Digital prototypes help university team get $550k+ in technology funding

Posted by Erica Driver on September 24, 2008

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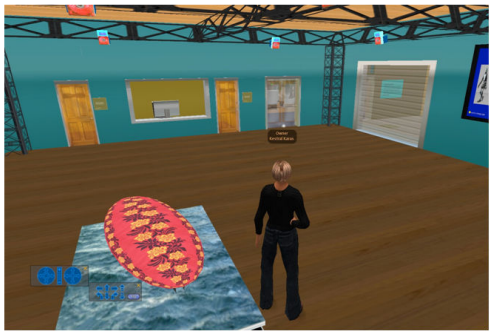
The U.S. Dept. of Labor has a program in place, funded by H-1B visa fees, to increase the competitiveness of the American workforce. This program, called Workforce Innovation in Regional Economic Development (WIRED), has an initiative under way in the state of Ohio called the Ohio Valley Interactive Technology Alliance (OVITA). OVITA is focused on developing a creative and academically prepared workforce and establishing the region as a center of excellence and innovation in the field of interactive digital technology, which includes the Immersive Internet. OVITA works with three state universities — Ohio University, Kent State University and Shawnee State University — as well as community colleges and high schools. As with any publicly-funded initiative these days, leadership has to work very hard to justify how money gets spent. Thomas Stead, the Associate Director for Education for OVITA and former department chair at Shawnee State University, recently shared with me some experiences he has had using immersive technology to positively influence budget decision makers.

3D digital mockups pave the way to >$550,000 in funding for motion capture studios

To advance Ohio's standing as a bastion of virtual reality research and expertise, staff at Shawnee State University wanted the university to invest in sophisticated motion capture equipment. Words weren't powerful enough to convince the provost and others that spending millions of dollars on sophisticated audio and video equipment — and a new building in which to house it all — made sense. So Thomas Stead used 3D technology to build digital prototypes cheaply and easily and put these mockups to work as powerful communication and persuasion aids.

- **Step one: Standalone 3D mockups influence the go/no go decision.** Stead first built a high-quality digital mockup of the motion capture studios using a 3D rendering program called DAZ 3D Bryce. He compiled a book of 3D images of the studios that would be needed in the proposed facility and presented them to the president and board of trustees of Shawnee State University. The administration found the 3D digital mockups so compelling that the mockups were included as part of the university's capital campaign to raise $12 million USD to date for new projects including the motion capture studios. The state of Ohio also pitched in money and the fundraising process is well on its way, with more than $550,000 already set aside specifically for the motion capture studios. Once the project is fully funded, construction will go up for competitive bid.
- **Step two: Prototype in immersive environment helps avoid costly construction mistakes.** More recently, Thomas Stead spent a couple of weeks building a 3D model of the motion capture studio in Second Life (see Figure 1). Stead and his team took his laptop into the provost's offices and let the administrators tour through the virtual space. According to Stead, "We have to let people use the mouse…then, and only then, do they 'get it.' What we have is the ability to package a cluster of experiences, not just information, with the tools for a conversation about those experiences."

Fig. 1: Digital mockups of motion capture studio pave way to $550,000+ in funding and avoidance of costly mistakes



Source: Thomas Stead, Associate Director, WIRED

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While the go/no go decision had already been made with the help of the earlier 3D renderings constructed in Bryce, the Second Life experience helped clarify the feel of the space and why the motion capture studios had to be located in a large space as opposed to some earlier ideas of temporarily housing the studio in a much smaller room. It had been difficult to explain with words that the actual motion capture area is considerably smaller than the required hanging space for the 24-camera system. When immersed in the Second Life version it was a no-brainer to see that 18 foot ceilings and at least a 40X40 foot space was going to be a necessity. Thus the Second Life prototype helped Shawnee State University avoid what could have been a huge and costly mistake.

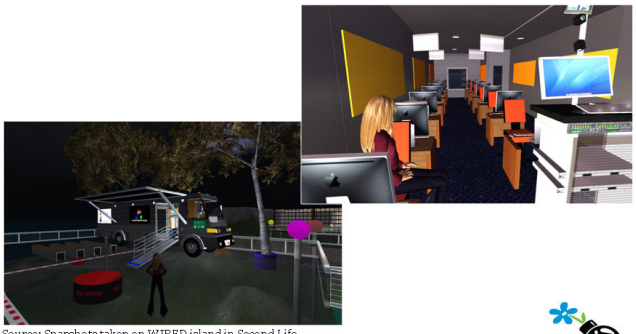
And this was done at very little cost. The cost of an entire region in Second Life is about $200 USD/month and according to numbers put out by the Chronicle of Education, on average a couple weeks of a professor's salary at one of the three Ohio universities that are part of OVITA amounts to about $3,500. An executive from motion capture provider Kerner Motionwerx brought his Second Life avatar into the digital mockup of the motion capture room and made sure the virtual space was set up correctly. Travel costs avoided? Roughly $1,100 USD, according to American Express Business Travel's estimate.

Mobile learning vans: on the docket once Ohio state budget crunch eases

In another instance, Stead and his team at OVITA were having trouble getting the idea of mobile learning vans across to decision makers at the state level. Not surprising: do a Google

search on the words or exact phrase “mobile learning van” and you won’t find much of relevance. So Stead spent 3-4 days building a mockup of a mobile learning van in Second Life and put it up on the WIRED island (see Figure 2). After Stead demonstrated what a mobile learning van might look like and how it might work, the powers that be understood its value — unfortunately, the state of Ohio is in a budget crunch so investment in mobile learning vans is on hold right now.

Fig. 2: Shawnee State Univ. digital mockup of mobile learning van in Second Life



Source: Snapshots taken on WIRED island in Second Life

An immersive digital prototype is worth a million words

Collaborative design and prototyping is one of the primary uses of the Immersive Internet in the enterprise. (See the related July 1, 2008, ThinkBalm article *Heavy equipment manufacturer explores Immersive Internet for product prototyping*.) While an obvious element of value is being able to create digital prototypes quickly and easily without having to build physical prototypes, Thomas Stead’s story is a great example of a quick-and-dirty digital prototype being used as a communication tool to garner further investment in a project. If a picture is worth a thousand words, Stead’s team has shown that an interactive experience with an immersive digital prototype is worth a million words.