

Mobile Interpreting of Heritage Values in Historical Cemeteries

Ildikó Deák¹, Zolt László Márkus², Tibor Szkaliczki², Gábor Kaposi²,
György Szántó², Miklós Veres², Zolt Weisz²

¹Foundation László Teleki

²Institute for Computer Science and Control, Hungarian Academy of Sciences
(MTA SZTAKI), H-1111 Budapest, Hungary, Kende u. 13-17.

ildeak@gmail.com, {markus.zsolt, szkaliczki.tibor, kaposi.gabor,
szanto.gyorgy, veres.miklos, zsolt.weisz}@sztaki.mta.hu

Abstract. The paper presents a mobile application introducing the heritage values in historical cemeteries. The application is developed for both the experts of the domain and people merely interested in the topic. Guided walks within the GUIDE@HAND audio tourist guide introduce several cemeteries of Europe. In order to support the participants of the international seminar on heritage values in historical cemeteries, the application includes a mobile conference guide, as well.

Keywords: Mobile Applications, Tourist Guide Application, Heritage Interpretation, Cultural Heritage, Digital Presentation

1 Introduction

Information and communications technology provides new tools to bring cultural heritage closer to the people, to present impressively the heritage values, to overcome cultural and linguistic barriers in acquiring new knowledge and to reach a broader audience than ever. The number of mobile devices including smart phones and tablets increases quickly and they are always at the hand of the users. They are useful tools for presenting cultural heritage and sharing experiences.

This is explicitly true for interpreting the historical environment. Heritage interpretation being a non-formal educational method developed to communicate the significance of heritage to the public in an interactive way, has always been open to the latest technological developments, which could facilitate in a compelling and intriguing manner the understanding, appreciation and preservation of natural and cultural heritage.

GUIDE@HAND is an audio tourist guide mobile application providing tools and interactive services for mobile exploration of cultural places and objects. The aim of the guided walk offered by the application is to enable the visitors to change their perception of new or familiar locations, objects and motives and explore the past and present of an area in an entertaining and exploring way. The Global Positioning System (GPS) is used to exactly determine the location of the traveller.

It can be used as a multilingual interdisciplinary guide both in the open air and inside buildings. This year the “Eternal Mementos of Transience – International Seminar on Heritage Values in Historical Cemeteries” provided an opportunity to utilize the GUIDE@HAND application in presenting cultural and historical heritage. The seminar was organized in Cluj-Napoca (Romania) by László Teleki Foundation and Házsongárd Foundation.

The application can also be used as a conference guide providing information on the programme, the talks, the speakers and the location of the seminar. The application provides further functionalities related to the topic of the seminar, which can be interesting for a much wider audience than the conference participants. With the aid of the mobile application, the users are able to take a guided tour in Cemetery Házsongárd located in Cluj-Napoca, one of the oldest continually operating burial grounds in Europe and to access descriptions and multimedia contents about selected tombs on the site. Besides Cemetery Házsongárd, the application provides brief introductions of further famous cemeteries from several European countries.

The next section of this paper discusses the general concept of heritage interpretation. Then Cemetery Házsongárd and the international seminar entitled “Eternal Mementos of Transience” are introduced. Then we present the functionality of the mobile application. In the final conclusions of the paper we also present some of our future plans.

2 Cultural Heritage and the Interpretive Concept

2.1 Cultural heritage

Cultural heritage in the definition of UNESCO ¹ ‘is the entire corpus of material signs – either artistic or symbolic – handed on by the past to each culture and, therefore, to the whole of humankind. As a constituent part of the affirmation and enrichment of cultural identities, as a legacy belonging to all humankind, the cultural heritage gives each particular place its recognizable features and is the storehouse of human experience’. ² For this reason, UNESCO calls for attributing a ‘corner-stone’ role for the preservation and the presentation of the cultural heritage in cultural policies.

The main task of the preservation of cultural heritage fundamentally lies with heritage professionals. Nevertheless, without reaching out to the wider public and involving them in the preservation process, professionals would undoubtedly fail to reach their goals and would hardly be able to fully accomplishing their mission.

Ever since the significance of the outstanding remnants of the past was acknowledged, professionals have resorted to different methods in order to present heritage values, convey their prominence to the public, and to draw the attention of the society upon the importance of preserving and passing these values on to the future generations.

The methods employed for these purposes have constantly developed and have considerably changed over the course of time. Since the 1970s, heritage interpretation has evolved to become the most accepted and widely applied method in our days for communicating in an interactive way the essence of heritage to the audience, thus facilitating the understanding, appreciation and preservation of the outstanding legacy inherited from the former generations.

¹ UNESCO – United Nations Educational, Scientific and Cultural Organisation – assumes the role of building intercultural understanding through the protection of heritage and support for cultural diversity. UNESCO created the idea of World Heritage to protect sites of outstanding universal value.

² Draft Medium Term Plan 1990-1995 (UNESCO, 25 C/4, 1989, p.57)

2.2 Heritage interpretation

Heritage interpretation is most widely accepted as a non-formal educational method for conveying the essence and significance of heritage to the visitors.

The concept of heritage interpretation stemmed from the realization the forerunners of the interpretation movement³ came to, and summed up in the phrase: '*Through interpretation, understanding; through understanding, appreciation; through appreciation, protection*'.⁴ This concept lies also at the core of the six basic principles⁵ of heritage interpretation formulated by Freeman Tilden⁶ in his standard setting book.⁷ Ever since, Tilden's principles have served as golden rules in developing interpretive programmes for all those, who are responsible for raising awareness to cultural heritage [1].

The concept behind heritage interpretation basically means that if non-experts are to be won for the cause of heritage, first and foremost their lack of interest has to be overcome. This can be achieved by raising their curiosity. Then the essence of the heritage has to be translated and conveyed to them in a language that will help them understand the meaning of these values. Once they perceive the significance of heritage there is an easy way to the appreciation and subsequently to caring, or even to being engaged in the protection process.

In order that the public can be successfully guided through the stages that lead from lack of interest to being engaged, cultural heritage has to make a strong appeal to them. For this reason, heritage sites have to be presented in a compelling, entertaining, stimulating, thought-provoking and engaging manner. However, in accordance with the stringent criteria of heritage interpretation, the information conveyed to them via the interpretive programmes, must be accurate, well-founded, gained through thorough research.

In the definition of the Ename Charter⁸ of ICOMOS⁹ heritage interpretation of cultural heritage sites covers both 'interpretation', which refers to the full range of

³ The pioneers of the American nature conservationism: John Muir (1838-1914), Enos Mills (1870-1922), Freeman Tilden

⁴ The sentence was written by an anonymous U.S. National Park Service ranger in an administrative manual, which was quoted by Freeman Tilden in his book.

⁵ 1) Any interpretation that does not somehow relate what is being displayed or being described to something within the personality or experience of the visitor will be sterile. 2) Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information. 3) Interpretation is an art which combines many arts whether the materials presented are scientific, historical or architectural. Any art is in some degree teachable. 4) The chief aim of interpretation is not instruction, but provocation. 5) Interpretation should aim to present a whole rather than a part and must address itself to the whole man rather than any phase. 6) Interpretation addressed to children should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

⁶ Freeman Tilden (1883-1980) the founding father of heritage interpretation, who laid down the interpretive principles and methodology, the author of the most influential book in the field of natural and cultural interpretation.

⁷ Freeman Tilden: *Interpreting Heritage* (1957).

⁸ The ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites ratified in 2008 by the General Assembly of ICOMOS in Quebec (Canada).

⁹ International Council on Monuments and Sites, a non-governmental international organisation dedicated to the conservation of the world's monuments and sites.

activities devised to present a heritage site, and ‘presentation’, which denotes the carefully planned communication of interpretive content.

2.3 Tools of heritage interpretation

In order that the messages of cultural heritage can be conveyed in the most intriguing and efficient manner and people from all walks of life, especially younger generations, can be addressed, heritage interpretation employs a wide array of methods, tools and technical means. Since physical access and interactive communication lie at the core of interpretation methodology, heritage interpreters have always promptly embraced the latest technological developments and the state-of-the-art devices. Therefore, multimedia applications along with the traditional forms of presentation (museum-type displays, specifically devised informational panels, guided tours, lectures and websites) site-specific interpretive methods form the key ingredients of an interpretative programme. With the advent of mobile devices, never ever anticipated broad horizons have been opened for heritage interpretation.

2.4 Interpretation of historical cemeteries as cultural heritage sites

Historical cemeteries, being the resting place of the dead of a community, house the graves of the former members of that particular community from over a long period of time. Frequently, among the buried, there are prominent figures not only of local, but also of national or even international acclaim. The graves in these graveyards, besides providing valuable information on the former social, national, ethnic composition and cultural, economic status of the community, often also represent high artistic values. Moreover, many of these grounds are covered in lush vegetation and are landscapes on their own right. For this reason, historical cemeteries are cultural heritage sites of great importance. Therefore, the present-day managers of these sites need to give high priority to the preservation and presentation, as well as the engagement of local people in the preservation process.

Historical cemeteries lend themselves excellently to heritage interpretation. Mobile applications offer unique opportunities for interpreting these sites.

Complex site-specific applications can be developed for smart phones and tablets, to communicate the vast amount of information accumulated in historical cemeteries in an informative, easily comprehensible, compelling, but still cost efficient manner. No specific interpretive infrastructure has to be built on the sites, no informational panels, museum-type displays or high cost technical means are required, as smart phone applications are inherently apt for visualizing the content interpretative programmes are devised to convey. These applications are also excellent tools for guided or non-guided individual tours of the cemeteries.

In addition, the applications can be accessed off-site, thus they offer great opportunity for communicating the significance of historical cemeteries to people from all corners of the world.

Specific applications can also be developed in support of the educational programmes, community activities, festive events, and more importantly for expert conferences, seminars, as it was the case with the international symposium organised to mark the 429 anniversary of the outstanding Házsongárd (Central) Cemetery in Cluj-Napoca, Romania.

3 The Site: Cemetery Házsongárd

The 429-year-old Házsongárd Cemetery is one of the oldest continually operating burial grounds not only in Transylvania, but probably also in all of Europe. The "Transylvanian pantheon", as it is often referred to, the cemetery is the resting place of a great number of historically prominent figures of Transylvania. It is also regarded as the symbol of the borderless Europe, since among the buried, there are many eminent people, who contributed greatly to the social, economic and cultural development of Transylvania through the knowledge and trade they acquired in other countries. The cemetery also preserves the remnants and memories of countless foreigners, among them the refugees, who fleeing the religious persecution in their countries sought refuge in Transylvania, renowned at the time for its religious tolerance. Stonemasons, sculptors and other artists, who came from different parts of Europe, also contributed to a great extent to shaping the artistic image of the cemetery. There are more than 1000 historical graves in the historical part of the Házsongárd cemetery, out of which 500 are of great significance either on the bases of their importance in the cultural history of Transylvania, or because of their artistic value. The number is made up of 470 tombstones, memorials and 30 mausoleums, dating from the 16th to the 20th century. These monuments bear the marks of the funerary customs and artistic styles of the five centuries. The 396 most significant graves have been legally protected since 2012.

Because of its long history, the great number of prominent figures: scholars, poets and writers, artists, politicians, religious personalities and the members of the aristocratic families, who played an important role in Transylvania's history, and who are buried in the cemetery, as well as because of the wealth of its valuable funerary monuments, the Házsongárd cemetery is an attractive tourism destination.

However, a comprehensive heritage interpretation programme has not yet been developed for the cemetery. Therefore, the GUIDE@HAND application is a much welcome opportunity for the promoters of the cemetery, to offer a complex professionally devised interpretative programme to the visitors and all interested people.

4 The Occasion: Eternal Mementos of Transience – International Seminar

The international seminar "Eternal Mementos of Transience – Preserving Heritage Values in Historical Cemeteries" was organised jointly by the Budapest-based László Teleki Foundation and the local Házsongárd Foundation on 15–17 May 2014 in the Zsigmond János Unitarian College, Cluj-Napoca, Romania.

The main objective pursued by the organisers with holding the event was to provide a forum for cemetery experts from different countries to share their experiences and best practices gained in the administration, preservation, promotion and research of significant historical cemeteries with local authorities, civilian organizations, experts, residents and all interested participants. By bringing a wide range of experiences and practices to the city, the organisers sought to facilitate the better appreciation and management of the 429 year old Házsongárd Cemetery, the resting place of many eminent personalities of the social, cultural and religious history of Transylvania. More than twenty cemetery and heritage experts: site executives, managers, researchers, representatives of the Association of Significant Cemeteries in Europe and of civilian organisations involved in the preservation of particular cemeteries, from eight different countries delivered presentations during the symposium. The lectures were backed up

by the mobile application GUIDE@HAND developed by the Institute for Computer Science and Control of the Hungarian Academy of Sciences (MTA SZTAKI).

The application made it possible for the speakers to provide a great variety of additional information: maps, photos, videos, 3D tours regarding the sites they presented, which, otherwise, could not have been included in a 25-minute presentation. Thus, the participants of the event could gain a more vivid and in-depth view, as well, as a lasting impression of the cemeteries, which were presented during the seminar.

5 The Application: GUIDE@HAND Cluj

5.1 Family of GUIDE@HAND applications

The creation of the GUIDE@HAND Cluj application has been an important contribution to interpreting heritage values in historical cemeteries. The application belongs to the GUIDE@HAND mobile application family developed by the Institute for Computer Science and Control of the Hungarian Academy of Sciences (MTA SZTAKI). The general functionality of GUIDE@HAND was adapted to the needs of the participants of the international seminar Eternal Mementos of Transience and for the visitors of historical cemeteries. The application is available under the name GUIDE@HAND Cluj [2] named after the venue of the seminar and the city of Cemetery Házsongárd.

GUIDE@HAND is an audio tourist guide application for smart phone users [3]. The application is available on iOS (iPhone, iPad) and Android platforms. It provides various tools and interactive services for mobile exploration of cultural places and objects in several languages. It provides functions as follows:

- Guided walks with various durations. The application helps the tourists to discover a city or region with turn-by-turn navigation, guiding them from one interesting sight to the next. The tourists will be presented the relevant information (detailed description, pictures and audio records, etc.) at the right place.
- Offline or online map with the current position of the visitor
- Explore function for exploring the sights alone: whenever the tourists approach a point of interest their device will automatically provide them with basic relevant information.
- Show useful places located in the neighbourhood on the map
- WEB 2.0 services: sharing user experiences and ratings on Facebook, Twitter, etc.
- Recording user experiences. While using the map, the program will automatically track the route of its user. At any point, the visitors can capture an experience by taking a picture, recording a voice memo or taking a note of something which catches their eyes. They can share their experiences with their friends and propose a personalised virtual tour of the city.

The GUIDE@HAND family covers many destinations in Hungary and abroad. In addition to its primary objective as an audio tourist guide, the GUIDE@HAND application has been adapted to several application domains as follows:

- Museum guide
- Conference guide
- Event guide
- Zoo guide
- University guide
- Literature walks

Web and offline applications are available for content developers to prepare and edit content. Furthermore, the provided content can be synchronised with existing data basis of web portals in order to provide the same content both on the Web and in the mobile application. This helps keeping the content up-to-date in the application and reduces the time needed for content editing.

5.2 Conference guide

The application provides useful information for the participants of the International Seminar on Eternal Mementos of Transience. The users can search the seminar programme and get information on the location, talks and speakers of the seminar by using their smart phones. The application can substitute the traditional paper conference brochures while providing faster search possibilities.

The application introduces Zsigmond János Unitarian College hosting the seminar. It presents the coat of the arms of the college and describes its foundation and modern history. The application shows the location of the college on a map which helps the participants to easily get to the seminar.

The Events Calendar can be used to easily search for the talks and all other official events of a selected day. It gives an overview on the talks in a table where columns and rows represent the time and location of the talks, respectively. After selecting a talk, detailed information is presented to the user which contains the title, the authors, the abstract, the location, the date and the time of the talk. If the seminar participants do not want to miss a talk or an event they can set a reminder for it. In this case, a reminder will appear 15 minutes before the start of the event on the screen of the mobile device.

The users can get the list of speakers, as well. After selecting a speaker, the user can get detailed information including the name, picture, the affiliation, the job title, the biography and the contact information of the speaker. The pictures are very useful for associating the provided information and the people the user personally meets during the seminar.



Fig. 1. Screenshots from the conference guide showing the list of speakers, the seminar programme and the description of a talk.

5.3 Presenting the sights in Cemetery Házsongárd

With the help of the application, the users can get additional multimedia information on the site of the cemetery. The user may read the history and the famous sights of the cemetery, look at a picture gallery or watch a video introducing the cemetery.

A guided walk has been created for visiting Cemetery Házsongárd in Cluj-Napoca, which can be optionally downloaded in the application. Following the audio instructions, the visitors may take a round trip in the cemetery and visit several spectacular tombs from the last centuries. While walking, the users get descriptions and picture galleries on the tombs they are approaching.

The users may take pictures, record voice memos or take notes during the walk. After finishing the walk, they can save them together with the track of the walk and share their experiences on the Web (e.g. in Facebook). This way they can present a personalized virtual tour of the cemetery to their friends.



Fig. 2. Screenshots from the walk in Cemetery Házsongárd showing the general description with video, the route and the description of a tomb.

5.4 Presenting historical European cemeteries

The users may get acquainted with other historical European cemeteries as well by using the application. The application offers a list of some selected famous cemeteries representing different European regions. The application contains information on the following cemeteries:

- Cemetery Házsongárd (Cluj-Napoca, Romania)
- Cemetery of Sacavém (Loures, Portugal)
- Certosa of Bologna monumental cemetery (Bologna, Italy)
- Highgate Cemetery (London, Great-Britain)
- Montjuic Cemetery (Barcelona, Spain)
- Poblenou Cemetery (Barcelona, Spain)
- Saint Rafael Cemetery (Monturque, Spain)

The users may get descriptions, picture galleries on the selected cemeteries. The location of the cemetery is shown on the map. By using this function, the user may get an impression on the heritage values of historical European cemeteries.

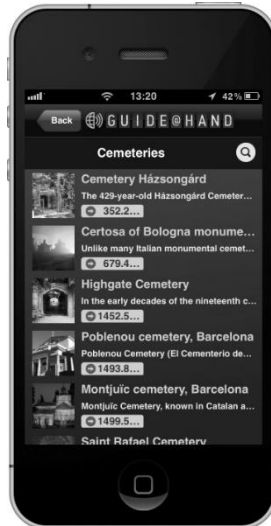


Fig. 3. List of European historical cemeteries

6 A similar GUIDE@HAND application

The mobile interpretation of burial grounds has been successfully implemented not only for currently operating cemeteries but also for ancient burial grounds. We created a mobile application for the Archeological Park of Matrica Museum located in Százhalombatta, Hungary [4].



Fig. 4. Screenshots from the GUIDE@HAND application for Archeological Park Matrica. The opening screen of the application depicts the entrance to a barrow. The second and the third picture show the route of a guided walk in the park and the description of a barrow, respectively.

The 2700 years old, Iron Age barrows are standing at their original place in the Archaeological Park. One of these barrows and the wooden chamber of the passage

grave can be visited from the inside, which is the only one of its kind in Hungary. Inside the barrow visitors may get acquainted with the burial rites of the period and the Iron Age history of Százhalombatta. Among the burial mounds authentically reconstructed Bronze and Iron Age dwelling-houses, ovens and outbuildings are displaying the everyday lives of these periods [5].

The application helps the user in learning the heritage values of the park by providing a guided walk, an offline map, picture galleries, audio records and descriptions of the sights. The visitors will be automatically presented the relevant information during the walk at the right place.

Conclusions and Future Work

The development presented attempts to encompass the opportunities for applying mobile devices for interpreting heritage values in historical cemeteries. The great advantage of mobile applications is that they can provide information about a monument on the site. In addition, users don't need to invest in equipment nor learn how to use an extra device because the people get the information through their own devices (smartphones or tablets). Cemeteries and archeological parks are proper places for GPS-based navigation because usually good quality GPS signal can be received in the open air. The past and present of a region can be discovered in an entertaining and adventurous way with help of mobile devices. Sharing the user experiences gained during a walk in a historical place may spread the heritage values to further people who could not visit the site.

We are planning to integrate the application with the Web page of Cemetery Házsongárd in order to synchronise the data displayed in the application and on the Web. Our experiences gained in mobile interpreting historical cemeteries could be successfully exploited in other locations as well, therefore, we are looking for further co-operations with partners preserving cultural and historical heritage.

References

1. Freeman Tilden: *Interpreting Heritage* (1957). Fourth edition. March 2008. Introduction by R. Bruce Craig new foreword by Russell E. Dickenson. ISBN 978-0-8078-5867-7
2. GUIDE@HAND Cluj <http://guideathand.com/en/content/cluj>
3. Zsolt László Márkus, Balázs Wagner, GUIDE@HAND: Digital GPS Based Audio Guide that Brings the Past to Life, *Digital Presentation and Preservation of Cultural and Scientific Heritage*, Vol. 1, No 1, (2011), 15p-25p
4. GUIDE@HAND Archeological Park <http://guideathand.com/hu/content/archeological-park>
5. "MATRICA" Museum and Archeological Park <http://www.matricamuzeum.hu/>