## Digital tools for exploring Roman mosaic

Jorge C. S. Cardoso, Humberto Figueiredo, Virgílio Hipólito Correia

## **Abstract**

Digital tools have the potential to help document and disseminate knowledge about, and engage people with cultural heritage artifacts. They can also help bridge the gap between physical and virtual heritage facilitating the comprehension of the context of usage while at the same time opening up the possibilities inherent to digital visualization.

In the context of Creatour's pilot project "Mosaic-Conímbriga and Sicó" we are creating the foundations for the integration of digital tools in the exploration of the vast Roman mosaic patrimony in the Sicó region. Specifically, we are developing software applications that will contribute to

- enhancing visits to mosaic sites by taking advantage of Augmented Reality (AR) in mobile devices (e.g., to display digital information over the physical mosaics, extending the amount of information associated with mosaics),
- increase awareness about roman mosaics in young audiences by developing computer tools for the creation of digital mosaics by different means (painter-like tools, computer programming tools, photograph "mosaicing" tools),
- integration and re-interpretation of content by allowing the visualization of digitally created creative content in the context of physical roman mosaics (e.g., a virtual restoration of a mosaic created by children visualized through AR on top of the physical mosaic),
- create a geographical database of mosaics in the region, raising awareness about less visited sites and providing in-situ and in-context information about specific Roman mosaics.

In this presentation we will describe the various planned initiatives and present results regarding the first version of an AR application in the context of the Conímbriga site.