D3.5 – User Workshop #2

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Abstract

This document reports on the second User Workshop of the EMOTIVE project, a two-day invited event hosted in Athens, Greece on 05-06 November 2018. Here we reflect on the workshop's planning, execution and outcomes in relation to its primary goal, which was to gain insights on how to best evaluate EMOTIVE experiences. The workshop was attended by a select multidisciplinary group of experts as well as the EMOTIVE project's partners.

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Partner	Estimated Effort (in PMs)
[3]ATHENA	1.5

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF ABBREVIATIONS

UGLA: University of Glasgow
York: University of York
WP: Work Package
AW: Antonine Wall

1   Executive summary

The EMOTIVE project's second User Workshop was held in Athens, Greece on November 5th and 6th 2018. The workshop focused on evaluation and thus brought together a select group of leading international specialists from both the museums and heritage worlds and the sciences (ICT, neuroscience) who have experience in applying a variety of quantitative and qualitative tools and methods to assess the effectiveness of digital programs with visitors of all ages.

In addition to the 13 external experts invited, the workshop was attended by representatives from all of the EMOTIVE partner organisations, including the technical partners. This provided a "sensitization" opportunity for all within the consortium, both in understanding how the evaluation process works and in receiving feedback on our functional prototypes, in a collective manner.

The workshop was spread along two intense days, at two separate venues: Day 1 was held at the Athens University's History Museum, located at the historical foothill of Acropolis and within walking distance from the archaeological site of the Ancient Agora; and Day 2 at the ATHENA Research and Innovation Center, located in the modern northern suburbs of the city, in the midst of the city's corporate and tech hub. On these two days, five different experiences (a Hunterian Museum experience, two experiences at the Ancient Agora and three Çatalhöyük experiences) were demonstrated, evaluated by our experts, and discussed in terms of the methods used for evaluating the different projects effectively.

Overall, the workshop was very well-received as evidenced by the participants' reactions, verbal, and written comments. The two days provided the EMOTIVE project with a multitude of data, ideas, and food for thought as the project embarks on its final year. The workshop has also informed sections of the deliverable *D9.3 Summative Evaluation of Beta release (platform and experiences).*

2   Introduction

EMOTIVE's User Workshop #2 (described in this document) is the second of three user-focused events corresponding to important milestones in the development of EMOTIVE. Each of these three workshops functions to help the Consortium refine EMOTIVE's requirements and specifications, evaluate its experience design system (in terms of both usability and user experience), but also collect valuable information for both the dissemination and the future exploitation of the system.

Specifically, EMOTIVE's User Workshop #1 (described in *D3.4 User Workshop #1*) was held at the University of Glasgow across two days in late February 2017 and aimed at eliciting initial user requirements, and developing concepts, early scenario and experience design work for prototype emotive experiences for visitors to EMOTIVE's two principal cultural partner sites, the Hunterian Museum in Glasgow, Scotland (hence, The Hunterian) and the archaeological site of Çatalhöyük.

Two years into the project and with a rich set of experiences already designed and developed in beta form, we decided that EMOTIVE's User Workshop #2 should focus on one of the activities that challenge ours and all similar endeavours, i.e. how to best evaluate the developed prototypes.

The Workshop was held on November 5th at the Athens University's History Museum, a historical building located in the picturesque old part of Athens, within walking distance from the archaeological site of the Ancient Agora; and on November 6th at the ATHENA Research and Innovation Center, located in the modern northern suburbs of the city.

On Day 1, the Workshop began with introductory lectures (albeit deliberately limited in time), continued with hands-on demonstrations of the different EMOTIVE prototypes (a Hunterian Museum experience, two experiences at the Ancient Agora and one Çatalhöyük experience), followed by evaluation activities for each prototype, either individually with each participant, or in small groups, and discussion.

On Day 2, two Çatalhöyük experiences were demonstrated, evaluated by our experts, and discussed in terms of the methods used for evaluating each project effectively.

Full-group feedback sessions concluded each day and, in some cases, each session.

This document presents the Workshop's organisation and goals, its participants and their significance to EMOTIVE's broader project objectives, and the specific activities for each of the two days of the event. The results of the evaluation activities are described here in passing as they are not the focus of this document. These results will be outlined in more depth in *D3.3 User Requirements & Scenarios - final* and *D9.3 Summative Evaluation of Final release (platform and experiences*), and any other deliverable where deemed pertinent.

All activity sessions and the debriefings of the Workshop were recorded through note-taking, video, photography, and audio-recording for more in-depth analysis. These records have been collated and archived by ATHENA, YORK, and UGLA, and form the evidence base for the current report.

3   Workshop Participants and Preparation

Primary organizational responsibility was assumed by ATHENA, with administrative and logistical support provided by EXUS. Members of EMOTIVE's Work Package 3 (User-Centred Design and Production) and Work Package 9 (Evaluation) decided upon a two-day format (detailed in Sections 4 and 5), followed by a closed consortium-wide partner meeting on the third day.

Following the same pattern as Workshop #1, Workshop #2 aimed at bringing together a relatively small group of cultural, creative, and technical experts working at the top of their fields for two days of intensive experiencing, evaluation, and discussions. Based on previous experience, it was decided that the workshop would function ideally with 30 participants, both representing external (to EMOTIVE) organisations and internal (project) partners. Hence, participants included an international delegation of experts, plus a selection of EMOTIVE's consortium members, totalling 32 people altogether (Table 1).

Figure 1: The customary group photo of the EMOTIVE Workshop #2's participants, on Day 2 of the event at the ATHENA Research and Innovation Center.

To identify the right participants, we started by considering members of EMOTIVE's User Group. The User Group, formed at the proposal stage of EMOTIVE, is comprised of an international body of cultural organisations and creative companies who have expressed willingness to provide the project with access to diverse collections and users, and hence the possibility to test and apply designs, tools, and results in different contexts.

As many members of the initial User Group had already been invited to Workshop #1, and this Workshop was focussed on the specific topic of evaluation, we decided to expand the User Group once more to include contributors with expertise that fit our purpose.

Figure 2: Participants briefly introduced themselves at the start of Day 1.

As such, WP9 and WP3 members were asked to compile a wish list of international invitees whose specialties spanned the range of interests of the project, and whose knowledge might come to shape the very foundations of EMOTIVE's evaluation processes. Thus, attention was given to achieving breadth in terms of expertise.

Nearly 15 professionals from academia and the cultural, creative and tech industries, based primarily in Europe and North America, were identified and a rationale for their invitation to the workshop was provided by the nominating EMOTIVE member.

An initial email was sent to each invitee in early July 2018 (see invitation email in ANNEX 1: Workshop #2 Invitation). By the end of August 2018, all invitees that had responded positively had been contacted by EXUS to book their travel. With the exception of two guests from the Peabody Essex Museum in the USA, travel and subsistence expenses for external participants were covered by the consortium, as EXUS has budget allocated for user group participation in EMOTIVE's events.

Once the logistics were underway, the invitees were sent an online "packet" by ATHENA including a draft agenda (ANNEX 2: Workshop #2 agenda), a travel and site guide (ANNEX 4: Workshop #2 Guide for Participants), and most importantly, access to an online shared space for depositing papers and other interesting pre-workshop reading material (ANNEX 3: List of Pre-Workshop Shared Resources).

In total, the following 13 external experts participated in the EMOTIVE Workshop #2:

Table 1: External participants in EMOTIVE Workshop #2		
Name	**Institution**	**Speciality**
Jessica Hoare	Cardiff University, UK	PhD Researcher: Emotional Geographies of Museums
Steve Poole	University of the West of England, Bristol, UK	Professor - History and Heritage

Alyson Webb	Frankly, Green & Webb, UK	Founding Member and Partner, consultant on use of Digital in CH. Recent project includes Van Gogh museum digital
Sarah Fairbairn	Wallace Collection, UK	Curator (ARCHES H2020 Project)
Helena Garcia Carrizosa	Open University, UK	ARCHES H2020 Project Research Associate
Rozhen Mohammed	Sulaimani Polytechnic University (Kurdistan region of Iraq), Iraq	Head of the Digital Cultural Heritage Research Group
Angela Antoniou	University of the Peloponnese	Psychologist
Scott Sayre	Corning Museum of Glass, USA	Chief Information Officer
Conny Graft	Conny C. Graft Research and Evaluation, USA	Research and Evaluation consultant
Tedi Asher	Peabody Essex Museum, USA	Neuroscience Researcher
Edward J. Rodley *	Peabody Essex Museum, USA	Lead media developer
Anna Foucher *	Peabody Essex Museum, USA	Interpretation Planner / evaluation professional
H. Chad Lane	University of Illinois, Urbana-Champaign, USA	Associate Professor, Department of Educational Psychology

(*) Expenses were covered by their institution and not by EMOTIVE.

Some individuals invited to the workshop were not able to attend, but acknowledged their interest in EMOTIVE and their willingness to contribute to future user group activities. These individuals included:

Table 2: Invited but did not attend (future contributors to EMOTIVE user events)		
Name	**Institution**	**Position**
Etienne Roesch	University of Reading, UK	Associate Professor, Psychology
Martin Tröndle	Zeppelin Universität Germany	WÜRTH Chair of Cultural Production
Sarah Kenderdine	École polytechnique fédérale de Lausanne (EPFL)	Professor of Digital Museology

The EMOTIVE Consortium was represented by the following:

ATHENA: Maria Roussou, Vivi Katifori, Vassilis Kourtis, Ektor Vrettakis, Chris Lougiakis, Stamatis Christoforidis, Katerina Servi, Eirini Kaklopoulou, and Spyros Avlonitis. Additionally, Katerina Papadaki and Olivia Katrakazi provided administrative support.

EXUS: Hara Stefanou, Dimitris Kyriakatis. Anastasia Maouni provided administrative support.

UGLA: Maria Economou

YORK: Sara Perry

NOHO: Breffni O'Malley, Karolina Badzmierowska

CNR: Paolo Cignoni, Gianpaolo Palma

DXT: Souheir Mili

INRIA: George Drettakis

4 Workshop Day 1 (Athens University History Museum)

1. Organisation & Goals

Day 1 of the Workshop followed a specific programme of orientation presentations (about the project, and, importantly, about the definitions of emotion adopted), followed by a series of demonstrations coupled with an evaluation-oriented debriefing session for each. Each of these components of the day is outlined below.

2. Presentations

Following a brief welcome to the workshop by Maria Roussou (ATHENA) and an overview of the agenda (Figure 3), all attendees at the workshop introduced themselves (Figure 2).

Figure 3: A brief introduction to EMOTIVE by M. Roussou (ATHENA) kicked off the Workshop.

Sara Perry (University of York) then introduced the definitions of emotions and affect as defined in EMOTIVE's conceptual framework (Figure 4).
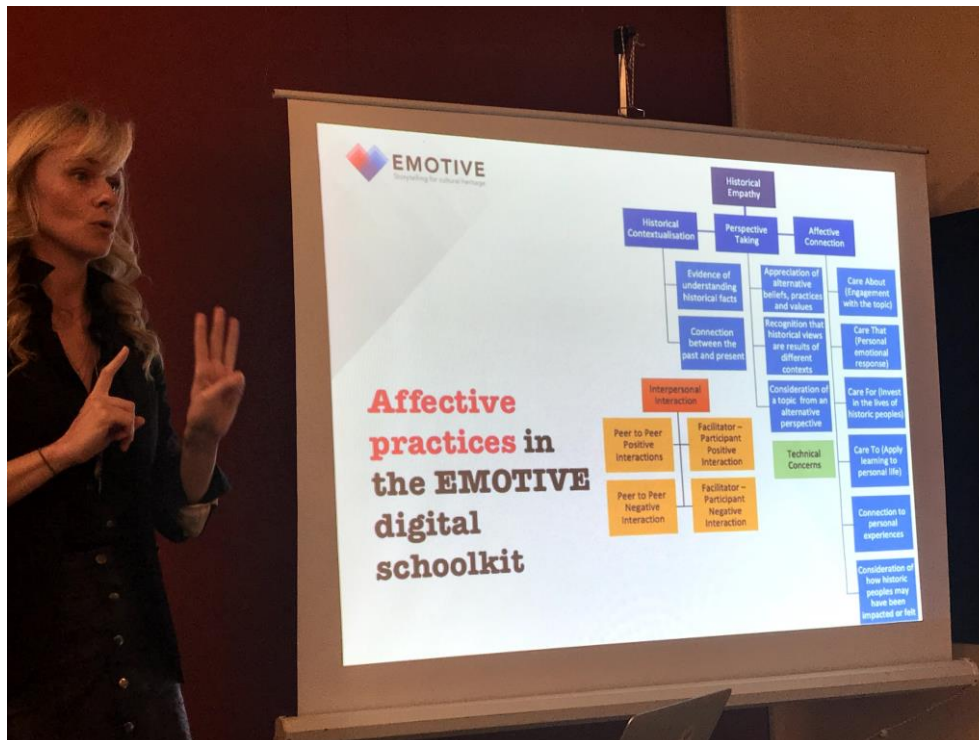
Figure 4: Sara Perry (York) introduces EMOTIVE's conceptual framework, providing the example of the digital schoolkit.

Following the presentations, the "demonstrations" and evaluation/discussions of Day 1 included:

- Antonine Wall's/Hunterian Museum's 'Ebutius dilemma' –at the Athens University History Museum
- 'Hermias the Slave'-at the Ancient Agora
- 'Emotions Speaking'-at the Ancient Agora (Stoa of Attalos museum)
- Digital Schoolkit –at the Athens University History Museum

3.   Hunterian digital storytelling experience

The demonstrations began with the story of Ebutius, the Roman soldier faced with a difficult choice. The Romans abandoned the wall and retreated south. Many of the soldiers who built the wall had been there for years. Some had started families they couldn't take south with them. The experience asks visitors to put themselves in the place of one of those Romans and decide whether to stay with their family, or stay with their comrades. A detailed description of the experience can be found in deliverable D3.7 Pilot experience prototypes

A room upstairs in the Athens History Museum was used to simulate the Antonine Wall gallery of the Hunterian Museum (Figure 5). The objects from the Antonine Wall exhibited in the Hunterian Museum were printed on cards which were spread out on tables and the walls of the room in Athens in accordance to their relative positioning in the actual exhibition in Scotland.

Figure 5: A view of the room chosen to simulate the Hunterian Museum.

Guests were split into pairs. Each pair was given a mobile phone to share and two pairs of headphones, connected to the phone using a splitter.

Figure 6: Experts experiencing the Hunterian Museum's story in a simulated space.

EMOTIVE researchers observed, took notes and helped when needed (Figure 6).

Following the demonstration, participants were led downstairs, at the terrace where coffee and (later) lunch were being served. The beautiful weather allowed us to use the outdoor space for evaluation activities. Our experts were asked to fill out questionnaires and were interviewed in pairs by members of the EMOTIVE team (Figure 9).

All participants were then led to the main Workshop presentation room, which had in the meantime been changed to accommodate the group-wide evaluation and de-briefing session. The chairs had been placed to form a circle, and coloured post-it notes, stickers and markers were provided on tables for participants to use (Figure 8).

Figure 7: Experts experiencing the simulation of the Hunterian Museum's story.

Our experts were instructed to note down on green post-its what they regarded as positive elements of the experience and on pink ones the less favourable aspects in their opinion. Green and pink post-its were gathered on two different boards (Figure 14) and consulted during the discussion that followed.

Figure 8: Experts provide feedback on experiences and their evaluation on Day 1 of the workshop.

The demonstration / experiencing session lasted 30 minutes and the interviews and discussion that followed approximately another 45 minutes.

Figure 9: Experts fill out questionnaires and are being interviewed by EMOTIVE team members.

4.   Evaluation of outdoor and indoor experiences at the Ancient Agora

As this workshop was held in Athens and not on site one of our user partner sites (e.g. in Scotland or in Turkey), we felt that it was necessary to include demonstrations of experiences that were not simulated in terms of place, so that our guests could gain a complete understanding of how a digitally augmented visit in a real museum or archaeological site can be evaluated. The site of the Ancient Agora

of Athens, whilst not a partner in the project, fulfilled the role of such a cultural site, complete with an indoor museum and an outdoor archaeological space of great importance.

All Workshop attendees were led by foot from the main Workshop venue to the Athens Agora, about a 10-minute walk through the historical part of Athens. We had purchased entry tickets to the archeological site for all participants (except for those who had free entry/ICOM cards).

Once inside the site, we convened at a spot that was located between the entrance to the Stoa of Attalos museum and the outdoor monuments (Figure 10). There, our guests were split into two groups: half of them (~6) were led into the museum to experience 'Emotions Speaking', one of the two digital experiences created by the ATHENA team for demonstration on site (Figure 11); the rest (~7) remained outside to experience 'Hermeias the Slave' (Figure 12). Each group was given 30 minutes and then they switched (the group that started inside went outside and the outside group went inside). In this way, all guests were able to participate in both experiences.

The groups were further split into pairs (hence about 3 pairs within each group). Each pair was given a mobile phone and two headphones connected to it with a splitter.

Figure 10: Convening at the Ancient Agora to experience the outdoor demonstration prepared by EMOTIVE.

Members of the ATHENA team supported the two groups by handing out and collecting the devices and headphones, guiding the groups, and solving any issues.

'Emotions Speaking' indoor experience

The indoor experience is a location-aware application which makes use of a custom tangible object to guide interaction through short emotionally-led stories. A description of the experience can be found in ANNEX 5: 'Emotions Speaking' experience.

Figure 11: The 'Emotions Speaking' demonstration with a tangible object used to trigger emotive stories inside the museum of the Ancient Agora, experienced in pairs.

'Hermeias the Slave' outdoor experience

A description of the experience can be found in ANNEX 6: 'Hermeias the Slave' experience.
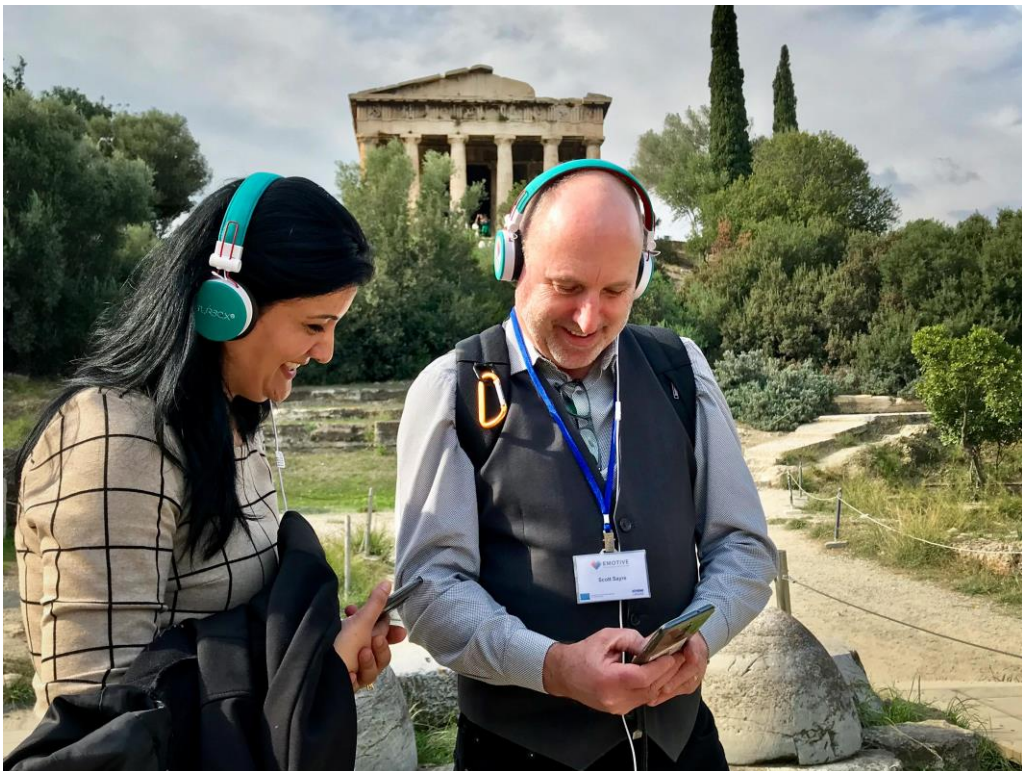
Figure 12: Experiencing a story about a slave in ancient Athens on site at the Ancient Agora, individually and in pairs.

A post-experience discussion focusing on their evaluation was planned to be carried out when back at the main venue of Day 1, i.e. at the Athens University's History Museum. Additionally, on the walk

back, informal discussions were carried out. After lunch, participants filled out one questionnaire per experience and then participated in a group discussion.

5.   Evaluation of Çatalhöyük Digital Schoolkit

In the afternoon of Day 1 of the Workshop, participants were asked to evaluate the Çatalhöyük Digital Schoolkit. This is a kit for classrooms and informal learning settings catering to 11-14 year olds. The activity follows a three-part framework to encourage youth to feel empathy for people of the distant past. Students are tasked with collaborative decision making and constructive dialogue with their peers, using 3D printed objects, virtual tours of prehistoric environments, and a multi-user chatbot to explore the history of archaeological sites and the nature of the cultures that inhabited them. More information about the experience can be found in Section 3.2 of the deliverable *D3.8 Pilot experience(s) based on platform beta release*.

The Workshop participants were split into 4 groups of 2 or 3 users and followed the complete process of the Schoolkit which took place in a dedicated room upstairs. After a brief orientation on the experience, the users completed the profiling part, received their tickets and then selected their objects. Moving to the personalization station, they used stickers and markers to personalize their objects. They were then given one mobile device per group. The main part of the experience took them through 4 stops, i.e. 4 tables with computers presenting the reconstructed houses using the EMOTIVE Web experiencing app. Afterwards, the 4 groups merged to form 2 bigger groups which used "Bo the Chatbot" to guide them through a facilitated dialogue experience (Figure 13).

Figure 13: Çatalhöyük Digital Schoolkit Chatbot part of the experience

After the end of the experience, the participants were given the Schoolkit evaluation form (see D9.3 Summative Evaluation of Beta release (platform and experiences). They were also briefly interviewed as a group.

The session concluded with a presentation of the evaluation results for this experience by Sara Perry and a subsequent discussion on the experience itself and its evaluation instruments.

6. Feedback on Day 1

Day 1 of the Workshop was an intense day, packed with many experiences, interviews, written exercises, and discussions. The day concluded with a dinner where many of the projects and methods experienced throughout the day were also reflected upon. Our experts were so immersed and responsive to our call that an overwhelming amount of feedback was gathered. For EMOTIVE this is a rewarding and positive outcome. Yet, the sheer amount of feedback recorded using multiple different ways presents a challenge in processing, analysing, and distilling the take-away messages.
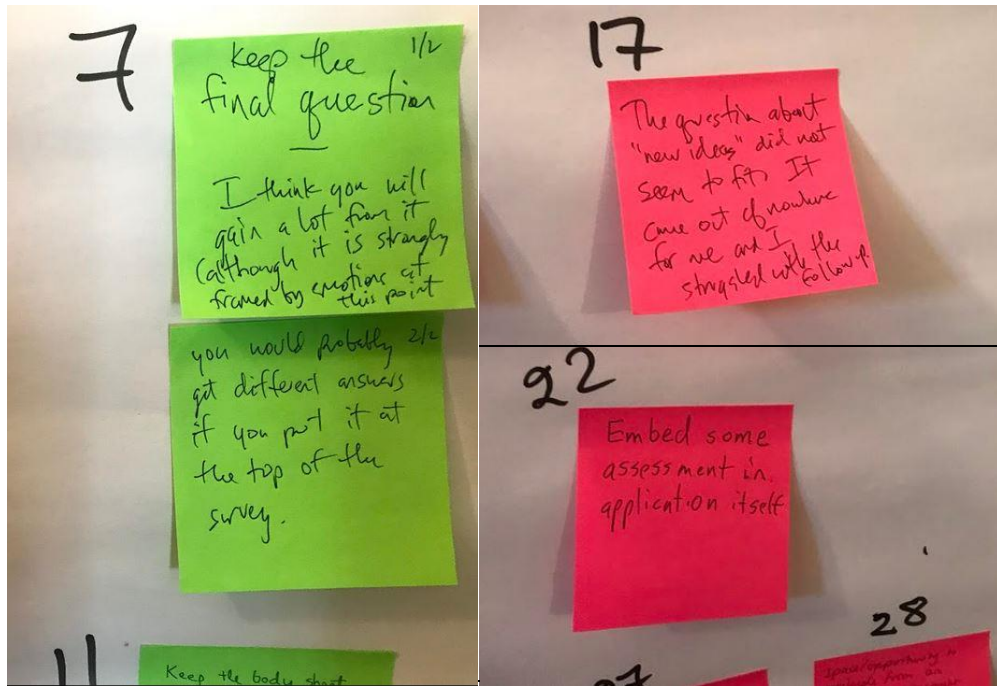

Figure 14: Positive (green) and shortcomings (pink) of each experience were expressed by participants on post-it notes such as the ones pictured.

5   Workshop Day 2 (ATHENA Research & Innovation Center)

1.   Organisation & Goals

Day 2 of the Workshop was held at the ATHENA Research and Innovation Center due to the technological infrastructure required for the demonstration of the immersive Virtual Reality experience.

Like Day 1, presentations preceded demonstrations, albeit the presentations were very brief, just to give the context and goals of each of the two experiences (Figure 15).

Our experts were divided into groups of 4 with different compositions than the previous day. Each group included at least one EMOTIVE team member. The groups took turns in visiting the Virtual Reality lab while the other groups interacted with and evaluated the chatbot (ChatCat). Every group finishing the Virtual Çatalhöyük demonstration remained in the room for a discussion in a focus group format.

The day concluded with an overall de-briefing and discussion session, and the closing of the Workshop.

Figure 15: Introducing the demonstrations of Day 2.

2.   Çatalhöyük Chatbot of Conviction

The EMOTIVE Chatbot was developed in the context of experimenting with novel communication channels for EMOTIVE experiences. Using the chatbot, the visitor can converse with a virtual persona about an archaeological site or museum in the same way that one would chat with a friend about casual topics over Facebook Messenger. This bot mixes the functionalities of both an info bot with a protest bot by sequencing the interaction and conversation to include knowledge sharing (info bot) with asking questions to probe visitors' convictions (protest bot) about whether one would want to live in an egalitarian society like Çatalhöyük's.

Two groups of 4 members each interacted individually with the bot on devices that were provided to them or on their own (Figure 16). A think-aloud protocol was adopted along with observation of use, and then the group discussed their experience.

Figure 16: Evaluating the Bot of Conviction.

3.　Çatalhöyük VR Experience

Through a shared, multi-user virtual reality experience, participants visit the Neolithic site of Çatalhöyük, famed for both its architecture and its culture of social, political, and economic equality. Users explore the history and geography of the archaeological site, including its excavation areas and replica houses, while engaging in shared decision-making, thinking critically about property ownership, emotional connections to personal belongings, and the relationship between giving and receiving - both in the past and in the present. Groups of 4 entered the virtual reality lab, yet one person at a time was able to wear the head mounted display (Figure 17).

Figure 17: Guests trying out the immersive VR experience

4.   Feedback on Day 2

Day 2 concluded with an approximately hour-long semi-structured debriefing session amongst the participants at the Workshop, led primarily by ATHENA, UGLA and York.

The final debriefing on Day 2 will be integrated in future deliverables, specifically D9.4 Summative Evaluation of Final release (platform and experiences).

6 Evaluation of the Workshop

As this Workshop was all about evaluation, our participants spent two days evaluating our evaluation methods, instruments and techniques. For this reason, we decided against circulating yet another post-workshop questionnaire so as to not annoy our experts by the sheer number of evaluation instruments they were called to use. With one exception: EXUS circulated a questionnaire related to the project's exploitation (a Willingness-To-Pay Questionnaire) and we asked our guests to fill it out before the end of the workshop. The questionnaire and its results are further presented in D2.6 'Dissemination and Exploitation plan release #2'.

Although feedback on Workshop #2 was not solicited from participants after the end of the workshop, we received plenty of feedback and we extracted comments about the workshop itself from some of the questionnaires that were filled out. Additionally we received several comments from our invitees in the days after the event. A selection of this commentary is included in ANNEX 7: Post-Workshop Feedback.

7 Conclusions

Overall, the second EMOTIVE Workshop was an event that was planned with great care, and was considered to generally be very successful in terms of fulfilling our goal, that is obtaining rich feedback on evaluation approaches and solutions.

The Workshop brought 13 external experts together with members of the consortium to discuss issues relevant to evaluation and the project at large. All contributed a wide range of expertise, with participants ranging from museologists, historians, computer scientists, digital media designers, psychologists and neuroscientists.

The results of the different evaluation sessions will be analysed in depth and included in other relevant deliverables.

In lieu of a larger conclusion, we include an excerpt from Ed Rodley's[1] blog about his time at the EMOTIVE Workshop: https://thinkingaboutmuseums.com/2018/12/11/getting-emotive-in-athens/

"I want to single out the EMOTIVE team for being open about their process and progress, and being willing to share works in progress in all their messy incompleteness. It's always nerve wracking to invite outsiders in to poke at your work, but in my experience, the results more than make up for the momentary discomfort. It was on the whole, a sterling example of the kind of collaborative fearlessness that I would like to see much, much more of in museums."

and

"That gives you a flavor for what our time in Athens was like; action-packed and intellectually stimulating and exhausting. It was very interesting and encouraging to see how many different kinds of approaches the team were testing, and how solicitous they were of outside opinions to inform their evaluation. One thing that struck me after the fact was how much EMOTIVE seemed to have tapped into the zeitgeist of museum experience in 2018. Digital storytelling? Check. AI? Check! Immersive experiences? Yup! All they needed was a gamified experience and they would've won Museum Buzzword Bingo. Yet, having said that, I came away impressed with how many of their prototypes seemed to be onto something useful. And isn't that what a good research project is supposed to do; show fruitful paths for further exploration?

I look forward to seeing what the project achieves when it concludes."

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[1] Ed Rodley is Digital at the Peabody Essex Museum

ANNEX 1: Workshop #2 Invitation

INVITATION: EMOTIVE project workshop, Athens

Dear ___
I would like to extend an invitation to you to attend (expenses paid) a forthcoming workshop that we are hosting as part of the European Union-funded EMOTIVE project (see http://www.emotiveproject.eu/).

The project seeks to develop emotionally-resonant digital experiences for visitors at cultural heritage sites, with a particular focus on the unique - but curatorially very challenging - UNESCO sites of Çatalhöyük in Turkey (http://www.catalhoyuk.com/) and the Antonine Wall display at the Hunterian Museum in Scotland (http://www.antoninewall.org/, http://www.gla.ac.uk/hunterian/). These experiences aim to allow on-site, off-site and hybrid (local and remote) forms of digital engagement, drawing on the power of storytelling, and seeking also to foster group/social interaction. To date, we have developed digital experiences that range from on-site mobile storytelling "tours" to an on-line chatbot and an off-site immersive virtual reality environment.

Our project workshop is set for **Monday November 5, 2018** and part of **Tuesday November 6, 2018** at the **University of Athens** in **Athens, Greece**. Here our focus will be to test out, in hands-on fashion, how to best *evaluate* the different digital & virtual experiences and tools that we've been developing to generate emotional engagement and group collaboration between site visitors. In particular, on the 1st day of the workshop, which will take place at the University of Athens' History Museum at the foot of the Acropolis, our team will present and demonstrate experiences created for the two UNESCO sites but also for local sites such as the Ancient Agora of Athens. On the morning of the 2nd day, at a lab at the University of Athens, we will experience and discuss the evaluation of immersive VR environments.

Bringing in your perspective, your contribution to the workshop would be invaluable. This contribution would entail (1) participating in group-based hands-on sessions to critique and propose evaluation tools & methods for each experience, and (2) if you'd be amenable, a short presentation by yourself to the group about your methods and current project work and how it could apply to experiences for visitors of the cultural sites of our project.

We've invited a small group of leading international specialists in the fields of museum evaluation, user experience design, curation, digital engagement and interpretation. Your participation would make for an especially exceptional event!

We will be covering your travel expenses, accommodation and meals in Athens, Greece, for 3 days. Should you be able to confirm your attendance, we will shortly be in touch to book your travel and to provide you with more detail about the agenda.

With many thanks for your consideration - we do hope you can join!

ANNEX 2: Workshop #2 agenda

Monday November 5, 2018			
University of Athens History Museum, Tholou 5, Plaka, Athens			
8:30		Arrival, morning coffee (coffee will be available continuously)	
9:00		Overview of the EMOTIVE Project	EXUS, ATHENA
		Objectives and goals of this workshop	ATHENA
9:30		Round-the-table introductions, 1 minute per person (x ~25)	ATHENA
		Explanation of workshop agenda	ATHENA
10:00		Definition of emotion & debrief on EMOTIVE experiences	YORK
10:30	UC1	Simulated demonstration of **Hunterian Museum** experience	YORK
11:00		Debrief & critique of evaluation materials against EMOTIVE's definition & attendee's own existing assessment mechanisms	UGLA
11:30			
11:45		Coffee available (continuous, without break)	
12:00		Walk to Athens Agora	ATHENA
12:30	UC2	Demonstration of **Athens Agora** experiences	
13:00			
13:30		Walk back to History Museum	ATHENA
14:00		Lunch	
14:30		Debrief & critique of evaluation materials against EMOTIVE's definition & attendee's own existing assessment mechanisms	
15:00	UC3	Demonstration of **Çatalhöyük schoolkit** experience (4 groups of 3; 2 start at 15.00 and 2 at 15:15)	YORK
		Coffee available (continuous, sans break)	
17:00		Debrief & critique of evaluation materials against EMOTIVE's definition & attendee's own existing assessment mechanisms	
17:30		End	
19:30		[Dinner at ManiMani restaurant, Falirou 10 (http://manimani.com.gr/)](http://manimani.com.gr/)	

Tuesday November 6, 2018	
Athena Research & Innovation Center, Artemidos 6, Maroussi	
8:30	Breakfast at hotel, Check-out (if leaving in the afternoon)
	Transportation to venue
9:00	Overview of agenda of the day (VR - chatbot - overall discussion)
	Approach & challenges in using Immersive VR in EMOTIVE
	Introduction of ÇatCat - Çatalhöyük Chatbot of Conviction

EMOTIVE

9:45		Split into groups of 4 persons/group
10:00	UC4	VR demonstrations using HTC Vive system (shared **IVR Çatalhöyük**). Participants are called into the VR room by group (~30 minutes per group)
	UC5	Meanwhile, the rest stay in the main room for: Demo & evaluation of **ÇatCat**
		Also: Exploitation questionnaires
		Debrief & critique of evaluation materials against EMOTIVE's definition & attendee's own existing assessment mechanisms
11:30		Coffee break (coffee will be available throughout)
	UC6	Discussion of overarching issues. Next steps & proposed means to tie together emotive evaluation approaches
13:00		Closing of Workshop
13:30		Lunch

ANNEX 3: List of Pre-Workshop Shared Resources

An online space created on Google Drive was shared with the Workshop invitees two months before the beginning of the workshop. Participants were encouraged to share with the group indicative papers, links or other material prior to the workshop so that everyone could get to know each other's work in advance. In another section titled ABOUT_EMOTIVE we placed material about our use cases that we wished our participants to have access to.

PDF	Asher_NeuroscienceApproachToExhibitionDes…	Tedi Asher
PDF	BraveNass_2003_Emotion in HCI.pdf	Rozhen Mohammed
PDF	Cristescu_2008_Emotions in HCI.pdf	Rozhen Mohammed
PDF	EconomouYoungSnoswoska_DH17_Formative…	Hilary Young
PDF	KiddGalani Evaluation_in_the_wild DRAFT JOC…	Maria Economou
PDF	LaneChad_2015_EnhancingInformalLearningW…	me
PDF	Liapis et al_2014 HCI International_Evaluating …	Rozhen Mohammed
PDF	Meiselman_2016_Emotion Measurement.pdf	Rozhen Mohammed
PDF	Perry_etal_2017_VSMM.pdf	me
PDF	PooleSteve_2017_GhostsInTheGarden.pdf	me
PDF	Roussou et al_CHI13_Personas.pdf	me
PDF	RoussouKatifori_mti-CHESS.pdf	me
PDF	TammenLoviscach_2008 International Worksh…	Rozhen Mohammed

EMOTIVE

ANNEX 4: Workshop #2 Guide for Participants

A 6-page guide with directions to/from the main venues and other information about Athens was sent to the Workshop participants in advance. Many of the participants reported on the usefulness of this guide. The guide is available at http://bit.ly/2Qm5wjH

https://drive.google.com/open?id=1aGy5cOGNXJY7xewxWVRAB_aVtGOCqeLwp3GpJyZCP0Y

ANNEX 5: 'Emotions Speaking' experience

'Emotions Speaking' is the digital heritage storytelling experience designed for the indoor space of the Ancient Agora. At the entrance, the visitor is given a mobile phone, headphones, and a paper necklace (a "tangible") which can be worn around the neck. The necklace has the shape of an octahedron, with each side labelled with an emotion and its corresponding color, using the Plutchik's wheel of emotions (Figure 18).
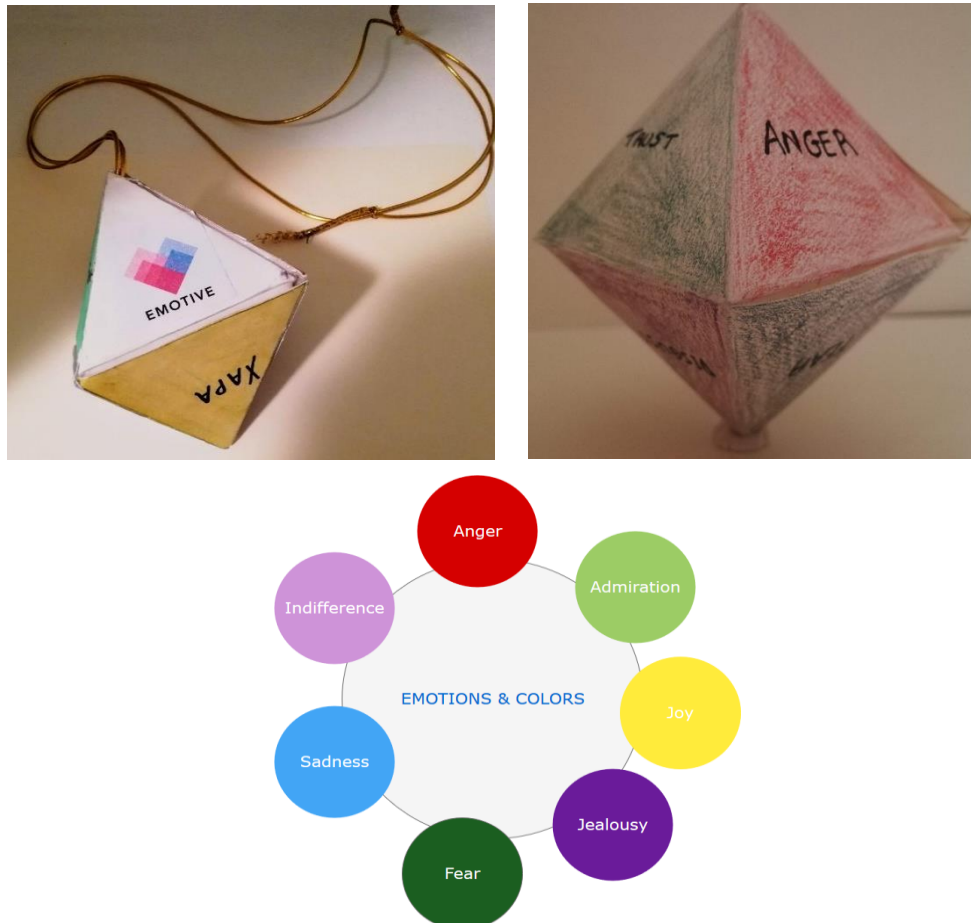
Figure 18: The tangible (above) and the colors (below) mapped
to the emotions listed on each of its faces.

The storytelling approach focuses on the people hidden behind the museum's artifacts based on the premise that the history of objects is more or less the history of people that used each object. Especially in the Ancient Agora, where multiple important personalities wandered around and acted, we thought that it would be interesting to "meet" the people of the Agora through the artefacts displayed in its museum's glass cases (Figure 19). The glass cases, thus, serve as "boxes" that enclose various emotions. Each of the basic emotions is manifested through a short story of a character, e.g. a person of the past (classical Athens) or a person of the present (connected to the Agora's museum).

When a visitor approaches a glass case, the box of emotions is "unlocked". Touching the side of the tangible with the preferred emotion onto the back of the mobile phone, the character it represents will start narrating his/her story to the modern visitor.

The approach taken avoids the intense informative character of the heritage site as it gives an aspect of gamification to the experience.

Figure 19: Two display cases with artifacts connected to characters/emotions/stories.

The user carries the tangible with her all around the museum. While standing in front of a display case, she can use the tangible to unlock/discover new stories concerning this area. By using the tangible, the mobile application should identify which emotion the visitor wants to listen to.

ANNEX 6: 'Hermeias the Slave' experience

In this experience, the visitor follows an interactive story spanning a large part of the outdoor space of the Agora. The narration is the center of the experience while the interaction consists of some branching points which are closely connected to characters' emotions. The Agora was the center of Athens and several functions of ancient Athens are found in this place. The information is given indirectly, like in a movie. The visitor takes the role of the main character and follows him through his adventures. The branching points of this story are related to the character's emotions. The visitor can customize her/his character and the character's adventures through the choices s/he makes.

Each character carries its own pre-story which could help later on the narration. Furthermore, the characters that have been designed for this story have particular roles in Ancient Athens. This helps visitors to better understand the people that lived during this era. Hermeias is the main character, a slave in Athens of 398 BC. He likes the family that he belongs to and regularly visits the Agora to shop for the house and learn the news. He doesn't know who his real family is, but he owns a necklace that was given to him when he was born. The necklace affects the storyline. In the start of the experience, the visitors have to decide, as being in the shoes of Hermeias, if they want or not to take the necklace with them to their visit at the Agora. Nicoclis is Hermeia's owner. He works at the Tholos of Ancient Agora as an administrative employee. He is kind and he respects his slave Hermeias. Other characters also appear to enhance the drama.

The questions/story's branching points (Figure 20) are closely connected to the emotions of the slave Hermeias and by extension to visitor's emotions. The visitor must make decisions for Hermeias. When the visitors are called to make a decision, Hermeias' emotional state is given.
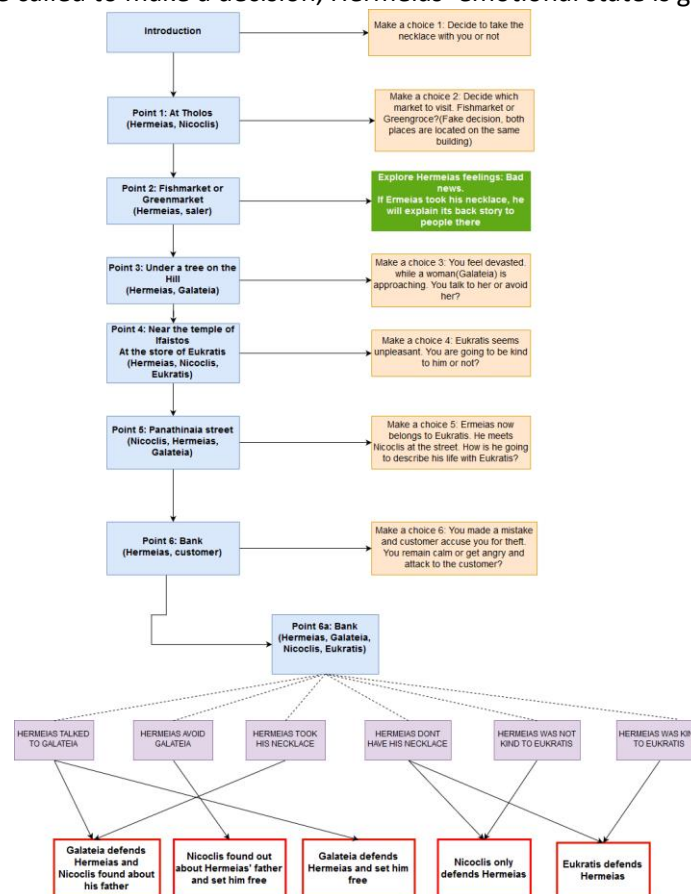

Figure 20: A tree depicting the storyline of 'Hermeias the Slave'.

ANNEX 7: Post-Workshop Feedback

A selection of informal responses from invitees to a thank you note sent a week after the end of the Workshop by the EMOTIVE organisers (in chronological order).

Subject: An EMOTIVE thank you!
Date: Fri, 16 Nov 2018 13:22:52 +0200
From: Maria Roussou <mroussou@di.uoa.gr>
To: tedi_asher@pem.org, helena.garcia-carrizosa@open.ac.uk, cgraft6@gmail.com, HoareJL@cardiff.ac.uk, hclane@illinois.edu, Steve.Poole@uwe.ac.uk, Sarah.Fairbairn@wallacecollection.org, sayresa@cmog.org, alyson@franklygreenwebb.com, rozhen.mohammed@spu.edu.iq, anna_foucher@pem.org, ed_rodley@pem.org
CC: emotive_team <emotive_team@exus.co.uk>

Dear friends,

it was a real pleasure to have you in Athens last week for our workshop.

On behalf of the whole EMOTIVE team, I'd like to extend our gratitude for your valuable insights and appreciation for all of your hard work in an admittedly condensed amount of time.

We need some time to go through all of the comments, but will keep in touch to report progress on our project.

Thanks again and best wishes!

Maria Roussou

Subject: Re: An EMOTIVE thank you!
Date: Fri, 16 Nov 2018 15:45:28 +0000
From: Alyson Webb <alyson@franklygreenwebb.com>

Dear Maria,

Thanks to you too and, of course, to the whole team. It was a real privilege and a pleasure to participate. I learnt a lot.

If there is anything else I can do in the future please do not hesitate to get in touch.

Best

Alyson

Subject: Re: An EMOTIVE thank you!
Date: Mon, 19 Nov 2018 10:05:47 -0500
From: Conny Graft <cgraft6@gmail.com>
To: Maria Roussou <mroussou@di.uoa.gr>
CC: …

"Thank you so much for creating such a stimulating symposium on the Emotive Project and Evaluation. It was wonderful to meet everyone working on this project as well as the other participants. A big Huzzah goes to your staff who took care of our needs throughout the conference!

I have to tell you that after leaving the symposium and traveling around to many archaeological and historical sites in Greece I thought about the role of digital technology and it's application to these experiences.

I kept wondering what the people visiting these sites were really walking away with in terms of understanding the significance of each place and how the people and events relate to their lives today.

While each site had a few signs that provided some history, I kept thinking about the potential that digital technology could provide to make the site come alive. I continue to believe that having a control group to compare the impact of the digital experience to the impact of the regular experience is critical. Please keep us posted on your progress and let us know what we can do to help!

Finally, I want to share with you and our group a draft statement I have been working on with my colleagues at History Relevance - www.historyrelevance.com - called The Value of History that you may or may not find useful in thinking about some of the outcomes and indicators for your project,

This is a DRAFT and we are asking colleagues in the history field to adapt it to their needs. We are open to and welcome suggestions from anyone on this message on how we can improve this statement. Our theory is that if everyone in the field used the same language to describe the value of history, that we may have a better chance of convincing funders and the public that history is not just nice, it is necessary.

This statement was co-created by professionals in the field of history such as history professors, historians, history museum staff, school teachers and others in the field. We are now doing fundraising so we can conduct research to test these values with the public.

All the best,
Conny Graft

Subject: Re: An EMOTIVE thank you!
Date: Mon, 19 Nov 2018 13:12:33 +0000
From: Jessica Hoare <HoareJL@cardiff.ac.uk>

Thank you for the invitation and for being such a wonderful host, Maria. It was a such pleasure to be part of such a diverse and interesting group. It was fantastic to meet and share ideas with you all.

Best wishes,
Jess Hoare

Cardiff University
Jesshoare.com

Subject: Re: An EMOTIVE thank you!
Date: Fri, 23 Nov 2018 11:13:02 -0500
From: Ed Rodley <ed_rodley@pem.org>
To: Maria Roussou <mroussou@di.uoa.gr>
CC: …

Dear Maria (and Maria and Sara),

Thank you all for convening such a thought-provoking gathering! It was a real pleasure to see all the work you've produced, and I look forward to seeing what comes next! I left full of inspiration and ideas for my own work!

All the Best,
Ed

Subject: Re: [EMOTIVE] share your workshop experience
Date: Wed, 5 Dec 2018 14:02:28 +0000
From: Helena.Garcia-Carrizosa <helena.garcia-carrizosa@open.ac.uk>
To: Hara Stefanou <chstef@exus.co.uk>
CC: Sarah Fairbairn <Sarah.Fairbairn@wallacecollection.org>, Maria Roussou <mroussou@di.uoa.gr>, Vivi <vivi@di.uoa.gr>

Dear Hara,

Thank you so much for a lovely and interesting experience. It was a huge pleasure to meet and share practices and learn from everyone!

Please see our joint statement below:

'ARCHES and EMOTIVE were first put into touch during the summer of 2018 by the then Project Coordinator Javier Gutierrez Maena. Between the research associate and Emotive staff we attempted to find a way of connecting the projects. One of the participatory research groups of the ARCHES project tested the Emotive chatbot and were interested to design something similar for the ARCHES official website. Unfortunately this collaboration has not been taken any further.

Later in November the Wallace Collection's museum coordinator and the research associate of the ARCHES project were invited to take part in the EMOTIVE workshop held in Athens. It was very helpful to see the different evaluation methods the Emotive project is using and at what stage the project is. The critical friend concept was much appreciate and a workshop alike would have benefited the ARCHES project in hindsight It was interesting to observe that whilst EMOTIVE certainly is more advanced with the technology development, the project seems to be focused very much on achieving emotions rather than using emotions as a way to learn and understand a heritage site something that ARCHES has worked on a lot. ARCHES has focused mainly on creating an experience that is accessible for all and this knowledge could benefit EMOTIVE. What ARCHES could work further with the support of EMOTIVE would be the usage of technology with tangible objects. Due to the tight schedule there was not enough time to discuss and take the collaboration any further but hopefully this will be picked up in the coming months.

For the future it would be good to put projects that are similar in touch sooner and not halfway through the lifetime of the project. Experiences and learning outcomes could have been shared earlier on. '

Thank you very much for the invitation again!

All the best

Helena Garcia Carrizosa
ARCHES Research Associate