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Video game industry future here and now

BATON ROUGE – The video game industry has seen incredible innovations, brilliant people and technological breakthroughs that have taken us from Magnavox Odyssey and Atari to Xbox360 and WiiU today. With the help of the Louisiana State University Center for Computation & Technology (CCT), local students can develop their potential and prepare for successful careers in this industry as well.

In collaboration with several departments, CCT has developed a digital media minor program that emphasizes the link between arts and technology. A good representation of this program is its video game development course, during which art students work on animation and character design together with computer science students who primarily program the games.

"What got me to pick my major was actually video games," said software engineering student Johnathan Stansbury. "I also did the digital media minor, and this course ties with both very well. It helped me develop skills on both sides."

"I knew that I wanted to do either modeling for video games or modeling for animation, so as soon as I heard about this course I wanted to see if this was the right path for me," said Margaret Fink, a digital art senior. "I learned a lot about Unity, and actually, even more about Maya; it's completely different from animation, and it blew my mind how different it was."

The course is very unusual in the way it is delivered. Using high-definition video streaming technology, an instructor from LSU teaches it in cooperation with a professor at the University of Illinois at Chicago. The students located at either campus can ask questions, providing an exchange that is broader than what a student would get just from a single location.

The class was first offered by LSU in 2007 and is available every spring. In the beginning, however, local participation was fairly small with only about five students interested. Most of the lectures at that time were streamed from Chicago. The situation drastically changed in 2009, when Robert Kooima, who actually took the course in Illinois, came to LSU as a post doc. It was a natural fit for him to teach it, and he started delivering a lot of the lectures himself streaming them up north. Since then, LSU rapidly reached parity, and there are about 25 students on both sides now.

LSU Center for Computation & Technology has been instrumental in the success of this course. In addition to providing all the equipment and the classroom, it has assigned a staff member who is present at each lecture to help with technical issues.

"We are facilitating a couple of major aspects here," said Phoenix MacAiodh, multimedia specialist at CCT. "One, we funded the Planar system, which is the screen that gives such a high-resolution game rendering and stereoscopic capability (3D). We also provide and operate the high-definition streaming technology used to broadcast the course. Before the course starts each January, I make the initial connection and then ensure that everything runs smoothly."

Early in the semester, students split into groups of three or four, some from Baton Rouge and some from Chicago, to produce an original product. At the end of the semester, they present their game to the judges – instructors, former students and industry representatives – who evaluate it on criteria such as interface design, graphics design and programming.

Each year, the theme is different, and this year it was non-violent games – ones that are educational, relaxing, involve puzzle solving or promote health.

"We conducted a total of 34 video conferences with our teammates in Chicago," said LSU computer science senior Joshua Harris, the team lead of the group whose game won this year's first prize. Their game, called C3, is a puzzle based on the manipulation of the character's color. "This class definitely helped me group-wise. We had to learn how to stay in touch through various means of communication."

In the video game design world, one often works on a small component of the game, and somebody else works on another part, while still another brings all of them together. So, in this class, the students gain the experience of having to collaborate with people whom they never see in person.

"That's a great example of what happens in a lot of game design companies, where you might have a location in Hong Kong rendering all the animation in the videos, while you have a location in California programming the levels," MacAiodh said. "So, that's the experience that is valuable for them going into the future on a different aspect of teamwork that you get in a regular class."

It is interesting to see what former students do with the obtained skills and where they apply their knowledge. One great example is Kevin Cherry, an LSU computer science Ph.D student who actually taught the course this spring. "While I was the one to teach it since 2009, this year we offered the class to Kevin who took it twice in the past," said LSU computer science assistant professor Robert Kooima. "He has always been very enthusiastic about it and is extremely qualified to teach it since he knows Unity very well," added Kooima.

One of the judges from the industry at this year's competition, Jason Tate, also took this class as a master's student in computer science in 2009, and later started his own company in Baton Rouge, PixelDASH Studios. "While in school, I was already working full-time as a game developer for a local company," Tate said. "In that job I played a very specific role on a team, whereas this course taught me more about the whole game development process, so when I went on to make my own games, I knew all the components that are involved."

The success of this class has prompted the LSU Center for Computation & Technology to develop a digital media master's program that will start in the fall of 2013.

"Louisiana is working hard to establish the digital media industry," said CCT Director Joel Tohline. "One of the key things companies look for when deciding where to establish a business is a talented workforce, and this video game development course, as well as the new digital media master's program definitely help fulfill the educational component. We are proud to be contributing to Louisiana's economic development and are looking into the future with confidence."

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