Africana Studies Professor Helping Build 1920s Virtual Harlem

Imagine traveling back to the Harlem Renaissance era and being able to wander New York neighborhoods, hear the sounds of jazz piano and feel the exciting cultural explosion in the city following World War I.

Students in Bryan Carter’s classes don't have to imagine being in 1920s New York; they're able to visit it virtually.

Carter is an assistant professor in the UA's Africana Studies Program and has a doctorate in literature with a focus on digital culture from the University of Missouri-Columbia. He has long been using virtual environments to help students connect with history.

His most recent project includes building a digital replication of 1920s Harlem through a partnership with a company called Virtual World Web. With high-quality graphics, improved interactivity capabilities and a mobile device roadmap that will allow the program to run on Apple and Android devices, Carter says he is excited to launch the new program.

He has received the first images and a video demo of the new program, which he said should launch in a closed beta format in January.

A Journey Into the Jazz Age Begins

Carter’s journey using virtual environments in his teaching started back in 1996 at the University of Missouri. He was teaching an African American literature course and submitted a proposal to re-create a portion of Harlem, New York, as it existed during the 1920s jazz age.

At the time, he says, the technology was very new for educators.

"Places like NASA, the government and the military were already using virtual reality, but not so much in education and particularly not in the humanities," he said. "I found that many of my students had a visual disconnect as to what may have inspired writers back in the 1920s."

Carter did some research ? including digging up historic photos and maps ? and then worked with a team to create and launch his first virtual Harlem, although graphic and interactive capabilities within it were limited.

"We had an idea of what was possible," he said. "Students loved it."
After about four years, Carter said, virtual Harlem had "basically been around the world" via demonstrations at conferences and networking events with faculty at various institutions. When funding dried up, he started to look for a new platform. He discovered Second Life, a three-dimensional virtual world where users socialize with others through the use of avatars.

Second Life allowed students to connect and communicate through text and, in later years, voice.

"Students could log in from anywhere in the world," Carter said. "As long as I saw their avatar, they could interact with me. It didn't matter where they were physically as long as they attended class virtually. We had a great time in there."

It was a sufficient platform for a few years, until Carter said video game graphics started surpassing those in Second Life. Another problem: Linden Lab, Second Life's parent company, stopped giving educators a 50 percent discount on software.

"For those who were paying out of their pockets, that was painful," he said. "Second Life stalled, and video games kept improving graphically. You can imagine that students were underwhelmed. Many educators started seeking other platforms."

New Possibilities Arise

Around 2008, OpenSim emerged. OpenSim allowed users to connect their servers with others and visit new environments. Although the program was free, it required users to download updated versions to stay current.

Carter didn't move to OpenSim right away, until a colleague offered to move his virtual Harlem from Second Life to an OpenSim format and host it at St. Andrews University in Scotland. Carter agreed to partner with the university ? which is currently hosting a version of virtual Harlem ? but continued to search for advanced programs.

Around the same time Carter partnered with St. Andrews University, he was contacted by a company called Utherverse, who also offered to host his virtual Harlem on a new platform through its rebranded company called Virtual World Web.

"Their (Utherverse's) graphic quality ? which is 10 times better than that found in Second Life ? is what really excited me about partnering with them," Carter said.

The new program will also allow users to talk with others using text and voice, interact with the environment and move objects with just the click of a finger.

Now in its development stages, a final version could be ready late spring 2014. He'd like to use it in his proposed "Experiencing the Harlem Renaissance" course next fall. Virtual World Web also will be creating for Carter a virtual Marmont, part of the 18th arrondissement in Paris that also was extremely relevant to the Harlem Renaissance.

Keeping Teaching Fresh

For now, Carter says he continues to stay up to date on current technology trends and use them in his classroom.

"Students don't learn today like they did even in the last five years," he said. "It makes
teaching more interesting for us, too. It keeps it fresh. It makes it fun and exciting. Seeing students engaged means I'm doing my job versus talking at students in a lecture hall."

In virtual worlds, Carter typically will give assignments such as: create a museum or art gallery, or visit another location and report back to the class. He also gives role-playing assignments, like having students speak about President Barak Obama's inaugural speech from the perspective of blues singer Bessy Smith [4] or editor and writer Jessie Fauset [5] from within virtual Harlem.

He said the reaction from students is always interesting, and he has to make sure to schedule a full class period to allow them to create their avatars so they look just right.

"At first, some students are a little confused as to what to do there," he says. "Students are used to playing video games, which tell you what to do. Virtual worlds are open-ended environments. Once you encourage them to get out and explore, they start to get it and end up loving it."

Carter is also exploring augmented reality technologies and how to use them in his teaching. For example, he plans to use a mobile app called Layar [6] during his Thanksgiving break trip to Paris with students from his "When African Americans Came to Paris" class.

Layar and other augmented reality programs allow users to see the real world with virtual information ? such as text, hyperlinks or videos ? laid on top of it. During the trip, students will be able to explore tourist attractions more deeply by scanning and seeing more detailed information using Layar.

**Looking Toward the Future of Alternate Realities in Education**

Carter, a self-proclaimed "digital humanist," said his ultimate vision is to combine virtual and augmented realities, in which people could wear an augmented reality device and be geo-located in a virtual world, allowing them to see and interact with avatars wherever the viewer may actually be in real life.

Carter describes it as almost being able to travel back in time and would allow for a deeper understanding of history. For example, a person wearing a device and exploring present-day Harlem would be able to see a virtual version of 1920s New York and historic figures in avatar form.

"That's my dream: to allow people to see historic characters through these wearable devices," he said.

He also added that other disciplines ? from foreign language studies to anthropology ? could all successfully employ virtual and augmented reality tools.

"We have a vested interest in staying on top of the most recent trends in tech and figuring out how to shape those to use in class," Carter said. "These kind of technological innovations help expose students to a wider world."

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