

Team 4327

Business Plan

Revised 2017- 18



This is how we robot.



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1.0 Executive Summary

1.1 Mission Statement:

To cultivate intergenerational connections, employable skills, personal empowerment and community engagement in Battle Creek via STEAM innovation and the principles of FIRST.

1.2 Vision Statement:

An established program both in structure and in physical manifestation for students to experience and be inspired by robotics competitions. Each new cohort of students learn from the former and are mentored in each field by dedicated professionals serving as mentors. Q Branch Robotics will be a consistent competitor on the world stage as well as a significant source of positive change in the Battle Creek community.

1.3 Team Culture

THIS IS HOW WE ROBOT.

We help each other.

We build each other.

We support each other.

When we need help, we ask each other.

We are open and work toward a common goal.

Other teams are sources of inspiration whether from what we can learn or how we can help.

We are an exemplar for other teams to emulate.





2.0 Team Information

2.1 Team Facts

Rookie Season	2012
Location	Lakeview High School, Battle Creek, Michigan
School Affiliation	Lakeview School District
Team Demographics	28 Students (up from 11 in 2012) <ul style="list-style-type: none">- 9 girls- 19 boys- 11 returning members,- 17 first year members- 4 international students
Team Organization	<ul style="list-style-type: none">- Mechanics Team- Design Team- Controls Team- Chairman's Team
Mentors	12 mentors (up from 1 in 2012) <ul style="list-style-type: none">- Business Professionals- Engineers- Teachers- Team Alumni- College Students
Website	www.qbranchrobotics.com

By showing others how we robot, in the last five years we increased our number of mentors, number of overall members, number of girls, number of international students, number of sponsors and funding, amount of teams hosted, and the number of volunteer hours. Each of these helped us grow into the team we are today. We acquired 330+ hours of volunteering work, hosted 96 teams and have a record of 30 team members because That Is How We Robot.

2.2 What is FIRST?

FIRST (For Inspiration and Recognition of Science and Technology)

FIRST mission - The mission of *FIRST* 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.

FIRST Vision - 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

FIRST was founded in 1992 and is currently headquartered in Manchester, New Hampshire. FIRST represents a multi-level approach to inspiring the minds of tomorrow from the youngest participants in the FLL, Jr. program for those in kindergarten through third grade through to the FIRST Robotics Competition for students at the high school level. Every year, FIRST programs reach over 100,000 people worldwide with teams in the USA, Canada, Japan, Australia, France, the UK, India, Brazil, Vietnam and many more countries.

In each of the programs (FLL, Jr., FLL, FTC, and FRC) the participants are given a challenge or theme under which they attempt to solve an engineering problem. Students work alongside mentors (professionals) to process solutions through the lens of engineering. Students create, innovate, learn and grow over the course of their program season. In the end, the students come up with inspiring products of their labors to showcase at expositions or compete at events.

FIRST in Michigan is a related organization which sought to develop the District model of competition specifically for the FIRST Robotics Competition in the state of Michigan. Under the District model, all teams compete at two, forty (40) team events as opposed to the Regional model in which teams compete in one sixty (60) team event annually. As of 2017 there are more than 20 district events in the state of Michigan involving over 450 teams. The season culminates in the Michigan State Championship for FIRST Robotics which invites the very best of teams from across the state to compete in the annual challenge.



2.3 Brief History of 4327

- Formed December 2011.
- Grown from a 12 person team to over 30.
- Grown from zero sponsors to fourteen (14) providing more than \$15,000 in contributions.
- Grown into several subteams.
- Female student participation grown to about 35% in 2018 with females in leadership positions including student elected head captain.
- Won two district events and three finalist awards.
- First earned a spot for the Michigan State Championship in 2017.
- Expanded to K-12 program with teams in elementaries and middle school across the Lakeview School District.
- Established Exhibit A positions for paying coaches at all levels.
- Over a dozen different mentors helped with the program imparting knowledge to the team.
- Outreach to Habitat for Humanity, World's Longest Breakfast Table, International Festival of Lights, Lakeview Book Fair, Lakeview Homecoming Parade, Lakeview Football Games, Fields of Faith and more!

2.4 Current Major Partners

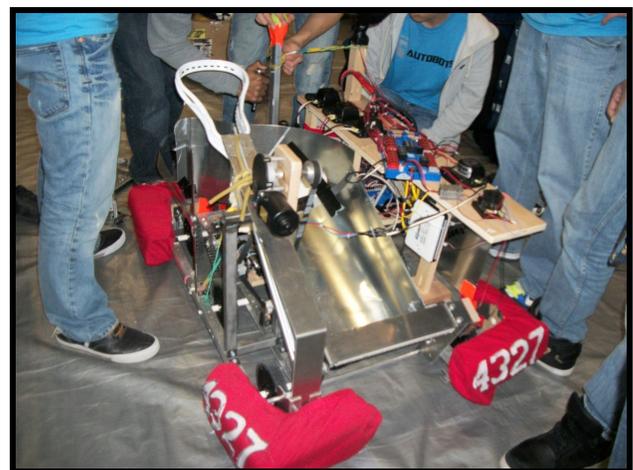


2.5 Team Origin

Nearby school district Harper Creek had just competed in the FRC season “Logomotion” when in the summer of 2011, their head coach Steve Barry asked to meet John Burdette to talk about possibly starting a robotics program. The head coach of the program knew John through a common education action research project. Steve told John about the incredible opportunities beginning such a program would offer students and the indescribable atmosphere of the events.

Unbeknownst to Steve, John had been recently searching for a path to bring his competitive passion to Lakeview High School as well as a way to kickstart engineering education. At the time, students at Lakeview High School had no access to engineering programs, but were going into the fields of mechanical, electrical and other types of engineering following graduation. Many students heard about a lucrative and respected field of study, but had no concept of what engineering meant or the difference from other majors such as science or mathematics. Therefore this concept of connecting both a competitive challenge as well as inspiring and engaging students in the STEM fields was the perfect fit for John. The only issue facing him at the time was a complete lack of experience in machining, programming, business, CAD or any other aspect which would prove useful to be successful in FIRST Robotics.

Being a personal fan of incredible challenges and this void to fill for education, John began the formation of FRC Team 4327 in the fall of 2011. Known as the Autobots, they had zero experience in robotics, zero mentors and zero corporate sponsors. Even in the face of all of this, the team of about ten students and John Burdette worked through the season successfully achieving the game’s task of launching basketball-like foam balls. They had no formal pit, not even a cart on which to tow the robot from pit to field, but still through grit and luck came home with a blue banner as an event winner of their very first competition.



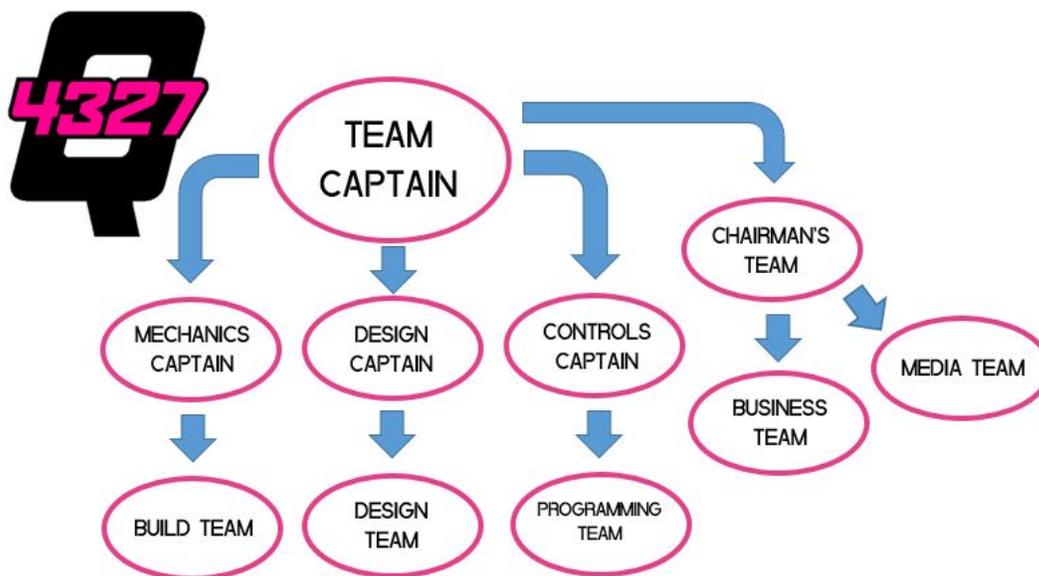
2.6 Points of Pride

What is making, or can make, us unique from other teams?

- Commitment to institutional knowledge
- Involvement of international students since first year - 2012
- Efforts to break down financial barriers for students (Only \$20 annual dues)
- 3 year host to FTC Michigan State Championship
- 2 year host to FRC Michigan District Event
- Custom chassis unique to each year or competition
- Growing number of girls on team
- Two-time district winners and three time district finalists
- Alumni/Parent Field Element Build during first week of build. College students still on break help complete all necessary field elements before the first Saturday of build season.
- Use of established engineering practices (Quality Function Deployment - QFD) to analyze game
- Increased social media presence on Instagram & Twitter while teaching students how to use these responsibly.
- Alumni enrolling in prestigious universities: Michigan State University, University of Michigan, Massachusetts Institute of Technology, NIT Calicut (India)
- Developing cooperative relationships teams in the area (Harper Creek, Coldwater, Pennfield, Lakeview (Montcalm County))

3.0 Organizational Plan

3.1 Team Organization





3.2 2018 Team Members and Sub Teams

Overall Head Captain:	Alayna Carr	CAD Team:	Caleb Dunlap Chance Guzzi Kaden Wright William Blankenship Jordan Lee Alex Morley Ben Morley
Mechanics Captain:	Bowen Kincaid		Alexandar Ranker Trevor Sanchez Ben Heiss Veronica Vu Quinn White
Design Captain:	Dominik Kerschbaum		Elizabeth Espinoza Alayna Robinson Quynh Le Kien Nguyen Jimson Yang
Controls Captain:	Brialy Goodale	Controls Team:	
Chairman's Captain:	John Mead		
Mechanics Team:	Aubre Carey Amber Harris Max Kinnisten Danh Huu Do Perla Fuentes Eric Williams	Chairman's Team:	

3.3 Team Member Roles

Design team - Designs the robot based upon the desired aspects from the team. Lays out the parts and plans prior to final build.

Mechanical team - Works with the CAD team to determine the necessary parts and modifications to build the final iteration of the robot. Machines parts and builds gearboxes to be used on the robot.

Controls team - Writes code to be used on the competition robot. Works with the drive team to determine the best system of controls to be used during the competition. Solely responsible for autonomous performance of the robot.

Business team - Functions as communications channel between the team, sponsoring businesses, school community and greater Battle Creek area. Responsible for team documentation and building relationships with sponsors.

Drive team - Responsible for the execution of team determined strategy/gameplay. Controls the robot during competitive play.

Captains - Head captain is elected by the team. Team captains are appointed.

Core team vs Secondary team - *On each subteam there are "core" members as well as "secondary" members. The core team members are those of whom take the lead on the day-to-day tasks thanks to their advanced experience in the skill set. Secondary members assist the core members as needed and may be reassigned to other subteams as needed. Core subteam members continue work until the mentors and coach deem their work is complete or efforts are needed elsewhere.*



3.4 Recruitment

The involvement of girls on our team grew significantly over the past three years. The number of girls has quadrupled since 2012. During the 2012-2015 seasons we only had about 2-4 girls each season. Starting in 2016 we grew to 7-10 girls. This was due to student female team leadership actively recruiting throughout the school. The team improved in promoting the principles of *FIRST* by spreading the word through meetings with younger students and through different social media sites like Facebook, Instagram, Twitter, through our website, and featured as a regular subject in the Shopper and Battle Creek Enquirer. In 2017 we made our first mentor/member recruitment videos for sponsors and the high school's broadcasting class Channel 101 in hope to expand our program, which can be viewed on our website. This year we started writing blogs about what is happening throughout the season, including pictures of the day, more information about upcoming events, and team achievements.

3.5 Training & Subteam Assignments

Our team teaches new members what it means when we say "This Is How We Robot" via four Saturdays in November and December for team skill preparations to learn basic robotics principles. These Saturday sessions are held at the Q Branch Robotics' build site at Lakeview High School from 8am until 4pm. All members must participate in at least 12 hours of training during those four Saturdays. Preseason Saturdays teach new members the skills necessary to be successful on the mechanics, controls, design and Chairman's teams. Following the first Saturday session, all prospective members complete a form indicating their subteam preferences. Mentors of the team also make their recommendations. The head and assistant coaches then place students into the subteams where their requests as well as team needs are honored.

3.6 Member Expectations

Each of our members must meet specific requirements to be on the team. Students only pay a \$20 fee, which makes robotics affordable to all students. No student is denied becoming a part of the team if unable to pay. We also require 16 hours of preseason volunteer work for returning members, and 8 hours for rookie members.

Additionally each team member volunteers more than a dozen hours at the Michigan FTC State Championship. Our team understands education is important, thus members must maintain a 3.0GPA throughout the entire build season and competitions. This requirement of students directly relates to our mission.

In addition, each team member is expected to show gracious professionalism throughout build season and at each competition. Students spread show other teams how we robot through their behavior, involvement, and how they work together. Students are expected to support the team by wearing pink as well as avoid using electronic devices during matches.

3.7 2017-18 Mentors

John Burdette	BCAMSC	Lead Coach	7th year
Lindsey Keller	BCAMSC	Assistant Coach	5th year
Scott McKinney	IAC	Mechanics Team	6th year
Gary Held	DENSO	Mechanics Team	4th year
Bernhard Kerschbaum	Rosler	Design Team	4th year
Michelle Spencer	Kellogg's	Controls Team	2nd year
Richard Bauer	Federal Center Emeritus	Controls Team	3rd year
Richard Juvancic	Bronson Battle Creek	Mechanics Team	5th year
Richie Juvancic	Q Branch Alumnus	Mechanics Team	1st year
John Mead	Parent Support	Mechanics Team	2nd year
Rhonda Robinson	Musashi	Chairman's Team	1st year
Katie Hart	KCC Student,LHS Graduate	Media Team	1st year

3.8 Mentor Recruitment

Our team mentors are recruited through our sponsors, alumni, parents, and media outreach. Mentor need is communicated through email, Facebook, Instagram, Twitter, and our website. In 2017 we made our first mentor recruitment video to share with potential mentors which can be seen on our website. We also increase publicity with features in the Shopper and Battle Creek Enquirer. Our team values taking tours of sponsorship facilities and showing them our robot in order to aid in recruitment as well as inviting potential mentors to our build season open house as well as the two FIRST events we host. In 2018 we have moved to blog posts to update our sponsors regularly about our progress with the hopes they will share the information with potential mentors. Since 2012 we have grown from one mentor to 12.

3.9 Safety

Our team shows a commitment to safety through the leadership. One role of the team captain is to prepare and present a safety presentation based on our safety manual to the team. This manual is available on our website along with the incident reporting form and the safety contract that each student and mentor is required to sign. All machine use is supervised by mentors, all team members must wear safety glasses in the workshop and pit area, and a first aid kit is always within reach.





4.0 Operational Plan

4.1 Preseason

Team meets on a weekly basis as determined by student availability. Meetings meant for communications purposes for outreach as well as team member recruitment.

All returning Q Branch members must complete 16 hours of volunteer service between the end of the previous season and the first Friday of the November prior to kick-off. All new members must complete 6 hours of volunteer service prior to same date. These are all tracked on student managed forms which require a supervisor signature. Up to 80% of the hours may be Team 4327 related. At least 20% of the hours must come from an outside source of volunteerism.

November Prior to Kick-Off-

Four Saturdays are scheduled for team skill preparations. Saturday sessions are held at the Q Branch Robotics build site at Lakeview High School from 8am until 4pm. All members must participate in at least 12 hours of training during those four Saturdays.

Preparatory Saturdays teach new members the skills necessary to be successful on the build, controls, CAD and business teams. Following the first Saturday session, all prospective members (including those returning) complete a form indicating their subteam preferences. Mentors of the team also make their recommendations. The head and assistant coaches then place students into the subteams where their requests as well as team needs are honored.

4.2 Build Season

Following Kick-Off (often the first Saturday in January each year) is build season where the team meets to begin work on the annual challenge. The build season schedule is as follows:

Tuesday, Wednesday, Thursday from 5:30pm - 9:00pm
Saturdays from 8:00am - 4:00pm

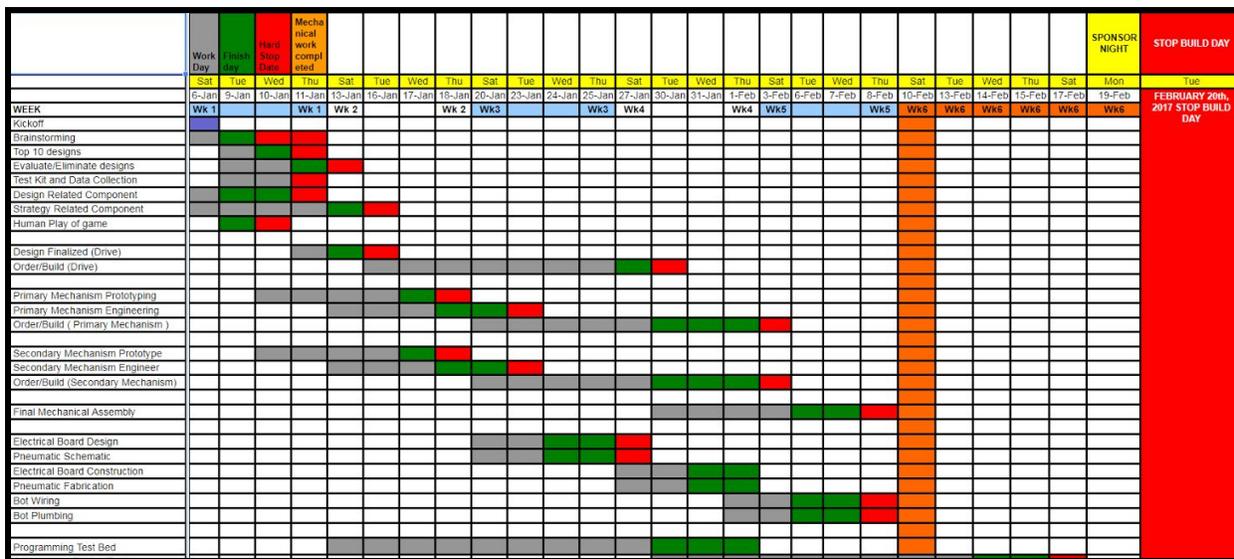
All members of Q Branch are required to put in at least six hours of work time every week during the build season. Those not meeting this requirement are no longer considered members of the team for the competition season.



Saturday morning from 8:00am - 8:30am is specifically for team leadership communication. Captains of each subteam as well as mentors meet to determine the status and needs of each group to ensure all changes are communicated and everyone is getting the resources necessary to be successful.

4.3 Project Management

The business team prior to the start of build season sets the Gantt Chart for the team from kick-off to “stop build day” six weeks and two days (Tuesday) later. Each aspect of analyzing the game, designing the robot, building the parts and programming the machine is mapped out in time. The business and team captains are responsible for ensuring the subteams are able to keep up with the schedule. Successful time management is known to be a key to success in FIRST Robotics. This chart is reviewed at the end of each meeting during build season and aids in creating the agenda for the following session.



4.4 Communication

Our team utilizes Facebook, Twitter, Instagram and Snapchat to cover our social media presence. We have seen a growth in followers in all aspects since they were started in 2015. Our team has recently transitioned from regular newsletters to online blogs which can be found in the team updates section of our website.

The most critical way our team communicates with each other is the Remind texting app. Two separate channels are used, one for parents and another for team members. Our team also posts daily agendas for each meeting which are posted and discussed. Finally, each Saturday during build season a leadership meeting is held with students in leadership roles for an update and progress check.

5.0 Outreach and Mentoring

5.1 FIRST Promotion and Program Growth

Starting in 2014, our program expanded into FTC, FLL and FLL, Jr. teams of which our members annually serve as mentors to the younger students and seek to show them “This is How We Robot”. We have two FTC and FLL teams at our Middle School, five FLL, Jr. teams at our elementary schools. Our superintendent is proud of each of our teams and without the support of the school district we could not inspire the future generations in the field of STEM and *FIRST*. We are proud to say any Lakeview student, at any level in any building can be part of the *FIRST* Program.



We promote *FIRST* to these new teams by aiding them in member recruitment through promotional tours. We also expect our returning members to mentor them as part of their volunteer hours. We also invite them to attend the events that we host.

Summary of Promotion and Program Growth

- Hosting FiM FTC State Championship & FiM FRC Lakeview Event
- 2017 feeder teams (compared to 0 in 2013)
 - 2 FTC @ Lakeview Middle School
 - 2 FLL @ Lakeview Middle School
 - 5 Jr. FLL @ Riverside Elementary (2), Minges Brook Elementary, Westlake Elementary and Prairieview Elementary
- Promotional Tours to elementary and middle schools within district
- FRC team members mentor elementary and middle school.
- Display case on 2nd floor at Lakeview High School.

5.2 Mentoring and Assisting Other Teams

Our current team members, mentor the ten teams we started with our FLL, Jr. team then our FLL and FTC and are now working with rookie FRC teams. Student leaders of Q Branch put in at least 16 hours of mentorship for the 2017-18 school year, totalling in over 170 hours mentoring younger students on the principles of *FIRST*. This includes teaching them the basics of mechanics and guiding them in strategy and gracious professionalism. We show them what it means when we say “This Is How We Robot”.





In 2018 we invited rookie team 7209 from nearby Homer to show them the ropes of a competition season. Prior to the build season they joined in us activities like learning programming, CAD, and techniques to help them be successful in their first season. This was not the first time we assisted with other teams. In previous seasons we developed relationships with teams all around our area such as Harper Creek, Coldwater, Pennfield, Lakeview (Montcalm County) helping them whenever they were in need.

5.3 Community Outreach Events

By creating off season community outreach robots including Heavy Metal (a one barrel t-shirt cannon), Heavy Metal 2.0 (a ten barrel t-shirt cannon), and HugBot (a pneumatic powered hugging teddy bear robot) we have been able to promote *FIRST* in the community.

Hands On Battle Creek, a volunteer organization in our community, knows how we robot and recruited Q Branch to help set up and serve at the World's Longest Breakfast Table in downtown Battle Creek. Several members set up this annual Battle Creek event and helped throughout the day. Through contributions from the community the Children's Miracle Network had a chance to raise money to help kids who are in hospitals. Q Branch participated through their spirit and enthusiasm for three hours while showcasing our "outreach" robot, Heavy Metal 2.0 to shoot off t-shirts. This gathered a crowd for the event and our members helped run and load the robot.

In a partnership three other FRC teams we constructed an interactive FIRST display and demonstration area at the Calhoun County Fair. Over a two day span Q Branch committed a total of 53.5 hours enthusiastically inspiring the community and sharing stories innovation through friendly gameplay of the 2016 FRC challenge Stronghold. Additionally we brought our other "outreach" robot Hugbot to provide hugs via a mechanical teddy bear.

Summary of Community Outreach Event:

- Host - FTC Michigan State Championship (2014, 2015, 2016, 2017)
- Host - FRC District Event (2016, 2017, 2018)
- Habitat for Humanity move (2013)
- Battle Creek Festival of Lights Setup (2014)
- Battle Creek CerealFest setup (2016, 2017)
- Children's Miracle Network Fundraiser (2016)
- Calhoun County Fair (2016, 2017)
- Jr. FLL & FTC Mentorship (2016, 2017)
- Lakeview Athletics Support (2015, 2016, 2017)
- Kingman Museum Spooky Science (2015, 2016)
- Binder Park Zoo Boo (2016, 2017)
- Barnes & Noble Book Fair (2016)



6.0 Marketing Plan

6.1 Target Audience

School Administration

We invite the school administration to tour and speak at both of the FIRST events that we host. We also formally invite them to attend our annual build season open house so they can see the progress we have made throughout the season. Our current administration is very supportive of the program and has written coaching positions into the teacher contract to aid in recruitment and retention of lower level coaches.

Sponsors

Sponsors provide both monetary, in kind, and mentor resources to our program. We target potential sponsors through direct contact from our student leadership. We also request to visit them with our team and robot during our off season, invite them to the events we host, and the build season open house each year.

Potential Team Members & Mentors

Utilizing the in school news Channel 101 and student leadership we have been able to grow our members and the diversity on our team. We also mentor the feeder teams and invite all Lakeview Students (K-12) to the events that we host in the area.

6.2 Marketing Mediums

Our community outreach robots have aided in marketing in addition to our competition robots. We have taken them to the local schools for demonstrations.

Our website is constantly being updated and shared to sponsors and social media accounts to which all students have access to. We have a strong social media presence utilizing over 650 Instagram followers and 580 Twitter followers in addition to our Facebook fan base. We also have been featured on the Lakeview School District webpage and Facebook page as well as had features in the Battle Creek Enquirer and Shopper. We always make an effort to notify media outlets of the events we host and our teams progress.

6.3 Evolution of Team Imagery

Team imagery has evolved into a notable and memorable logo through a few years of missteps and changes outlined below. We are proud to now be in a place where we are recognizable and portray our “This Is How We Robot” mantra to all who see our pink color.

2012

The initial team name was the “Autobots” from the cartoon Transformers. The team voted that blue shall be the color of choice and made a spartan helmet logo using a metallic silver color.



2013

Wanting to move away from a well defined and likely copyrighted name of “Autobots” the team voted on a new name. At the time the movie “Skyfall” had just been released. Not wanting to play the obvious card, the team opted to go for the lesser known Q Branch portion of MI:6. Q is the Quartermaster for Jame Bond and the other agents supplying all of the neat gadgets and weapons know in the Bond franchise.

To help communicate the somewhat obscure reference, the team logo developed into the bond theme of a suit and tie. This sat well with older generations as they remember the films fondly from the 1980s, but the younger generation (students) had difficulty.



2014

The team decided to evolve the bond suit and tie logo into a ‘hard working’ bond on the tshirts.



2015

Unsure of how to evolve the bond logo shirt and tie and trying to develop more of a brand, the team decided to create a new logo with a robot thinking the letter “Q”. The shirts remained the black color, but the Q became more prominent in the image.



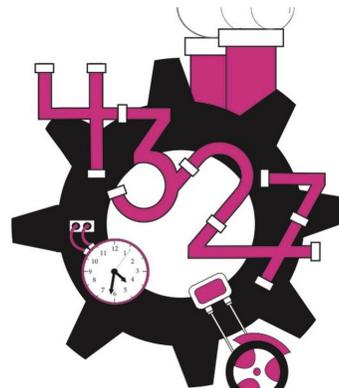
2016

Team recognized the need to be recognizable in the community and voted to adapt the pink color to our image for all marketing purposes. This was the beginning of our rebranding as the previous shirts were black and did not produce the image of unity we were after.



2017

Developed the “Q” logo as we know it now. Enhanced the pink color into hot pink. Also, for the first time developed a ‘game theme’ logo to be used on social media. This is also the first year we incorporated the pink onto the robot. The pink baseball hat was also introduced to team members this year.





2018

Developed mantra 'This is how we robot', now used regularly in social media

#thisishowwerobot to spread the message of how we support each other, build each other up, and help each other. Also to keep our expectations of students in the forefront.

Developed a game theme logo to be used on social media as well as team shirts and continued the pink hat with an updated version to fit the game.



THIS IS HOW WE ROBOT.

We help each other.

We build each other.

We support each other.

When we need help, we ask each other.

We are open and work toward a common goal.

Other teams are sources of inspiration whether from what we can learn or how we can help.

We are an exemplar for other teams to emulate.



7.0 Financial Plan

7.1 Sponsorship Information

Companies provide contributions to Q Branch Robotics as handled by Lakeview High School. In return contributing companies have their names and logos featured in accordance to the team's table of benefits. Companies are advised to consider these contributions to Q Branch Robotics as advertising expenditures for purposes of accounting. In total there are four levels of sponsorship corresponding to the amount of funds contributed to the team annually: Friend (\$100+), Silver (\$500+), Gold (\$1000+) and Premier (\$2000+).

- All companies contributing at the **Friend** level of above are featured through the team website (www.qbranchrobotics.com) and team newsletters (discontinued 2018).
- Those contributing at the **Silver** level and above are featured on the team shirts for the year as well as a decal on the finalized competition robot.
- **Gold** level sponsors and above are featured on team banners which are displayed in the team's "pit" area at each competition; additionally these sponsors' logos are more prominently featured on the finalized competition robot. These banners are then put on display whenever possible at community events.
- **Premier** level sponsors are featured on the team shirts for all levels of robotics teams throughout Lakeview School District.

Through 2017, Q Branch robotics sent out team updates through the build season which featured sponsor logos as well as featurettes explaining to readers the main products or features of a select sponsor. These team updates were sent to the Lakeview community as well as to all team sponsor organizations. In 2018 we are moving to more digital updates that are available to the general public as well on our website.

Premier sponsors are announced to the attendees for FIRST Robotics events prior to the start of the first match as well as prior to announcing alliance selection should Q Branch Robotics be in the "captain" position.

Non-Sponsorship Fundraising

Host FTC Event

Host FRC Event

Michigan Department of ED Grant

Local ISD & LSEF Grants

www.qbranchrobotics.com



<i>YOUR NAME OR LOGO ON OUR...</i>	PREMIER	GOLD	SILVER	FRIEND
	\$2000+	\$1000	\$500	\$100
<i>DISTRICT-WIDE RECOGNITION*</i>	<i>LARGE</i>			
<i>COMMUNITY BANNERS</i>	<i>LARGE</i>	<i>SMALL</i>		
<i>COMPETITION ROBOT</i>	<i>LARGE</i>	<i>LARGE</i>	<i>SMALL</i>	
<i>TEAM T-SHIRT</i>	<i>LARGE</i>	<i>LARGE</i>	<i>SMALL</i>	
<i>NEWSLETTER</i>	<i>LARGE</i>	<i>LARGE</i>	<i>SMALL</i>	<i>SMALL</i>

**YOUR LOGO WILL BE FEATURED BY ALL LEVELS OF TEAMS (FLL, JR, FLL, FTC AND FRC) IN THE LAKEVIEW SCHOOL DISTRICT*

New for the 2017-18 School Year

In order to aid in the expenses associated with advancing in the FIRST Competition we have added the following information to our sponsorship commitment form in order to ensure that students are not responsible for the cost of team advancement:

Qualifying for the Michigan State District Championship as well as the FIRST Robotics World Championship increases the costs for running the team due to registration and transportation needs to attend these events. By completing the boxes below, you agree to become a "Championship" Sponsor for FIRST Robotics Team 4327. Championship Sponsors will put forth a \$1500 additional contribution for the team only in the case of qualification for either the Michigan State District Championship or FIRST Robotics World Championship. Notification will be made when the team is reasonably assured a spot in either Championship. All Championship Sponsors will be recognized by having their logo printed on the team Championship T-Shirts as well as special recognitions through the team website and other media outlets.



7.2 Program Budget 2017-18 School Year

Sources of Financing:

+ Sponsors	\$10,000 to 15,000
+ Grants (Michigan Dept of Ed, Local ISD, LSEF)	\$2000 to \$3000
+ Hosting FTC and FRC Events	\$1000 to \$2000
+ Total Student Dues	\$500

Annual Costs

FIRST Robotics Competition Registration	\$5000
Lower Level Teams Registration	\$1000
1 FTC Team at Lakeview Middle	
1 FLL Team at Lakeview Middle	
1 FLL, Jr. Team at Riverside Elementary	
1 FLL, Jr. Team at Minges Brook Elementary	
Competition Registration Fees for each team	
Supplies for Lower Level Teams	\$1500
Robotics Parts	\$5000
Practice field elements constructed of wood	
New gearboxes for drivetrain	
New pulleys and belts specific to drivetrain	
Replacement gears for robotics mechanisms	
Miscellaneous electronics upgrades	
Raw aluminum parts needed for practice robot	
Fabric and materials for bumpers	
Rivets and miscellaneous parts from McMaster-Carr	
Additional game pieces for testing	
Team Gear (Hats/Shirts/Giveaways)	\$500
Miscellaneous Safety Equipment	\$500
Food for Team during build season	\$500
“Open House” Food and Decorations	\$300
Lodging for Students at each Competition	\$2000
Registration for State Championship	\$4000
Registration for World Championship	\$4000
TOTAL BUDGET	\$15,000 to 25,000



8.0 Strategic Plan

8.1 Strategic Planning Process

Each year at the end of a season our team has a +/- meeting with team members and mentors where both can speak candidly about the teams strengths and weaknesses in the season. In order to create a comfortable environment everyone is coached on how to have a constructive conversation with ideas for improvement. This meeting is the basis for our season goals and SWOT analysis.

8.2 Strengths, Weaknesses, Opportunities & Threats

Strengths: <ul style="list-style-type: none">• Dedicated coaches• Dedicated students• Great shop areas for builds• Never fears new technology or ideas• Great strategy execution (game play & design)• Organized team with set responsibilities per subteam	Weaknesses: <ul style="list-style-type: none">• Need a few more mentors• Need to grow sponsor base• Increase visibility in school• Increase name in community• Need more parental buy-in
Opportunities: <ul style="list-style-type: none">• STEM outreach• Create STEM minutes on channel 101• Involve more school staff (from Our Organization section above) with team• Recruit more team members• Recruit more mentors	Threats: <ul style="list-style-type: none">• Loss of a top sponsor(s)• Conflicting calendars between robotics and other student activities

Once all of the quadrants are filled in a plan is made to address each one. See our goals document on our website for for indicators of success. This exercise is done annually to see progress and add any new items. Last update fall 2018.



8.3 Short Term Goals and Indicators

Q Branch sets goals each season and evaluates them throughout the season. The evaluation of progress and reflections can be seen on our comprehensive goals document on our webpage along with any additions. These goals were last updated in the fall of 2018.

Goal	Indicators of Success
Promote team members involvement within the school and utilize school video news for promotion, recruitment, and growth.	Develop recruitment video prior to build season to be aired on Lakeview High School Channel 101 news. Develop, print, and place locker posters during build season. Air season follow-up episode on Channel 101 news.
Establish Chairman's Team with video/photographic team, outreach team and public relations team as well as a dedicated historian	Chairman's video is developed and submitted within time frame. Blog on website, Instagram, Facebook, and Twitter are all updated regularly via the public relations team. Historian is able to organize and develop records of team season and compile past records as needed for Chairman's presentation and essay. Records demonstrate program growth and impact on students.
Involve Superintendent Blake Prewitt by doing an interview with how he has seen FIRST impact students; use in Chairman's Presentation and Robot 101 episode.	Superintendent Blake Prewitt is contacted and interviewed by team members for Chairman's Video.
Parent led booster club to organize fundraising efforts as well as organizing food and team support during competitions	A lead veteran parent is able to work directly with the coaches and rally parents through phone calls and email when there are needs for parent support such as volunteering to provide meals or time at events.
Competition Team Schedule so individuals know when they need to be scouting or helping the team in other areas (map out like Team 2337)	Schedule is developed before first event by team captains. Schedule is available to students both in paper and electronically. Students adhere to the schedule.
Team Promotion Projects - Robotics 101 - Three Episodes Episode 1: Building a Custom Drivetrain Episode 2: Using QFD Episode 3: Scouting 101	All three videos are published on youtube and linked to social media by May 2018 with cooperation from mechanics team, design team, chairman's team, and controls team.
Grow district wide program by adding additional FLL Jr., FLL, and FTC teams at elementaries and middle school.	Coaches are recruited by team members and mentors for teams at each level and in each district school and each team is able to complete their season and compete at an event.



Hold combination car wash and can drive to raise funds for lower level teams	Event is organized by team leadership and held either in fall of 2017 or spring of 2018.
Present a remote-access webinar on building a custom chassis (west coast drive) to help newer teams expand their repertoire.	Development of webinar plan. Includes vision of end-user experience as well as an electronic slide presentation (Google Slides) for reference. Execution of live event via Twitch stream. Advertised to local teams.
Continue to increase social media presence.	Social media followers increase as well as the likes and shares we achieve on Twitter, Instagram, and Facebook by regular posts by team leadership.
Heavily promote program to International Students at start of school year	At least five international students on engaged on the team.

8.4 Five Year Growth Goals

Long term goals are evaluated annually on their progress and growth is focused in the off season. These goals were last updated in the fall of 2018 and progress can be seen on our comprehensive goals document on our webpage

- Battle Creek Community Robotics Center. Host to several teams as well as levels of Robotics in and around the Battle Creek area. Similar to that of the Kettering University Center.
- Bi-annual trip to out-of-state regional event during week 1 or 2.
- Increase involvement in community events by inviting other teams to robot-zone type areas (i.e. a STEM area in the Zoo Boo)
- Community night and/or STEM Career Night to promote all local FIRST teams including feeder programs to recruit mentors for area teams and build connections.
- Increase involvement in preseason training to build connections for all local teams with organized events.
- Welcome Night in December for parents & sponsors at the start of the season in addition to the February Sponsor Night.
- Expand team member involvement to other local schools who are unable to support at FTC team.
- Form a Relay for Life Team with other area teams.
- Food Bank Fundraiser with local teams competing in another activity (blind volleyball, dodgeball, towel volleyball).
- Robotics coloring book for feeder teams to promote first.