

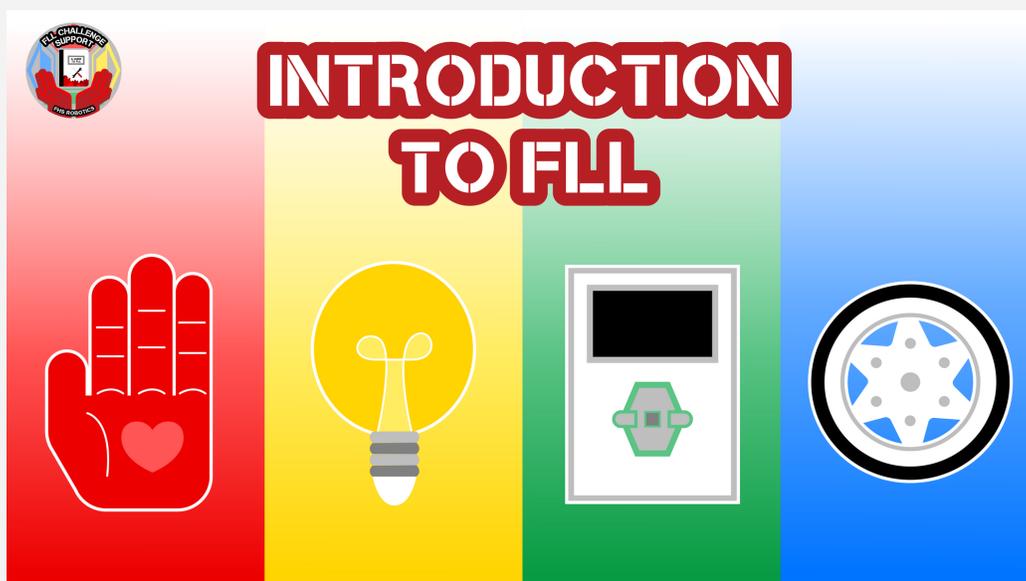
Upcoming Events

Sun Oct 18th Bike-a-Thon (tinyurl.com/ca-bike-donate)

Mon Oct 19th Sunnyvale Library Robo Fun: 7-8pm

Sun Nov 1st Mod-Pizza Fundraiser: all day

COVID Chaos to Community Compassion



Our FLL introduction presentation / Cont'd on Page 5>>

Under New Management

Manan B (sr.)

During the summer of 2020, Fremont High Robotics underwent several changes to create more opportunities for students. After interviewing 20+ teams during the LA North Regional and the Monta Vista, Homestead, and Lynbrook high school robotics presidents, we discovered that... (Cont'd on Page 4>>)

FTC Tryout Day

Satyansh R (jr.)

This year, the team introduced 25-30 new members. After a long day of finding candidates with a long list of 85 people that expressed interest, there is no doubt the amount of excitement for what's to come in the year. ... (Cont'd on Page 4>>)

Progress Report - Summer Edition

Kaitlin W (jr.)

FRC Electrical

This season, FRC's Electrical subteam is small but mighty. With only five members, communication is much easier, but due to COVID restrictions, they were unable to collaborate in-person on any new projects. This summer, they have already completed a training program for the OnShape CAD software, as well as a research project, for which they investigated electrical systems used by other teams in previous years' competitions. Their team's "next steps are to create a full electrical model on CAD of the whole electrical board," as described by VP of Electrical for FRC, Yusuf Jarada.

FRC Mechanical Design

Additionally, the FRC Mechanical subteam held mini design challenges, in which individual members would use creativity and household items to build their own mechanism that accomplishes a goal set by the leads. Adam Vaughan, VP of Mechanical Design, explained that "meeting virtually has actually been beneficial for design so far, as we have been able to accomplish more over the summer than we normally would be able to."

FRC Mechanical Manufacturing

However, for the manufacturing side of the mechanical subteam, meeting virtually has been a significant disadvantage. As VP of Mechanical Manufacturing, Kavin Sureshbabu, put it, it is "difficult to have training over a screen."

As students do not have the same tools and materials at home, they lack many of the opportunities for interactive learning that an in-person school setting provides. They will be using Carbide Create for the first time this season, a CNC software.

FRC Software

With 6 more members this year, FRC's Software subteam is growing. They have also been developing their skills in a variety of important concepts so far this season, focusing on "motion profiling (path following), detecting the reflective tape targets, logging error messages in our code to make it easier to debug, and LED signaling," as listed by Dwijen Chawra, the VP of Software. This season, they will be using a software called Limelight. Like many other subteams, they have been holding meetings on Zoom each week. This has slowed progress because coding from a remote setting is difficult to do in groups. Since they have limited access to the robot, they also have less ability to test the programs they are working on.

Soon, all of these subteams will be combining the knowledge they have worked hard to build up these past few months. "Going into the fall, we will be starting our interdisciplinary project which incorporates the four technical subteams. We will design and hopefully manufacture a mechanism based on the 2020 FRC challenge." -Adam Vaughan, VP of Mechanical Design

Progress Report - Summer Edition (Cont'd)

FTC

The FTC teams have recently welcomed the latest addition to Fremont High Robotics, the Emberbots! Similarly to the FRC subteams, they have been making use of their time to learn more in a variety of areas. Not limited to the mechanical or software FTC subteams, all members participated in the OnShape tutorials under the leadership of FRC's VP of Mechanical Design, as well as code.org and Grasshopper tutorials to learn Java programming. They each used OnShape to create a CAD model of a mechanism for the previous year's game. Through beginning to learn coding, they aimed to "gauge interest in the returning members, since all of our previous software members had moved on to FRC." Unlike FRC, the FTC teams have actually already each held an in-person meeting. Still, the majority of their meetings occur online through Zoom. Communication is something they are working on, getting used to checking their Slack messages, and making sure everyone can arrive or sign on to meetings on time. One-on-one check-ins between returning members and new members helped to create connections between teammates and found that although the current situation in the pandemic creates unknowns, ultimately the teams are looking forward to this season.

Business and Marketing

Under the leadership of VP of BaM Manan Bhargava, the organization-wide section of our team has undergone several drastic changes. The Business and Marketing team has expanded into subsections where members can specialize in different areas. See more on Under New Management, page 4. Despite the lead roles and subteams being newly created, frequent meetings on Zoom have allowed for members to begin working on projects right away.

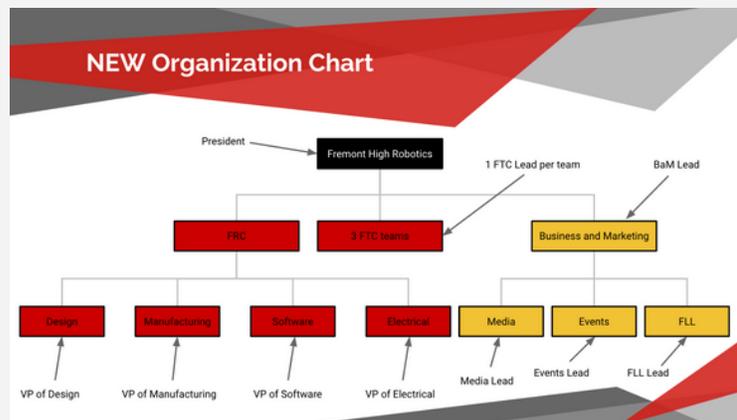
Business

The Business subteam has been writing grant applications to get the funding we require to maintain our team. Many members have no prior experience in grant-writing or even business writing as a whole, but Manan has been guiding students through the process.

Media

The Media subteam is entirely new this season, and the team is now able to put more effort towards website design, social media posts, an organization-wide newsletter, and more. We have not had the resources in previous years to pursue these projects, so this year we are developing them all into sustainable parts of our team. Media lead, Chloe Lau says that "the main learning method is 'learn as you go'. Start the project and keep learning because it's just easier and faster."

Under New Management (Cont'd)



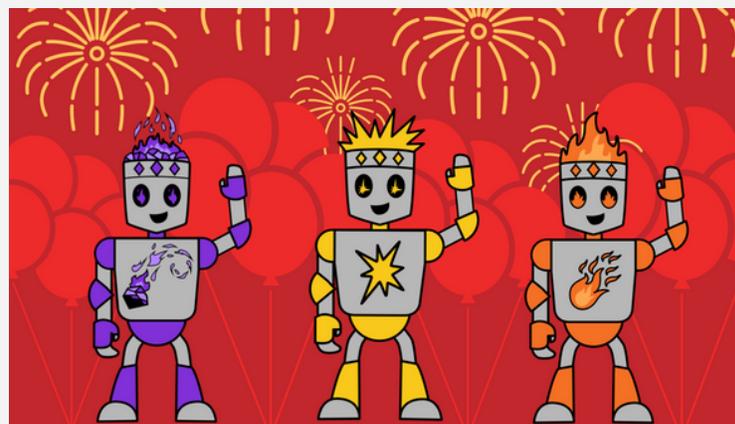
The new leadership and team structure

...well-established Business and Marketing-related subteams played an integral role in helping the team become high achieving. The leadership team and the mentors worked to establish 3 new positions: Media, Events, and FLL lead to be specialized in particular areas and expand the subteams, while the VP of Business and Marketing was primarily focused on the Business subteam and awards.

We created a new FTC team in order to give more students the opportunity to learn robotics, as well as reduced the number of technical members on FTC teams to increase opportunities for every student to work hands-on with the robot from their first year. With the selection of 3 FTC leads and a delicate balance of mentor support, the three teams are collaborating to utilize the same training materials and timeline, all while actively thinking and discussing their robot strategy for the 2020 Ultimate Goal game and robot mechanisms, design, software components, and functionality.

We hope for the best for the future of our organizations, and always seek to make the best of the current situation at hand!

FTC Tryout Day (Cont'd)



Celebration of our new members and our newest FTC team, The Emberbots (Anika K, jr.)

There were a variety of ways members of the team could contribute. To elaborate, technical skills did not go into account when reaching a conclusion as to who should be invited to the team.

This year, we spent heavy efforts in recruiting people specifically for BaM to learn more and be more productive in this online environment. The BaM-dedicated students will have the opportunity to free-flow between media, events, and business depending on their interests. This also brings more spotlight on the aspects of BaM which used to be sidelined.

The process of the tryouts consisted of a massive emphasis on teamwork as that is what most believe to be the determining factor of the kind of teammate the person will be. With many trials that involved organization, evaluation, and cooperation, all mentors have great confidence that this is the best choice for our team.

COVID Chaos to Community Compassion (Cont'd)

Chloe L (jr.)

At the sudden news of COVID-19 in March of 2020, our schools were prompted to we halted all of our teams' activities. Unsure of the circumstances for the rest of the competition season, members, leads, and mentors worked together to develop our next plan of action. While we had to delay the initial competition plans, along with the rest of the FIRST community, we decided to focus less on ourselves for the time being and pay a little more attention to our surroundings.

We actually got the opportunity to focus on some unique community outreach opportunities, starting with an organization-wide goal to make masks for local hospitals and community groups. Students on the team made over 200 masks at home using fabrics they purchased or reused from old t-shirts.

After our contribution to the COVID relief effort, we expanded our FLL support in multiple ways. Besides adding a separate branch of Business and Marketing dedicated to our team's FLL mentorship, led by Taran K, we produced a video series for teams detailing approaches to robot design, project, programming, and core values. The channel's playlists can be viewed using this link (tinyurl.com/fhsroboticsfllsupport). The purpose was to have a general guide for new FLL teams to refer to and for our team to provide guidance to them remotely. Our team of experienced FLL veterans wrote and produced these videos based on their own knowledge and translated information from FIRST resources. Most of the series is finished and open to the public, but a few more videos are in the process of being finalized.

We hosted 4 FLL information sessions and an FLL virtual kickoff event for area teams. The FLL information sessions were made to help students get a clear idea of the FLL process and to get them started on the basic components they need to develop later in the season. The virtual kickoff event was to help students understand this year's challenge and walk them through the game's guidebook. We have held one mid-season FLL Q&A session and are in the process of planning for more. We also plan to host an FLL virtual scrimmage and a virtual FLL tournament this year.

While we have been taking advantage of the horrible situation and not letting the world pandemic deter our ambitious goals, there are several onsite outreach activities we had planned that were cancelled due to COVID-19. Hopefully we can get past this bump in our journey together and continue our streak of achievements!

Student Spotlight

Chloe L (jr.)

Student spotlight subteam icons (Anika K, jr.)



In this issue, we asked Anushka W, a senior in our Business subteam and Mechanical subteam, Samik S, a junior and new member of our Mechanical subteam, and Lokesh K, a freshman and new member of the FTC Infernrobots.

In response to the question about pride in themselves or in the team,

Anushka: “...I am extremely proud of the fact that we did not let the shutdown hinder our learning...Those few months during the shutdown and the summer helped me gain confidence in designing a mechanism, which will definitely come in use now”.

Samik: “Personally, one of the things I am most proud of is my ability to make connections with topics I have learned in the past with robotics. ... and I am constantly trying to improve. From a team perspective, our ability to make...an effective and competitive robot by analyzing data from past competitions is something that I am proud of... ”.

Lokesh: “This is my first year in robotics, so I do not know”.

Contribution is another significant part of building a team and effectively utilizing every member’s skills.

Anushka: “I do feel like I am contributing to the team this year, since I have to design a mechanism now. Additionally, now that the team size is much smaller, each member has a significant role.”

Samik adds: “One thing that held me back in the beginning of our season was the experience I lacked in FRC. ... Referring to previous years robots and designs is a great way to ... feel included in a team by allowing them to increase their knowledge... ”

Lokesh provides a different view: “I feel like I am contributing in that I present ideas to the team but not as much as some of the other people because I can not attend the in person meetings.”

These were some additional comments regarding anything about the team.

Anushka: “I am excited for the FRC training project! It is a great opportunity to apply the knowledge we learned from our virtual training sessions.”

Lokesh: “I felt like the first few meetings started out really slow and repetitive but now it feels like things are picking up steam.”