Revolution - Evolution: The Collaboration Forges On

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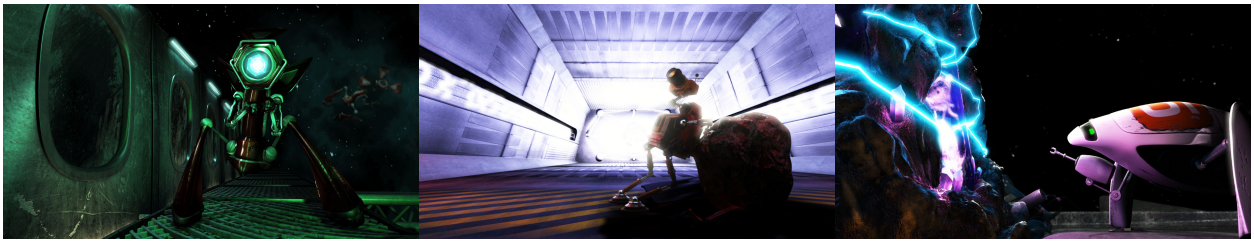

Figure 1: *Final frames resulting from collaboration between students at Texas A&M and Dreamworks Animation. For full animations please see http://www.viz.tamu.edu/?p=1408*

Abstract

Education is on the brink of a revolution. Technological advances and changes in organization allows us to teach, and learn, with innovative tools in ways that only a few years ago were inconceivable. Geographical boundaries are no longer an issue. While this will have a deep impact on distance education, it also impacts how we meet, communicate and collaborate. Communication suites facilitate easy sharing of work, ideas and feedback across miles, and across time zones. While this type of collaboration is now a daily occurrence in global conglomerates, the academic realm is still working to catch up in fully exploiting these tools to the benefit education. Educators and students need to harness communication technology to remain competitive in todays global world. The internet was originally developed by academics primarily for use as a communication tool within and between educational institutions. Instead internet use spread wider than anyone every dreamed, and has now infiltrated all areas of our lives. A similar paradigm shift now has the potential to explode collaborative effort and transform the learning process through fast, cost-efficient communication. At Texas A&M Universities' Department of Visualization we strive to push the boundaries of education by relying heavily on input from the very industries our graduates hope to work for. Our challenge is not only to provide our students with the best possible skill set across the disciplines of Art and Technology, but also to evolve from a system of simple knowledge transfer to a new system that enables graduates to leverage their knowledge within collaborate environments. As the business world "flattens" and disciplines (including production) "are becoming so complex that no single firm or department is going to be able to master them alone.", [Friedman 2005], graduating students will rely on their abilities to forge new networks and collaborations to survive and thrive in our shrinking global economy. One exciting way that students at A&M gain insight into how necessary these collaborative skills are is through a ten-week program which runs each summer in the Department of Visualization (Please see [Walvoord et al. 2009] for a full course description). While the students produce stunning animations (see supplemental movies) the magic of this course is not the product but rather the *processs* that occurs. It is amazing to watch the students mature and elevate their skills of communication and collaboration. Each Dreamwork professional's visit lasts five days. It is not possible for the artist on-site to teach all things to all students in this time frame, so learning occurs in smaller student groups and those groups then disseminate their newly learned skills to the rest of their team, and across teams. Also, collaboration continues, after the professional left Texas, through the use of (cost effective) state of the art collaboration tools currently available.

This is not the first successful collaboration between Texas A&M and Dreamworks, the evolution of the course, and lessons learned have wide-reaching effects within animation education. As in previous years, the industry team (DreamWorks Animation) acted as the *client* for the project by providing the story, model designs, effects, and environments within specific guidelines, and based on original artwork created specifically for this course by DreamWorks artists. The education team (Texas A&M) took the role of *producers* by coaching the students through resource and time management. Seven DreamWorks artists and engineers each spent one week at Texas A&M teaching the discrete pipeline disciplines and providing artistic and technical support and as the shorts progressed. As mentioned Dreamworks continued to provide artistic and technical guidance throughout the course via e-mail, blog postings and weekly remote dailies sessions held via video-conference. This complex collaboration benefits all participants. The exposure to realistic production environments and the unique challenges that arise from them is now essential for students preparing for careers in CG animation, visual effects, game production, and the "flat world" beyond. This also results in pairing visiting artists with the skill and talent levels of their future employees, and providing introductions that forge lifelong mentorship and collaborations. Equally important, on the education side, faculty gain a rare opportunity to synthesize the post-graduation expectations for students with existing learning objectives.

Our experience serves as a model for other collaborations between academia and industry. In this talk we present in more detail the key elements we found necessary for a successful venture and how this collaboration can be used to instill core skills in graduating students that are not currently being provided in most traditional academic environments.

References

FRIEDMAN, T. 2005. *The world is flat : a brief history of the twenty-first century*. Farrar, Straus and Giroux, New York.

WALVOORD, D., FRIEDMAN, M., MULHOLLAND, J., AND MONTAVLO, J. 2009. Bringing the studio to campus: A case study in successful collaboration between academia and industry. In *SIGGRAPH 2009: Talks*, ACM, New York, NY, USA, SIGGRAPH '09, 76:1–76:1.