REVERSE: THE EXPERIENCE OF GOING BACK IN TIME THROUGH AUGMENTED REALITY AND ARCHIVES

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ABSTRACT: This workshop wants to display the ongoing project Reverse, which is a cultural and technological project to bring people 'back in time' and help them become more passionate about knowing what is around them and therefore history itself. Reverse is grounded in the use of photographic archives and augmented reality (AR) to the aim of helping people travelling the past and discovering the history of places. As for its cultural and educational purpose, we will be designing two dedicated special versions of Reverse: one will be for Milan's Expo 2015 and the other one, in cooperation with UESCO, will be for the memorial of the centenary of World War I.

1. INTRODUCTION

Reverse is an innovative way of exploring the past and the present through the history of places.

Based on an attentive research process and data retrieval implementation, in cooperation with historic archives, museums and private collectors as well as the Italian Department of National Heritage and Cultural Activities, we want to supply a powerful educational tool able to convey an interesting and meaningful flow of information, with the aim of fostering people recollection, creating awareness of places and their history, stimulate curiosity and collective consciousness.

As a more immersive way for users to access the material, we thought of investigating the use of mobile augmented reality (AR). For our prototype we used a Nokia Windows phone.

2. ENABLING VISITORS TO GO BACK IN TIME

In a society where our representation of the world is constantly called into question by the impact that information technologies, economics and social issues have on our lives, it becomes more and more important to hold on to the bonds with history and recollection.

Showing new narratives of the digital society, embedded within the history and culture of cities and countries, and making them widely accessible to the public is key for this process.

Giving mobile access to photographs and documents, therefore, expresses the tangible intent of creating an opportunity to introduce those historic materials to new audiences who otherwise would not easily have known of their existence.

This is a very interesting opportunity to explore interactions with the general public, as well as more narrowly defined audiences such as Millennials and students, elderly people learning to use new technologies, city explorers, tourists and of course historians.

How to do it in a simple yet effective way? We thought of overlaying digital data on a live view of the physical world.

Figure 1: Simple but effective idea of overlaying digital data on a live view of the physical world.

That is how we started prototyping a mobile phone application that would enable users to see historic photographs as overlays on the current urban landscape.

Whether they are looking at a square or a monument, a memorial or a façade, the mobile AR mode helps them in discovering and understanding the relationship between what is in front of them and what it used to be or look like.

From a technological point of view, it is known that mobile augmented reality includes many technologies and it is used in several different ways, so that what is possible in one implementation may not be available in another.

This work aims to encourage the AR use for displaying historic documents and photographs as 3D overlays. For each city we will cover, the selected material will be geographically pinned the maps of the specific cities, with its exact coordinates. This procedure allows us to place the images in 3D space, this way providing a more accurate alignment of "past and present" views of each document.
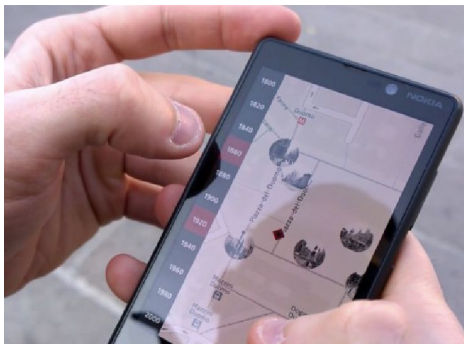

Figure 2: Navigating the map mode.

Ultimately, the use of geographic coordinates creates a stronger user experience, which goes toward our final goal: to develop an application that would enable a more immersive experience with the historic images, the urban landscape and the users' own perception.

An extra feature that enhances this perspective is the "now&then" mode: when users discover something that amazes them, they are able to create a customised screenshot of what they are seeing, a unique blend of the archive image displayed on their phone and the physical point of interest they are seing.

Figure 3: "Now&then" mode: play with the fade to see what you get.

This may become a great new user-generated archive of photos that people might want to share through their social networks to express the way they feel about the experience of going back in time through augmented reality.

So far, according to the many people who tested it in Milan and in Seattle, this experience of seeing two images of the same spot overlaying and being able to adjust the fade provokes a emotional reaction and people get very excited when they discover they can take their own customised picture of the mixture of what they are seeing.

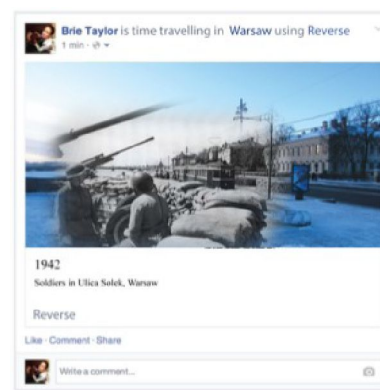A brief example of what it could be is displayed here:

Figure 4: Adjust the fade, take a picture of it and post it to your favourite social networks.

3. CONCLUSION

This project is revealing itself as having many aspects that deserve to be analysed and developed further.

So far, we developed a prototype and a demo that show how the product will work. A video is available under the link: http://vimeo.com/97828903.

Beta versions are almost in place for the cities of Milan (Italy) and Seattle (USA).

Afterwards, we will implement two dedicated versions of Reverse, one for Milan's Expo 2015, another one for the memorial of the centenary of World War I, in cooperation with UNESCO. The MOHAI (Museum of History and Industry) in Seattle has expressed a strong enthusiasm toward the project.

There is a huge interest in implementing future additional interactive features to encourage public engagement with the images and the documents, such as developing thematic tours, special itineraries, historical and geographical analysis, as well as some gamification features.

In the interest of promoting innovative digital projects in the humanities and concerning the cultural and educational purposes of this project, it would be highly desirable and beneficial to work also with schools, colleges and museums and to test the product with their institution.

4. REFERENCES

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