



THE RAVENS REVOLUTION TEAM 1710

"TALENT WINS GAMES, BUT ONLY TEAMWORK AND INTELLIGENCE CAN WIN CHAMPIONSHIPS."

Volume 3, Issue 3

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SPECIAL POINTS OF INTEREST

- Game Review
- Sponsor Spotlight
- Behind the Scenes of Build Season
- iPod Raffle



READY, SET, BUILD!

After months of preparation build season finally started on Saturday, January 5, 2008. This was the day that we would finally find out what the game challenge would be, what the robot would need to accomplish, and parts for the robot were received. The FIRST® Robotics kick-off was a productive day for the team and the season started strong. Many of the team members were up bright and early to watch the first viewing of the kick-off. Some of the team had to be there to present a safety animation they had been hard at work on. The rest of the team and their supportive parents met at noon to eat and find out what task lay ahead.

The first meeting of build season took place right after the kick off lunch. After watching the FIRST® Robotics video a couple more times the team was ready to start brainstorming. Designs were discussed and drawn up in small groups and presented to the team and mentors. The team discussion was focused mainly on what the robot should accomplish. The major topic of interest was whether or not the robot should have the capability to hurdle a 10 lb trackball over a 6½ foot overpass.

One design being discussed was completely focused on speed and collecting points by quickly making laps around the arena. This year the team is using a swerve drive system that allows the robot to turn Omnidirectional and will greatly improve the robot's speed. That particular design also had a mechanism to knock opponents' trackballs off the overpass if needed. The other two were both



very similar, each intending to hurdle the ball above the overpass for 8 points. In doing that, the robot would also have the capability of knocking the opponents' trackballs off the overpass and placing the alliances' on the overpass at the end of the match for an additional 12 points. Of course the team wanted to try for the most points, but they had to think about the amount of time it would take to do all the hurdling and the defending with the mechanism they designed. Also taken into consideration was the possibility of malfunction or dam-

age to the hurdling device, in which case the robot would need the speed to fall back on.

Many questions arose, such as, "What if time does not allow the robot to hurdle the ball over as many times as expected?" "How quickly would this mechanism be able to move?" Most importantly, "Would it be possible to create a mechanism tall enough to accomplish these tasks without losing speed?" A team vote eliminated the design that did not have hurdling capabilities. The team then had to decide how they were going to hurdle this large 10 lb trackball. Many ideas were discussed, but when there were two possible left it became very hard to choose. The designs were alike, but their differ-

ences could either make or break the competition. Eventually it was decided to have the mechanical and the drive teams come up with their own designs that would later be integrated.

With those things decided the team got to work immediately. Each subgroup was hard at work piecing together their part for the team. With just 6 weeks there is a great deal of work to be accomplished, but the team is dedicated and with our great work ethic and teamwork there are high hopes for Team 1710.

CASEY FLOWERS

Ravonics Rundown

Richard Zeiler

FIRST® has officially released to us the details of this year's FIRST® Robotics Competition (FRC). Known as the FIRST® Overdrive Competition, this contest will take place on a 27 by 54-foot rectangular track, split lengthwise by a 6-foot tall lane divider. Dividing the track widthwise will be a 6½-foot tall overpass, which will hold four 40-inch diameter, 10-lb trackballs, the game pieces of the challenge. All the teams will be divided into two alliances; red and blue, and scoring by any one robot will benefit that robot's entire alliance.

The entire match will be just 2 minutes and 15 seconds long. The first segment

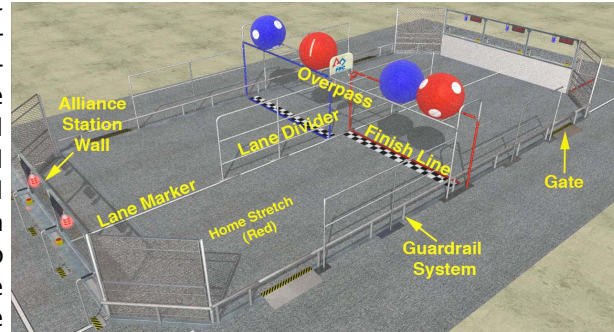
will be a 15-second 'hybrid' period, during which the robots must maneuver themselves around the track using only preprogrammed instructions; that is, with no human input. This will be followed by

a 2-minute 'teleoperated' period, during which drivers may take control of their robot.

During the hybrid period, 4 points will be awarded to an alliance each time a robot crosses a lane

marker or either finish line. However, during the teleoperated mode, points can be scored only by crossing your own alliance finish line, in which instance only 2 points will be awarded when the robot crosses alone. Removing a trackball from the overpass during hybrid mode will score 8 points; during teleoperated mode, 0 points. A trackball crossing your alliance finish line under the overpass will score 2 points, but 8 points will be awarded if the trackball hurdles above the overpass.

This year's FIRST® Robotics Competition will certainly be an exciting event, and has already proven to be a challenging design for our team. We will have our robot



"This year's FRC will certainly be an exciting event, and has already proven to be a challenging design for our team."

Sponsor Spotlight - Archer Technologies

Casey Flowers

Archer Technologies is a leader in enterprise risk and compliance management. Last year, they assisted us on our course to nationals. Archer's clients include over four million users in highly regulated industries, as well as 36 of the top 40 US financial services institutions. Not only are they very

close and on a personal basis with their clients, but they



are very active in the community. Team Archer works specifically on giving back to the

community, clearly displayed by their sponsorship of our team. Archer is very dedicated to their community service and strongly encourage their employees to do the same. Everyone should follow the example of Archer Technologies and be not only a leader in your industry, but also in your community.

Build Season: The Inside Story

With build season underway things have gotten extremely busy for the members of Team 1710. Each subgroup is working diligently on their part of the project and they are all getting so much work accomplished. Here's an update of where each group stands at this point.

The chassis and drive team have already completed the chassis and are

starting work on perfecting the complex swerve drive system. The electrical team is hard at work creating a prototype of the robot's electrical board for testing. Our programmers are mapping out the drive system and figuring out just how the robot will move around. The mechanical group has finished prototyping the robot's forklift-style lifter and grabber, and they are currently

testing to finalize their design. Logistics is creating a practice arena out of PVC on which we can simulate the real competition. They are also in preparation for shipping the robot.

With four meetings a week, Team 1710 has already put forth many hours of work on the robot. So much has already been accomplished, but the real work has only just begun.

iRaffle

We are excited to be kicking off our iPod team fundraiser. This year the U.S. Army has donated two 8-gigabyte black iPod nanos in support of our team. All thirty-one members of the

participating. So, how can you get your hands on one or even both of the iPods? You can buy an official Team 1710 pencil from any team member.

Amount	Pencils	Tickets
\$1.00	1	1
\$5.00	5	8
\$10.00	10	20

For any purchase over \$20.00 the amount of tickets will be doubled.

FIRST® Robotics team are



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Bronze Sponsors (\$1,000-\$500)



Kiewit



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Goal:
\$50,000

\$42,000
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Level 6

\$30,000
Level 5

\$24,000
Level 4
Completed

\$18,000
Level 3
Completed

\$12,000
Level 2
Completed

\$6,000
Level 1
Completed



JANUARY 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Christ- mas Break	2	3	4	5 Kickoff Meeting: 12:00- 7:00pm
6	7 Meeting: 6:30- 8:30pm	8 Meeting: 3:10- 5:30pm	9	10 Meeting: 6:30- 8:30pm	11	12 Meeting: 9:00am- 2:00pm
13	14 Meeting: 6:30- 8:30pm	15 Meeting: 3:10- 5:30pm	16	17 Meeting: 6:30- 8:30pm	18	19 Meeting: 9:00am- 2:00pm
20	21 No School— Martin Luther	22 Meeting: 3:10- 5:30pm	23 Mr. Good- cents Night	24 Meeting: 6:30- 8:30pm	25	26 Meeting: 9:00am- 2:00pm
27	28 Meeting: 6:30- 8:30pm	29 Meeting: 3:10- 5:30pm	30	31 Meeting: 6:30- 8:30pm		

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