



# Bridging the Community & Higher Education

## CARNEGIE MELLON'S CREATE Lab and the Entertainment Technology Center are connecting university students and researchers to the communities they serve.

Universities are engines of exploration, discovery, and innovation. Still, too often, research universities with deep wells of intellectual capital miss opportunities to deliver meaningful solutions to the communities around them. When educators and community members are able to tap into these extraordinary resources, students gain exposure to some of today's most cutting edge technologies.

That's why Carnegie Mellon University (CMU), one of the most highly regarded private research universities in the world, has connected with a network of regional educators to co-develop innovative, effective education solutions that work in the Pittsburgh region.

The Community Robotics, Education and Technology Empowerment (CREATE) Lab and the Entertainment Technology Center (ETC) are two examples of CMU's commitment to putting innovation to work in the Pittsburgh region.

Established in 1997 by roboticist Illah Nourbakhsh, the CREATE Lab explores socially meaningful innovation and deploys robotic technologies to address community challenges ranging from air pollution to the achievement gap.

"The CREATE Lab was born out of a desire to change the way the university relates to its community," says Nourbakhsh. "If we start with education, we can empower students to think about technology as a tool that they can use for social change."

By partnering with schools, museums, libraries, and child-serving organizations,

### BY THE NUMBERS

Since its inception, the CREATE Lab Satellite Network has engaged **260 teachers**, **650 pre-service teachers**, **7,200 students**, and **90 schools**.

In the last 15 years, ETC has supported over **175 community projects**, including the **MAKESHOP** at the Children's Museum of Pittsburgh.

“Ideas and inspirations for the way the world should be and how we can design the future with technology is sourced from the communities and the people and the experiences we have.”

**MARTI LOUW**, DIRECTOR, LEARNING MEDIA DESIGN CENTER, CARNEGIE MELLON UNIVERSITY

researchers in the CREATE Lab develop tools and programs to empower a technologically fluent generation through experiential learning. Together with the Pittsburgh Association for the Education of Young Children (PAEYC), CREATE Lab developed Message for Me, kid-friendly kiosks that enable young children to record their daily experiences through pictures and speech and send them to their parents’ cell phones or email. Now in more than 100 early childhood classrooms throughout the Pittsburgh region, Message from Me enhances parent-child conversations and involves families in the day-to-day educational experience of their children.

To expand its impact in the region, CREATE Lab established a Satellite Network in partnership with Marshall University, West Liberty University, Carlow University, West Virginia University, and Penn State New Kensington. These institutions connect CREATE Lab technologies with pre-service teachers who develop pedagogical uses while also offering critical user feedback on potential products. This process of iterative design ultimately produces tools that are optimized for effectiveness in a diverse array of learning environments.

Started by computer scientist Randy Pausch and drama professor Don Marinelli in 1999, the ETC is a two-year graduate program offering a master’s degree in entertainment technology that combines technical courses in digital technology and game development with art courses in storytelling and design.

To earn their degree, students must work with community representatives to co-develop games for good—from schools to hospitals to museums and beyond. These partnerships often produce compelling results. In 2010, Elizabeth Forward School District built a SMALLab (Situating Multimedia Arts Learning Laboratory), an immersive environment that uses games to enable students to learn kinesthetically. By partnering with a team of students from the ETC, educators at Elizabeth Forward created their own learning games that fit within their curriculum and appealed to students.

ETC director Drew Davidson, a leading member of the Remake Learning Network since its earliest days, encourages students to consider the educational potential of new technology whenever possible. “We believe that all of this great entertainment technology can have positive social impact,” he says. “We’re always looking for great projects in general, but we’re also trying to do something more—to make the world a better place.”



## NETWORK IN ACTION

### CONVENE: LUNCH & LEARNS CREATE OPPORTUNITIES TO SHARE KNOWLEDGE AND EXPERTISE.

Convening network members to learn from the thought leadership and collective expertise of higher education institutions like Carnegie Mellon helps to raise the level of awareness and understanding of new technologies among network members.

Speaking at a Remake Learning Network Lunch & Learn, CREATE Lab director Dr. Illah Nourbakhsh explored how advanced technologies are shaping a new discourse regarding the role of education in directing community change, and the role of communities in directing the future of technology innovation.