

Tiny robot teaches Coventry middle-school students how to code



COVENTRY, R.I. — Ruby is two feet tall. She has childish eyes with tiny black pupils and irises that change color with her mood.

And she knows how to have a conversation, make jokes, fist bump and perform tai chi.

Ruby is a robot. Monday, she taught 25 middle school students how to use computer code.

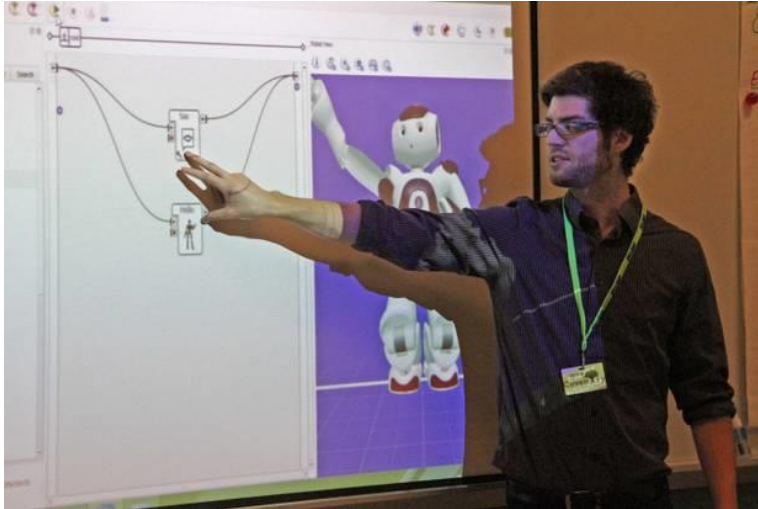
Ruby's visit is part of Hour of Code, a grass-roots campaign to get students excited about computer science. Launched by the nonprofit code.org last year, the campaign has reached over 44 million students worldwide.

Timed to coincide with Computer Education Week, Hour of Code has raised millions of dollars from Microsoft, Google and Facebook to train 10,000 teachers and make coding classes available online.

Locally, dozens of private and public schools from Westerly to West Warwick have participated in the project. The Tech Collective, the state's industry association for bioscience and technology, recruited volunteers to teach educators and students from 22 schools across Rhode Island.

Activities, which vary for different ages and experience levels, include computer programming basics using Disney's animated movie "Frozen," the online game "Angry Birds" and gaming programs such as "Tynker" and "Scratch."

<http://www.providencejournal.com/news/education/20141215-tiny-robot-teaches-coventry-middle-school-students-how-to-code.ece>



At the Alan Shawn Feinstein Middle School in Coventry, two dozen eighth-grade students were rapt as two techies put Ruby through her paces.

Ruby looks like a kinder, gentler version of the storm troopers in Star Wars. Each hand has two fingers. Her arms and legs are jointed. A small button in the middle of her chest glows like a heartbeat. Although her body seems genderless, her high-pitched voice is female.

Ruby is owned and operated by a company called Aldebaran, with offices in Paris and Boston.

With the appropriate prompt, Ruby introduces herself to the class:

“Hello, my name is Ruby. I can connect to the Internet, play music, grabs objects and play soccer like a pro.”

When a student reaches down to take her hand, Ruby says, “I want to come with you.”

When robot and child walk hand in hand, Ruby says, “I like the feel of your hand.”

A resounding “awwwww” rises from the room.

Jack Grannan, a programmer with Aldebaran, spends the next hour teaching students how to code by grabbing and dragging boxes of directions and stringing them together on a computer. Grannan compares the process to “putting paint on a canvas.” The real code, a seemingly incomprehensible string of numbers and symbols, hides beneath the simple toolboxes.

“Who wants the robot to start a conversation?” Grannan says

He asks the class to describe what they do after school. Sleep, one child says. Eat, says another. Do my homework, says a third. A student volunteer taps those words, separated by semicolons, into the laptop.

“What do you like to do after school,” Ruby asks.

“I like to read,” a student says.

“Reading emotionally traumatizes me,” Ruby replies.

The class cracks up.

The exercise might seem simplistic, but Ruby has managed to grab the attention of 25 middle school children at the end of a long day. Multiply this experience by millions of students, over many years, and Hour of Code might spark a new wave of computer geeks.

“There is a tremendous need for more people in our society to have knowledge of computer science,” says Deborah A. Gist, state education commissioner. “Coding itself is a great exercise for the brain. It involves problem-solving, critical thinking and attention to detail.”

A recent study by the Tech Collective found that technology employers have trouble finding Rhode Island workers with the right mix of technical, business and professional skills to perform entry and mid-level jobs.

The Tech Collective recommended exposing children to technology at a much earlier age, something Hour of Code does. It also recommended preparing high school students in the STEM fields and giving college students more real-world experiences.

Task force reports aside, Ruby certainly was a big hit with the Feinstein students.

“It all seemed so complicated before,” student Morgan Carr says. “Now I realize it’s not as hard as it looks.”