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# TECHNOLOGY ENHANCED VISIT TO MUSEUMS. A CASE STUDY: "KEYS TO ROME"

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#### Abstract

What a boring experience!" This could be a teenager comment after a school trip to a museum.

In fact, the general idea about museums is that they are locations merely devoted to the exposition of artifacts and showcases, places considered as boring and uncommunicative, far away from our everyday life.

In this paper we are going to present a case study based on our experience related to the "Keys to Rome" exhibition, the final event of V-Must.net project (Virtual Museums Transnational Network), where we focused our attention on two main aspects with the purpose of demonstrating that technology can help in changing the common idea about museums. First, we analyzed the users' ability in interacting with the technology available in the exhibit to measure the real level of user usability. Second, we evaluated the pedagogical potentiality of these technological applications for further researches with schools.

"Keys to Rome" is an exhibition, unique in its genre, that runs in parallel in four different connected locations: Alexandria of Egypt, at the Bibliotheca Alexandrina; Amsterdam, at the Allard Pierson Museum; Sarajevo, at the Archaeological Museum, and Rome, at the Imperial Fora Museum. In this context technology plays a very important role: with augmented reality applications, natural interactions, serious games, virtual reconstructions, holographic displays, it contributes to create an innovative environment that helps the users in understanding, enhancing and developing their level of immersion and finally the experience as a whole. Therefore, thanks to technology visitors do not step into a regular museum but they can travel through time and space in a virtual - and virtuous - visit of the Past.

Keywords: Virtual Museums, Technology Enhanced Learning, Innovation, Usability, Evaluation

## 1 INTRODUCTION

Nowadays people spend almost the whole day using a technologic devices, this is what highlighted the latest Kleiner Perkins Caufield & Byers (KPCB) report on "the Internet trend 2014"<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> The participants to the survey were asked: "Roughly how long did you spend yesterday...watching television (not online) / using the internet on a laptop or PC / on a smartphone or tablet?" Participants were aged 16-44 across 30 countries and they all owned or had access to a TV and a smartphone and/or tablet. The population of the 30 countries surveyed in the study collectively represent ~70% of the world population. Retrieved on December 29<sup>th</sup>, 2014 from http://www.kpcb.com/internet-trends

Thanks to the improvements in technology, economy, market and research, we are now used to be connected everywhere. We are quite surprised to think that there was a time without computers, internet, and social networks; while for people born after 1990 Internet is a normal part of everyday life. They are called the Generation C, where C means connected, they in fact, live online.

Technology is changing the way people interact, communicate, search information, learn, explore the reality, and of course it has an impact also on Museums, through technology, indeed, it is possible to enhance the visitor experience.

In this paper, we are going to present a Case Study: "Keys to Rome Exhibit" (K2R), that gave us the chance to demonstrate the potentialities that technology has in augmenting, enriching and increasing the museum visit. Indeed, we pointed out our considerations studying the technological applications developed for the exhibit, mentioned above, from a visitor-centred prospective. We analysed two different, but important, aspects: 1) usability, that measure how much the user feels comfortable if performs with an application/tool; 2) the learning affordances, that indicate the educational potentiality of an application, considering the contents embedded in it and other items that will be detailed in the 3.2 paragraph.

The structure of this work is the following:

- First, we describe the "keys to Rome" Exhibition, its metaphor, peculiarities and the applications developed for this event;
- Second, we present the results of a preliminary study conducted to test the users usability of one application/installation available in the roman exhibit
- Third, we analyse the Educational potentialities of two applications presented in the exhibition;
- Finally, we present our conclusions and our ideas for further research.

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