

Managing a Successful FRC Team

by Michael Corsetto

Who am I?

- 15 Year FIRST Participant (over ½ my life!)
- FRC Mentor
 - Team 114, 1662, 1678 and 2996
- Mechanical Engineer at DMG Mori
- I'm not that smart!
 - Stole a lot of stuff from Karthik Kanagasabapathy
 - I asked him, he's cool with it
 - Check out the 1114 resources website
- This is not an engineering seminar

Why am I doing this?

90	Israel	0.8758064	13.63	7%	12.32
91	TraverseCity	1.1678240	13.53	7%	11.83
92	Sacramento	0.3048300	13.44	6%	12.97
93	SmokyMountains	-1.035306	13.41	6%	15.11
94	Virginia	0.5460081	13.39	6%	12.57
95	Dallas	-1.959663	13.35	6%	16.73
96	Detroit	-0.741111	13.18	6%	14.35
97	Palmetto	0.3441249	13.05	5%	12.54
98	MN10000Lakes	-1.652315	12.89	5%	15.60
99	LoneStar	0.1127130	12.76	5%	12.60
100	LakeSuperior	1.2332219	12.15	3%	10.54
101	LosAngeles	-0.845200	11.45	1%	12.62
102	Phoenix	0.9467253	11.31	1%	10.14
103	NewYorkCity	0.0415590	11.22	1%	11.17
104	HubCity	-1.741681	10.89	0%	13.31
105					

Why am I doing this?

- It's all about meeting and exceeding goals
- Not meeting goals is discouraging
- Meeting goals is fun
- Often, meeting goals means winning

Pre-Season

“Winners are made in the off-season”

Team Organization

- A FIRST team is much like a business
 - Work needs to be filtered through a hierarchy
 - Too much for one person to do on their own
- A strong partnership is needed between students and mentors
 - FIRST is not a science fair, students are not expected to, nor should they, do everything on their own
- Assign leaders to each sub-team
 - Creates a sense of ownership and responsibility

Team Structure

Sub Teams

Team Organization

Technical Co-Captain

Business Co-Captain

Technical Sub-Teams

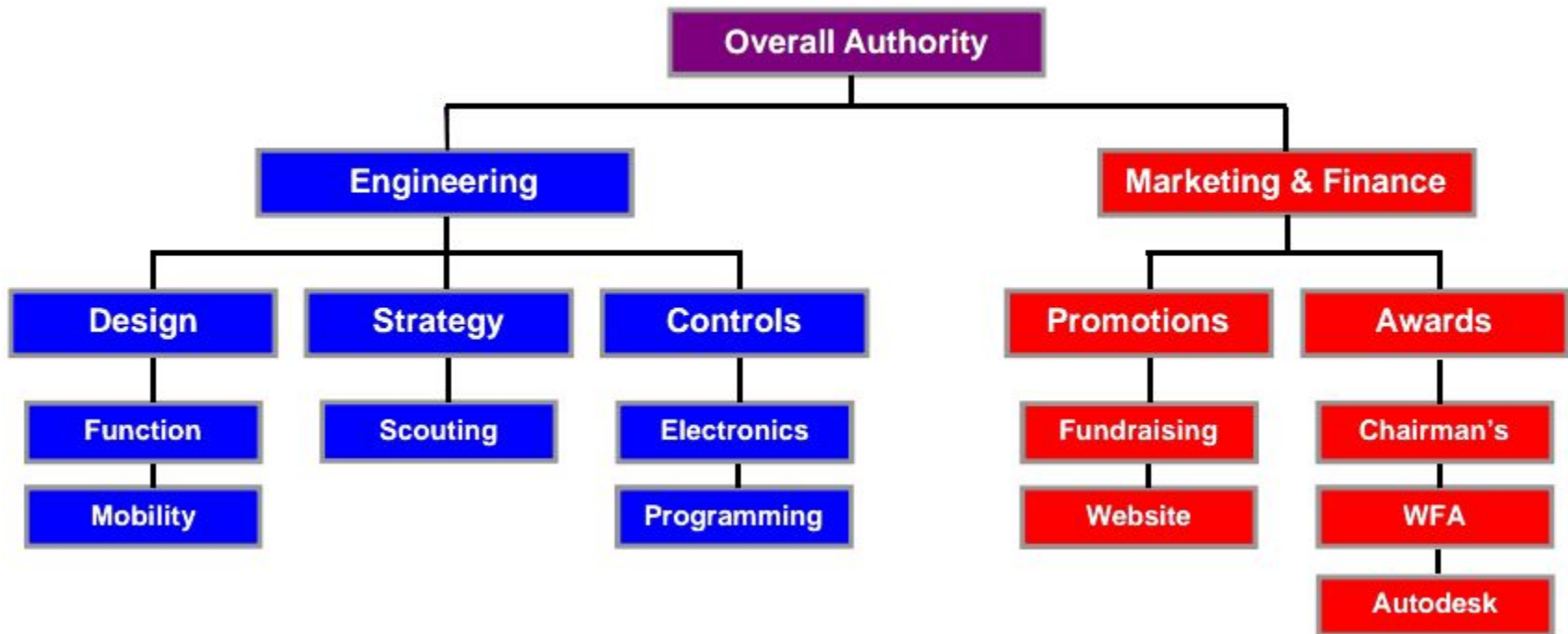
Mobility
Manipulator
Electrical
Programming
Manufacturing
Special Projects

Business Sub-Teams

Fundraising/Marketing
Social Media
Website
Imagery
Media

Team Structure

Sub Teams



Team Structure

Mentors/Coaches

- Mentor/Coach involvement is a team decision
 - Will depend on your Team Mission/Philosophy
- Not one model is perfect for everyone
- However, consistently successful teams follow similar patterns
- Coaches need to coach

Pre-Season Training

Train each sub-team specifically

- Strategic Design
- Drivetrain Design
- Mechanism Design
- Electrical/Pneumatics
- Programming
- Business
- Media
- Leadership

Build Season

It's about to get real...

General Overview/Guidelines

- Accelerated Schedule is Important
- When setting schedule: “Aim for the Moon, Land among the Stars”
- Students ALWAYS assume there is more time than there actually is
- Often, Mentors do too!

Build Season

Let's go through the schedule

Competition Season

Let the games begin...

Second Build Season

The Biggest Lie in FIRST

Myth: The Build Season is 6.5 weeks long

Fact: The Build Season is 4 months long

Second Build Season

Driver Practice

- Practice Robot or Practice Chassis allow for extra driver practice
- Go to Poof's Shop or the Play Space
 - Gain experience on a real field
 - Put an old robot out there to play defense
 - Get some human player practice in as well
 - Simulate matches and improve "cycle times"
 - Test autonomous mode!

Pay Attention to Other Regionals

- Volunteer at events
 - Robot Inspecting is a blast
 - Learn more about other robots and the game
- Webcast Parties (with pancakes!)
 - Do some game breakdowns
- Check Chief Delphi often for Robot Pictures
 - Lots of “Why didn’t we think of that?” moments
 - Some ideas you can adapt for your robot
 - 2012 stingers
 - 2013 buckets

At the Competition

Graciously and professionally... winning.

At the Competition

Setting at Team Structure

- Have clearly defined roles for each member
 - Drive Team
 - Pit Team
 - Scouting Team
- Strong Team Image
 - Gracious Professionalism
 - Team Uniform (make sure everyone is the same)
 - Make Friends (it's all about who you know)

At the Competition

Pit Management

- A Clean Pit is a Happy Pit
- Battery Management
 - Have one person in charge of batteries
 - A dead battery in just one match is about \$400 in registration fees wasted
- The pit should be accessible to spectators
 - EX. 254's pit and spare parts display

Conclusion

Minimize the Risks, Maximize the Wins

Questions?