

Teaching 3D Animation Online: The Ultimate Challenge?

A SIGGRAPH Forum

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1. Introduction

3D computer animation is a very challenging subject to teach and to learn because it requires a seamless blend of artistic and technical skills. In the last few years online education has made major strides in other fields, allowing thousands of students educational opportunities not previously possible. The application of this kind of technology has the potential to improve instructional quality, lower costs, increase accessibility (particularly to non-traditional students) and to provide flexibility for both faculty and students.

To date, however, relatively few institutions have offered 3D animation courses online. This forum will explore this challenge. Our panelists will be a group of educators and professionals representing a wide variety of practices & perspectives, including some who currently teach 3D online, those teaching mostly in traditional classroom settings, and others supplementing place-based education with online elements.

The traditional academic environment provides the student both formal and informal learning opportunities. One of the key questions for online learning is how to take advantage of its benefits, without losing important social and cultural interactions, particularly peer to peer informal learning. The forum will provide an overview of current methods and programs, including some exciting new emerging technologies. It will then consider a set of teaching tasks, how these are currently organized in physical and social terms, and if and how each of these tasks might best be accomplished online.

2. Overall objectives

- 1) To inform faculty, students and interested professionals about which programs, methods and technologies are currently available for online 3D animation education.
- 2) To encourage an open discussion about which elements of animation education are most important, and how these might best be supported by current technologies and methods.
- 3) To critically examine newly emerging technologies and methods and assess their potential.

3. Panelists and Moderator

We chose four panelists with different experience and points of view. Two of our panelists have been instrumental in the launching of a new program teaching 3D animation online. One of our panelists is the owner of a small commercial production studio, who also has classroom teaching experience at a wide variety of institutions. Our fourth panelist is a senior computer graphics professor, with longstanding interests and experience in computer animation

education. Finally, our moderator teaches 3D computer animation at a film school using a combination of conventional methods, and additional online elements.

Positions are nuanced, but basically our classroom educators remain skeptical about online animation education. On the other hand, we have two very strong proponents who have recently completed a successful two year pilot program. Finally, our professional animation manager is cautious about the ability of both traditional animation education and its online counterparts to meet student's and industry's needs.

4. An Outline of the Session

The forum will start with a short presentation of technologies currently used to assist 3D animation instruction. The moderator will present a classification of typical teaching methods and activities, such as:

- Lecture Activities
- Art Studio Activities
- Computer Lab Activities
- Student Film Preproduction
- Student Film Production
- Formal Work Critiques / Reviews
- Informal Student Activities

Next the panel will discuss which types of interpersonal communications are important to each task. In each case, they will be asked to consider which parties need to interact, and how the characteristics of media can help, inhibit, or structure how this communication actually takes place. Some media characteristics of known importance include: time (synchronous versus asynchronous), technical bandwidth and reliability, the direction of information flow (one way, two way, multiparty), and of course the type of information transmitted. Information types might include:

- Simple text
- Voice / Sound
- 2D Imagery
- Video
- Whiteboards
- Electronic Files, such as 3D files
- Remote interface mirroring
- Remote interface control

The classification of teaching methods and activities represent "ends" – what we need to accomplish. The media and technologies represent the "means" which we may have at our disposal. The task of our panelists will be to help sort out which combinations of means and ends are currently well met, which require future development, and which – if any – may ultimately prove difficult or impossible.

5. Time-frame

Although forums are typically allotted 60 minutes, we suggest a session length of 90 minutes to allow time for our four panelists and audience participation.

6. Facilities and Equipment

A room with capacity for 75-100 audience members.
A lectern with cordless microphone for the moderator.
A table with 4 seats & 4 microphones for the panelists.
Two microphones for audience participation.
A computer with large screen projection and screen.

7. Moderator:

Tereza Flaxman
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Tereza Flaxman has been teaching 3D computer animation for the past five years at both undergraduate and graduate levels. She has more than ten years of experience with high-end 3D animation software.

Prior to coming to RIT, Mrs. Flaxman worked as a freelance animator for the Lighthouse Studios in Boston. Her credit includes "The Supper Snoopers", which is a 30 minute computer animation for children. She has taught at both Harvard's Graduate School of Design, and at the State University of New York (SUNY). Her work has been published in several books and magazines, and exhibited in shows throughout the U.S.

Mrs. Flaxman has an MFA in Computer Animation from the School of Visual Arts in New York City and a BFA from the University of Oregon. She also earned a BA in Journalism from the Alcantara Machado School of Communications, Sao Paulo, Brazil.

8. Participants

Shawn Kelly
Animator
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Shawn Kelly is one of the co-creators of AnimationMentor.Com, the Online Animation School. For the past 7 years, Kelly has spent his days as an animator at Industrial Light & Magic. In his spare time has taught advanced character animation courses at the Academy of Art, San Francisco. His character animation credits include Jack Frost, Star Wars: Episode I "The Phantom Menace," The Adventures of Rocky and Bullwinkle, E.T.: The Extra Terrestrial, 20th Anniversary Edition, A.I. Artificial Intelligence, Star Wars: Episode II "Attack of the Clones," The Hulk, Pirates of the Caribbean: Curse of the Black Pearl, The Day After Tomorrow, Star Wars: Episode III "Revenge of the Sith." Kelly is currently working on War of the Worlds.

As a character animator, Kelly enjoys studying acting and motion. His job involves the creation of creatures and

characters for an array of fantasy and science-fiction feature films. He is passionate about the art of animation, and feels lucky and blessed to have the opportunity to not only work in animation, but also help teach a new generation of animators.

Jeremy Cantor
Animation Supervisor
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Jeremy Cantor teaches animation online for AnimationMentor.com and works as an animation supervisor, Sony Pictures Imageworks. He has been working as a character/creature animator & supervisor in the feature film industry for the past nine years at both Imageworks and Tippett Studio in Berkeley, CA. His film credits include *Starship Troopers*, *Harry Potter*, *Evolution*, *Hollowman*, *My Favorite Martian*, and *Cursed*. Before entering the movie biz, he spent a half-dozen years doing all manner of art & animation at varying levels of seniority in the interactive industry, which included directing the animation on the award winning digital PETZ project, *CATZ*. Previous to that, he worked as a freelance illustrator and storyboard artist. Jeremy has had two animated short films featured in touring animation festivals, and his latest CG short, *Squaring Off*, is included in North America's Best Animated Shorts (DVD collection). In addition to his current stint teaching advanced CG Character Animation at the California Institute of the Arts in Valencia, Jeremy has also taught classes & presented lectures at venues such as The Art Academy of Los Angeles, Massachusetts Institute of Technology, Gnomon School of Visual Effects, The American Film Institute, The Academy of Art College in San Francisco, and various SIGGRAPH and ASIFA events. Last year, Jeremy completed his duties as the art & animation director for *Full Spectrum Warrior*, an E3-Award-Winning console based training simulation project for the U.S. Army, on which he was responsible for all visual assets and animation-related tools programming. Currently, he is gearing up to become the character supervisor on Sony Imageworks' second video game project, based on Doug Chiang's science fiction property, *Robota*. Jeremy also recently co-authored *Inspired 3D Short Film Production*, which is currently available at a bookstore near you as well as online venues such as amazon.com.

Perry Harovas
Founder and Supervising Animator
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Co-author of the Amazon.com best-seller "Mastering Maya" (Sybex) and voted one of the "CGI Rising Stars" by Animation Magazine for 1998. Harovas runs a production company in Rocky Hill, CT, called "XVIVO Digital Animation," that specializes in the creation of compelling cinematic quality animations for both medical and non-medical clients. He project managed and was lead lighting TD and renderer of a fully computer generated series for kids called "The Super Snoopers." He has 6 feature films to his

credit and more than 30 commercials such as The Discovery Channel's 'Shark Week', Disney Channel's 'Winnie the Pooh' pilot, Nintendo of Japan's 'N64' ads, McDonald's 'Bubble' ads, History Channel 'Global Promos', Gillette 'Mach 3' intro, print and animation pieces for Avid Technology, and a fully CGI animation open for the Boston Celtics, among others.

He has taught at multiple colleges and universities, including NYU and Emerson College.

Dr. William J. Joel
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Dr. William J. Joel has taught Computer Graphics & Animation since the early 1980's. In 1988, Dr. Joel organized and chaired the 1st Symposium on Computer Graphics Education sponsored by Marist College in cooperation with the ACM/SIGGRAPH. In 1995, he received a PhD. from Syracuse University, with a dissertation titled "A Conceptual Model for Computer Animation". Since 1998, Dr. Joel has been an Associate Professor of Computer Science at Western Connecticut State University, as well as the Director for the university's Graphics Research Group, for which he chaired 1st Annual GRG Animation Festival in April 2002. He has presented numerous papers on the use of alternative strategies in the teaching of computer science. His current research efforts include the development of techniques for non-photorealistic animation, and the use of storytelling in the college classroom.