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# The Digistoryteller project: walking around refugee Attica

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#### Abstract:

**Purpose** - The present work focuses on an app that supports historical exploration of city neighborhoods. The particular work focuses on the refugee crisis resulting from the Greco-Turkish war in 1922 and the traces it left behind in the formations of different places across Attica. To present the past, we developed digital storytelling features, and to engage users further, we provided them with crowdsourcing functionalities allowing them to create their own content.

**Design/methodology/approach** - The digital storytelling and the crowdsourcing features were tested with users in multiple events, using a mixed methodology that allowed the collection of qualitative and quantitative data from the public, policy makers and experts.

*Findings* - Most users provided very positive feedback and imagined further educational uses.

**Originality/value** - The different features of this mobile approach, allow an in-depth engagement with the past while the user is mobile.

*Index Terms* – Digital storytelling, cultural heritage apps, crowdsourcing, city exploration.

#### I. INTRODUCTION

In 2022 Greece was commemorating the centenary of the end of the Greco-Turkish war in Asia Minor. During 1922 and 1924, over one million Christians, primarily ethnic Greeks, who had previously resided in territories of the Ottoman Empire, migrated to Greece. Simultaneously, around 500,000 Muslims, predominantly ethnic Turks, moved to the newly established Turkish state. This population exchange was a result of efforts to address ethnic tensions and territorial disputes between Greece and Turkey following the war. The agreement aimed to create ethnically homogeneous nation-states by facilitating the relocation of minority populations to their respective countries of ethnic origin. The mass migration of Christians to Greece and Muslims to Turkey during this period significantly reshaped the demographic landscape of both nations and had lasting cultural, social, and political ramifications. **[1]** About 300.000 refugees eventually ended up in the Region of Attica and started a new life all over. The Digistoryteller project (<u>https://digistoryteller.eu/</u>) is dedicated to this refugee crisis and aims at telling stories and revealing refugee settlement attempts and challenges in the area of Attica.

Digistoryteller for Refugee Attica is a repository of information and material related to the arrival, settlement and gradual integration of Asia Minor refugees in Attica. The reference period is, therefore, the period 1914-1949, with an emphasis, however, on the period 1922-1928. Despite the repeated tributes to the Asia Minor Disaster, mainly by Asia Minor refugee associations, the emphasis is usually placed on the disaster itself and not so much on the development of refugee settlements which became municipalities from 1934 onwards. Only recently has research been started on the first phases of the settlement of these people: their constant movements until they found suitable living and working conditions, their microentrepreneurship, the lack of access to basic goods, resources and the mutual support and social organization bodies they created. Many elements concerning urban planning and its political ramifications, relations with the natives, and the process of economic integration are illuminated through archival research and the development of new questions. Within the framework of the project, a guiding app spreading over two levels has been developed:

 Itineraries designed with the help of documents and archival material that have been collected, selected and registered by the research team of the project and forming routes through each municipality, supplementing the historical information for each point of interest with multimedia material (photos, music, recorded testimonies, video interviews and recipes).

 A crowdsourcing system, where the public (citizens, residents, visitors) can upload their own evidence and information from their family record or even simple testimonies of grandparents, parents, etc. also supporting the uploading of multimedia.

The digital storyteller was complemented by a series of paper-based "products" which were enhanced through the digital environment and produced a "phygital" result, suitable particularly for educational purposes and class or museum activities: a 3D paper puzzle of an old Town Hall, coloring cards and books based on photographic material, maps etc.

The rest of the paper is organized as follows: section 2 presents a short literature review on storytelling apps and crowdsourcing apps used in cultural heritage, section 3 presents the app, section 4 provides initial results from user testing and section 5 discusses findings and summarizes with conclusions.

# II. DIGITAL STORYTELLING AND CROWDSOURCING IN CULTURAL HERITAGE

The use of technology has changed the way we deal with history, heritage and culture both in terms of research but also in terms of receiving information and getting to know the historical phenomena. Technology changes the very nature of the experience and allows for multiple types of content presentation in various levels, covering diverse needs of different audiences. In fact, technology and digital storytelling allows in-depth visitor reflection, association discovery, the emergence of new forms of interpretations and the understanding that historical phenomena are social phenomena in essence **[2], [3]**.

Digital storytelling can take numerous forms and use first or third person narrations and presentation through fictional characters, like the animated digital storytelling experience created for the Athens University History Museum. During the experience, the user followed the narrations of a fictional character that told his story while presenting some of the key museum items [2]. Another form of digital storytelling is the interactive documentary where the full range of multimedia tools are used to document a theme and engage people with certain aspects of reality [4].

In addition, digital storytelling can be delivered through different means which span from mobile apps to virtual and augmented reality applications. For example, an interactive virtual reality application that used 360° storytelling was used with lab participants to present an archaeological site while recording their brain activity. The physiological data collected showed that users were able to engage effectively with the digital material **[5]**. Recently 360° immersive applications are getting popular and they are used in cultural heritage supporting virtual tours of heritage sites. The multiple variations of such applications lead to the formation of theoretical categorizations of tools and design methodologies [6].

Furthermore, we also observe a shift in focus from digital storytelling to interactive digital storytelling that allows the active engagement of users [7]. Digital storytelling seems to be a very promising tool in presenting tangible and intangible heritage. Going beyond simple interaction tools and techniques, contemporary digital storytelling includes 3D reconstructions of historical sites and monuments, virtual and augmented reality elements, incorporates games as well as carefully designed content able to trigger cognitive and emotional responses [8]. For example, digital storytelling was also used as a tool to preserve cultural heritage, as it was used by Indigenous communities in Canada's Western Arctic region to preserve their intangible heritage, engaging the local community in the process [9].

Recent studies also reveal the result of the use of digital storytelling. One main benefit from its use is the fact that stories and narratives allow people to make meaning, understand cultural heritage better and go beyond facts. In addition, digital resources alone simply provide information, while digital storytelling goes beyond the information assisting people in interpretation processes [7]. Thus, cognitive benefits have been already recorded by different studies which support the use of digital storytelling for both students and teachers during their interaction with heritage. These benefits are maximized when students are asked to create their own digital narratives which can be a rather easy and accessible process using widely available tools, like mobile phones [10]. Moreover, digital storytelling seems to be very effective when it engages groups of visitors rather than only individuals and it can decrease the isolation powers of technology. Carefully designed collaborative interfaces delivering digital narratives can increase user collaboration and communication and enhance learning processes [11].

Finally, digital storytelling can be beneficial for cultural institutions and organizations since it can also support sustainability. Different studies have already focused on the sustainability aspects of digital storytelling (e.g. following FAIR data principles, allowing easy exchange of content among museum networks, etc.) and it seems that cultural heritage organizations can further exploit it to maximize gains **[3]**, **[4]**.

Another form of technology that is currently used for cultural heritage purposes is crowdsourcing. Crowdsourcing is not yet as common as digital storytelling although its popularity is steadily increasing **[12]**. In fact crowdsourcing has been used in European projects as a way to engage users and enhance city exploration and learning **[13]**, **[14]**. As in digital storytelling, crowdsourcing is also used both with tangible and intangible heritage. Especially with regards to intangible heritage, crowdsourcing could be a valuable tool for its conservation, since the crowd can provide information and record rare customs and forgotten traditions **[15]**.

In addition, crowdsourcing can help with the effective annotation of cultural data that have resulted from the recent efforts in digitizing cultural heritage, thus improving metadata quality. In this manner, the annotation processes can significantly decrease their cost and depending on the way the crowdsourcing task is designed, volunteers could help in a cost-effective and entertaining way [16]. Thus finding and engaging volunteers is crucial for successful crowdsourcing efforts. Recent research efforts resulted in methodologies for the effective engagement of crowdsourcing participants and their motivation [17]. Motivation techniques include making clear to participants how their efforts contribute to the preservation of heritage and the wellbeing of society. It is also very important to create communities of contributors and a sense of belonging, while the crowdsourcing tool is easy to use [18].

Crowdsourcing tools could also allow geolocated information to be gathered, usually through the use of the mobile devices of participants. In different examples, participants used their mobile phones to provide information about specific locations around the city, historical buildings and monuments **[13]**, **[14]**, **[19]**. By providing content, participants benefit at the individual level as well since they have a deeper understanding of cultural heritage, connecting it to personal experiences and creating personal meaning **[20]**.

Finally, crowdsourcing is a tool to promote open culture and science and enhance democratic processes in societies [21], [22]. Therefore, the gains for societies and individuals are numerous. The present work focuses on the use of crowdsourcing as a tool to reveal untold refugee stories and make known new elements about their past.

### **III. DIGISTORYTELLER**

The application can be downloaded from Google Play Store at:

# https://play.google.com/store/apps/details?id=com.digisto ry.expomobilefrontend&hl=en&gl=US.

Users can download the app on their mobile phones and create an account if they wish to contribute with content. If they want to only receive content, then they can log in as guests. As users move around the city, they see points of interest on the map that they can choose to select and receive the content. Content can be of two types: content created by curators in the form of digital storytelling and content by the crowd that could take any form (text, video, audio). **Fig. 1-2** show the application screens, including a screenshot of the map, a screenshot of the content creation screen.

The stories, curated by Digistoryteller experts, include important archival material in text, images and historical videos revealing the first attempts of the refugees to start a new life in Attica. Many of the stories told are becoming known for the first time and carry emotional elements, since they focus on individual life stories. Users can choose a location on the map to access these stories. In addition, users can choose to add their own content and upload audio, text or video files.



Fig. 1. The map with Points of Interest



Fig. 2. Content delivery screen

# **IV. USER TESTING**

The app was tested in multiple sessions by users and both qualitative and quantitative data were collected. Researchers first obtained an ethics approval from the University of West Attica Ethics Committee (#95721-17/10/023) and all participants had to provide their written consent.

Overall there were 5 different evaluation sessions combined with guided walks around refugee neighborhoods in Attica. For each one, there was a call for participation in social media and an announcement through the communication networks of municipalities. The walks lasted about 1,5 hours each time and historians were there to guide participants through the neighborhoods, while participants were also using their apps to get extra material, like images, videos, etc. Participants could also provide their own content, if they wished. For practicality purposes, digital storytelling features and crowdsourcing features were tested separately (2 times each) and only once the entire spectrum of features (crowdsourcing and digital storytelling) was tested simultaneously, allowing participants to use any feature they liked. Four out of five times the evaluation sessions were open to the public, but once the evaluation session included only municipality officials and cultural heritage experts to provide more in-depth information.

In addition, there were three types of tools to collect data. There was an extended questionnaire, a short questionnaire (designed to collect data on the go) and a set of questions to be used in focus group sessions.

The extended questionnaire asked questions regarding usability, navigation, technical issues, content quality, aesthetics and ways to improve the app. The short version used emojis to quickly gather data from tour participants (standing on the road). The questions asked about the quality of the technology, the quality of content and the overall experience providing emojis describing different emotional states (I like it, I did not like it, I was bored, I helped me learn, I found it interesting, It helped me reflect about history, I got confused). Finally, the focus group questions asked groups of participants to record the ways they prefer to explore a new area, the ways they prefer to learn new historical elements, ways to improve the app, was to use the app for educational purposes, ways to use the app collaboratively, new uses of the app and possible ethical implications from its use. Overall, the app (storytelling and crowdsourcing features) were tested by more than 100 users (Fig. 4, 5, 6).



Fig. 4. User testing at Vyronas.



Fig. 5. User testing at Aegaleo.



Figure 6. Focus groups

In summary, most participants were very satisfied with the use of the app, the content and the overall experience. There were a few comments regarding the aesthetics of the app, since some participants mentioned that they like more colors to be used. However, we mainly used black white, gray and red, trying to keep the design neat and simple. Moreover, most participants agreed that such apps have a clear educational aspect and they should be further exploited in the educational domain. Finally, ethical implications of the app were discussed and users were concerned about the validity and soundness of the crowdsourced content. However, all crowdsourced content is monitored by the administrators and approved before appearing in the app.

#### V. CONCLUSIONS

From the discussion with users and their answers to the questionnaires, the following elements emerged:

- 1. The app is very interesting, useful and easy to use.
- Due to the volume of media, it is useful to download media from a Wi-Fi connection and store it locally before using it on the go.
- 3. Such apps are best used by individual users rather than groups, since visitors prefer to listen to the storytellers rather than see the in-app media. However, many users said they would to the neighborhood again on their own to access all the media, or access the media from home, since they were very interested in the collected historical material and the developed narratives.
- 4. For the crowdsourcing features, users stated that they can have a significant educational benefit. In fact, due to these answers by multiple users, we proceeded with the planning and implementations of large scale educational activities and many high

schools from all over Attica are currently participating.

5. It became clear that refugee identity changes over time and obviously this identity is very different for third and fourth generation refugees. For this reason, the crowdsourcing features can record not only the memories and stories of first and second generation refugees, but also record the feelings and reflections of subsequent generations.

Digistoryteller continues its journey around the neighborhoods of Attica, engaging locals and visitors that want to discover the past and make connections to their present. In addition, the large scale educational actions wish to also involve the younger generations and invite them to create new digital content and narrative, inspired by the past.

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