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Robotics inspire students, but need sponsors

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Sitting in a crowded auditorium Saturday, Windell Gray eyed a big projection screen that would soon tell him how hard his life is going to be for the next six weeks.

Minutes later, the junior at McQuaid Jesuit High School learned that his team's mission will be to build a robot that can score soccer goals in opposing teams' nets in a game called Breakaway.

The For Inspiration and Recognition of Science and Technology (FIRST) Robotics season kicked off Saturday, with local teams learning at the Kodak Theater on the Ridge about their projects, leading up to a regional competition at Rochester Institute of Technology in March.

What started as a fringe club has turned into a grass-roots phenomenon. Each year, FIRST Robotics holds a competition with more than 1,800 teams worldwide.

And while unquestionably rewarding, maintaining a robotics club is expensive, leading organizers to reduce entrance fees. This year, each team paid \$1,000 less — \$5,500 for new teams and \$5,000 for returning teams — which still doesn't include thousands of dollars that will be spent on materials.

"We know the program can be expensive, so we are doing everything in our power to make it more affordable, especially with the uncertain economy," said Ron Borden, co-chair for the Finger Lakes Regional Planning Committee. "Our goal is to have a club in every city school district and then expanding in the suburbs."

FIRST Robotics matches students with professional engineers, gaining real-world experience while building a competitive remote-control robot. In addition, more than \$11 million in college scholarships are available to program participants.

"In the real world, you have to work with others, and a project like this gives us engineering skills but teaches us teamwork and not being afraid of something challenging," Windell, 16, said about participating in his first competition.

Forty-four teams will participate in this area's regional competition including four new teams: McQuaid, Rochester School for the Deaf, Eastridge High School and Pittsford Sutherland and Mendon high schools.

As robotics clubs grow in popularity, some teachers are worried about the costs of preserving them in the midst of a sluggish economy and cuts in school budgets.

"You look at teams and they are usually coupled with a big corporation," said John Maxwell, a

robotics team leader and teacher at McQuaid. "We need sponsors because a lot of schools wouldn't have teams without them."

Corporate sponsorship

Ralph Hudack had to do some convincing. A team leader for the new robotics club at McQuaid, his day job is at Xerox Corp., a company that has sponsored teams for years. However, many large companies nationwide are dropping sponsorships to curtail costs. At first, Xerox was not going to fund a new team because of other financial commitments, but Hudack's points about the value of connecting with bright, motivated teenagers apparently was convincing. Xerox donated \$6,000, and Time Warner Cable also gave \$8,000 to the club.

"I am concerned that the price of robotics is getting too high because I know several city schools are having a hard time finding or keeping sponsors," said Hudack, also an adviser for the Pittsford Sutherland and Mendon club, which Xerox also is sponsoring.

Yet there is a ray of hope. Even in a tremulous economy, many companies see the benefit of connecting with kids.

"In essence, we are building a work force, and trying to keep talented kids from leaving the area," said Borden, who also works at Bausch + Lomb Corp., which sponsors five teams locally.

Terrell Lee, 15, a freshman at John Marshall High School, understands that a lot of money goes into the project and believes more city schools should get involved.

"This looks like it's going to be a lot of hard work but fun, and I'm glad a teacher got me into this," said Terrell, also a first-time participant.

New teams

David Monahan, a fifth-year mechanical engineering student at RIT and a team mentor for the Rochester School for the Deaf, was involved in a high school robotics club in Philadelphia that he said kept him afloat in high school as a deaf student and led to his current major. The experience he gained helped him learn skills that he wanted to share with others.

"Where else do students have a chance to go through an entire product design cycle, from brainstorming to final assembly, and where else can you see both a student and a 75-year-old grandfather share a look of awe while driving a 130-pound piece of metal?" he said.

Mitch Cantwell, a technology teacher at Pittsford Mendon and Sutherland, figured the best way to get kids interested in robotics was to show them. Using a connection he made while teaching at Churchville-Chili High School last year, he borrowed their remote-control robot and drove it for a few days during lunch periods.

Soon, 35 kids had joined the first-time club. He then partnered with Brian Holliday, who teaches technology at Sutherland, to create a combined team.

"There's usually a friendly rivalry between both schools, so it's great that they want to encourage each other and work toward a combined goal," said Holliday. "But along with the camaraderie, it made financial sense because it would have been difficult finding a corporate sponsor to handle two teams. We don't even want to think of where we would be today without the help of Xerox."

Maxwell, who works with McQuaid, said the team has three goals: to field a competitive robot, learn

engineering skills and have fun.

"The good thing about robotics is that winning isn't the only indicator for success," said Maxwell. "It's all about learning."

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