

Is There Any There There? Design and Implementation of Successful Team-Oriented Educational Environments for Computer Animators

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The study and practice of computer graphics, animation, and immersive design require continued acquisition of interdisciplinary and cross-disciplinary knowledge in combination with collaborative working habits and skills. Many universities have struggled with the problem of locating courses and/or programs in appropriate schools or departments and hiring faculty with wildly diverse backgrounds within the traditional academic structure in order to best educate students with these interests.

Two models often emerge: a piecemeal approach with curriculum located in several different and often inappropriate departments, or a singular approach that selects one department to the exclusion of other appropriate ones. Both models have serious downsides. The first often results in faculty members, courses, and programs that have no information about the others, and everybody often suffers as a result. The second model can tend to shut out departments with less political clout and small budget power. The result can be an unbalanced curriculum and undereducated students who don't have the broad perspective required to succeed in the graphics and animation industry.

In particular, interaction and integration between art and computer science departments has been particularly difficult and often unsuccessful. There are programs that have been designed from the outset to serve students from many backgrounds and interests, and some have emerged over the past five years. They are actively marketed as integrated programs composed of faculty from various backgrounds and departments.

The computer animation industry has almost universally provided environments for painters, sculptors, computer scientists, engineers, and many others to cooperatively and collaboratively work in teams, because they must do so to develop quality products, whether the end result is feature films, interactive games, or immersive environments.

This panel focuses on ways to incorporate this cooperative and collaborative approach into our academic environments, including ways in which this is currently happening. Specifically, the panel looks at schools that are now providing classes that require the whole class to work as an animation team, based on the students specific expertise and interest, to produce short computer-animated films or VR environment. Students are selected because of the talent they bring to the group (which must include music, architecture, theater, computer science, fine art, etc.). The idea is to simulate the industry experience and give students the experience of working with colleagues of differing educational backgrounds and interests to meet deadlines and a collective vision as they contribute their own unique and creative input. Students may have already developed sophisticated individual approaches, but in this program, they must fit into the team and contribute in the most positive fashion.

These types of courses, when taught by experienced instructors (ideally several of them per course), offer a unique experience for students and faculty. And they provide a sense of community for the participants. Panelists discuss the process of hiring for these programs, successful methods for developing a sense of community among the students, and the specific curriculum required.

In presenting student-produced works, some that have had wide recognition and won several prizes nationally and internationally, the panelists show the process of developing a short film and cover technical and aesthetic issues, including story development and shot breakdowns. They also review the limitations and many problems, as well as special advantages, of trying to design for and build collaborative design teams in academic settings. The panel culminates with a look toward the future, with an emphasis on new technical tools and evolving approaches to animation and education.

PANELISTS

Barbara Mones was the founding director of a graduate program in computer graphics and animation called Visual Information Technologies at George Mason University. She served as a tenured professor there in the Art and Art History Department. Her work in industry has ranged from designing and developing training curricula to designing Web graphics, writing technical training materials, and animating. She has worked at NASA Goddard, Pacific Data Images, and Industrial Light + Magic. She has been a member of the SIGGRAPH Education Committee for many years and was the Panels Chair for SIGGRAPH 97. She earned a BFA at the University of Michigan, an MFA from Rhode Island School of Design and an animation certificate from Sheridan College in Ontario, Canada. Currently, she is developing curriculum and teaching computer animation courses, utilizing a collaborative approach to curriculum, in the computer science and engineering department at the University of Washington.

James Buckhouse has an undergraduate degree from Brown University in fine art. He worked at Pacific Data Images as a layout animator prior to his current position as visiting artist at Stanford University. He has created computer animations for feature film as well as fine art and experimental animation.

Gregory Niemeyer graduated from Stanford in 1997 with an MFA, and he earned a BFA in photography from Ecole d'Arts Applique, Switzerland in 1990. He founded and has directed SUDAC: CG Animation Curriculum Development since 1997. He is a practicing artist and has exhibited his work internationally. He teaches virtual object design and computer animation utilizing collaborative team approaches.

Randy Pausch is an associate professor of computer science, human-computer interaction and design at Carnegie Mellon University, where he is the co-director of the Entertainment Technology Center. He has been a National Science Foundation Presidential Young Investigator and a Lilly Foundation Teaching Fellow. In 1995, he spent a sabbatical with the Walt Disney Imagineering Virtual Reality Studio, and he currently consults with Imagineering on interactive theme park attractions, particularly for the DisneyQuest virtual reality-based theme park. He is the author or co-author of five books and over 50 reviewed journal and conference proceedings articles. His primary interests are human-computer interaction, entertainment technology, and undergraduate education. He has taught several courses utilizing collaborative team approaches.