



FRC Team
2199

THE SEVEN YEAR JOURNEY

By: Bridget D.



Above: Members of the Robo-Lions after winning the Chesapeake Regional Chairman's Award in Baltimore April 13th

FIRST Robotics Competitions (FRC) combine the excitement of sport with the rigors of science and technology to provide students a “real-world engineering” experience.

~ www.usfirst.org

Every January, the robotics season begins; the new game is released and work starts. While build team works on the robot, public relations and business teams work on award submissions. There are several awards that teams can try to win, however the most prestigious award is the Chairman's award.

Chairman's is awarded to the team that does the most to change the face of their culture, through outreach and education, to celebrate science, technology, engineering, and math (STEM). The entire philosophy behind FIRST is that we as a society need to celebrate our scientists, technicians, engineers, and mathematicians as much as we celebrate artists and athletes so that more people aspire to enter a STEM field. To accomplish this, we participate in year round community outreach. For the Robo-Lions, we have found that it is essential to work with children and their families to inspire an appreciation of STEM from a young age. Some of this outreach includes volunteering at science fairs, demonstrating robots at library events, and running a Lego robotics summer camp.

Our community outreach is just the legwork; the actual award is even more than that. To win Chairman's a team has to compete at a regional competition, and if they win that they go on to compete at Championships. There are three sections to the award submission. Team members are tasked with writing an essay (with a maximum of ten thousand words) that explains to the competition judges why their team qualifies for the award. Second is the presentation. Students have five minutes to give a presentation to a panel of three judges at the competition, who then ask the students questions for another five minutes. The final section is the video; students create a video using content relevant to the award that did not fit in the essay and presentation. The video of the winning team is played for the entire competition to watch after the winner of the award is announced during closing ceremonies.

Ultimately, it comes down to hard work and dedication; the Robo-Lions public relations sub-team start working on the essay and video during the summer and fall. Since we attend so many outreach events every year we usually have too many to include in the essay, so we chose a theme and a thesis to emphasize what we felt was the most important. Then, in January, the real writing starts when the rules are released. From draft one to draft fourteen we edit and argue over wording and the use of the oxford comma; by the fourth draft we might even let our mentors and teachers read it.

Eventually the essay is finished, miraculous though it seems. The team sends the file to the competition judges through an online submission, which usually has a six-week deadline for acceptance from the day the rules are released. Then of course we have a party, but we do have to return to the video soon after. The big decision to

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Our next competition will be September 21st at the Boys' Latin School of Maryland. See www.battleofbaltimore.com for more on the Battle o' Baltimore. Free, fun and exciting!



make regarding the video is whether to make a photostory or a live action video. It usually depends on our available resources; in the past we have had access to professional film equipment through a team member, however now that he has graduated our resources are more limited. Generally the word photostory conjures images of pixilated high school government projects with Celine Dion playing a little too loud along with it, however we found that it really is an underappreciated medium. Fortunately for the Robo-Lions, we are partnered with a local musician, Mr. Joe Dundore, who let us use a song he wrote which he felt best fit the tone of the story being told. He thus became our Music Director, and a partner through the Freedom Area Recreation Council and his charitable community non-profit, the Joey D Cares Rock Orchestra.

So what's left? A presentation seems easy. What could possibly go wrong in five minutes of pre rehearsed talking? Quite a lot actually. First, we write a draft of the presentation. Then we argue over wording and intonation. The judges want to see that we know what we're talking about, that we have genuinely committed ourselves to *FIRST*. That's what separates a Chairman's worthy team from the others; regardless of whether or not a team is awarded, if their members have committed to the message of *FIRST* then they definitely have the potential and the right to eventually win the award.

The Robo-Lions were honored at the 2013 Chesapeake Regional with the Regional Chairman's Award, which qualified us for World Championships in St. Louis. The trip was expensive, but, in a really amazing representation of the affect we have had on our community, we were able to raise the ten thousand dollars needed in a week from friends, family, and local sponsors. After seven years of working to achieve this, we finally have a Chairman's banner to hang in the gym at our school along with all of the other sports teams. If that isn't evidence of a change in our culture, what is? ◇



Above: after receiving their medals at the end of the competition, the Robo-Lions team members watch their video documenting the team's achievements which is shared with all at competition.

See and hear the video, with the original music score by Joe Dundore, at www.pie-.org

SUMMER CAMP

By: Coralie M.



Above: One of the nearly 60 campers, aged 7-12, who enrolled in the Lego Fun Camp in July and August takes pride in his team's robot

The Robo-Lions, designed and ran a summer camp in 2012, to inspire the future generations to go into science, technology, engineering, and math careers. The camp was made possible through our affiliation with the Freedom Area Recreation Council, who arranged for it to be hosted at Oklahoma Road Middle School in both July and August.

Since the first successful camp last year, we tripled the sessions offered and added a parent mini-camp and coach training session in early August. These camps are in high demand. We even have campers attending multiple sessions!

Team members, along with some *FIRST* Lego League veterans and members of the South Carroll and Liberty *FIRST* Tech Challenge teams, teach the campers to build and program Lego robots, using their imaginations and a visual based programming language. The campers are tasked with programming these Lego robots to complete various challenges (such as robot sumo wrestling and maze navigation) that we assign them.

It is our goal to teach the future generations that robotics can be fun and interesting; popsicle stick catapults and a paper airplanes are an excellent way to encourage the kind of creative engineering required to build a robot. Our campers learn that you can engineer the most amazing things from everyday objects, such as popsicle sticks and paper, and they are confident they can solve all sorts of problems. ◇



CHAMPIONSHIP EXPERIENCE 2013

By: Abi F.

Robo-Lions traveled to St. Louis from April 25-28 to compete in the *FIRST* World Championships, with over 60 nations represented at four levels of competition from kindergarten through high school. The venue was the St. Louis Ram's stadium, the Edward Jones Dome, with many thousands of people in attendance. In the *FIRST* Robotics Competition (FRC), which included the Robo-Lions, about 400 teams competed on four separate fields, each team competing in eight matches. At the end of the eight matches, with the record of five wins to three losses, the Robo-Lions ended up in 33rd place out of the 100 teams in their division, the very division whose winner went on to become the overall champions.

The competition itself was quite an experience. Dozens of colleges sent representatives to reach out to *FIRST* students in hopes to recruit them for their colleges. Corporations such as Boeing, SAIC and Dewalt also sent representatives, and the floor was graced with the presence of the Boeing CEO, the CEO of Coca-Cola, and the pop superstar will.i.am, as well as many other leaders in business, industry, and the military. The experience of talking to teams across the country and the world was incredible, as was being able to see the designs the other world class teams used for their robots and the approaches they took to solving the game challenge.

The Robo-Lions are incredibly thankful to everyone who made the trip to Championship a reality. This includes those who donated to the Robo-Lions with a donation of any amount, thank you. The team members would like to thank the mentors who planned the logistics to make sure the entire trip went smoothly. We could not have gone without you, especially since our late qualifying date gave us only a week to raise the funds and make all the arrangements.

When the competition ended and the robot was once again secured in its crate, the Robo-Lions' season officially ended,

also. But robotics is never truly over, as the Robo-Lions are once again starting up the off season, the time of the year for outreach events and FLL recruitment. But as far as years go, this one was excellent. We owe a great big thank-you to everyone who helped make it that way! ◇

RELAY FOR LIFE

By: Mikey W.



Rose Young, team mentor and cancer survivor, with the team mascot at the 2013 Freedom Area Relay for Life

On June 14th, the Robo-Lions walked through the night, along with our robot, at the Freedom Area American Cancer Society's Relay for Life. Throughout the night, team members walked the track, lit luminaries, and shot Frisbees from the robot. We showed our support to cancer patients, survivors, and especially to our head mentor, Rose Young, a two-time breast cancer survivor. The team was recognized as a "Rising Star" team, and raised over \$1000. More donations added after the silent auction and continued donations on-line, brought the total to nearly \$1500

The event lasted 12 hours, from 6:00 PM Friday until 6:00 AM Saturday morning. Over the course of the night, the team participated in a number of activities and supported other teams at the relay. Some members played cancer bingo while others walked the track in our lion mascot costume. The relay symbolizes the journey of a cancer patient, and the exhaustion we felt by sunrise was more than enough to make us thankful for what we have.

This is our third year as part of the Freedom Relay, and you can look for us next year, when we plan to set a goal of \$2500. To donate through the end of August, see

<http://main.acsevents.org/goto/Robo-Lions> .◇



Above: The Robo-Lions team mentors and mentors with their robot at the FIRST World Championships in St. Louis April 27, 2013



We would like to extend a very special thanks to all of our sponsors for helping us get to St. Louis!

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Our School Affiliations

Liberty High School
South Carroll High School FTC Team
Carroll County Public Schools



Above: Our Seniors at Championship. Clockwise from top right—Connor, Patrick, KC, Matt, Tommy and Scott

THE JOURNEY COUNTINUES

A Farwell to Our Seniors

University of Maryland, Baltimore County

Connor C, Computer Science
Matt W, Mathematics
Scott T, Computer Science

University of Delaware

Kenneth Craig (KC) E, Pre-Vet

McDaniel College

Tommy M, Languages

Worcester Polytechnic Institute

Patrick D, Computer Science

Good luck everyone! We'll miss you. ◇