

Mobile digital storytelling for cultural heritage and the myth of connectivity

Akrivi Katifori

EaPEC 2019, Yerevan

“Connecting with culture”



Vassilis Kourtis



Dimitris Nastos

Maria Roussou

Vivi Katifori

Manos Karvounis

Sara Perry

Stavros Vasses

Hector Vrettakis

Maria Vayanou

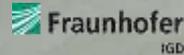
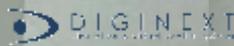
- **CHES** – exploring mobile personalized digital storytelling
 - **Narrative** – working towards a stable “product”
 - **EMOTIVE** – creating shared experiences
-
- How does **Web connectivity** affected our design and technology?



EU FP7, 2011-2014



National and Kapodistrian
UNIVERSITY OF ATHENS



Acropolis Museum



NIKOS
ATHANASIOU



10 years old
student

"The museum is boring"

GEORGIA
ATHANASIOU



71 years old
retired teacher

"The museum makes me feel young"

JACK
HARRIS



"The museum would be much more interesting if the exhibits could tell me their stories..."

NATALIE
SCHMIDT



35 years old
web designer

"The museum is an excellent way to relax between meetings!"

TAKIS
KARATHANASIS



53 years old
shop owner

"The museum is really great but sometimes it is too much for me."

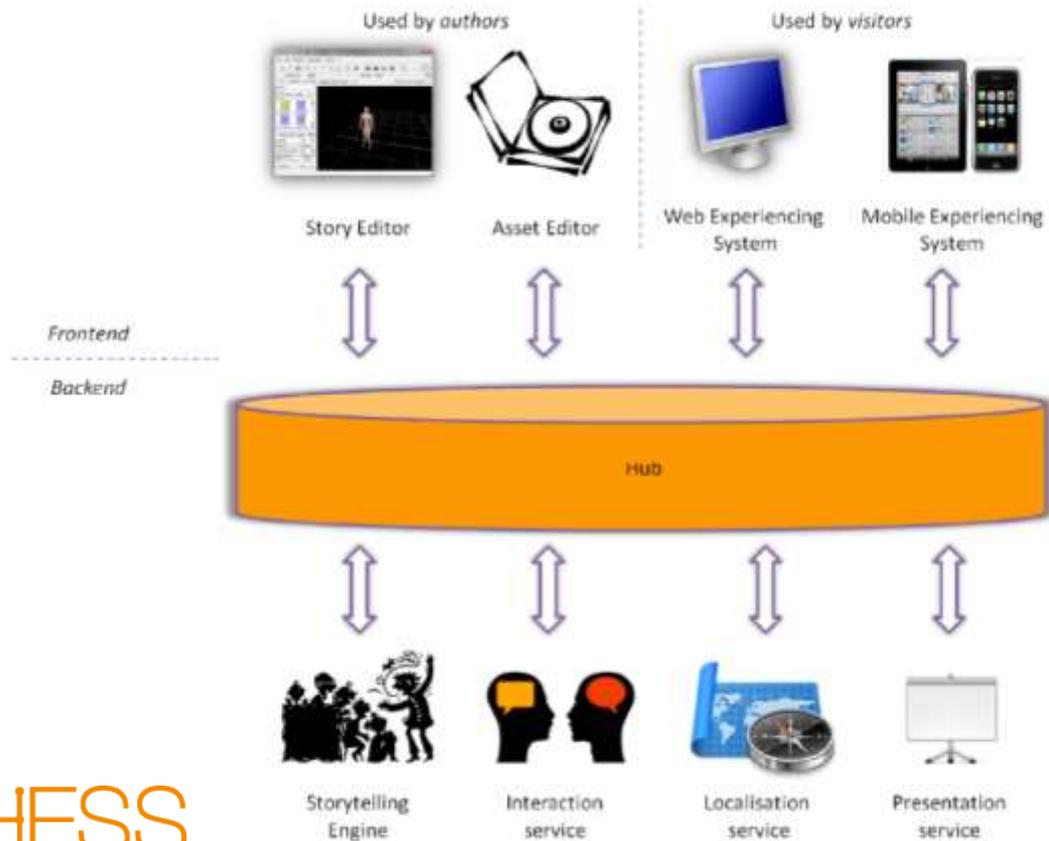
DIMITRIS
GEORGIADIS



16 years old
student

"The museum would be cooler with technology"

The CHES architecture



A working personalized and adaptive digital storytelling prototype was evaluated with more than 50 visitors, in 2012 -2014.

Roussou, M., & Katifori, A. (2018). Flow, Staging, Wayfinding, Personalization: Evaluating User Experience with Mobile Museum Narratives. *Multimodal Technologies and Interaction*, 2(2), 32.
<https://doi.org/10.3390/MTI2020032>

PROVOKE CURIOSITY



Acropolis Museum



CREATE A SENSE OF WONDER



Acropolis Museum



FOSTER ENGAGEMENT

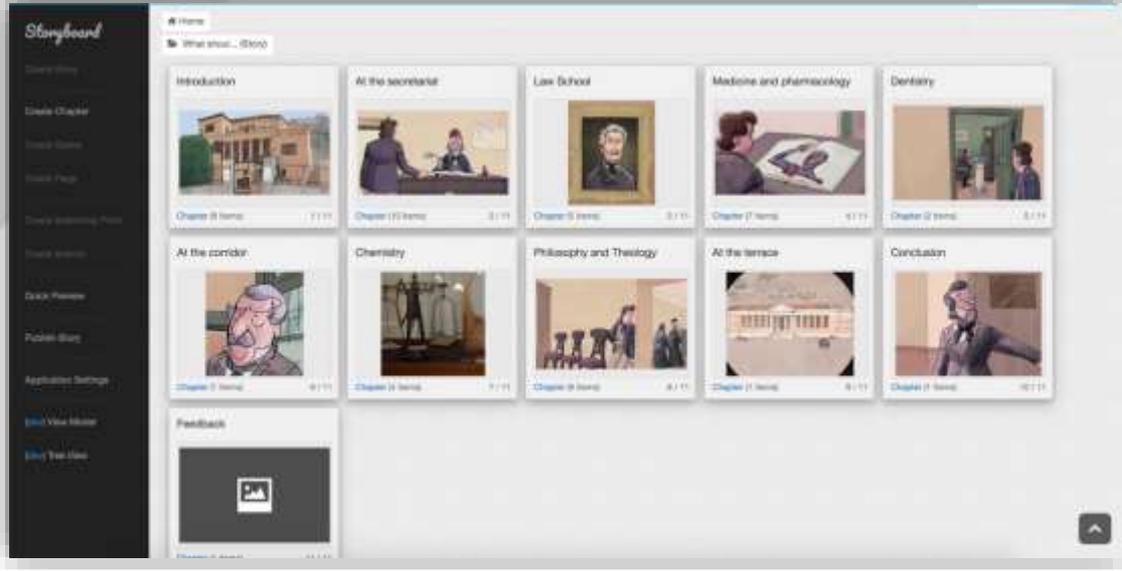


Acropolis Museum

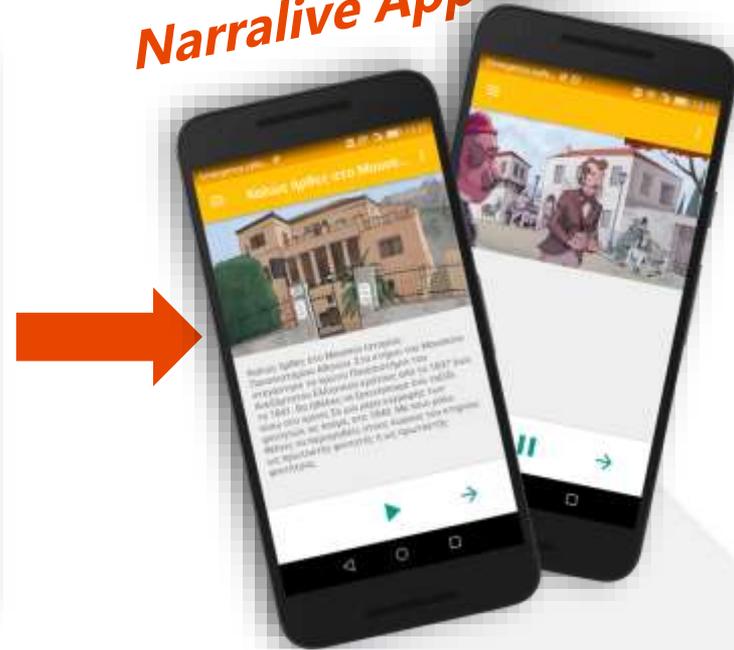


- The Acropolis Museum Wi-Fi connection was unreliable and unstable
- Network issues significantly compromised the visitor experience
- Compromise: Experience assets would be pre-downloaded in the mobile device
- Issues improved but not resolved

Storyboard



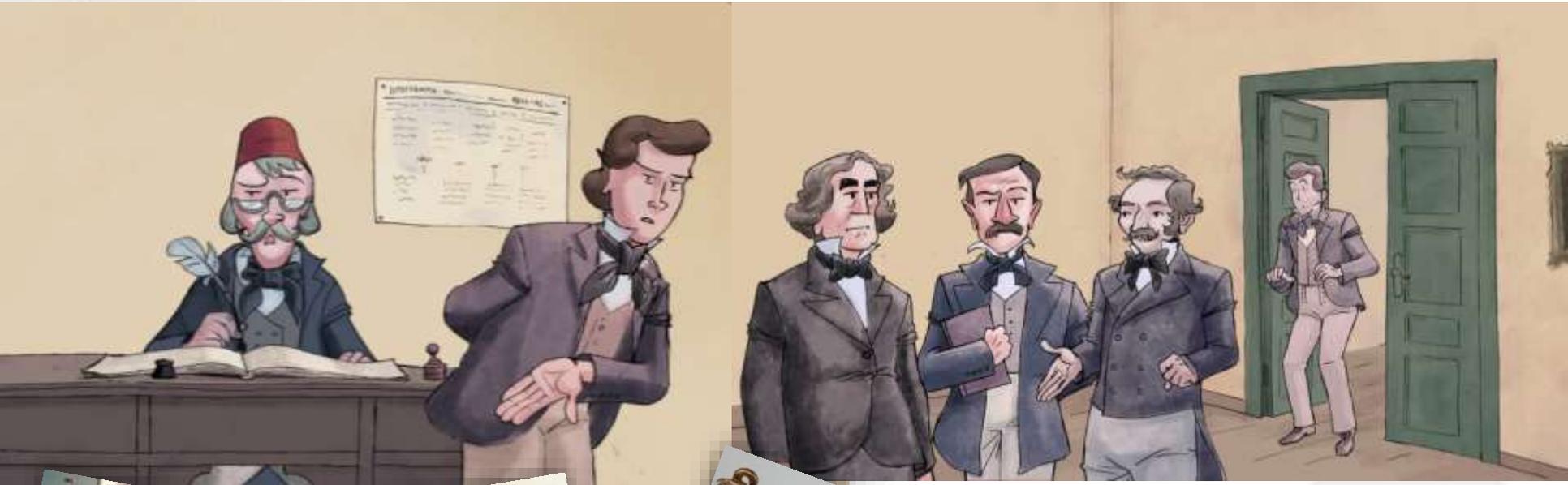
Narrative App



- Lightweight web-based authoring tool
- Native Android experiencing system

- Complete redesign of our technology solution
- Lightweight web-based authoring tool
- Native Android experiencing system – The app is downloaded and runs on the mobile phone
- Internet connection is required for authoring but not for experiencing





**ΜΟΥΣΕΙΟ
ΙΣΤΟΡΙΑΣ**
ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ

Θόλου 5, Αθήνα, 10556. Τ 210 3689500-10. F 210 3689501
www.historymuseum.uoa.gr, e-mail: museum@uoa.gr



“What should I Study?” storytelling app



**ΜΟΥΣΕΙΟ
ΙΣΤΟΡΙΑΣ**
ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ



Θόλου 5, Αθήνα, 10556. T 210 3689500-10. F 210 3689501
www.historymuseum.uoa.gr, e-mail: museum@uoa.gr

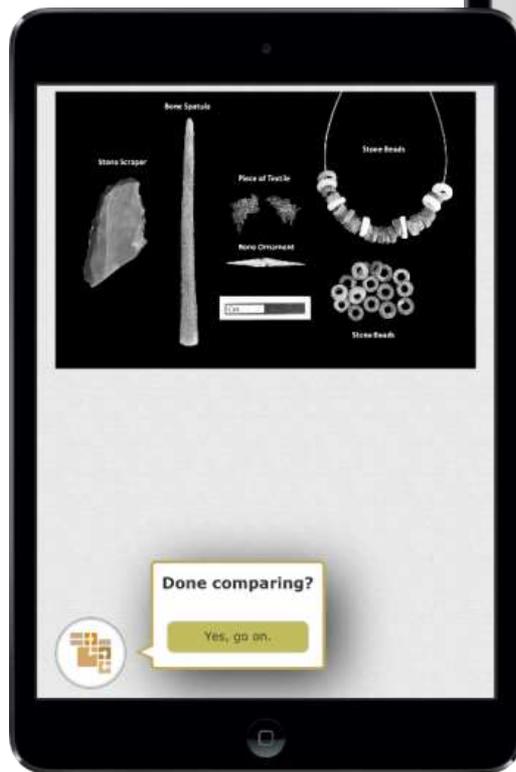
- Stable solution, ensuring seamless visitor experience
- Used to create more than 30 digital storytelling experiences in more than 15 museums and sites
- Network issues in deployment phase: How will the visitors download the story on-site?
- And what about multi-user experiences?
- Vrettakis, E., Kourtis, V., Katifori, A., Karvounis, M., Lougiakis, C., Ioannidis, Y. (2019). Narralive – Creating and experiencing mobile digital storytelling in cultural heritage, Digital Applications in Archaeology and Cultural Heritage, Volume 15, December 2019.

- 9000-year-old Neolithic site in central Turkey
 - Excavated for 60 years by more than 1000 specialists
- Occupied by up to 8000 people at once for over 1000 years without hierarchy (egalitarian socio-economic organisation)





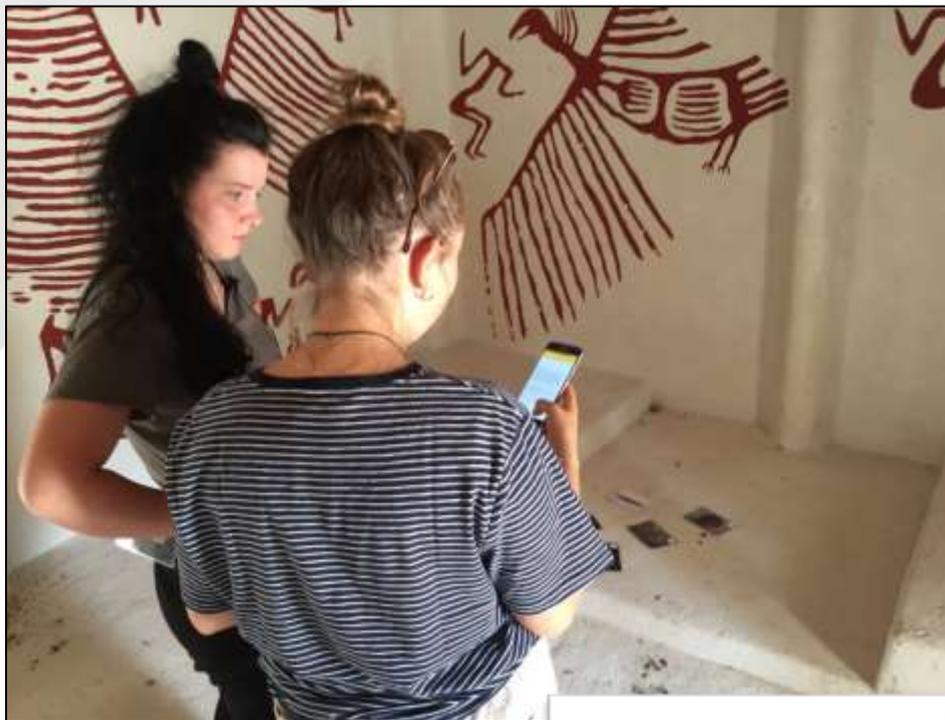
Many objects were found in the burials at Catalhoyuk.
Your companion also knows of some. Compare with one another."



1. Creation of a Neolithic role through a personality quiz.
2. Selection and subsequent personalisation of a related 3D printed object.



3. An Egalitarian Trading Experience



Task

It's your turn to try!

You and your companion must now swap objects with one another. After all, in this town, what's mine is yours!

4. Facilitated dialog with “Bo the chatbot”

☰ **Çatalhöyük School Kit** An Egalitarian Experience



Bo the ChatBot

Hi!

2018-08-24 11:28:38

I hope you folks have enjoyed the experience so far. Let's learn a little bit more about Çatalhöyük!

2018-08-24 11:29:41

Bo the ChatBot is typing message ...

☰ Type something...

Powered by SquirrelBot

- Pilot Evaluation with visitors, using 4G and (unstable) wifi for the profiling quiz and post experience chatbot
- The lack of connectivity is a blocking issue for deployment of the full experience to visitors on site
- And what about synchronization between devices?

Katifori, A., Perry S., Vayanou, M. Pujol, L., Chrysanthi, A. Kourtis, V. and Ioannidis, Y. "Cultivating mobile-mediated social interaction in the museum: Towards group-based digital storytelling experiences." MW2016: Museums and the Web 2016.

Perry, S., Roussou, M., Mirashrafi, S. S., Katifori, A., & McKinney, S. (2019). Collaborative, Shared Digital Experiences Supporting Meaning-Making at Heritage Sites. In H. Lewi, W. Smith, S. Cooke, & D. vom Lehn (Eds.), *The Routledge International Handbook of New Digital Practices in Galleries, Libraries, Archives, Museums and Heritage Sites*.



UPDATE

START

Description

This is your digital tool to help you & your group guide yourselves around York Minster. Be prepared to hear many stories about the Minster, complete activities together and create and tell your own stories.



Hello and welcome to York Minster!

We're glad you've decided to join us today. Whether you've come alone or with a friend we hope this tour can shed some light on the intriguing history of this place and the people who have walked here before you.

This tour is a little different to tours you may have taken before. This time, it's not about us. It's about you and your place in the story of the Minster. Be prepared to laugh, cry, tell stories and share your own knowledge with each other.

But don't worry, we'll help. Use this device to guide yourselves around the building and discover activities you can do together. Oh, and we'll share our best stories too!





- Pilot Evaluation with more than 25 visitors
- Results under analysis
- Very positive feedback
- Great potential for visitor engagement and reflection



EMOTIVE
York Minster



An identified need for...

- **Synchronized content** appearing on the visitor devices
- The Facilitator to be able to **control** the paths of the branching narrative offered
- Additional activities like **polling/voting**
- We need to implement **mobile device synchronization**

Different solutions examined

“Nearby Connections”:

- peer-to-peer networking API that allows apps to easily discover, connect to, and exchange data with nearby devices in real-time, regardless of network connectivity.
- The API is located in the `com.google.android.gms.nearby.connection` package.
- Example use cases relevant to ours include local multi-player gaming and multi-screen gaming

<https://developers.google.com/nearby/connections/overview>

- Mobile digital storytelling experiences have the potential to **transform the way we connect** with cultural heritage sites.
- We need **stable technological solutions** to design and evaluate...
- ...Until Web connectivity is **“there”**

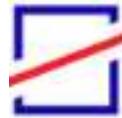
THANK YOU!

Akrivi Katifori
vivi@di.uoa.gr



HELLENIC REPUBLIC
**National and Kapodistrian
University of Athens**

EST. 1837



ΑΟΗΝΑ Έρευνα & Καινοτομία
Τεχνολογίες Πληροφορίας

 [/emotiveproject](https://www.facebook.com/emotiveproject)  [@emotive_eu](https://twitter.com/emotive_eu)

A 3-year EC funded project
Start date: 1st November 2016
Funding: This project has received funding from the
European Union's Horizon 2020 research and innovation
programme under grant agreement No 727193

