



FIRST Robotics Competition

Team 418

Austin, Texas

Business Plan 2008/2009

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1. Introduction

1.1 Executive Summary

Who we are

LASA Robotics, or Purple Haze, operates out of the Liberal Arts and Science Academy High School in Austin, Texas. For the past fifteen years, we have been led by educator Anthony Bertucci as we compete in BEST Robotics (since 1993) and FIRST Robotics (since 2000). Our mission is to teach youth engineering and design concepts as well as build leadership, team work, and communication skills through a robotics competition format. Purple Haze's vibrant passion and professionalism define our members everywhere they go.

Quick Facts	
Founding Year	1993
FIRST Rookie Year	2000
Current Team Size	47
Team Mentors	4
Major Corporate Sponsors	3M, BAE Systems, National Instruments, Qualcomm, Westbrook Metals
Team Motto	If you can't apply it, you don't know it.
Team Slogan	Building Engineers Today to Conquer Tomorrow.

418 is an official sponsor of Central Texas FIRST LEGO League, mentors Austin-area FRC teams, and has a working partnership with National Instruments, our main sponsor. Members participate in 15 robot demonstrations a year in the community, to publicize the benefits of science and technology education for all children. We organize carnivals, camps, fundraisers, letter drives, and presentations to reach out to the community and promote engineering.

1.2 Mission Statement

The mission of LASA Robotics is to teach youth engineering and design concepts as well as build leadership, team work, and communication skills through a robotics competition format.

Our mission has guided 418 to impact over 200 students over the past fifteen years to become community leaders, of whom 98% graduated high school and pursued an engineering-related field in college.

1.3 BEST Robotics and FIRST Robotics

BEST, Boosting Engineering, Science, and Technology, was founded in 1993 to inspire students to pursue careers in engineering, science, and technology through participation in a sports-like, science and engineering-based robotics competition. The organization is volunteer based and incorporates the expertise of professional engineers with the creative minds of high school and middle school students. Participants learn engineering concepts as well as team building and responsibility through competing in the head-to-head robot competition and BEST Award competition. More information about BEST can be found on the BEST Robotics Inc. website, located at <http://www.bestinc.org>. LASA Robotics competes at Capitol BEST hub in the fall.



FIRST, which stands for *For the Inspiration and Recognition of Science and Technology*, was founded in 1989 by Dean Kamen with the vision to “transform our culture by creating a world where science and technology are celebrated”. FIRST has four competitions for elementary through high school age students: Junior FIRST LEGO League (Jr.FLL), FIRST LEGO League (FLL), FIRST Tech Challenge (FTC), and FIRST Robotics Competition (FRC). These programs inspire children to pursue education in science, math, engineering, and technology and allow them to build life skills. More information can be found at <http://usfirst.org>. We participate in FRC, where 1,680 teams from across the world are given six weeks in the spring to design and build a robot that will compete in the year’s game. Teams also compete in areas of website, animation, CAD, safety as well as for the Woodie Flowers Award, which celebrates a special mentor, and the Chairman’s Award which honors the team which most embodies the spirit of FIRST.

1.4 Team History

LASA Robotics began in 1993 as a BEST Robotics team with five members for the Science Academy at LBJ High School. We started competing in FIRST in 2000 and our name changed to LASA Robotics in 2002 when our school name changed to the Liberal Arts and Science Academy. Over the years, we have gained and lost sponsors but our cash base is steadily increasing and diversifying, ensuring long-term sustainability. Today, in our tenth anniversary year of competing in FIRST, we have grown to 47 members and 4 mentors who each document over 200 hours while building robots, CADing robot designs, making animations, preparing award submissions, fundraising, volunteering, and reaching out to the community.

3M, BAE Systems, National Instruments, and Qualcomm are our main sponsors with 20 other business and community supporters. We have developed a special relationship with National Instruments, who provides us with mentors and many publicity opportunities.

1.5 LASA Robotics Association

The LASA Robotics Association is a 501(c)3 non-profit organization created in 2000 to support the LASA Robotics team. Members include students, parents, teachers, mentors, and community representatives. The Association assists 418 by managing finances, leading fundraising efforts, facilitating communications, helping with travel, and generally supporting outreach and public relations. It provides a structure for parents and others to be involved in supporting the team. The Association Board of Directors currently includes 9 members who hold one-year appointments and who are charged with carrying out the purpose of the organization.

2. Goals

What we want to do and how we want to do it

2.1 Critical Operating Tasks

2.1.1 Team and Fundraising Tasks

1. Increase member participation in website upkeep and marketing production.
2. Hold a successful Wii Partii carnival.
3. Expand corporate sponsors to be able to increase our presence in the community and increase our mentorship of other teams.

2.1.2 Competition Tasks

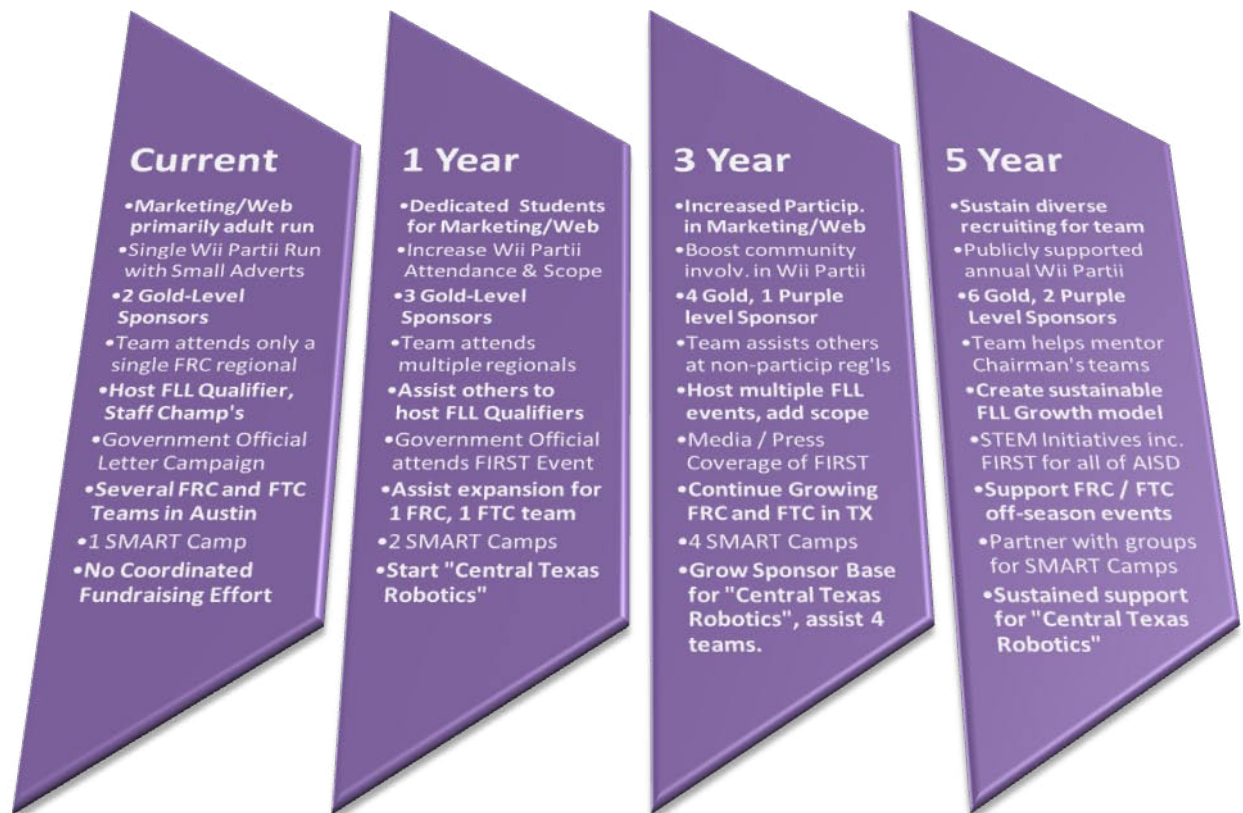
4. Participate in two FIRST regional competitions.
5. Organize and run a Central Texas FLL Qualifier.

2.1.3 Community Tasks

6. Promote STEM education in government and the community at larger levels.
7. Help Austin high schools develop FRC teams.
8. Organize and run more SMART Camp programs.
9. Create an organization to financially support robotics teams in Central Texas.

2.2 Short and Long Term Goals

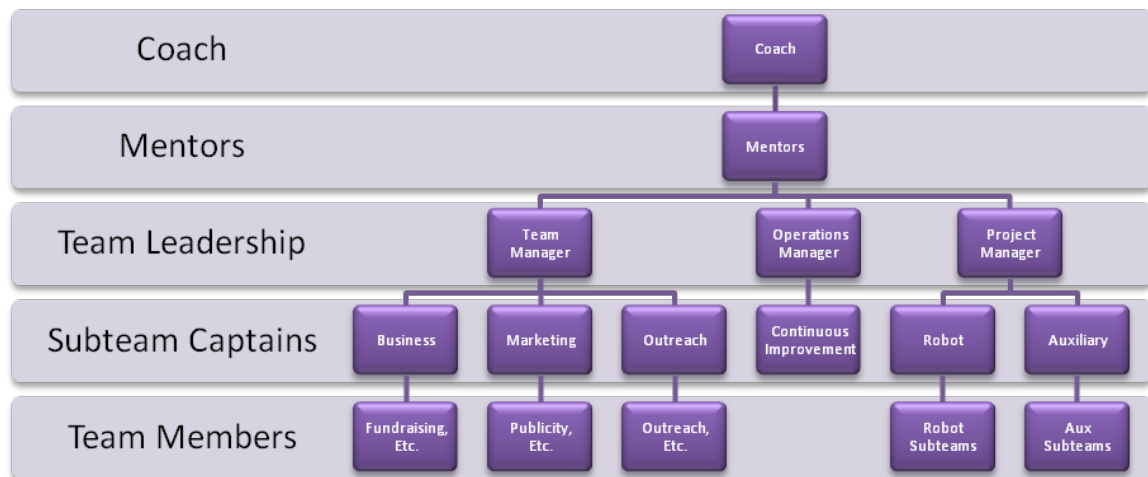
The following chart describes the progress we would like to make for each critical operating task in one, three, and five years. LASA Robotics team members and LASA Robotics Association members meet in the summer at a retreat to reflect on the progress made in the previous year and outline our short and long term goals for the new year.



3. Management Plan

How LASA Robotics structures and manages itself

3.1 General Team Structure



The diagram depicts a sample of the levels of management within Purple Haze. Our student-driven structure is key to developing the sense of personal responsibility that each member exhibits as well as building leadership and time management skills.

3.2 Team Offices and Descriptions

Team Coach - The team coach is an adult that is ultimately responsible for the team. He is the liaison between the school and the team, helps organize team travel, field trips, and meetings, and is the main contact person for the team.

Team Mentors - The team mentors report to the team coach. Team mentors are generally adults who help advise and teach students as well as assist the team coach in supervising the students. Mentors help team members perform the necessary jobs as best as they can.

Team Manager - The Team Manager is the top-level point of contact for the team outside of the mentors or the team coach. The Team Manager is responsible for ALL team activities and ALL team members. The Operations Manager and the Project Manager are the Team Manager's closest assistants, but it is up to the Team Manager to see to the well-being of the team members as well as the team as a whole.

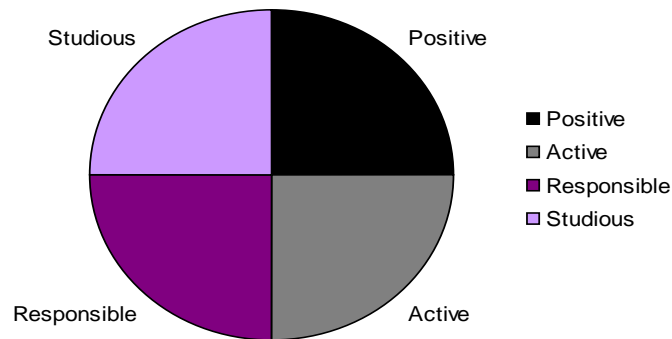
Project Manager - The Project Manager assists the Team Manager in managing the team in the competition-specific areas. The Project Manager is responsible for the timeliness and correctness of all products produced by the team.

Operations Manager - The Operations Manager works alongside the Project Manager and is the person who defines the "when and what." While the Project Manager helps define how the team is put together, the Operations Manager is the "heartbeat" of the team. This person works with team members to ensure that everyone has a job that they can confidently complete.

Sub-team Lead - The How (Student Mentor) The Subteam Leads are the "quality assurance" aspect of the team. They are expected to complete an operations manual, create weekly goals and timelines for their subteam, and be role models and mentors for their members.

3.3 Expectation of Members

LASA Robotics Member Characteristics



418 members are held to high standards: to be responsible for their actions and their work, to have a positive attitude, to be active and participate in as many team functions as possible, and to be willing to learn and have fun.

3.4 Recruiting New Members

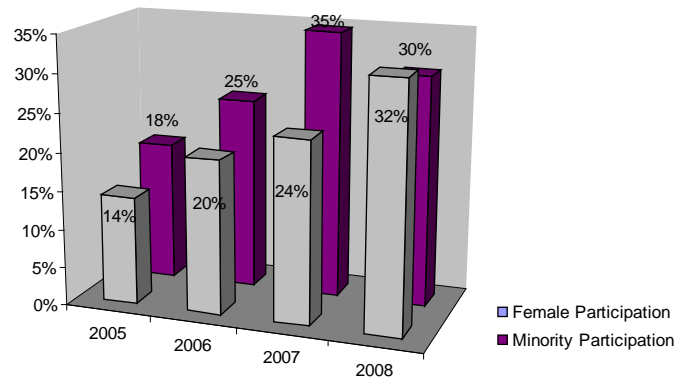
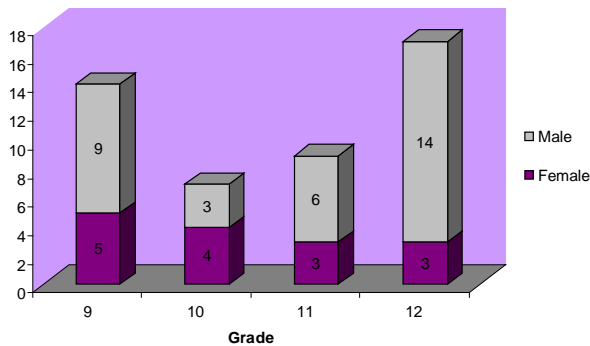
Members of Purple Haze come from the Liberal Arts and Science Academy High School, the only academic high school magnet program in school district. Since the magnet program draws students from all around Austin, we are able to recruit students from a variety of backgrounds and with wide ranges of interest.

LASA Open House and Magnet Showcase allow us to reach students who are already interested in attending our high school. LASA Robotics often sways students to attend our school who were not previously interested through community events and our summer camps.

Our in-school recruiting efforts involve presentations to science classes, media classes, and literary classes to display the various activities available through 418. Current members organize an open house after school at the beginning of each school year so interested students can see what we do and meet the current members. We also hold a pre-season Launch Party for new members and their parents to socialize, learn about the build season, and introduce them to our mentors and team leaders.

Since we began increasing our recruiting programs in 2006, female participation has grown from 14% to 32% and minority participation has increased from 18% to 30%.

LASA Robotics Members by Grade and Gender 2008/2009



LASA Robotics Female and Minority Participation

4. Financial Plan

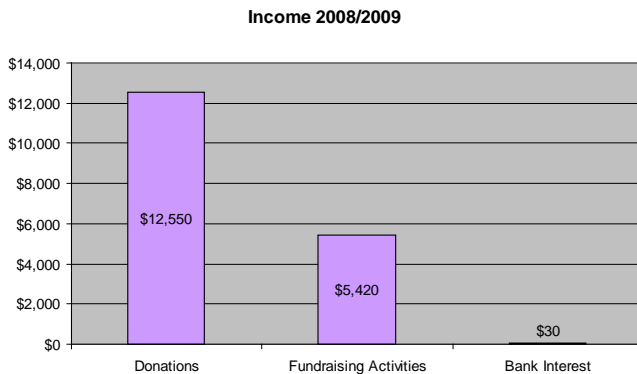
What does it cost and how do we pay for it

4.1 Expenses

LASA Robotics main expenses are incurred from FIRST Regional registration fees, the materials and construction costs of BEST and FIRST robots, and general operating costs, such as banking and mailing.



4.2 Income



While expenses are developed over three areas, our income is much more diversified. The majority of our income is provided by corporate sponsors (3M, BAE Systems, NI), local businesses, and family donations received through letter campaigns.

The rest of our cash flow comes from nine different student-led fundraisers, such as robotics jewelry sales, UT Stadium Clean-Up, and LEGO camps.

5. Resources

Where to find more information

For information on:

LASA Robotics, go to www.lasarobotics.org

BEST Robotics, go to www.bestinc.org

FIRST Robotics, go to www.usfirst.org

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