TOWARDS THE DESIGN OF A VIRTUAL HERITAGE EXPERIENCE BASED ON THE WORLD-AS-SUPPORT INTERACTION PARADIGM

Marie-Monique Schaper, Maria Santos, Laura Malinverni, Narcís Pares
Universitat Pompeu Fabra, c. Roc Boronat 138, 08018 Barcelona, Spain
Corresponding author: mariemonique.schaper@upf.edu

PURPOSE OF THE STUDY
We present the initial design stage of a Virtual Heritage experience for a bomb shelter built during the Spanish Civil War, namely Refugi 307 belonging to the History Museum of Barcelona. The aim of the study was to define the requirements for the design of a first prototype based on the World-as-Support (WaS) interaction paradigm.

Challenges of cultural heritage sites
Designing interactive experiences for cultural heritage sites is particularly challenging. Sites acquire their importance and meaning through situatedness; i.e. meaning about historical contexts is provided by the fact that the visitor is actually physically present on site. However, these spaces often cannot be modified by adding physical objects or installations. Thus, learning experiences are often complemented by guided visits to direct visitors’ attention towards aspects that are not obvious without further explanations. Nevertheless, visitors still need to imagine missing artifacts, people living at that period and related events. Due to limited expertise, it may be particularly difficult for visitors to imagine certain contents.

METHODS AND PROCEDURE
We conducted an ethnographic and Participatory Design (PD) study to analyse the project’s requirements and include different needs and viewpoints of the involved stakeholders.

Details of the study:
• Three project meetings with a curator, a museum educator and a visit guide.
• Interviews with three visit guides and four teachers from three different local schools that visited Refugi 307 with their class.
• Guided visits with two school classes and two PD sessions with each of them.
• 40 children (girls = 18; mean age = 10.78 years old)
• Sessions were audio and video recorded.

PRELIMINARY RESULTS
Our study would indicate that the WaS paradigm supports the following user awareness categories:

Environment awareness AR activities
Awareness of the environment may be fostered through projections on surfaces and objects to represent missing content at their original locations; e.g. the signs describing shelter behavior rules can be projected on areas of the walls that are now empty.

Context awareness AR activities
Users can be made aware of historical events of the local context by projecting situated audiovisual content; e.g. project a testimonial of a woman who volunteered as a nurse in the space that was dedicated to the infirmary of the shelter.

Social awareness AR activities
The system can split content between multiple users, each having a WaS device, and foster movement-based collaborative activities; e.g. two users project each a different half of an object that needs to be recomposed through their collaboration.

FUTURE WORK
The following are some of our future challenges:
Multiple location-based events will allow us to present content from different perspectives and allow users to compare them. These activities help children understand changes in society, different standpoints upon historical events (e.g. active vs. passive defense), and long-term effects of the civil war (e.g. collective trauma). By performing similar actions to those performed by civilians during the war, children better understand feelings of solidarity and empathy of people in these situations.

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