Digital Heritage

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CHI 2009, April 4 – 9, 2009, Boston, MA, USA
ACM 978-1-60558-247-4/09/04.

Abstract
The India Digital Heritage Project is a collaborative initiative between the industry and academia, with the aim of using novel techniques to efficiently capture and present various aspects of India's diverse heritage, while at the same time advancing the state-of-the art in related research areas.

As part of the Digital Heritage Project, we have built a prototype virtual tour of a South Indian temple that, for the first time, integrates technologies such as Photosynth and HDView, opening up new ways to interactively explore visually complex sites. These technologies are combined with audio, video and guided walkthroughs, to provide a compelling end user experience. The accompanying video highlights the key scenarios of our prototype.

Keywords
User Experience Design, Heritage, Visualization, World Wide Web and Hypermedia, Prototyping

ACM Classification Keywords
H.5.1 [Multimedia Information Systems]: Animations, Artificial, augmented, and virtual realities

Introduction
With advances in the fields of Computer Vision, Graphics, and Interactive Media, we are in a position

today to both record and showcase the rich architectural, historical, and cultural heritage associated with monuments, both in India and across the world.

The goal of the India Digital Heritage project [2] is to capture and archive visual, textual, architectural, and other archaeological data for various Indian national monuments, to use that data to create compelling 2D and 3D visualizations of the monuments, and to provide on-line (and off-line) user experiences involving such visualizations to the general public.

Interactive Narratives

Technologies such as online maps, gigapixel panoramas [3] and most recently Photosynth [4] go beyond traditional media, such as film, slideshows and animations, in their rich and exploratory nature of presenting information. We observe a paradigm shift, wherein the navigational control is gradually being handed over to the content consumers rather than the content creators, encouraging exploration.

On the other hand, storytelling or narratives have always been, and likely always will be a powerful way of conveying information. Szilas & Rety [6] make the case that quasi-linear and non-linear narratives can effectively represent complex knowledge, especially in the domain of interactive storytelling.

It is interesting to note the value in combining two approaches. The World Wide Telescope [1, 5] is an example of a stand-alone application that allows users to create and share narratives, in a data-rich astronomical environment.

We are exploring how to weave together *multiple* underlying experiences into a single compelling narrative, where various streams of information can be orchestrated to generate a compelling multi-media narrative. Our architecture explicitly allows end-user actions such as pause, explore and resume, in order to preserve the exploratory nature of the individual components.

Using this architecture, we have built a prototype interactive virtual tour of the Sri Andal Temple, a south Indian heritage site utilizing a combination of Photosynth, Gigapixel Imaging (HDView), 2-D overlay graphics, video and audio. The narrative is augmented with context sensitive architectural, historic, scientific and cultural information.

References

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