

IEEE ICME 2015



Panel on

MULTIMEDIA for ART and CULTURAL HERITAGE



Panelists:

Patrizia Asproni, President Fondazione Torino Musei, I
Andrea Cavallaro, Computer scientist Queen Mary Univ. of London, UK
Rita Cucchiara, Computer scientist Univ. di Modena and Reggio Emilia, I
Grazia Tucci, Architect Univ. di Firenze, I
Roger Zimmermann, Computer scientist National Univ. of Singapore, SGP
Silvia Filippini Fantoni, Director Interpretation, Media and Evaluation Dept.,
Indianapolis Museum of Art, USA



Panel Chair:

Alberto del Bimbo, Univ. di Firenze, I



Questions for the Panelists:

Q1 What relationships between museums and CH sites and visitors?
Are the *standard visitor* and the *transmissive learning* model definitely passed by?

Q2 In which way multimedia technologies can support an effective user-centered, personalized information dialog?

Q3 Sensors, mobile and wearable devices, natural interactivity.....
How much will they improve the visitor's quality of experience?

Q4 Are multimedia technologies and particularly BIGMM the ideal means for information overload? Do we all become asocial individuals soon?

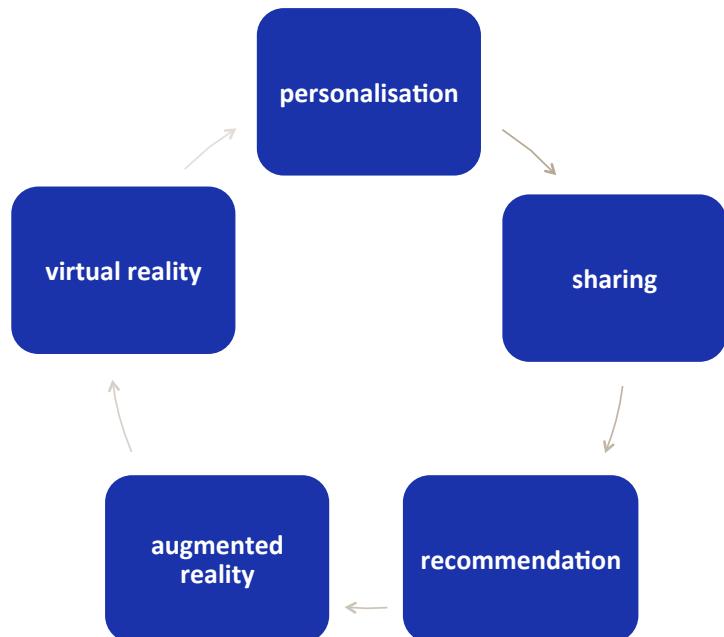
Qx

Andrea Cavallaro
Queen Mary University of London

Alberto's brief:

“how will multimedia
change the relationship
between the visitor and the site?”

completely!



What is a museum?

A museum [...] acquires, conserves, researches,
communicates and exhibits
the tangible and **intangible heritage** of humanity
and its environment for the purposes of education,
study and enjoyment

<http://icom.museum/the-vision/museum-definition/>

Intangible cultural heritage: examples

Mediterranean diet

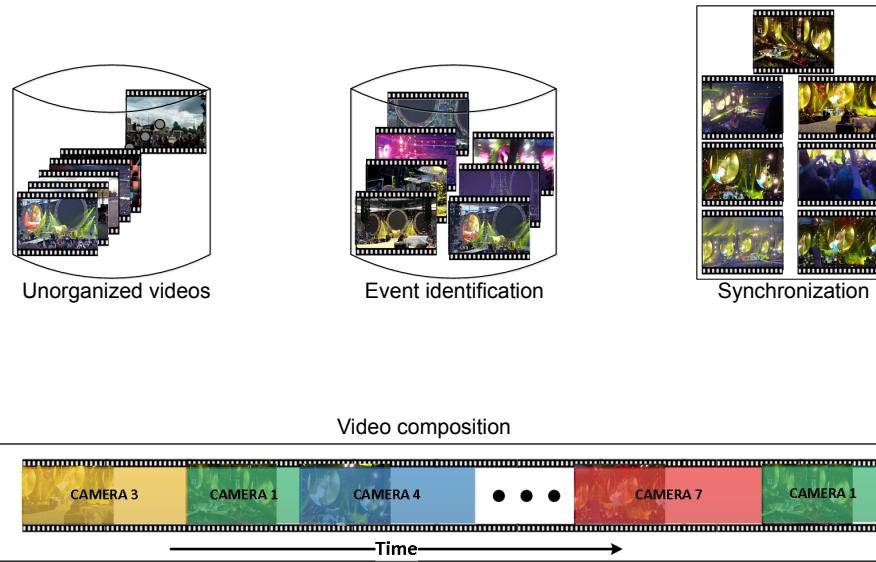
Peking opera

Capoeira circle

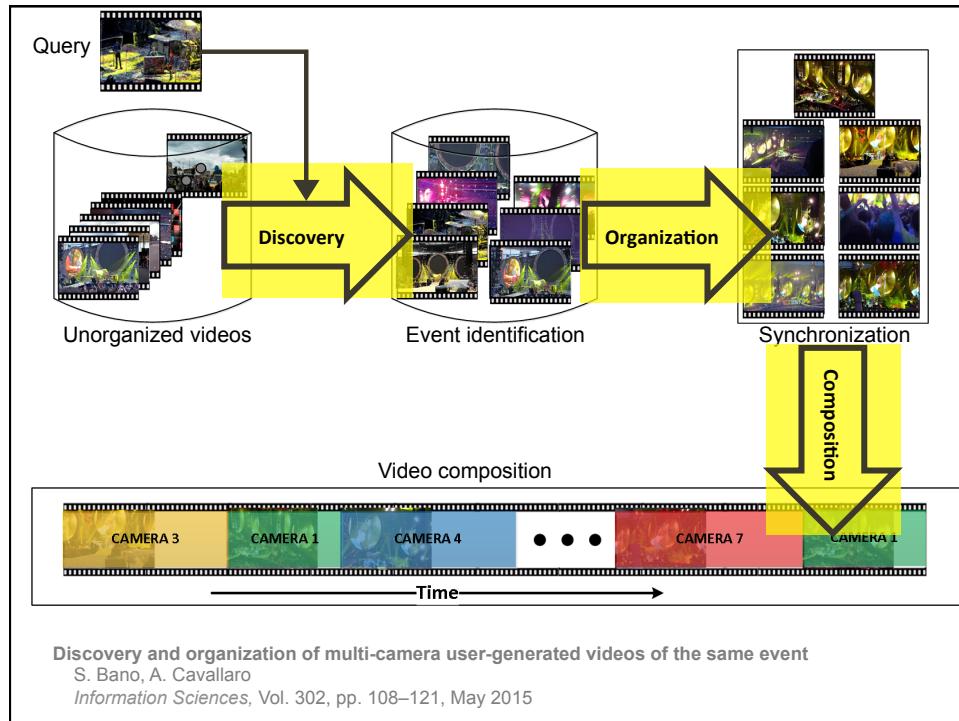
Human towers

Processions

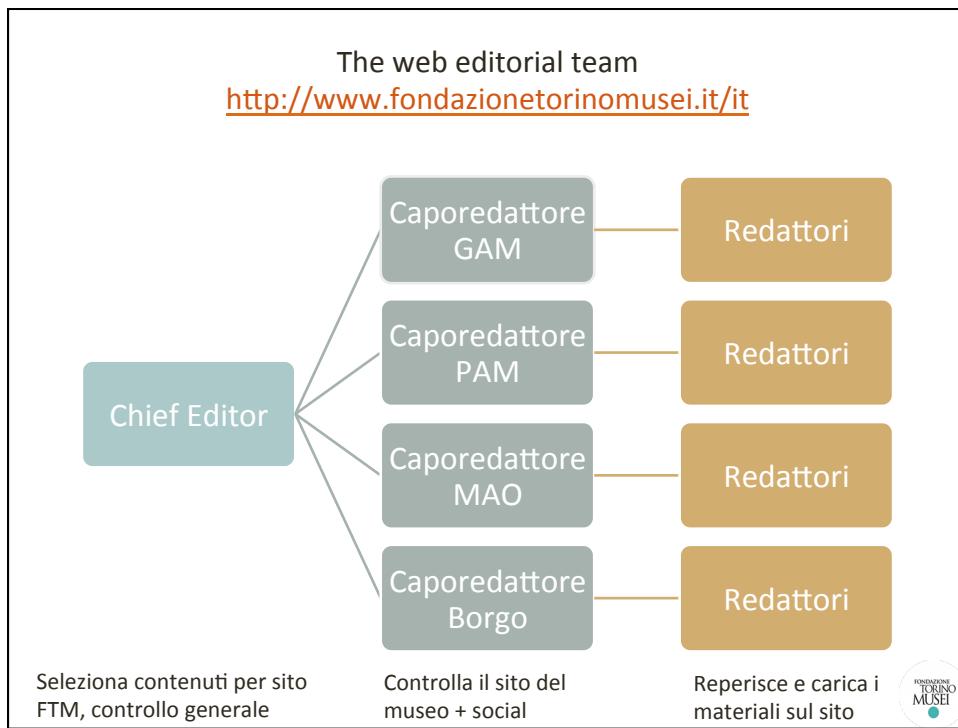
User-generated videos: automatic editing



Discovery and organization of multi-camera user-generated videos of the same event
S. Bano, A. Cavallaro
Information Sciences, Vol. 302, pp. 108–121, May 2015



Patrizia Asproni
 President Fondazione Torino Musei



Social Museums

- [musei](#)
- [Alcamaglie](#)
- [MI GACT](#)
- [insegnabile](#)
- [svolaredi](#)
- [Pininfarina](#)
- [OpenIV museo](#)
- [Musei Vittorio Emanuele II](#)
- [londrr](#)
- [svegliamuseo](#)
- [sciamando](#)
- [gallo](#)
- [palazzomadamato](#)
- [quai8ntry](#)
- [britishmuseum](#)
- [museiinomune](#)
- [Musée d'œuvre](#)
- [Civiche Gallerie](#)
- [HM London](#)
- [Mar Dixon](#)

- Integrazione delle strategie online e “offline”
- Una community di oltre 100.000 utenti
- Nella Top Ten della classifica Tripadvisor
- 18 account sulle principali piattaforme social

Google Art Project

Website

<https://www.google.com/culturalinstitute/u/0/collection/museo-darteorientale?view=grid&hl=it>

App mobile

<https://play.google.com/store/apps/details?id=org.culturalspot.mobile.gamtoring>

3D

<https://www.google.com/culturalinstitute/u/0/collection/museo-darteorientale?v.view=grid&hl=it>

ChromeTab

<https://chrome.google.com/webstore/detail/google-art-project/akimgimeenqgnlfchpkpfhmeankh2hl=it>

Opendata

DATASET

- Collezioni
- Affluenza del pubblico
- Restauri
- Prestiti
- Google Analytics
- Social Media



OPEN
GLAM <http://opendata.fondazionetorinomusei.it/>



Roger Zimmerman

National University of Singapore

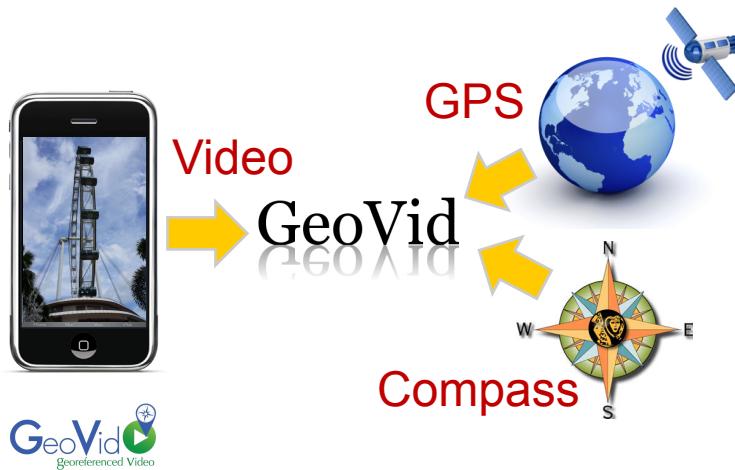


Centre of Social Media Innovations for Communities – COSMIC

- Member institutions:
 - National University of Singapore (NUS),
 - Nanyang Technological University (NTU) and
 - Indian Institute of Technology, Bombay (IITB)
- Supported by the Singapore National Research Foundation under its International Research Centre @ Singapore Funding Initiative and administered by the IDM Programme Office.
- Research objective:
To leverage on social media for process innovation in the Middle-of-the-Pyramid (MOP). Specifically, the people targeted are those involved in the informal economy.



Sensor-Annotation of Video





Q2: There seems to be great potential for multimedia to offer a personalized visitor experience. A user's past visits can be taken into account.

Q3: An integrated approach can much enhance a visitor's experience. E.g., Based on the location a visitor is offered explanatory comments for historical places (virtual tour guide).

Q4: With BIGMM there is definitely a danger that social interactions will suffer, i.e., people don't need to talk (e.g., selfie stick).

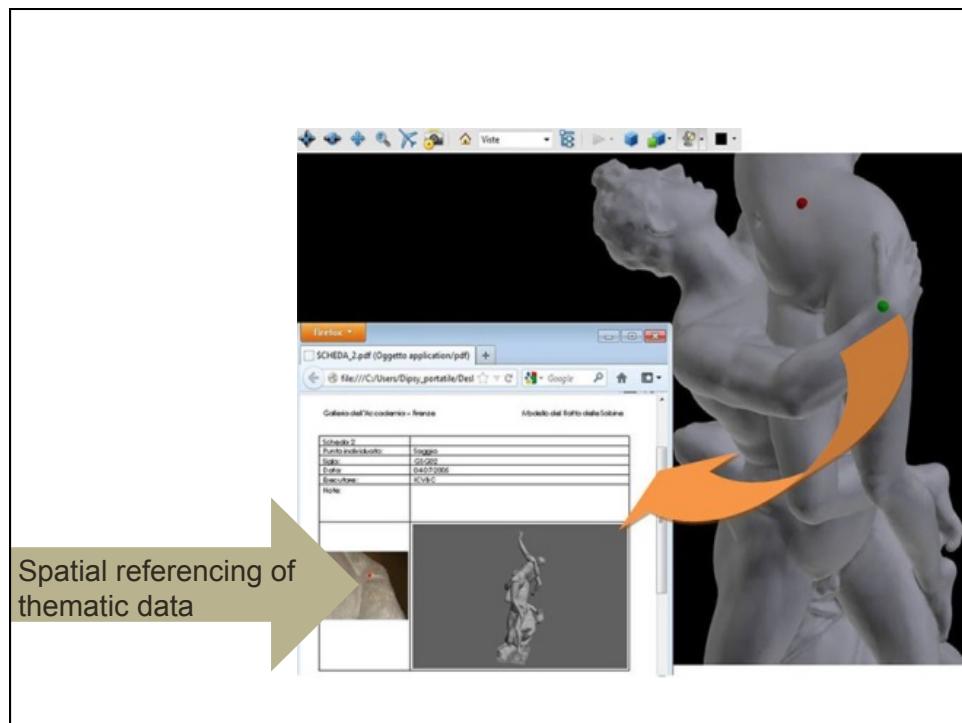
**MULTIMEDIA FOR ART AND
CULTURAL HERITAGE
HOW CAN GEOMATICS HELP?**

Grazia Tucci

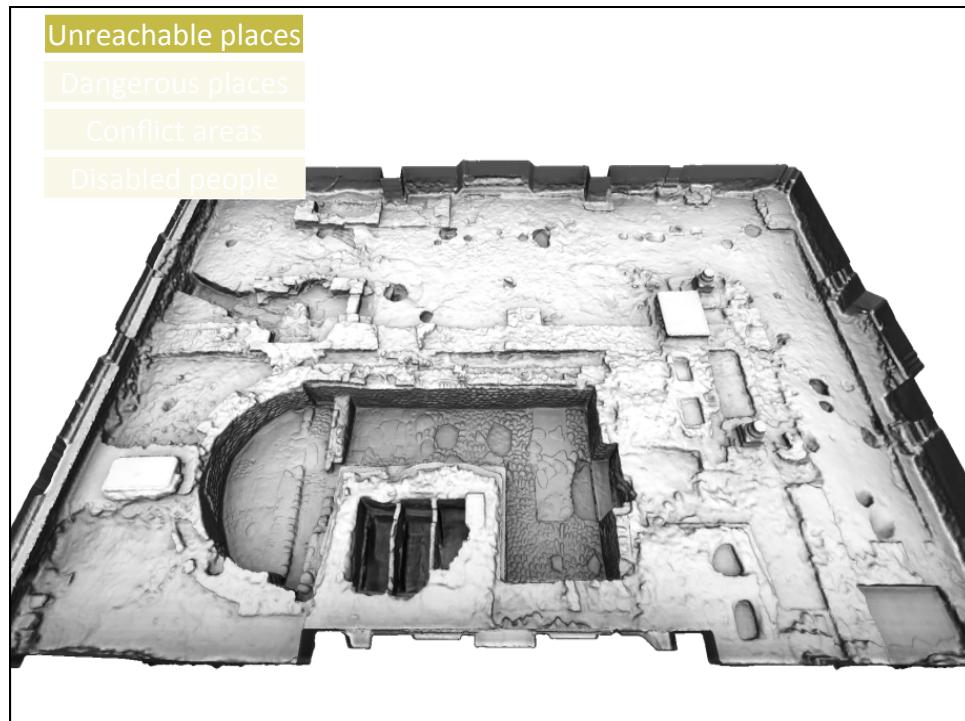
GeCo Lab
(Geomatics for Environment and Conservation of Cultural Heritage)

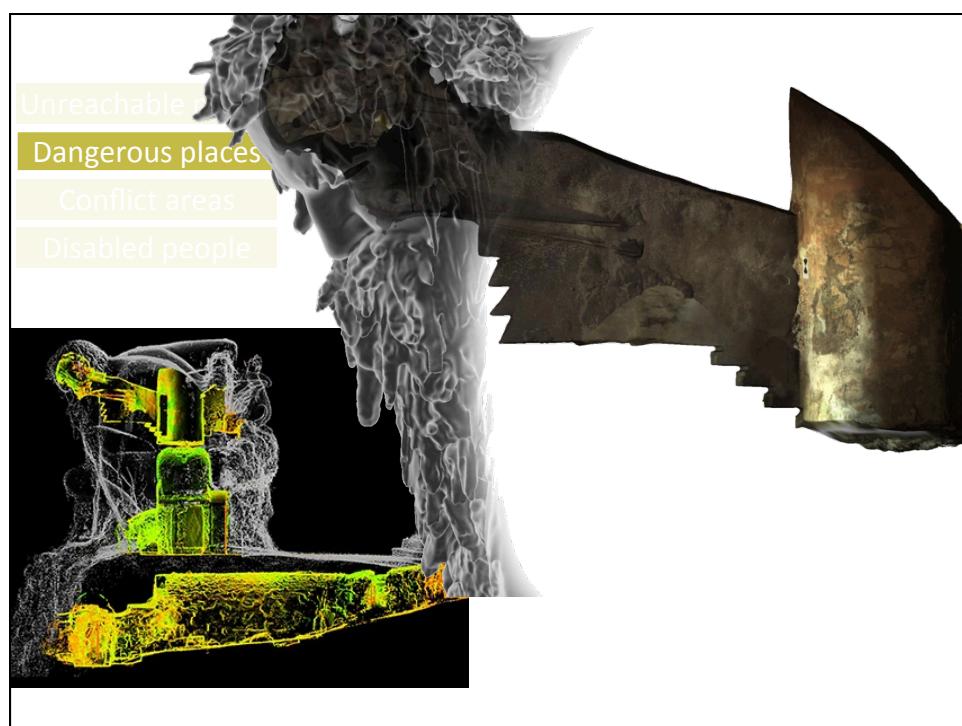
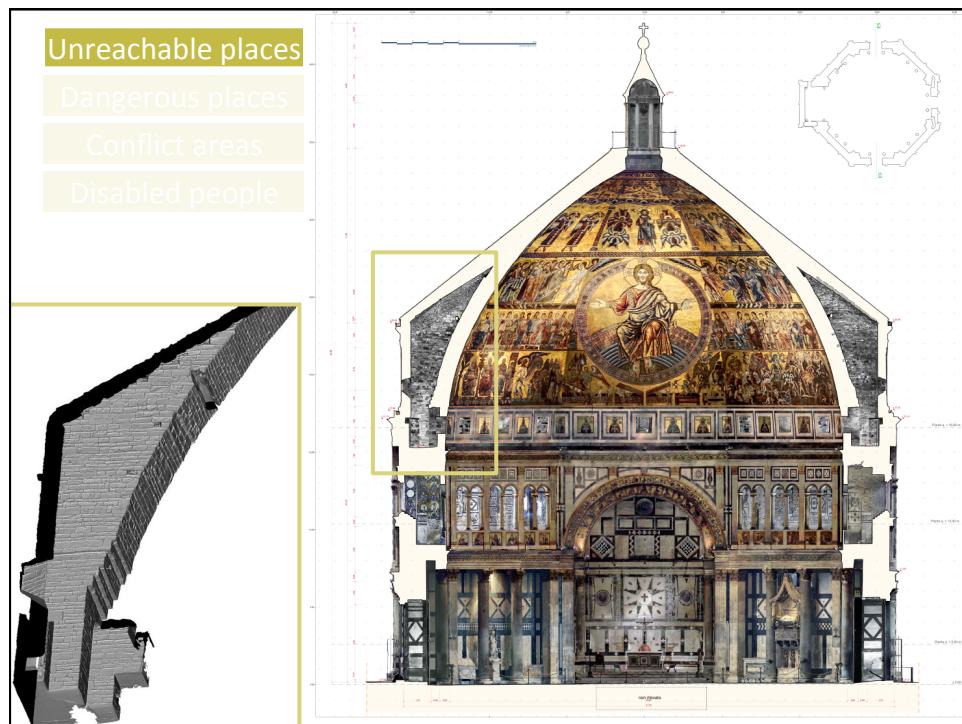
University of Florence

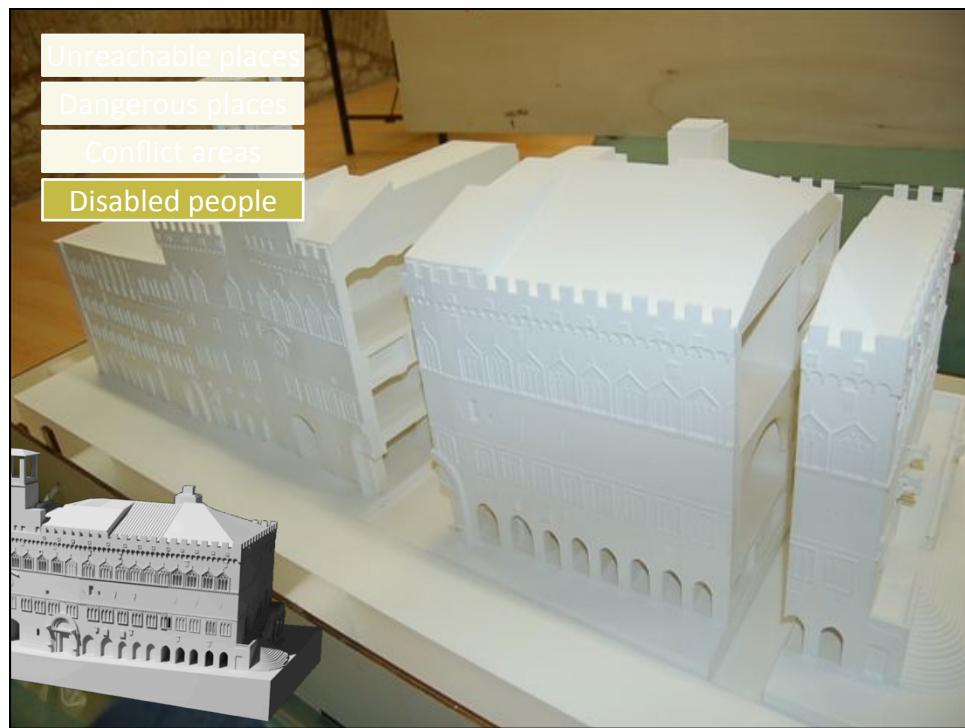


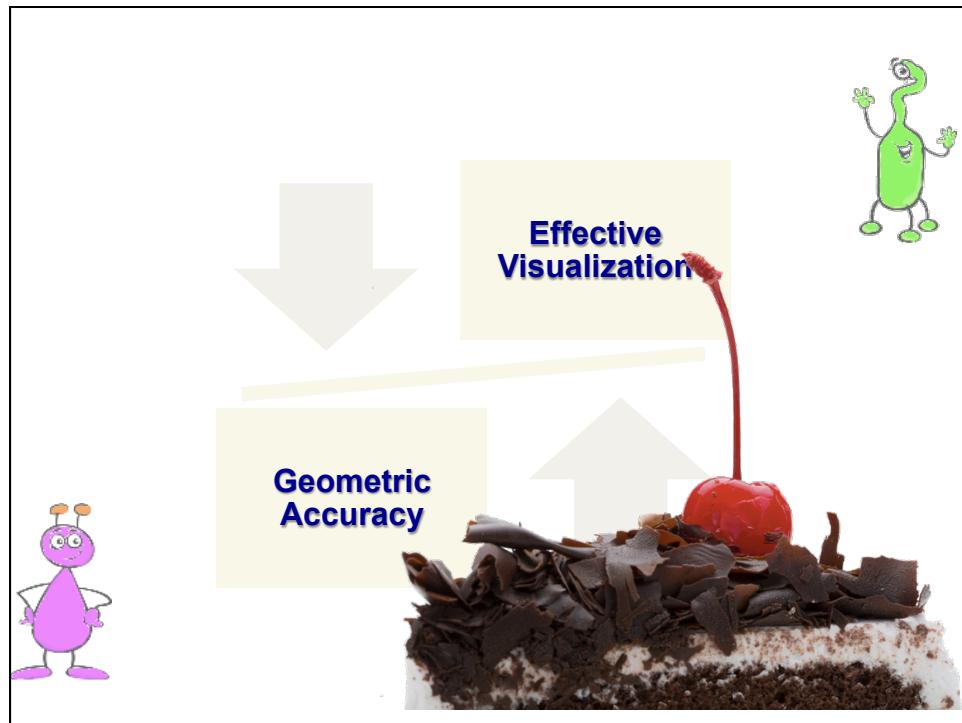
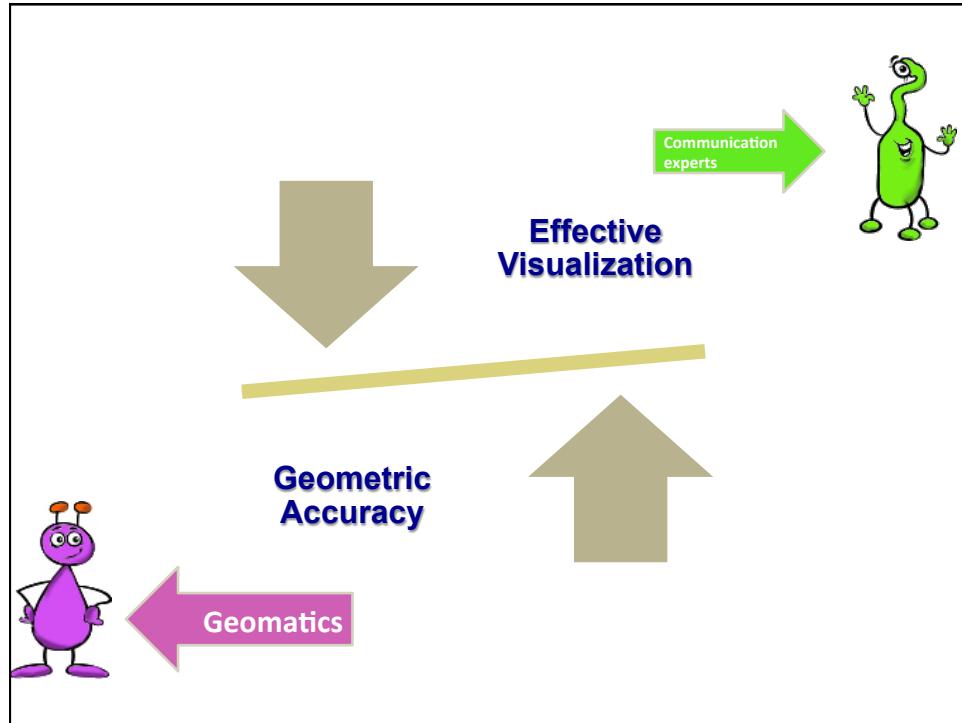


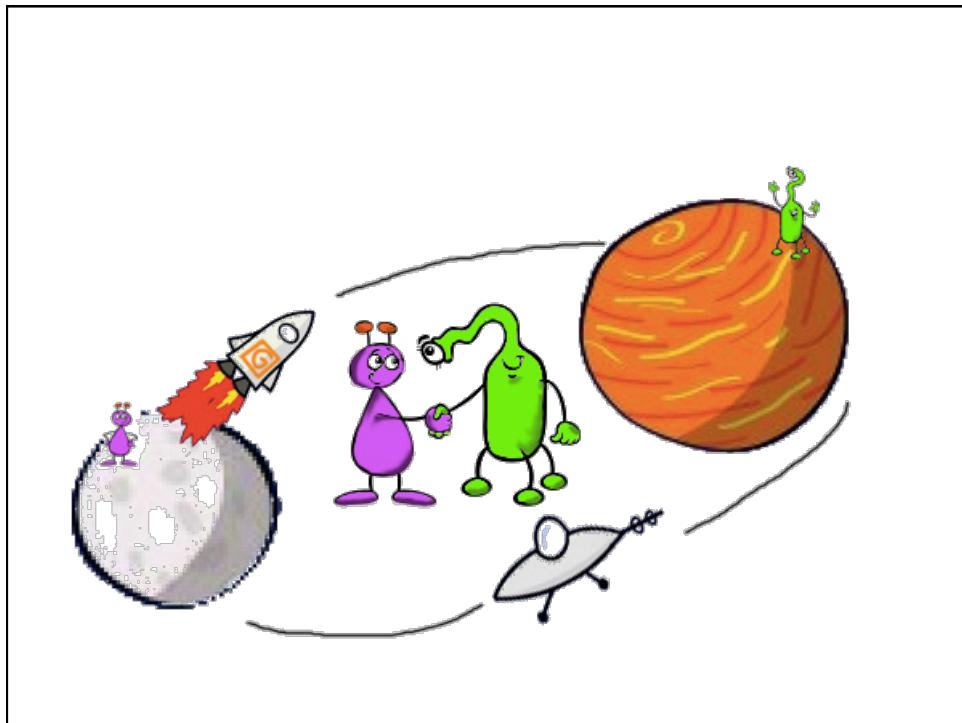
geometry
measure 3D
reference system
spatial data
dimensions

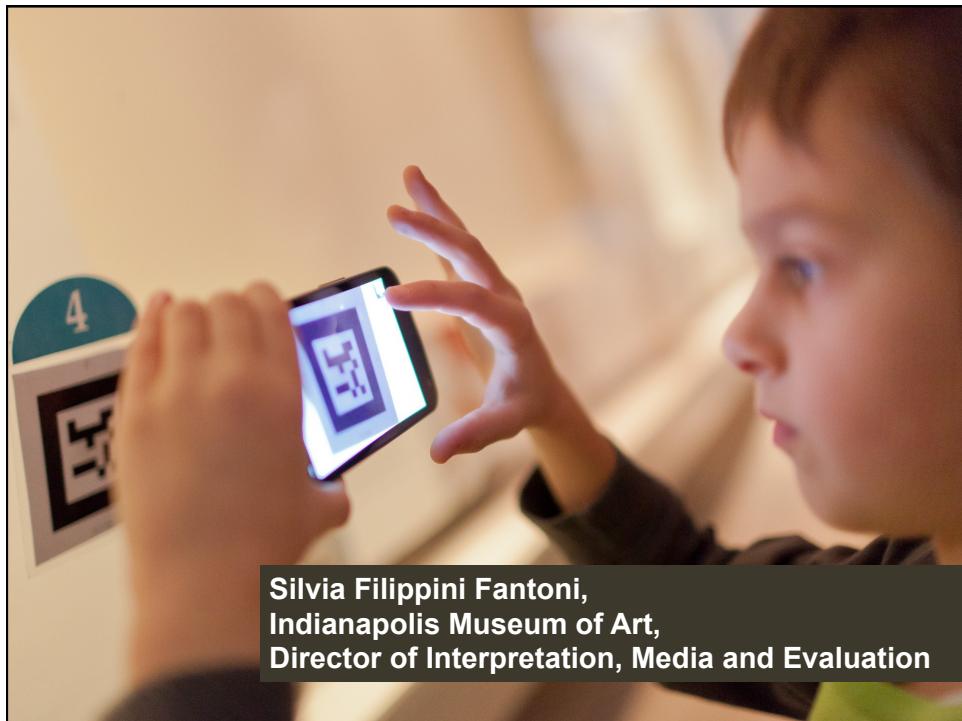






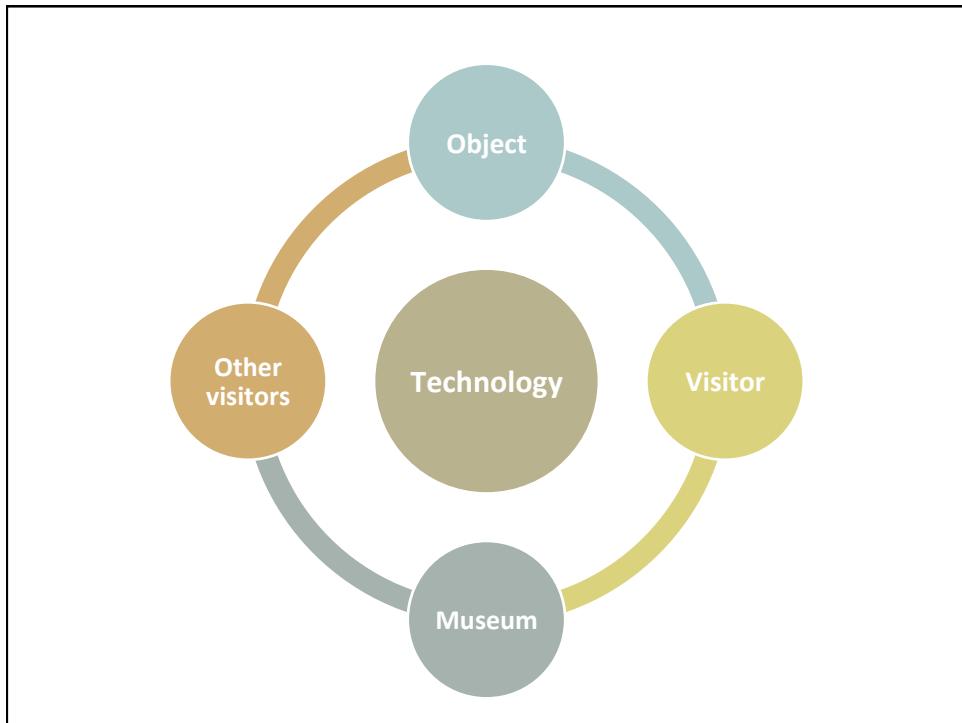


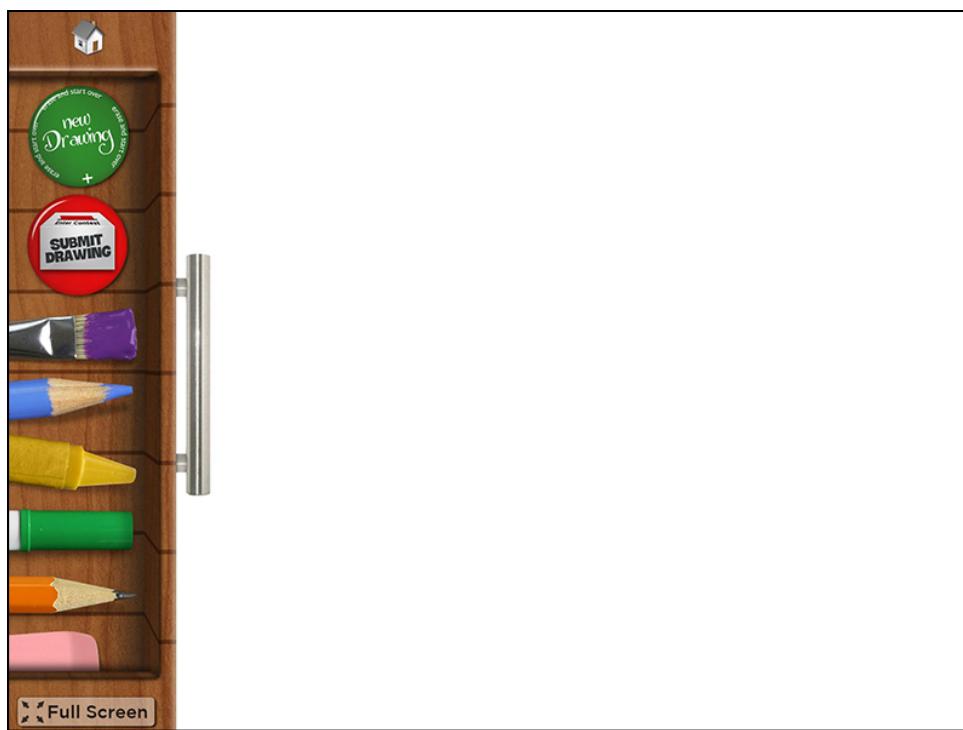
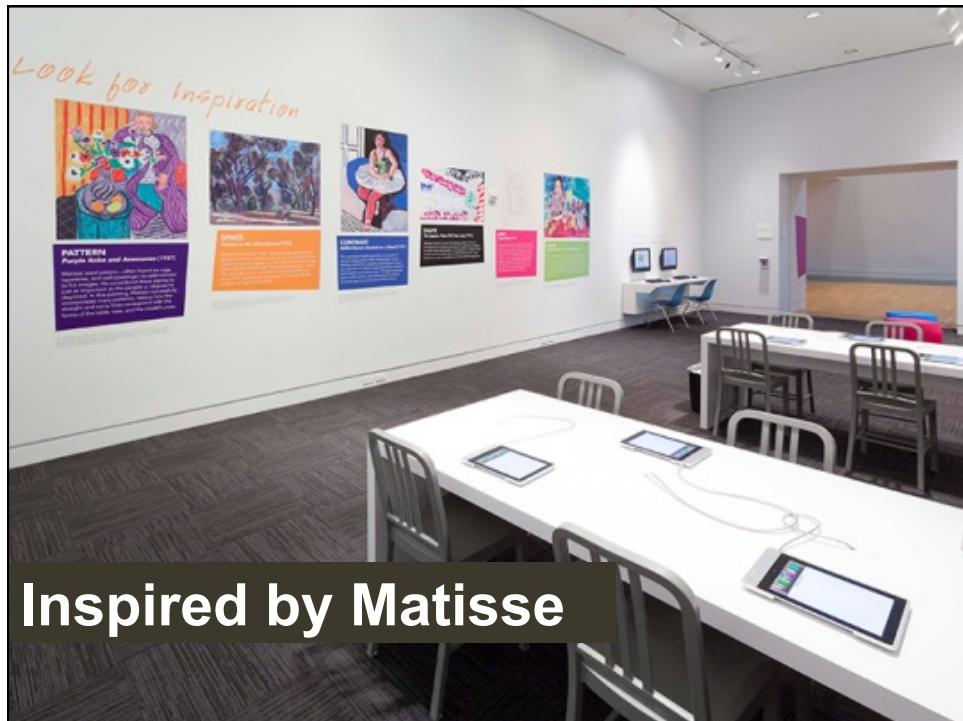




**Silvia Filippini Fantoni,
Indianapolis Museum of Art,
Director of Interpretation, Media and Evaluation**

**Q1: How has technology
changed the relationship
between the visitor and the
objects?**





The screenshot shows the homepage of the 'Inspired by Matisse' website. At the top, there's a navigation bar with links for HOME, ABOUT, ENTRIES, WINNERS & FINALISTS, and SUBMIT YOUR DRAWING. The main title 'inspired by MATTISSE' is prominently displayed in a stylized font. To the right, the Indianapolis Museum of Art logo (IMA) is visible. Below the title, there's a large, colorful abstract drawing composed of various overlapping shapes in shades of pink, purple, yellow, and green. To the right of this drawing, a text box encourages users to submit their own drawings. It reads: 'Matisse has inspired many artists. How will his work inspire you?' It goes on to explain the competition details: 'In conjunction with the Matisse Life in Color exhibition, the IMA is hosting a drawing competition inspired by the work of the French artist. Visit the Inspired by Matisse studio in the IMA, where you can create and submit your drawing for the chance to win monetary prizes, or have your drawing selected as a winner. On that website, you can view all submissions entries to tell us what you think and vote for your favorite.' It also notes that the competition ends on December 31, 2015. Below the main image, there are two sections: 'MOST POPULAR DRAWINGS' and 'MOST RECENT DRAWINGS', each showing a grid of small thumbnail drawings. A search bar is located on the right side of the page.



Key Results

- **3,922:** # of drawings submitted
- **30,709:** online visits
- Visitors responded to **patterns, colors, shape and compositions** seen in exhibition



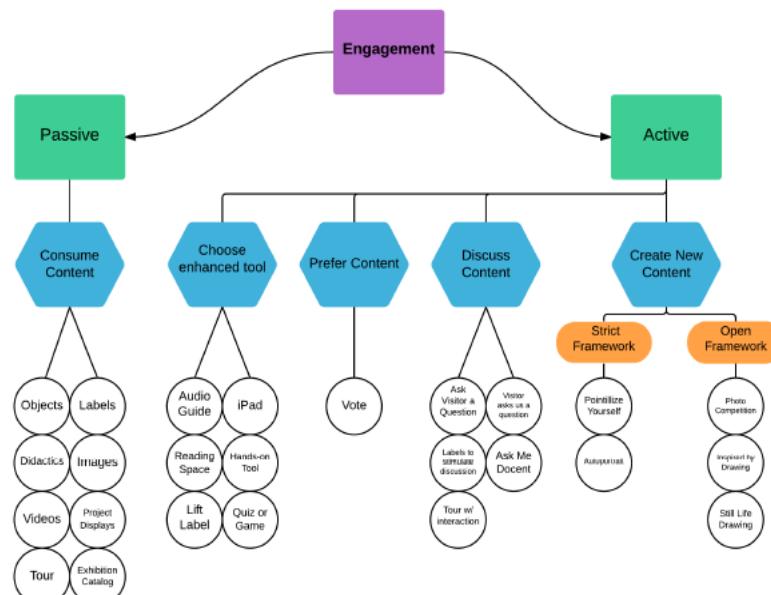
Some Considerations

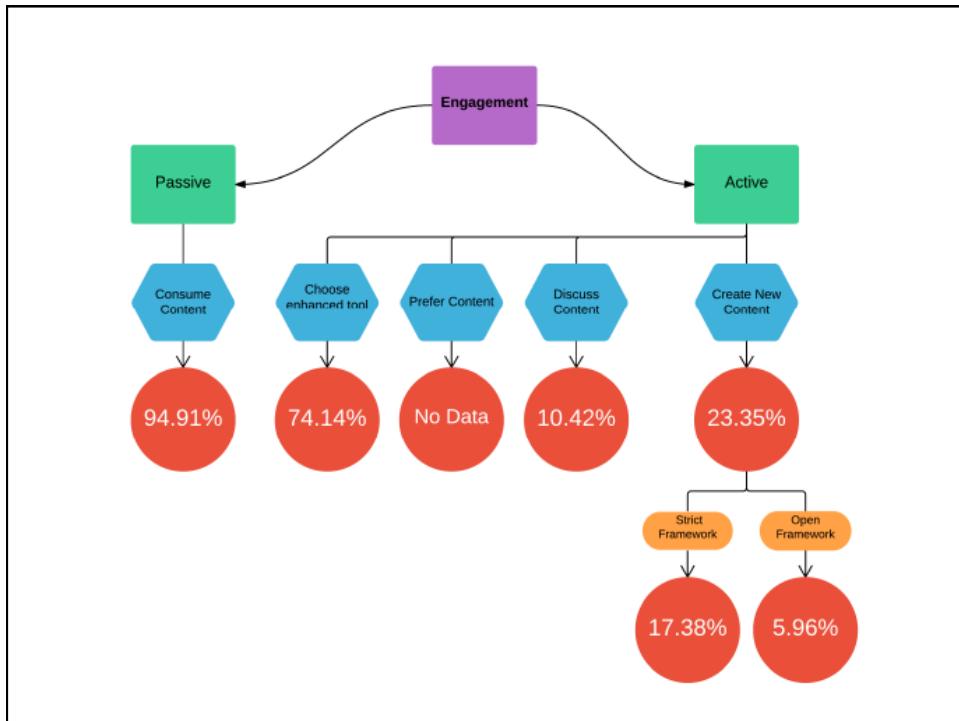
- Need solutions that are:
 - Simple & intuitive
 - Suitable to various audiences
 - Short interaction
- Maintenance
- Resources & Sustainability
- Resist the “cool factor”



Q2: Is the transmission model of communication with visitors over?

Engagement Framework





Q3: In what ways can technology support a personalized information dialogue ?

Getty Bookmarks

The J. Paul Getty Museum

Your Getty Bookmarks

Bookmarks are displayed in the order they were created.

1 ~ 4 of 4 bookmarks

- Finished Housing American, 1950 William Garnett Gallery W006 [Remove]
- Susanna and Elders Flemish, about 1690 Bossuit Not On Display [Remove]
- St. Barnabas Dutch, 1628 Saenredam Gallery E203 [Remove]
- Horse Dutch, 1889 Van Gogh Gallery W204 [Remove]

My Met Museum

A PLACE TO COLLECT AND CONNECT

Welcome [SIGN IN]

MY SAVED ITEMS MY HOME

Recently added

View

Met Recommendations

America

- Robert Fulton 1786-1865 French Vessel Date: 1812-1815 Accession Number: 1983.125 Base
- Bather Jean-Honoré Fragonard Date: 1770-1775 Accession Number: 1983.126 Base
- Winter Jean-Honoré Fragonard Date: 1764-1765 Accession Number: 1983.127 Base

Rijks studio

RUKS STUDIO Test Silvia Filippini Fantoni

De herderin Jacob Gerritsz. Cuyp

Het melkmeisje Johannes Vermeer

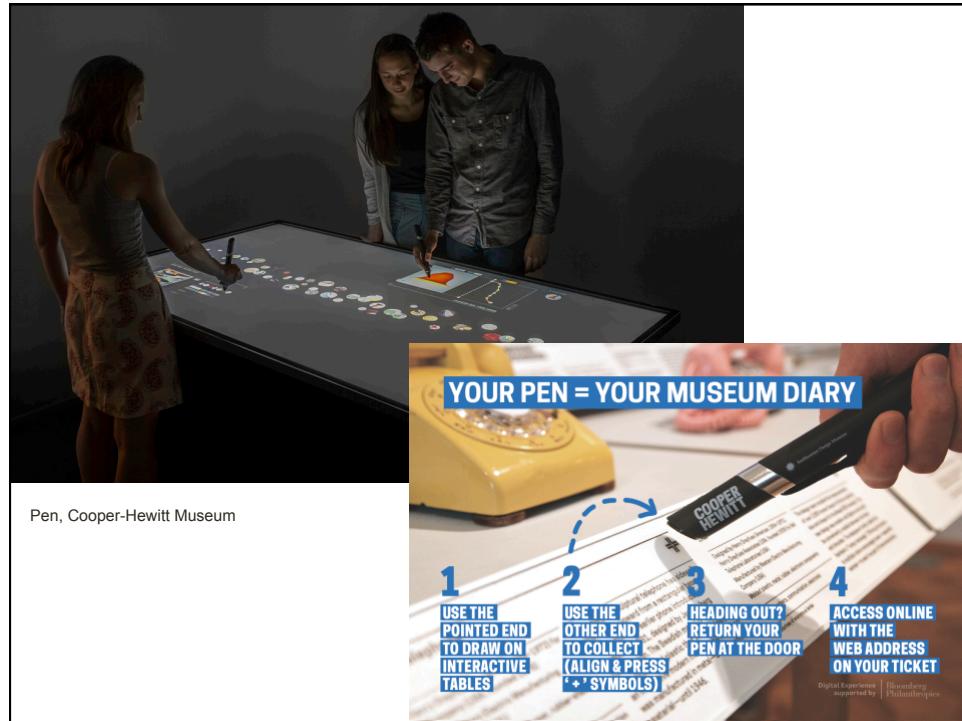
Zelfportret Rembrandt Harmensz. van Rijn

Openbaar Verzameling wijzigen

ArtLens, Cleveland Museum of Art

Visitors interacting with a large wall-mounted touch screen displaying a grid of small images, with a large decorative vase in the foreground.

A close-up view of a handheld tablet device displaying a detailed image of a painting with various interactive layers overlaid.



CREATE YOUR AUTOPIORTRAIT
INSPIRED BY ROBERT INDIANA

STEP 5
Share your Autoportrait by emailing it to yourself or a friend.

[EMAIL](#) [CLICK HERE TO ADD](#)

I accept and agree to the [terms and conditions](#)

[BACK](#) [SEND](#) [NEXT](#)

Portrait

with colors, numbers, example: your favorite color, your name, your birth year, your favorite place, your favorite artist, etc.

Create Your Autoportrait



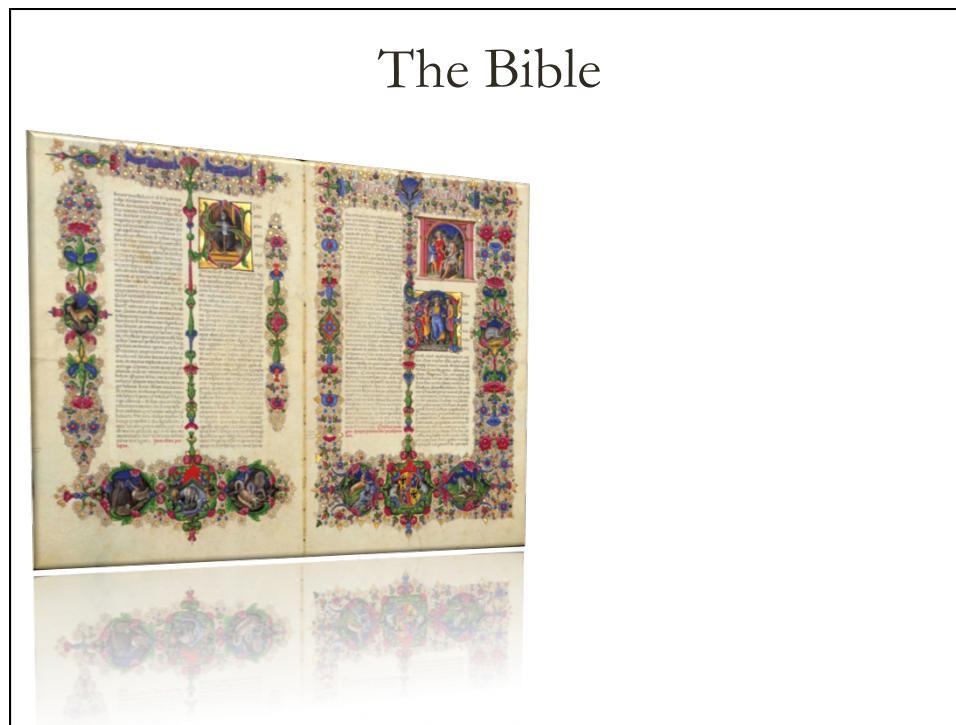
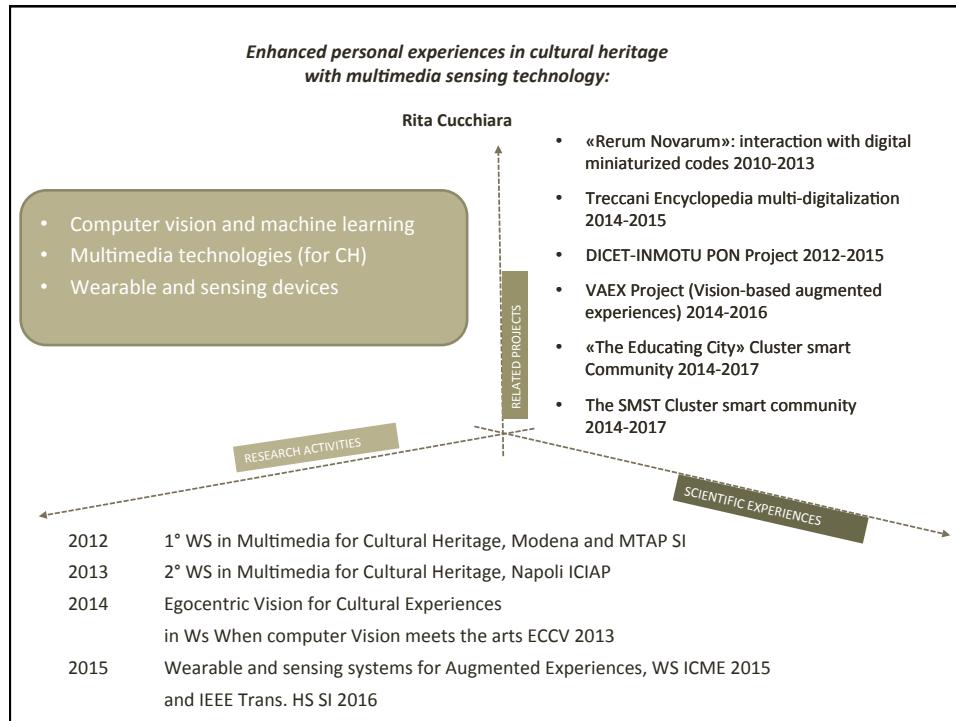
IEEE ICME 2015

PANEL ON
MULTIMEDIA FOR ART AND CULTURAL HERITAGE

- *Enhanced personal experiences in cultural heritage with multimedia sensing technology*

Rita Cucchiara

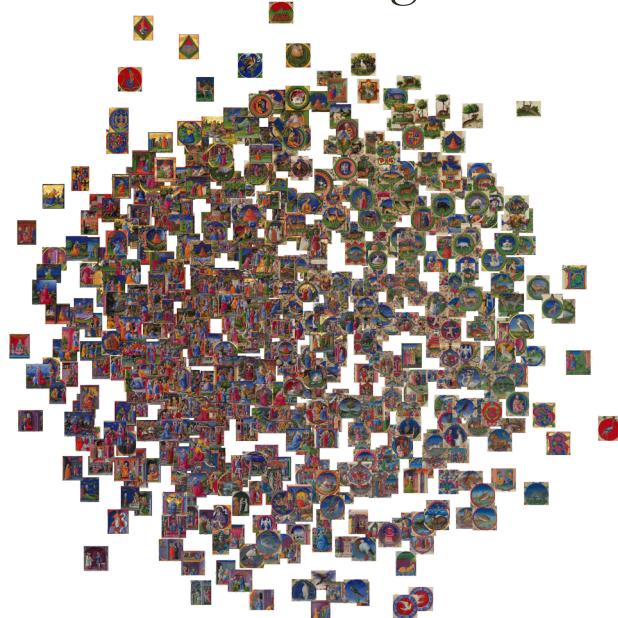
ImageLab, Dipartimento di Ingegneria Enzo Ferrari
SOFTECH Research center in ICT
Università di Modena e Reggio Emilia, Italy



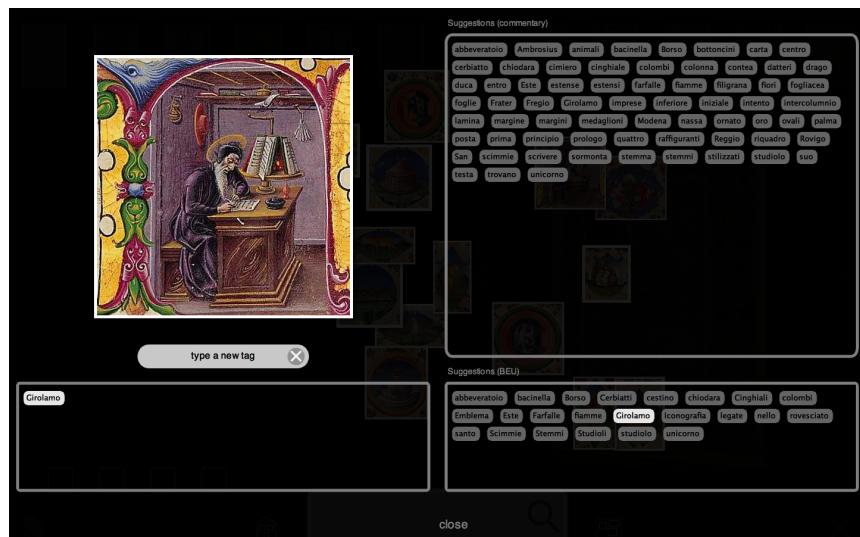
From books to multimedia



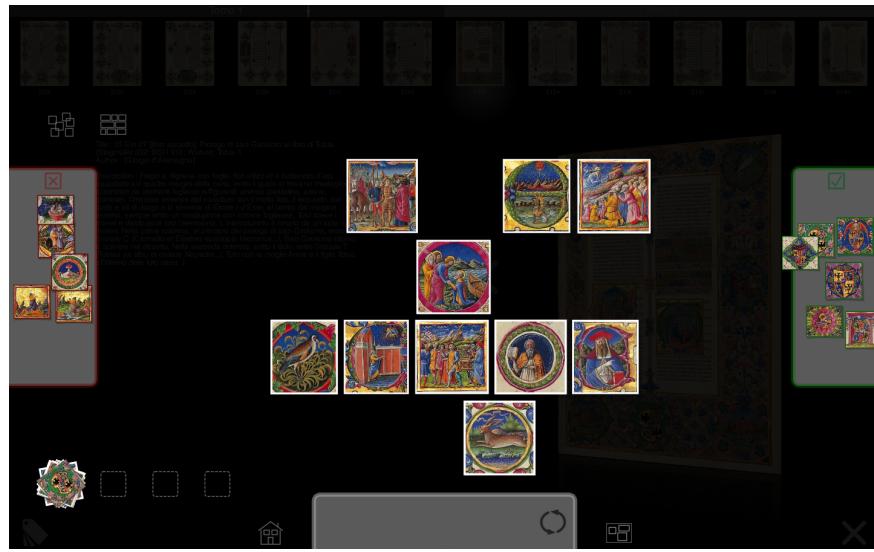
Browsing



Social tagging



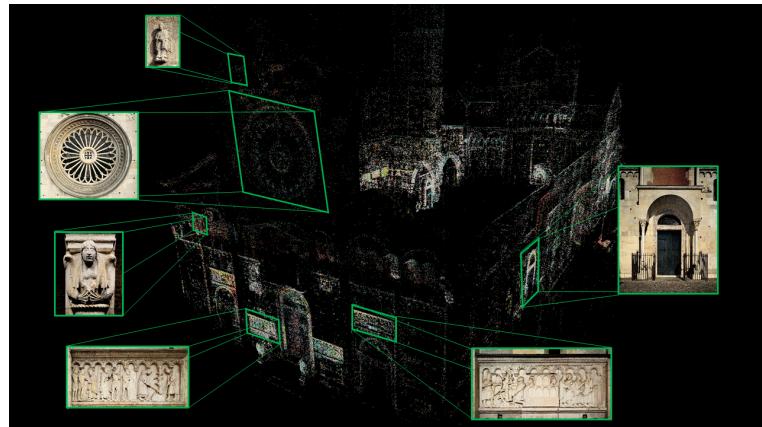
Emotional search



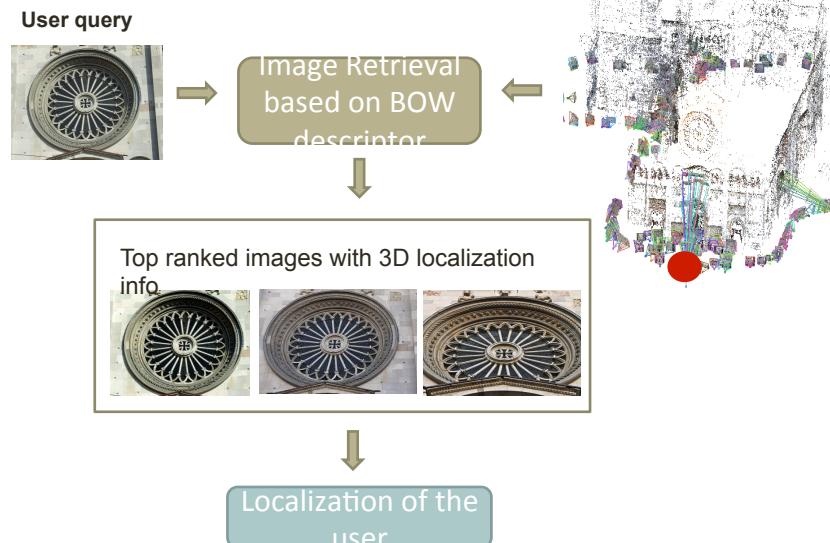
Multi-digitalization: Treccani

The diagram illustrates the process of Visual Cultural Augmented Experiences. It starts with a **USER QUERY** (an image of a building) which is processed by **IFT DESCRIPTOR EXTRACTION** to produce a **PROJECTED COVARIANCE DESCRIPTOR** (represented as a grid of size $N \times N$). This descriptor is then used for **RELEVANT DETAILS RETRIEVAL** from a **3D MODEL WITH RELEVANT DETAILS LOCALIZATION**. The retrieved details are overlaid on the original image. A feedback loop connects the augmented reality output back to the **WEARABLE VISION SENSORS**, which provide input for the next iteration.

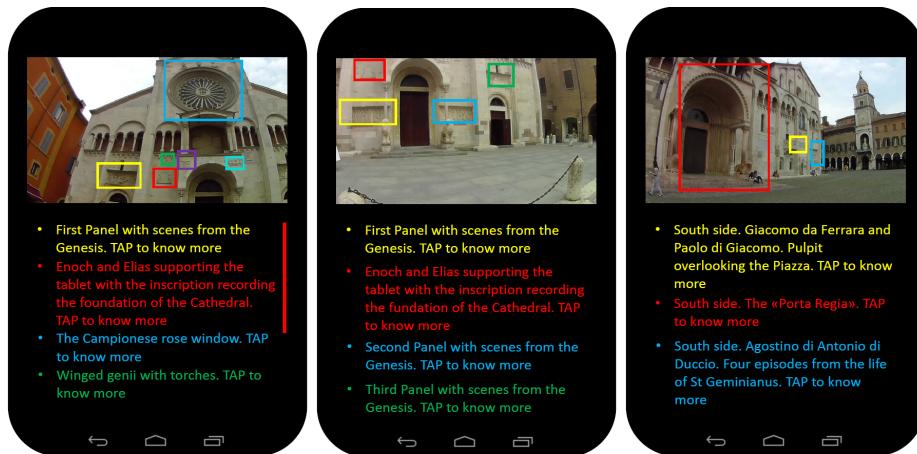
Personal and Social Points of Interests



What you see is where you are...
3D Model



Interactions with PoIs



In Which Way Multimedia Technologies Can Support An Effective User-centred, Personalized Information Dialog?

