Eagan robotics team practice on February 12th. Many of us are looking forward to checking our robotics next year at Eagan High School."

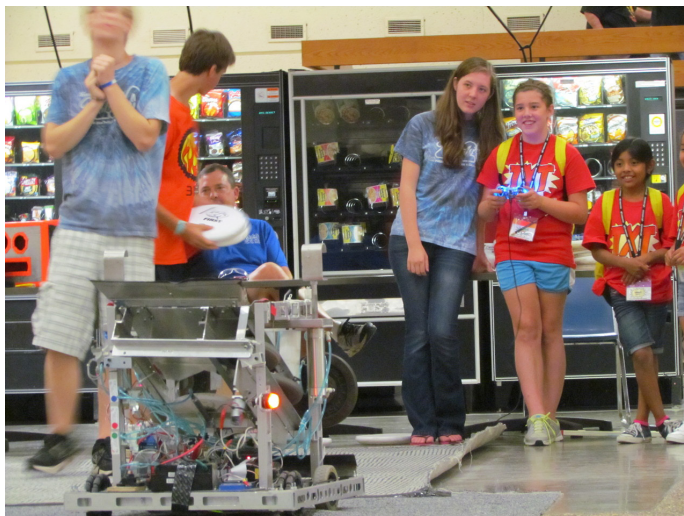
- FLL Team Insignificant Interjections



Eagan *FIRST* Robotics

FLL Outreach

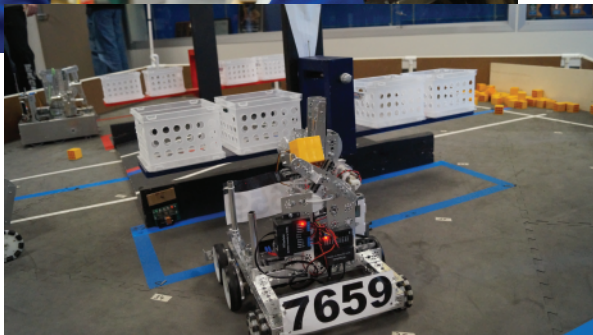
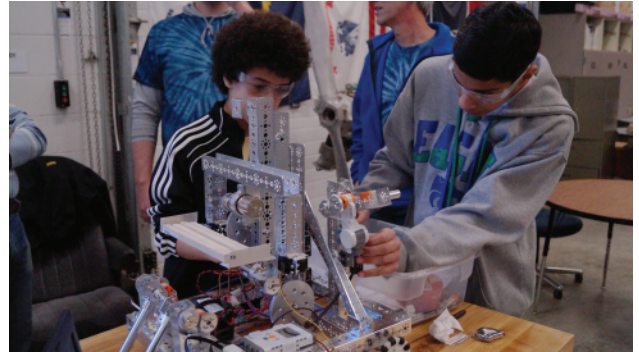
FLL is also an excellent way of spreading FIRST to younger students. We run FLL workshops for elementary school students during the summer which serve as an recruitment tool as well as an opportunity to expose young kids to STEM and robotics. In 2013, we also ran an FLL workshop at the Teens eXperiencing Technology event to interest middle school aged girls in robotics. We travelled to the Minnesota State Academy for the Deaf in order to start two FLL teams at the school, one of which won the Innovative Design Award and later became an FTC team. At each of the FRC Regional events we attend, we run FLL demonstrations and give tours to FLL teams interested in the FRC program.



Eagan *FIRST* Robotics

FTC Support

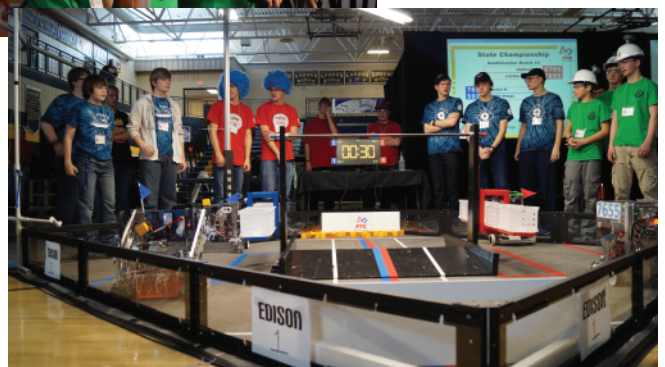
Team 2220 hosts several teams involved in FIRST Tech Challenge (FTC) comprised of students from Eagan High School and the Eagan middle schools. The FTC program gives our students a chance to experience robotics on a smaller scale before joining the FRC team. Two years ago, during the 2011-12 season, we had only one team. The following year, the program supported two teams. This year, we have ten FTC teams with over 60 students participating.



The FRC team also helped build two practice FTC fields for these teams. The fields are accurate replicas of actual competition fields. The FTC teams use the fields to test out their robots and simulate possible competition scenarios.

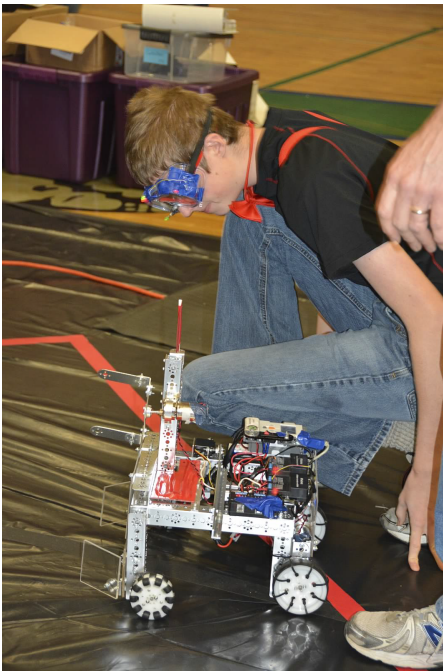
Like the FRC team, the FTC teams meet in the school workshop. The teams generally meet at the same time on the same day. This encourages a positive, cooperative environment in which teams can help each other solve problems and work together to overcome common challenges. The FTC meetings sometimes overlap with FRC meetings, giving students an exposure to FRC activities.

This year, 5 out of our 10 teams advanced to the Minnesota State Tournament. The teams that qualified were Blue Nova, NERDS, Green Girls. The Q is Silqent, and Robot Pi. At the State Tournament, which was held at Prior Lake High School in February 2014, The Q is Silqent was a chosen to join one of the final alliances and they also won the Stratasys Award for best use of a 3D-printed part. Additionally, Green Girls was nominated for the Motivate Award. Over the course of the entire season, the ten teams won 6 awards and had 9 additional award nominations. 3 of the teams were one the winning alliance at at least one qualifying tournament.



Eagan *FIRST* Robotics

FTC Qualifying Tournament



With Minnesota moving to a qualifying tournament structure this year, more volunteers and support were needed from the FIRST community to host quality events. Team 2220 happily stepped in and hosted the first ever Minnesota Qualifying Tournament at Eagan High School, coordinating the volunteers and provided practice fields for attending teams. We continued our support for Minnesota FTC teams by volunteering at every single FTC qualifying tournament in Minnesota, as well as inviting other teams to practice using our fields.

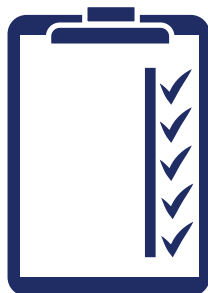
"This past year, High Tech Kids took on the FIRST Tech Challenge program, and Team 2220 helped in many, many ways to have our season be so successful. Team 2220 helped Blue Nova in organizing our FIRST Tech Challenge Minnesota qualifying tournament."

- Cheryl Moeller, Executive Director of High Tech Kids

Roles of Blue Twilight Students



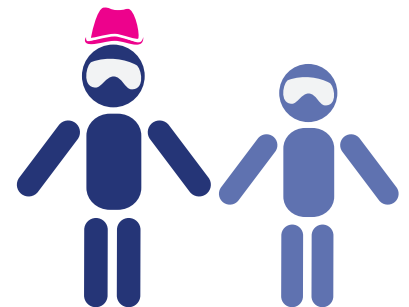
Emcee



**Hardware and Software
Inspector**



Setup and Teardown

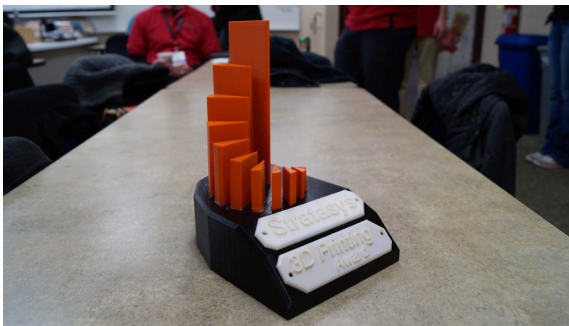
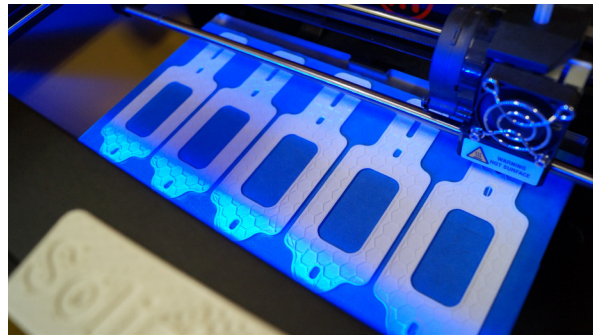


FTA Assistant

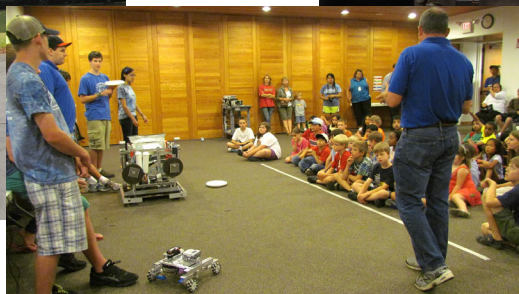
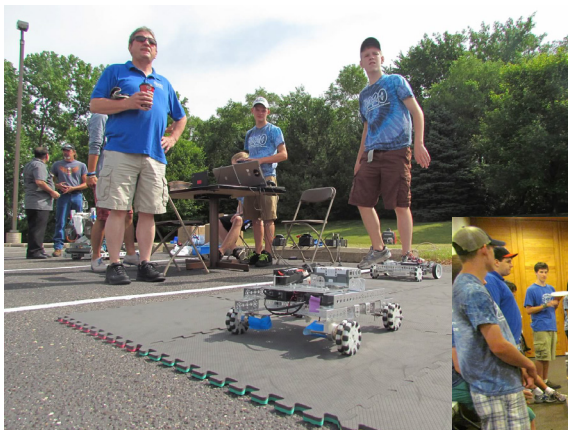
Eagan *FIRST* Robotics

FTC Mentoring

Part of our support for our FTC teams involves providing both student and adult mentors for our 10 teams. Student mentors this year taught FTC team members CAD software and how to use our two new 3D printers. One of our teams, 7655 The Q is Silgent, even won the Stratasy's 3D Printing Award at the Minnesota State Championship due to our assistance. Adult mentors run weekly programming seminars to teach students RobotC and debug their robot code.



Beyond robots, Team 2220 also creates a safe environment for teams by holding them to the same safety standards that we keep on our FRC team, mentoring them in safety fundamentals and tool safety. We also teach our FTC students presentation skills by encouraging them to join us on our sponsorship presentations for the FRC team. Our FTC teams are also introduced to one of Blue Twilight's favorite activities-- outreach. FTC teams participated in a dozen different outreach events in the last year in collaboration with Team 2220, teaching them the value of our interactions with the public.



Eagan *FIRST* Robotics

Week 0 Events

Since our second year, 2008, Team 2220 has hosted Week 0 practice events the weekend before ship date, giving teams the opportunity to practice with their competition robots before regionals. We have worked with many other teams to host these practice events-- this year, we hosted a Week 0 with Teams 2470, 3081, and 3184, as well as giving all of our preparation material to 2052 and 2472 so that they could host their own. For the last couple of years, we have also run a pre-competition FTC tournament at these events.



Our contribution to these events cover a variety of roles. For example, Team 2220 builds, transports and assembles the field used at these events. These fields incorporate sensors, lights and servos to give an accurate field experience. Students are also on the field as field resetters, emcees and referees. Our members also help out at pit administration to ensure safety. And as an addition for this year, our team also manages a live stream of the event to help the FIRST community gain a sense of the game in practice.

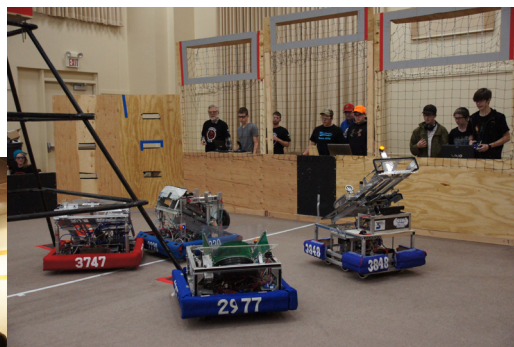
Hub Design Review

This year, as a part of our Hub system, we invited members of the South-of-the-River hub group to a design review, where teams shared their designs and received feedback. This was also an excellent opportunity for teams to connect and discuss strategy, an integral part of the 2014 game.



River Valley Rendezvous

One of our recent initiatives has been working with FRC 3018 from St. Peter to host an offseason competition and training event for teams in southern Minnesota. Many of the teams at the event are not able to attend any other offseason training events, making this a highlight of their offseason. At the event, Team 2220 runs presentations and workshops on Chairman's, strategic design, team organization and electronics, sharing our 8 years of experience in FIRST with the community. We not only provide manpower to set up and take down the event just over an hour away but provide an FMS system to connect the robots in a setting similar to competition.



Eagan *FIRST* Robotics

FRC Assistance

Team 2220 has made a habit of helping other teams-- in 2008, our rookie year, we assisted five rookie teams in competing for their first year, providing resources and advice. This trend has continued into our current state. With our extensive shop space we've welcomed local teams to come in and use our mills and welding booth such as teams 3042 and 3184. We worked personally with team 4624 from Owatonna, MN in starting up their rookie year. We have also worked to spread our outreach events by working with teams so they may start their own Week 0 events and STEM Career Fairs.

"As an advisor, I had many questions about team structure, organization, how to set up the build and how to recruit mentors. The team advisors invited me up to observe and ask questions during their first Saturday of the build. I was greeted by team leads who, although busy with their own work, spent time explaining and answering my questions. It was clear to me that time had been spent teaching these team members how to respectfully welcome and answer questions and concerns from visiting team advisors and team members. I was always greeted warmly with each team member introducing themselves, explaining what they were working on and offering assistance."

- Valorie J. Rose FIRST Robotics Advisor, Rebel Alliance Team #4624

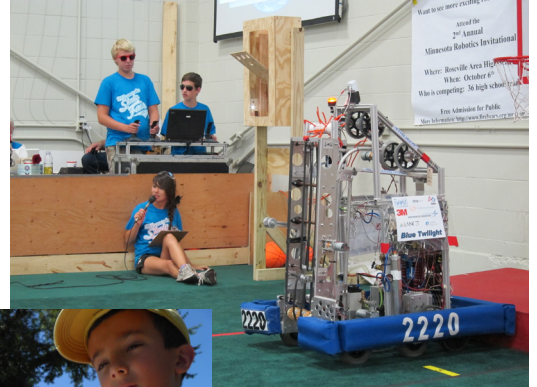
Throughout competition students are looking to assist other teams. As a part of our team organization for competition there is a designated group to assist teams that may be troubled. Our efforts have ranged from the distribution of Bill of Material Templates around the Northern Lights regionals to helping building an entire robot alongside teams 1816 and 2177 for team 4687. Another notable example is a student spending nearly a whole day of competition aiding a team in cutting down their chassis to fit within the frame perimeter rules.

Outreach

State Fair

As the initiators to develop an FRC event at the education building at the State Fair, Team 2220 has participated in it every year. At this event we create a modified version of that year's FRC challenge. Teams, two at a time, present their robots and perform tasks to gain points. On the last day of the event, the teams with the highest score compete to announce a State Fair Champion. We supply the field elements necessary and one or two of our students works as an emcee. Through this we engage the thousands of people who go through the fair and educate them about FIRST.

During STEM Day at the State Fair, we have demonstrated remote controlled NXT robots and a simple challenge course. We encouraged attendees to drive the robots themselves. This allowed us to engage kids in simple robots and introduce them to FIRST and FLL. In 2014 we brought our FRC robot to the fair and explained FIRST to fairgoers.



Government

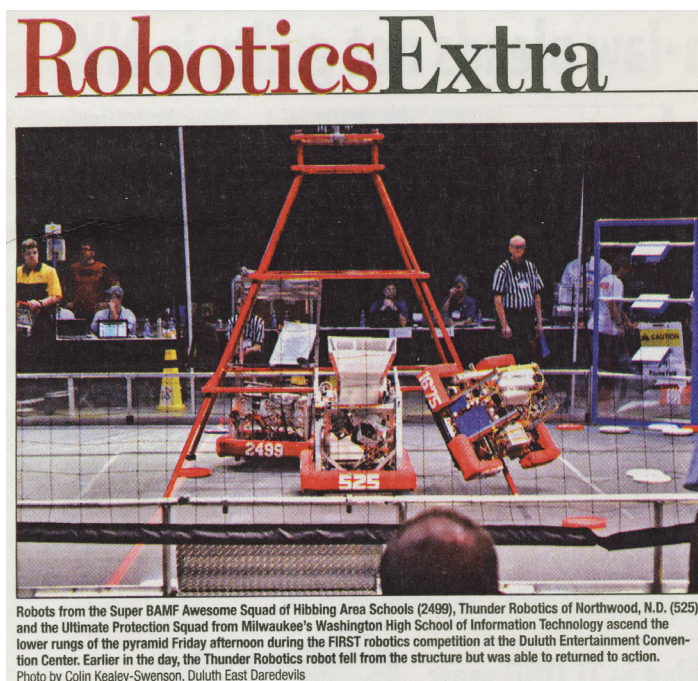
We have also presented in the rotunda of the Minnesota State Capitol as a part of a Robotics Day event. Members of our team met with legislators and business people at the event to educate them about FIRST Robotics and how the program inspires so many young people to pursue STEM careers.

In addition to this connection at the Capitol we gave a presentation to Senator Al Franken alongside our technology engineering department and school principal. During this presentation we explained FIRST and how it has impacted STEM in our community. During this event we gave Senator Franken a hands on experience with our robot, giving him a chance to drive it.



Blue Devil Press

To spread the message of FIRST and make it loud, Team 2220 has collaborated with FRC Team 2512 and the Duluth News Tribune to create the Blue Devil Press in 2013. A portmanteau of the names of the two teams involved, the Blue Devil Press is a special edition of the Duluth News Tribune showcasing the "Double DECCer" regionals in Duluth, MN. Working with professional journalists, students interviewed, researched and wrote to create compelling articles for the public. These articles covered a variety of topics ranging from an explanation of coopertition to the discussion of Blair Hundertmark's rollerblades. This experience benefitted both the students and the community, allowing for mass advertisement of FIRST. We continued this collaboration in 2014 and plan to do this every year.



For robots, it's a race to the top

KIRSI KUUTTI AND CHRISTINA LE

For a robot, climbing a 7½-foot pyramid can be a daunting task — and that's the point.

In this year's FIRST robotics challenge, Ultimate Ascent, robots have the opportunity to score up to 30 points by climbing to the top of a three-rung pyramid. Each robot climbs 2½ feet apart. These points can make or break a close match. But there's a risk.

"It went down at the buzzer!" an announcer could be heard at the BAE Systems Granite State Regional in New Hampshire last weekend when a robot from the Screaming Eagles of Gilford, N.H., fell from the top of the pyramid in a video that's gone viral in the FIRST community. Fortunately, it wasn't career-ending.

"Yeah, the robot is fine," Chris Drever, the coach of the Screaming Eagles, said from New Hampshire. "It only suffered minor damage and was ready to compete 15 to 20 minutes later."

Drever said the team is optimistic about their next competition in April, adding that their modified strategy is to climb to the second rung instead of the top, and drop five colored disks into the goal at the top of the pyramid.

"We get 20 points from climbing to the second level and then another 20 points from the five colored disks."

Team 3018, Nordic Storm from St. Peter, Minn., agrees that climbing is still worth the risk. They created an intimidating robot that climbs the pyramid using arms covered in small hooks — and it goes all the way to the top.

"There aren't a lot of climbers (at the Lake Superior Regional) that can get more than 10 points," said team member Arick Mayl.

On the floor of the Northern Lights Regional on Friday Thunder Robotics of Northwood, N.D., had a tense moment as their machine nearly reached the third rung of the pyramid and then fell to the floor. "I don't think they were on the

bar all the way. It just wasn't perfect," said John Normandin, a mentor with the Pirates from Crookston, Minn.

Mike Vogeleweide, Thunder Robotics' coach, explained further.

"It just was attempting the third level and didn't grasp the bar fully, but it tried to climb," he said.

Fortunately, it was OK, and was able to compete in the later rounds.

"We welded our frame, so we knew if it fell from the second rung, we'd be OK," team member Corey Hagen said.

Duluth's Denfield Hunters decided the other way, forgoing the climbing.

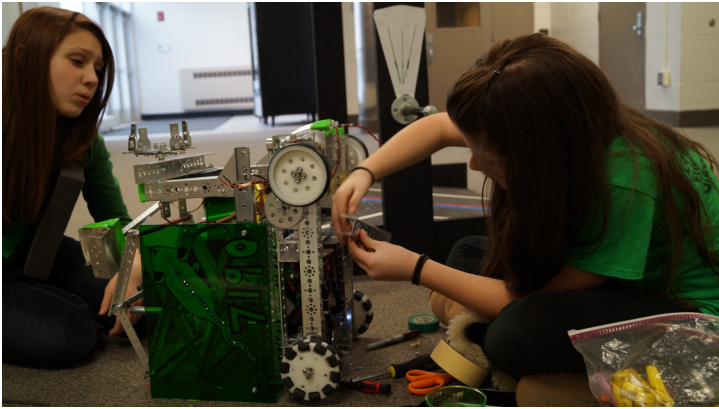
"Early on, we were debating between shooting and climbing but we decided it would be lot easier to just do shooting," said team member Jack Sutherland.

LEAH ABRAHAM contributed to this report. ABRAHAM and KIRSI KUUTTI are members of the Duluth East Daredevils. CHRISTINA LE is a member of Eagan High School's Blue Twilight team.

Local Outreach

WIRED

WIRED stands for Women In Robotics Empowering Daughters. It was created to support female representation on the team. We doubled the number of girls on our team from five to ten in one year. WIRED sampled ice cream from Sweet Science Ice Cream, talked with the St. Thomas SWE, supported our all-girls FTC team, and had all-girl socials. WIRED provides the support of knowing that there are women who will support girls as they pursue STEM related careers.



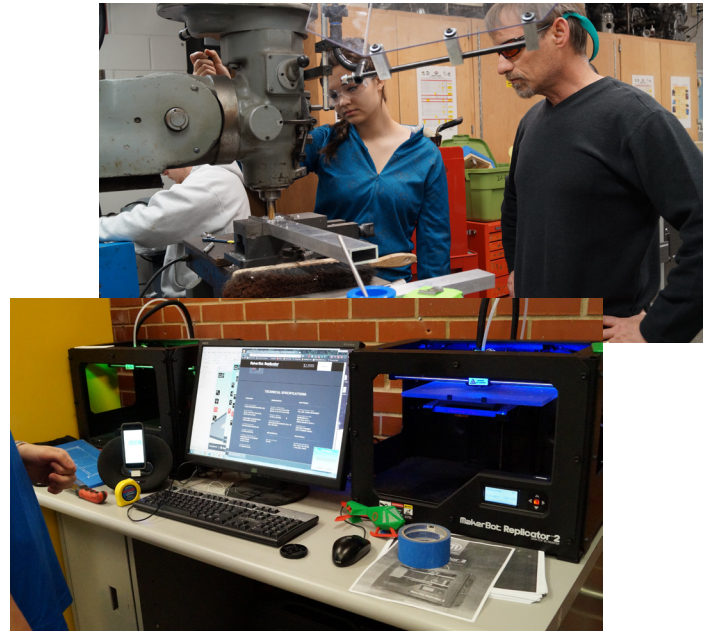
Eagan Events

Team 2220 is also an active participant in the local community representing FIRST at various community events. We participate in prominent Eagan events such as the Annual 4th of July Parade and an Eagan Streets Alive event. We also work directly with children in the community by doing presentations at libraries and elementary schools. At these events the students get one-on-one time with team members and the robot, asking questions and even getting to drive.

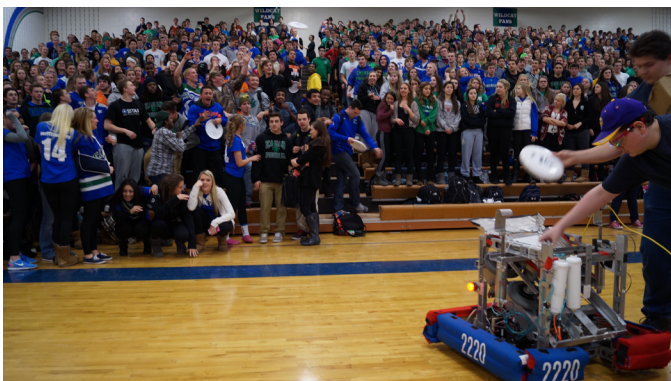


School Interaction

Team 2220 works out of Eagan High School and has formed a strong bond between us and the school. We have worked with the school to further STEM education through various efforts. Many of the machines in the workshops are collaboratively funded by the team and the school such as the horizontal bandsaw and mills. In addition, we co-wrote an application for a \$70,000 Lowes grant. Our team has also provided safety glasses, laptops, 3D printer equipment and aluminum MIG welding equipment to the technology engineering department. Even the name for the technology engineering department's name is from the influence of our program, steering from simply manufacturing to an engineering perspective.



"It is without hesitation that we affirm and commend the great work that our Eagan High School FIRST Robotics team has accomplished on our behalf and look forward to continuing to grow our two programs through this strong relationship"
- Ryan Hauenstein, Department Coordinator, Technology and Engineering



Beyond the technology engineering department, Team 2220 also worked to create an AP Computer Science program within Eagan High School. This program has grown to be the largest AP Computer Science program in the district. Team members and the Annual STEM Career Fair have also helped in creating interest in the computer science within our school.

Team 2220 has also done many presentations at our school such as to AP Computer Science classes. We've also launched T-shirts and 2013 game pieces at various pep rallies and sports events for our school. All of these presentations allow us to spread awareness of FIRST and STEM throughout the school.

Volunteering

FLL Volunteering

Our team's members involve themselves in FLL-related event to establish themselves as role models. Members of the team volunteered as mentors for the six different FLL teams in our area. Through the High Tech Kids organization, Team 2220 is facilitated in volunteering and attending these FLL tournaments and exhibitions. At the Capitol Hill Tournament in St. Paul, MN, a large crew of Team 2220's members judged, refereed, reset the field, and performed other volunteering tasks for the third year in a row. This made sure that the Capitol Hill STEM Magnet School's competition was successful and smooth. Team 2220's members do not view this as solely a volunteering opportunity: They see this as a chance to support our teams in competition. The volunteering at this youngest level brings FLL into the fold of Eagan Robotics.



FTC Volunteering

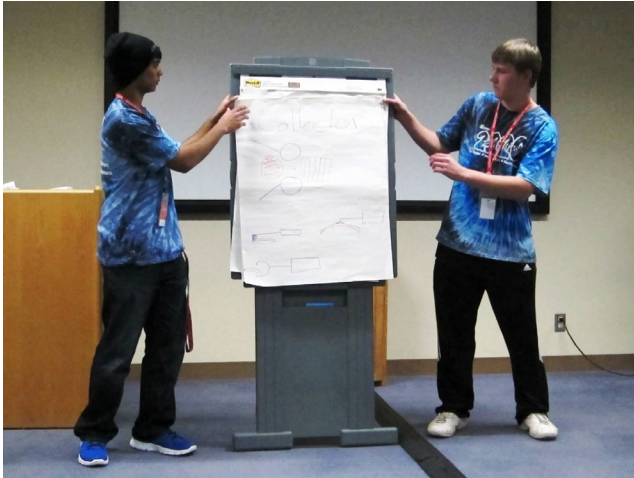
The members of Team 2220 volunteer at FTC events all season long. Team 2220's aid at FTC events was crucial in Minnesota's smooth transition to a qualifying tournament structure. Our team member's volunteered at Eagan High School's own FTC Tournament. With the aid of High Tech Kids, the volunteers helped run the first FTC Regional Qualifier. Our students and mentors volunteered at every Minnesota FTC tournament this past FTC season. Their roles included hardware inspectors, software inspectors, scorekeepers, emcees, and mentor volunteer coordinators.

FRC Volunteering

Team 2220's members exude "coopertition" through volunteering to further FRC tournaments and events. Team 2220 members contributed 350 hours of volunteer work at the Northern Lights and Lake Superior Regionals in Duluth, MN and the North Star Regional in Minneapolis, MN in this 2013 – 2014 season alone. These hours only include official volunteer positions. Team 2220 has volunteered far beyond these documented hours to ensure the competitions are effective. The team's members and mentors worked as safety advisor personnel, robot inspectors, and field reset personnel. Throughout the many levels of FIRST organizations, Team 2220 volunteers to encourage STEM involvement and excitement in robotics. Our team leads in example of incredible volunteer work to the FIRST community.



Sponsor Connections



Team 2220 creates and maintains strong connections with our sponsors through dynamic interactions. One especially notable connection is with the company, Skyline Exhibits. Our first connection with this company started with a robot demonstration in 2012 and has since expanded. We now can look to the company to provide reviews of our project plans and robot designs. During our design reviews, engineers give feedback on student designs. Through these sessions we create an enthusiasm for FIRST in employees. This connection has also expanded to an individual level with a student obtaining a mentorship at Skyline.

Another company that we have a strong connection with is 3M. Our team has interacted with both the main 3M facilities in St. Paul, MN along with a local plant in Eagan, MN. At the St. Paul campus students participated in the inaugural "Robots Invade the Plaza" event in 2013. We brought two robots to demonstrate to employees and their family what FIRST robots are like. Attendees had the opportunity to drive robots designed for the 2013 challenge, Ultimate Ascent. At the Eagan facility we have exhibited robots in both formal presentations and casual settings. Students have presented about FIRST and the robot in a meeting setting in front of employees. In a more interactive setting, we have been a part of the company's summer picnic inviting employees and their family to drive FRC and FTC robots. At this event we also presented 3M with one of our Chairman's Awards and Imagery Award trophies as thanks for their support. As with Skyline, students have also done design reviews at the Eagan 3M facility.



STEM Career Fair

This February, Team 2220 worked with Eagan High School to host our second annual STEM Career Fair. Over 170 presenters from various STEM fields interacted with 570 students from around the 196 school district. We created the STEM Career Fair to expose students to all the jobs and opportunities in STEM-based careers. Nearly every student on the team attended the event. Students were also tasked with setup, cleanup, and filling volunteer positions during the event itself.



As well as providing volunteers to help the event run smoothly, Team 2220 had our own booth in the event. We set up our pit structure donated by Skyline and drove around both FRC and FTC robots. This experience exposed students to FIRST to recognize STEM opportunities they can pursue before college.

Team 2220 hopes that the idea for the STEM Fair will expand and that we will be able to work together with other robotics teams in District 196 to spread the awareness of the fair to both students and potential presenters. Several other FRC teams and schools approached us about hosting their own fairs, and we look forward to working with them to spread knowledge of STEM career opportunities across the state.



Outreach History

2010-2011 Season

June 21 - 25: High School Summer Robotics Workshop

A group of team members developed curriculum and ran a robotics camp for high school aged students. Students learned programming, design and engineering techniques.

July 4: Eagan Parade - 4th annual event

Members of Team 2220 created a float and demonstrated one of its robots while passing out candy and informational flyers to parade attendees.

Fall & Spring Community Education Lego Robotics courses at Glacier Hills & Deerwood Elementary Schools . Student team members taught two after-school courses at Eagan Elementary schools. Students developed curriculum and then provided a fun and educational curriculum for students in grades four and five. Each course included five two hour sessions.

T-shirt shooting 2009 Homecoming 1st Annual Event

Members of Team 2220 rebuilt our show robot to remotely shoot t-shirts into the crowd at our homecoming pepfest and football game. This is the third year our robotics team has been a key part of the homecoming festivities

October 29: Feed My Starving Children

The entire robotics team spent three hours bagging food at the Eagan Feed My Starving Children.

September: December Mentored 4 FLL teams at Dakota Hills Middle School and Red Pine Elementary School. Two student team members mentored the two FLL Teams at DHMS for their entire season. Team 2220 also provided Lego NXT kits and laptops for these FLL teams. Two student team members mentored the Red Pine Elementary School FLL team.

September: Provided laptops to assist FLL teams at Pinewood Elementary school

Team 2220 provided four laptops for four of the FLL teams at Pinewood Elementary School.

September: December 2220 participates in testing new control system with Edina and other teams.

Mentors and student team members participated with other FIRST Robotics teams to beta test the new cRio control system for FIRST.

November 7: FLL Workshop/Practice Competition

Hosted 15 FIRST Lego League team at the Dakota Hill Middle School lunchroom for a series of workshops followed by a practice competition to help local teams prepare for their real competitions later in the fall.

November 7: Twilight Star Mini-Regional and workshops

Hosted a practice invitational for FIRST Robotics teams in the Eagan High School lunchroom. Team 2220 worked in cooperation with Team 1816 and Team 2169 to provide workshops at this event to help teams prepare for the new FRC season.



Outreach History

2010-2011 Season

December 2: Robotics Recruitment Trip to Henry Sibley High School

Three members from Team 2220 and their faculty advisor traveled to Henry Sibley High School to demonstrate their competition robot and recruit team members for this rookie team.

November: Mentored Henry Sibley High School Rookie Team

Met repeatedly with leadership team from Henry Sibley to help them organize and prepare for the upcoming build season. Provided laptops for programming to this new team.

January 7: Kit Of Parts Handout at University of Minnesota Kickoff. 1st Annual Event

A large contingent from our team organized and distributed the Kit of Parts to 65 teams attending the FRC Kickoff event. 2220 created a guide of KOP handout process and shared it with leaders of new Indiana Regional

January: Join Game Analysis/Strategy Session with rookie teams from Eastview, Apple Valley and Henry Sibley High Schools.

Team 2220 invited three rookie teams from Eastview, Apple Valley and Henry Sibley High Schools to join them in their first design session after the kickoff. We guided these teams through the process of analyzing the new game and developing strategy.

January: Partnered with retired Computer Scientist to re-launch A.P. Computer Science. Team 2220 helped promote the course and recruit enough students to make the course viable for the following school year.

March: Partnered with Ergotron Corporation to provide a large LCD screen connected to a computer. Team 2220 worked with a team competing in the other U of M venue to display ongoing photos and videos from teams at the events



Outreach History

2011-2012 Season

June - July: Kickstart Workshops: - Series of three

The EHS FIRST Robotics team hosted three workshops for elementary aged youth. Students were challenged to complete one or two missions during the 3 hours sessions. At each of these well-attended workshops there was an approximate ratio of 3 attendees to each high school helper. The goal of these kick-start workshops was to provide a brief introduction to FIRST Robotics for elementary aged students to get them interested in FLL and arm them with the basics needed for an FLL season.

June 20 - 24: High School Robotics Workshop

A group of team members developed curriculum and ran a robotics workshop for high school aged students. Students learned programming, design and engineering techniques.

June: Pinewood School Patrol Demo 1st annual event

Members of the EHS FIRST Robotics team demonstrated our basketball shooting robot to well over 100 hundred elementary school students as part of their safety training camp. Team members discussed a variety of safety related topics with the young people during the demonstration.

July 4: Eagan Parade 5th annual event

A group from Team 2220 developed a show robot to demonstrate at the Eagan July 4th parade and drove it down the parade route to entertain spectators while a smaller robot delivered candy along with members from our team.

July: Fixed Go-Bot for Special Education program at Glacier Hills

A student at Glacier Hills Elementary School used a little electric go cart called a "Go-Bot". The Go-Bot broke and they could not figure out how to repair it. Members of our electronics subteam of FIRST Team 2220 repaired the Go-Bot's wiring and electronics to get it running again.

August 29: MN State Fair FRC competition

The Eagan High School FIRST Robotics team demonstrated their robot at the Minnesota State Fair in a competition held in the Education building. The event emcee for the length of the State Fair was our team captain, Joel L.. The entire competition field structure and materials were provided by Team 2220 for this event.

August 25: STEM Day at State Fair

Member of our team participated in the first annual STEM Day at the State Fair. The group provided a hands-on demonstration using Lego NXT robots with bluetooth remotes.

August 8 - 11: Elementary School Lego Robotics Camp - Pinewood 5th annual event

A group of five team members developed curriculum for a 5-day Lego Robotics camp for elementary-aged young people in our area. They ran the camp for 25 participants with great success. The students learned



Outreach History

2011-2012 Season

September: 3M Presentation

Members of our team provided an informational presentation at the Eagan 3M facility for 30 engineers and managers. We used this program to promote FIRST and recruit engineers to mentor teams in our area.

September: Rotary Presentation

Member of our team provided a robotics demonstration for local business leaders. The purpose of this presentation was to build support for FIRST programs in our area.

September: FLL field construction for Glacier Hills, DHMS and Cedar Park

The Team 2220 construction sub-team purchased materials and built competition tables for 5 FIRST Lego League teams in our area.

September - January: Eagan FLL Team Support

Provided Lego NXT robotics kits to all 4 of the Dakota Hills Middle School teams. Supplied another kit to the Glacier Hills Elementary School Lego League team. Supplied programming laptops for all of the Dakota Hills teams. Team 2220 purchased sensors and other parts for the Green Girls FLL team out of Thomson Reuters. Two student members also helped mentor the FLL team at Northview Elementary School in Eagan.

September: Homecoming T-Shirt Cannon Team 2nd Annual Event

Members of Team 2220 rebuilt our show robot to remotely shoot t-shirts into the crowd at our homecoming pepfest and football game. This is the third year our robotics team has been a key part of the homecoming festivities.

September: Minnesota State Academy for the Deaf (MSAD) Training Trip

Hearing and hard-of-hearing team members from the EHS FIRST Robotics team traveled to the Minnesota State Academy for the Deaf (MSAD) to introduce a group of students and teachers to the FIRST Lego League program. They provided a fun hands-on training exercise by breaking the groups of students up into small groups and having them work to complete one mission with a robot. Team 2220 left two Lego NXT kits at MSAD for them to use when they started their own FIRST Lego League team. The team went on to compete in a Lego League competition and won a design award. This group of students and their teacher moved on to the FIRST Tech Challenge competition the following season while others at their school continued with FLL.

November 6: FLL Practice Invitational 12:30 - 5:00 pm at EHS Lunchroom

Team 2220 hosted the 4h annual FLL Practice Invitational at Dakota Hills Middle School. 13 FLL teams from around area participated in the event. Teams were given 3 hours to prepare for a mock competition. Mentors were provided to teams as they prepared for the competition.

November 20: Mini-Regional at Prior Lake High School

Team 2220 along with Team 1816 and 2169 hosted off-season competition to help teams in our area prepare for the new FIRST Robotics Season. Team 2220 provided the entire competition field and scoring system for the event.



Outreach History

2011-2012 Season

January 6: Trebuchet contest

Groups of students and mentors along with teams from the community designed and built trebuchets. They competed with them on January 6. The goal of this program was to train our team members in safety and engineering skills while having some fun. We also used this event to promote FIRST in our area by inviting outside groups to join us.

January 7: Kit Of Parts Handout at University of Minnesota Kickoff. 2nd Annual Event

A large contingent from our team organized and distributed the Kit of Parts to 65 teams attending the FRC Kickoff event.

March: Lego Hands-on Activity at the Duluth and North Star Regionals

Members of our team provided a hands-on Lego NXT Robotics demonstration at both of the regional competitions we attended. Below is a note from the parent of one of the young people who stopped by to play and learn.

"First of all, I would like to thank your team for their outreach efforts at both the Superior Regional and the North Star Regional, especially for the FLL group. You have some amazing student mentors and they should be commended. Names that come to mind are Grant and Cole, but there were many others. Tron also worked well with these students as they mentored. My 8 year old son spent a lot of time with your team and is still wearing the tatoo! "



Outreach History

2012-2013 Season

June 13: Presentation for Rick King - CTO of Thomson Reuters

Team members and mentors provided a detailed presentation and demonstration at Thomson Reuters for Rick King.

June 14: Pinewood School Patrol Demo 2nd annual event

Members of the EHS FIRST Robotics team demonstrated our basketball shooting robot to well over 100 hundred elementary school students as part of their safety training camp. Team members discussed a variety of safety related topics with the young people during the demonstration.

July 4: Eagan Parade 6th annual event

12 Team members and 4 adults participated in the Eagan July 4th parade. The team created a candy dispensing robot. They delighted young people along the route by driving up close to them and delivering candy. The team handed out educational flyers and talked with interested adults along the route about FIRST robotics.

July 26: Thomson-Reuters Robotics Basketball

Members of the team set up a robotics basketball tournament for division of employees with Thomson Reuters. Teams of two competed within a 2 minute time frame to score as many baskets as possible. The team provided informational sessions between rounds to educate the competitors about FIRST Robotics. A good time was had by all.

July 30: Wescott Library Demo

Members of Team 2220 provided a robotics demonstration for over one hundred young people. This demonstration was included to help inspire participants to view and read books related to robots and other STEM related materials. The event was so successful we have been invited back to do multiple sessions.

August 11 - 15: High School Robotics Workshop

A group of team members developed curriculum and ran a robotics workshop for high school aged students. Students learned programming, design and engineering techniques.

August 23: STEM Day State Fair

Team 2220 once again participated in this STEM Day event at the State Fair. We provided multiple Lego robots with remote controls for young people to test out and play with in a challenge course. Members of the team provided information and advice to many people interested in having their child participate in FIRST Lego League.

August 23 - September 3: Team 2220 at State Fair

The Eagan High FIRST Robotics team provided the field elements and support to create a mini-field for a FIRST Robotics competitive demonstration event in the Education building at the MN State Fair. This is the 5th year we have done so. Members of our team participated in this event every day to help set up the field, score the competition and as emcees. Other members of our team competed in the event on August 28.



Outreach History

2012-2013 Season

September - January: FLL Team Mentors

Members of the EHS FIRST Robotics team volunteered as mentors for 6 different FLL teams in our area. They contributed a large number of hours after school and in the evening helping these younger students be successful in the FLL program.

September - January: Eagan FLL Team Support

Provided Lego NXT robotics kits to all six of the Dakota Hills Middle School teams. Supplied another kit to the Glacier Hills Elementary School Lego League team. Built and donated three competition table to the Dakota Hills FLL program. Supplied programming laptops for all of the Dakota Hills teams. Team 2220 also purchased sensors and other parts for the Green Girls FLL team out of Thomson Reuters.

September 20: South Of The River FLL Roundtable Event

Our team promoted and hosted a coaches' roundtable event for FIRST Lego League coaches in our area. We recruited three veteran FLL coaches from the Eagan area to facilitate the gathering. 20 coaches gathered to share ideas and best practices with each other. The group completed a second roundtable on Dec. 18 to gather ideas and feedback from the season.

September 22: Children's Museum - Curious About Engineering

Team members provided a Lego robot hands-on demonstration for young people as part of the "Curious About Engineering" event at the Children's Museum.

September 28: Eagan High School Homecoming Pepfest & Football Game T-Shirt Cannon Team

Members of Team 2220 rebuilt our show robot to remotely shoot t-shirts into the crowd at our homecoming pepfest and football game. This is the third year our robotics team has been a key part of the homecoming festivities.

October 11: Cedar Park STEM Family Night

The team provided two different robotics demonstrations to help inspire young people to take an interest in STEM related topics in school. We provided a robot demonstration with our 2012 basketball shooting robot. Team members also engaged young people with a hands-on demonstration of a robotic arm. The robotic arm was set up to grab and retrieve small boxes of candy.

October: Team 2220 worked with its sponsor Heraeus Corporation to procure a new mill to replace the aging, broken mill in the Eagan High School Metal shop. Team 2220 provided 80% of the funding for the purchase of the mill.

October 29: FLL Practice Invite

Team 2220 hosted the 5th annual FLL Practice Invitational at Dakota Hills Middle School. 18 FLL teams from around the area participated in the event. Team were given 3 hours to prepare for a mock competition. Technical workshops and mentors were provided to teams as they prepared for the competition. Teams were also given the opportunity to practice their presentation in front of a 2220 mentor who judges FLL during the Lego League season and 2220 team members.



Outreach History

2012-2013 Season

November 10: Minnesota River Valley Rendezvous Invitational

Team 2220 and Team 3018 partnered to host an off-season training event in St. Peter. The event included a series of training workshops and a variety of robotics competitions. 12 teams from southern Minnesota attended.

December 8: Team Funding Presentation at MN Splash FRC Training Event

Faculty advisor Jim Lynch and student Kyle S. from Team 2220 partnered with members of Team 1816 to provide a training presentation about team funding and fundraising.

December 14-15: FIRST Lego League Competition

A small group of team members worked with FLL competition officials to set up for a Lego League tournament at Capitol Hill STEM Magnet School in St. Paul on Dec. 14. A larger crew volunteered to reset the competition fields from 9:15 am - 4:45 pm on Dec. 15.

December 20: Lego NXT Kit Sorting Party

7 of our team members joined 15 student team members of FIRST Lego League teams at Dakota Hills Middle School to sort and re-organize the Lego NXT kits that they used during the FIRST Lego League season. Team 2220 provided help from older students along with beverages and pizza for the crew.

January 2 and Ongoing: Robot Loan and continue support for Owatonna FIRST Robotics Team

Team 2220 loaned its show robot to the new Owatonna team to help their drivers practice and to learn how to build an FRC robot. We also provided ongoing support for this team by supplying them with organizational materials and periodic video conferences.

January 5: Kit of Parts Handout at University of Minnesota Kickoff. 6th Annual Event.

A large contingent from our team organized and distributed the Kit of Parts to teams attending the FRC Kickoff event.

January 7: Robotics Demonstration for Senator Franken

Team 2220 provided a robotics demonstration and presentation for Senator Franken when he visited Eagan High School. The purpose of this demonstration was to encourage the senator to support programs that promote STEM in schools including FIRST Robotics.

January 8: Donated field structures and wood stock to Team 3018, Nordic Storm in St. Peter, MN to assist them in the building of a practice field so they could host a week zero event in southern Minnesota.

January 12: Initiated the first "South of the River" coaches' roundtable meeting with teams around Eagan. Representatives from Eagan, Eastview, Apple Valley and Burnsville met to share ideas, discuss issues and generally provide support for each other. The group decided to continue the meetings on an ongoing basis. More participants are welcome.



Outreach History

2012-2013 Season

January 14: Demonstrated the robot at local Boy Scout Troop meeting to promote interest in STEM.

January 16: Eagan Rotary Presentation

We provided a robotics demonstration for local Eagan business leaders. We included an all-girls FIRST Lego League team that we support in the demonstration.

January: Eagan Rotary Grant & Support to transition Green Girls FLL team to FTC Program

Team 2220 wrote and received a \$1000.00 grant to support the transition of an all-girls FLL team to the FIRST Tech Challenge (FTC) program the 2013/2014 school year. We purchased the entire Lego Tetrix kit and other materials this team needed to compete

Monday, January 28: Presented in the rotunda of the Minnesota State Capitol as a part of a Robotics Day event. Members of EHS FIRST Robotics team met with legislators and business people at the event to educate them about FIRST Robotics and how the program inspires so many young people to pursue STEM careers.

January 29: Three members of the Henry Sibley FRC team came over to receive help getting started with Java coding for their robot.

February 2: Members of our team worked with the Minnesota State Academy for the Deaf to help their new FTC team program their robot in Labview.

February 21: Deaf & Hard of Hearing Winter Camp Demonstration

Hearing and hard-of-hearing members of our team provided a hands-on robotics presentation for members of this camp held at Confidence Learning Center on Gull Lake. The goal was to continue to inspire more young deaf people to take an interest in STEM fields through involvement in FIRST programs.

February 26: STEM Career Fair

This event was held at Eagan High School and hosted by the EHS FIRST Robotics team along with the EHS Math, Science, Technology Education and Counseling departments. Professionals from a variety of fields in science, technology, engineering, mathematics and others in technical fields gathered to meet with interested high school students and share information about their careers.

March: Lego Hands-on Activity at Duluth and Twin Cities Regionals

Members of our team provided a hands-on Lego NXT Robotics demonstration at the Duluth regional and both Twin Cities regionals.

March 9: How to Start a Booster Club workshops performed by EHS Booster president and Faculty Advisor. Provided presentation at the FIRST Robotics competitions in Duluth, MN

March 28/29: Provided the following workshops at the Minnesota North Star FRC Regional competition: Team Management, Team Financial Management, How to start a Booster Club.



Outreach History

2012-2013 Season

March 30: FLL Team Tours

Provided Tours to FIRST Lego League teams at the Minnesota North Star Regional. The goal was to inspire younger students to continue on in FIRST to eventually join FIRST Robotics teams.



Outreach History

2013-2014 Season

July 4: Demo at Eagan 4th of July Parade

Team 2220 students marched at the annual Eagan 4th of July parade, demonstrating our demonstration robot, which to the delight of the crowd dropped candy for children and adults along the route. This was the seventh time that team 2220 provided a robotics demonstration at the event.

August 2: Robotics Demo at TXT event at DCTC

Demonstrated FRC and FLL robotics at an all-girls event hosted by Dakota County Technical College, in collaboration with FRC 3184, 2169, and FLL team "The Ponytail Posse," as well as FTC teams 5330 and 4644. Girls drove our 2013 robot, R7, as well as learning Lego NXT programming skills in a hands-on workshop.

August 9: Robots Invade the Plaza (3M)

Team 2220 joined 10 other FRC teams to demonstrate our 2013 FRC robot and excite 3M employees at their Maplewood campus. 3M employees and their children were introduced to FRC, driving 2013 competition robots throughout the day in a variety of "challenges." The event was an excellent thank-you to 3M on the part of Minnesota's FRC teams.

August 22- September 2: Minnesota State Fair

Team 2220 both provided the field elements and two game announcers for the Minnesota State Fair competition, providing vital exposure to FIRST to thousands of the Fair's 1.7 million attendees over the twelve days of the fair. This is just one of the ways that Team 2220 helps to "Make FIRST Loud!"

August 22: STEM Day at the Fair

Team 2220 manned a booth at the 3rd annual STEM Day at the Fair, sponsored by 3M. Team 2220 has presented at STEM day since the first event in 2011. This year the team presented our 2013 FRC robot, explaining the FIRST Robotics Competition to Fair attendees.

August 26: Competition at the Fair

Members of Team 2220 travelled to the fair to compete with our 2013 FRC robot. Several students got to try their hands at driving our robot.

September 6: Thomson Reuters unConference

Students from Team 2220 had the opportunity to present our 2013 FRC robot to hundreds of employees from one of our largest sponsors, Thomson Reuters. Members also manned a booth alongside tech companies such as Microsoft, Intel, and Apple to give hands-on demonstrations to unconference attendees. We also had the opportunity to thank Thomson Reuters by giving them our Regional Chairman's and Imagery Award trophies from the 2013 season.



Outreach History

2013-2014 Season

September 7- April 29: FTC Mentoring

Members of Team 2220 have generously spent much of the fall and winter mentoring Eagan Robotics FTC teams in CAD, programming, robot build skills, and strategic analysis. Members of Team 2220 organized and helped to run ten FTC teams this year-- seven of which were new. Blue Twilight helped to facilitate the formation and funding of these new FTC teams, and will continue to do so into the future. Our FTC program has been very successful-- Eagan Robotics teams have won two Regionals and numerous other awards at competitions this year.

September 15: Eagan Streets Alive Demo

Outdoor demo booth for Eagan Community

September 30: Sponsor Meeting with Gopher Resource

Members from Team 2220 visited and presented to one of our oldest sponsors, Gopher Resources, at the Dakota Valley Recycling center. Students presented a summary of the teams activity over the past few years to a number of employees of the company, who were also invited to drive the previous season's robot. The employees then gave a presentation on the various roles of engineering within their own company, as well as their own roles and backgrounds.

October 26: Practice FLL Tournament (6th annual)

Students and mentors ran a practice FLL tournament for local teams for the sixth year in a row. In addition to head-to-head matches run by actual referees, teams were able to practice presentations with judges that would be at their actual competitions.

November 2: Regional CAD Training Event at DCTC

Team 2220 partnered with Dakota County Technical College and PTC in order to host one of the largest pre-season CAD training events in Minnesota, hosting nearly 60 students from local FRC and FTC programs. Students and mentors alike were introduced to relevant concepts and practices in PTC Creo by several PTC employees working with Team 2220 students.

November 9: River Valley Rendezvous Offseason Event (2nd Annual)

Blue Twilight helped team 3018 Nordic Storm transition from helping us run the off-season event to running it primarily themselves, as part of a two-year effort to increase support for southwestern Minnesota FRC teams who are geographically isolated from the Twin Cities area. Team 2220 members ran workshops on Chairman's, Strategic Design, Electronics Best Practices, and Team Organization. This event was attended by 16 teams, most of whom do not attend other offseason events.

November 15: Robotics Alley Conference

Team 2220 members once again demonstrated FIRST robotics amongst industry professionals at the annual Minnesota Robotics Alley Conference, an industry event promoting the growth of the robotics industry in Minnesota. Members demonstrated our 2013 robot to media personnel and leading companies in the state.



Outreach History

2013-2014 Season

November 16: Eagan FTC Tournament

Team 2220 students and mentors partnered with High Tech Kids, a regional FIRST partner for FLL and FTC programs, in order to run the first FTC Regional Qualifier event of the 2013-14 Block Party season. Team 2220 provided members who staffed pit administration, queued robots, helped run scorekeeping, inspected robots and software, and emceed the event. Three FTC teams associated with Team 2220 through Eagan Robotics advanced to the Minnesota State Tournament at this event.

November 21: Skyline Sponsor Update Meeting

Blue Twilight students and mentors travelled to a local sponsor, Skyline Exhibits, in order to learn about their product development and design process, as well as keep them up to date on what Team 2220 has been doing since we last met. During this meeting, we set up a second meeting in two weeks in order to learn more from their director of research, design, and innovation.

December 5: Skyline Sponsor Meeting 2

Students and mentors from Team 2220 followed up with our previous meeting with Skyline Exhibits, meeting with Skyline's director of Research, Design, and Innovation as well as a project manager for Skyline. These two ran a hands-on workshop with Blue Twilight students, teaching them Skyline's own tested techniques for brainstorming and product design. Both parties left with a better idea of what the other does--team members learned more about Skyline and the two Skyline employees learned more about our program. We left the meeting planning a day at Skyline post-kickoff to brainstorm and identify design requirements.

December 7: Minnesota Splash

Members of Team 2220 travelled to the University of Minnesota in order to attend the annual Minnesota Splash robotics training event. Our team captains presented on team organization.

December 8: Booster Club Webinar

Team leaders, working with FIRST Senior Mentor Renee Becker, put together a webinar for the FIRST Fundraising Toolkit on forming a 501c(3) Booster Club to support team activities. This webinar was made public and is now hosted on the FIRST website.

December 14: Curious about Engineering at the Children's Museum

Members of Team 2220's FTC teams demonstrated their robots at the Minnesota Children's Museum for the Curious About Engineering event, not only exposing younger children to the FIRST programs but also providing our FTC groups with valuable presentation experience.

January 4: Handout KOP at University of Minnesota Kickoff (7th Annual)

Each year our members distribute items from the Kit of Parts at the University of Minnesota Kickoff. This entails walking through each team and checking them out at stations manned by 2220 members distributing parts.



Outreach History

2013-2014 Season

February 15: Week Zero Event (6th Annual)

Once again, we hosted our annual "week zero" scrimmage event. This year it was held in collaboration with teams 3184, 3081 and 2470. The event was held at the Jefferson Activity Center. This event also had an FTC practice field with complete FMS for FTC students to practice for the upcoming State Tournament. Our students created the field except for the truss and, at the event, assembled it. We also ran an FMS system, managed a webcast and provided field referees and emcees.

February 25: Eagan STEM Career Fair (2nd Annual)

At our 2nd Annual STEM Career fair, we again hosted STEM professionals and connected them to students. This year we had over 150 presenters, causing us to expand the event to take up two cafeteria spaces. Team members also manned a booth representing our team and FIRST to raise awareness of robotics within the school.

