

# THE NUTS AND BOLTS

## TECHHOUNDS TEAM 868

January 17, 2014

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### Upcoming Events:

**CrossRoads Regional**  
March 6th

The TechHOUNDS are traveling to Rose Hulman University to take part in the CrossRoads Regional, their first competition.

**Boilermaker Regional**  
March 20th

The TechHOUNDS second competition, the Boilermaker Regional, will take place at Purdue University. Team members, friends, family, and sponsors are all welcome to watch the matches and cheer on the team.

**Queen City Regional**  
March 27th

The third competition the TechHOUNDS will be attending is the Queen City Regional, in Cincinnati, Ohio.



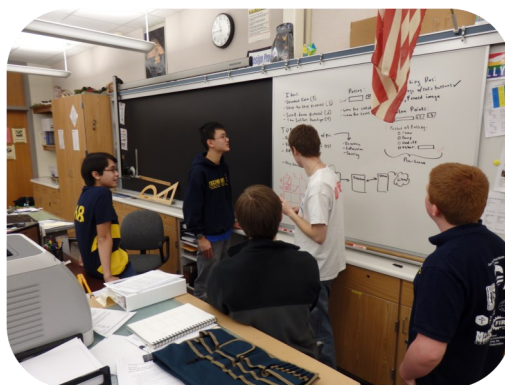
## New Scouting System

Website and Programming divisions work on new scouting system

This year the TechHOUNDS website and programming divisions have begun working on a new project. This project is a scouting system that will be available to FIRST teams around the world. The new scouting system stores data on how other teams play current FRC games. Users can easily record where different teams robots shoot from, whether or not the robot passes to other teams, and how the team strategizes with their



*The Website division collaborates to think of new and innovative ideas that could be used for their new scouting system.*



*Mentor, Alex Ryker, helps the Website and Programming divisions brainstorm the new scouting system.*

alliance to gain as many points as possible. All of this information is easily stored and readily available for live viewing during a competition. The website and programming divisions are also attempting to optimize this system to work on tablets, making it easier for teams to scout at competitions. The team has the concept created but is troubleshooting to find any slight problems or bugs that may occur while teams are using the program.



# Division Updates

We are two weeks into the build season and our team is working extremely hard. We are proud to say that this year we are officially going to three regional competitions, Crossroads (March 6-8), Boilermaker (March 20-22) and Queens City (March 27-29). This year is also the FIRST year that we have had over 90 members on the team, 60 of which are rookie (first year) members. The team is also making great progress and we are confident that we will have a successful 2014 season.

- Blake Loncharich/ Molly Wardlow (Team Leads)

## Auxiliary Construction

Construction has created a new trophy shelf and has also begun to work on updating the team pit to better display sponsors. Construction has also completed a goal for prototype robots to practice shooting.

- Eric Lentz (Division Lead)



Programming has begun to work on the drive train code as well as camera code for this years new robot. Programming has also helped with prototyping and the younger members have worked on writing their own code.

## Programming

- David Murzyn (Division Lead)

## Robot Operations

Robot Ops has finished designing a wheeled shooter for the game and has come up with a working prototype that is able to shoot the exercise ball into the goals. The following link contains a video of the shooter in action: [http://youtu.be/OcHGDjS\\_MgU](http://youtu.be/OcHGDjS_MgU).

- Evan Chivington (Division Lead)



Electrical has begun to work on practice boards, wired the prototype shooter, and worked with Robot Ops to find any possible problems with the wiring. In addition, Electrical has disassembled a previous robot and reassembled it in order to learn more about wiring.

## Electrical

- Jacob Swiezy (Division Lead)

## Website

Website has been working on updating the website for the new year. Specifically, they have worked on creating a new scouting program, a new homepage design, and new data import forms.

- Vincent Mai (Division Lead)

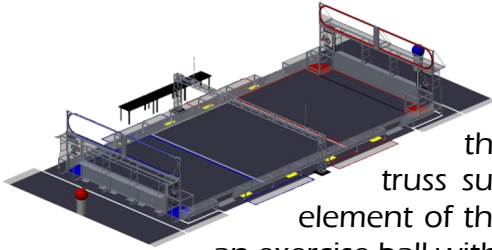


# A New Year, A New Game



This years FRC game is called Aerial Assist. Two alliances, consisting of three separate FRC teams, compete to score as many points as possible in each 2-minute and 30-second match. Since this years game was released, on January 4th, the team has come up with a game strategy and is currently prototyping.

## The Field



The game is played on a rectangular field separated into three different zones: red, white, and blue. In addition to these three zones, there is a small goalie area located at each end of the field and a metal truss suspended five feet above the center line of the field. Finally the last element of the field are the goals where alliances can score this years game piece, an exercise ball with an approximate diameter of two feet.

## Scoring

Each match begins with a ten second Autonomus (Auton) Period where robots must operate independently, with pre-coded instructions. In the Auton Period each alliance can earn up to twenty points for scoring in a "hot" (lit up) high goal or by scoring in a high goal and moving into their zone. After the Auton Period ends, alliances must work together to score their alliance ball into their opponents goal. The two low goals located at the ends of the field are each worth one-point and the high goals are worth ten-points.



## Bonuses



In addition to the Autonomus and base goal points, there are many bonuses that are awarded for passing the ball and assisting alliance members. Passing the ball over the truss earns ten bonus points and an additional ten points is awarded to the alliance if an alliance robot catches the ball from the other side of the truss. Finally alliances can earn up to forty points if each alliance robot moves the ball through a separate zone and scores in a high goal. Cumulative point values for assists are included below.

Action	1 ASSIST (Base Points) (Ex: Alliance Robot A carries ball through red zone and scores in goal.)	2 ASSIST (Base Points +10) (Ex: Alliance Robot A carries ball through red zone, then passes ball to Robot B in white zone. Robot B scores in goal.)	3 ASSIST (Base Points + 30) (Ex: Alliance Robot A carries ball through red zone, then passes ball to Robot B in white zone. Robot B carries ball through white zone, then passes ball to Robot C in blue zone. Robot C scores in goal.)
LOW GOAL	1	11	31
HIGH GOAL	10	20	40

# Rookie Corner

## Why did you join the TechHOUNDS?

"I joined the TechHOUNDS Robotics Team so that I could have experience with technology, engineering, and robotics."

## What division are you in and why?

"I'm in Robot Operations Division because I'm really interested in the hands on part of the team."

## What are you most looking forward to this season?

"I'm looking forward to the competitions and seeing how well we do compared to other teams at the competitions."



**Atif Niyaz**

Grade: 10

Dream College: UC Berkley

Favorite Class: Calculus

Inspiration: Thirst for Knowledge



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