

Excitement at Maker Faire Anything but Robotic

POSTED SEPTEMBER 27TH, 2011

PRESS ROOM



Fairgoers try out robots at NYU-Poly's "Mechatronics Mania" booth, including one built to bowl.

Students from the Polytechnic Institute of New York University got a chance to show off their engineering skills and a dash of entrepreneurial spirit with their exhibit "Mechatronics Mania" at the [2011 World Maker Faire](#) held at the [New York Hall of Science](#) on September 17 and 18.

The exhibit, which featured several types of robotic devices, demonstrated how graduate students are using the principles of mechatronics to teach Science, Technology, Engineering and Math (STEM) concepts in K-12 schools.

"Another word for 'maker' is engineer, so the Maker Faire is a perfect place to showcase the work of our students and faculty," says [Ben Esner](#), Director, Center for K-12 STEM Education at NYU-Poly. "This year, we demonstrated the ways in which students use robotics and technology in our teaching and learning programs in New York City public schools. These initiatives not only inspire the next

generation of engineers and makers, but they also teach the science, engineering and math needed to succeed in STEM careers.”

This is the first year NYU-Poly students, who were exhibiting among several hundred like-minded inventors, have participated in the Maker Faire. Other exhibits varied from a demonstration by lock-pickers who showed how physical security operates and how it can be compromised to 3-D printers that make jewelry on the spot to fountains that shoot over twenty feet in the air using Mentos and Diet Coke as their fuel.

At the NYU-Poly exhibit, students showed off several kinds of robots, including a robot built to bowl, which fit in perfectly with the fair’s unique element of whimsy.

[Vikram Kapila](#), a professor in NYU-Poly’s [Mechanical and Aerospace Engineering Department](#), said there is a lot of discussion in policy circles about how to get young children interested in STEM subjects, so a program was developed that would place graduate fellows in local schools with the aim of using robotics and mechatronics to interest children in STEM disciplines. In order to build robots that children find exciting, they first must learn underlying science, technology, engineering and math concepts.

Under the [Applying Mechatronics to Promote Science/Central Brooklyn STEM Initiative \(AMPS/CBSI\)](#) program this year, 14 fellows are in 22 schools, mostly located in central Brooklyn. Fellows work in the classroom and also after school as mentors for competitions. Kapila said the exhibit was another way to educate the community about the initiative. “We are here to showcase what we do with robotics to engage students,” he said.

Rezwana Uddin, a graduate fellow working toward her Masters in Computer Science, works with students in grades 3 to 5 at P.S. 270. Uddin, who built a robot that balances on two wheels like a Segway, incorporates activities using Lego kits into the classroom based on what the children are studying in math and science.

“They’re very excited,” she said of the projects the students work on. “They like the idea of being in control. While they’re doing that, we’re explaining the math and science concepts behind (the technology).”

Jared Frank, a mechanical engineering graduate researcher for Kapila, built an iPhone-controlled robot, which he says has many potential applications for iPhone-controlled projects, including home automation and projects for the military.

Children took turns waiting for a demonstration by Frank, who showed them how to touch the phone’s screen to make the robot move.

“The Faire was a lot of fun,” said Esner, “and it was a pleasure to join local and national innovators in showing the general public what it is we do.”