

Is This Possible? Massive Online Inter-institutional Student Production

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ABSTRACT

The Massive Collaborative Animation Project is a multi-year, multi-school, global animation production currently entering its second year of production. Initiated in the summer of 2016 at the annual SIGGRAPH conference in Anaheim, CA, by Dr. William Joel (Western Connecticut State University), the purpose of MCAP is to allow undergraduate students and faculty from institutions around the world to join together in the creation of an original computer animation. A single animation and visual effects production is a highly



collaborative effort that utilizes multiple, interconnected teams. As such, industry needs workers that have experience with the intricacies involved in team-based projects. Many schools have animation components in their curricula, but may not have either the resources or student numbers to engage in the creation of extensive animation projects. By creating a platform for such schools to work together, sharing their resources and expertise, MCAP provides a mechanism to enrich these students' educational experiences, as well as hopefully provide a model for other collaborative projects.

CCS CONCEPTS

• Applied computing → Education;

KEYWORDS

3D Animation, Storytelling, Distance Collaboration

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1 RATIONALE AND RELATED WORKS

The production of a 3D animation film/video requires large amounts of work, talent and skills, including story development, art direction, character design, storyboarding, modeling, animation setup, shading, lighting, rendering, compositing, and sound editing. 3D animation curricula often struggle to not only cover all of the topics needed for students to become good animators, but also facilitate hands-on production experience.

The Computer Graphics Knowledge Base Report [Alley et al. 2006], created by the Curriculum Knowledge Base Working Group of the ACM SIGGRAPH Education Committee, lists “Professional Issues” near the top of the list following the “Fundamentals” section. This is further broken down into “Teamwork - Project management (Planning: stages, time, resources and Evaluation) and Collaboration issues and group dynamics (Roles of team members and Time management).”

Collaborative and interdisciplinary learning contributes to students' creativity [Ursyn 2014]. In addition, by working on a large production project, students can learn how a production pipeline works, and how to coordinate work with other team members. Schools with animation and VFX programs that attract large number of students can easily conduct such large-scale productions, often employing multiple full-time instructors with various production experience to facilitate this process. However, smaller programs have smaller student cohorts, as well as a limited number of instructors to cover topic areas that might be outside of their respective primary expertise.

This problem, of programs teaching animation in smaller, 3D animation, academic programs, has been discussed for more than a decade [Aoki et al. 2005]. Some programs may put more weight on group production and hands-on experience [Hilbert 2015], while others may have limited time for production-based projects because of various reasons.

There have been some efforts to teach 3D animation on the internet. Animation Mentor [Animation Mentor 2017] is one of the online schools that offer distance education employing instructors with industry experience. In 2015, an introductory 3D animation course using an open source application (Blender) was offered in India as a Massive Open Online Course (MOOC) [Sahasrabudhe and Majumdar 2016]. However, these efforts focus more on teaching knowledge and techniques as opposed to developing a student's group participation skills.

Tse, et al. [Tse et al. 2015] discuss the importance of Collaborative Learning Places, where various network tools can facilitate an increase in student learning outcomes.

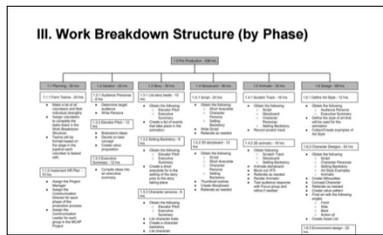


Figure 1: Section of student-developed production management plan.

The Massive Online Collaborative Animation Project was started in 2016 to fill this gap and give students the opportunity to work collaboratively beyond their respective institutions. The initial meeting of MCAP at SIGGRAPH 2016 attracted over fifty attendees, with faculty from approximately sixteen schools, worldwide, eventually agreeing to participate in the project. We are planning the second general meeting at SIGGRAPH 2017 conference to discuss our progress and invite more schools to participate. This presentation will discuss the initiation phase, project planning, and integration into classroom instruction. We will also discuss current project status, next steps, and issues that have plagued the project.

2 CURRENT STATE AND DISCUSSION

Since the initial meeting, MCAP faculty members have met via online conferencing, in order to establish an overall plan for the project. It's an open forum, and new members are invited to join the project anytime.

The project currently uses a model where students participate in various MCAP teams, with faculty members functioning as mentors. Faculty assign tasks, such as developing a story idea or modelling a specific character, to a group of students in their school as class assignments or individual projects and report the results to MCAP.

For example, in fall 2016, Jake Pollak (Ferris State University) had his class develop a detailed, written plan which the steering committee has adopted to guide the production (Figure 1). Also in October 2016, eight story ideas (sketches) were solicited and voting on by the participating faculty members. A final story idea was selected in November. The selected story was detailed enough to provide sufficient focus, yet simple enough to allow room for further development.

Currently, work is underway to test a project management system to manage and track the project development, and manage project assets, such as script, storyboards, artworks and 3D animation assets. We are also working on story development (Figure 2).

Issues and questions we have encountered include working with the academic calendars of multiple schools. To involve a group of students for a part of the project, assigning the task as classwork would give incentive to students, but needs to be prearranged and fit into a course's schedule. Including students from schools that don't have MCAP faculty members is also an issue. Also, a lack of faculty members willing to oversee specific tasks, such as scenario writing or rigging, might hinder the project. These and other issues are continually discussed during MCAP online meetings.



Figure 2: Section of a student-developed thumbnail storyboard.

3 NEXT PHASE

The next phase for the MCAP project is scriptwriting, storyboarding and art direction. Student teams from several schools will be engaged in this phase, with faculty members to guide and facilitate the process. Once this is accomplished, the steering committee will re-evaluate MCAP's progress, and adjust the project plan accordingly. We are aiming to have animatics done by July 2017 and start the production in fall 2017.

It is intended that once completed, MCAP will have developed extensive documentation for planning and implementing collaborative projects, including such artifacts as rubrics, that can act as a model for how other schools can join together in the creation and execution of new projects.

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