



Steiner Steel Storm Robotics Club

FRC 5067

Business Plan for 2014

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Our Mission Statement

The Steiner Steel Storm Robotics Club 5067 will design and build a robot to compete at the FIRST Regional competition. It is our first year so we will be starting small, and we hope to gain an understanding of software and the mechanics of robotics. We also look forward to working as a team on the project practicing Gracious Professionalism™ and Coopertition in the competitions. We hope to involve the community at our school, integrating our existing skillsets into this project while creating a sustainable team.

Team Information

Our team was founded in October of 2013. Our first competition season is the 2014 FRC Game (to be determined). Our team was formed by students with robotic interests, the coordinator of our school and a parent. The FRC Team The G.R.A.Y.T. Leviathans has welcomed our students and mentors participation at their off season team meetings and events.

Members

Currently for 2013-14 season we have 8 members 1 teacher and 4 mentors. Our teacher sponsor is also the coordinator of our High School.

Location and Sponsors

Our Team is located at Rudolf Steiner School of Ann Arbor High School in Ann Arbor Michigan. Our sponsors are Teradata Corporation and we also hope to become sponsored by NASA, FIRST Michigan Robotics and U.S. FIRST.

What we do

As a new team we are educating our community by building and designing a robot. We strive to fundraise money at our school as well.

Growth

We have a strong partnership with the school and parents. We also hope to acquire grants from local businesses. Since we were founded in October we are partially sponsored by Teradata and are close to obtaining sponsorships from local businesses. Our team members have attended the Maker Faire at Greenfield Village, was graciously invited to the FIRST kickoff at Kettering University by the G.R.A.Y.T. Leviathans and spoke with Bob Nichols of Kettering University. We also attended an evening session of Team 2337 Robot Boot Camp held by EngiNERDS.

Plans

Our Goal is to raise more money and get more students and mentors involved in our Robotics Club.

Program Summary

Our team is made up of highly skilled students all willing to put as much work as possible into this project. We have completed a variety of scientific projects, but have never taken a project as large as Robotic engineering. Many of our students have witnessed a competition before and have a decent amount of experience in the field.

Our schools Science Club has completed various projects across the scientific spectrum and are currently working on making projectiles with many Robotic team members in that club as well. This will be a milestone in our young schools history and we intend to go as far in the competition as possible with of the hope of reaching districts.

FIRST Description

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

Dean Kamen, Founder

Mission

Our mission is to inspire young people to be scientific 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.

Dean Kamen is an inventor, entrepreneur, and tireless advocate for science and technology. His passion and determination to help young people discover the excitement and rewards of science and technology are the cornerstones of *FIRST* (For Inspiration and Recognition of Science and Technology).

FIRST was founded in 1989 to inspire young people's interest and participation in science and technology. Based in Manchester, NH, the 501 (c) (3) not-for-profit public charity designs accessible, innovative programs that motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills.¹

Team Description and History

Our team started this year, in October. We only have had a few meetings but are very committed to the team. Our team was helped (and still is) by The FRC Team The G.R.A.Y.T. Leviathans. We look forward to the competition in March and hope to borrow or purchase a robot, or parts of a robot, soon so that we can learn how to build and operate one.

Team Impact

Our impact on the school community is large, we are the first Robotics team our school has ever had. Our students will benefit greatly from this project, the experience along with the introduction of new sciences will have a

¹ This information was taken from: <http://www.usfirst.org/aboutus/vision>

profound impact on the development of our students. Many of our students in the Robotics Team have a growing appetite for science and many are considering studying science as their career choice and this club will greatly help meet that growing interest in that field. All our students will be taking Physics classes with a mentor of great experience and a desire to teach as well as to offer any assistance that is necessary, along with physics our students will received a top rate education in computer science with another mentor with infinite amounts of experience.

Team Structure and Organization

Our team is an extracurricular club which meets once a week in the off season and plans to meet 3 or more times a week during the season. We have decided not to have a team leader as we believe we may accomplish more with a more peer-to-peer relationship as we have upmost trust in the maturity and efficiency of our students. Our team is learning agile development practices and will hold standup meetings, become a self-organizing team, and cross train team members. We will use Scrum techniques for designing and building our robot. Scrum techniques include setting time boundaries, resolving problems, knowing when we are done, collecting requirements, reducing the complexity of requirements and working on one set of well-defined tasks at a time.

All our students are close friends and have attended classes with one another for an extensive amount of time allowing for greater synergy between the students. We are a co-ed school and have made it clear to the school community that all who wish to join are welcome. Our school has a diversified environment with an almost 1:1 ratio between males and females. We hope that by shoeing our schools prowess in this field that it may draw a larger crowd into the club, since this is our first year.

Sponsors will play a crucial role in funding the club as we only have a limited amount of funds from the school for the reason that we are a small school. We currently have a sponsor who has contributed to our club and will play a vital role in the schools' first robotics club. We have a highly skilled mentor in charge of the club. Our team members are highly engaged in the social and educational aspects at the school with many taking multiple extracurricular activities along with the robotics club. The students are expect to do fundraisings to attempt to meet our requirements, but with so few in number it will be modest amount that we may raise, but nonetheless we will attempt to fundraise to the best of our abilities.

Team Planning

The following scenarios for our club are outlined as follows.

Scenario	Impact	Plan
If we lost our major sponsor the impacts would be: not being able to complete, build or upgrade robots and may also cause student fee to rise.	The likelihood is medium but with a high impact.	To prevent the loss of a sponsor we will maintain regular and positive activities to sustain the positive impression of the sponsors. We will also remember to send thank you notes and review our activities with our sponsors. On the other hand we must regulate our budget.
Loss a key mentor or lead teacher would cause a loss of academic support resulting in low quality of our robot.	We see the likelihood as low but the impact as being high.	To prevent the loss of a mentor or lead teacher we will maintain commination with mentors and teacher thru email and phone if possible. Also we will maintain several mentors to prevent total loss of mentors.

Bad weather conditions and school closing could result in loss of build time which will cause a setback in progress and a risk of failing deadlines.	We see the likelihood of this happening as a medium with the impact as medium.	To make up for lost time by having more build time during the week and setup a work schedule on the weekend if necessary.
If we lost the build area at our school we will not be able to build our robot.	The likelihood of this happening is medium with a high impact on the team.	If loss of space occurs the team can work at a member's house if there is a clean space available and it's approved by the family. If not, the team can rent space outside of school with an increase in student fees.
Doubling our team membership, sponsorship or income would allow us to purchase and build a test robot before the competition. We would also set some funds aside for next year.	The likelihood is low for this year but when it happens the impact will be great.	We would also sponsor additional activities like a robotics camp for younger students.

Team planning for the season

October – November

- Organize team
- Attend workshop and training
- Complete grant applications
- Visit other teams
- Find a robot to practice our build and driving skills
- Begin fundraising

December

- Practice building and driving a robot
- Install Software
- Purchase and borrow tools, carts, supplies (if funds available)
- Obtain funding, pay registration fee
- Order T-Shirts (if funds available)
- Review last year's manual
- Review income and budget and determine if the team is viable
- Volunteer in the community or at a competition

January

- Attend Kickoff, download manual, and learn game
- Attend Build session
- Purchase extra parts
- Design game (offensive) part of robot
- Build bumper pads and design way to display logos
- Build practice game arena

February

- Build/Fix/Modify robot
- Test autonomous mode and drive robot

March

- Tweak robot

Prepare for event, bag and package robot
Attend competitions in Livonia and Flint

April

Clean and organize work space
Hold open house
Attend off season events
Attend training
Fundraise for next season

Budget

2014 Budget

Registration fee	\$6,000
Robot Parts	1,500
Building material for practice field	500
Tools for Building Robots	500
Shipping	50
Team Tee-shirts with sponsor names	300
Marketing/Promotion/Banner with sponsor names/Open house	150
Travel Expenses	0
TOTAL	<u><u>\$9,000</u></u>
Income	
Rookie Grant if available	\$4,000
Teradata Corporate Sponsorship	1,000
Team Fees	800
RSSAA contribution	800
Fundraising	800
TOTAL	<u><u>\$7,400</u></u>

As one can see by this budget we are in need of funds to meet necessary requirements for the club. We hope your grant will greatly help lessen the amount we must try to salvage in the coming weeks. We wish to attempt to lower the amount of funds each individual team member must pay as out of pocket expenses in the hopes that this may increase membership in the club.

Team Goals and Challenges

Our long term goals include the following:

1. All team members know, understand the philosophy, and practice Gracious Professionalism™ and Coopertition.

2. Add 2 new students every year while retaining non-graduating members.
3. Increase team sponsorship by 40% and retain good relationship with sponsors.
4. Help high schools in our area start new robotics teams.
5. Have every student graduate with great evaluations, especially in science and a good understanding of robotics.

Our short term goals are:

1. Complete our robot on schedule and be ready for practice day
2. Be recognized by other teams as a helpful team having good ideas and techniques
3. Participate or help co-host an off-season event
4. Explore opportunities to introduce robotics at our Lower School
5. As a club volunteer in our community
6. Stay within our budget for 2014, moving extra funds into the 2015 season

Our individual member goals are:

1. Insist every student maintain outstanding evaluations
2. Teach another member a new skill we have learned
3. Learn how and when to use pneumatics, electronics, and mechanics
4. Keep our tools in good shape, our work area neat, and follow safety rules

Our challenges include not having enough funding and not being able to use our build space at the school all week. Currently we are short on our budget and therefore will apply for more grants and strictly regulate our budget. Also our build area may not be available for the whole week and we are looking into meeting biweekly at school, discussing other location options, and also looking for a new location.

Sustainability

Our school is greatly interested in keeping a sustainable Robotics club at the school. We are searching for sponsors and grants in order to fund future endeavors. We hope to show the community our skill in the coming competition in order to attract a greater interest in our school's club which may lead to new sponsorship and partnership opportunities. Other than a strong performance in the competitions, we will offer our expertise and tools to other robotics teams in the community and keep our community informed of our recent ventures. We have utmost faith in the strength of our school community recognizing its illustrious history of participation through its activities.

Since the size of our school is small, we will devote anything robotics related to the initial club. We hope that in the long term as our club grows in members that we can help FLL or FTL teams, but it is not a viable option at the current time. We also recognized a third year issue and have thought of the very topic. We hope that by year three we have a better relationship with our sponsors in order to guarantee long term sustainable pledges to the program. Along with this we hope that increasing membership will increase the income from team fees, as well as making fundraising a more vital part of the funding to the team.

We at this time have two mentors with hope of two more joining. Nonetheless we have noticed an interest of alumni and parents of former students in taking the role of mentor, as it is now, a student's parent is the current mentor. We feel as our relationship with the community grows we will have a great reserve pool of mentors to

draw from when needed. We have put great thought into the long term sustainability of the Robotics team and will make all necessary arrangements to ensure the long term stability of the Robotics team.

Contact Us

We are the Steiner Steel Storm Robotics Club of the Rudolf Steiner High School located at 2230 Pontiac Trail, Ann Arbor, MI 48105. Information about our club can be found at www.rshsrobotics.weebly.com.

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