

RUSH Review

RUSH MISSION: To develop leadership skills and increase real world experiences in an exciting environment so that our members become leaders in a global 21st century knowledge economy dependant on math, science, and technology.

Wednesday, February 2, 2011

www.teamrush27.net

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RUSHing Towards Culture Change

Since 1997, Team RUSH has looked for opportunities to ensure our society values math, science, and technology. To do this, RUSH has been creating and engaging in the process of culture change in five concrete ways:

- Creating alumni leaders
- Energizing the local community
- Developing statewide partnerships to promote STEM
- Influencing national policy makers and advocating on behalf of STEM curriculum
- Starting more **FIRST** teams

1) Creating Alumni Leaders

The mission of Team RUSH is creating leaders who will embrace an economy dependent on math, science, and technology. We've directly created 127 alumni leaders but to seriously affect culture, every **FIRST** team needs to create an army of alumni leaders. Our alumni have gone on to be surgeons, fighter pilots, and a NASA flight controller – inspirational leaders. In order to create leaders, we need to have extensive **team training** which includes time management, goal setting, continuous improvement training as well as placing students in positions of leadership with the guidance of the mentors. We expect that after being on RUSH, alumni have the tools needed to go out and lead – and start the process over!



2) Energizing the local community

Six years ago, we decided everyone in our community would know who we are and that STEM should be celebrated. We developed a local engagement system to impact our community including festivals, parades, the regatta, and activities for special needs students. We bring our robot to every community event. We run summer robotics camps, coordinate and run the annual **Holiday Lights Parade**, partner with the Riley Foundation to help

in their Health Fair (providing inexpensive physicals to students), donate our unused toiletries (from hotels when we travel) to kids in need and run a school supply drive for elementary students who need help in the fall with their school supplies.

3) Developing statewide partnerships to promote STEM

Due to the influence of Team RUSH, CSMTech has adopted technologies used in **FIRST** (LabView, Inventor, Fathom, and Digital Storybooking) and utilizes project-based final exams to provide students with real world, hands-on scenarios using math, physics, chemistry, biology, and technology. There has been a strong correlation between what is being offered in the school and with what the needs are of Team RUSH and **FIRST**. We partner with the MEA, the NME and the **MPSTA** by collaborating with them and giving them our materials and curriculum for distribution to others to use in their classrooms.

4) Influence our national policy makers and advocate on behalf of STEM curriculum

RUSH first traveled to **Washington, D.C.** three years ago to develop partnerships and relationships with the ISTE, NSBA, PTA, and NSF, Senators Levin and Stabenow and Congressmen Rogers, Ehlers, McCotter, Peters, and Kildee. Since then, we have continued to work with these partners to strengthen our understanding of congressional initiatives and to combine our expertise and resources to strengthen our mutual advocacy interests. This past year when we went to DC, we were able to take our initiatives to the next level to actually advocate for causes with our partners. We were very honored this year to have developed a relationship with Michael Lach, special advisor at the Department of Education, to ensure that the Dept of Ed and the President fully understand

the impact STEM will have on our future economy. It was very exciting to have a meeting in this very prestigious room at the National Board Office, and talk about what we do!

5) Start more FIRST teams

It is our goal to create as many **FIRST** teams as possible. Using our alumni network, 10-year rule, current students, and established partnerships we have a great foundation to initiate and start teams. The experience our team members have is so impactful, they commit to the 10 year rule: giving back to the math, science, or engineering fields within 10 years of graduation. Through our efforts and with our alumni, we've created and mentored 24 FRC, 81 FLL, & 8 FTC teams in 10 states and Korea. This year, we have really put forth the effort into helping and sustaining these teams through mentor camps, weekly conference calls, weekly minutes published and of course, our **Toolkit for Success!**



Team RUSH shares Dean's vision of a world that values and celebrates math, science, and technology. Our community is now excited to watch our annual engineering challenge (**the RUSH Regatta**). At community events, kids drag their parents over to our displays to interact with our robot; our camps are bursting at the seams. We are finally seeing elected officials at the state and national level place value on the importance of STEM. It is now our primary focus moving forward to empower other **FIRST** teams to have the understanding and tools they need to do what we do - to truly change culture.

STEM: Science, Technology, Engineering, Mathematics
MEA: Michigan Education Association
NME: Network of Michigan Educators
MPTSA: Michigan Parent Teacher Student Association
ISTE: International Society for Tech in Education
NSBA: National School Boards Association
PTA: Parent Teacher Association
NSF: National Science Foundation

Sub-Team Goals



Chassis

Mentor: Josh Fritsch
Captain: Michael C

Members: Regan, Matt, Ben, Nicole, Evan

This week chassis has been working intently on the mini-bot design. We have gone through a few more iterations, all narrowing down our options. We plan on having that done soon. We also have a design set for the mini-bot deployment. The work on both chassis has been slow due to the fact of late shipments of parts.



Controls

Mentors: Anthony Lapp and Eric Barch

Captain: Robert

Members: Jan, Matt P, Mitchell S, Dani, Rachael, Eli, Andy, Michael R, Eric

This week the controls sub-team has been hard at work setting up the Arduino to send data upon request to the cRio. We've also been setting up competition code based upon robot parts from other years on our bench for an easy transition to the robot. We had to get the mule robot set up so that the team was able to have some fun Friday night having a drive competition. Exploration of the CAN network was also a large part of our week. Next week we plan to have the last of our mock components hooked up.



Above Chassis

Mentor: Dennis Hughes
Captain: Maya

Members: Andrea, Allie, Jonah, Preston, Mitch P.

This week, we continued work on the telescoping arm. Our great workers have made a lot of progress and we are now about 85% done. We also reworked the robot cart from last year to fit this year's robot. This up-coming week, we plan to finish the arm completely.



Management & Media

Mentors: Jeff Huhta, Kathleen Adkins, Jason Markesino, Kyle Hughes and Pam Barclay

Members: Keaton, Gabby, Harry

This week, the media team is focusing on getting caught up with our Toolkit hits, continue working on the website, continue working on the newsletter and begin discussion on the Open House newsletter. We are also working with Pam on the uniforms - graphics and online website store for the families (spirit wear).



Mechanism "Seekers"

Mentors: Fred Fox and Jason Markesino

Captain: Nick, Lauren

Members: Manny, Lauren, Michael, Ryan, Troy, Amanda, Nick

The Seekers this week, have continued our testing of the prototype. So far we are not sure on which material we will use on our grabber but in the next few days we plan to determine which material we will use. We have also been making some parts for the robot.



Community Impact Group (CIG)

Mentors: Steve Hyer and Shannon Moegling

Captain: Jonah

Members: Maya, Michael R, Eric, Andrea, Troy

For the past week, CIG has been working on the big essay, mini essays, collages, and the speech. The big essay and mini essays are very close to completion and the speech is now down to five minutes long. We have also decided on the themes for the four collages that we will be submitting for Chairman's. We continued to practice the speech, as well. We will be working hard to complete everything before the February 17 deadline.

Word of the Week

Telescope

Friday Fun Night

Friday Night Shenanigans – in an attempt to take a mid-season break, we had a Friday Fun Night! From driving the robot, cheering, dancing, laughing and signing a cheer to name a few, it was a great night for all (new students finally got a chance to learn the cheers and get a feel for what a competition is all about)! Click on the button below to see the excitement of what went on that night!



Parent Meetings

Mon, Feb. 7th @ 6:30 p.m.

Remember the Permission Slips and the **FIRST** Medical Form
(Notary Available)

Rock Solid Recognition

Captain's Choice

Mitch P. works incredibly hard at anything he does. As a new member, he shows initiative and always lends a hand. He is eager to learn from the returning students and is always very gracious. Mitch will be a great leader and excel in the years to come.

**Congratulations
Mitch P!**



Student of the Week

This week, one of our veteran students really stepped up! It started out last Saturday with assisting in running the FTC mini-camp to compiling all the Design Reviews for website updates. **Michael C.** has really stepped up leading as a captain – without the status. He has been a quiet, lead-by example guy on this team that everyone can count on! Congrats to MC for a great week!

Great Job Michael C!



Thank You!

Thank you so much to **Theresa Ray, Diane Ullrich, Cindy McKean** and **Kim St.Amour** for helping us sort our uniforms on Friday night. Your contributions are greatly appreciated and team needs parents like you.

Parent of the Week

Colleen Smith is the Parent of the Week this week. I don't know if you know, but it is Colleen who has provide all of you parents with the parent meeting minutes. She and her husband, Tim, have also written a great portion of the Parent section of the Toolkit – AND Colleen has assisted all the students get their Regatta Thank You's out in the mail! Without her support, the regatta really would have been, "up a creek without a paddle". Colleen, we RESPECT your writing abilities, we have UNITED as a parent organization from your minutes, we appreciate your SPIRIT in helping us out. Thank you from our HEARTS!

Thanks again Colleen and Tim Smith

Behind the Scenes

Bruce Turner
Machinist Extraordinaire

Bruce Turner has been with Team RUSH since 1998. As an alumni parent (Erica, his daughter, was on the team in 1998), he continues to be one of our machinist extraordinaire! Bruce has helped coordinate our machinists through the years and continues to be a tremendous help. There is NO doubt that we will produce a fantastic machine with the wonderful skills he brings with him.

Special thanks to Bruce for all his efforts!



SCENE	Behind the Scenes	
PROD N°		TAKE
DIRECTOR		1

Design Review Winner

This week, the winning team is the **Controls Group!** As was stated by the technical judges, "This group did an excellent job with documenting their data. Unlike the other groups, their data supported their experimentation, their presentation was very organized and they were very articulate." To top it off, their team was able to demonstrate the mule robot in the hallway – as an example of the work they have done.



Way to go **CONTROLS** group!
They get to eat first all week long at dinner!

Sponsor Spotlight

Team 27 ALUMNI

RUSH

John A. Nielson

Years on Team RUSH - 1998, 1999

Undergrad College and Degree
- Michigan Tech, Mechanical Engineering

Occupation - Robotics & Vision Engineer / Software Developer

Employer - Paulstra CRC / Chaos Systems Inc

Location - Wayland, MI

Family – Mandi (Wife), Beth (Daughter), Alayna, Zeus (Dogs), Bella, Anna (Horses)

How had FIRST/Team RUSH Impacted Your Life? - I think I would be a “wandering generality” if it weren’t for **Team Rush**, OSMTech, Kyle, Dennis, Jim and Bruce.

What have you done since leaving Team RUSH (Travels, Hobbies, etc.)? – Went on to Michigan Tech and helped to start Team 857 – Superior Roboworks with Anthony, Jason and Justin. Graduated in 2003 with a degree in Mechanical Engineering. Worked for Shafi Inc. doing vision systems installations worldwide. Installed lines in Germany, Italy, France, Japan, United Kingdom, and Spain. Started Chaos Systems in 2007. Enjoys LEGOS, electronics, computers, and software development.

What is your fondest memory of Team RUSH? - The chaos of the build season.

How did Team RUSH prepare you for life after RUSH? - **Team Rush** + OSMTech taught me the two things I value the most in life: the love of learning and the determination to keep moving forward.



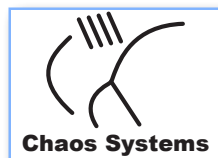
Chaos System

Location - Wayland, MI

Number of Employees - 1

History (i.e. year founded, major achievements) – Incorporated 2007. Vision software sales release 2010.

What do you do? – Develop and implement vision system software (communications and mathematics processing) for the robotics/automation industry. Vision systems are used in industry to find parts and adjust robot positions to compensate for variation in location. Also perform industrial robotics and controls programming on a contract basis.



Kenneth L. Anderson

Years on Team RUSH - 1999, 2000

Undergrad College and Degree - Michigan State University, Mechanical Engineering

Occupation - Mechanical Design Engineer II

Employer - American Electric Power D.C. Cook Nuclear Power Plant

Location - Stevensville, MI

Family – Nicole (wife)

How had FIRST/Team RUSH Impacted Your Life?

- Being on **Team RUSH** and competing in **FIRST** solidified that I wanted to become a Mechanical

Engineer. It also helped me get my first job out of college in a round about way.

What have you done since leaving Team RUSH (Work, Travels, Hobbies, etc.)? - I met my wife Nicole while at MSU. After graduation from MSU, I worked in the auto industry as a Product Engineer for three years supplying interior automotive trim to Chrysler and GM. Three years ago I was able to get a job in Bridgman, MI on Lake Michigan at the Donald C. Cook Nuclear Power Plant as a Design Engineer. The same year that I moved to Southwest Michigan, Nicole and I got married and spent our honeymoon in Rome, Florence, and Naples Italy. Since then we’ve been working on remodeling our house and in between remodel projects I’ve studied for and passed both the Fundamentals of Engineering and Principles and Practice of Engineering Exams. I’ve applied for my Professional Engineer License and expect to receive it in the next couple of months.

What is your fondest memory of Team RUSH? - Seeing all of the long hours put in payoff when we teamed up with Beatty/Hammond and made it to the final four in ‘98/’99

How did Team RUSH prepare you for life after RUSH? - Aside from confirming that I wanted to be a ME, **Team RUSH** helped make me a better team player. Once I got into the “real world” being able to work with a cross functional team of people to design and launch a product was very easy because of my experience on **Team Rush**. I also learned that the best solution is usually the simplest and to consider all possible solutions.

The attached picture is from my first major design project at D.C. Cook. The NRC had asked all plants evaluate the potential for gas binding of their safety related pumps. As a result our plant’s response was to install vents in the localized high points in our safety related systems. In this picture I am dressed in anti-contamination (anti-c’s) clothing and am next to one of our Reactor Coolant Pumps. I am pointing to one of the 3/4” vent valve that we had just installed on the Pump’s seal return line.



The Sub Team Captains Speak Out

What is the hardest part of being a Sub Team Captain?



Michael C - Chassis

"Finding a job for everyone. Sometimes there isn't enough work for everyone and I want to make sure that they all get a chance to have their hands on it. Not getting shipments on time doesn't help either".

Nick L - Mechanism "Seekers"

"Trying to keep everything that is going on within the sub-team in order, from design reviews to working on different project. It is all a great responsibility that is also very worth it"



Jonah S - Community Impact Group (CIG)

"Staying on top of everything. Because the CIG team is responsible for five submissions and a speech, keeping track of everything can be difficult. Luckily, the CIG sub team is so organized!"

Lauren D - Mechanism "Seekers"

"I guess the hardest part of being a subteam captain is making sure everyone on my team is helping out and getting their own experience."



Robert A - Controls

"The hardest part of being a subteam captain is trying to keep track of what everyone is doing and keeping them on task. It gets hectic sometimes with 10 people."

Maya A - Above Chassis

"The hardest part is not having enough time. Being a part of the CIG team as well, I often get taken away from Above Chassis to work on CIG stuff, so I have to leave all of the work in the hands of the rest of the sub-team. Luckily, they've all proved to be very talented, hard workers, and they have a great leader in Dennis."



Next week - Parents Speak Out

What have you seen as the most significant change in your son/daughter since joining **Team RUSH**?

E-mail Kathleen Adkins at kadkins@teammrush27.net

Parents TIPS Of the Week

1st tip: Call Heidi!..at least that is what I did a lot the first year. This year I email Jeff Huhta a lot. And, I actually call anyone in our directory with questions. Your questions will get answered, and no question is trivial. There is so much to learn about and to enjoy about RUSH and the build season.

2nd tip: Don't do the meal on your own. Making the meal was the scariest part of volunteering in RUSH...for me; it was so easy just by partnering.

3rd tip: I'm so glad we listened to 'seasoned' parents and our son Elijah during our/ his first year in RUSH. We didn't try to do everything and we didn't pressure Eli to do more than he thought he was ready for. This year, our second year, we all feel more confident and capable of offering more support.

Kathy Long

When you pick up your student after a full team meeting or a Friday advanced team build that lasts until 10:00 pm ... Don't expect conversation or getting any chores done because they're exhausted! Just put them in the shower and roll them into bed!

Heidi Kameron Mantz

I did not buy any RUSH gear my son's first year and when I went to the competitions I felt a bit out of place as the only parent without a **Team RUSH** shirt. The first year parents should know that the veteran parents tend to wear RUSH gear at competitions and they may want to consider purchasing a shirt for the competitions.

Dan Mantz

Theme Day for Monday, Feb 7th, 2011

FIRST Team Other Than RUSH

Pick another **FIRST** Team and dress in their colors, wear their t-shirt, or dress as their mascot, etc...

Be Creative

Spirit Wear

There will be an update on spirit wear during the Parent meeting on Feb 7th, 2011.

Don't forget to order your spirit wear, so you don't feel left out.

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A Special Thank You to the Families of Team RUSH

