

Season Notebook
Engineering Notebook (01/11/2019)

Session: 1

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

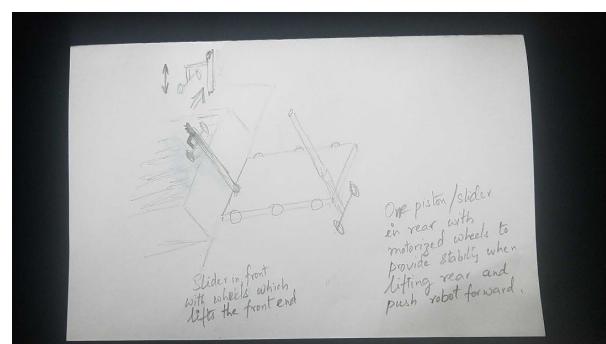
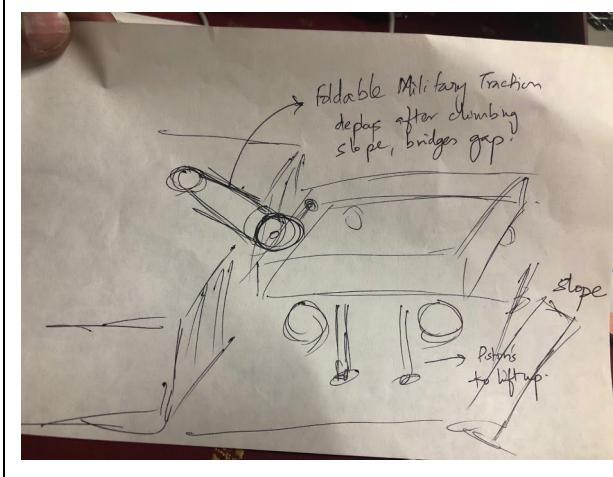
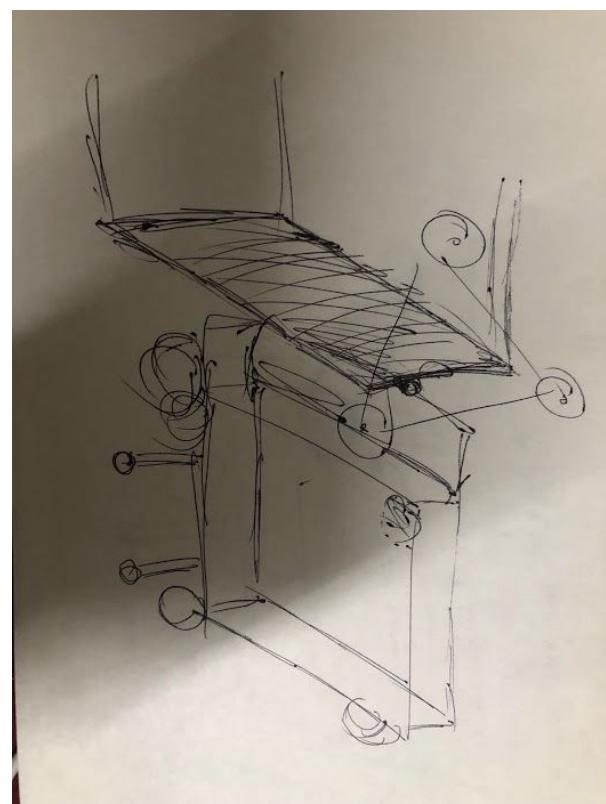
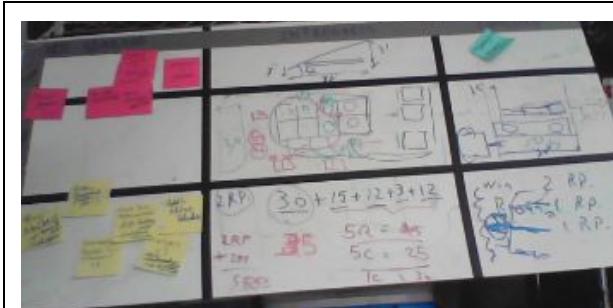
Notetakers: Selina, David, Jingwen, Jamie

Objectives	Achievements	Issues and Concerns
- Clarify rules of the 2019 Game and answer questions	- Determined measurements and approximate time-to-complete for missions	- Still have questions on the legality of defending and camping during the game
- Discuss Mission Strategy and determine which missions to aim to complete during the game	- Decided to focus on the Cargo Ship and not the Rocket mission	- Rocket gives a ranking point
- Take a vote on which regional competitions to attend	- Decided on Del Mar (Week 1) and LA North (Week 3) and Ventura (Week 5)	- Concerns on being ready for a Week 1 competition - Driver practice and elevator may need more time

Notes (Problems, Research, Decisions, etc.):

We had problems concerning focusing on the Ranking Point from the Rocket mission or the game points from the Cargo Ship mission. Additionally, it was a concern of ours whether or not to prep for a Week 1 Competition in Del Mar. We researched game rules and field measurements to approximate the time to complete each mission (Rocket and Cargo). We did research on the other teams participating in the Del Mar regional, including their skill level and team age. We decided that the Cargo Ship is a more effective use of our time, both in build season (no elevator required), and during the game (more points per second). We determined that we have more appropriate competition during the Week 1 Regional, as well as that we would rather participate sooner than later in the season. We made the mistake of assuming that completing each mission

would be guaranteed even if we planned for it - so we decided to shoot for more guaranteed game points from cargo rather than the chance at a RP from the Rocket.



Engineering Notebook (01/12/2019)

Session: 2

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Selina, David, Jingwen, Jamie

Objectives	Achievements	Issues and Concerns
- Complete and finalize Chairman's Essays	- Essay progress, more than halfway done	- Video still needs to be done but rain is a prohibitive condition
- Start on building Chassis	- Some progress in CAD and build	- Moving slowly
- Plan out missions and how to achieve them	- Decided on cargo ship instead of rocket	- Lots of work ahead



Engineering Notebook (01/13/2019)

Session: 3

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

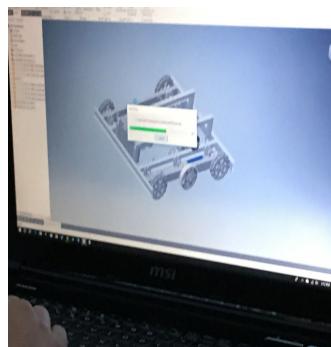
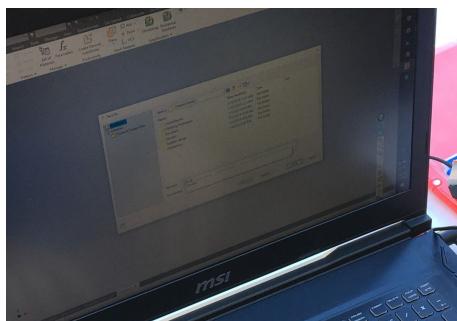
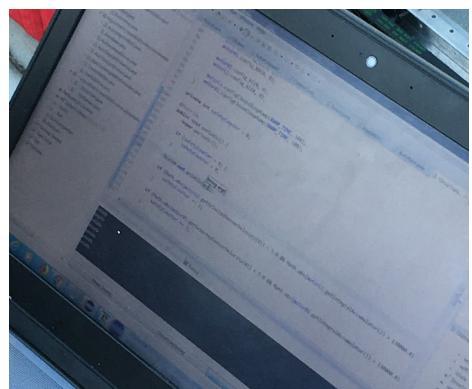
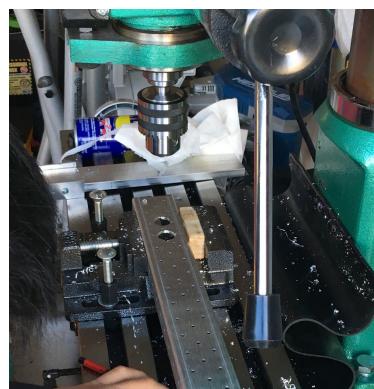
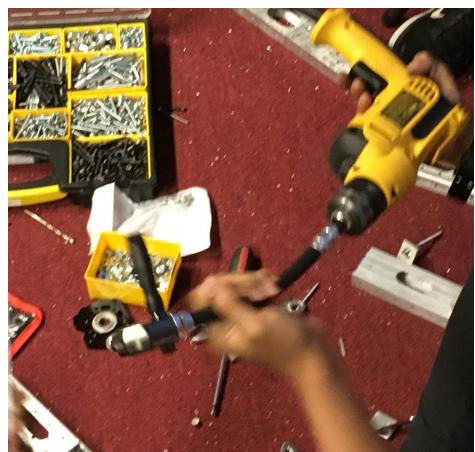
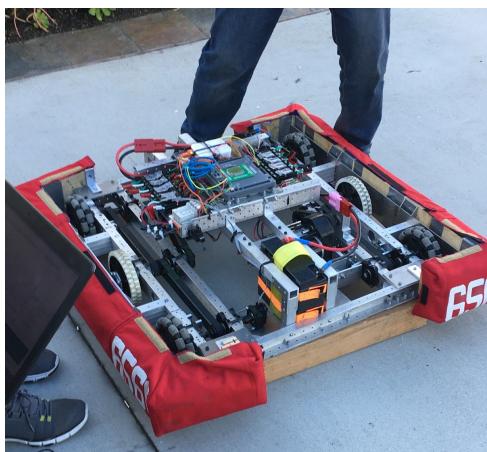
Mentors/Coaches: Raj, Hamid

Notetakers: Arjun, David, Jingwen, Jamie

Objectives	Achievements	Issues and Concerns
<ul style="list-style-type: none">- Chairman's video has to be at least halfway completed.-	<ul style="list-style-type: none">- Finished almost all the interviews and footage needed for Chairman's video.	<ul style="list-style-type: none">- Behind on chairman's video, finish quickly.
<ul style="list-style-type: none">- Finish Chassis(CAD)	<ul style="list-style-type: none">- Rebuilt the elevator	<ul style="list-style-type: none">- Behind schedule on CAD
<ul style="list-style-type: none">- Build hatch panel holder(build)	<ul style="list-style-type: none">- Finished hatch panel holder	<ul style="list-style-type: none">- Need testing

Notes (Problems, Research, Decisions, etc.):

We lacked in the necessary sheet metal, to finish the gearbox module. We overcame this by ordering a new batch. We had to learn the necessary dimensions needed to build the hatch panel holder. This took some research since we had to go through the manual and find the exact dimensions. We switched our sheet metal to a thinner version, to save space. A lot of CAD dimensions were the inaccurate, and a lot of time was spent trying to correct them and find the accurate ones. From this we can learn to measure correctly in the beginning, and not waste time trying validate them later on.



Engineering Notebook (01/17/2019)

Session: 4

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Parva, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Arjun, David, Jingwen, Euan

Objectives	Achievements	Issues and Concerns
- Edit Chairman's Video and revise Essay to publishable quality	- Editing underway and revision going well	- Need more focus and a theme for the video - More content needs to be added
- Build the gearbox to subassembly to CAD specifications	- Cut out more parts	- Tightening module difficult to operate - Tightening module bending
- CAD the gearbox	- Finalized the dimensions for the gearbox assembly	- none

Notes (Problems, Research, Decisions, etc.):

Pace needs to be faster in order to be competitive for the Del Mar Regional. We are satisfied with our progress thus far.



Engineering Notebook (01/19/2019)

Session: 5

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Jaimin, Arjun, Yiming, Jamie

Objectives	Achievements	Issues and Concerns
- Chairman's team	- Video script finalized, has proper theme, essays finished, shots and time lapses taken	- Other teams will have good stuff too
- CAD team	- CADDed the arm/fork - Prototype of the grabber - Several changes to the elevator	- CAD is coming slower than build, too much responsibility on one person
- Build team	- Belt Tightening module and chassis progress - Field elements (level 3) progress	- Taking too much time but team leads are stepping up to put pressure on this task - good improvement





Engineering Notebook (01/20/2019)

Session: 6

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

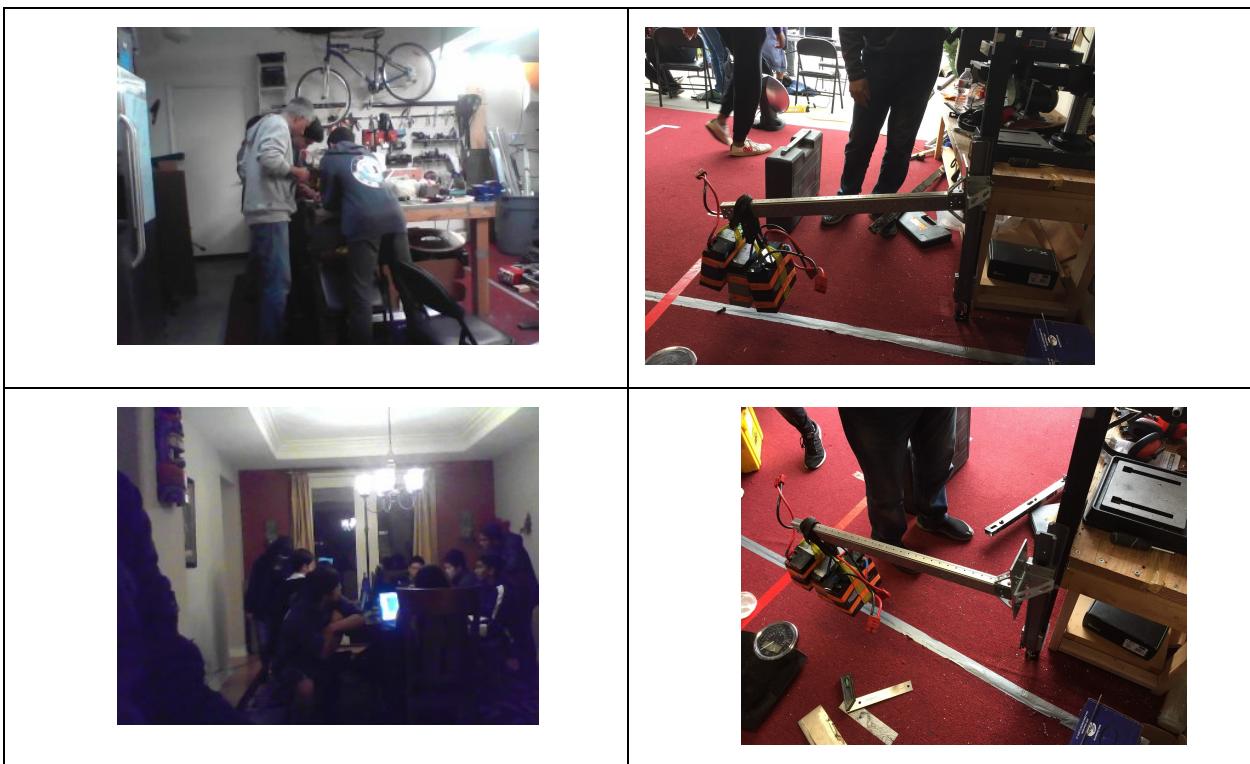
Mentors/Coaches: Raj, Hamid

Notetakers: Jaimin, Arjun, Yiming, Jamie

Objectives	Achievements	Issues and Concerns
- Chairman's Video more shots	- Perfect Drone Shots taken	- N/A
- Gearbox Assembly	- Have brackets and gearbox assembled correctly	- Hole for bearing is too large - take preseason robot's gearbox

Notes (Problems, Research, Decisions, etc.):

Milling the 1" hole for the bearing in the gearbox was very difficult. We may reuse parts from old robots.





Engineering Notebook (01/21/2019)

Session: 7

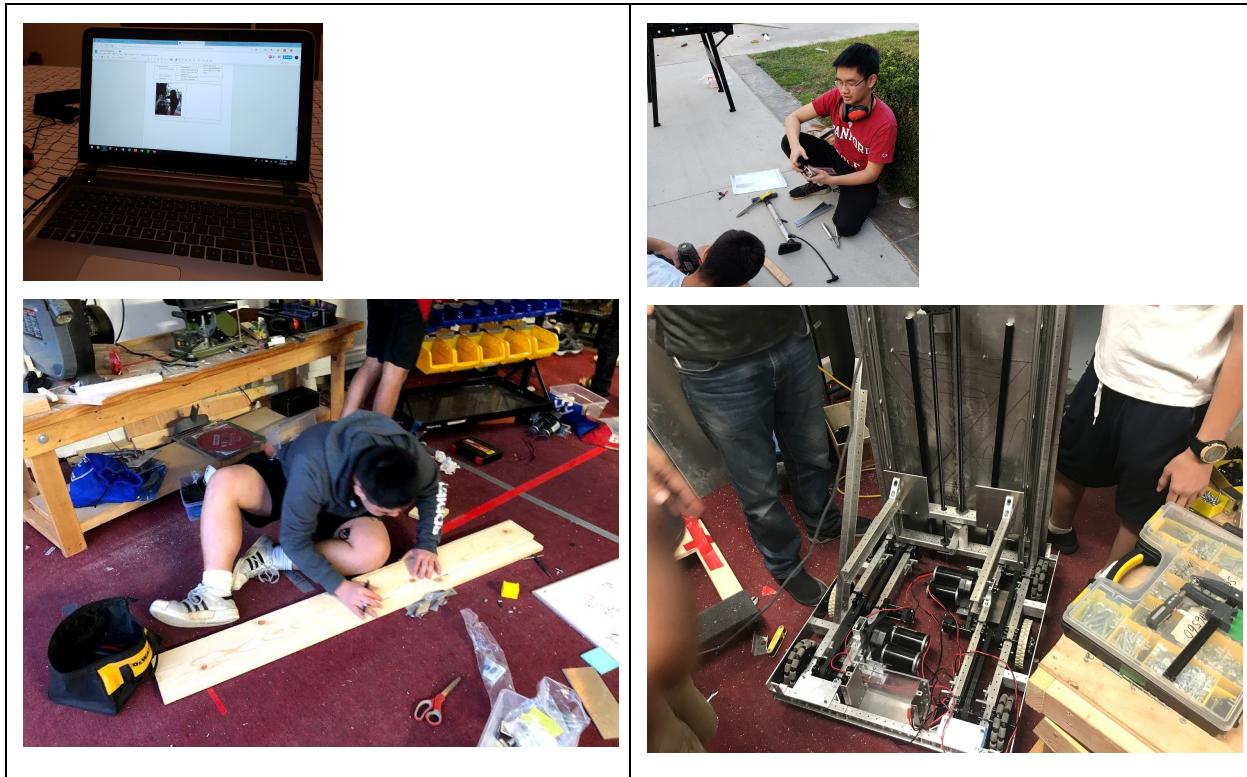
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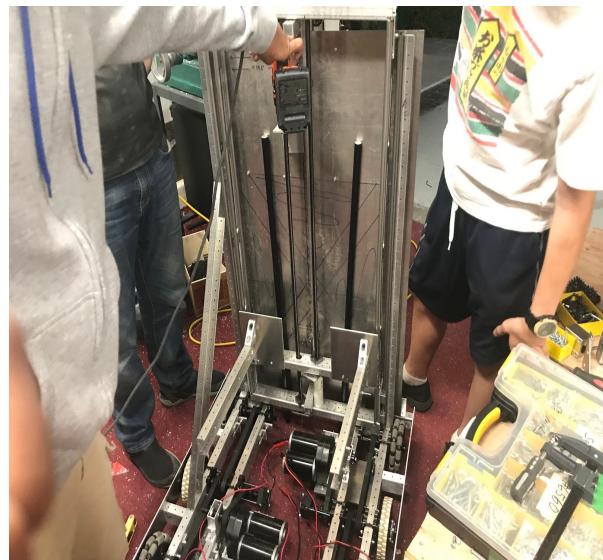
Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Srinivas

Notetakers: Jaimin, Arjun, Yiming, Jamie

Objectives	Achievements	Issues and Concerns
- Chairman's Video Editing	- Editing was done, animations are good	- Not done yet, need to redo voice acting
- Program Jetson with processing images from the camera, streaming images to the driver station	- Assignment complete	-
- Attach belt and wheels to chassis	- Completed	- Need testing





Engineering Notebook (01/22/2019)

Session: 8

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Srinivas

Notetakers: Alicia, David, Jaimin, Jamie

Objectives	Achievements	Issues and Concerns
- Meeting with Vivian Fowler Memorial College Team	- Editing was done, animations are good	- Not done yet, need to redo voice acting
-	- Assignment complete	-
- Attach belt and wheels to chassis	- Completed	- Smooth but belts slip sometimes, wheels not strong enough to handle fast turning and drifting



Engineering Notebook (01/25/2019)

Session: 9

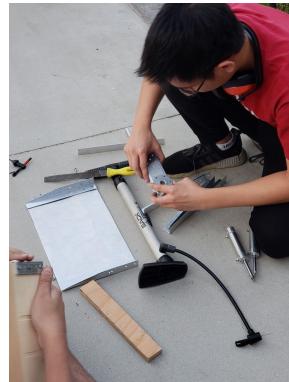
Location: 116 Capeberry, Irvine, CA 92603

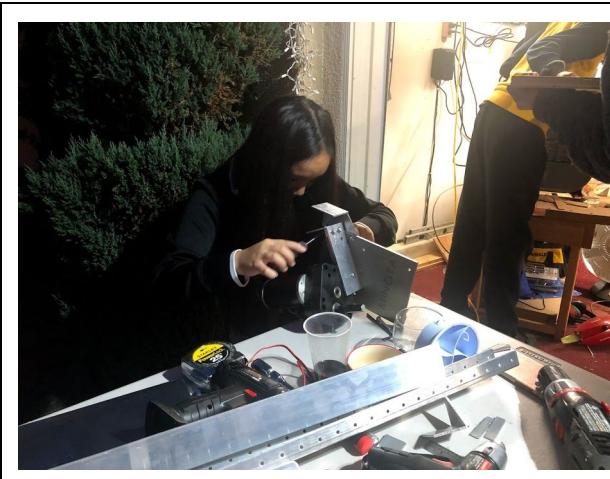
Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Alicia, Albert, Jaimin, Arjun

Objectives	Achievements	Issues and Concerns
- Assemble gearbox	- Gearbox assembly is completed	- One of the gearbox got stucked, under modification
- Team assignment organization	- Organized more effectively to hit our deadlines	- Driver practice doesn't fit in the schedule





Engineering Notebook (01/26/2019)

Session: 10

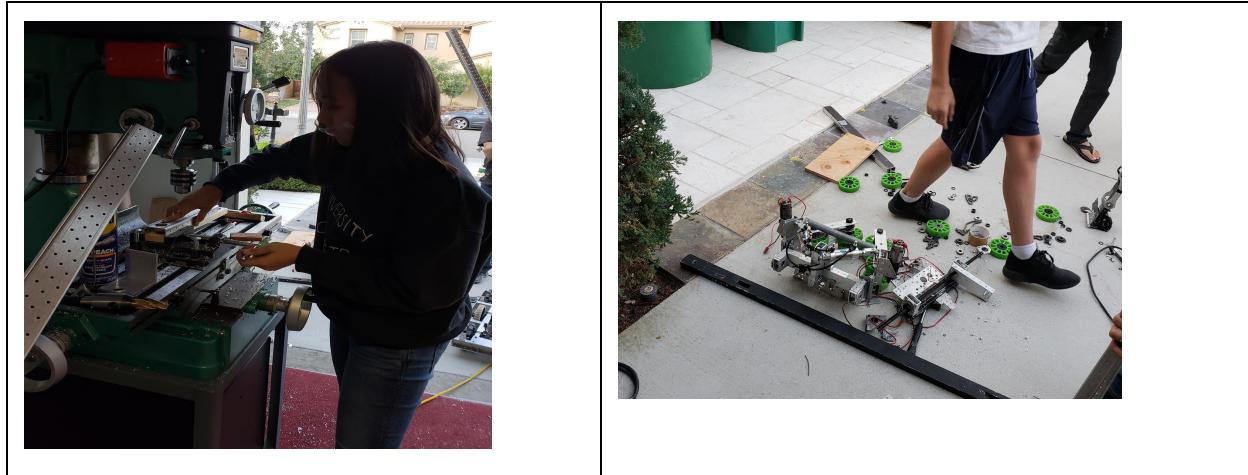
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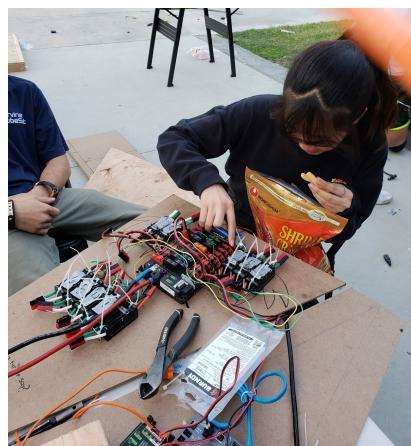
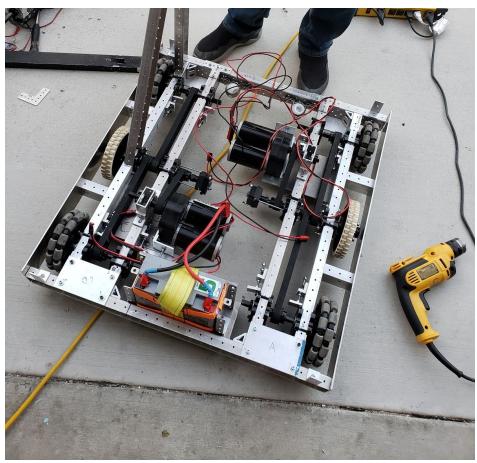
Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Alicia, Albert, Jaimin, Arjun

Objectives	Achievements	Issues and Concerns
- Get coach's approval for chairmans essay	- Coach Raj went through essay for one round	- Essay needs to be validated multiple times before submission
- Reformat the engineering notebook	- Reformatted engineering notebook to make it more clean and simplistic	- Essay content might not be as impressive as other teams
- Attached electrical components on board	- Made progress on the electrical equipment	- Wiring needs to be done





Engineering Notebook (01/27/2019)

Session: 11

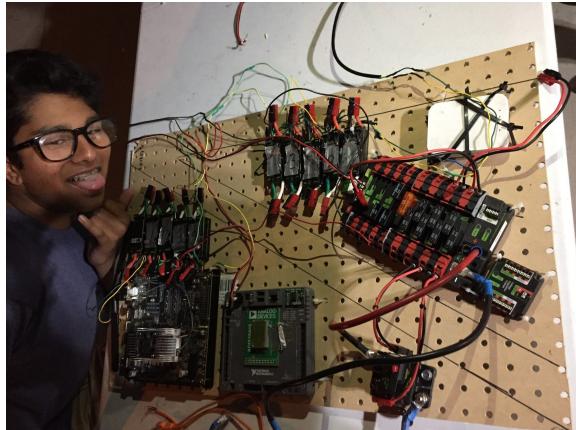
Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Parva, Euan, Sriyan, Jack

Objectives	Achievements	Issues and Concerns
- Chairman's Essay finalization	- Success!	- None - Solid essay
- Cleaned up the wiring for the electrical board	- The electrical board is completed	- Need to attach board on robot



Sample: We have come such a long way since our start as an FLL team in 2012. Since our team is built upon existing members and a “pass-the-baton” mentality, we improve every year. Veteran CCers take on leadership roles starting their second year, and new members choose subteams that genuinely interest them. After learning throughout summer, pre-season, and season, those new members are trained to the level of the senior members, leading to them taking on leadership roles themselves and educating the next generation.

Engineering Notebook (02/02/2019)

Session: 12

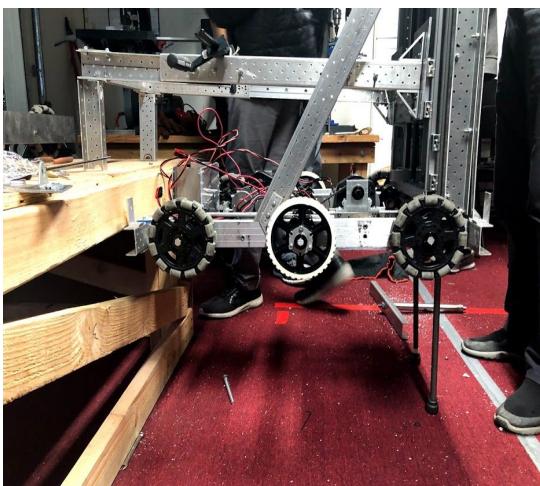
Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid

Notetakers: Adrin, Sriyan, Yiming, Jamie

Objectives	Achievements	Issues and Concerns
- Chairman's Video Editing Progress	- Good work done at home, video on track to be released by February 7th on YouTube	- Need to update audio at some points, hard to change the vocal track
- Electrical Planning	- Drew schematic out for theoretical board	- Time and space - 1 board adds weight unevenly
- Started pneumatics wiring and testing	- Put together a demo to make sure components work	- Need to start wiring



Engineering Notebook (02/03/2019)

Session: 13

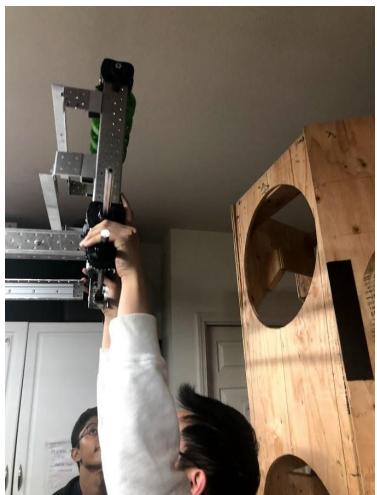
Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Rohan, Alicia, Aaron, Jamie

Objectives	Achievements	Issues and Concerns
<ul style="list-style-type: none">- Turn in Chairman's stuff- due Thursday 2/7/2019	<ul style="list-style-type: none">- Completed final revision of essay- Published video to youtube- Revised short answers- 400 views on chairman's video	<ul style="list-style-type: none">- Will we win? Who knows
<ul style="list-style-type: none">- Register Vivian Fowler Team	<ul style="list-style-type: none">- Registered with FTC	<ul style="list-style-type: none">- Will they get to perform this season?Representative said maybe- Coordination with time zones is difficult
<ul style="list-style-type: none">- Put together a pneumatics board that contains cylinders and the pcm	<ul style="list-style-type: none">- Made progress in getting the pistons to work	<ul style="list-style-type: none">- The board seems to take up a lot of space and may add unnecessary weight



Engineering Notebook (02/09/2019)

Session: 14

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Arjun, Aaron, Rohan, Jingwen

Objectives	Achievements	Issues and Concerns
- Elevator needs to lose weight	- Success	- Losing strength - Not very neat
- Fix grabber - it bends the board	- Success - replaced backplate	- none
- The pneumatics were rethought and a new layout is needed	- A new design was sketched out regarding the cylinders and tubing	- Wiring will have to be completed soon



Engineering Notebook (02/10/2019)

Session: 15

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Rohan, Alicia, Parva, Thomas

Objectives	Achievements	Issues and Concerns
- Vivian Fowler team needs help registering	- Sent all necessary info to contact	- Response time is slow
- Pneumatics got completed and testing was done	- All required pneumatics components have been attached to the robot	-



Engineering Notebook (02/16/2019)

Session: 16

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin, Albert

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Rohan, Thomas, Arjun, Aaron

Team picture day

Objectives	Achievements	Issues and Concerns
- CAD needed for certain parts of new robot	- CAD model completed well	- May not match first robot
- Adjust elevator alignment	- Fixed	- Very last minute, could have been better built
- Driver Practice at Code Orange	- Some driver practice, but robot needed adjustment	- Drivers need more time with the robot





Engineering Notebook (02/19/2019)

Session: 17

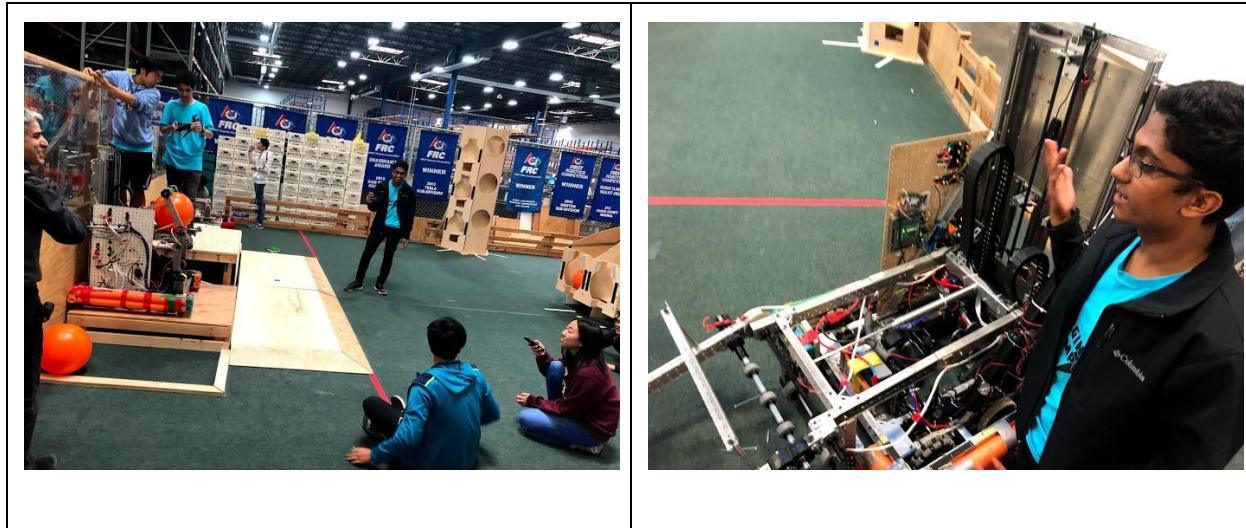
Location: 116 Capeberry, Irvine, CA 92603

Attendance: Albert, Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin, Radin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Krish, Parva, Euan, Adrin

Objectives	Achievements	Issues and Concerns
- Elevator for Second robot	- Cut out rails, bars, and C-channels	- none
- Electrical board for second robot	- Completely drawn out to scale	- Still need to zip tie each component down
- Driver practice at Code Orange Field & robot lockup day	- Good practice	- Technical difficulties got in the way of practice





Engineering Notebook (02/22/2019)

Session: 18

Location: 116 Capeberry, Irvine, CA 92603

Attendance: David, Yiming, Jingwen, Radin, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Radin, David, Jingwen, Jamie, Euan

Objectives	Achievements	Issues and Concerns
- Finish chassis for second robot	- Made progress and fixed previous issues	- Not completed yet
- Work on elevator, cargo grabber, and hatch grabber	- Began building and made some progress	- Not completed yet. Elevator might have some alignment issues.



Engineering Notebook (02/23/2019)

Session: 19

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Rohan, Krish, Selina, Alicia, Euan

Objectives	Achievements	Issues and Concerns
- Finish chassis for second robot	- Success	- Strong enough for now
- Finish elevator for second robot	- Finished upper bar, C-channel attached to rail	- Parallel issues
- Finish hatch grabber and cargo grabber	- Hatch done, - Grabber is not assembled, but parts are done	-
Discuss Game strategy	- Came up with plan to maximize game points and ranking points	



(15 sec) Sandstorm		Methods of Raising			1 P
Lvl 1	3 pts.	Platform 1			X
Lvl 2 *	6 pts.	Platform 2			X
(2 sec) Tele-Op	1 Rocket	½ Cargo	1 Rocket		
Hatch	2 pts.	6 hatches	4 hatches	1 RP	
Ball/Cargo	3 pts.	6 slots	4 slots		
Lvl 1 Hab	3 pts.		15 pts. min from Hab		- Max Cargo: 40(20)
Lvl 2 Hab	6 pts.				- Max Hab: 24
Lvl 3 Hab	12 pts. *			1 rp	Total: 137 pts.



Engineering Notebook (02/24/2019)

Session: 20

Location: 116 Capeberry, Irvine, CA 92603

Attendance: Jamie, Yiming, Jingwen, David, Selina, Alicia, Rohan, Thomas, Arjun, Aaron, Krish, Parva, Euan, Adrin

Mentors/Coaches: Raj, Hamid, Srinivas

Notetakers: Rohan, Krish, Selina, Alicia

Objectives	Achievements	Issues and Concerns
- Clean up garage - hard reset day	- Made garage more organized and cleared up floor space	- It may get messy again in the near future
- Driver practice at Code Orange	- Success	- Drivers understand the controls and can put a ball in the hatch
- Build elevator for second robot	- Success	- Measurements might not be accurate compared to the first robot

