

The Lightning Round

Sunday, January 21st, 2017

Volume 5 Issue 2



FRC 3525'S WEEK IN REVIEW: WEEK 2

Prototype Well Underway!

Moving on to Robot Parts!

Every year the plan for build season is to do design, prototype, test, and then final assembly. This year the team came together very fast with a final design and were able to move into prototyping during week one. While the forklift is still in the prototyping phase, the climber and the intake are both moving rapidly and have final fabricated parts ready to get mounted onto the drive train. The climber is a scissor lift idea that will lift the robot using the rungs on the scale. The intake uses 4 inch compliant wheels to pull the power cube in and spit it out when the forklift is at the desired height. Because the forklift is the most complicated part of the robot it is still in the prototype phase until all of the details of the design are figured out. Next week the forklift will be fabricated and mounted on the robot. The goal is to have a finished robot by next Saturday and the team has done a great job designing the separate pieces to work together. The mentors have up the stakes and promised a movie night if the robot is up and running by the 27th. This would be the fastest built robot in team history.



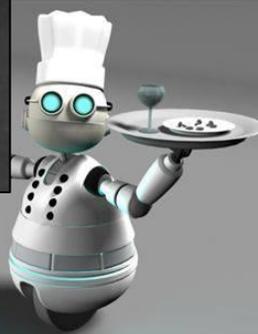
Fundraising Hard!

Building More than Robots

My students need newer tools to learn on and build their robot.

My Students

The students on our robotics team all come from Waterbury Connecticut, a low-income/high poverty school district. They are from diverse ethnic and socioeconomic backgrounds.



Friday, February 23rd
6 – 8 pm

Tickets \$10

All you can eat pasta,
meatballs, salad, dessert,
and soda or water!

Chances to win prizes!

To go orders available!

Fundraising is a necessity for any FIRST Robotics Team. Registration fees, robot parts, and tools are not cheap, and team works very hard to raise the money needed to field a successful team. Currently there are 2 fundraisers going on for the team. The 7th Annual Pasta Dinner fundraiser will be held on the 23rd of February after build season is over. Tickets are \$10 for all you can eat pasta, meatballs, salad, rolls and cake. The team also has a project on the Donors Choose website. Donors Choose connects potential donors with projects submitted by teachers. Our project called "Building More than Robots" can be found at DonorsChoose.org and for a limited time all donations up to \$50 will be matched by using the code LIFTOFF. The current project asks for tools to replace older tools that are necessary to build the bot. With your help we can raise enough money to build the robot and travel for competitions.

First Theme Day – Videogames!

Working almost every day for 6 weeks straight is very tiring. The team does its best to make sure that every week we do something fun to alleviate the stress of build season. One successful tradition is theme days on the weekend during build season. Our first theme day was video games, and everyone showed up in their favorite video game gear. Stay tuned for more great theme days and other fun activities the team does to stay unstressed during the build season.



Making a Smarter Robot!

Programming is a huge part of the robot. Once the robot is built the programmers are in charge of making sure it will run smoothly both while under remote control and autonomously. This year the subgroup chose to use different components to make the robot smarter. These include sensor feedback from encoders on the bot, motor controllers with advanced features, and a command based program model. The encoders will go on the forklift to measure the exact distance the forklift will travel. Similar to this is the gyroscope that will measure exact turns to make autonomous mode more precise. The students plan on making more advanced remote-control systems to assist in operating the robot. For example, a button will be used like an elevator to move the forklift to an exact location.



The motor controllers being used this year are the Victor SPX and Talon SPX. This allow the use of CAN based communication between the motor controllers for a greater level of synchronization.



Questions, Comments, Concerns? Contact us at frc3525@gmail.com or visit us at www.frc3525.com