

Educating the Digital Artist for the Entertainment Industry: The Collision of Academia and Business

Organizer

Charles S. Swartz (UCLA Extension)

Panelists

Edwin E. Catmull (Pixar)

Robin King (Sheridan College)

Richard Weinberg (University of Southern California)

Jane Veeder (San Francisco State University)

DESCRIPTION

The entertainment industry has historically neglected education and training, perhaps believing that the supply of eager creative talent would always exceed the demand. But the explosive growth of digital technology applied to special visual effects and animation has created a desperate need for digital artists to work in film, television, video, computer games, and interactive media.

Much has been said recently about the urgency of creating a talent pipeline to fill this shortage. At first glance, it might seem educators on the one hand, and production and post-production companies on the other, would share a commonality of interests and goals. But deeper issues may reflect the different goals of academia and business. This panel proposes to air and address these issues, so that each side can better understand the other, and resulting work will be of higher quality and will produce more personal satisfaction.

Panel Chair

Charles S. Swartz is Program Manager of the Department of Entertainment Studies and Performing Arts at UCLA Extension, the continuing education division of UCLA, where he is responsible for professional training programs in Multimedia and Digital Technologies and the Business and Management of Entertainment, and shares responsibility for programs in film, television, video, and music. He led the efforts of UCLA Extension with IBM that resulted in establishing the UCLA Extension/IBM Media Lab, a multimedia teaching lab at the UCLA Extension Metropolitan Center on Universal CityWalk. He attended the University of Southern California, Department of Cinema-Television, as a graduate student and received his B.A., Magna Cum Laude, from Yale University.

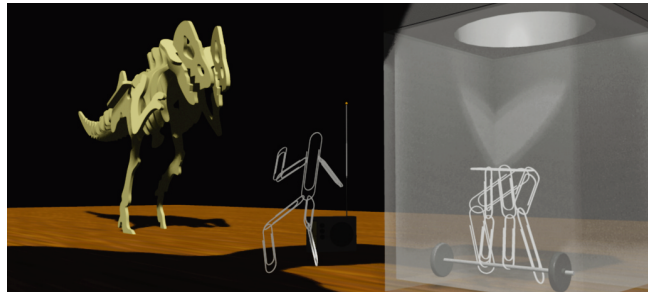
Panel Members:

Dr. Edwin E. Catmull is a graduate of the University of Utah with a B.S. in Computer Science and in Physics, and holds a Ph.D in Computer Science. Dr. Catmull was awarded two Scientific and Technical Engineering Awards from The Academy of Motion Picture Arts and Sciences for his part in pioneering digital compositing and helping to develop RenderMan Software. Dr. Catmull received the Steven Anson Coons Award in recognition of his important research contributions and inspiring leadership in the computer graphics field. Dr. Catmull is a member of the Academy of Motion Picture Arts and Sciences and the Sciences and Technical Awards Committee.

Robin King is Currently Director of the School of Animation and Design at Sheridan College where he has been a member of the Faculty since 1971. He was responsible for the development of the graduate programs in Computer Animation and Computer Graphics which were launched in 1980. Professor King has lectured at SIGGRAPH and many other international conferences

and is working on several educational projects in the Far East. Currently, he is working on the design and development of a new, \$24 million centre for Animation and Communications at Sheridan in partnership with the Government of Ontario.

Carl Rosendahl is President of PDI, which he founded in 1980 to combine his interest in film making and computer graphics; the company's core mission to generate fully computer animated imagery for entertainment products. Over the past 17 years, the company has successfully expanded from being a specialty production facility to one of the most respected computer animation and visual effects studios in the industry. A Los Angeles native, Rosendahl holds a BSEE from Stanford University (1979). He is an expert source for industry and the trade press, appearing as guest speaker at numerous industry conferences and symposiums, and is a frequent guest editor for Animation Magazine. Rosendahl also taught a graduate level course entitled, Computer Animation and Visual Effects for Film and Television at USC Film School in 1993 and 1994. He is a member of the governing board of directors of the Visual Effects Society and a long-standing member of ACM SIGGRAPH. Rosendahl is executive producer of the first Dreamworks/PDI computer-animated feature film, *Ants*.



Jane Veeder began in 1976 her long career in electronic media arts and was a member of the pioneering Chicago computer art scene in the early 1980's. She was one of the leaders of the artist group that developed high A/V standards for SIGGRAPH conferences and has served on the SIGGRAPH executive committee and as an organizer or contributor on many conferences. She currently teaches computer animation and interactive multimedia at San Francisco State University, where she is Associate Professor in the College of Creative Arts. She recently served a year as director of animation at Time Warner Interactive, Games Division.

Richard Weinberg is the Director of the USC Computer Animation Laboratory, which he established in 1985, and is a Research Associate Professor in the USC School of Cinema-Television. He co-designed the original curriculum for USC's MFA in Animation and Digital Arts program, and established the CG Hatchery at USC's Annenberg Center Multimedia Incubator.

He obtained a Ph.D. and M.S. from the University of Minnesota, and a B.A. from Cornell University, all in the area of computer science / computer graphics. His interests include computer animation, multimedia, scientific visualization and entertainment technology.

The Panel will discuss, among others, the following issues. Preliminary responses to questions raised by some of these issues follow.

- * Educators tend to emphasize the process of learning, while companies look at the end product. A more polished portfolio/demo reel may actually reflect a less adventurous and imaginative student, who took fewer chances in order to protect the commercial appeal of the end result.
- * What is the optimum balance between theory and practice in computer graphics education? Too little practice may lower the “hiring desirability quotient.” Too little theory may produce a student adequately fluent in today’s software but less able to adapt to the future.
- * Production and post-production companies are engaged in collaborative activity, where strong teamwork skills and effective management and organizational abilities must complement artistic and technical strengths. Do educators give these skill sets sufficient attention?

“In general, computer animation and related programs are faced with major tasks in educating students in the theoretical and practical aspects of production and post production. The individual skill set required for a specialist in this arena to become productive demands more training than can usually be achieved in college and university programs. Educators must create environments in which shared skills are essential to the development of each student’s capabilities. However, the shift from individual production to collaborative group work requires more complex methodologies which are often idiosyncratic to a company’s creative environment, specialization and client base. Institutions should certainly give more attention to group work, but companies themselves need to ensure that the transition to the work environment includes further enhancement of the student’s collaborative skill. Work placement and a “farm team” arrangements are approaches which should be seriously considered.

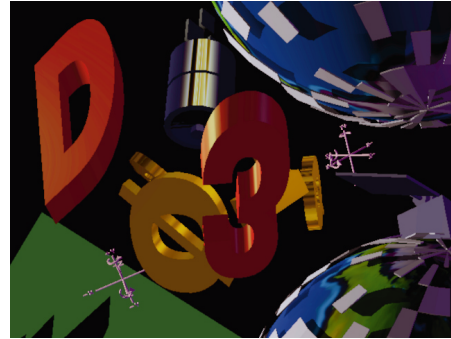
Students need to be highly competent with hardware and software but, more than anything else, they need to be creative, imaginative, adaptable, and thoroughly skilled in the fundamental aspects of storyboarding, character development, animation dynamics as well as familiar with technical and creative demands of the industry. Personal development is continuous throughout the individual’s career. Companies must also be more committed to providing an environment which encourages the growth and development of their employees skills.” — *Robin King*

- * “I need 25 digital artists and I need them yesterday!” Can educators increase the number of highly talented graduates in a rapid fashion? Are there limits imposed by the quality of the applicant pool, maximum effective class size, availability of qualified faculty, and funding?

“The rapidly expanding computer animation and special effects

industry is asking: “Where are the animators?” For those of us sitting on years of rejected equipment donation requests, it’s about time and I’m grateful. But they should also be asking a more long range question: “Where are the animation teachers?”

Skilled industry professionals who may teach software skills part-time have much to contribute but won’t supply the complete solution. The best academics have a real commitment to helping



students develop creative individuality, a repertoire of creative strategies and inventive design methodologies. Additionally, animation academics today must teach a wide range of topics and media, run animation studios and computer labs, pursue ongoing research and development to translate their discipline across evolving technologies, and commit themselves to lifelong learning to keep up with new creative and production opportunities. The resulting role is a tall order for anyone!

Working in animation production is so lucrative and exciting today that rarely are graduating students attracted to teaching. The decline in fine arts funding and declining public support for education make this role even less attractive. Industry can help by partnering with academic programs in concrete ways such as team-teaching courses using cutting-edge technology and new production paradigms, student and faculty internship programs, donations of slightly less-than-cutting edge technology, and production advising and support for faculty personal work.” — *Jane Veeder*

- * When evaluating artistic talent, imagination, and creativity, how do educators measure the unmeasurable? Do assessment instruments exist that are meaningful to employers?

“Real methods for assessment do exist, but they are rarely in the students’ grades and transcripts. Critical tools an employer has for evaluating the important aspects of students are the faculty and staff of the school as well as curriculum. We consider various programs of study to satisfy the different needs of production. What an employer wants to know typically is not measured in today’s grading system. Qualities such as the individual’s passion for the work, their innate talent and their “eye,” their strengths and weaknesses, their ability to work with a team, these are the kinds of things we want to know about the students.

Our most successful recruiting of students comes from schools where we have built a relationship with the faculty and staff. These relationships are built over time which involves ongoing communication and support between employer and school. — *Carl Rosendahl*

* For film and television especially, computer graphics work product rarely stands alone; images must be integrated with live-action footage and advance the underlying narrative. Do educational institutions teaching computer graphics and digital imaging place sufficient emphasis in their curricula on filmic narrative, storyboarding, cinematography, and editing?

“The USC School of Cinema-Television represents a highly unusual case, having an extremely close relationship with the Hollywood community, and academy award winning faculty members in cinematography and editing teaching students. Our students have strong interests in the integration of live action and digital images, and are producing several such projects each semester in 35mm film and video formats, making heavy use of digital compositing, film scanning, animation and nonlinear editing. Students in our MFA in Animation and Digital Arts program take screenwriting, life drawing, and study the entire filmmaking process in a production-oriented curriculum so that they will understand the relationship of their work to the larger whole. Being successful in this educational arena requires extensive infrastructure, a critical mass of faculty and staff, substantial corporate support, and recognition on the part of the educational institution of the escalating importance of this field. When these resources come together with the right students in a creative environment, a new breed of digital artist can emerge, that we hope will push the envelope of the industry.” — *Richard Weinberg*