

Enhancing Archaeological Sites: Interconnecting Physically and Digitally

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Abstract : InterArch is an ongoing research project that has been running since September 2020. It aims to propose the design of a site-based digital application for archaeological sites and outdoor guided tours, supporting virtual and augmented reality technology. The research project is co-financed by the European Union and Greek national funds, through the Operational Program Competitiveness, Entrepreneurship, and Innovation, under the call RESEARCH - CREATE - INNOVATE (project code: T2EAK-01659). It involves mutual collaboration between academic and cultural institutions and the contribution of an IT applications development company. The research will be completed by July 2023 and will run as a pilot project for the city of Ancient Messene, a place of outstanding natural beauty in the west of Peloponnese, which is considered one of the most important archaeological sites in Greece. The applied research project integrates an interactive approach to the natural environment, aiming at a manifold sensory experience. It combines the physical space of the archaeological site with the digital space of archaeological and cultural data while at the same time, it embraces storytelling processes by engaging an interdisciplinary approach that familiarizes the user with multiple semantic interpretations. The mingling of the real-world environment with its digital and cultural components by using augmented reality techniques could potentially transform the visit on-site into an immersive multimodal sensory experience. To this purpose, an extensive spatial analysis along with a detailed evaluation of the existing digital and non-digital archives is proposed in our project, intending to correlate natural landscape morphology (including archaeological material remains and environmental characteristics) with the extensive historical records and cultural digital data. On-site research was carried out, during which visitors' itineraries were monitored and tracked throughout the archaeological visit using GPS locators. The results provide our project with useful insight concerning the way visitors engage and interact with their surroundings, depending on the sequence of their itineraries and the duration of stay at each location. InterArch aims to propose the design of a site-based digital application for archaeological sites and outdoor guided tours, supporting virtual and augmented reality technology. Extensive spatial analysis, along with a detailed evaluation of the existing digital and non-digital archives, is used in our project, intending to correlate natural landscape morphology with the extensive historical records and cultural digital data. The results of the on-site research provide our project with useful insight concerning the way visitors engage and interact with their surroundings, depending on the sequence of their itineraries and the duration of stay at each location.

Keywords : archaeological site, digital space, semantic interpretations, cultural heritage

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