

2008 Annual Conference of CIDOC  
Athens, September 15 – 18, 2008  
*Lavina Shahani, Maria Economou, Niki Nikonakou*

## **MUSEUMS CURATING ONLINE CONTENT USING WEB 2.0: MAKING CULTURAL PRODUCTION MORE DEMOCRATIC?**

Lavina Shahani, Dr Maria Economou, Dr Niki Nikonanou  
Museology Laboratory, Department of Cultural Technology and Communication  
University of the Aegean  
Harilaou Trikoupi & Faonos St., GR - 81100  
Mytilene  
Greece  
e-mail: [l.shahani@aegean.gr](mailto:l.shahani@aegean.gr), [m.economou@aegean.gr](mailto:m.economou@aegean.gr), [niniko@ct.aegean.gr](mailto:niniko@ct.aegean.gr)  
URL: <http://www.aegean.gr/culturaltec/museologylab/>

### **Abstract**

Since the emergence and application of social media, several museums have been experimenting with their potential to engage communities in a more experience-centered practice. In many cases this type of engagement has promoted the idea of the museum as a powerful site of cultural production and contact where identity can be constructed combining both the realms of individuality and collective cohesion. Web 2.0 technologies have provided an unlimited communication flow in which users can generate, share, and curate their own museum-centered content. This paper aims to explore issues centered on user-generated content in museums and the interconnectivity between institutional practices and spheres of public participation. Through the context of applied web 2.0 technologies in museums, it will examine issues of collecting, selecting, interpreting and presenting collections through user-generated content.

### **INTRODUCTION**

Understanding the effects that new technologies and social media have on museums tends to be a gradual and continued exploration. An understanding that runs parallel with the idea that technology as a medium in itself is continually evolving. The museum's relationship with technology can be ascribed as a means of embracing new mediums of communication as well as coming to terms with the technological evolution of contemporary society. As an institution continually reflecting the society in which it is

located, the relationship a museum has with its community is continually being renegotiated and reinvented.<sup>1</sup>

Since the emergence and application of social media based on Web 2.0 technologies, several museums have been experimenting with their potential to engage communities in a more experience-centered practice. In many cases this type of engagement has promoted the idea of the museum as an ‘open, flexible institution, attentive to the needs of its audiences, rather than the remote, elite institution of old. It is an institution that reflects the processes of globalization and the emergence of multiculturalism’.<sup>2</sup> Traditionally, museum exhibitions and displays were formed through a one-way relationship solely based on curatorial and institutional authority.<sup>3</sup> In this same fashion, museum websites constructed through Web 1.0 technology limited the possibility for interaction. The online content was provided by the museum and received by the visitor, thus the communication was mainly unilateral. With the application of Web 2.0 technologies in museum websites, no longer are users only receiving content through online sources, but instead they are also creating, manipulating, and sharing information.

Engaging with Web 2.0 tools can be considered as a way to build communities around an already existing community of web users. In this way, museums capitalize on the familiarity and commonality that many people using the Internet share. This ‘infrastructure of participation’<sup>4</sup> begins to highlight the transformation of the museum’s traditional authority as content provider towards the role of an interactive platform for users. However, it should be understood that the virtual museum experience cannot be

---

<sup>1</sup> Watson, S. (2007), ‘Museums and their Communities.’ In Watson S. (ed), *Museums and their Communities*, Routledge, Oxon, UK, p. 13.

<sup>2</sup> Witcomb, A (2007) ‘The Materiality of Virtual Technologies: A New Approach to Thinking about the Impact of Multimedia in Museum.’ In Cameron, F & Kenderline, S. (eds.), *Theorizing Digital Culture: A Critical Discourse*, MIT, Cambridge, USA, p. 37.

<sup>3</sup> Peers, L., & Brown, A. (2003) ‘Introduction.’ In Peers, L. & Brown, A. (eds.), *Museums and Source Communities*, Routledge, London, UK, p. 1.

<sup>4</sup> O’Reilly, T. (2005) *What Is Web 2.0?* O’Reilly Network. Available from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html/>; accessed on 04/05/2008.

reconciled as a means to replace or substitute the physical museum visit; instead we must see these social tools as a supplement or addition to the museum experience. Web 2.0 offers the opportunity for virtual museum communities to be built and created around shared experiences of physical visits and related museum content. In this virtual museum space, interconnectivity and social learning is harbored through blogging about museum experiences, commenting on museum objects, depicting experiences through photos and videos, listening to museum podcasts, and connecting with other visitors through social networking sites.

## **RESEARCH OBJECTIVES**

The main research programme from which this paper stems focuses on the evaluation of the effect of Information and Communications Technology on end users in the cultural heritage sector. More specifically, it aims to explore issues centered on user-generated content in museums and the interconnectivity between institutional practices and spheres of public participation. We are currently in the beginning phases of the project in which we are attempting to examine and deconstruct many issues related to employing Web 2.0 technologies in the museum. Ultimately, through this first phase of the research, we are establishing a strong and comprehensive foundation for understanding the theoretical framework of the uses of Web 2.0 in the cultural sector. The second phase of the research will entail a more practical approach to these issues, using case studies and focus groups in order to investigate in depth the way these emerging social media can effect the communication of the museum with its audience.

Phase one and subsequently, what will be reflected in this paper will focus on the many issues and questions that arise when encouraging more cooperative authority and multiple interpretations over objects and what they represent. We will explore the ways these social media can give communities a voice in interpreting and determining the significance of museum collections and the diversification of these interpretive methods.

## **WEB 2.0: VALUES AND PHILOSOPHY**

Issues of interpretation and generally, of digital curation must consider not only the objects themselves but also the ways in which these objects translate to varying publics and the implication this has for the cultural institution curating them. The museum's authority in the exhibition and representation of cultures 'depends upon the willing acquiescence of experiencers – visitors, staff, scholars, connoisseurs – who simultaneously shape and are shaped by the same authority'.<sup>5</sup> With the distribution of authority, interpretation becomes interdependent upon multiple voices in the museum.

As a tool aimed to decentralize authority, the uses of Web 2.0 in museums increases the potential for diversified interpretative methods and the creation of more user-generated content based on audience experiences. Through varied social media inclusive of social networking sites, wikis, blogs, photo sharing, video, and podcasts, users can access, reinterpret, and create information through museum websites. However, the question remains, how can user-generated content influence museum practice? Perhaps before attempting to answer this question, it is important for us to consider what we value in terms of our goals and objectives with using social media in the museum. Are we attempting to use these new technological tools as a means to bring more visitor voices into the museum? If so, how are these voices being represented? Is our increasing interest in Web 2.0 solely aligned with keeping up with technological advancements or is there something more that drives us?

As Web 2.0 is a rapidly spreading medium for museum communication, it is important to contemplate the way it fits within an ever expanding museological landscape of participation and to establish common evaluation criteria for its uses. Naturally, these criteria need to be specific to each museum on par with its own mission and objectives, but following at the same time wherever possible, commonly agreed strategies in order to

---

<sup>5</sup> Hein, H. (2000), *The Museum in Transition: A Philosophical Perspective*, Washington, Smithsonian Institution, p. 128.

assist communication and comparability of the results. If building museum-based communicative structures that moderate themselves is the goal, museums must consider the ways in which they can embrace and integrate social media into their practice.<sup>6</sup>

By bringing what was once a passive voice, that of the audience, to the foreground of museum practice, the merging of both museum and community voices contribute to the diversification of interpretive methods. This call to bring diversified voices into the museum, coupled with the changing role of curators as ‘client-oriented team players’<sup>7</sup>, is mirrored in the way museum professionals are beginning to work with their audiences and use Web 2.0 to provide a museum-related open source platform for their users. No longer an institutionalized hegemony, a large number of today’s museums are ‘engaging into an entirely new enterprise aimed at eliciting thoughts and experiences in people’.<sup>8</sup> ‘By placing the community at the heart of the museum enterprise, the argument runs, it will be possible to overcome the role of museums as hegemonic institutions’.<sup>9</sup> By opening up the museum through social media, communities-oriented cultural production can play a contributing role towards the museum realizing its own cultural frameworks, as well as those of its audiences.<sup>10</sup>

## **WEB 2.0 AS AN INTERPRETIVE TOOL: IMPLICATIONS FOR DIGITAL CURATION**

In her book, *The Museum in Transition*, Hilda Hein suggests that ‘multiperspectivalism spreads the burden of responsibility that formerly encumbered the work of cultural conservation’.<sup>11</sup> Hein’s suggestion regarding the importance of maintaining pluralism reflects the core ideology of employing Web 2.0 to museum practice as a means for

---

<sup>6</sup> Von Appen K., Kennedy B. and Spadaccini J. (2006), Community Sites & Emerging Sociable Technologies. In Trant J. & Bearman, D. (eds.), *Museums and the Web 2006: Proceedings*, Toronto: Archives & Museum Informatics, published March 1, 2006 at <http://www.archimuse.com/mw2006/papers/vonappen/>; accessed 5/01/2008.

<sup>7</sup> Hein, p. 143.

<sup>8</sup> Hein, p. 8.

<sup>9</sup> Witcomb, A (2003), *Re-Imagining the Museum: Beyond the Mausoleum*, Routledge, London, UK, p. 79

<sup>10</sup> Witcomb, *Re-Imagining the Museum: Beyond the Mausoleum*, p. 81.

<sup>11</sup> Hein, p. 142.

audiences to collect, select, interpret and present objects. These very ideals are implemented and exemplified through the community-based web project, *Every Object Tells a Story* which is jointly organized by the V&A, Channel 4 Television, Ultralab and a network of regional museums. The project celebrates the art of storytelling and the site uses the personal meanings and histories behind objects in an attempt to get people to look at them in new ways, inspiring them to create their own stories and share their interpretations of objects (Fig. 1 and 2). The project had a million participants in the first twelve months of its operation and attracted more than 400 downloads in 24 hours and 3000 in the first months. The project's user-generated content can be accessed through video, audio, text and pictures. Users can browse the hundreds of objects featured, or search for a particular theme or person and are encouraged to add their own interpretation or object to the collection, by uploading text, images, video or audio onto the site or by sending text and images from a mobile phone.<sup>12</sup>

The methodology employed by *Every Object Tells a Story* closely links meaning making to the participants' social interpretations and perspectives. Through the support of video, audio, text, and photography, attention is drawn to the social uses of objects, illuminating complex social interactions and systems of exchange. Interpretation is constructed through the social contexts facilitated by web 2.0 technologies.<sup>13</sup>

---

<sup>12</sup> Culture Online: Every Object Tells a Story; accessed 03/04/08.

[http://www.cultureonline.gov.uk/projects/in\\_production/every\\_object\\_tells\\_a\\_story/](http://www.cultureonline.gov.uk/projects/in_production/every_object_tells_a_story/)

<sup>13</sup> Herle, A. (2003) 'Objects, Agency and Museums: Continuing Dialogues between the Torres Strait and Cambridge.' In Peers L. & Brown, A. (eds.), *Museums and Source Communities*, Routledge London, UK, p. 194.



Fig. 1: Screenshot from the 'Every Object Tells A Story' website, 'Going by the book' section. Users created their own artwork inspired by the collections and used photography to make mini-books, such as the one shown, titled 'We case, we saw, we conquered' [source: [http://www.vam.ac.uk/vastatic/microsites/1303\\_every\\_object/](http://www.vam.ac.uk/vastatic/microsites/1303_every_object/)]

As shown by *Every Object Tells a Story*, visitors' responses to objects are neither passive, nor are they objective. When visitors enter into the museum, they bring with them both their cultures and their identities. In this same fashion, when visitors interact with social media, they have the ability to generate their own content and shared experiences. The way visitors engage with and interpret objects is dependent upon their prior experiences, 'values, and perceptual skills that they gain through their membership in multiple communities'. Therefore, these attributes go beyond statistics of socio-economic background or affiliations. They are instead about relational concepts and personal experiences.

Every Object Tells a Story  
Trailblazers

Title of trail: Ameil's animals



Fig. 2: Screenshot from the 'Every Object Tells A Story' website, 'Photostories' section. Users created a photostory starring museum object with photographer Chino Otsuka, such as the storyboard shown [source: [http://www.vam.ac.uk/vastatic/microsites/1303\\_every\\_object/](http://www.vam.ac.uk/vastatic/microsites/1303_every_object/)]

Expanding on the possible ways to achieve meaning making, Lisa Roberts writes that 'traditionally valued qualities such as rarity, provenance, or reality have taken their place next to the experiential qualities that objects evoke, such as provocation, spectacle or realism'.<sup>14</sup> If this is the case, *Every Object Tells a Story*, as a forum for the negotiation and re-negotiation of interpretation, reflects the ways in which museums can use social media to become more centered on ideas, experiences, and narratives rather than the actual objects themselves. The online dialogue created through shared and personal exchanges is indicative of the way web 2.0 can give audiences a degree of authority in

<sup>14</sup> Roberts, L. (1997), *From Knowledge to Narrative: Education and the Changing Museum*, Smithsonian Institution Press, Washington DC, USA, p. 147.



object interpretation. Constructed through an architecture of participation,<sup>15</sup> *Every Object Tells a Story* advocates for users to add substance to the application as they use it,<sup>16</sup> bringing forth the notion that anyone can contribute to this system of information exchange. However, as a project framed around the interpretation of objects through a personal/narrative approach, the project highlights the negotiations that museums undergo when engaging with a medium built upon the conceptions of decentralizing authority.

One such negotiation is that of maintaining the authenticity of user-generated content created from open source collaborative web projects. It is here where we can realize the practical challenges that arise with employing Web 2.0 technologies to the museum. In theory, Web 2.0 represents a collective communicative and participatory platform, however with any type of open-source network as a tool for interpretation we run the risk of what technology writer Nicolas Carr described as ‘amateurism’.<sup>17</sup> In an institution such as the museum, often defined as a repository of history, knowledge, and scholarship, ideas of amateurism are not so easily embraced. Carr describes Web 2.0 as the ‘cult of the amateur’ and considers the online user-generated encyclopaedia, Wikipedia<sup>18</sup> an example of this. He argues that although a progressive and innovative concept in practice, the open nature and lack of reliable sources discredit the online encyclopedia as a reliable source.<sup>19</sup> In this same way, we can consider the interpretation of museum objects through user-generated content to be lacking in authority or authenticity and examine further how the museum can reconcile this difficulty.

On the other hand, we must also consider the way user-generated content associated with

---

<sup>15</sup> O'Reilly, T. *What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*, O'Reilly Network. Available from. <http://www.oreillynet.com/lpt/a/6228/>; accessed on 06/05/2008.

<sup>16</sup> O'Reilly, T. What Is Web 2.0?

<sup>17</sup> Carr, N. (2005 ) *The Amoralty of Web 2.0*, Rough Type: Nick Carr's Blog. Available from [http://www.roughtype.com/archives/2005/10/the\\_amorality\\_o.php/](http://www.roughtype.com/archives/2005/10/the_amorality_o.php/); accessed 4/05/08.

<sup>18</sup> Wikipedia is a free, multilingual, open content encyclopaedia project operated by the non-profit Wikimedia Foundation maintained and perpetuated by online users.

(<http://en.wikipedia.org/wiki/Wikipedia>)

<sup>19</sup> Carr, N. The amorality of Web 2.0.

Web 2.0 technologies can prove beneficiary to educational audiences and the diversification of interpretive methods within the museum. As an increasing number of museums have allowed the production of this type of content and moreover begun to embrace what it means, users are afforded the potential of feeling empowered, engaged, and more a part of the museum.<sup>20</sup> Ultimately, the issues of authenticity can be considered in terms of the point where museum curators are willing to fuse ‘expertise’ with experience.

## **WEB 2.0 INSIDE THE MUSEUM: PROMISE OR REALITY?**

With this shift towards a more experience-centered practice there exists a paradoxical dichotomy: on one hand, we can consider the decentralization of authority through Web 2.0 applications as a threat to the already established culture of museum practice, on the other, we can view it as an opportunity for the museum to re-invent itself and ensure its own survival and continued relevance into the twenty-first century.<sup>21</sup> For the purposes of our research, we considered the latter: the museum in a period of re-invention and adaptability to new technology. If this is the case, for its continued relevance, we must understand the ways in which projects like *Every Object Tells a Story*, where the content is produced, presented, and maintained through the web, can also be transferred into the museum itself. As it stands, audiences can access shared experiences through a variety of media, but in most cases it appears that the web-generated content does not transcend into the walls of the museum, thus there is a void between the user-generated and museum-generated content. How can we fill this void? Would it be possible to display visitors’ chosen objects, and the interpretations of those objects within the actual museum itself in the same fashion that these are presented and collected online?

---

<sup>20</sup> Ellis, M., & Kelly, B. (2007) Web 2.0: How to Stop Thinking and Start Doing: Addressing Organisational Barriers’. In Trant J. & Bearman D.(eds) *Museums and the Web 2007: Proceedings*. Toronto: Archives & Museum Informatics, published March 31, 2007 at <http://www.archimuse.com/mw2007/papers/ellis/ellis.html>; accessed 5/03/2008.

<sup>21</sup> Witcomb, A (2007) ‘The Materiality of Virtual Technologies: A New Approach to Thinking about the Impact of Multimedia in Museum.’ In Cameron, F & Kenderline, S. (eds.), *Theorizing Digital Culture: A Critical Discourse*, MIT, Cambridge, USA, p. 35.

For years, museums have attempted to go beyond their image as a mausoleum by appealing to a wider audience and evoking thoughts about their collections. As the ethos of Web 2.0 implies, we are on the brink of being able to provide a richer, more relevant experience for audiences centered on their own content. Ideally, expanding traditional museum practices, we must test the boundaries of Web 2.0 by leaving the virtual realm and creating a structure where audiences can become public producers in the museum itself.<sup>22</sup>

## **USERS' INFLUENCE ON ONLINE MUSEUM CONTENT THROUGH SOCIAL MEDIA**

Another project that highlights the ways users can influence online content is *Steve: The Museum Social Tagging Project*, which was developed by museum professionals as an innovative way for users to describe and access museum collections. Starting in 2005, the project aimed to address the increasing amount of online users who were struggling to navigate and organize digital collections.

According to the project team 'the problem, in part, stemmed from a semantic gap that separated museums' formal descriptions of work-usually created by art historians or other specialists-and the vernacular language used by the general public for searching'.<sup>23</sup> In an attempt to bridge both the semantic and linguistic gap of digital collections, the project employs social tagging (the 'practice and method of collaboratively creating and managing tags to annotate and categorize content'<sup>24</sup>) (Fig. 3) and its resulting folksonomies. Through social tagging, controlled vocabulary is decentralized by user-generated keywords (Fig. 4). For digital museum collections this translated as a way for

---

<sup>22</sup> Ellis, M., and B. Kelly, Web 2.0: How to Stop Thinking and Start Doing: Addressing Organisational Barriers.

<sup>23</sup> Steve: The Museum Social Tagging Project, [http://steve.museum/index.php?option=com\\_content&task=blogsection&id=6&Itemid=15/](http://steve.museum/index.php?option=com_content&task=blogsection&id=6&Itemid=15/); accessed 05/05/2008.

<sup>24</sup> Social Tagging, Wikipedia, [http://en.wikipedia.org/wiki/Social\\_tagging/](http://en.wikipedia.org/wiki/Social_tagging/); accessed 05/05/2008.

engaging new types of users in looking and thinking about art through a familiarity they created themselves.

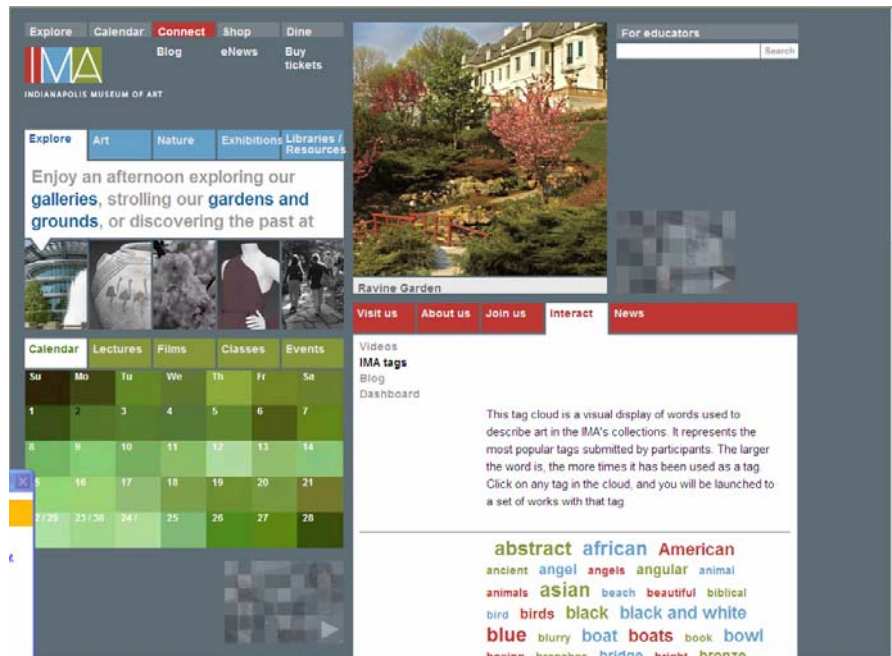


Fig. 3: Screenshot from the Indianapolis Museum of Art's website, where the steve tagger powers tagging of the online collection. (The tag cloud on the bottom right is a visual display of the most frequently used tags) [source: <http://www.imamuseum.org/>]

By beginning to consider and embrace issues such as language in terms of presenting digital audiences we can begin to see this continual shift towards a more audience and experience-centered practice. Through this recognition we are able to understand how users may feel alienated when access information not in their language or not having their needs met.<sup>25</sup> Moreover, using digital media poses a threat of intimidation to those unfamiliar with the technology, thus by allowing for more audience contributions of representation, the museum is able to create an accommodating experience for its viewers. Through his model, users are able to generate their own content about their interpretation and perception of the digitized art. The project is evolving as an open-

<sup>25</sup> Bearman, D., & Trant, J. (2005), 'Social Terminology Enhancement through Vernacular Engagement: Exploring Collaborative Annotation to Encourage Interaction with Museum Collections', *D-Lib Magazine*, 11(9), <http://www.dlib.org/dlib/september05/bearman/09bearman.html>; accessed 05/08/2008.

source tool for collecting, managing, and analyzing user-generated descriptions of collections.

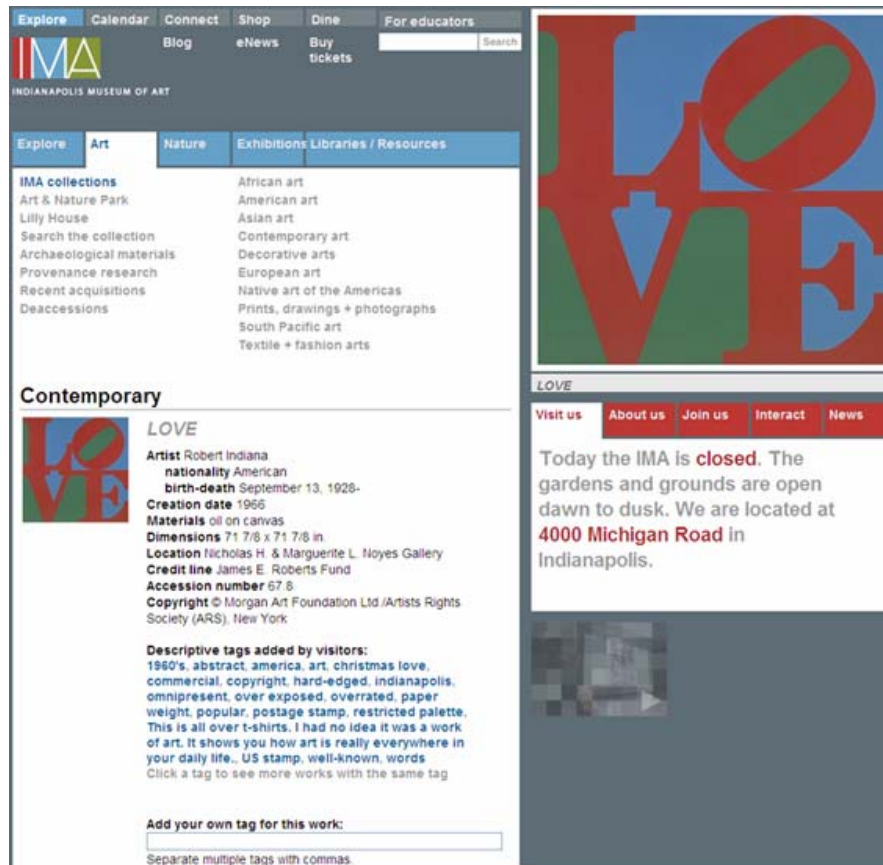


Fig 4: Screenshot from the Indianapolis Museum of Art's website, where Robert Indiana's painting has been given descriptive tags by visitors and web users can add their own tags [source: <http://www.imamuseum.org/>]

Steve: *The Museum Social Tagging Project* 'examines the question of how social tagging is perceived in museums and whether the results of the Steve research influence that perception'.<sup>26</sup> On a wider scale, we can understand this project as working towards addressing several of the aforementioned issues of using Web 2.0 in the museum.

In *Media and Museums: a Museum Perspective*, Anne Mintz writes:

<sup>26</sup> Trant, J. (2007) The eye of the beholder: Steve. Museum and social tagging of museum collections. In Trant, J. & Bearman, D. (eds), *International Cultural Heritage Informatics Meeting (ICHIM07): Proceedings*, Toronto: Archives & Museum Informatics. 2007. Published September 30, 2007 at <http://www.archimuse.com/ichim07/papers/trant/trant.html/>; accessed 5/02/2008.

‘The experience that technology delivers is much more important than the technology itself. Computers are ephemeral. Information technology develops at astonishing speed. Technical razzle-dazzle has a very short shelf life. This year’s state-of-the-art is next year’s blue-light special. A good experience is not rendered obsolete by new technology. Any computer application must be able to stand on its own merits-the experience it delivers-rather than the technology that delivers the experience.’<sup>27</sup>

As Web 2.0 is still in its formative years, Mintz’s assertion raises many issues about the sustainability of Web 2.0-based museum projects. Web-based projects like The V&A’s *Every Object Tells a Story* and *Steve: The Museum Social Tagging Project* are both built and reliant upon the existing technology of Web 2.0. We can go as far as to question whether these projects can maintain a continued sustainability with the evolution of technology or whether they will become ephemeral just like the technology itself. Such questions can only be answered after we have built and examined a substantial body of similar developments.

In this paper we examined some of the key issues that are raised by the use of Web 2.0 in museums and set these in a wider theoretical context of museum communication. In the next phase of our research we plan to examine in greater depth the use of emerging digital technologies as a means to activate, engage, and transform the museum into a more socially inclusive site using specific case studies that will allow us to also study the parallel shifts in the organizational and practice of the museums themselves.<sup>28</sup>

---

<sup>27</sup> Mintz, A. (1998) Media and Museums: a Museum. In Thomas, S. & Mintz, A. (eds.), *The Virtual and the Real*, American Association of Museums, Washington DC, USA, p. 31

<sup>28</sup> Cameron, F., & Kenderline, S. (2007) ‘Introduction’, in F. Cameron and S. Kenderline (eds), *Theorizing Digital Culture: A Critical Discourse*, Cambridge, MIT, p. 1

## **BIBLIOGRAPHY**

Bearman, D., & Trant, J. (2005), 'Social Terminology Enhancement through Vernacular Engagement: Exploring Collaborative Annotation to Encourage Interaction with Museum Collections', *D-Lib Magazine*, 11(9), <http://www.dlib.org/dlib/september05/bearman/09bearman.html/>; accessed 05/08/2008.

Cameron, F., & Kenderline, S. (2007) 'Introduction', in F. Cameron and S. Kenderline (eds), *Theorizing Digital Culture: A Critical Discourse*, Cambridge, MIT, pp 1-18.

Carr, N. (2005) *The Amoralty of Web 2.0*, Rough Type: Nick Carr's Blog. Available from [http://www.roughtype.com/archives/2005/10/the\\_amorality\\_o.php/](http://www.roughtype.com/archives/2005/10/the_amorality_o.php/); accessed 4/05/08.

Ellis, M., & Kelly, B. (2007) 'Web 2.0: How to Stop Thinking and Start Doing: Addressing Organisational Barriers', in Trant J. & Bearman D. (eds) *Museums and the Web 2007: Proceedings*. Toronto: Archives & Museum Informatics, published March 31, 2007 at <http://www.archimuse.com/mw2007/papers/ellis/ellis.html/>; accessed 5/03/2008.

Hein, H. (2000), *The Museum in Transition: A Philosophical Perspective*, Washington, Smithsonian Institution.

Herle, A. (2003) 'Objects, Agency and Museums: Continuing Dialogues between the Torres Strait and Cambridge.' In Peers L. & Brown, A. (eds.), *Museums and Source Communities*, Routledge London, UK, pp 194-207.

Mintz, A. (1998) Media and Museums: a Museum. In Thomas, S. & Mintz, A. (eds.), *The Virtual and the Real*, American Association of Museums, Washington DC, USA, pp 23-34.

O'Reilly, Tim (2005) *What Is Web 2.0?* O'Reilly Network. Available from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html/>; accessed on 04/05/2008.

O'Reilly, T. *What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*, O'Reilly Network. Available from <http://www.oreillynet.com/lpt/a/6228/>; accessed on 06/05/2008.

Peers, L., & Brown, A. (2003) 'Introduction.' In Peers, L. & Brown, A. (eds.), *Museums and Source Communities*, Routledge, London, UK, pp 1-12.

Roberts, L. (1997), *From Knowledge to Narrative: Education and the Changing Museum*, Smithsonian Institution Press, Washington DC, USA.

2008 Annual Conference of CIDOC  
Athens, September 15 – 18, 2008  
*Lavina Shahani, Maria Economou, Niki Nikonakou*

Trant, J. (2007) The eye of the beholder: Steve. Museum and social tagging of museum collections. In Trant, J. & Bearman, D. (eds), *International Cultural Heritage Informatics Meeting (ICHIM07): Proceedings*, Toronto: Archives & Museum Informatics. 2007. Published September 30, 2007 at <http://www.archimuse.com/ichim07/papers/trant/trant.html>; accessed 5/02/2008.

Von Appen K., Kennedy B. and Spadaccini J. (2006), Community Sites & Emerging Sociable Technologies.' In Trant J. & Bearman, D. (eds.), *Museums and the Web 2006: Proceedings*, Toronto: Archives & Museum Informatics, published March 1, 2006 at <http://www.archimuse.com/mw2006/papers/vonappen/>; accessed 5/01/2008.

Watson, S. (2007), 'Museums and their Communities.' In Watson S. (ed), *Museums and their Communities*, Routledge, Oxon, UK, pp 5-21.

Witcomb, A. (2003), *Re-Imagining the Museum: Beyond the Mausoleum*, Routledge, London, UK.

Witcomb, A. (2007) 'The Materiality of Virtual Technologies: A New Approach to Thinking about the Impact of Multimedia in Museum.' In Cameron, F & Kenderline, S. (eds.), *Theorizing Digital Culture: A Critical Discourse*, MIT, Cambridge, USA, pp 35-48.