The Robot Hoedown and Rodeo Explained

The Robot Hoedown and Rodeo was recently mentioned in Senator Coburn’s new report, “The National Science Foundation: Under the Microscope”[1]. As co-organizers we wish to provide a more detailed description of the program than the report’s brief mention.

The key goal of the Robot Hoedown and Rodeo was to give educators a new way to engage K-12 & College students in Computer Science, so as to foster the workforce that will be needed to make transformative breakthroughs in the future. The Robot Hoedown and Rodeo was a three day event taking place at the premier conference for computer science educators (SIGCSE 2011). The purpose of the event was to introduce robot programming to the nearly 1200 educators attending the conference, and to raise awareness amongst participants of how robots could be used in their classrooms. Despite evidence that robots can be used as educational tools to excite and motivate students [2,3,4,5], only a minority of educators at SIGCSE have ever programmed a robot, and even fewer participants have tried using them in their classrooms. Our project provided educators with:

- The opportunity to borrow and program one of over 75 robots.
- Over a dozen different environment/language combinations and 5 different physical platforms
- Access to knowledgeable TAs who could help them get started with programming.
- Numerous sample assignments.
- Free downloads of software environments.
- Expert-led introductions to the robot platforms and their educational possibilities through a number of demonstrations and exhibits held throughout the three day conference.

Conference attendees who completed an exit survey were generally favorable of the event, and those who programmed a robot indicated that on average, they would be more likely to use robots in their classrooms in the future, and so the event may lead to improved educational opportunities for a number of Computer Science students.

So how much did this event which involved 75 robots, five months of planning, and dozens of volunteers working at the conference, cost the American Taxpayer?

$6,283. How did we keep the costs so low? Everyone working on the project worked as a volunteer and, as importantly, all the robots and associated equipment were loaned to us for the project. Those involved in organizing the event did so without pay, which we estimate saved the project roughly $10,000. We made every effort to keep the cost of the event low, and leveraged every resource we could to do so, including seeking additional corporate sponsorship (in addition to the NSF funds, the project received a donation of $3,500 from iRobot Corporation).
Perhaps the Robot Hoedown and Rodeo was singled out because it has an intentionally eye-catching name, and because on the surface it appears “fun.” Indeed in his report Senator Coburn states, “Videos of the event posted to YouTube suggest the effort was a source of enjoyment for observers.” It is precisely this “fun” which our program aims to associate with Computer Science education, so that our current students will choose to become the future researchers that make the kinds of transformative discoveries that improve our society and our economy.

Signed,
Tom Lauwers (tlauwers@gmail.com)
Jennifer Kay (kay@rowan.edu)
Robot Hoedown and Rodeo Co-organizers