

## EDUCATION

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Grevtsova I.

### INTERPRETATION OF URBAN HERITAGE. DISCOVERING HISTORY WITH A MOBILE APPLICATION OPEN – AIR MUSEUM. BARCELONA

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#### Abstract

The main objective of this research is to develop a new educational model for urban heritage interpretation with the use of mobile devices. In this paper we propose a new way of visiting the city: instead of classical tourism guides, we perceive a city as a place for learning in which mobile devices present a potential tool to decode the complex urban heritage. The educational model is based on the analysis and evaluation of modern new information technologies and proposes the use of smartphones for inclusive educational activities concerning cultural heritage in historic city centres. The mobile application, titled Open-air museum. Barcelona maintains an inclusive character for different groups of public and presents a flexible and adaptative educational model for other historical cities.

**Keywords:** Education, Cities, Cultural Heritage, Mobile Learning,

#### 1. Introduction

The heritage values of cities and its potential for heritage education has been studied in a numerous studies during last few decades. These researches emphasize a city as an important as place of historic and cultural heritage archive. Currently, the best way to establish mechanisms for cultural inclusion is through the use of

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mobile devices that allow interaction and knowledge about local cultural and heritage [1].

The area of mobile city guides based on new mobile capabilities has grown during the last few years. This growth has been fostered by the development of the cultural tourism sector and the great penetration of smartphones in the society. More and more, the use of applications is becoming a universal formula for travelling, understanding and interpreting the world around us. Recent researches demonstrate the importance of the use of new information technologies in Heritage Education [2], [3], [4], [5].

In this sense, one of the possible ways to facilitate the comprehension of historic cities is to present the city, its squares, streets, buildings and even its daily activities as an open - air museum, where every visitor is welcomed to enter and everyone is offered to have a critical view about cultural heritage, its symbols and icons, that are references of local communities.

The project is part of the ongoing Phd research of Irina Grevtsova, directed by Dr. Joan Santacana (University of Barcelona). The app was developed in the period between April – October 2014 and was exposed in the 13th International Congress of Educating Cities, which took place in Barcelona in November 2014[6].

#### **2. Objectives, methodology and design process**

##### *A. Objectives*

The main design objective of the application *Open-Air Museum. Barcelona* are:

- Convey values of cultural heritage and create educational strategies through playing experiences.
- Develop a conceptual model based on the use of mobile technologies for educational activities for urban heritage interpretation in Barcelona.
- Design a flexible and adaptative model that will be capable to use in the other historic cities.
- Experiencing this model with different user groups.
- Evaluate the results, education degree, usability, content and resources of the application.

##### *B. Methodology*

The project has been developed through the following steps. The first step consisted in the analysis of applications in the field of urban heritage interpretation. The main objective of this phase was to identify the main types of applications created for teaching and dissemination of heritage in European cities [7] and specifically Barcelona. This analysis has shown that the majority of applications

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present in the current mobile market have touristic or marketing features and mostly present a low education degree.

The second step consisted in carrying out the work of the project documentation. Specifically, there was a profound documentary analysis of the historical and artistic heritage of the historic center of Barcelona. In parallel, we contacted three largest museums of Barcelona (Museum of the History of Barcelona, Museum of Archaeology of Catalonia, National Art Museum of Catalonia) which have a link with urban history through museum objects. In the same way, the conceptual design of the application was defined. It was presented and discussed with IT specialists of the City Council.

The third step was to define and design an interactive user-centred application, then test it and evaluate the implementation experience with the target audience. The evaluation was designed with the use of qualitative techniques of observation, questionnaires realized in groups and group discussions.

#### **3. Prototype**

Open - Air Museum. Barcelona [8] is a GPS-based app which uses Augmented Reality allowing the discovery of the historic center of Barcelona as a large museum. In our project, we propose to borrow the experience of visiting museums and pass it into the context of the city. No our project the museum is situated in Barcelona's Ciutat Vella neighborhood and it can be entered through a symbolic access the old medieval wall – a central street, La Rambla. The Open-air museum which we offer to our visitors doesn't have a roof and any doors, neither visible boundaries. It can be easily walked through, visiting its vast exhibition halls and extended galleries that are represented by urban squares and streets where the main masterpieces of cultural heritage are located.

In this museum everybody can learn or choose any activity: the visitor can visit museum's halls, have a break, go shopping or have a snack. It's open 24 hours and it doesn't have entry tickets, it is accessible at any time, getting out and going back to the museum whenever a visitor wishes. It doesn't have any age limits, no ethnic filters. In this sense, the city - open-air museum is the most humane and accessible cultural space designed for all kinds of public.

*Open - Air Museum. Barcelona* app does not offer a user any defined route or itinerary. It lets you explore different areas. To do this, the application displays a geopositioned map, which shows different areas of interest. When the user reaches a defined area with Points of Interest (POIs), the application points out it with a graphic

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notice and sound. Then the navigation starts through augmented reality with the use of a radar that locates POIs.

The decoding of historic space is performed by seven interactive tools. Every tool helps to learn the history of museum objects and urban monuments. To do this, the player must carry out different tasks: find out the origin of moved buildings; analyse whether a building is authentic or reconstructed; recognize the use of urban spaces in different times; search and discover hidden mysteries; learn about details of some outstanding monuments and historic buildings; locate with the use of GPS archaeological, architectural objects and other art works of Barcelona museums. To solve these tasks, the player is required to do different actions: delete old photos and observe current views, turn over the gallery of historical images, zoom an image, locate points with the use of a map, etc. Depending on the number of solved POIs, different types of badges as discounts for tickets to museums in Barcelona and visits to museum spaces with restricted access for the general public are given (Figure 1).



Fig. 1. Prototype screenshots.

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