How to Survive Your Rookie Year

Team 6547
Cobalt Colts

Goals

Yaseen

Set Team Goals

- Consider funds, time commitment, experience, mentor support, and what the team wants to get out of it.

- A team cannot function if its members aren't on the same page.

- Don't set goals that will just disappoint people.

Yaseen

Manage Your Team

- How will members communicate?
- Who will do what?
- Who will determine the direction the team will take?

Genevieve

How to Learn as a Team

I do, You watch | I do, You help | You do, I help | You do, I watch

- If you don't know something, look it up or ask a teammate for help.
- Mentors should not be your first resource.

Genevieve

Season at a Glance

- 2 meets
- 1 qualifier
- Though the qualifier, you get to Missouri state
- If you do well enough at your meets, and DON'T get to state through your qualifier, you can advance through the conference qualifier
- Though state, you can get to Worlds in Houston

Drew

Game Strategy - Brainstorm

- Don't limit yourself to your first idea.
- Make sure everyone is involved, even if they are quiet.
- Prototype, prototype, prototype.
- Consider what your alliance partners
- capabilities.
- Document everything.
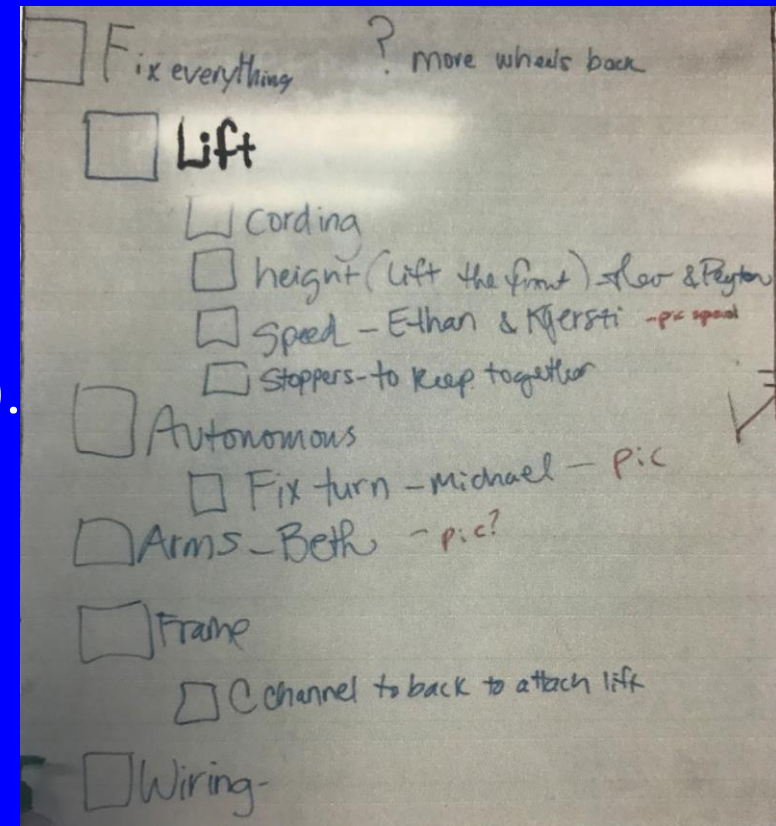- Think about feasibility and reliability.

Yaseen

Game Strategy - Prioritize

- Start simple. Choose one or two things to focus on.
- Break up your goals into smaller pieces.
- Don't ignore autonomous.
- Be aware of the rules and plan accordingly.
- Everything will take twice as long as you think. Things rarely work out perfectly the first time.
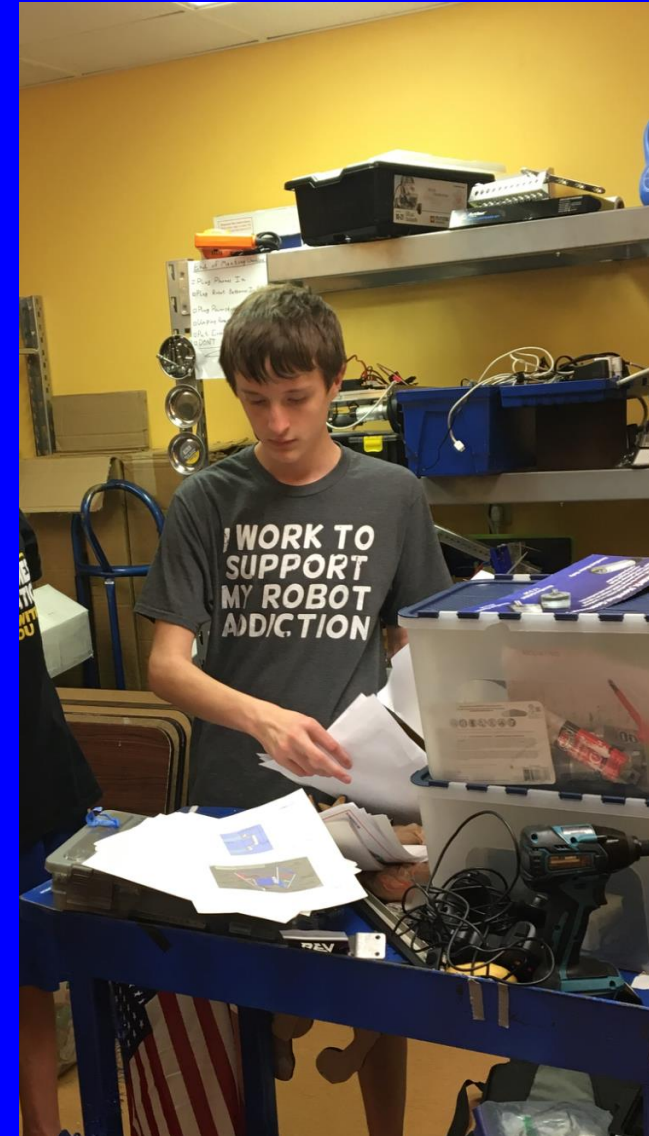- Consider CADding your designs.

Meetings

- Divide and Conquer
- Ensure everyone has a job (and knows what it is).
- Make sure that notebook progress is made and that everyone documents their actions.
- Write down short term and long term goals
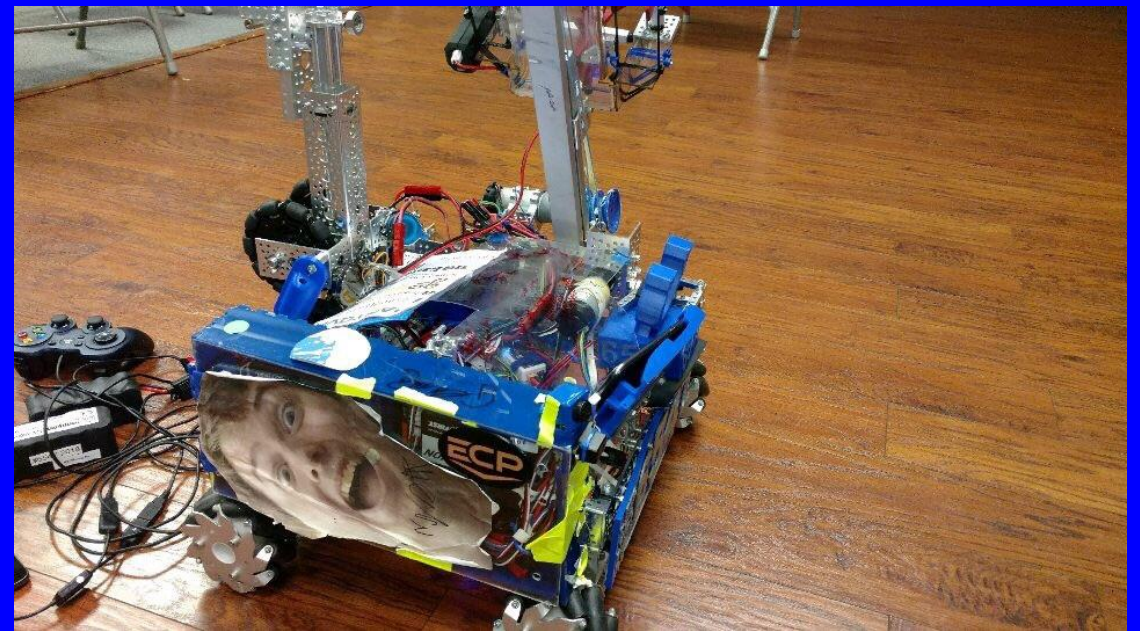- Everything will take longer than expected!

Genevieve

Build - Early Season

- Start small, both in terms of size and strategy.

- Drivers?

- Make (and keep) prototypes

- List the parts you need and keep track of what you use. Stay organized.

- CAD
    Free software for FTC teams (Creo, Solidworks, Google Sketchup, Inventor, Fusion 360)

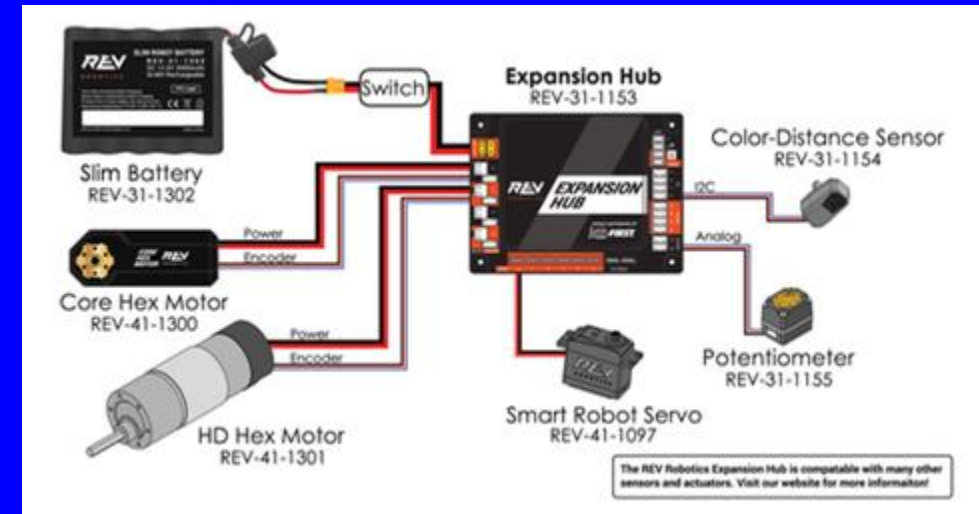- Expect a steep learning curve, don't worry.

Yaseen

Build - Later Season

- Improve parts that are lacking.
- Look at some ideas other teams have released (might help you improve your bot!)
- Don't make big changes, try to keep your bot driveable
- Driver Practice!
- Notebook!! (logs)

Yaseen

Electrical

- Remember your power switch! Put it somewhere convenient
- Fewer manufacturers = less adapters
- USB
  - Strain relief is critical
  - High quality cables with "bulges" are best (Modern Robotics)
- Wire management helps with static electricity
  - Keep electronics away from metal
  - Avoid exposed wiring whenever possible
- Make sure competing robots won't hurt your wiring / hit your switch!
- Focus on reliability.
- If a fuse blows or something breaks, test your wires before trying it again.

Genevieve

Programming

- Keep it simple, then branch off from there.
- Start with blocks
- If you want to use OnBotJava or Android Studio, do it (after you learn blocks).
- Programming is a very self guided experience. The best way to learn is at your own pace.
- Resources:
  - FTC Reddit: https://www.reddit.com/r/FTC/
  - FTC forum: https://ftcforum.usfirst.org/

IT WORKED YESTERDAY

Drew

Outreach

- Your community loves robotics and kids, which means you are the perfect match!!
- Contact local companies! Don't be afraid of getting turned away.
- Start small
- Work with schools (stem camps, stem nights)
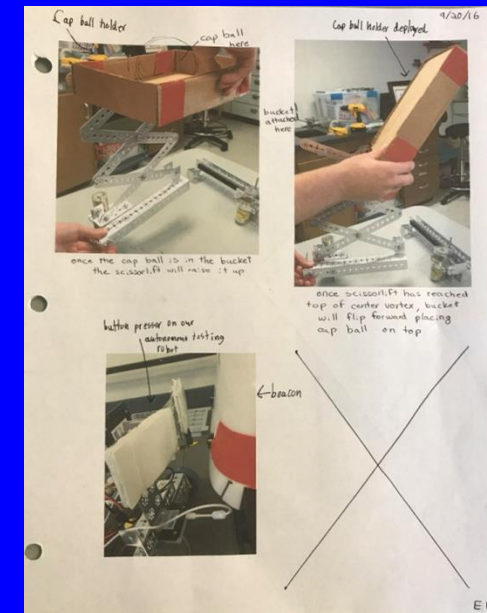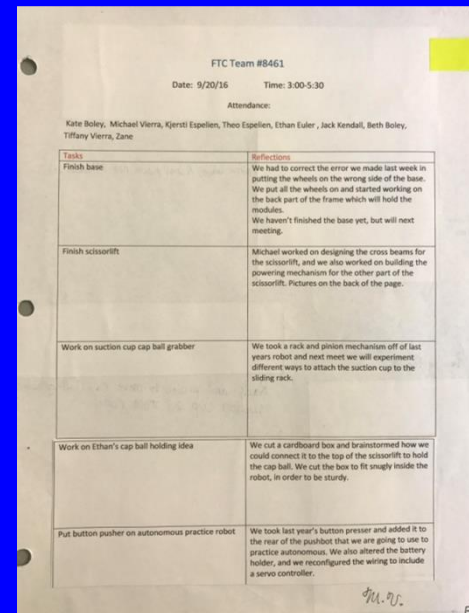- Spread your knowledge!

Yaseen

Fundraising

- Just ask.
- Acknowledge your sponsors (team should know who they are)
- Say thank you.
- Look and apply for grants.
- Local establishments
- Tech/engineering companies

Genevieve and Yaseen

Notebook

- Do a notebook page every meeting. Don't get behind!
- Every team member should contribute.
- Document EVERYTHING (failures, too)
- Either electronic (often easier+neater, especially for large teams) or handwritten
- Include plenty of labeled diagrams and pictures of robot and mechanisms, and be sure to explain.
- Notebook is important for many awards, so be sure to follow all instructions.
- Remember you can also advance through awards, which have a notebook component.
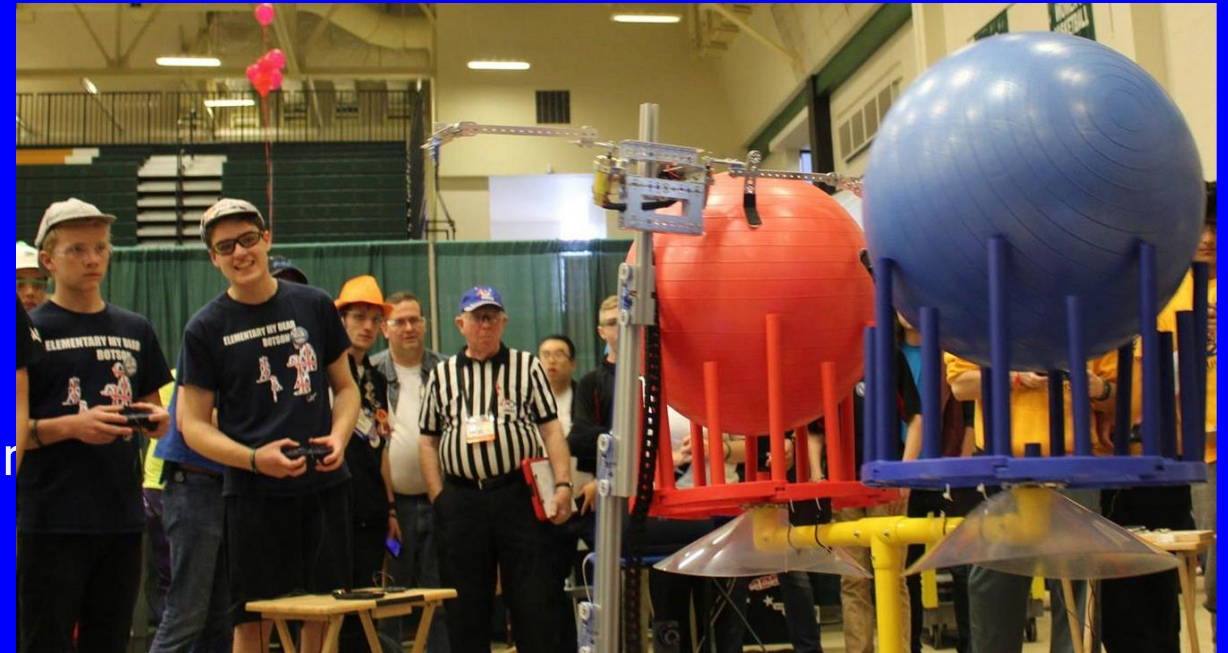

Genevieve

Goal Update

Genevieve

Meets

- 5 robot matches, no presentation or notebook judging
- Think of meets as practice for the qualifier
- DON'T MAKE ANY HUGE CHANGES RIGHT BEFORE THE MEET
- At minimum, you want to have your robot ready at least 1 week before the meet starts
- Use extra time for Driver practice, minor autonomous adjustments, and robot maintenance.
- Expect the unexpected.

Drew

Preparing for the Qualifier

- Driver Practice.
- Plan to have your robot ready two weeks ahead of time.
- Have a plan for alliance selection.
- Prepare a presentation.

Genevieve

Qualifier - Robot

- Whatever happens happens.
- Pack plenty of spare parts
- (controllers, electronics, laptop, chargers, zipties/tape, and tools)
  - Don't be afraid to ask other teams for help!
- Get/make a cart for your robot
- Make strategy plans with alliance partners before match
- Best to stick with same drivers, and try to get as much

practice as possible beforehand

- Just relax! Don't let parents/mentors put their stress on you.
- HAVE FUN!

Drew and Yaseen

Qualifier - Pits

- Always be gracious and professional!
- Have a few attentive, knowledgeable people in the pit at all times in case judges come with questions.
- Assume everyone is a judge.
- Use the time for networking. (Alliance selection is coming up.)
- If you're feeling stressed, get out of your pit and take a break.
- Have some kind of setup that works for robot repairs and representing your team.
- Help other teams.

Genevieve

Qualifier - Presentation

- Practice!
- Have everyone take a subject
- Use visual aids
- First give presentation, take any questions during, and then ask for questions at end
- Have everyone answer questions
  - Maybe assign areas (find sample questions on FTC team resource page)
  - Gracious Professionalism and what you've learned are very important
- Awards – half+ of advancement is from Judging

Drew and Yaseen

To the Mentors...

- All skill sets welcome!

    Involve every family in some way.

- Study the Game Manual (Part 1 & 2)

    Know the rules.

- Don't tell them what to do (exactly.)

    Ask why /how they want to do it.

- Communicate with each other.

    Make sure the left hand knows

    what the right is doing.

- OK, I gotta say this too: have fun. (And bring a lot of food!)

To the Coaches...

- You should be signed up with:
  - $275 FIRST Nationally
  - $225 Missouri FIRST for Events
- Competition Schedule
  - Decide which qualifier+1 meet you would like to go to ahead of time
    - What Location is best for you
    - Prefer Early or Late season competition
    - Have a backup choice
- If you need help, ASK. KC FIRST is great. Other coaches will help. Other teams love to talk with your kids. Ask for help.
- moftcscores.net is very handy

Remember to have fun too!

Resources

FTC's Resource Pages:
https://www.firstinspires.org/robotics/ftc

FTC Forum: https://ftcforum.usfirst.org/

Saint Louis FIRST: stlfirst.org (also covers KC)

KC First (for more local info): www.kcfirst.org

MO FTC Scores (events, team details): moftcscores.net

Where to buy parts:
   https://www.servocity.com/actobotics
   http://www.revrobotics.com/
   https://www.tetrixrobotics.com/

Root Negative One webinars:
   ftc9879.weebly.com/webinars.html

Wizards.exe youtube channel

Cobalt Colts:
Our team email: ftc6547@gmail.com
Coach's Email: glenn@netmud.com
Social Media: @FTC6547

Questions???

- Outreach
- Team Spirit
- Fundraising
- Judging
- Competition
- Feel free to email us at FTC6547@gmail.com if you have ANY questions at all!

Get with your team and think about your goals. We will be around to answer questions. You may leave when you are finished.