Tiber Valley virtual musem:

from documentation and 3D reconstruction, up to a novel approach in storytelling,

combining virtual reality, cinematographic rules and natural interaction

CNR ITABC

Abstract

The Virtual Museum of the Tiber Valley has been conceived in order to increment and disseminate the knowledge, the interest and the affection towards the territory north of Rome, crossed by the Tiber river and by two important roman consular roads, via Salaria and via Flaminia, an area 40 km long x 60 km wide. To do this an integrated communicative system has been created, including a website (still in progress), VR and multimedia installations placed in the museums disseminated in this area and, at central level, in Rome inside more attended and important museums. Starting from a cross-disciplinary study and documentation of the territory and of its evolution across the time (from 3 million years ago until today), 3D representations at different scales have been realized, from the whole landscape, to specific sites.

One of the results of the project is a spectacular VR application characterized by gesture-based interaction, by an innovative approach in interactive storytelling and by an artistic and evocative style even if based on scientific contents. It has been presented as permanent installation in the National Etruscan Museum of Villa Giulia Museum, in Rome, on the 16th of December 2014.

It consists of four different sceneries that are visualized on three aligned 65 inches screens, aiming at creating a new evocative and narrative access to the territory of the middle valley of the Tiber. It allows the visitor to see the Tiber through the eyes of a fish that swims in the river , a bird that flies over the landscape , the ancient characters living in the roman city of Lucus

Feroniae, and a a freed slave that lives his own dramatic experience inside a famous roman villa, Villa dei Volusii.

One of the most innovative aspect is the new approach in the narratatives and interactive storytelling. We avoid to transmit cultural contents about the Tiver Valley through a pure informative and descriptive approach, as it is already possible in thousands of web sites that everyone can access by mobile devices. On the contrary, in this project we propose an original style, for instance we use poetries and literary quotes taken from the ancient and modern authors, referring about the history, the populations and the identity of this territory. Moreover we use the archaeological and historical context as scientific background to build an interactive and engaging story seen from the perspective of specific characters. Thus, the reconstructed sites become a stage for storytelling, where ancient personages are the leading actors, dialoguing and interacting among them and occasionally with the user. These characters are not in 3D but they are real actors, shot in a virtual set while performing in front of a green screen and then integrated in the 3D sceneries.

On the three aligned large screens the user can experiment different visualizations: the observed archaeological environment and 3D reconstruction of the past are shown in parallel on different screens during the exploration, using camera tracking metaphors; this solution allows the public to have a better perception and understanding of the context.

The use of a so involving storytelling led us toward a new new approach in the virtual exploration, going beyond the traditional paradigms of virtual reality. We needed to create a "direction" of cameras to favor an emotional engagement (as it happens in movies), but keeping a certain degree of freedom for the user in the exploration of the 3D space. We also tried to balance the right level of interactivity for the general public of the museum: the four different sceneries require different degrees of physical engagement, in order to match different target (from children to elder people).

So a novel integration of different paradigms and media has been experimented, combining virtual reality, natural interaction, augmented reality and cinematograhic rules.

In conclusion in this project the efforts have been oriented towards the creation of an emotional, multi-sensorial scenario, inside which visitors can feel immersed and involved and acquire cultural contents in a pleasant and not frustrating way. Many factors contribute to create such a condition: narrative plots and non–linear interactive storytelling, interaction design, interface
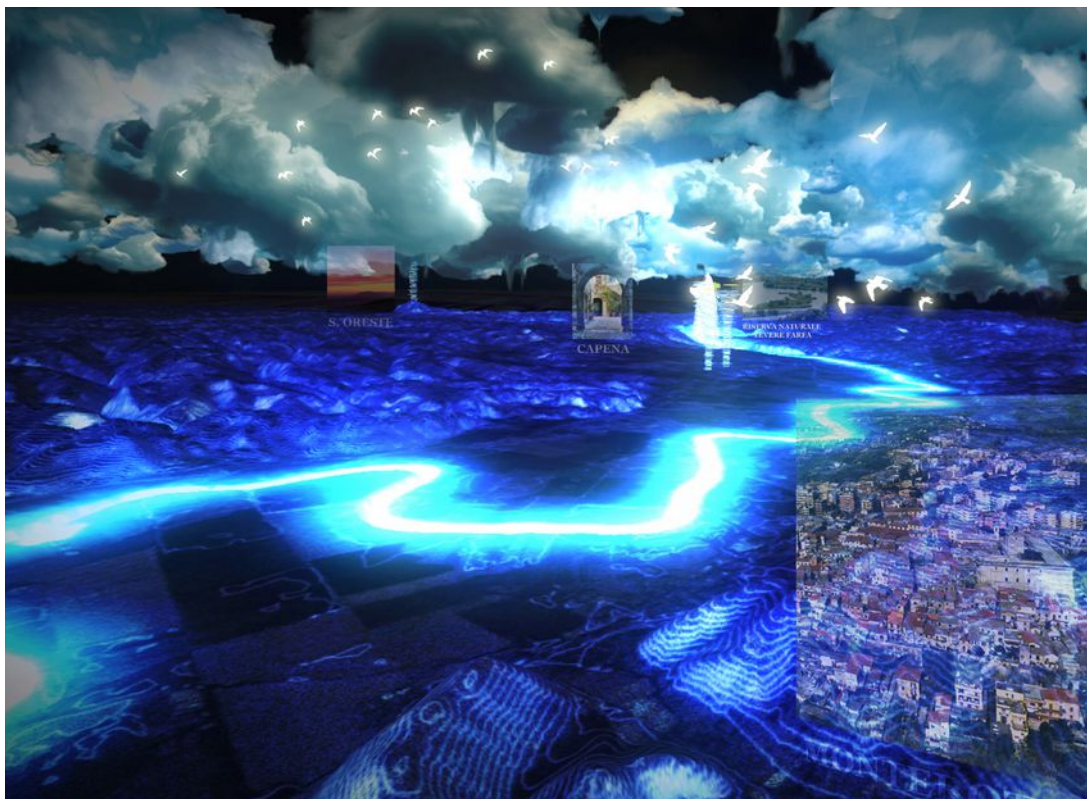
design, immersivity level, soundscapes. In this perspective we tried to combine science, art and technology, to meet both museums and research needs.

The project has been realized by the VHLab of CNR-ITABC (NATIONAL RESEARCH COUNCIL INSTITUTE OF TECHNOLOGIES APPLIED TO CULTURAL HERITAGE), with the support of Arcus S.p.A. and in collaboration with Direzione Regionale per i Beni Culturali e Paesaggistici del Lazio, Soprintendenza per i Beni Archeologici dell'Etruria Meridionale, Società Geografica Italiana.
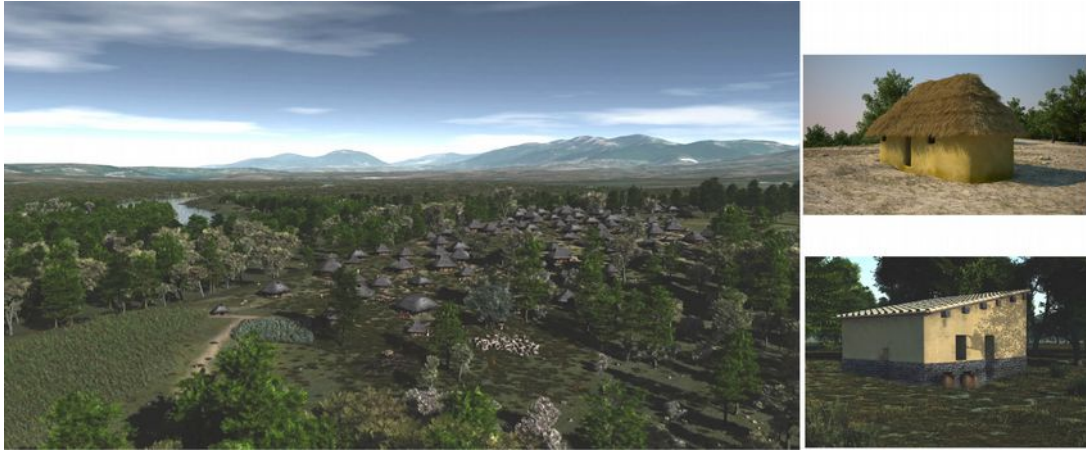
Design, contents and software development are by CNR ITABC, E.V.O.CA. srl, in collaboration with Franz Fischnaller (F.A.B.R.I.CATORS SAS ARCHITECTS OF THE CULTURE - FABRICATORS OF IDEAS).
Scientific responsible: Eva Pietroni, CNR ITABC
eva.pietroni@itabc.cnr.it

Scenario del Volo sul Territorio

Ricostruzione in 3D del paesaggio potenziale antico,

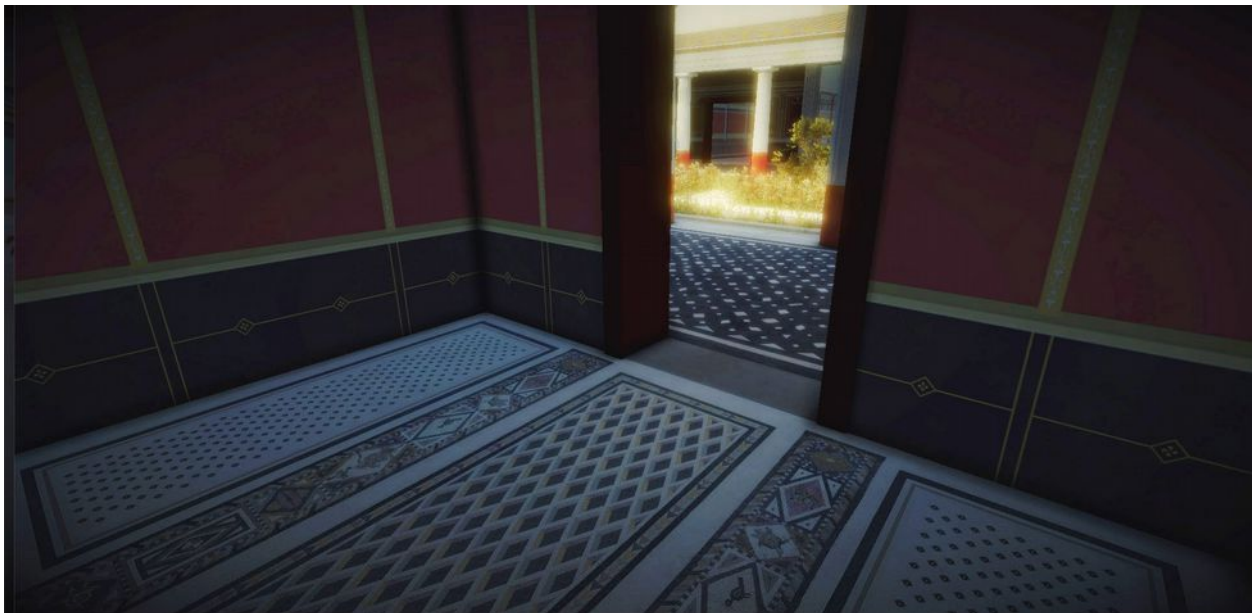*nell'età del proto-urbanesimo, VIII-VII sec. a.C.*

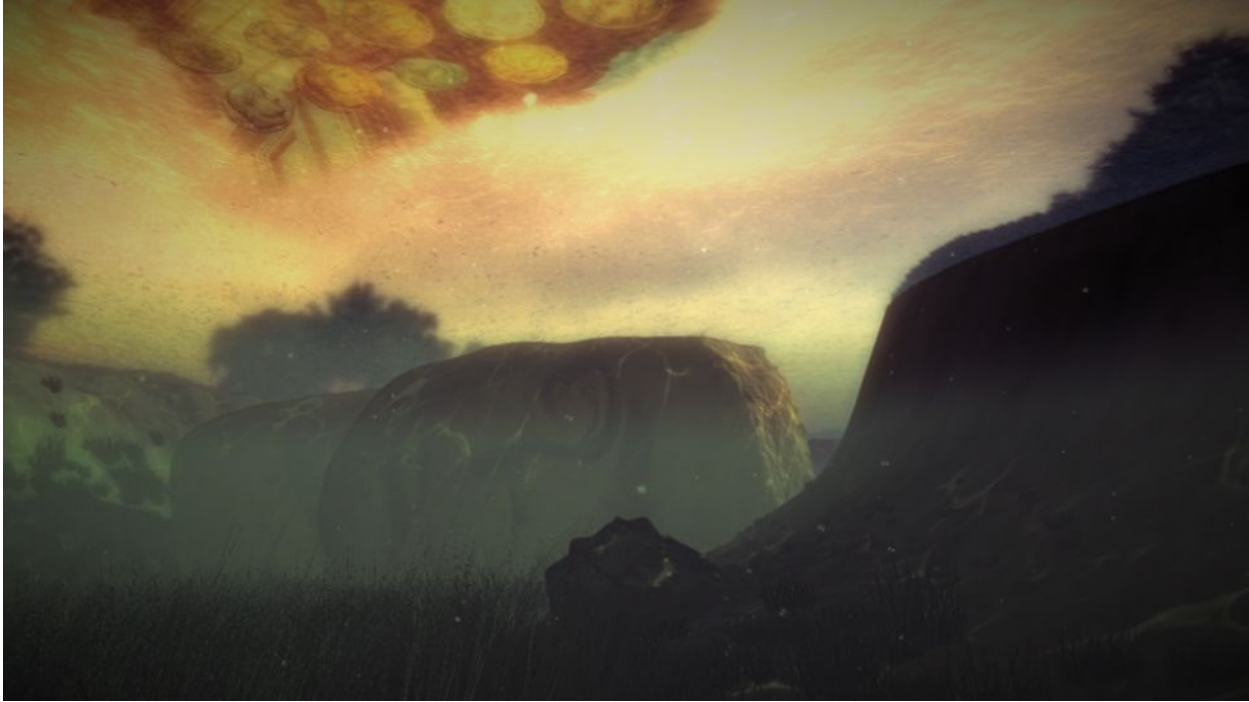*Ricostruzione in 3D del sito di Lucus Feroniae in età tiberiana e traianea*

Interfaccia di interazione nello scenario di Lucus, tramite i movimenti del corpo

Ricostruzione della Villa dei Volusii in 3D in età augustea

Scenario subacqueo