ADAMBOTS
Team 245

Adams and Stoney Creek High School *FIRST* Robotics
Rochester Hills, Michigan

Business Plan 2012

PLAN FOR LONG-TERM CONTINUITY, SUSTAINABILITY AND IMPACT

AdamBots.com

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1.0 Executive Summary

Mission Statement

"To provide an inspiring learning environment that fosters growth and appreciation of math, science, technology, mathematics, and business and to teach students skills vital to success in the real world through a strong relationship between student, mentors, and sponsors."

Team Summary

- Team 245, the AdamBots, started in 1999 as a rookie team from Rochester Adams High School. The team began with a small group of ten students under the mentorship of Mr. Alan Gibson, a physics teacher at Adams High School and Mr. Gasper Cairo and Mr. Paul Slaby, our connections with Siemens VDO. Between 1999 and 2003, several mentors moved and retired resulting in several changes in leadership. Mr. Warren Hildebrandt moved from Rochester High School to Adams in 2003, and has been with the team since.
- Today, we have grown to record 57 students and 29 mentors. The 57 students come from two high schools, Rochester Adams and Stoney Creek, in the Rochester Michigan area. Stoney Creek High School students first joined the team in 2009. Our 29 mentors include parents of the current students, adults who no longer have children on the team, and a retired teacher who is our coach.
- The AdamBots compete in two competitions, *FIRST* and *OCCRA*. *FIRST* (For Inspiration and Recognition of Science and Technology) is a larger, international competition that occurs between January and April. *OCCRA* (Oakland County Competitive Robotics Association) is a smaller, local competition between 20 other schools in Oakland County, Michigan. We do *OCCRA* in order to prepare students for *FIRST*.
- Our team structure allows for both efficiency and learning. The team is focused on student-led with mentors assisting. There are sub teams setup to complete the various assignments and each sub team has a group of students led by a student team leader and adult mentor(s).
- Team impact—how our team affects students, mentors, community, sponsors, and others—is important to Team 245. The team does a variety of community outreach activities, such as Relay for Life, Buddy Walk, CROP Walk, and more. Additionally, we promote *FIRST* and our team at in the community through parades, robot demonstrations, and other presentations.
- The AdamBots work with sponsors to maintain strong financial support and also contributes to the budget through fundraising and team member contributions. We keep expenses to a reasonable amount so that we always have some funds to carry over to the next year.

Sponsors

General Motors Global Product Operations, Chrysler Foundation, Plex Systems, Science Applications International Corporation, Wally Edgar Chevrolet, and eSigns.com all sponsor the AdamBots. It is through the generous support of these sponsors that the team can participate in so many activities.

General Motors Global Product Development
General Motors pays for the *FIRST* entrance fee, and potentially the Michigan State Championship and *FIRST* Championship fees. In addition, several General Motors employees donate their time to the team as mentors and General Motors provides a vehicle for robot transportation to out-of-state competitions.

Chrysler Foundation
The Chysler Foundation is a new sponsor for the 2012 *FIRST* season. Several Chrysler employees also assist the team as mentors.

Plex Systems, Inc.
Plex Systems, Inc. has supported Team 245 since 2009. They also allowed the marketing and website sub teams to visit their Auburn Hills, Michigan facilities and learn more about possible marketing strategies.

Science Applications International Corporation (*SAIC*)
SAIC selected Team 245 to receive a grant in 2010 as part of their substantial partnership with *FIRST* and have continued to donate each year. SAIC has donated the entrance fee for the Alamo Regional for the 2011 and 2012 seasons.

Wally Edgar Chevrolet
Wally Edgar Chevrolet is a local Chevrolet dealer that has supported the team since 2011.

eSigns.com
eSigns is a new sponsor for the 2012 *FIRST* season. They donated the team's banner for the 2011 Rochester Hometown Christmas Parade.

Growth and Future Projections

The AdamBots continue to recruit students and mentors alike as a means of improving the important mentor-to-student partnership, spreading the message of *FIRST* and improving our team. In the future, we would also like to expand our team into two teams, one at each high school.

This year, we began mentoring and assisting several other teams in addition to Team LamBot 3478. These partnerships are mutually beneficial because they also allow our team to improve documentation, communication, and business skills. We hope to continue mentoring our current teams in the future and also assist mentoring other teams or helping start new *FLL*, *FTC*, and *FRC* teams in our area.

The team is also working to improve our skills in the design and build process, including using more advanced technology. We plan to continue experimenting and refining this technology during the off-season to use on competition robots in the future.

We are always working to become even more financially sustainable. We will continue to have strong partnerships with current sponsors in order to maintain support. In the past three years, the team has also gained one new sponsor each year; we hope to continue this trend.

Due to the AdamBots' strength in partnerships, ingenuity, and dedication, we are poised for long-term sustainability, continuity, and impact.

2.0 Background Information

2.1 Basic Team Facts

Rookie Year	1999
Location	Rochester Hills, Michigan
School Affiliations	Rochester Adams and Stoney Creek High Schools
Team Demographics	57 students • 13 girls • 44 boys
Mentors	29 mentors • 4 teachers • 16 engineering mentors • 7 non-engineering mentors (NEMOs) • 2 technical mentors
Sponsors	General Motors Global Product Operations, Plex Systems, Inc., Science Applications International Corporation (*SAIC*), Wally Edgar Chevrolet, Esigns.com and Chrysler Foundation

2.2 Team Values, Mission, and Goals

Team Values

Gracious Professionalism ™ and Coopertition ™ are values that the AdamBots apply to events outside of robotics. Members uphold these values in their everyday life, helping creating a world in which respect and encouragement is evident everywhere.

Gracious Professionalism ™

Gracious Professionalism ™ is the manner in which the AdamBots approach their work. It involves treating everyone with the utmost respect. Genuine encouragement is preferred over "trash talking." Through Gracious Professionalism ™, the AdamBots work to improve themselves while encouraging the growth of others, a way in which every member of the community is valued and supported.

Coopertition ™

Coopertition ™ describes the way in which the AdamBots approach competition. It is a manner in which a respectful, fierce competition is nurtured. Coopertition ™ is a combination of the words "cooperation" and "competition." It involves helping others, whether they are teammates or members of a rival team, and encouraging them to perform to the best of their abilities. By doing so, one ensures that the competition the team faces will consist of the teams at their best. Coopertition ™ nurtures the growth and development of everyone through mutual encouragement.

Methods for Continued Success

- Exhibit gracious professionalism
- Have fun
- Diversity in members
- Mentored learning
- Hands-on learning
- Student leadership
- Marketing and Publicity

Mission

The AdamBots' mission is to teach students skills vital to success in the real world. The team seeks to teach students the importance of cooperation, innovation, communication, and leadership. By offering an environment in which these characteristics are used, the AdamBots prepare its students for success.

A method to accomplish this mission is to foster a strong relationship between student, mentors, and sponsors. This relationship is an important link for valuable knowledge and experience from mentors and sponsors to be transferred to future scientists, a means by which mentors and sponsors can nurture the next generation and apply their skills in areas outside their job.

Another vital method to accomplish the mission is to nurture a family-like relationship between members. The AdamBots are not only a group of people who work with each other and share a passion for science but a surrogate family whose members encourage each other to succeed in all aspects of life whether they pertain to robotics or not.

Goals

Short Term

- Follow our project management calendar
- Finish building the robot on time
- Perform well at competitions

Long Term

- Maintain a sustainable team
- Increase our team impact within our team, locally, nationally, and internationally

2.3 Member Benefits – Students, Mentors, School and Sponsors

For Students:

- To learn how to plan and build a working robot through programming and construction.
- To start or build upon skills in the non-building department, which would include marketing, business planning, scouting, and website design and coding.
- To be part of a community and to work as a team through collaboration and teamwork.
- To have an opportunity to be involved with outreach programs and volunteer opportunities.
- Providing students with the chance to garner scholarships for colleges and other institutions.
- If a student wishes to study in engineering or a field related to Robotics, they will be able to get a head start.
- Provides individualism for a student; teaches them to manage their own schedule and times outside of school and work.
- To work with and learn from engineering and non-engineering mentors.

For Mentors:

- To share their knowledge and experience with students to help them accomplish their tasks, in both engineering and non-engineering areas.
- To be part of a community and to work as a team through collaboration and teamwork.
- To have an opportunity to be involved with outreach programs and volunteer opportunities.
- To help give the students an experience they cannot get in the regular classroom, through sharing their problem solving techniques.
- Provides individualism for a student; teaches them to manage their own schedule and times outside of school and work.

For Sponsors:

- To have an opportunity for their company name to be heard.
- To pass on their own resources and money for possible future engineers and employees.
- To reach out to the community in a positive way
- To help develop future employees
- To help inspire students to enter the fields of science and techology

For School:

- Support an outstanding student development program
- Support science and technology interests in their students
- Increase name recognition as a school that helps develop outstanding students
- Help support students in scholarship opportunities

2.4 Team History

During its rookie year in 1999, the AdamBots were simply known as the "Adams High School Engineering Club." The second year, the team decided to use the name "Golden Eyes," but it did not take hold. It was not until the team's third year when the name "AdamBots" was chosen as the official team name.

The AdamBots began under the faculty mentorship of Mr. Alan Gibson, a physics teacher at Adams High School, and Mr. Gasper Cairo along with Mr. Paul Slaby, mentors from our sponsor at the time, Siemens VDO. Year two brought in Mr. Chris Smith, a physical science teacher, to assist Mr. Gibson with the team. In 2001, Mr. Gibson retired and Mr. Smith continued to mentor. In 2003, Mr. Smith left Adams High School and Mr. John Hilburger, a physics and calculus teacher, took charge; however, Mr. Hilburger moved out of state. That year, Mr. Warren Hildebrandt moved from Rochester High School to Rochester Adams High School and became the faculty mentor. Mr. Hildebrandt has been with the team ever since!

The AdamBots experienced minimal competitive success the first for four years. Building a working gearbox was considered a huge accomplishment; however, this all changed in 2003!

The game in 2003 was called *Stack Attack*. The objective was to stack boxes on top of each other. A senior on the team, Carl Fristad, suggested a simple concept for the challenge: build a robot capable of performing one task very well. The team decided on a modest design of a powerful drive train with two arms extending from the edges of the robot. The arm design was eventually simplified to just two flaps extruding from the edges of the robot. The team decided to name the robot "Penelope." At the first regional of the season, the Midwest Regional in Chicago, the robot performed exceptionally. Team 45, The TechoKats, from Kokomo, Indiana, chose the AdamBots as an alliance partner. This selection led to the team's first regional victory. At the next regional, the West Michigan Regional, the AdamBots won again.

In 2005, the team found the perfect solution to the *FIRST* game, *Triple Play*. There was much debate about the design of the robot, but the team eventually decided on a forklift design. Rich Schuster and Jeremy Clemens were the builder extraordinaires. They led the building of the 2005 robot and eventually dubbed the robot "Victoria."

In 2005, the AdamBots did extremely well in the first regional competition. They went to Sacramento and placed first in the seeding matches. The team asked for the assistance of teams 766 and 1072 and won first place in the finals at the Sacramento Regional. They then went on to win the Detroit Regional with teams 217 and 301 and won second place at the West Michigan Regional. The AdamBots qualified for the World Championship where they placed 2nd in the elimination round and chose teams 217 and 766 as alliance partners. After their selections, they went on to win the Archimedes Division at the *FIRST* Championship. The team placed third at Championship Event, losing to the eventual World Champions, Team 67, by only a few points.

In 2008, the AdamBots participated at both the Detroit and Great Lakes Regional competitions. The team won Best Website awards and made the elimination rounds at both competitions.

In 2009, the AdamBots created "Olympia," a very simple but extremely effective robot. "Olympia" had zero failures in 110 matches and won multiple quality awards. The team won the Kettering District Event, MARC Competition, TARDAC IGVC Invitational and was a Finalist at the Lansing District Event. They also gained another website award. The AdamBots were fortunate enough to participate in the World Championship in Atlanta, Georgia, where they made it to the Semi-Finals in the Curie Division.

In 2010, the team grew by including students from Stoney Creek High School. They also gained a new sponsor, Plex Systems Inc while GM continued to sponsor the team. The AdamBots competed at the Kettering District competition, earning the Imagery Award and getting to the quarter-finals. The team also competed the Detroit District competition, once again playing to the quarter-finals and earning a spot at the State Competition. During the off-season, the team competed at the TARDAC IGVC Invitational and won the finalist trophy.

The 2011 season proved to be an exceptional year for the AdamBots. They began the year by agreeing to mentor a rookie team from Mexico, Team LamBot *FRC* Team 3478. Team members used Facebook, Skype and teleconferencing to communicate to the Lambots. Team mentors from Mexico also came to meet with AdamBots team mentors and took information back to their team on several occasions.

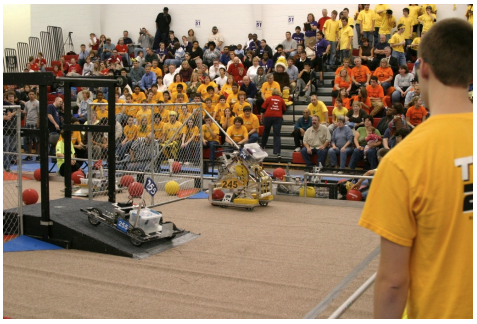
The team traveled to the Alamo Regional in San Antonio, Texas to compete and to meet with Team LamBot. The AdamBots finished as Finalists and won the Best Web Site Award while the Team LamBot won the Rookie All-Star Award. The next competition for the AdamBots was the Detroit District where they again placed as Finalist and won the Web Site Award. At the Troy District, the team finished as Semi-finalists, won the Web Site Award and won a new award, the Entrepreneurship Award, for their Business Plan. At the Michigan State Championship, the AdamBots again were Finalists earning a spot at the World Championships in St. Louis, MO. The AdamBots competed in the Curie Division and ended the *FIRST* season as Quarter-finalists. The big surprise came when the World Championship Website Award was announced and the team won! The team was also awarded the GM Team of the Year Award. The AdamBots were proud that their rookie team, LamBot, won the Championship All-Star Rookie Award.

The team competed in three off-season events earning the championship award at the TARDEC IGVC Invitational Competition, Finalist Award at the MARC Competition and competing at the IRI for the second time. New sponsors, SAIC and Wally Edgar Chevrolet, joined GM and Plex to support the team for the 2011 season.

2.5 Oakland County Competitive Robotics Association (*OCCRA*)

Oakland County Competitive Robotics Association, or *OCCRA*, is a competition we play in the fall against about 20 other schools in Oakland County, Michigan. Each fall we are given a new game and must build a robot to fit the aspects of that game.

OCCRA and *FIRST* differ in many ways. One of the rules of *OCCRA* is teams are not allowed to use any precise machining. Robots can only be built with lighter machinery, such as hacksaws and drills. Also, teams are not allowed any kind of corporate funding. This forces team members to come together and fundraise. The biggest difference is in *OCCRA* robots must be student designed, built, and ran. Mentors are not allowed to help with any part of the robot. This gives students more responsibility over their own projects and allows them to be part of the build process from start to finish.



One very important benefit of *OCCRA* is it allows us to prepare for *FIRST* and allows for team bonding. Before *FIRST* begins new students already have some experience building robots and being aware of what goes on to build a robot. Also, with a team as large as ours, it allows for new members to find their place on the team and become friends with other students. With *OCCRA*, we are able to try new building techniques or experiment building something we have never tried before. This gives the team more building experience for *FIRST*.

OCCRA Mission:

The Oakland County Competitive Robotics Association (*OCCRA*) shall organize and administer a high school competitive robotics league in Oakland County for the purpose of:

1. Generating enthusiasm for technical and academic disciplines such as design, engineering, physics, mathematics, and electronics through student designed and built robots
2. Providing a format for integrating and applying diverse scientific, technical, and other areas of study within the high school curriculum
3. Providing recognition and encouragement for students who devote their energies to these technical, scientific, and other areas of study
4. Promoting team/workplace skills and good sportsmanship
5. Raising awareness within high schools of the diverse technical career options available in our county and state
6. Creating partnerships with corporations and the educational community that will enrich the high school experience for our students by providing greater accessibility to people in scientific and technical careers.

OCCRA Mission Source
http://www.oakland.k12.mi.us/Departments/CareerFocusedEducation/OCCRA/AboutOCCRA/tabid/587/Default.aspx

2.6 For Inspiration and Recognition of Science and Technology (*FIRST*)

FIRST, an acronym for For Inspiration and Recognition of Science and Technology, is a competitive robotics competition founded by Dean Kamen in 1989. Its mission is "to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership." Its headquarters is located in Manchester, New Hampshire.

FIRST consist of five different programs:

- *FIRST* Robotics Competition for Grades 9-12 (ages 14-18)
- *FIRST* Tech Challenge for Grades 9-12 (ages 14-18)
- *FIRST* LEGO League for Grades 4-8 (ages 9-16; 9-14 in the U.S. and Canada)
- Junior *FIRST* LEGO League for Grades K-3 (ages 6-9)
- *FIRST* Place for ages 6 to adult

The AdamBots compete in the *FIRST* Robotics Competition every year. As mentioned earlier, we use the OCCRA season in the fall to help develop the team and introduce newer students to robotics. We use the *FIRST* season, starting with the kick-off event in January through the World Championship in April, to continue to develop our team. We also use post-season *FIRST* based events to continue our growth opportunities and refine our skills.

The remainder of our Business Plan will discuss how we organize the team and continue our development, mostly based on *FIRST* principles and goals.

3.0 Organizational Plan

3.1 Team Structure

Our team is divided into two sections, engineering and non-engineering. To be more efficient, sub teams are created within the engineering and non-engineering sections to handle the specific tasks of the team. Each sub team is assigned a student team leader, team mentor, and students. Focus is placed on a having a student led team rather than an adult led team.

Students fill out forms ranking their top team choices and nominating themselves or others for leadership positions. Current student team leaders and adult mentors then meet to decide what teams are needed and in which teams students or mentors belong. Students are generally given their top two team selections and student leaders are only given one team to lead. Each student is required to attend their team's meetings and help with their team tasks. See the Appendix for the organizational chart of this year's team structure.

See Appendix: Team Structure Diagram

3.2 Human Resources

Recruiting

Recruiting begins in elementary school when we do robot demonstrations and speak at schools in the area. Then students typically join FTC teams in middle school that we assist and mentor. We reach out directly to students when they reach high school. We held a recruiting event at Stoney Creek before our OCCRA season, inviting those interested in Robotics to have a first-hand look at our robots. At Adams, we had an information table at the freshmen orientation in which students could get information about joining the team. At the beginning of the school year, we have a large signup meeting.

The AdamBots also recruit mentors and our primary source is parents of student team members. At parent meetings, we ask parents if they would like to mentor the team.

Retaining

The AdamBots strive to retain as many team members as possible. We retain members by appealing to their interests and providing work. Students fill out interest and skill inventory forms so we can best place them on sub teams. Once on sub teams, all students are given tasks by student leaders and mentors. On our Balanced Scorecard, we set goals and measure success in member retention.

See Appendix: Balanced Scorecard

Training

We train both students and mentors. Students are trained through *OCCRA*, training programs, and mentor-to-student or student-to-student interaction. Mentors go through training to learn how to best engage students and cooperate effective.

Attendance, Participation, and Behavior Expectations

Students are expected to attend all major meetings. Team meetings are in the CAD room every Tuesday beginning at 2:45 and ending at 3:30. If a student is unable to attend, a mentor or team captain should be aware of his or her absence.

Students must attend their own group's meeting on a weekly or daily basis, depending on the demands of the group. If a person's group is meeting on a certain weekday, the times between 2:30 and 4:00 will solely be dedicated to homework time. Engineering and Non-engineering groups will then meet from 4:00 to 6:00. If a student is unable to attend, the team captain must be aware of his or her absence.

For a student to remain on the team, he or she must have passing grades in all of her or his classes.

A student must participate in at least 3 outreach activities. The student will have an opportunity to sign up for these activities throughout the *FIRST* season.

Students are expected to be on time for meetings, events, and matches. Students attend competitions to not only help support the robot, but to also provide moral support for all the teams attending. Playing on one's electronic device or other form of entertainment is discouraged.

Team members are expected to be "Gracious Professionals," or in the words of Woodie Flowers, "Never do anything you wouldn't want your Grandmother to see." Team members will work together peacefully and cooperatively, remembering to be gracious in winning and losing.

Students must not spread invective through e-mails, letters, postings, mouth, or any other form of communication. This includes an intention to spread hurtful messages, gossip, or acts of revenge and hate.

Students are recommended to not bring their electronic devices that do not provide a positive impact on the building process to team meetings, competitions, or work sessions.

Students who attend competitions will have to exhibit Team Spirit, or the act of cheering for not only our team, but for others as well. All cheers are expected to be upbeat, clean, and positive.

See Appendix: Team Student/Parent Agreement Form

Safety

Safety of team members is of upmost importance. Students and mentors working with the robot in the back room or in the pit must wear safety glasses. The use of power tools will have to be supervised from experienced mentors. This year, we are using safety cards and pit passes. Students wear safety cards to signify what tools they have been trained by an adult mentor to use. A set amount of pit passes are given to students and mentors to ensure we do not have too many people in the team pit at competitions.

3.3 Location

Adams High School allows us to work and build in the school CAD computer lab and the large, adjacent closet. We have tooled the closet with the necessary machinery our team needs. Sometimes more specific machining is needed for certain parts so mentors will take parts home or will work with students to machine the part elsewhere.

Unfortunately, in 2008, we lost our original building location and had to move to Adams High School. As a result, in our Continuity of Operations Plan (COOP) we detail our plan in the event we lose our build location again.

See Appendix: Continuity of Operations Plan (COOP)

3.4 Off-Season Events

The AdamBots typically participate in three off season events, TARDEC, MARC, and IRI. We participate in these competitions to allow underclassmen gain more competition experience in a less competitive environment.

TARDEC

TARDEC, or Army Tank Automotive Research, Development, and Engineering Center, holds a competition every year in the Oakland community. They set up a tent and hold a robotics competition in the summer after a *FIRST* season. The same game is played as was played during the *FIRST* season. The AdamBots were finalists at TARDEC in 2010 and won in 2009.

MARC

MARC, or Michigan Advanced Robotics Competition, is an off-season event that takes place during the summer in Monroe, Michigan. MARC is arranged for students to have fun and practice driving their robots at competitions off-season.

IRI

Similar to MARC, IRI, or Indiana Robotics Invitational, is an off-season event that takes place during the summer in Indianapolis, Indiana. The event is invite-only and we have been privileged to receive an invitation each time we have applied.

3.5 Community Outreach

The AdamBots choose to do many community outreach events to further impact our community and to emphasize the importance of social responsibility to team members.

Buddy Walk

2010 was the first year that the AdamBots took part in the Buddy Walk. The Buddy Walk is a walk around the Palace of Auburn Hills that benefits people with Down Syndrome. The team walked for a silbling of a team member.

Rochester Hometown Christmas Parade

The AdamBots, along with the Killer Bees (Team 33), the Juggernauts (Team 1), and the FEDS (Team 201), built a parade float for the Rochester Christmas Parade this past December. The float featured all four teams' robots on a float designed to look like a candy factory. A few students from each team walked next to the float, carrying signs and posters for *FIRST*. The float won first place in the high school and college category.

CROP Walk

The CROP Walk is a walk for hunger that the Rochester community takes part in every year. Sponsored by the Church World Service, CROP Walks help to end hunger in the community and around the world. Participants raise money for the walk before taking part in the activity. The AdamBots do the CROP Walk every year because it is important not only to the community, but also to the world.

Robot Demonstrations

The Boy Scouts of America are introducing the Robotics Merit Badge during April, 2011. To help promote this new badge, our robotics team worked with the Boy Scouts and the Killer Bees Team 33 and the FEDS Team 201 in displaying robots at Oakland University on December 5, 2010. Hundreds of Cub Scouts and Boy Scouts attended the event to learn about various kinds of robots. To help inspire the young people who attended the event, we set it up so they could operate the robots. We specifically selected the 2009 robot because of the experience in picking up the moon rocks and shooting them into the trailer.

Halloween Hoot

The Halloween Hoot takes place at the Dinosaur Hi ll Nature Preserve in the Oakland community every year in October. It is completely run by the community: children in the elementary schools decorate and carve pumpkins, teens act out Halloween skits with well-known Halloween characters, and members of the Rochester Hills Women's Club provide cider and doughnuts. The AdamBots clean up after the last night of the Halloween Hoot. We take down the decorations and pick up after everyone is gone from the trails.

Relay for Life

The Relay for Life is a walk to support the American Cancer Society and cancer research. The AdamBots participate in the local Rochester Area Relay for Life every summer. The team raises money by selling rubber ducks at competitions, a t-shirt signing day at competitions, a community road rally and members sell luminaries. Luminaries honor those that have died or are currently battling cancer and are placed around a track in memory. Our team has raised thousands of dollars from donations, especially from those supporting the team's own Rick Drummer. Mr. Drummer has been a mentor on the team for many years and Relay for Life allows us to help him and everyone else who suffers from cancer.

3.6 Mentoring and Helping Other Teams

Mentoring and assisting other teams is an integral part of the AdamBots' goal to promote the spirit of *FIRST.*

Team LamBot 3478

In 2010, one of our sponsors, General Motors, asked for experienced teams in *FIRST* to help rookie teams in Mexico that were also being sponsored by GM. The AdamBots gladly chose to assist Team LamBot from San Luis Potosi, Mexico. Several LamBot mentors flew to Michigan and met with the AdamBots to discuss team structure and organization and the *FIRST* season. Throughout *FIRST* 2011, students and mentors communicated and assisted Team LamBot remotely through online chat, Facebook, videochatting, and teleconferencing. In 2012, the AdamBots continued their support and hold weekly review sessions. We also chose to return to the Alamo Regional in San Antonio, Texas to meet with Team LamBot again.

The Vikings FTC Team 5183

We began mentoring The Vikings in 2011 after their mentor contacted us. They work next door to our high school, at Van Hoosen Middle School, a school in which most students eventually attend Adams High School. Therefore, mentoring The Vikings will bring growth to our team by allowing us to develop the next group of our team members.

Additional Assistance

We also provide assistance to other teams on a regular basis. In addition to the Lambots, we also assist Team 3480 in Mexico by answering questions. Locally, we presented to team 3539, the Byting Bulldogs and answered questions regarding creating a business plan and successful team website. Lastly, through our award-winning website, we provide an extensive resource section to help teams locally, nationally and around the world in all aspects of the *FIRST* competition.

4.0 Operational Plan

4.1 Tasks

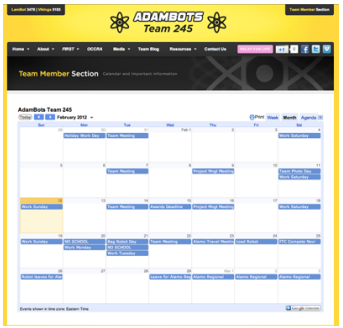
During the *FIRST* season, the primary focus is the robot. We are tasked to complete a new robot each year with in a six-week time frame. Our team also completes many other tasks as a *FIRST* team. Below are the most of the tasks we try to achieve each year.

- Design robot in CAD
- Build competition robot
- Build "simulation" robot
- Program and setup controls for robot
- Create of mock field
- Update team business plan
- Create and order marketing pariphanilia (freebies, flyers, posters, ect)
- Take pictures and video and upload them to Dropbox and website
- Update website content
- Submit award (Chairmans, Woodie Flowers, and Dean's List) documents
- Complete documentation for teams that we are mentoring/assisting
- Create scouting forms and system
- Create animation

4.2 Scheduling

The AdamBots rarely meet all together because of efficiency concerns. Besides weekly team meetings and the first week of the *FIRST* season, sub teams meet at different times. Sub teams decide what schedule works best for both the students and mentors. Sub teams tend to work at different times to ensure that there are not too many people in the build area.

4.3 Communication



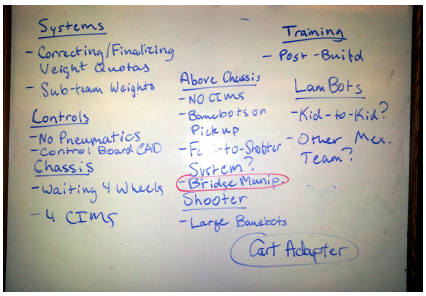
Communication on the team involves team meetings, email blasts, team leader-to-team member communication, and the website. The team manager sends emails to all team members regarding events that involve the whole team. Team leaders and mentors send emails or communicate with their team members in the easiest form of communication available. On our website, AdamBots.com, we maintain an updated calendar with both specific sub team tasks and general team events.

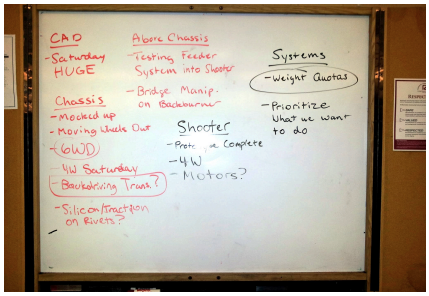
4.4 Project Management

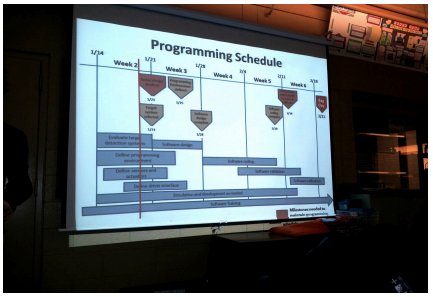
Our team employs a Project Management Team that consists of both students and a mentor (or mentors) to help keep our team on task and on schedule.

Since there is a limited amount of time available during the build seasons, the Project Management Team exists to ensure everything is complete on time. We do this by creating a project management board that includes each team's tasks, timeline, milestones, and relations to other teams. The Project Management Team communicates with each sub team throughout the season to keep an updated board. All team mentors and student leaders meet every Thursday evening for design review meetings to analyze progress and ensure that the plan/schedule laid out is being executed.

Thursday Evening Design Review Sessions







5.0 Marketing Plan

5.1 Target Audience

Adams and Stoney Creek High School Administration

Adams High School allows us to work in the school CAD lab and a large closet adjacent. Additionally, they allow several teachers and a retired teacher to work with us daily. We market to the administration to ensure strong, continued support.

Rochester Community Schools (RCS) School Board

The RCS school board allows us to use the RCS Foundation as our fiduciary and also allows us to use their administration parking lot to charge Arts & Apples festival attendees to park as a fundraiser.

Sponsors

Sponsors provide the largest financial support and other miscellaneous donations to the team. We target current and potential sponsors to ensure continued support and to gain new sponsors.

Potential Team Members (Students and Mentors)

The AdamBots target potential team members, both students and mentors, because personnel are one of the most important pieces of our team.

5.2 Marketing Mediums

Robot Demonstrations / Speaking Events

The AdamBots travel to different events, demonstrate their robot, and speak to attendees about *FIRST*, the team, and robotics. Past events include, Delta Kelly, University Hills, and Musson elementary school science fairs and assemblies, and Boy Scout troop meetings.

Imagery: Posters, Robot Graphics T-Shirts, Flyers, Give-a-ways, etc.

Team imagery is an integral part of our marketing. We strive to be cohesive in every aspect, from team t-shirts, to the website, to robot graphics. Team imagery allows our team to become more recognizable and memorable.

Online Presence

The AdamBots have an award-winning website (2011 *FIRST* Championship Best Website), AdamBots.com that receives roughly 70 visitors a day and has received 30,000 different visitors from 150 countries. Additionally, the AdamBots operate social media accounts on Facebook, Twitter, and Google+.

Word-of-Mouth

We rely on word-of-mouth as well. We post announcements during the school day, displaying a simple message to those who do not yet know of the club. Friends of the students also join the team, and many do get involved in the processes of the team. Ultimately, we hope to have such an impact on people that they choose to tell others about us.

6.0 Financial Plan

We focus on long-term financial viability to ensure success. Financial support typically comes from three different places: sponsors, team fundraisers, and team members. We have a many redundancies place, such as leaving "seed" money for the following year, to be in a viable financial condition in the event that we lose a sponsor, fundraiser, or have some other event that results in a loss of funding. In our Continuity of Operations Plan (COOP) in the Appendix, we detail response plans for loss of a sponsor or fundraiser.

6.1 Sponsors

Sponsors are the primary method in which our teams receive financial support. General Motors Global Product Operations, the Chrysler Foundation, SAIC, Plex Systems, Inc., and Wally Edgar Chevrolet all currently sponsor our team through the Rochester Community Schools Foundation, a 501 (c) 3 non-profit organization that acts as our fiduciary.

Each year we seek new sponsors by marketing our team and contacting potential sponsors. For example, we contacted General Motors, Plex, Chrysler, SAIC and Wally Edgar Chevrolet and asked if they would be interested in sponsoring us. We market our team heavily as well to attract new sponsors. In 2012, eSigns.com of Novi, Michigan contacted us wanting to sponsor us after finding our award-winning website online.

We created a five level system for sponsors to clarify what we offer for different levels of financial support. See our appendix for the brochure.

6.2 Fundraisers

Our team operates several fundraisers throughout the year to further increase funding. During a local labor day weekend festival in Rochester Hills, Arts and Apples, we charge money to park in a large parking lot surrounding the Rochester Community Schools administration building in downtown Rochester. In the summer, we do bottle and can drives to pay for *OCCRA* and provide petty cash.

6.3 Member Contributions

Students and mentors also contribute financially. Students help pay for transportation to events such as bus transportation during the *OCCRA* season and transportation to Michigan *FIRST* events. When we travel out-of-state for events, students and mentors pay for approximately half of the cost. At the beginning of the season, students contribute to the budget through *FIRST* participation fees and they pay for their team t-shirt.

See Appendix: Detailed Operations Budget, Continuity of Operations Plan (COOP)

Competitive Analysis

Competitive analysis allows us to recognize our competition in various aspects of our team. This analysis is not limited to just other teams at competitions, but also includes analysis of other activities and analysis of an organization or company's ability to sponsor our team. We have three distinctive kinds of competitive analysis:

1. Analysis of other teams at competitions
2. Analysis of other activities that pull students and mentors away from the team

Competitive Analysis of Other Teams at Competitions

During the competition seasons, a Scouting Team is formed to help analyze other teams for their strengths, weaknesses, and to assess their potential as partners for elimination rounds. Information on the reasons for scouting is in the appendix as well as the scouting sheets for this year's game.

Competitive Analysis of Other Activities

There are many school activities and outside activities that compete for the time and talent of our students and mentors. The team realizes that we need to keep the team activities relavant so that the members have a reason to stay with the team and not leave it for other activities. Some of the competitive activities include:

- Jobs
- Other school clubs
- Sports
- Homework
- Friends and peers that compete for time
- Parents not sure of the value of the team
- More exciting activities, games, etc.

We use a "Balanced Scorecard" to help us measure our success in the Learning and Growth Metrics. Through consistent recognition, involvement, access to information, and mentoring activities, we believe that engaged and valued students will stay with the team. We also believe this is true for mentors.

We currently have eight mentors with the team who do not have children on the team. These mentors tell us they stay with us because we do make it meaningful and fun. They also feel they can contribute to the mission and goals of the team, therefore, helping us to be an ongoing success.

Alumni

One of the measures of our success is "What decisions have our alumni made after they leave high school". We have been extremely successful in our business planning mission of inspiring our members in the areas of science and technology. Listed below are our graduates and where they are attending college or what they are doing now:

Class of 2011

- Emily Bolewitz (Penn State University)
- Matt Brisson (University of Windsor)
- Edna Chiang (University of Michigan)
- Ian Cosgrove (Michigan Tech University)
- Yutaka Iwasaki (Michigan State University)
- Dean Keithly (Oakland University)
- Jerry Lin (University of Michigan)
- Drew Markel (Michigan Tech University)
- Sidd Menon (Oakland University)
- Duy Mo (University of Michigan)
- Alex Shultz (Oakland Community College)
- Garret Sochanski (Oakland University)

Class of 2010

- Eduardo Cerame (Michigan)
- Mark Derry (Oakland Community College)
- Chris Greene (Kettering University)
- Lucas Mitchell (Michigan)
- John Watkins (Oakland University)
- Jack Wink (Michigan)

Class of 2009

- David Cesiel (Michigan)
- James Lindsay (Arizona State)
- Quentin Sheets (Purdue – North Central)
- Brett Garstick (Michigan State)
- Matt Li (Michigan State)
- Sean Losinski

Class of 2008

- Anthony Curley (Michigan State)
- Bhajanpreet Kohli (Michigan)
- Danielle Smith (Grand Valley)
- Jonathan Immers (Kettering)

Class of 2007

- Patrick Pannuto (Michigan)
- Braden Leinbach (Michigan State)
- Caitlyn Bolewitz (Grand Vally State)
- Kevin Kozlowski (Michigan)
- Kevin Tom
- Nolan Wyatt (Eastern Michigan)
- Patricia Schuster (Michigan)
- Tanya Das (Michigan)
- Kevin Schalte (Michigan)
- Kevin Huang (Michigan)
- Emily Thomas (Michigan)
- Scott Theuerkauf (US Air Force Academy)
- Scott Walls (Michigan)
- Chris Park

Class of 2006

- John Dong (MIT)
- Alexander Piazza (Michigan)
- Bhajneet Kohli (Michigan)
- Grace Gahman (Oakland University)
- Jeremy Clemens
- Katie Pendock (Oakland University)
- Stephanie Roth (Michigan)
- Ye He (Michigan)
- Fiona Turett (Washington University St. Louis)
- Chris Lee

Class of 2005

- Richard Schuster (Michigan/Oakland University)
- Katrin Augustyniak (Oakland University)
- Matt Benoit (Oakland University)
- Jenny Stein (Oakland University)
- Hayley Lawson (Oakland University)
- Stephen Krause (Michigan)

Class of 2004

- Riva Das (Duke/Penn State)
- Danny Demp (Michigan)
- Carrie Hauser (Eastern Michigan/Indiana State)
- Jason Lewer (Michigan State)
- Jim Liu (Michigan)
- Katie Olson (Michigan)
- David Pirozzo (Oakland University)
- Eric Plagens (Wayne State)
- Jeff Rogers (Michigan)
- Bill Stoffel (Michigan)

Class of 2003

- Adnan Asif
- Christian Catalan (Michigan)
- Alex Drummer (Northen Michigan/Wayne State University)
- Carl Fristad (Minneapolis College of Art and Design)
- Edward Hong
- Dan Krause (Michigan)
- Bin-Bin Mao (Michigan)
- John Morgan (Michigan)
- Steve Moy (Michigan State)
- Hunter Nie (Michigan)
- Lauren Olson (Michigan State)
- Kevin Smith (Michigan State)
- Kaylyn Soller (Michigan Tech)
- Jason Yee

Class of 2002

- Amanda Armstrong
- Andrea Brown
- Joe Gothomy
- Brian Hamburg (Michigan State)
- Nathaniel Johnson (Oakland University)
- Kevin McCulum
- Max Peters
- Mou Sangupta (University of Michigan)

Class of 2001

- Mike Albertus
- Kirsten Fristad (Macalester College/University of Oslo)
- Nicholas Goodard
- Jeremy Gouldy
- Vicky Wilson (Albion College/Purdue)

Class of 2000

- Karen Ault
- Lauren Davenport
- Cindy Drebus
- Andrew Drummer (Carleton College/Oakland University/Wayne State)
- David Hockey (Michigan)
- Dan Hulme (Michigan)
- Niko Kanagawa (Albion College)
- Nicole Nelson
- Ben Palmer (Case Western)
- Bryan Wilson (Western Michigan)

Class of 1999

- Paul Albertus (Michigan/Berkley)
- Philip Smith
- Edward Vollenweider
- Robert Gable (Central Michigan)
- Nicholas Czechowski
- Derek Herbert
- Ken-Pei Leung (Michigan Tech)
- Nicholas Reeck (Michigan)
- Joseph Pirozzo (Oakland University)
- Sean Hallid

Awards

Award Quick Facts

- 26 *FIRST* Awards
- 1 *FIRST* Chairman's Regional Award
- 1 *FIRST* Woodie Flowers Award
- 5 *FIRST* District/Regional Championships
- 1 *FIRST* Division Championship (and Einstein appearance)
- 65 *OCCRA* Awards
- 2 *OCCRA* Foundation Awards
- 4 *OCCRA* Championships
- 3 *OCCRA* Women's Tournament Championships

FIRST Awards

2011

- Best Website Award – Championship
- General Motors FRC Team of the Year
- Finalist – Michigan State Championship
- Entrepreneurship Award – Troy District
- Best Website Award – Troy District
- Best Website Award – Detroit District
- Imagery Award – Detroit District
- Finalist – Detroit District
- Best Website Award – Alamo Regional
- Finalist – Alamo Regional

Off-Season Events

- Finalists – MARC Competition
- Champions – TARDEC IGVC Invitational

2010

- Imagery Award – Kettering District

Off-Season Events

- Finalist – TARDEC IGVC Invitational

2009

- Motorola Quality Award – Kettering District
- Best Website Award – Kettering District
- Champions – Kettering District
- Motorola Quality Award – Lansing District
- Finalist – Lansing District
- FIRST Teacher of the Year Award (WWJ) – Mr. Hildebrandt

Off-Season Events

- Champions – MARC Competition
- Champions – TARDEC IGVC Invitational

2008

- Best Website Award – Detroit Regional
- Best Website Award – Great Lakes Regional

2006

- Chairman's Award – Davis-Sacramento Regional
- Woodie Flowers Award – Mr. Hildebrandt – Davis-Sacramento Regional

2005

- Judge's Award – Detroit Regional
- Champions – Detroit Regional
- Champions – Davis-Sacramento Regional
- Finalist – West Michigan Regional
- Champions – Archimedes Division – World Championships
-

OCCRA Awards

2011

- Foundation Award
- Semifinalists - County Championship at Holly
- #1 Seed – County Championship at Holly
- Quality Award – County Championship at Holly
- 1st Place – Birmingham
- 3rd Place – Brandon
- VEX Award – Brandon
- 1st Place – Roeper
- Spirit of the Competition Award – Roeper
- 3rd Place – Royal Oak
- Strategic Design Award – Royal Oak

2010

- Foundation Award
- Champions - County Championship at Holly
- Strategic Design – County Championship at Holly
- Spirit of the Competition Award – Birmingham
- Spirit of the Competition – Roeper
- 2nd Place – Roeper
- Technical Excellence Award – Waterford
- 2nd Place – Waterford

2009

- Beautiful Bot Award – Walled Lake
- Quality Award – Birmingham Seaholm
- VEX Award – Diversity (Royal Oak) Tournament
- Spirit of the Competition Award – Waterford Kettering
- Technical Excellence Award – County Championship at Holly
- Champions – County Championship at Holly
- Foundation Award Finalist – County Championship at Holly

2008

- Spirit of the Competition Award – Walled Lake
- Judges Award – Birmingham Seaholm
- Judges Award – County Championship
- Semi-Finalist – County Championship
- Safety Award
- Teacher of the Year Award – Mr. Hildebrandt

2007

- Judge's Award – Walled Lake
- Quality Award – County Championship
- Foundation Award Finalist – County Championship

2006

- Best Play of the Day – Walled Lake
- Quality Award – Women's Tournament
- Spirit of the Competition – Detroit Catholic Central
- Spirit of the Competition – County Championship
- Champions – County Championship

2003

- Champions – West Michigan Regional
- Champions – Midwest Regional

2005

- Judge's Award – Hazel Park
- Semi-Finalist – Women's Tournament

2004

- Spirit of the Competition – Holly
- First Place – Berkley
- Best Play of the Day – Berkley
- Champions – County Championship
- High Score – Women's Tournament
- Strategic Design – Women's Tournament
- Champions – Women's Tournament

2003

- Second Place – Berkley
- High Score – Berkley
- Spirit of the Competition – Berkley
- General Motors Technical Excellence Award – Lamphere
- Judge's Award – Holly
- Spirit of the Competition – County Championship
- Semi-Finalist – County Championship
- Spirit of the Competition – Women's Tournament
- Champions – Women's Tournament

2002

- Spirit of the Competition – Rochester
- Champions – Women's Tournament
- Judge's Award – Women's Tournament

2001

- Spirit of the Competition – West Bloomfield
- Spirit of the Competition – Troy
- Spirit of the Competition – County Championship

2000

- Spirit of the Competition – Brandon
- Best Play of the Day – Brandon