They're game for learning

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Right: Jason Leigh's course in computer games is no trivial pursuit.
Photo: Troy Heinzeroth

Since he was a teenager in the early 1980s, Jason Leigh has been playing — and creating — computer games.

Now an associate professor of computer science and a researcher in the Electronic Visualization Laboratory, Leigh took his love for gaming and created a hands-on laboratory that teaches aspiring gamers how to create their own electronic playgrounds.

Leigh named the course “renaissance computing,” but after word got out students started calling it “video game programming.”

“It filled up almost instantly,” says Leigh. “There was a waiting list, but there were no dropouts so none on the list got in.”

Thirty students enrolled: 27 computer science majors and three art students. Computer donations from Microsoft Corp. helped equip the class.

Leigh started the course by asking each student to fill out a questionnaire about their computer science skills and experience with computer games. He picked 10 student team leaders who, in turn, were given “resumes” from which each recruited two more students to form teams simulating mock computer game companies. Jobs ranged from programmer to graphic arts designer to technical director.

Each team made class presentations on their game concept, in part to refine their presentation skills but also to allow Leigh to advise the students on whether their projects were becoming too ambitious to handle.
Leigh was pleasantly surprised by the results.

"It went extraordinarily well. Of all the computer graphics to come out of UIC as complete products of one semester, this is the highest quality I've ever seen.

"These were kids who had never done this before, but they had the raw energy to work at it until it came out right. And they had to spend a lot of time at it."

Computer science senior Don Olmstead was team leader of the virtual company "Mindless Thinking Games," which won the top class prize for its game "Bomberbot," a 3-D remake of a classic computer game called "Bomberman."

"I was kinda raised on Nintendo and other computer games," says Olmstead. "I'm amazed at what we ended up doing. I didn’t think we'd make something so tangible."

Fellow team member Dmitry Svistula, also a senior in computer science, was artistic director.

"I tend to enjoy things that are not part of my major, so I do art and music as a hobby. It was quite enjoyable," he recalls.

Not so enjoyable, however, were the all-night sessions spent tweaking game details before their final presentation.

"We communicated through instant messaging," says Svistula. "But we were organized and got things done on time."

Leigh and colleague Andy Johnson, associate professor of computer science, who judged the games, were blown away by Bomberbot.

"Not only did they pull off the most amazing graphics, for amateurs, but they also composed their own music from scratch," says Leigh. "It’s so good that I saved it and put it on my MP3 player."

Another student team’s mock company, Jogos Studios, won second place with its game "Qbert: Escape from Flatland."

Students remade that classic arcade game in 3-D as well, with enhanced graphics and sound.

"I tried playing it at home," says Leigh.
“It took me six tries to reach the first level. The game had simple but incredibly challenging artificial intelligence.”

Jogos team leader Kevin Kahley, a graduate student in computer science, says he enrolled in the class to satisfy a curiosity about how computer games are developed.

“There’s a lot more thought put into video games than I ever imagined,” he says.

“There’s so much detail that goes into writing video games: Should a flag wave if a wind blew it? When do you use 3-D sound? Every angle was covered.”

Leigh and Johnson scored each game based on how much fun it was to play, how polished the final product was and how sophisticated and innovative the computer science work was in its development.

“The ‘A’ student teams were so amazingly polished that you’d think they were actual independent game companies,” says Leigh. “They were that good.”

Leigh hopes to teach the class again fall semester using different software packages, offering more sample games for student analysis, and bringing in guest lecturers from the profession.

Based on what he saw last semester, Leigh is confident some of his students may someday have good careers in this highly competitive area.

“I’d absolutely love to get into the field,” Olmstead says.

“Who wouldn’t want to write and play video games for a living?”

Below: Bomberbot, the class top-scorer.