IATH

The Institute for Advanced Technology in the Humanities

Tour Ancient Rome At SIGGRAPH 2008 In Los Angeles

Monday August 4, 2008

Press Release

A significantly enhanced version of Rome Reborn will make its public debut at SIGGRAPH 2008 this August in Los Angeles. It is one of several cutting-edge New Tech Demos that exemplifies how the past invigorates the future of computer graphics and interactive techniques. Considered the largest virtual reconstruction, cultural heritage, and digital archaeology project to date, Rome Reborn is an international collaboration designed to create an interactive 3D digital model that illustrates the urban development of ancient Rome.

Rome Reborn showcases new approaches for exhibiting historical findings in museums, classrooms, and on the Internet. Approximately 7,000 buildings recapture Rome at the peak of its glory in 320 AD, at the time of Constantine the Great. The project opens new channels for education, collaboration between scholars, and communication of archaeology to the general public.

"Rome Reborn is re-inventing the way we explore, understand, and celebrate our past by bringing together technologies that invigorate and define the future of computer graphics and interactive techniques," said Cole Krumbholz, SIGGRAPH 2008 Associate Producer of Encounters. "This exhibit demonstrates the impact modern computer graphics is having on other fields, such as archeology and the humanities."

In real time, visitors to the exhibit will be able to explore the ancient city landscape and its numerous buildings and immerse themselves in the reconstructed 3D models of ancient Roman architecture, rendered interactively.

Several industry and academic partners have collaborated to create Rome Reborn. These include IATH, IBM, Illustrious, mental images, Past Perfect Productions Srl., Procedural Inc., the Politecnico di Milano, UCLA, and Mersive Technologies -- each one contributing creative content with computer graphics technologies that combine to deliver interactive experiences of ancient Rome.

The Institute for Advanced Technology in the Humanities (IATH) at the University of Virginia is a world leader in the field of digital humanities and has been the lead developer of the Rome Reborn project since 2004.

IBM's Using Cell Processor Technology, has created a highly interactive way to experience ancient Rome, resulting in an improved frame rate, resolution, and illumination of the model over the first version of the Rome Reborn application.

Illustrious is a U.K.-based company specializing in three-dimensional sound, and they have worked with IATH to create videos of everyday life in ancient Rome in order to enhance the Rome Reborn model.

mental images' RealityServer, is a server-based 3D application and web services platform that enables a completely interactive experience with massive 3D models like ancient Rome, in real time on the Internet.

Past Perfect Productions, a company based in Rome, Italy, reconstructs archaeological and historical sites from around the globe using scientific research and cutting-edge virtual reality techniques, owns exclusive worldwide commercial rights to the Rome Reborn model, and has partnered the development of the project.

Ducati Myers and the **University of Bologna** have developed a mobile virtual reality device called the TimeMachine that uses location tracking to visualize the 3D Rome Reborn model onto real world scenery. Adapted for SIGGRAPH by Fraunhofer Institut and ArtResearch, this technology enables tourists to visit the modern-day Roman ruins and experience the ancient city as it appeared during its peak in 320 A.D.

Procedural Inc., an ETH spin-off company and the developer of the recently launched CityEngine software that allows for the fastest creation of large-scale urban environments such as the more than 7,000 buildings automatically generated in Rome Reborn. The

Politecnico di Milano made important contributions in digitizing the famous "Plastico di Roma Antica," a 1:250 physical model of the ancient city created over a 30 year period for a museum in Rome. The digitized physical model served as the point of departure for the Rome Reborn project.

UCLA contributed highly detailed models of more than 30 sites in ancient Rome, including the Colosseum and the Roman Forum.

Mersive Technologies, creator of ultra definition (UD) displays, will make visitors feel as though they are actually stepping into ancient Rome through pixel-perfect images showcased on its 27 million pixel ultra definition display that measures 25' 5" wide by 10' 9" tall by 36" deep (24' 5" x 8' 7" viewable screen) with a resolution 14x greater than HD.

"Rome Reborn represents a unique partnership between humanists and computer scientists inside several universities and between the industry and the academy," said Bernard Frischer, a professor at the University of Virginia and project director. "Working together, we have realized the centuries-old dream of reconstructing the greatest and most powerful city of the ancient world. The result is an invaluable resource for education, research, and tourism. But Rome Reborn is only the beginning. Great cultural heritage sites such as Colonial Williamsburg, Giza, and the Sacred Valley in Peru -- to mention just a few -- are next on our agenda."

The exhibit will also feature a series of scheduled talks by representatives of the participating Rome Reborn partners, detailing how this unique and ambitious project was brought to life. Registration for the conference and exhibition is open to the public. To learn more about Rome Reborn and the other technology exhibits on display at SIGGRAPH, visit http://www.siggraph.org/s2008/attendees/newtech/.

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