Chapter 8
Street Poetry in Augmented Reality

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ABSTRACT

Mobile device and augmented reality facilities may represent access points to navigate the city, to observe different layers of reality, to redraw the urban geography, and to explore the real environment. It is an emotional journey to observe familiar places from different perspectives and angles: a continuous sliding between two worlds (real and virtual), an invitation to participation, reflection, and rediscovery of public spaces. "Street Poetry in Augmented Reality" exhibitions are urban paths to engage citizens, students, and visitors with local heritage, memories, and art. In this chapter, the format "Emotional Mapping of Museum Augmented Places" is discussed using the evaluation of the experiences that were implemented in two different Italian towns: L'Aquila and Macerata.

INTRODUCTION

The author of this chapter developed EMMAP (Emotional Mapping of Museum Augmented Places), during her PhD program in "e-Learning" at the Faculty of Engineering, Polytechnic University of Le Marche, Ancona, Italy. The format EMMAP is devoted to promote mobile and ubiquitous learning environments in museums or in other places of historic-cultural interest (Guazzaroni, 2010/2011). EMMAP was trialled in two museums and in the urban streets of two Italian towns: L'Aquila and Macerata. The participants of the EMMAP trials were about 150 teenagers that visited the two museums and about 150 adults that participated in different walks in Macerata (Marche Region) and in L'Aquila (Abruzzo Region) to visit "Street Poetry," an art exhibition in augmented reality. The trials in the museums were analysed in previous papers (Guazzaroni, 2013; Guazzaroni, 2012a; Guazzaroni 2012b; Guazzaroni, 2012c; Guazzaroni & Leo, 2011).

The development of EMMAP was motivated by the need to shorten distances between students, families, young adults or adults on the one side, and cultural heritage, institutions, or other places of interest on the other side. The main objective of the trials was stimulating an active learning environment (Guazzaroni & Leo, 2011) through the use of mobile and ubiquitous technologies,

which actively involved the participants and encouraged them to explore the museums, the cultural heritage and also contemporary art of their region. EMMAP may be defined as a technology-enhanced project that makes the most of a cultural experience, creatively using both mobile Internet and mobile tools.

The different itineraries, which were proposed in Macerata and L'Aquila, were divided according to length, difficulty and target audience through an accurate tagging of real-world learning objects. In this way, virtual artefacts were able to release diverse information. A visit to a place of interest (e.g. urban trekking), or a museum, becomes a unique event. It is suitable for various demands and needs while enriching transversal competencies, knowledge and abilities.

EMMAP is aimed to provoke empathy with the region and to actively engage the participant in cultural artefacts. The geography of the location is redesigned each time a visitor passes through it, modifying bio-maps and georeferred information. In fact, each EMMAP participant is considered a creator of new materials. During the learning experience, the visitor finds QR codes, or artefacts displayed by augmented reality facilities, that may be read using mobile phones. The cell phone visualizes useful content or artworks in the display. EMMAP technological architecture may be implemented in different settings. The main differences, to be taken into account, are if the learning environment is developed inside or outside buildings (e.g. schools, museums, streets, parks etc.). During the trials of EMMAP, it was implemented in two museums and in the streets all around Macerata walls, in Borgo Villa Ficana (UNESCO Cultural Heritage: mud building technique houses) in Macerata and in L'Aquila.

During the trials of EMMAP, different augmented reality exhibitions of pictures were prepared. The exhibits are permanent and visible all around Macerata's urban walls, outside mud building technique house in Ficana, and all around

the "red zone" of L'Aquila (the historic centre of L'Aquila was destroyed by an earthquake in 2009. Currently scarcely 10% of it is walkable by citizens or visitors, the unwalkable area is called the "red zone").

The first part of the exhibit in Macerata consists of 60 paintings made by various artists that participated in the "Street Poetry" awards, from 2006 to 2010. For this award visual artists painted selected poems. "Licenze Poetiche," a non-profit association, organizes the traditional prize. In 2011 the members of the association could not find a proper space to show the numerous paintings, collected by them during the years. Here comes a new idea to share them differently, and to create an augmented reality experience. Now the artworks are observable in augmented reality. In this case, the walls are free of any marker or matrix barcode as augmented reality facilities are used to build the experience. Visitors have to use a smartphone and download an augmented reality browser to detect the artefacts and enjoy the exhibit. For the experience a free augmented reality app, called "Layar" was used. "Layar" is a browser that shows different layers of reality using mobile devices. It can provide both georeferencing or vision based augmented reality to show users what is around by displaying real time digital objects.

Punctual information about the augmented reality tools and detailed instructions are needed for users. In fact, in open-air projects a larger public is allowed both to visit and interact with virtual objects. In recent years, advances in augmented reality technology and mobile technology have developed easily accessible augmented reality applications. For instance, Apple iPhone and Android phones have implemented augmented reality applications since 2009. Consequently, many software developers have produced different mobile augmented reality apps that have largely increased the popularity of this technology. Nevertheless, there are important challenges related to the fact that this technology is rather new. In

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