

Virtual Hands-on Learning: The Aesthetic Camera in Second Life

Walking about campus has never been like this. On a virtual campus, a visitor or student or faculty member might well be able to fly from one location to another, walk under water, and even teleport from place to place. It certainly saves a lot of virtual shoe leather. Anyone who has visited Second Life (www.secondlife.com), created an account and an avatar (a character who represents you in the virtual world), and wandered about would be familiar with these modes of travel as well as more mundane functions, such as walking, talking, sitting and just looking around.

Sounds like an on-line computer game, right? There are aspects of Second Life and worlds like it that are common to many games. These worlds are animated, three-dimensional, immersive environments, but the avatars in Second Life have considerable control over appearance (gender, clothing, hair, body shape) and live in highly scalable environment which permits them to do and be almost anything, without the rules and the specific objectives and goals of a game.

The popularity of virtual worlds is surging exponentially, and many educational institutions and businesses are purchasing "land" and establishing locations, even virtual campuses. This article will examine efforts by the Institute for Digital Intermedia Arts and Animation (IDIAA) at Ball State University to create and teach a class in the techniques of film making called *The Aesthetic Camera* on their virtual campus in Second Life. The one-credit course focuses on cinematography instruction in the physical world and virtual world where it is also known as "machinima."

According to their Web site, "the institute is an interdisciplinary, collaborative research and studio environment that explores intersections between art and technology," and it is a place where "students, faculty, and industry partners engage in a wide range of innovative digital media projects employing technologies such as virtual reality, visualization, simulation, human computer interface, and interactive art works."

Starting at the Beginning

The idea is both radical and innovative: teach students to make films, to use the equipment and skills involved in cinematography, but deliver it all on-line - in an environment that stimulates creativity and interaction with fellow students and instructors. This environment includes virtual versions of all the necessary tools and some that do not exist in the real world, for example, a flexible shooting environment or holodeck.

Initial considerations when planning *The Aesthetic Camera* included defining the audience. Would students be primarily distance education students, or would on-campus students take the course as a lab or as an on-line supplement? The benefits to distance education students seems obvious, because of their limited ability to interact with instructors and other students due to simple distance factors. However, on-campus students may benefit from the asynchronous features of the course and a reduced need to travel to the campus to interact with colleagues and instructors.

The Aesthetic Camera modules are IDIAA's initial offerings - they were designed as a prototype that involved innovation in instructional design, bridging between the Web, Second Life, virtualization of instructional laboratory equipment, and multiple modes of delivery for supporting media content. They have designed this experience to be available to primarily distance education students, but we have considered its potential as a supplement to on campus experiences to access the course content.

Finding Programmers and Funding

Problems to be resolved included finding programmers and designers to help with the creation and maintenance of virtual studio and equipment.

This project primarily involved faculty and students attached to IDIAA as well as several staff from university information technology. This group brought expertise from a variety of disciplines to bear on the project, including modeling, animation, programming, instructional design, media, and project management. In modeling and programming in particular for Second Life, there is a somewhat steep learning curve in transitioning to that particular environment. IDIAA also retained several external consultants in particular aspects of the project. The holodeck is a commercial product they author scenes for - but they did not build it.

Such projects nearly always face the challenge of finding the resources to fund research, development, and production. IDIAA was fortunate to obtain ready support. Their project was supported by the Office of the Provost, the Dean of the College of Fine Arts, the Vice President for Information Technology, and the Director of the Center for Media Design at Ball State University.

Of course, it is always a blessing to find outside funding for a worthy effort. The project was also awarded the Blackboard Green House Grant For Virtual Worlds. Such a commitment from internal and external partners allowed IDIAA to explore the potential of virtual learning with a talented team of dedicated specialists. IDIAA Director Fillwalk and his team invested countless hours in the research, design, and production of *The Aesthetic Camera*. This included considerable contribution of staff, software, and hardware resources committed to the development of this project.

Discoveries and Dialogs

Many other schools are experimenting with virtual environments as educational platforms. They have discovered that beginning a foray into the development process requires careful planning. From their experience, IDIAA has found that the first step is to identify an institutional leader who is passionate about the possibilities of instruction in on-line virtual worlds. And the second step is to assemble an interdisciplinary team of designers and technicians to explore the potential of the technologies. Integration is the key to making the student experience fluid and getting the various technologies involved to cooperate.

The dialog continues as IDIAA is also currently designing and building Second Life presence for a variety of external and internal partners.

Costly Connections

To effectively explore Second Life environments, high speed Internet connections and newer computers capable of running contemporary games are requisite. At first, it might seem that some distance students are disadvantaged because they lack high-speed, reliable Internet connections, and fire-breathing, massively powerful gaming computers. The connection, memory, and graphics requirements for efficient and comfortable navigation and interaction in Second Life is fairly high...beyond the dial-up connection and the family computer with an older processor.

Although it is true that older computers or dial-up modems would not provide satisfactory experience, Second Life as a free client can be run at libraries, universities, or other public

Internet facilities, thus increasing the potential for student access. It does not appear to have been a problem or limiting factor for any prospective students.

There are measurable costs to be considered for a faculty member designing and teaching such a course, and for an interested faculty member beginning the process. Faculty members exploring on-line e-learning, virtual learning, or hybrid learning (a blend of virtual and physical), commit themselves not only to a course of study of new technologies, but also new paradigms of instructional design. There is also the issue of institutional support and maintenance, once the pioneering effort has been established.

One also needs to reckon with those who prefer to pioneer only on the trailing edge of technology. Such pioneering efforts commonly go against the grain of convention, often resulting in skepticism by colleagues, students, and administration.

Benefits

The Institute has found measurable benefits for both instructors and researchers from this project. Their focus is to explore the fusion of instructional modes including physical, on-line, and virtual, with particular interest in the synergy of synchronous and asynchronous learning environments. Benefits have included the development and retention of an expert research team centered around simulation, visualization and interaction. IDIAA is currently honing their business profile as clients contact them to secure their product development, consultation, and services in simulation, visualization, and interactive interface design. Multiple opportunities for visibility and dissemination of the project have also been outcomes of their efforts.

There have been benefits for the students as well, some measurable and immediate, some only now recognized. Distance education students can participate in communal learning and synchronous dialog with instructors and a peer group. A sense of isolation typically found in online asynchronous modes is alleviated by building a sense of community.

A secondary benefit to on-line learning environments now becoming increasingly important for students and faculty is a reduction in the cost of transporting one's body to and from a physical campus. Spiraling gas prices are making daily commutes increasingly expensive, and many schools are seeing an enrollment upsurge in distance education courses they attribute (at least partially) to this increased cost.

Panacea or Pandora's Box?

The IDIAA team members were not the first to enter Second Life with the idea to use that environment for educational purposes, but they have taken the process to a new level and opened the door to possibilities that did not exist prior to their efforts. Ultimately, of course, the promise of the program will be delivered by the performance of the students taking *The Aesthetic Camera* course and those courses spawned by this virtual ground breaking program.

Until time gives the final grade for this effort, the increasing levels of participation, the willingness of university administrations to invest time and money, the support of companies like Blackboard to recognize and support these efforts points toward future success.

Going on *Walkabout* in the virtual worlds of Second Life can change your perception of reality. There is a strange and perhaps wonderful sense of connection that develops as one spends more time in the immersive environment and becomes increasingly comfortable with

the experience. A true sense of existence in a different place develops and a host of possibilities seems eminently reachable. One begins learning the minute one enters Second Life, and it seems most natural to continue learning.