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Special issue on advanced interfaces for cultural heritage

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1. Introduction

The rapid development of information and communication technologies, the Internet, and recently also the Internet of Things (IoT), has enabled cultural heritage (CH) institutions to provide enhanced access to their collections, whether online or onsite in order to enhance the visitor's' experience and attract wider audiences in various ways. Technology has transformative powers in many domain areas. CH has traditionally been an area where extensive research about application of novel technology for enhancing the visit experience has been done Thus, museums and CH sites have a plethora of cutting edge technologies that they may deploy to attract visitors, and find novel ways to deliver interpretations for their collections.

Using advanced interfaces such as three dimensional, augmented and virtual reality interfaces can enable CH sites and institutions to extend their reach and share their collections with people who might otherwise not have access to them, enhancing access and availability of their collections, and enabling them to reach a wider range of audiences both onsite and remotely. New communication and social media tools can further help CH sites to present information to the public. Within museums and cultural heritage sites, advanced interfaces allow new ways of interacting with artefacts, receiving personalized information and experiencing the museum. Novel interfaces, whether they are mobile devices, wearables such as Smartwatches or smart glasses, or large wall-mounted displays, need to be carefully designed to fit within the complex environment of the museum. The interface should be designed in such a way that it does not distract or take attention away from the objects at the museum. It should add interpretation to enhance rather than replace the artifacts themselves. The interface ecosystem should be considered whether it is part of a cultural heritage IoT, or as part of a ubiquitous CH contextaware infrastructure, where information can be personalized and displayed on screens or overlaid on real objects, with the ultimate goal of enabling improved access and a better overall museum experience for visitors.

The technological evolution brought with it new ideas for museums, specifically web interfaces and virtual tours/museums. While virtual museum and Web interfaces that are targeted for remote visitors are important to museums in order to showcase their collections, in this special issue, we focus on advanced interfaces that supports in-site visits to cultural heritage sites.

2. Background

Museums and cultural heritage sites are often on the forefront of technological innovations, constantly looking to use advanced technology to showcase their collections. Often the technology is embedded in the museum environment and is part of the attraction of the visit. Thus, it is not surprising that many advances in user interfaces are first examined and showcased

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