

FIRST Robotics Team 694

StuyPulse

2016-2017 Operations Plan



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1. Preamble

We the people of StuyPulse, in order to form a more cohesive, organized and impactful team, strive to further extend our influence on to our local, national and international communities, and nurture a passion for science and technology in the next group of rising leaders.

2. Team History

StuyPulse made its FRC debut in 2001 with StuyLe. As finalists at the NYC Regional and the highest scorers in the Galileo Division at the Championships, we set a strong precedent for our future robots. Subsequent years produced more impressive robots, along with countless hurdles for the team along the way. Since the fateful year of 2001, we have been recognized with the Engineering Inspiration Award in 2002, 2008, and 2016, the Entrepreneurship Award in 2004 and 2009, the Innovation in Control Award in 2005 and 2010, the Creativity Award in 2006, the Judges and Safety Awards in 2007, Gracious Professionalism Award in 2015 and countless Website Awards. We have been featured in books, in print, and on TV, even starring in our own documentary by the Wall Street Journal. We were Regional Champions in 2003, 2010, 2013, 2016 and Regional Chairman's Award winners in 2005, and 2010-2012 consecutively. Our proudest accomplishment, of course, was winning the Curie Sub-division in 2016 and given the opportunity to compete on the Einstein field as an alliance captain.

3. Vision - StuyPulse 2.0

After 16 years of successful seasons, the 2016-2017 season has marked a turning point for StuyPulse. After following a carefully planned 6-week build season, StuyPulse produced one of its strongest and versatile robots. At each regional that it participated in, StuyPulse operated its robot seamlessly, and minor mechanical and programmatic failures didn't hold back its success. However, the most notable change was in StuyPulse's role in its local community and FIRST community. If the past 15 years were focused on making StuyPulse a reputable team, StuyPulse 2.0 marked its transition from self-centered team to community-centered team. On top of its success, StuyPulse emphasizes success of other FIRST teams, especially those in our NYC community. To achieve this goal, StuyPulse has helped other FIRST teams in numerous media, including workshops, such as hugely successful and informative Stuy Splash, tutorials offered by our team, and mentorship from our members and mentors. Finishing its successful inaugural season of StuyPulse 2.0, StuyPulse's ultimate goal is to make the NYC FIRST community one of the strongest and tight-knit of communities.

4. Goals+

This year, we decided to focus on two goals, divided by type: internal and outreach. Our internal theme is to increase the use of technical design and professional engineering practices, such as an organized mindset and workspace. The outreach theme is to share our knowledge and facilitate the general spread of knowledge within our team, the FIRST community (both within and without the NYC region), and the world. How do we plan to accomplish these lofty goals?

Internal:

- Each department will have a better plan for newbie retention so that the team will have long-lasting members who can pass the knowledge down to newer members.
- Teaching and use of CAD. Motivated team members will be able to practice and master CAD doing projects of their own, but to get started we will teach them basic CAD and its use. Lessons with an expert will occur at the beginning of the year
- A map and an organizational system for the lab. For example, the “red rolling cart” in the middle of the lab should reflect what we use frequently. This September and November will be devoted to cataloging our inventory and placing materials thusly.
- Implement a new forum to allow for better documentation of prototypes and mechanism.
- Teaching more advanced topics in software. Members of the software division interested in learning beyond what is necessary for FIRST robot programming will be given the tools and the environment to do so, and a place to share what they and others have made.

Outreach:

- Stuy Splash, started in 2012, is the extension of the beta seminars that we hope to make even better this year. We aim to increase the range of offerings, number of people in attendance, and the significance of Stuy Splash as a NY regional event. We can incorporate mentors and professionals outside the team to add value to the lectures. We can also record the lectures, FIRSTthoughts style, and offer them on our website.
- Maintaining the best relationship possible to sponsors, parents, and our school. This will be accomplished through “Sponsors’ Nights”, the usual team dinners, weekly build season newsletters and more.
- This year, the team will be doing a lot more FLL and FRC mentoring, reaching out to share the knowledge we gained with teams that may need assistance. We plan to also host demos and engage our school and local community through food drives and demos around the tri state area.

- Jump start a partnership between the NYPL and the team called StuyPulse Tutoring. Team members will tutor students twice a week annually on a variety of subjects.
- Continue to expand the continents and international teams we reach and impact.

5. Schedule

August 2016

- **China Robotics Challenge**
- CAD Lessons and Meeting
- Chairman's Award Brainstorming Session

September 2016

- Cleaning up lab (before official start of team activities)
- Safety Test (First week)
 - Prepared by Director of Lab Operations and Safety
- Lab organization, cataloging, and mapping of the lab
 - Organized by Director of Lab Operations and Safety
- Prepare interest meeting
 - Finalize posters
 - Print and put up posters (Second week)
 - Start advertising using social media (Facebook)
- Start with necessary projects
 - Build a practice drivetrain
- Decide on this year's regional, other than New York
- Start planning for Stuy Splash
- Driver and Operator Tryouts
- Chairman's Award Team Tryout
- Decide on robots to disassemble/give away
- Update packets
 - Press Packet
 - Engineering Inspiration
- **Mid-September interest meeting**
- Test DESmond and DESTiny for Maker Faire

October 2016

- World Maker Faire - Demo DESmond and DESTiny (Oct. 2)
 - Minor advertisement of the team being at Maker Faire
 - Done planning by Sept. 23rd
 - Prepare a complete list of supplies needed (Tools, Robot, game pieces, field elements)
 - Get transportation
 - Marketing: Prepare an information packet
 - Talk to other teams that will be there regarding demo

- Safety Lectures & Safety Tests
 - Safety video (Figure out who is doing it)
- Newbie Interaction:
 - Newbies decide on division
 - Projects: Train newbies
 - Introduce the flow of the lab
 - Groups with oldbies and design competition
- Commence newbie education
- Begin Beta Testing with core members
- Finalize Stuy Splash speakers
 - Advertise to other teams
 - Decide on the date
- Decide on merchandise
- Plan for Brunswick Eruption
- Biannual Book Sale

November 2016

- **Brunswick Eruption** (Nov. 12)
 - Paperwork and planning
- Plan Newbie bonding event
- Continue with projects
 - Start setting deadlines for projects
- Stuy Splash
 - Late November, most likely early December
 - Confirm speakers and keynote
- Plan for kickoff

December 2016

- Newbie Bonding Event - (Ice Skating, Laser Tag, Food, Uncommons, Escape the Room)
- Finish Software Beta Testing
 - Beta Testing Seminar as part of Stuy Splash
- Wrap up
 - Engineering: Clean up lab and organize tools
 - Software Engineering: Prepare laptops for development
 - Marketing: Finish draft of Chairman's Award, Dean's List Award, Woodie Flowers Award
- **Stuy Splash**
- Choose nominees for
 - Dean's List
 - Woodie Flowers

January 2017

- **Kickoff (1/7/16)**
 - Invite other teams
- Prototyping, work with foam core
- Week one CAD marathon, order parts for week 2
- Design T-shirt
- Film the goings-on in the lab
- Week recap newsletters
- Finish core robot: Week 4

February 2017

- Test robot extensively
- Practice driving
- **Submit all award applications**
- Prepare Chairman's presentation
 - Write essay
 - Chairman's video
- Film and edit robot reveal
- **Bag-and-tag**
- Test pit setup

March 2017

- Lab Cleanup
- Second team bonding
- Packing for regionals
- **Finalize Chairman's Presentation**
- Chinese Team Mentoring
- Planning to receive the team
- Team Social
- **NYC Regional** and another one TBD

April 2017

- Make necessary changes on the robot
- **World Championship (possibly; correction: definitely)**
 - Pack for championships
 - Improve on robot from what we learned at Regionals
- **Tribeca Film Festival**
 - If we do not go to Champs
- Demand reflections from students
- Come up with a solid list of to-do off season plans

May 2017

- Publish reflections
- Complete off-season projects

- Team Dinner

June 2017

- Biannual book sale
- Elected Executive Council (EEC) Elections
- Executive Council (EC) Appointments by new EEC

July 2017

- Draft next year's Operations Plan

August 2017

- Finalize the Operations Plan

6. Operations/Events

Maker Faire

Maker Faire is an independent event from FIRST, and it consist of people who enjoy creating things displaying them for public view. This event allows us to spread FIRST to the public with robot demonstration and other teams in a way we wouldn't be able to do easily elsewhere. It also gives us an opportunity to work with other teams, as this year, we may try to cooperate with other teams to give a large scale demo.

Robot Donations/Disassembly

Our numerous robots have begun to crowd our rather small closet. To combat that while honoring the robots built by those who came before, we are donating some of the bots to sponsors, mentors, the school, and others. This will be a yearlong process facilitated by the marketing division. In addition, for robots who for various reasons are not able to be given away, some older robots will be disassembled.

Stuy Splash

We are going to continue Stuy Splash, and hopefully make it bigger and better than ever before. The planning for this event will be overhauled from last year due to complications experienced, and it shall smoother than before. We will contact teams and people such as Ph.D doctorates in relevant fields starting late October, with advertising happening early November. The event itself will happen late November or early to mid December. It will feature talks by FRC members and other people in relevant fields. Stuy Splash will assist our team and other teams in our robotics experience and beyond. This will also include the beta testing seminar, as in previous years.

Beta Testing

Beta testing will continue as it has before, with the added complexity of a new control

system, the roboRIO. The core beta testing team will consist of one mentor, two veterans, and two newbies. Testing and periodic feedback will begin in August and will run on until the deadline in December. This comes just in time for the annual beta seminar at Stuy Splash, where we will present our findings and share our experiences with other teams.

Mentoring

To the purpose of reaching out to other teams and strengthening the NYC FIRST community, both in the competitive sense and the in terms of improving team interactions, we will be sending out team members before and during the season to help out teams in need. Rookie teams and newer ones will be prime targets. Many of our team members have knowledge and resources that can help these teams and overall improve the state of the New York FRC regional little by little. We can also do this by starting at the roots and mentoring FTC and FLL participants who will move upwards to the FRC level. Another project to this purpose will be inviting other teams to join us on kickoff. This will strengthen the state of the FIRST community and it will help teams out that aren't quite sure how to begin the season.

Newsletters

In our efforts to continue maintaining a good relationship with our sponsors, we will be sending weekly newsletters throughout our build season, updating sponsors on milestones we reach and projects we are involved in. This is to ensure a strong, lasting partnership with all of our sponsors.

Fundraising Events

Our team annually spends thousands of dollars to build a competitive robot, cover travel expenses for students, and attend competitions. . Thus, we will host fundraising events to subsidize travel costs and team expenses. These events will occur throughout the year and include events such as bake sales and book sales.

Branding Guide

Since our establishment in 2000, our logo, team colors and team fonts have changed numerous times. As our team grows, we have established ourselves in the FIRST community and made partnerships with numerous companies. To ensure that our team logo, name and colors are being used properly, we will be creating a branding guide that will clearly explain all the procedures regarding the use of our name, logo, colors and fonts, and the appropriate attire for StuyPulse events and competitions.

Chairman's Award Team

Every year we submit a Chairman's Essay and Executive Summary and have a Chairman's presentation at our regional competitions for the Chairman's Award. These components all highlight the key events and projects that have occurred during the competition season, how we have impacted our community on a local, national and

international level, and how our team spreads and embodies the mission of FIRST. This job will also include putting together a presentation team, educating the whole team on team events and projects, and creating a comprehensive judges' folder.

Marketing Merchandise

Every year our team purchases T-shirts, hoodies and other StuyPulse merchandise to exhibit our team spirit and show our love for the team. The person in charge will be responsible for making sure everything is ordered, designed and distributed in a timely fashion and that the budget is kept.