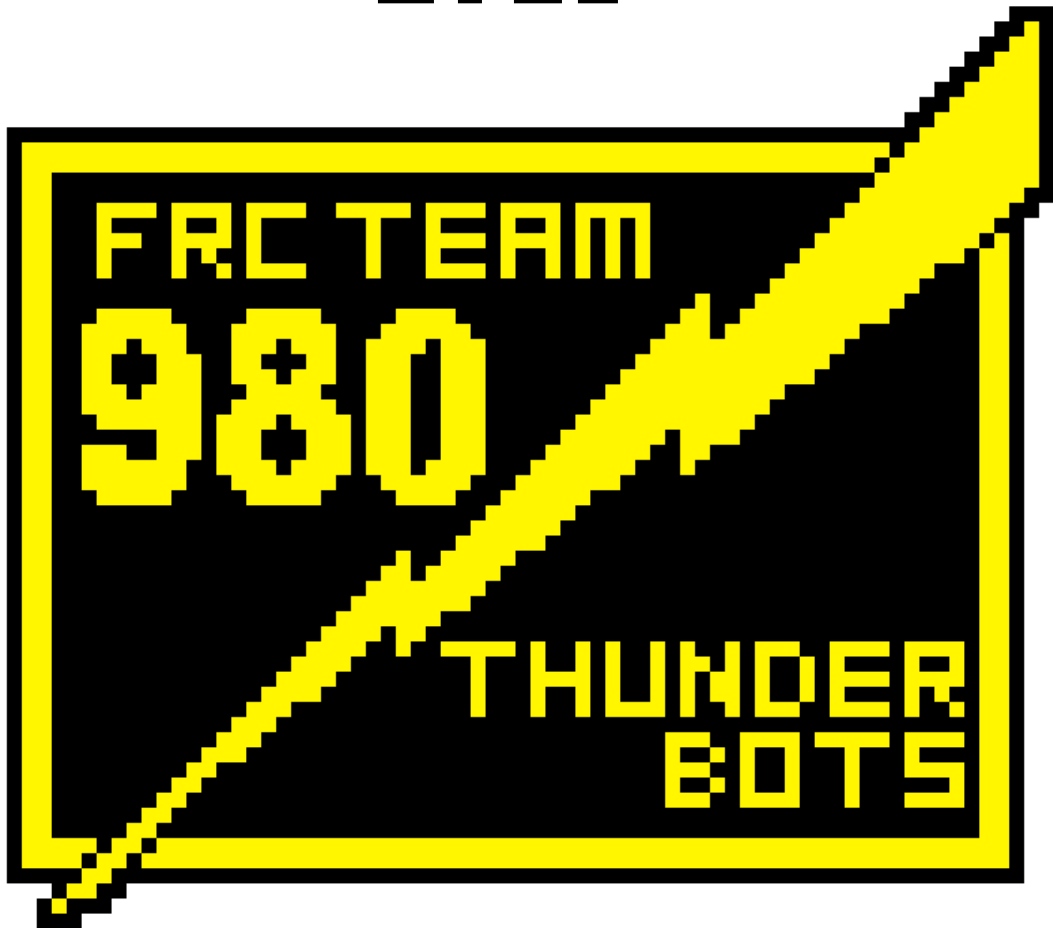


FRC Team 980 ThunderBots

Business Plan
2018



Contents

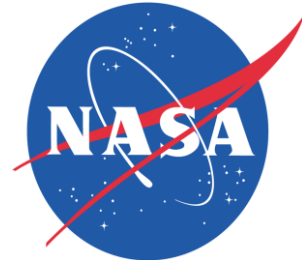
Sponsors_____	3
Mission and Vision Statements_____	4
Team Origin_____	5
Organizing Tools_____	6
Organizational Structure_____	7
Off-Season Org Chart_____	7
Build Season & Competition Org Charts_____	8
Relationships_____	9
Deployment of Resources_____	10
Future Plans_____	11
Balanced ScoreCard_____	12
Financial Statement_____	13
Operating Budget_____	14
2017 Actual_____	14
2018 Projected_____	15
Risk Analysis_____	16
SWOT Analysis_____	17
Team Fundraisers_____	18
Community Rebate Programs_____	19
ThunderScout_____	20
Social Media_____	21



Sponsors 2017/2018 Season



WALT DISNEY
Imagining



JPL
Jet Propulsion Laboratory
California Institute of Technology



Raytheon





Mission and Vision Statements

“Our mission

is to educate and inspire high school students to become the next generation of science and technology leaders by building a competitive robot through the guidance of professional mentors, corporate sponsors, and parents in alignment with FIRST core values.”

Our vision statement

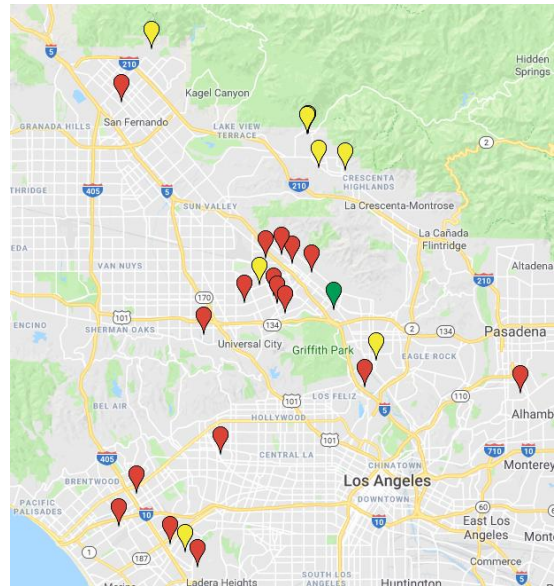
is “To create a world-class, award-winning team of confident and competent student leaders, who act as a source of inspiration in science and technology.”

Effective implementation of the business tools and strategies used by successful companies aids our growth through: expanding community awareness, finding new sponsors and financial resources, and recruiting new students. We developed these mission and vision statements to support our growth strategy.

Team Origin

Team 980 is a community team, founded in September 2001 in La Canada-Flintridge, CA, with 10 students and 3 mentors. As of the 2018 build season we have over 30 students and 14 mentors. Team 980 draws our members from the entire region - Burbank, Glendale, and North LA County - an area of over 2 million people. Our students come from 16 schools, from Santa Monica to South Pasadena.

As a community team, physical location and financial resources are additional challenges. In our 16 years, we have had 10 different build sites, and are grateful to Walt Disney Imagineering for providing us with our current build space in one of their facilities. In addition to contributions from our named sponsors, we are a 501(c)(3) organization and ask each team member to participate in fundraising through Piggybackr, a crowdfunding site that allows each student to create an individual page linked to the overall team campaign.

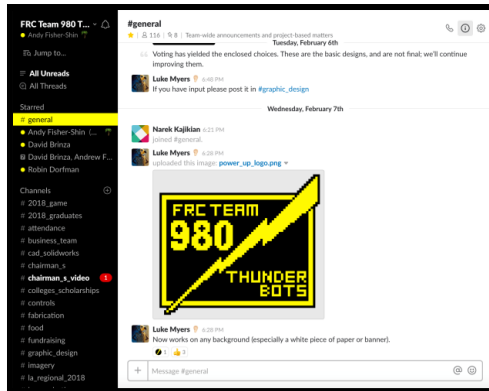


We also participate in several community rebate programs, including Amazon Smile, Ralphs and Food4Less Community Rewards programs, eScrip and the Benefit mobile gift card app.

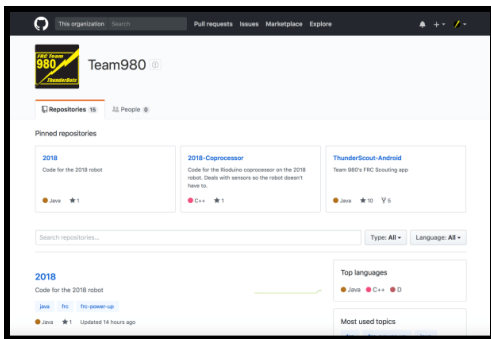
Coming from such a widespread area, transportation is a major factor for participation in meetings, events and competitions. We owe a great deal to the parents and mentors for accruing the mileage and spending the time to get us around. Our team's success depends strongly on our ability to communicate in a timely fashion, thus we rely heavily on our communications app, Slack, for meeting information and to organize carpools.

Organizing Tools

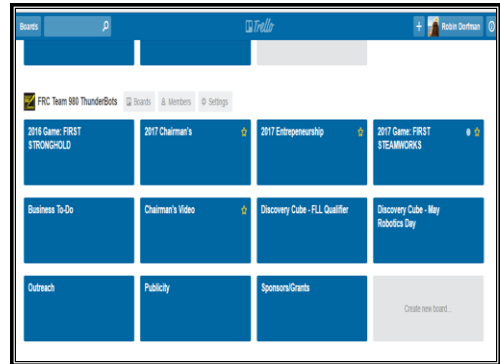
Slack for our team communications



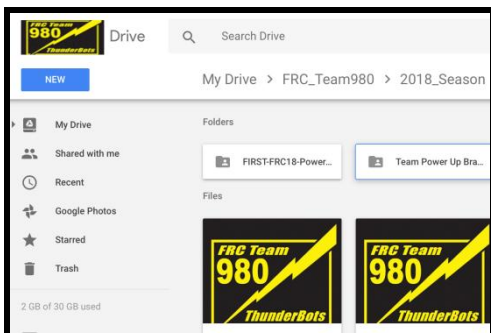
GitHub for controls



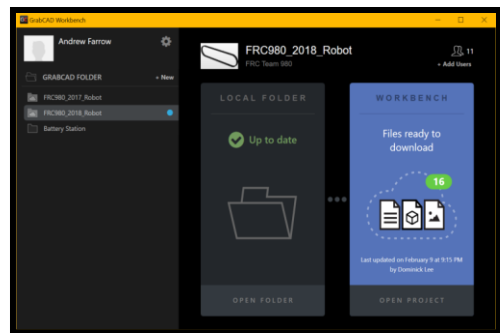
Trello to keep our projects on-track



Google Drive for cloud storage



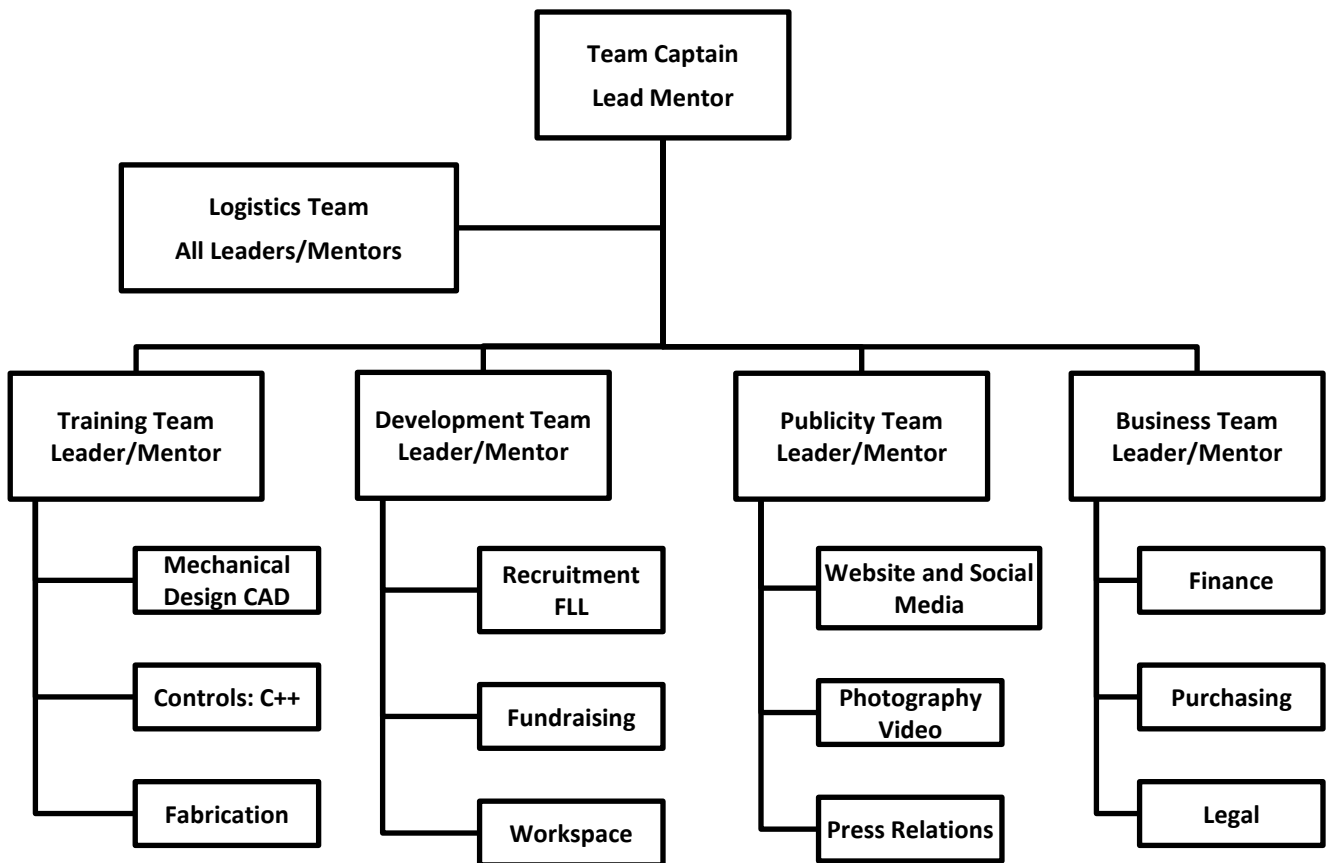
GrabCAD for SolidWorks



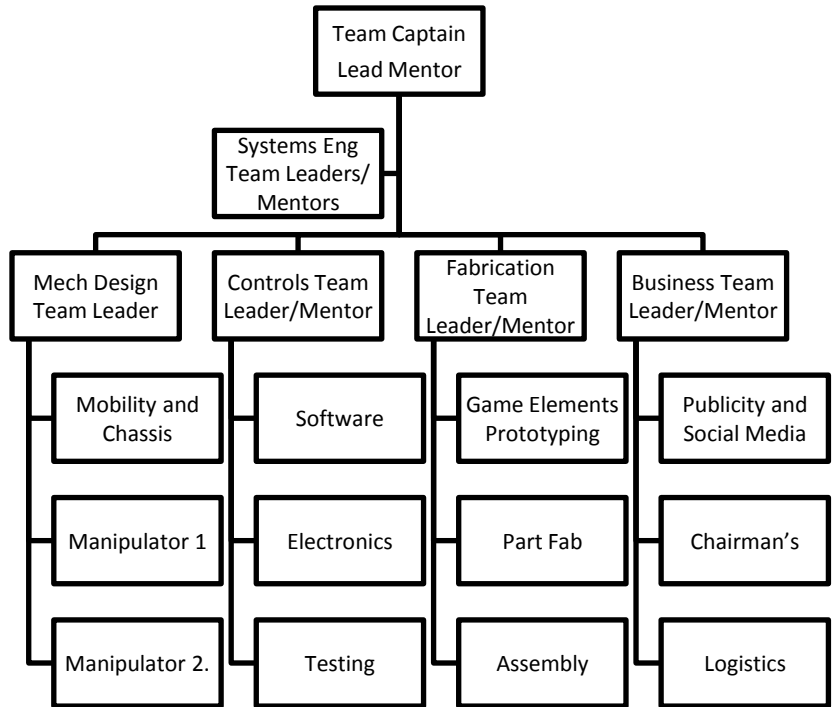
Organizational Structure

Team 980 has three organizational charts for the three periods of the year:
Build Season, Competition Season and Off-Season.

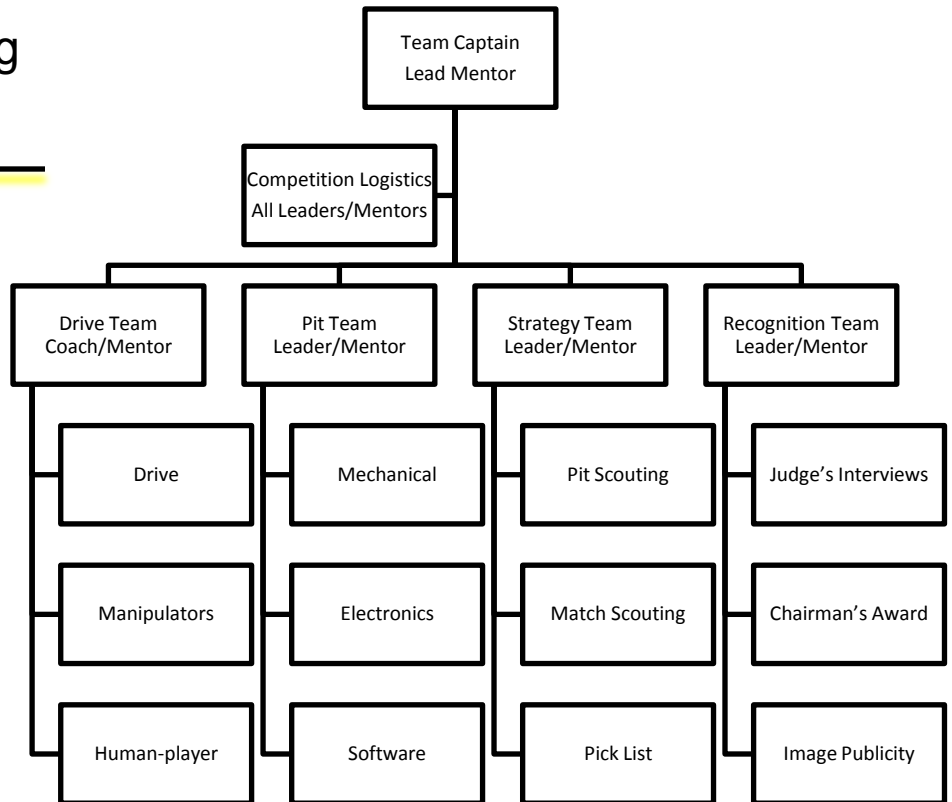
Off-Season Org Chart



Build Season Org Chart



Competition Org Chart





Relationships

“Inspire and educate high school students” is central to our mission. We recruit through outreach, community activities, and offer in-house workshops in SolidWorks, Basics of Mechanical Design, Java, Electronics, and Fab/Safety 101.

Boy Scouts are important to us. We have 7 Eagle Scouts - 3 from 2017. We visit local troops and leader training and hosted a dedicated STEM section at Scout Expo at the Rose Bowl.

We are strengthening our relationship with the City of Burbank. From marching in Burbank on Parade to volunteering for the ABC7/SoCal Firefighters Spark of Love Toy Drive, Team 980 gives back while spreading the word about STEM and FIRST. We created LEGO RoboCamp for the Burbank Library and demonstrated our robots at library STEM events. We advocate to parents on the importance of FLL in schools. Our robot visits both Burbank high school club rushes, promoting robotics and recruiting members for Team 980.

Team 980 has close relationships with its two main sponsors: NASA/JPL and Walt Disney Imagineering. Our lead mentor is from NASA/JPL and invites us to the annual Open House. We participate in FIRST-themed WDI events and invite members of the WDI community to our build site to see our robots, share our achievements, and receive annual end of season awards.

Our relationships in our community, from DiscoveryCube LA in Lake View Terrace to Pacoima Charter Elementary School, are so valuable to us, and enable us to reach deep into communities who most need STEM education and inspiration.

And look out for the second FIRST Robotics Day at Dodgers Stadium!



Deployment of Resources

The Team 980 annual operating budget is between \$16,000 and \$35,000 (depending upon whether we go to FIRST Championship).

For community outreach, Team 980 spends approximately 5% of our finances and 15-20% of our time on community events, such as LEGO RoboCamp. Apart from the classic black work shirts (our uniforms), we spend about 15% of our funds on marketing materials, primarily our ever-popular black and yellow pens and Team 980 stress balls for our baseball shooter robot. We also rely on team participation to maximize the efficiency of our community activities by competently spreading the values of FIRST to a variety of people.

To ensure students receive the greatest benefit from their participation in FIRST, we spend 75% of both our funds and time directly on team activities. Financially, this includes our robot parts, registration fees, and travel costs. In addition, we hold technical training sessions, using our time and mentor resources to educate students from Team 980 and neighboring teams.



Future Plans

We capture our team goals using a Balanced Scorecard. In 2017 we revised certain objectives to better reflect the goals and measure the progress of our members and team as a whole. In 2018 we realized that some of our previous goals were simply not realistic, so we readjusted to set goals that are challenging but attainable.

Our core objectives are viewed through five perspectives (see attached image):

- * Mission: Our mission expressed in specific objectives
- * Customer: Objectives based on the needs of our customers (members, mentors, FIRST, sponsors, community)
- * Processes: The operational processes needed to achieve the customer objectives
- * Personal Growth: The key processes needed to support our members and thereby expand our team
- * Financial: The financial processes that will allow us to ensure correct funds

In the next three years, we plan on securing 3-5 new sponsors per year, through a combination of contacts from new members and making contacts in our community. Through community recruitment, our goal is to have 25-35 active students - which we've already achieved for 2018 with over 30 active students. We also plan on holding 8-12 community outreach events each year, including several sessions of our LEGO RoboCamp at the Burbank Public Library, events around Burbank, Sunland-Tujunga, DiscoveryCube Los Angeles and with the Boy Scouts, and throwing out a "first" pitch at a professional baseball game.

Balanced Scorecard

PERSPECTIVE	OBJECTIVES	INDICATORS	GOALS					
			Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
	Inspire a growing number of high school students	Number of students participating throughout the year	N/A	N/A	40	50	60	70
Mission	Educate HS students in STEM	Average number of training hours in STEM per year x number of registered members (220 hours per year per student)	3520 hours received	4400 hours received	5500 hours received	6600 hours received	7700 hours received	8800 hours received
Customer	Growing number of members	Number of registered members	16	20	25	30	35	40
	Maintain mentors engagement	Number of registered mentors	n/a	n/a	12	13	14	15
	Be an effective team	Make it into eliminations in at least one regional tournament	yes	yes	yes	yes	yes	yes
		Be awarded at least one individual or team award	yes	yes	yes	yes	yes	yes
	Be active in Inter-team cooperation	Number of teams that we support or partner to execute an activity	4	5	15	20	25	30
	Promote FIRST mission	Number of people who received information about FIRST	3000 people	3500 people	50,000 people	30,000 people	35,000 people	45,000 people
Customer	Be active in community service	Number of community event attended as a team	5 activities	7 activities	8	12	14	16
Processes	Recruiting and induction	Number of students recruited in year	5	10	15	20	25	27
		Number of recruiting events	3	5	6	7	8	9
		Percentage of student retention	85%	95%	95%	95%	95%	95%
	Marketing process	Number of press mentions of Team 980	3	5	5	6	7	8
	Effective design	Simple and effective designs to meet our game objectives	90%	100%	100%	100%	100%	100%
		Number of students using CAD to contribute to the robot design	2	4	4	5	6	7
	Organization	% of team utilizing organizational tools	n/a	n/a	80%	90%	95%	100%
	Solid fabrication	Competition robot complete	1 week before bag day	2 weeks before bag day	2 weeks before bag day	2 weeks before bag day	2 weeks before bag day	2 weeks before bag day
		Build a second robot on time	on bag day	1 week before bag day	1 week before bag day	1 week before bag day	1 weeks before bag day	1 week before bag day
	Effective controls	Student contribution to the source code	50%	80%	90%	100%	100%	100%
Student contribution to the control design		50%	80%	90%	100%	100%	100%	
Controls features meet robot design objectives		85%	95%	100%	100%	100%	100%	
Personal Growth	Personal development	Percentage of graduating students who go on to higher education	n/a	n/a	95%	95%	100%	100%
	Commitment	Attendance	80% of students with 70% attendance	90% of students with 80% attendance	90% of students with 80% attendance	95% of students with 80% attendance	95% of students with 80% attendance	95% of students with 80% attendance
	Leadership and team work	Number of hours for leadership and team work training	4	6	8	9	10	11
Financial	Increase partnership with sponsors	Updates sent within the year	2	3	3	4	4	4
	Get new sponsors	Number of potential new sponsor meetings	5	10	12	12	13	14
		Number of new sponsors secured	2	3	3	4	4	5
	Increase Student Fundraising	Amount of money raised by students	\$4000	\$5000	\$9800	\$10,000	\$12,500	\$15,000



Financial Statement

Team 980's financial statements for the 2017 season (actual) and 2018 season (projected) are attached as an image.

Our sponsor income includes grants from by NASA/JPL, Walt Disney Imagineering, Boeing, and Raytheon. We use Piggybackr for crowdsource fundraising. Each student creates their own web page describing their motivation for participating in FIRST, then invites family and friends via email to visit their page and help them reach their fundraising goals. We have enrolled in several community rewards programs, including Ralphs/Food4Less, eScrip, Benefit-Mobile and AmazonSmile. We are also applying for grants and in-kind donations, such as food for regionals and our Saturday work sessions.

Team 980's expenses are relatively consistent. We register for two regional competitions and a few off-season events (scrimmages/workshops). Other expenses include robot construction and marketing/outreach. Our basis-of-estimate for parts, materials and supplies are based on 12+ years of robot building experience. Our mechanical/fabrication mentors do "make-buy" decisions based on their own professional experience.

Team 980 has a contingency plan for raising funds to attend Championship. We have a reserve and special sponsors who will commit the registration fee. Our students raise their own travel/lodging funds to participate in Championship.

Team 980 is a 501(c)(3) corporation, registered with the CA Registry of Charitable Trusts and Bronze member of GuideStar information service for nonprofits.

Operating Budget

2017 Season (Actual)

INCOME: \$31,238

SPONSORS: \$15,250

NASA/JPL, WALT DISNEY, BOEING

PRIVATE DONORS : \$10,563

TEAM FUNDRAISING: \$5,425

PIGGYBACKR NET: \$3,143

FACEBOOK: \$863

AMAZON SMILE: \$109

MERCHANDISE: \$1,310

2017 Season - Actual Income \$31,238



EXPENSES: (\$26,614)

EVENT REGISTRATION FEES: (\$9,400)

LOS ANGELES, VENTURA: (\$9,000)

LA ROBOTICS EVENTS: (\$400)

TEAM EXPENSES: (\$17,214)

PARTS, MATERIALS, TOOLS, ETC: (\$6,944)

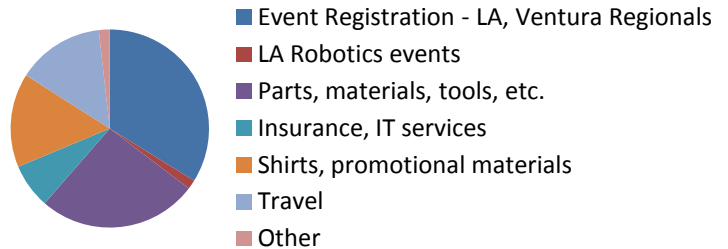
INSURANCE, IT SERVICES: (\$1,941)

SHIRTS, PROMOTIONAL MATERIALS: (\$4,074)

TRAVEL: (\$3,779)

OTHER: (\$476)

2017 Season Actual Expenses - \$26,614



Operating Budget

2018 Season (projected)

INCOME: \$31,000

SPONSORS: \$11,000

NASA/JPL, WALT DISNEY, BOEING

PRIVATE DONORS : \$10,000

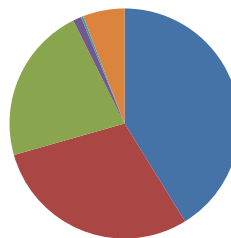
TEAM FUNDRAISING: \$10,000

PIGGYBACKR NET: \$7,500

DONATIONS (AMAZON SMILE, OTHERS): \$500

GRANTS: \$2,000

2018 Season - Projected Income \$34,000



- Sponsors - NASA/JPL, WDI, Boeing
- Private Donors
- Piggybakr
- Other Donations
- Amazon Smile
- Grants

EXPENSES: (\$31,000)

EVENT REGISTRATION FEES: (\$14,500)

LOS ANGELES, AEROSPACE VALLEY (\$9,000)

LA ROBOTICS EVENTS: (\$500)

FIRST CHAMPIONSHIP : (\$5,000)

TEAM EXPENSES: (\$14,500)

PARTS, MATERIALS, TOOLS, ETC.: (\$4,500)

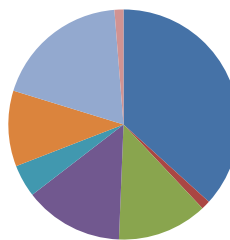
INSURANCE, IT SERVICES: (\$1,800)

SHIRTS, PROMOTIONAL MATERIALS: (\$4,200)

TRAVEL: (\$5,500)

OTHER: (\$500)

2018 Season Projected Expenses - \$34,000



- Event Registration - LA, AV Regionals
- LA Robotics Events
- FIRST Championships
- Parts, materials, tools, etc.
- Insurance, IT services
- Shirts, promotional materials
- Travel
- Other



Risk Analysis

As a community team we face threats that other FRC teams do not. One is the possibility of not obtaining enough money to continue operating. Another is not having enough students to design and building a competitive robot. And finally, the threat of losing our build space, which has happened 9 times in our history.

We mitigate these risks in a variety of ways. Team 980 conducts regular fundraising campaigns on the crowdfunding website Piggybackr, which also raises visibility for our team and the FIRST program. We have also enrolled in a number of donation rebate programs, like Amazon Smile, to provide additional income streams.

Beyond the technical training we provide to our students, we conduct activities which aid in personal development, like career workshops and motivational speakers. We encourage our students to explore technical career options by offering tours of places like JPL, Walt Disney Imagineering animatronics laboratory and Fox post-production studios, exclusive screenings of STEM related movies and documentaries, and other opportunities available exclusively to team members.

Our current build site is at Walt Disney Imagineering, the second one that they have provided for us. While WDI could decide to use our site for other purposes, they value what we do in terms of public relations, and in exchange we participate in as many FIRST activities on the WDI campus as we can. Our Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis follows.

SWOT Analysis

TEAM 980 SWOT Analysis 2018

Our strategy is **W-O**, which means overcoming our weaknesses by realizing our opportunities.

INTERNAL FACTORS

Strengths

- Mentors expertise and dedication
- Major sponsors (JPL, Disney Imagineering)
- Adaptability
- Diversity-students from different schools and backgrounds
- Driven strongly by goals
- Respected competitor / valued alliance partner
- Leadership
- Initiative

Weaknesses

- Internal communication
- Attendance
- Time management
- Focus
- Student Fundraising / recruiting new sponsors

EXTERNAL FACTORS

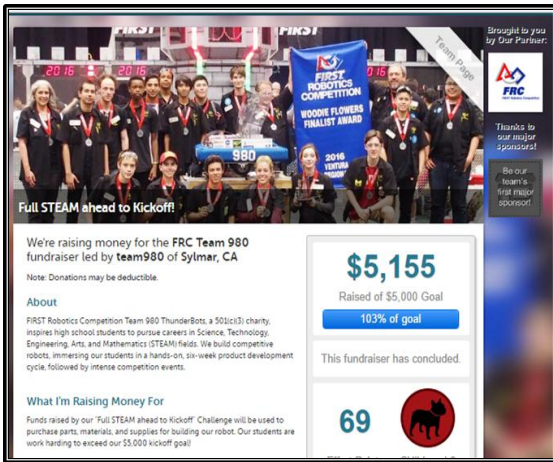
Opportunities

- The only team in Burbank/Glendale area
- There are many schools to reach for recruiting
- There are many companies to reach for fundraising
- There are many local organizations to share community events
- There are many FIRST teams to contact for interteam activities
- Training and education available
- Competitive across range of available awards
- Opportunities to mentor new FLL and JrFLL teams.

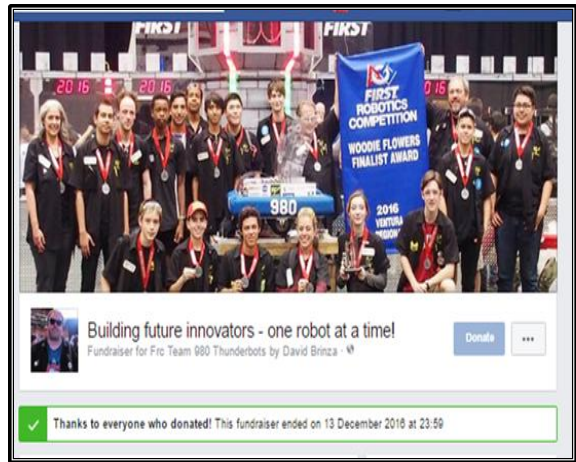
Threats

- Losing students to graduation
- Losing our lab space
- Losing sponsors
- Losing mentors
- Other competitive teams!

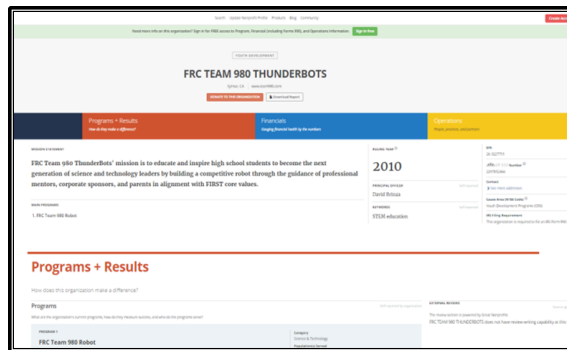
Team Fundraisers



Piggyback



Facebook



GuideStar lets donors know that we're a legitimate 501(c)(3)

Community Rebate Programs

EVERY FAMILY **CAN** DO SOMETHING!
Support Team 980 while doing your regular shopping!
No out of pocket donations!



Ralphs Community Contribution Program

% rebate on every dollar you spend at Ralphs supermarkets.
Sign up at www.Ralphs.com



Food4Less Community Rewards Program

% rebate on every dollar you spend at Food4Less.
Sign up at www.food4less.com.



eScrip

% rebate when you shop at participating merchants and online retailers.
You can earn when you shop locally or online, dine out or book travel.
Sign up at <http://www.escrip.com>, and go to
<http://www.escrip.com/wheretoeam/> for a complete list of participating retailers.



Benefit-Mobile:

Buy gift cards online and redeem for % rebate.
Cards are purchased and delivered within seconds to the mobile app for immediate in-store or on-line redemption. Each purchase earns up to a 20% for Team 980.

1. Shop: Buy gift cards and have them delivered to your smart phone within seconds.
2. Redeem: Use them for your everyday purchases in the checkout line or at home.
3. Earn: Earn rebates on every purchase. Apply them FRC Team 980 ThunderBots.
4. Reward: Each month we receive an electronic check.

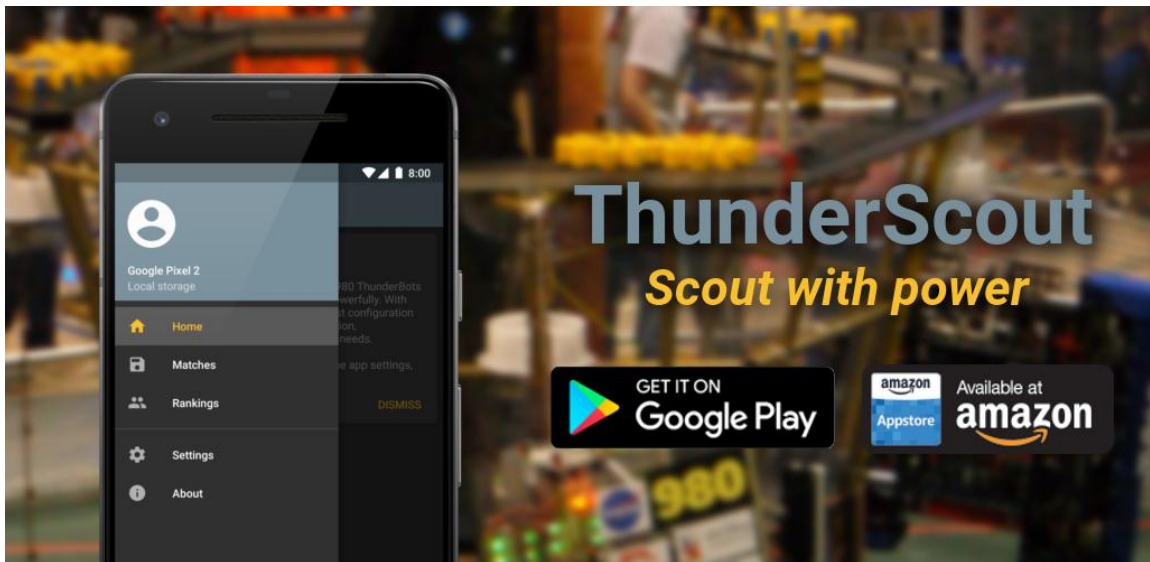
<https://www.benefit-mobile.com/consumers>

<https://www.benefit-mobile.com/our-retailers.pdf>



AmazonSmile: shop at smile.amazon.com and Amazon will donate a portion of the purchase price to FRC Team 980.

ThunderScout



TABLET-BASED. CUSTOM SCOUTING SOFTWARE DESIGNED BY TEAM MEMBER LUKE MYERS.
AVAILABLE NOW ON GOOGLE PLAY, AMAZON AND GITHUB.



Social Media



Team980.com



@FRC980



@FRCTeam980



@FRCTeam980



FRC Team 980 Official



@Team980ThunderBots

