

Co-creating technologies to structure interpretation with museum and gallery collections

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The Open University

Interpretation matters...

- A key part of exhibit & cultural heritage design
- A means to communicate information and to engage audiences.
- But how does it alter visitor experiences and support the potential for learning?
- How is technology giving us opportunities or changing expectations?

Interpretation matters to...

Cultural Visiting

- A focus in exhibit design
- Opening up authority to audiences

Crowdsourcing

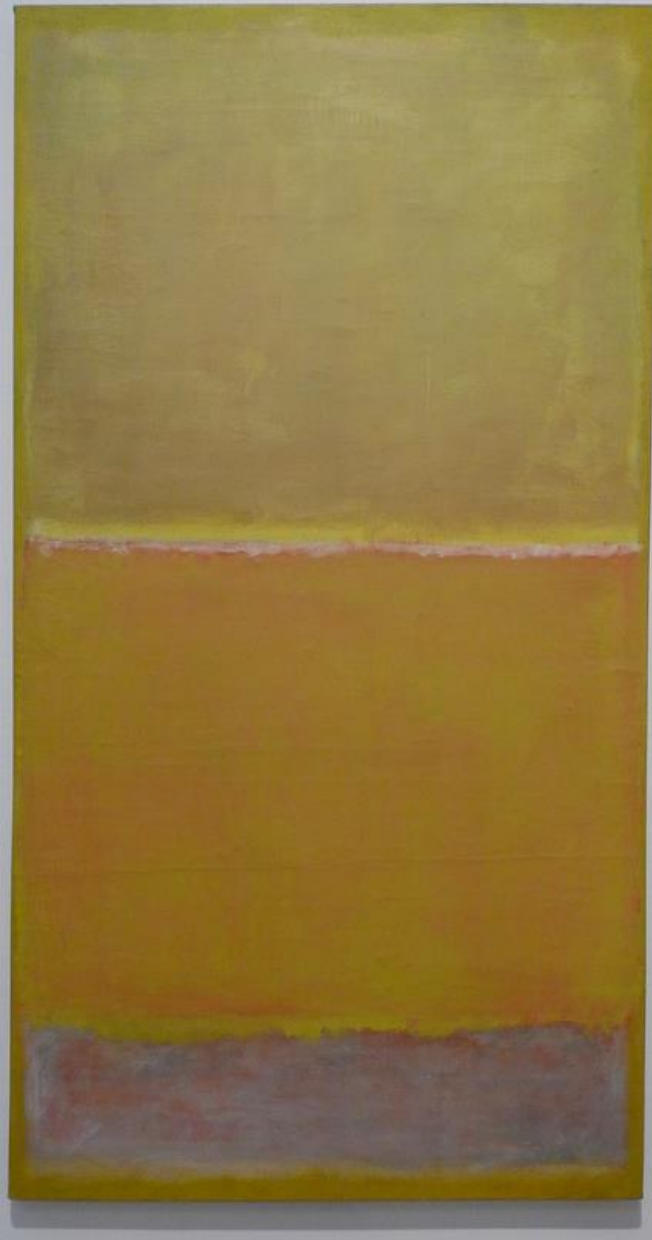
- A human capacity that is not easily automated
- Designing for motivated engagement

Educators

- An essential skill to teach in multiple disciplines
- Combining procedural and informational knowledge

Interaction Design

- (mis)matches between human and computer views
- Mobile, wearable technologies augment our view of the world – provide a lens through which we interpret



Mark Rothko 1903–1970

Born Russia, worked USA

Untitled c1950–52

Oil on canvas

In his mature work, Rothko abandoned specific reference to nature in order to paint images with universal associations. By the late 1940s, he had developed a style in which hazy, pulsating rectangles float within a vertical format. Rothko wrote that the great artistic achievements of the past were pictures of the human figure alone in a moment of utter immobility. He sought to create his own version of this solitary meditative experience, scaling his pictures so that the viewer is enveloped in their luminous, atmospheric surface.

Postcard available

Presented by the Mark Rothko Foundation 1986
T04148

[Photos CC: Appelogen](#)

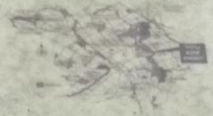
<https://www.flickr.com/photos/appelogen/5179784102/in/album-72157625273849065/>



WOUGERTON MEDIEVAL VILLAGE

B The village of Wougerton is one of the best preserved in the county. It is a typical example of a medieval village, with its houses built of stone and timber, and its streets narrow and winding. The village is surrounded by a stone wall, and the houses are built on a slight rise. The village is a good example of a medieval village, and it is well worth a visit. The village is a good example of a medieval village, and it is well worth a visit. The village is a good example of a medieval village, and it is well worth a visit.

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PANEL C

Too little information...

- Audience can get lost or miss something that would create a meaningful experience
- No story or understanding of provenance to capture interest
- No guidance to support learning from the experience

Too much information...

- Takes the focus away from the artefact or environment.
- Could be out of place
- Explanation rather than exploration
- Could reduce potential for active learning or personal perspectives

Assumptions about the audience

- What do they know already?
- How does the interpretation connect with them?
- Are they formal learners, experts or casual visitors?
- (Should) cater to a range of audiences



Small informational label below the painting.



tant en essència com per la immensitat de la natura com un violent onatge que trenca

nificència es tradueix en un na, on també hi té presència persones accentua aquesta el qual ens n'allunyem quan de color, llum i moviment.

Whose Interpretation?

Interpretations are traditionally generated by experts, for consumption by audiences.

But conceptions of engagement with museums are changing. Notions such as ‘Open Authority’ attempt to define the changes:

“...open authority is a mixing of institutional expertise with the discussions, experiences, and insights of broad audiences. Opening up authority within a global platform can increase points of view and establish a more complete representation of knowledge”

Lori Byrd Philips: <http://midea.nmc.org/2012/01/defining-open-authority-in-museums/>

How can we use technology to provoke and support interpretation as an active process, conducted by audiences?

Approach: Collaborative Design Research

- Bring together different perspectives
- Identify common goals and challenges
- Design, and implement novel prototypes
- Evaluate in the wild
- Iterate

Approach: Collaborative Design Research

- Engage with wicked problems, not easily addressed through science or engineering methods
- Feed back issues for exploration through science, engineering, and other disciplines
- Produce artefacts (designs) that represent the knowledge gained.

Zimmerman, J, Forlizzi, J., and Evenson, S. Research through design as a method for interaction design research in HCI. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 493-502. ACM, 2007.

ArtMaps



Arts, Intermedia and Performance
Gabriella Giannachi, Cristina Locatelli

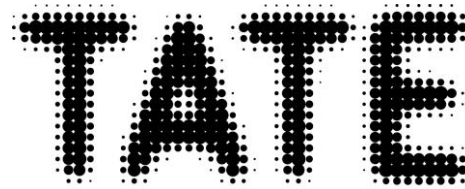


The University of
Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

**Computer Science, Human-Computer
Interaction and Mixed Reality**

Derek McAuley, Laura Carletti, Dominic
Price, Steve Benford, Tim Coughlan



Learning and Digital

Rebecca Sinker, John Stack,
Rich Barrett-Small, Sally
Davies, Rebecca Ward & co.

ArtMaps: Research questions

- How to encourage active engagement with a large collection of artworks?
- How to use data about the artworks, and encourage audiences to contribute to this?
- How to leverage diverse contexts – in gallery, mobile, at home?
- How to leverage personal interests and knowledge?

Search art & artists

Showing 1 - 20 of 84,479 results

Results per page: 20

Sort by: Most viewed

View as: List Grid Slideshow



Refine results



Sir John Everett Millais, Bt
[Ophelia](#) 1851–2
N01506

On display at [Tate Britain](#)



Andy Warhol
[Marilyn Diptych](#) 1962
T03093

On display at [Tate Modern](#)



Marcel Duchamp
[Fountain](#) 1917, replica 1964
T07573



Salvador Dalí
[Metamorphosis of Narcissus](#) 1937
T02343

On display at [Tate Modern](#)



sebastfr on Feb 9 added Larkin Cunningham to the examples page

4 contributors

91 lines (51 sloc) | 7.462 kb

The Tate Collection

Here we present the metadata for around 70,000 artworks that are on display in [Scotland](#) as part of [ARTIST ROOMS](#). Metadata for around 3,500 artworks is also included.

The metadata here is released under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. See the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#) file for more detail.

Images are not included and are not part of the dataset. Use our [permissions](#) page. You may also [license images](#) for commercial use.

Please review the full [usage guidelines](#).

Examples

Here are some examples of Tate data usage in the wild. Please submit a pull request with your creation added to this list.

<https://github.com/tategallery/collection>

Artworks and location...

Find similar objects

Artist

[Joseph Mallord William Turner](#) (41,857)

Type of object

[artwork](#) (76,062)

↳ [painting](#) (5,327)

Date

[1812](#) (671)

Style or '-ism'

[18th century](#) (480)

↳ [Sublime](#) (42)

Subject

[history](#) (3,800)

↳ [classical](#) (252)

↳ [Carthaginian Empire, Hannibal crossing the Alps, 218 BC](#) (10)

[literature and fiction](#) (2,742)

↳ [classical](#) (201)

↳ [Livy, 'Ab Urbe Condita'](#) (2)

↳ [Polybius, 'Histories'](#) (2)

[nature](#) (41,438)

↳ [animals: mammals](#) (4,698)

↳ [elephant](#) (75)

↳ [astronomy](#) (1,139)

↳ [sun](#) (440)

↳ [landscape](#) (26,171)

↳ [mountain](#) (6,308)

↳ [rocky](#) (2,915)

↳ [weather](#) (3,783)

↳ [cloud](#) (1,950)

↳ [storm](#) (779)



↳ [woman](#) (8,551)

↳ [ethnicity](#) (1,298)

↳ [black](#) (280)

↳ [groups](#) (5,277)

↳ [army](#) (191)

[places](#) (31,447)

↳ [countries and continents](#) (14,425)

↳ [Italy, Valle d'Aosta](#) (128)

↳ [natural features \(non-UK\)](#) (4,760)

↳ [Alps](#) (932)

[Joseph Mallord William Turner](#) (41,882)

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Artworks and location...

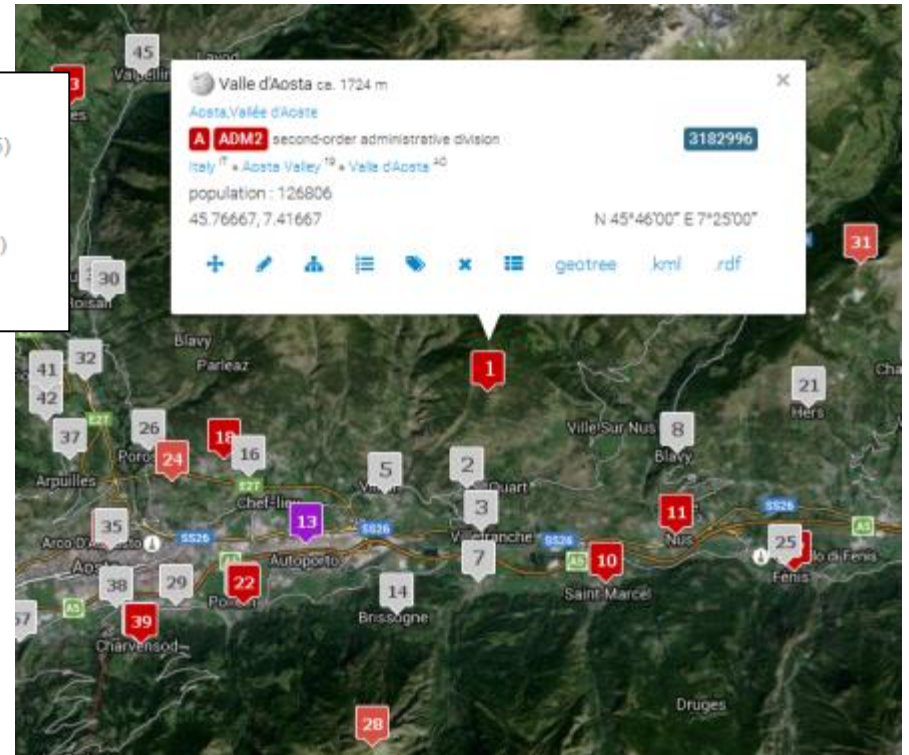


places (31,447)

- countries and continents (14,425)
 - Italy, Valle d'Aosta (128)
- natural features (non-UK) (4,760)
 - Alps (932)



The GeoNames geographical database covers all countries and contains over eight million placenames that are available for download free of charge.



TATE ARTMAPS

What's new?

About

Log in



About



ArtMaps: putting the Tate Collection on the map.

We want your help to find locations for our artworks.

Tate holds over 70,000 works in its collection. More than 23,000 of them have been associated or "tagged" with a location using information in their title or their description. Some locations are pin-point accurate while others are towns, cities, countries or even mythical places. Where possible, we want to see if those artworks are in the right place and find locations for those artworks that don't yet have one.

We'll be running challenges around particular areas or artists, so keep an eye out for them.

Read our step by step guide below:

■ Find an artwork or a place.

You can use the search function, move around the map, or filter by certain options. For example, if you know Paris very well and want to check that artworks there are in the right place, you could search for Paris or move the map to that area. Or, if you are a fan of Tracey Emin you can search for all of her works.

A simple premise...

Support location-based exploration of the Tate collection and user's creation of links between locations and artworks.

Places - Enter a location

Reset map

Enter a location

Back to results

Old London Bridge and Vicinity, engraved by E. Goodall

Artist Joseph Mallord William Turner 1775–1851

Date Published 1827

[View on Tate Online](#)

Suggest a location

Discuss this artwork's location

3000

© 2014. Based on DigitalJob, Getmapping plc, Infolesta Ltd & Blacker, The Resolution Group. Terms of Use Report a map error

...leads to a lot of questions

How useful are the initial locations based on the tags?

What does it mean to link an artwork to a location?

How does the activity alter depending on where it takes place?

How is it guided?

Does it encourage reflection and learning?

Online trials

26 participants recruited via social media / mailing lists.

Up to 5 weeks to complete tasks in their own time and location using the website.

Also encouraged to go beyond the tasks and explore further.

Resulted in 145 suggestions and 94 comments on 80 artworks.

Post trial survey

Task	Description
1	Suggesting a location for 'Home' Artwork: 'Staying Home' by William Kentridge
2.1	Suggest locations for artworks in an area that you are familiar with. Free search
2.2	Suggest locations for artworks in an area that you are unfamiliar with Free search or search based on the following artworks: 'Sher Shah's Mausoleum, Sasaram' by Thomas Daniell 'Victoria Embankment Gardens' by Charles Ginner 'Notre-Dame' by Henri Matisse 'The Parthenon, View from the Interior' by William James Müller 'Reverse Processing, Cement Transplant, East River, NY' by Dennis Oppenheim 'The Colosseum, Rome, from the West' by Joseph Mallord William Turner
3.1	Connecting location and artists' memories Artwork: 'Allegro Strepitoso' by Carel Weight
3.2	Connecting location and personal memories Artwork: 'Radio Wind Tyres' by Julian Opie -
4	Connecting the participants' physical environment with art Selection by the participant of an object around her/him, search for it in the Tate collection and suggestion of a location
5	Interpreting the participants' physical environment through art (recording and sharing of an audio file) Artwork: 'Street Sounds' by Robert Rauschenberg



Artist: Joseph Mallord William Turner 1775–1851

Title: The Colosseum, Rome, from the West

Date: 1819



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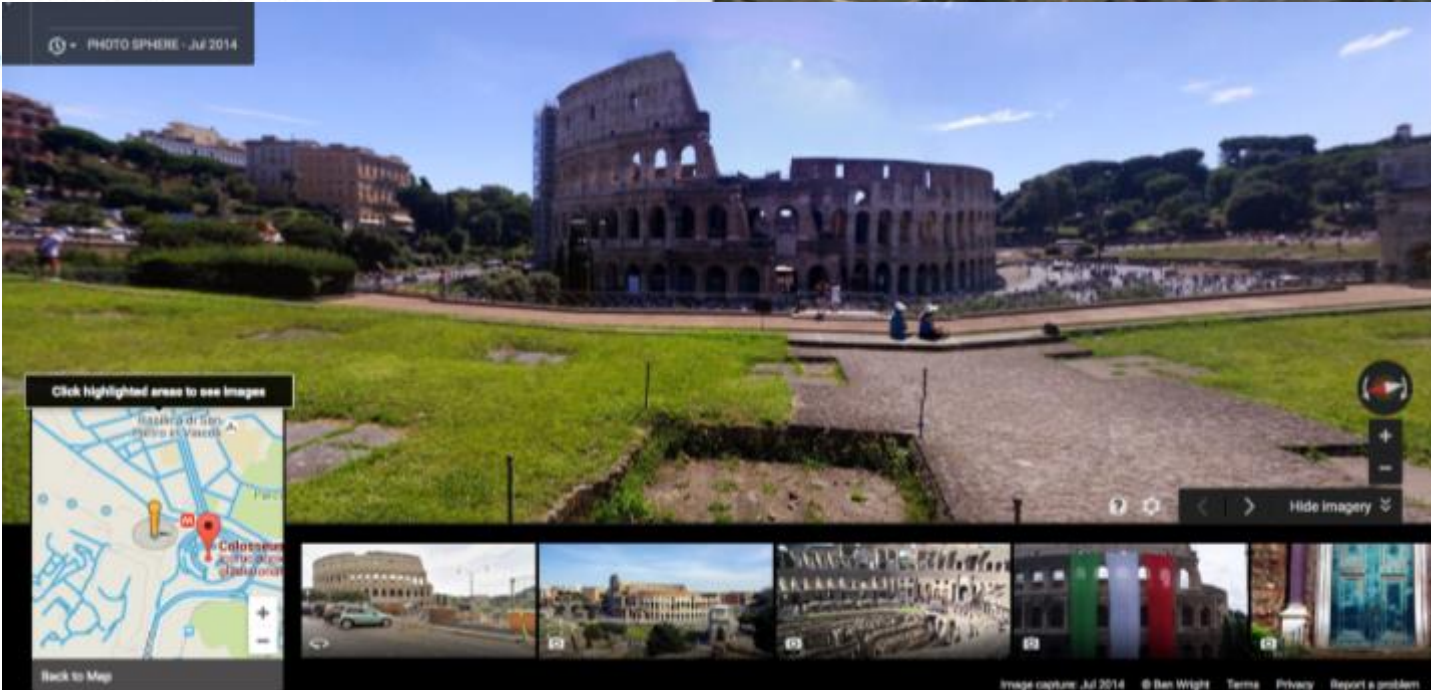
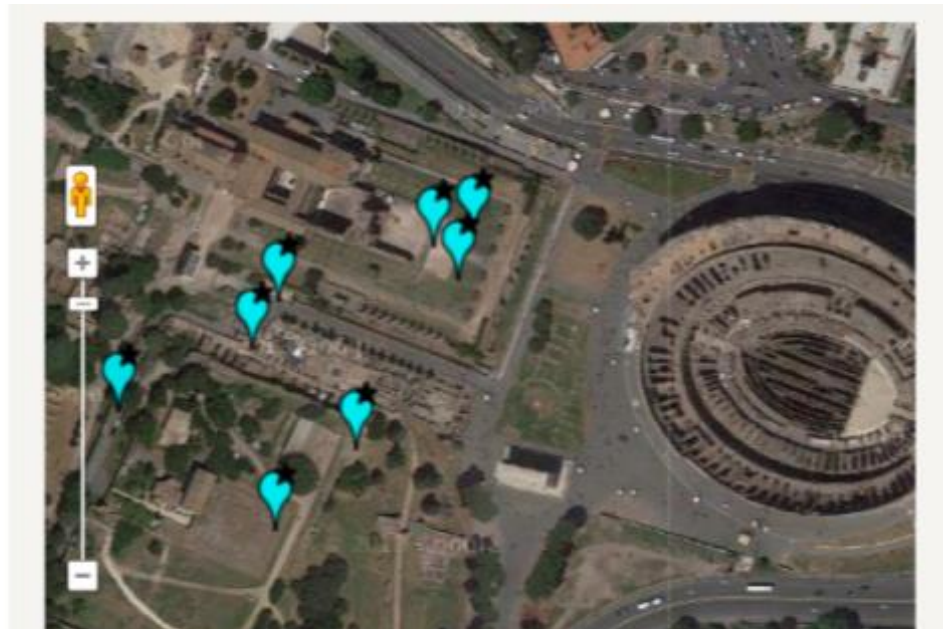


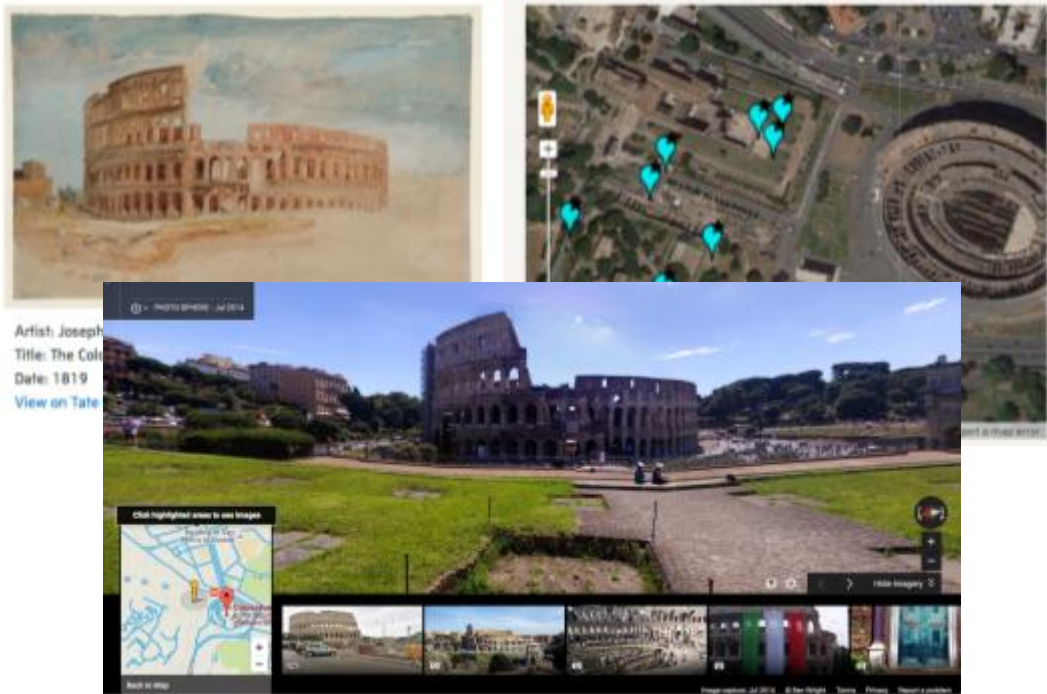
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Title: The Colosseum, Rome, from the West

Date: 1819

[View on Tate](#)





Artist: Joseph
Title: The Col
Date: 1819
View on Tate

“locating artworks in places I do not know has been engaging like a treasure-hunt game”

“I did enjoy discovering a new place through the artwork and through the maps I used to locate it”

Historical Investigations



Artist: Carel Weight 1908–1997

Title: Allegro Strepitoso

Date: 1932

[View on Tate Online](#)

“For me the location with the strongest resonance for this picture, is Regent’s Park Zoo as it has inspired the scene”



Original Location Suggested Location
Your Active Suggestion

“the curve of the landscaping seems to suit the content in the artwork...(but) it's hard to know what the structure of the zoo would have been like at the time”



Artist: Carel Weight 1908–1997

Title: Allegro Strepitoso

Date: 1932

The potential horror of the subject of *Allegro Strepitoso* is mitigated by the sense of comedy with which it is infused, and which the painter indicated as its main purpose. With the gates of his cage unlocked, the lion escapes to pounce on passers-by. It is one of the earliest examples of the themes of pursuit and defence which would run through much of Weight's subsequent work. The woman in the red coat is dwarfed by the bounding lion, her defiant gestures - as she defends herself with her matching umbrella - would appear pathetic were it not for the nature of the lion itself. At the time, the artist wrote to his companion Helen Roeder, claiming that this lion would make a friend 'jump' (R.V. Weight, *Carel Weight: A Haunted Imagination*, London 1994, p.21). Although he had visited the [Regent's Park Zoo](#) with his mother as a child, in conceiving this painting he 'did not look at real lions', as he explained to Courtney, 'because I wanted a comic lion and I thought that [the contrast] would be fraught with difficulties between realism and the lion' (Tate Gallery Archive, tape F1904 side B). Its elongated features, the combing in the paint of the mane and for the whiskers, as well as the soft ochre of its pelt, all confirm this.

The enhancement of the leaping movement of the lion by turning the branches of the tree upward helped Weight to capture this moment of drama. He has stressed the humour of this scene, and an early commentator, Jan Gordon, exhorted exhibition goers: 'Look at the comedy of Carel



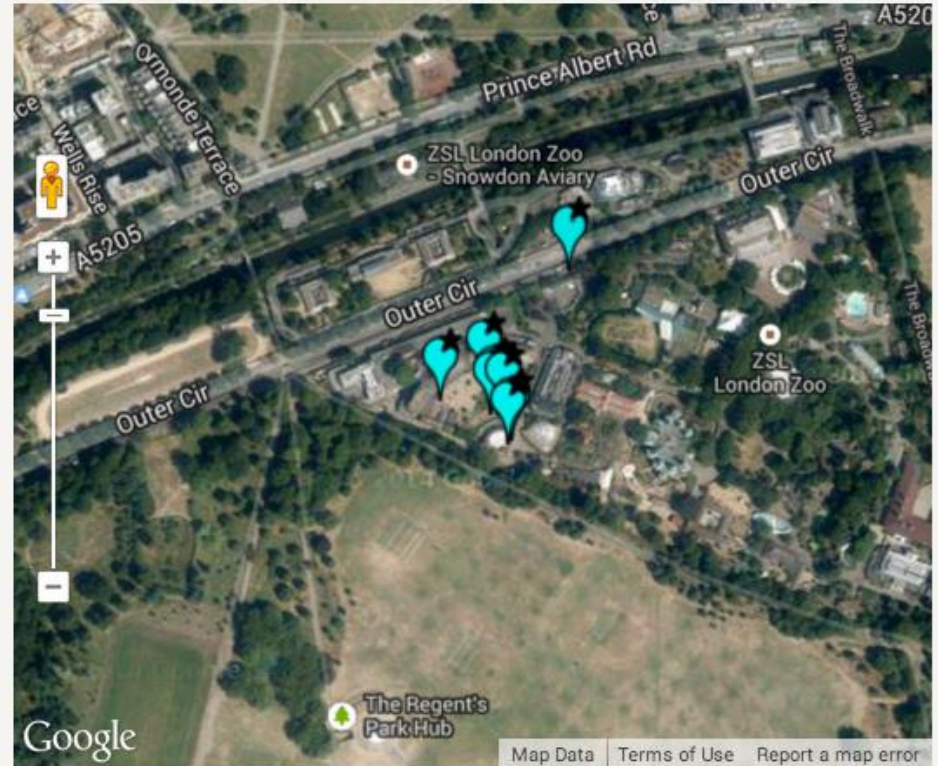
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The enhancement of the leaping movement of the lion by turning the branches of the tree upward helped Weight to capture this moment of drama. He has stressed the humour of this scene, and an early commentator, Jan Gordon, exhorted exhibition goers: 'Look at the comedy of Carel



-  Original Location
-  Suggested Location
-  Your Active Suggestion



Artist: Carel Weight 1908–1997
Title: Allegro Strepitoso
Date: 1932
[View on Tate Online](#)

The potential humor of the subject of *Allegro Strepitoso* is mitigated by the sense of comedy with which it is infused, and which the painter indicated as its main purpose. With the grace of his legs unshaken, the lion escapes to pounce on passers-by. It is one of the earliest examples of the themes of pursuit and defense which would run through much of Weight's subsequent work. The woman in the red coat is dwarfed by the bounding lion, her defiant gesture—as she defends herself with her matching umbrella—would appear pathetic; were it not for the nature of the lion itself. At the time, the artist wrote to his companion Helen Reader, claiming that this lion would make a friend (jump) (R.V. Weight, *Carel Weight: A Haunted Inspiration*, London 1984, p.21). Although he had visited the [Regent's Park Zoo](#) with his mother as a child, in conceiving the painting he did not look at real lions, as he explained to Courtney, "because I wanted a comic lion and I thought that [the contrast] would be fraught with difficulties between reality and the lion" (*Tate Gallery Archive*, tape F 1934 side B); he elongated features, the combing in the paint of the mane and for the whiskers, as well as the soft curve of its pel, all confirm this.

The enhancement of the leaping movement of the lion by turning the branches of the tree upward helped Weight to capture the moment of drama. He has drawn the humor of the scene, and an early commentator, Jan Gordon, selected exhibition-given: *Look at the comedy of Carel*



“Another possibility is linking with an ideal “zoo”, and not necessarily a real one: a place of the mind”



Artist: Julian Opie born 1958

Title: Radio Wind Tyres

Date: 2000

Personal Associations



Artist: Julian Opie born 1958

Title: Radio Wind Tyres

Date: 2000

[View on Tate Online](#)

“interesting how you can locate an artwork thorough your own personal connection to it rather than where...it depicts, it’s great that Opie...includes the viewer behind his thinking”



“A clear memory of mine can be associated with this work, but a memory I have never placed on a map. This was an interesting exercise”



Artist: Julian Opie born 1958
Title: Radio Wind Tyres
Date: 2000
[View on Tate Online](#)



“Location obviously not ‘correct’, landscape doesn’t even match, but it was the first road that came to mind”

“A clear memory of mine can be associated with this work, but a memory I have never placed on a map. This was an interesting exercise”

“interesting how you can locate an artwork thorough your own personal connection to it rather than where in fact it depicts, it’s great that Opie as an artist includes the viewer behind his thinking”

Types of association between artworks and locations found in user study

Type of association	Number of artworks where this type of association was identified
Artists perspective (The point at which they may have stood)	33
Geographic feature depicted (e.g. the Eifel Tower)	27
Historical association (e.g. the artists home)	23
Personal association (e.g. this reminds me of my...)	5
Representational association (e.g. a watch is associated with Switzerland)	3

Matching technology to human interpretation

- Human qualities of interpretation are difficult for computers and for mapping:
 - Plurality / individuality
 - Ambiguity
 - Concealing or foregrounding the technical limitations
- Project tensions in what ‘improving’ geographic data and creating engagement at a personal level means.
 - Is the goal to find the most accurate location, or a range of diverse locations with different associations?

Using the constraints of technology as a provocation for action

- Using ambiguity as a resource in design that encourages deeper thinking.

Gaver, W. W., Beaver, J., & Benford, S. (2003). Ambiguity as a resource for design. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 233-240). ACM.

- Here, the limitations are a provocation to think about why we cannot answer in a simple way, the limitations of the answer we give, or why others might answer differently.

Envisioning a ‘Spatial Footprint’

The findings of ArtMaps led us to a vision for ‘spatial footprint’ technologies with qualities such as:

- Encompassing all the interpreted relationships between artworks and locations.**
- Supporting multiple categorised links to locations for a single artwork.**
- Capturing spatial and ‘placeful’ relevance** (e.g. this picture relates to this location, or to any zoo).
- Accommodating personal memories and associations.**
- Supporting ‘Presencing’** (e.g. bringing a place alive with relevant artworks or artists lives).

(see Coughlan et al. 2015 for more details)

Embodied Assessment



**Computer Science, Human Factors,
and Fine Arts**

Angeles Munoz, Michael Brown,
Tim Coughlan



**Educational Technology, Embodied
Learning, Scaffolding**

Shaaron Ainsworth



DHC Nottingham

Classics, Digital Humanities

Katharina Lorenz

Embodied Assessment: Research Questions

- Could mobile technologies support museum visitors to learn to interpret artefacts as an expert would?
- As it is familiar and pervasive, is media creation through a smartphone a suitable task to build this activity around?
- Could this produce outcomes that are valuable for the learner and as a form of assessment?

Active Learning through structures for interpretation

Increased dwell time around exhibits correlates with greater learning. This can be increased via interactivity and guidance may be more valuable than labels.

Hofstein, A., & Rosenfeld, S. (1996). Bridging the gap between formal and informal science learning. *Studies in Science Education*, 28

The Personal Inquiry project developed generic structures for scientific inquiry that could be adapted for different projects.

Sharples, M., Scanlon, E., Ainsworth, S., Anastopoulou, S., Collins, T., ... & O'Malley, C. (2014). Personal inquiry: Orchestrating science investigations within and beyond the classroom. *Journal of the Learning Sciences*.

Can we create a similar form of scaffolding based on the professional vision of experts in art-historical analysis and interpretation?

Panofsky, E. (2012). *On the Problem of Describing and Interpreting Works of the Visual Arts*. Translated by Jaś Elsner and Katharina Lorenz. *Critical Inquiry*, The University of Chicago Press, 38

Photography Reality check

Does taking photographs ruin your memory?

A scientist wanted to find out whether photographing objects affects what's remembered about them. She found that the impact was huge but there might be more to it



Is the man more likely to remember the elephant on his back without the photo? Is the elephant less likely to remember the man under his feet? Photographs: Wong Maye-E/PA

Mona Chalabi

Tuesday 10 December 2013 11:31 GMT

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 Comments 45

On a guided tour of an art museum early this year, 28 university students were told to simply observe 15 objects and to photograph 15 others. Dr Linda Henkel was studying the students all the while to measure whether taking photographs affected their memory.

The next day, the students were asked to remember the objects and their details. The results demonstrate what Dr Henkel calls a "[photo-taking-impairment effect](#)".

Taking photos impairs memory of museum objects? ☹️

Henkel, L. A. (2014). Point-and-Shoot Memories The Influence of Taking Photos on Memory for a Museum Tour. *Psychological science*, 25(2), 396-402.

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Henkel's study suggests that simply taking photos of a whole object impairs memory of them afterwards.

But contrastingly, asking participants to zoom in and taking photos of parts the object, improved memory.

Henkel, L. A. (2014). Point-and-Shoot Memories The Influence of Taking Photos on Memory for a Museum Tour. *Psychological science*, 25(2), 396-402.

Structuring the Activity

Step 1: Technical Description (~5 minutes)

Step 1.1 Space, location & subject matter	Object Basics: Record the space & place of the object and what it represents.
Step 1.1 Material	Material: Record information about the material.
Step 1.2 Condition/change	Restoration: Record and describe the parts that are damaged or show modern restoration.

Step 2: Systematic Description (~15 minutes)

Step 2.1 Individual components of the object	Components: Record and describe the individual components. In this case: face & hair, dress, body posture; attributes; female a/b.
Step 2.2 Relationship of the individual components of the object	Relationships: Record and describe the relationship of the individual components. In this case: the relationship between female a/b, incl. also relationship to any attributes or surrounding features.

Step 3: Iconographic Comparison (~10 minutes)

Step 3.1 Input	Present a choice of objects used for iconographic comparison with the object focused on – include objects that are particularly relevant, but also include objects which are not relevant; slideshow of objects with brief descriptions..
Step 3.2	Comparison: Respond on relevance of comparative material.

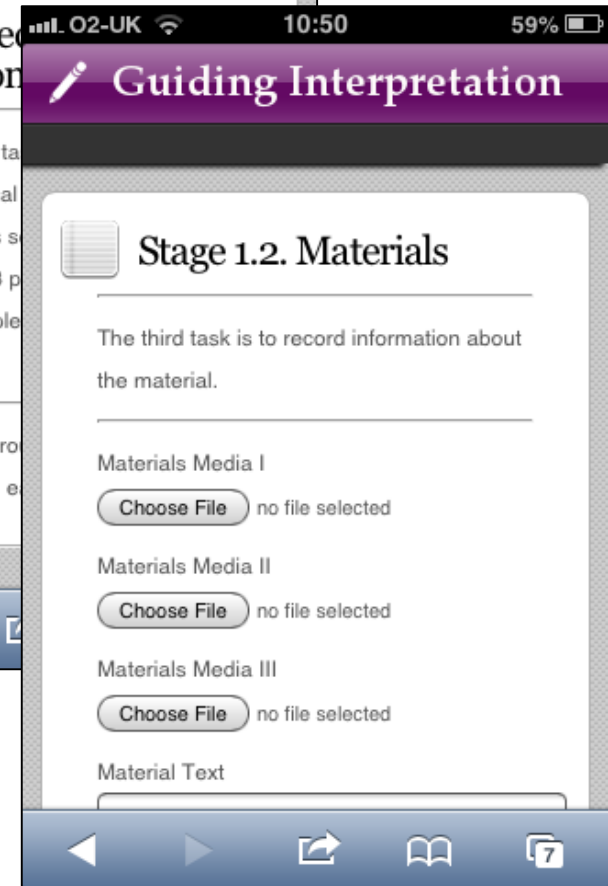
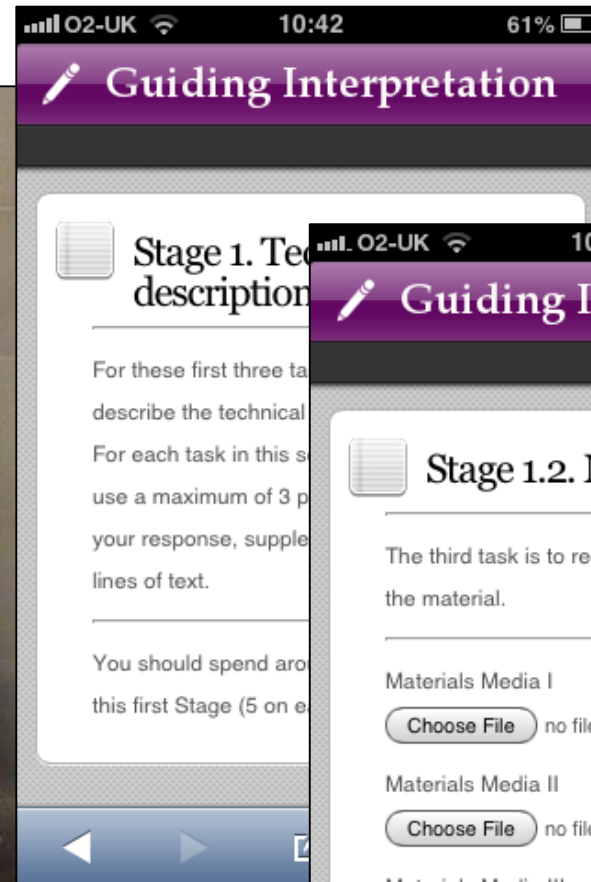
Step 4: Interpretation (~10 minutes)

Step 4.1	Record information about interpretive judgments such as date of creation and what the object represents.
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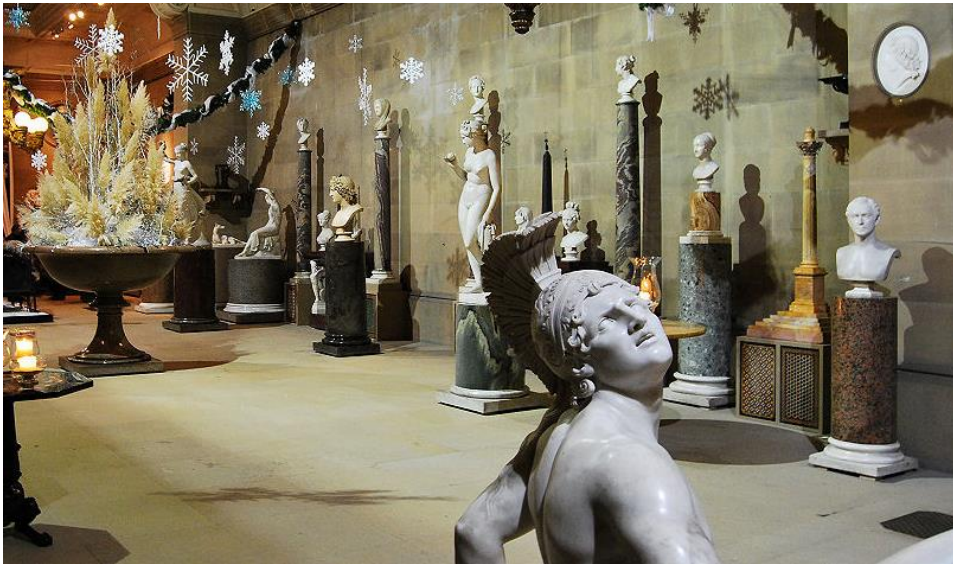
Implementation

- Create text, photo, video or audio responses.
- Two activities given to each participant:
 - Unstructured – Create media as desired.
 - Structured – Media creation tasks given, following the steps described in the previous table.
- Generic procedure across different artefacts apart from object-specific comparison tasks (used images of artefacts in other collections)

Implementation



Evaluations: Contrasting groups and museum settings



Chatsworth House

- Formal learners (3 x UG, 1 x PG students)
- Cluttered space not focused on artefacts
- No interpretation panels



Nemi Exhibition-Nottingham Castle

- Informal learners (15)
- Simple space designed to emphasise the artefacts
- Interpretation panels

Evaluation Data: Forms of engagement with the artefact and foci

Form of Engagement

Duplication – e.g. exact copies of text from interpretation panel

Description – Representing specific information about the artefact e.g. a photo of a feature

Personal Reflection – Relating personal impressions about the artefact

Interpretation – going beyond the obvious to internal and extrapolate – e.g. missing arms can be inferred by the iron fixings at the shoulders

Foci

Overview

Components

Construction Methods

Current Location

Discovery Location

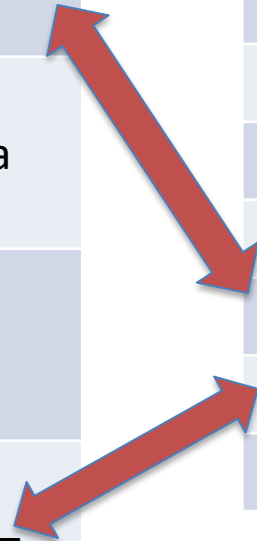
Damage / Condition

Provenance

Evaluation Data: Forms of engagement with the artefact and foci

Form of Engagement
Duplication – e.g. exact copies of text from interpretation panel
Description – Representing specific information about the artefact e.g. a photo of a feature
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Foci
Overview
Components
Construction Methods
Current Location
Discovery Location
Damage / Condition
Provenance



Learning to take interest in the details

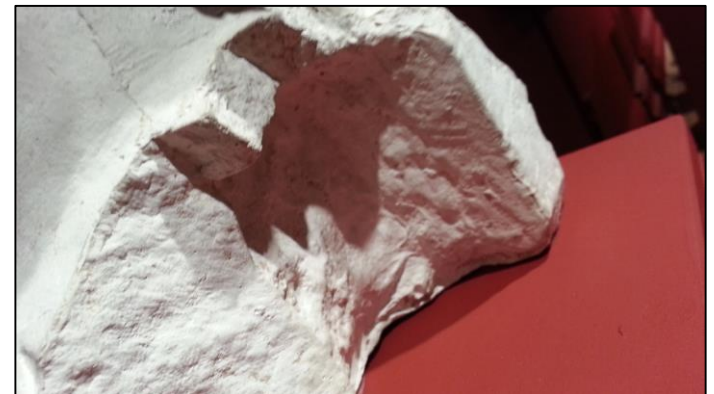
P12 is a Software Developer with a passing interest in History. During the study briefing he mentions that he often visits museums, but doesn't have great understanding of the artefacts. He was assigned a highly structured then unstructured activity looking at Fundilia Rufa and Double Herm in turn.

During task one he created 14 elements providing insights across a range of themes including **Construction Methods, Provenance, Components** and **Overview**. P12 got very close to the artefact, capturing video and still close-up images of the artefact which he accompanied with text descriptions. For example, when describing **Damage/Condition** he squeezed behind the plinth on which the exhibit was placed in order to capture images of damage facing the wall.

During task two, without the structure to guide him, he went out of his way to investigate the details of the artefact and went on to draw conclusions based on what he finds. He applies the processes he was exposed to during a more structured activity to guide his exploration of the second artefact.

'It was good being led through the analysis of the artefacts in a structured way. It made me think about them in more detail. I noticed details that I wouldn't have seen otherwise.'

'I can now see that there are flat plains where this (the hair) would have joined.'



Evaluation Data: Media creation across participants

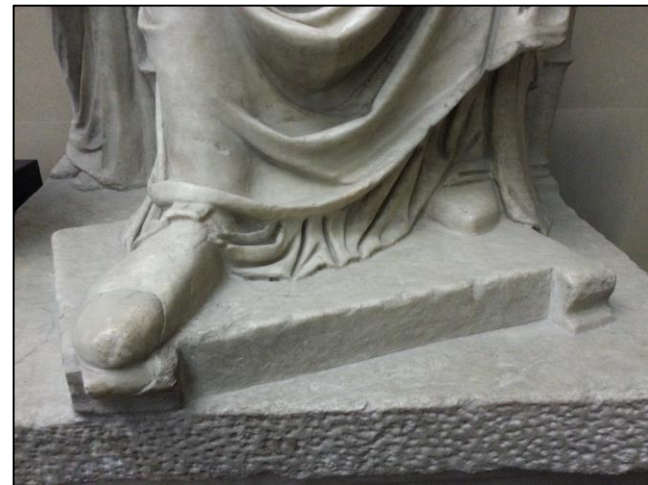
ID	Text	Photo	Audio	Video	Multi- Media	Total Elements
P1	3	5	4	0	5	7
P2	10	8	4	1	5	18
P3	4	4	2	0	2	8
P4	5	2	0	0	1	6
P5	5	9	0	0	0	14
P6	9	9	7	0	6	18
P8	2	1	7	1	1	10
P9	10	7	0	2	4	15
P10	5	4	1	0	2	8
P11	6	3	1	0	2	10
P12	10	11	2	1	5	19
P13	1	9	1	1	1	10
P14	9	6	1	1	4	13
P15	0	1	0	0	0	1
Tot.	79	78	30	7	38	157

Personal approaches to media creation within guiding structure

P1



P2

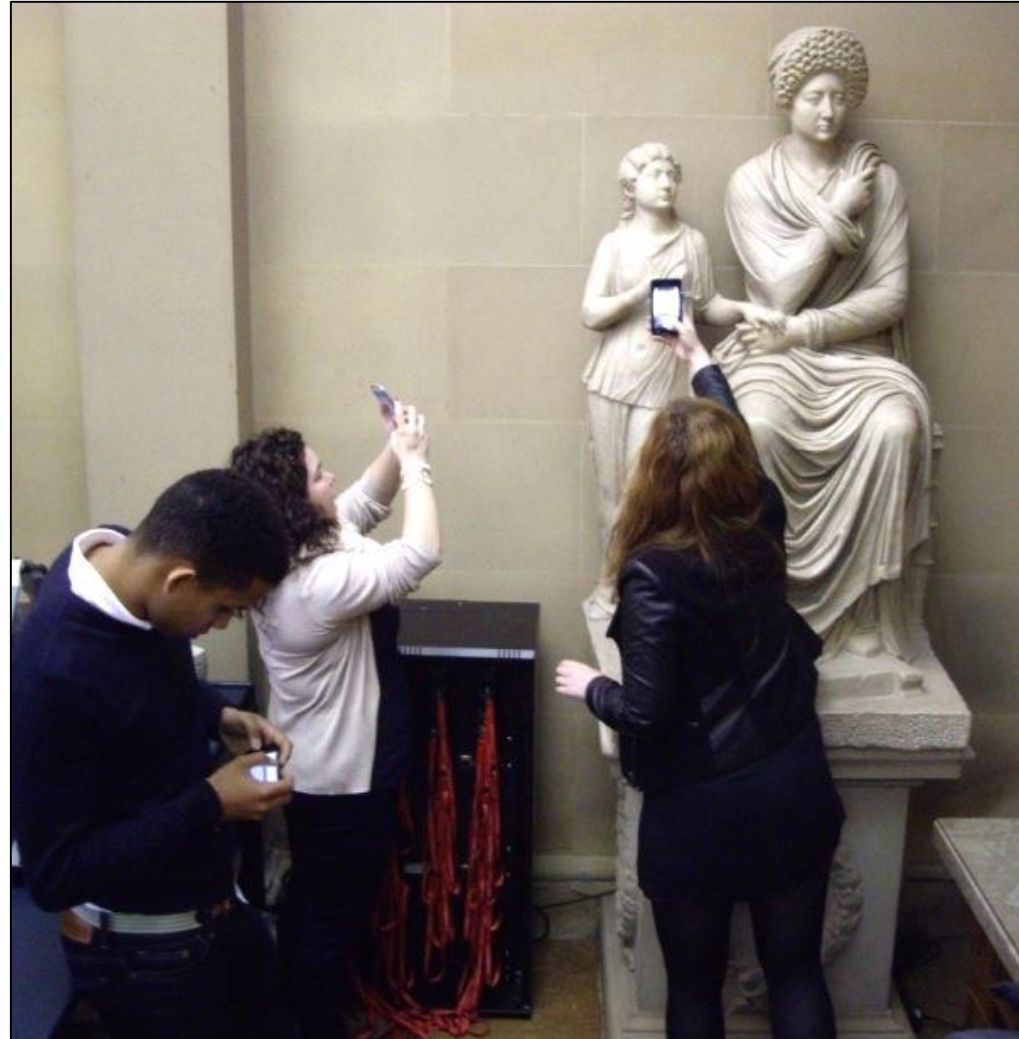


Norms of museum behaviour impacts on design

Text responses are time consuming and detract from engaging with the artefact.

Audio dictation could be an alternative to this.

But participants reported avoiding doing this in the museum space (apart from 1 who used it extensively).



Dependencies can be caused by exhibit design and space

Cannot access the piece in way required to create desired media (Chatsworth)

Fall back to existing interpretation panels and duplicate content rather than interpreting (Nemi)



Potential cognitive and affective benefits

- Cognitive: Structured media creation can increase dwell time, interest in the details.
- Affective: Provide confidence to newcomers, alignment with social norms may be an issue for some forms of media creation.

Outcomes as record? assessment? contribution?

We didn't manage to explore this extensively due to the scope of the project, but it is clear that:

Structured media creation creates a potentially valuable record with individual, social, and institutional value.

There is an appetite to get away from essays & exams in areas such as classics, and to increase the value of fieldwork. Our designs could facilitate this.



ArtMaps and Embodied Assessment: What have we learnt?

- Procedural structure + simple acts of creation
 - Familiar, simple tasks (photo taking, clicking on a map) have potential to lead to reflection and learning.
 - memories, associations, localised knowledge held by the learner – can lead to valuable reflection.
 - Accommodate personal choice of approach within a structure for interpretation.

ArtMaps and Embodied Assessment: What have we learnt?

- Computational structures do not easily represent the ambiguity and relationships present in the interpretation of art or historical artefacts.
- But this can be a provocation for reflection.
- Structuring simple, familiar acts of creation can have value as an approach to learning and more active engagement.

Outcomes & Future Steps

The team is interested to further develop the Embodied Assessment approach with new settings /technologies / subject matter.

ArtMaps is online as a (fairly) usable live system. There are discussions around further integration with the Tate website. Other projects have reused the system to represent spatial humanities data.

Any Questions? / References

Coughlan, T., Carletti, L., Giannachi, G., Benford, S., McAuley, D., Price, D., Locatelli, C., Sinker, R. & Stack, J., (2015). ArtMaps: Interpreting the Spatial Footprints of Artworks. ACM Conference on Human Factors in Computing Systems (CHI) 2015. ACM Press. 407-416.

<http://oro.open.ac.uk/42237/>

Munoz, A., Brown, M., Coughlan, T., Ainsworth, S. & Lorenz, K., (2016) Using Mobile Media Creation to Structure Museum Interpretation with Professional Vision. Personal and Ubiquitous Computing (in press – draft at <https://t1mc.files.wordpress.com/2013/01/mobile-media-creation-sub.pdf>).