## Restoring Urban Historical Past for Future Generations

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Is it possible to bring back to life urban landscapes destroyed by natural disasters, wars or decay? And what role can university art faculties play in introducing innovative technologies towards the virtual reconstruction of lost urban cultures and art treasures? These were the main themes introduced by leading art historians, architects, archeologists and programmers gathered at the Institute for Art History at the Ludwig-Maximilian University of Munich, Germany. The international and inter-disciplinary conference was organized by the European Science Foundation Research Networking Program PALATIUM and co-organized by the Institute of Archeology, Cultural Heritage and Art History of the Otto-Friedrich University of Bamberg.

Today virtual reconstructions play a decisive role in the exploration of city pasts in many corners of the world. It implies rediscovering the urban "DNA," using all available documents such as drawings, plans, paintings, images, films and written records to create digital models for the reconstruction of historical sites, clarifying the disposition of urban spaces, and tracing and restoring networks. Digital techniques, combining and integrating different digital platforms, databases, and

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maps are increasingly being used for testing hypothetical models of city environments ,for representational purposes and not least to educate the public, connecting citizens to their historic past.

One example: In 1755 the city of Lisboa (Portugal) was destroyed by a devastating earthquake, It was rebuilt without consideration for preserving what could be considered the "soul" of the city with its original street patterns and architectural treasures .Recently researchers from the Centre for History of Art and Artistic Research (CHAIA) of the University of Evora forming the "Connecting Cities" network asked themselves: Is it possible to give back to its citizens the city as it was before the earthquake? And they came up with a project of virtual archeology "City and Spectacle: A Vision of Pre-Earthquake Lisbon" (www.lisbon-pre-1755-eartquake.org and www.vimeo.com/17044721).



Figure 1. Virtural reconstruction, archeology, and an interactive educational simulation.

The main task was choosing a digital technology that could also be used as an educational tool. And they found Second Life (Linden Lab 2003) that had already been included as digital platform in 2000 academic research projects. As an open multimedia simulation platform Second Life allows visitors to become immersed in virtual urban environments and participate in interactive historical events with others across the globe, simultaneously and in real time It allows for the re-birth of pre-earthquake or pre-tsunami cities to become universal sites for cultural tourism, inviting the whole world to become their new citizens.

Many more technologies and platforms for virtual reconstruction of urban habitats were presented at the conference ,among them the GML Generative Modeling Language (Programming language for shape) Among the most prominent projects presented were "Historical research into city planning – the urban grid" of the Central European University in Budapest, Hungary and "Back to the Future" a virtual reconstruction of the historic Zwinger Palace of Dresden, Germany, taking the physical reconstruction after the World War II bombing a step further. A third project of recreating an urban reality that has disappeared involved a digital recreation of the daily and ceremonial life of Angkor Wat, turning what today has been termed a religious skeleton into a living medieval metropolis (Thomas Chandler of Monash University, Melbourne, Australia).

What about opening up similar studies and research projects in South East Asia. For Thailand it could mean taking the reproduction of life in Auytthaya as represented at the murals of Wat Phra Kheo a step further.



Figure 2. Inside the virtual reconstruction of the Ribeira Royal Palace.