CENTER FOR COMPUTATION & TECHNOLOGY
Interdisciplinary | Innovative | Inventive

LOUISIANA STATE UNIVERSITY

Computer science professor combines research interests, practical application

News

Press Releases
Event Announcements
CCT Weekly
Grants and Funding
Student News
Archived News

(Source: LSU website, homepage)

http://www.lsu.edu/departments/gold/2013/05/kooima.shtml

By Cassie Thibeaux

Computer science professor combines research interests, practical application

It's not everyday that someone other than an astronaut or planetary scientist can observe the "footprints of astronauts" on the moon. Robert Kooima, assistant professor of computer science in the LSU School of Electrical Engineering and Computer Science and a faculty member with the Arts, Visualization, Advanced Technologies and Research, or AVATAR, Initiative in the Center for Computation and Technology, can do just that.

Kooima collaborated on the Lunar Reconnaissance Orbiter Camera, a project funded by NASA to send a new probe to the moon to collect hundreds of terabytes of data. The scientists were then charged with taking the raw data collected from the probe and distilling, reorganizing and restructuring it into an interactive format that displayed a believable image of the moon for both children and adults.

Located at the Adler Planetarium in Chicago, the Moonwall exhibit provides a high-resolution interactive fly-over of the moon and allows visitors to maneuver the moon with a joystick. Kooima hopes to bring a similar exhibit to the Louisiana Art and Science Museum, or LASM, with additional interactive tools, such as a QR code that connects cellphones to the exhibit.

Museum exhibits like the Moonwall aren't always associated with computer scientists, and the field of computer science isn't always easily understandable. Kooima's research interests – computer graphics and interaction – bridge the disconnect between the academic and practical sides of computer science and help to illustrate the growing importance and relevance of digital media.

The digital media industry in Louisiana has seen tremendous growth in recent years and is projected to continue growing due to Louisiana's Digital Interactive Media and Software Development Incentive program, which is one of the strongest in the nation. According to the Louisiana Economic Workforce Development, Louisiana could create up to 23,000 direct and indirect jobs focused in the digital media and software industry in the next 20 years.

"When I came to LSU, the state was already doing a great job with growing the digital media and software industry," Kooima said. "I came to LSU because taking part in the growth is exactly what I want to do."

With continued growth, the workforce demands for computer science degrees continues to increase, so as the School of Electrical Engineering and Computer Science addresses the increased demand, Kooima believes that one of the key skills graduates need is computer programming.

"I want to teach students how to not be afraid of technology," Kooima said. "Technology changes so quickly that we have to teach students to ravenously consume information – always consuming new technology and applications."

New classes, such as Introduction to Digital Media Programming, bring students from art, music, mass communication, computer science and electrical engineering together and expose them to the more "fun" side of computer science. These classes help with retention as students are less intimidated by the material, but inspired by the integration of graphics, audio and interaction.

One of the first things Kooima did when he arrived at LSU was convert a high definition TV screen into a TacTile table – a digital interactive display that students in the Video Game Design class would later used to develop interactive games.

The TacTile table is one example of what Kooima refers to as a "weird platforms," which he continually pushes his students to explore.

"I want students to think about the properties and interaction capabilities of these 'weird platforms,' so they can they can also think of game design in a new context," Kooima said.

Students enrolled in the video game design class – taught in collaboration with the University of Illinois at Chicago, or UIC, where Kooima completed his doctorate – work in teams with UIC students to design and produce video games that are judged by a panel of gaming industry experts. This semester, students are designing violence-free games – an initiative brought on by the Sandy Hook tragedy.

Although Kooima has close ties to the video game design and introduction to digital media programming classes, his focus continues to be on strengthening the computer graphics component of the curriculum including interactive and applied classes. But this isn't to say he doesn't stop to look at "footprints of astronauts" or create new "weird platforms" that push his students' boundaries.

"I couldn't imagine a better environment for doing what I do," Kooima said.

Publish Date:
05-07-2013