Spatial forms of Ancient Cypriot Society -
3D animated multimedia application for identifying new Historical information

109

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Abstract

In this paper we propose a new methodology for an interpretation of the ruins of archaeological sites in Cyprus. These ruins are very well preserved and have been extensively studied but the relationship between the built forms and social organisation has been rather neglected.

The proposed methodology is based on the development of a 3D animated multimedia application, simulating ancient archaeological monuments and the life of people in these monuments at the time point in history under investigation. We specifically address the contribution of the Space Syntax method in the implementation of the proposed methodology.

Traditional methods of identifying new historical information include studies of books, journals and other relevant printed and digital documents as well as visits to the archaeological monuments and detailed examination of the ruins (shapes and measurements) drawings, sculptures and other ancient remains. Such studies have been carried out by archaeologists, historians, architects, anthropologists, sociologists and other relevant scientists and artists.

The proposed methodology is based on the active involvement of all the aforementioned specialists as well as the substantial contribution of technologists and more particularly Multimedia and 3D Animation Designers and Developers.

The methodology starts with on-site investigation of the ancient monuments by the specialists. The relationship between the ancient environment, space and buildings with ancient life is examined and analysed. The analysis of this relationship is carried out through methods based on the theory of Space Syntax. In this paper we explain how these methods of analysis are used to investigate the relationship between the spatial layout of historical monuments and the social world of Cypriot people during the period under study.

A 3D virtual reconstruction of the monuments is then developed by the architects, using 3D architectural software. The developed application with the 3D drawings of the monuments is then taken by the multimedia developers and 3D animators for further development. Based on the knowledge of ancient life, 3D images are constructed and ancient life is animated in the virtual monuments.

The important contribution of the proposed methodology emanates from the next stage, during which the aforementioned non-technologist specialists (i.e. historians, archaeologists, etc.) analyse and examine the reconstructed animated virtual life. The analysis and examination of this virtual world leads to new conclusions about ancient life and helps the identification of new historical information.

Future work will involve the reconstruction of life in the ancient monuments in an augmented reality environment, where animated ancient figures will appear in the virtually reconstructed monuments at the monuments site. That is, the specialists would be able to analyse and examine ancient life and draw new knowledge about it, through the movement of animated figures in the augmented reality reconstructed environment.

109.2