

Cultural Institutions, Co-creativity and Communities of Interest

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Abstract. Despite the proliferation of web-based news and information services, there remains a lack of online destinations from which to obtain reliable and authoritative cultural knowledge. In many countries, such knowledge is provided by cultural institutions such as museums and libraries. Recent discussion suggests that social media – including blogs, wikis and digital stories – may provide a creative solution to the ongoing interaction between cultural institutions and communities of interest. However, little applied research exists to demonstrate how social media can be established and maintained within museums and libraries, and what issues are raised within the institution by a more participatory approach to cultural communication. This paper highlights the implementation of a new program at the Australian Museum to train staff in social media production, in order to make the many thousands of objects and stories held within the Museum's collections more accessible and engaging to communities of interest.

Keywords: co-creativity; social media; digital cultural communication; human-computer interaction.

1 ICT Penetration Within Museums

Major state-funded museums in Australia, New Zealand and much of Europe continue to attract questions about their ongoing role: should they remain seemingly aloof organizations which concern themselves with collection, archiving and knowledge distribution; or should they seek to compete with the level of popular engagement offered by theme parks and the like in an effort to connect with visitors (in part, through the deployment of interactive multimedia)? As this debate is frequently revisited within both museum conferences and the culture pages of newspapers worldwide, this paper does not attempt to answer it. Rather, it examines current work in Australia which demonstrates how HCI and participatory design principles can help museums engage with communities of interest via social media.

The expansion of the museum into the online space is often focused on the implementation of content management systems and collection digitization projects. These programs seek to not only accelerate cataloguing procedures, but to also increase online access by visitors who do not normally visit site-specific collections.

This information transfer strategy does not seem to demonstrate any substantial differentiation from the Shannon & Weaver communication process model [1]. Arguably, the museum is accelerating its existing work practice using information and communication technology, rather than facing the rather tougher questions of how ICT has changed the cultural communication environment and the expectations of museum visitors. In terms of new models of digital distribution, ICT has certainly had an impact. Web-based cultural networks such as Australian Museums and Galleries Online (AMOL) link content across institutions, thus providing a distributed network of collection resources across Australia [2]. The Voyager Heritage Network has created a “museum without walls” to acts as a portal of museums in Northern Ontario USA, providing a social and historical document of the area [3]. Yet the many current ICT-based initiatives in content management systems and networking have not produced a satisfactory improvement in external interactions. In an apparent effort to move the museum to a higher level of engagement, a Museums Association report challenges museums to find new ways to broaden access and develop innovative relationships with audiences [4]. As well as housing and exhibiting physical collections, major museums and libraries have become hubs for formal and informal communities of interest through their substantial public and educational programs and some commentators suggest that digital media such as blogs, wikis and digital stories may provide a solution for cultural institutions wishing to interact with communities and audiences in more creative and lasting ways [5,6].

2 Cultural Institutions and Co-creativity

This research is based upon a major investigation being conducted by the Australian Research Council Centre of Excellence for Creative Industries and Innovation at Queensland University of Technology [7]. The *New Literacy, New Audiences* project examines the potential for museums and libraries to sustain and interact with online knowledge-based communities of interest using social media such as blogs, wikis and digital stories [8]. The research uses knowledge from human-computer interaction, museum communication and audience evaluation to question whether site-specific content can or even should expand its presence into the online space, and whether social media are a suitable vehicle for such expansion. A number of Australia’s leading cultural institutions are research partners within the project, and they are amongst a small number of museums, galleries and libraries worldwide which are becoming aware that engaging both physical and online audiences in content creation activities is not only a route to increased visitation rates, but also a means by which to deepen the audience relationship significantly. As Gillard notes, ‘cultural products or activities create audiences as people engage with them’ [9] and to demonstrate this, social media products have been used to integrate audiences with a number of recent high-profile museum exhibitions including:

- The Museum of Modern Art (New York) retrospective of the Residents – an avant-garde multimedia group – which posted clips by finalists on YouTube and invited votes and comments from the public to help determine the final exhibition [10].

- Pace/MacGill Gallery's (New York) *Self-Portraitr* exhibition which included nearly 130,000 user-submitted photos via the Flickr content-sharing site [11]. The exhibition itself drew a younger-than-usual audience for the Gallery [12].

The MOMA example uses a social medium (in this case, YouTube) for a creative online interaction and we can speculate that in so doing the passive exhibition audience evolved into a community of interest (CoI) with an active and vocal participation in the final exhibition. The *Self-Portraitr* example demonstrates how the institution co-created an original exhibition based on digital content supplied by a cultural CoI. Not only did the institution listen and respond to this community (as in the MOMA example) but it went further by privileging and thereby validating community content within the institution. This innovative and arguably more democratic creative relationship between the cultural institution and its CoIs can be described using the term 'co-creativity'. Originally attributed to US-based interaction designer Abbe Don, Shedroff describes co-creative technologies as "those that offer assistance in the creation process. People are naturally creative and are almost always more interested in experiences that allow them to create instead of merely participate" [13]. Although there may be some question as to just how many people are "naturally creative", Shedroff's basic position is key to the concept of 'everyday creativity' being privileged by the institution through co-creation, as demonstrated by *Self-Portraitr* and as discussed in this paper. Within this discussion, co-creativity refers to both:

- The *philosophy* of increasing creative civic interaction by allowing the voices of individuals and communities to be heard within the cultural sphere.
- The *practice* of collaborative cultural digital media production by the cultural institution and its audiences.

Simply put – *why* should museums, galleries or libraries seek to engage audiences through digital content creation and distribution? And if it decides to adopt a co-creative philosophy, *how* can the institution translate this into practice?

3 Co-creativity and HCI

Co-creativity does not present the HCI research with 'hard' problems, to the extent that "criteria for their optimal solution" are not anticipated [14]. But neither is co-creative communication an applied research challenge that can be answered satisfactorily by heuristics alone. This research adopts an interdisciplinary approach which integrates knowledge from communication, interaction, education and organizational behavior; in the full knowledge that some unidisciplinary researchers are wary of interdisciplinary HCI approaches that integrate techniques from other knowledge bases without a full understanding of the originating discipline.

Creativity has been firmly linked to digital literacy in HCI literature: "One of the most important skills for almost everyone to have in the next decade and beyond will be those that allow us to create valuable, compelling, and empowering information and experiences for others. To do this, we must learn existing ways of organizing and presenting data and information and develop new ones" [13]. Beyond design-based

HCI questions, any examination of the possibilities and limitations for digital co-creativity within established cultural institutions also raises organizational and policy issues. Turpeinen describes the co-evolution of broadcasted, customized and community-created media as a paradigm within which active individuals and communities use computer-mediated networking to tell and exchange their stories and to enhance the interaction among member and their peers in other groups [15]. This form of community co-creation can both develop new paths for community knowledge and simultaneously enhance community life. Institutions which represent distributed cultural constituencies may have to work harder for audience share, and digital community co-creation programs can help the institution to the extent that such programs not only empower ground-up digital cultural creation, they also create new communities of interest. Institutional support for co-created knowledge bases is by no means a given: the recent accusations of indirect corporate tampering recently aimed at Wikipedia's XML definitions [16] may not persuade authoritative cultural institutions to open their online collections to semi-moderated community input.

4 Digital Literacy

One of the reasons that the Australian Museum is exploring co-creation is the fact that in 2004 it received a US\$32 million state grant to fund a new extension, refurbish existing listed structures, and create two major new exhibitions. In order to inform the appropriate investment of this grant, the Museum's Audience Research Centre has made significant efforts to listen and respond to the voice of visitors and associated communities in the design of the new exhibitions [17].

Established in 1827, the Museum specializes in natural history and indigenous studies and is the oldest institution of its kind in Australia [2]. This heritage has resulted in a collection of 14.5 million specimens which in turn attract a monthly web visitation rate which regularly exceeds 1.5 million. Since the *quantity* of web visitors more than satisfies the Museum's public service criteria, management focus is being placed instead on the *quality* of online experience offered, especially to youth / informal learning communities. According to a 2004 internal survey, 63% of respondents described themselves as "educational visitors" to the Museum's site – which works out to at least 945,000 educational visits on a good month. In an effort to find out more about this substantial user group, in 2005 the Museum conducted a study into the use of educational websites by students and teachers. Five focus groups were conducted with students and teachers from a mix of both public and private institutions: primary school teachers, years 5-6; secondary teachers, year 7-10 (primarily science teacher/coordinators); students aged 13-16 years; and a mixed group of teachers with a focus on IT/computing specialists [18]. Some of the observations made by teachers dispel the myth of the digitally literate youth user:

Kids today have a surface level knowledge of technology, but if you scratch below the surface, they often don't have much more than that. There's a big misconception out there that they have this deep understanding of how the technology works, but they don't. They're consumers of technology, and that's probably not a good thing [Teacher, mixed group, male].

Basic critical ability in the selection and use of web-based information were also questioned during the focus groups. For example, many students in the study reported that search engines were easier and quicker to use for researching their homework and therefore preferred to books – often, the first site listed in by a search engine would be the one used by the student. As a centre for natural history, the Australian Museum is deeply involved with primary and secondary school curricula and has developed its relationship with these user groups within an informal participatory design framework. For example, in a study entitled *The Museum I'd Like*, school students were asked about how they wanted to engage with museums. The project culminated in a two-day *Kids' College* at which 30 students from mixed schools toured the Museum and briefed exhibition design teams on what they wanted to see in the refurbishment. This level of participation in museum exhibition design is rather unusual: major museums regularly ask child audiences to contribute to the design of aspects of exhibitions as users, testers or informants but rarely as design partners [19]. Analysis of the *Kids' College* suggested that

While the students recognised the value of scientific information they also wanted information in the form of stories – they were looking for a human face to be inserted into the exhibits... A number of participants in the College indicated that they valued stories and anecdotes that illuminated any given exhibit [20].

The *Kids' College* study suggests that communication between the museum and the youth / informal learning communities of interest requires more than just efficient information transfer strategies. Informal learning messages can be enhanced through use of narrative, storytelling and the ‘human face’ – a lesson which has been ably demonstrated by the success of the *Crocodile Hunter* format.

5 Storytelling

The effectiveness of digital storytelling as an interactive tool is being tested by a few cultural institutions internationally which are seeking to form a co-creative link with communities of interest, both physical and online [21,22]. Community content creation is not a new field of study. Since the 1960s, major cultural institutions have broadened their programs to include audience interaction with content through education and a range of public programs [23], yet such interaction has previously been restricted to entertaining ways of using cultural content as part of educational programs, without genuine engagement with museum scholarship. Advances in social media are now providing communities of interest with a means to interact far more directly with museum collections, most notably through the rise of folksonomies (user-generated content tagging) as an alternative to fixed institutionally generated collection taxonomies. Although less ‘visible’ than arts projects such as *Self-Portrait*, the challenge presented by folksonomies to traditional taxonomy-based collection organization is regarded as somewhat radical (and not particularly welcome) within some science-based curatorial circles.

If curators see folksonomy as radical, what are they to think of far more active forms of co-creative engagement such as digital storytelling? The digital storytelling

process is characterized by a workshop in which a small group of participants are trained in digital literacy, narrative and content creation techniques in order to produce a short video piece. This consists of a condensed script, illustrated by a sequence of still images and accompanied by a voiceover; all created by the participant with minimal curatorial / editorial interference in order to encourage the participant to make and tell their own story, in their own words, using their own images and voice. This technique is fundamentally co-creative: the institution collaborates with the community in order to allow the latter to create their own digital cultural content. Digital storytelling is one form of social media that has been used successfully by a few institutions as a means of privileging community stories in the co-creation of social histories [24] but the implementation of such co-creative programs raises many operational issues, including:

- Sourcing and retaining skilled trainers, developing training materials.
- Hardware platforms, application selection.
- Content archiving, display and distribution.
- Communication models and feedback systems.

Previous research has dealt with design and implementation issues in some detail [25], but two major strategic questions remain:

- Philosophically, should a cultural institution tasked with relaying accurate cultural information in an authoritative voice even consider the use of semi-moderated popular social media such as digital storytelling or blogging?
- Organizationally, how does a cultural institution (particularly a science-orientated institution) embrace co-creative practice?

In answer to the philosophical question, an enthusiastic UK sector report firmly supports a shift towards a more co-creative cultural institution:

In the past, museums, libraries and archives have been seen as suppliers, away from the action of creativity and occupying the supporting role of attracting workers to the creative industries. In truth, they are crucial in *inspiring* creativity [26].

Unfortunately an extended discussion on this issue is beyond the scope of this paper – suffice it to say that other recent research supports the adoption of co-creativity by cultural institutions [27]. But the organizational question is very relevant to HCI organizational behavior practitioners. Museums and libraries small and large act as hubs for dispersed communities of interest (CoIs) built around their content, collections and/or knowledge bases. The use of Internet to support online CoIs is particularly relevant in Australia, as most of the major cultural institutions are situated within state capitals which are difficult to access for regional and rural populations due to the country's vast size and low population density. Furthermore, the remote location of the country itself makes visitation by the international audience problematic. Therefore the successful implementation of online cultural communication could have particular value to Australian institutions. However, any such implementation is not straightforward due to the traditional site-specific nature of many institutions: the focus of staff is squarely on the preservation and exhibition of the physical collection. Therefore any technology initiative that might reduce

visitation to the physical site could be frowned upon: this attitude is captured by Nie and Erbring in a rather extreme warning against online community: ‘The Internet could be the ultimate isolating technology that further reduces our participation in communities even more than did automobiles and television before it’ [28].

6 Co-creative Workshops

The Australian Museum is exploring the organizational ramifications of digital literacy through a series of internal co-creative workshops. Based on the digital storytelling format, the workshops train staff in script writing, creative production and editing in order to produce microdocumentaries which illustrate some previously unseen facet of the Museum’s collections: in effect, bringing informal narrative and the ‘human face’ into museum communication, as suggested by the participants of the *Kids College*. Although off-the-shelf creative applications are a feature of the workshop (principally the use of Sony’s Vegas video editing suite) the focus is firmly on team-based digital content creation techniques. A three-person team of writer, producer and editor is responsible for producing an original microdocumentary; a close creative collaboration is essential to devise and deliver the finished item within an accelerated two-day schedule. Through a focus on teamwork rather than technology, this creative digital literacy training has been extremely well received by previously techno-resistant participants, proving that “Learning to create content helps one to analyse that produced professionally by others; skills in analysis and evaluation open the doors to new uses of the Internet” [29].

Participatory design (PD) methodology has been selected to provide a framework to the investigation. PD is an evolution of user-centred design which considers the user as an equal collaborator within the design process. Recently, this methodology has been extended to both museum exhibition design [30] and library website design [31] from which a three-stage PD implementation framework has been adapted:

1. *Discovery*: gaining the trust of participants; exploring working practices, goals, values via participant observation; depth interviewing.
2. *Prototyping*: co-creative prototyping with participants to produce ideas, concepts, and new co-creative media forms for use within their institutions.
3. *Evaluation*: participants explore, evaluate and discuss comparative co-creative artefacts via surveys, focus groups and workshops.

Formal PD ‘needs to be part of an *integrated design* that looks at work organization, job content, and the way technology is used to support these activities’ [32] and the application of PD methodology to the Australian Museum workshops by the researchers has fulfilled this definition. In this project, due diligence has been very much a feature of stage (1), including the design and team selections for the co-creative workshops. These workshops constitute stage (2) of the PD application. Stage (3) has comprised formal internal evaluation of the efficacy of the co-creative workshops as a means to promote digital literacy: post-workshop surveys indicate that workshop participants strongly agree with this proposition. The next stage of evaluation will be formal focus groups conducted with potential target audience

segments for the microdocumentaries produced in the co-creative workshops. These segments include parents of under-5s, teachers, and cultural adults.

The results of these evaluations will inform ongoing co-creative workshops. If the evaluations are positive, then the medium-term destinations for the microdocumentaries are the Museum's labyrinthine website and its new physical exhibitions. The operational strategy is to develop a core of digitally literate staff which will then collaborate with communities of interest already associated with the Museum to establish a sustainable program of co-creative communication using social media.

7 Summary

Across much of the Australian cultural sector, the principal mission of cultural institutions remains the production of site-specific physical exhibitions. This mission is entirely understandable when viewed through the tradition of ongoing cultural exhibition in well-populated urban locations, yet sits less comfortably within the wide geographic distribution of the Australian population. Although a growing desire to reach wider audiences via an expanded online presence is evident, such initiatives are tempered by the prohibitive cost of digitising existing collections optimised for physical exhibition. Significant amounts – if not the majority – of compelling cultural content remain inaccessible to communities and the general public. This paper opened with the dilemma of whether the museum should concern itself with collection, archiving and knowledge distribution' or seek to provide visitor experiences to compete with theme parks. It has even been suggested that "Museums are compromised institutions, caught between their twin desires for both authenticity and the spectacular" [33] – even though a designer might well argue that there is no reason why the museum cannot achieve both authenticity and spectacle.

The Australian Museum has used informal participatory design knowledge to guide the development of digital literacy within its own staff, as a preparatory step to engaging communities of interest in co-creative digital cultural communication. Schuler has argued that communities are distinguished by lively interaction and engagement on issues of mutual concern and that their well-being contributes to the well-being of the state as a whole. He proposed that ICT could play a role in community life by improving communication, economic opportunity, civic participation and education. His position extended to community-oriented electronic communication where community networks have a local focus [34]. But the relationship between institution and community has a far greater co-creative potential than the one-way provision of access and facilities. The digitally literate community not only has access to and knowledge of the tools to consume digital culture, it can co-create its own digital cultural artifacts with the institution. As creative technologies and practices become further embedded in cultural institutions, they have the potential to create new platforms for community engagement. This paper has argued that increasing digital literacy within cultural institutions could be integral to the further development of a co-creative relationship between institutions and communities of interest. As audiences expect higher levels of interactivity with content, social media provide a channel for communities and institutions to co-create new cultural experiences. It is hoped that the philosophy and practice of co-creativity can engage

communities of interest in cultural participation as well as realize the civic opportunities afforded by digital literacy.

References

1. Mattelart, A., Mattelart, M.: *Theories of communication: a short introduction*, p. 186. Sage, London (1998)
2. Australian Museum Online (AMOL) (February 11, 2007) <http://www.amol.org.au>
3. Voyager Heritage Network (February 11, 2007) <http://www.visitmuseum.com/en/about.asp>
4. Wilkinson, H.: *Collections for the Future*, Museums Association. p. 36 (2005)
5. Trant, J.: Trust, audience and community: museums, libraries and identity. In: Trant, J. (ed.) *Museums and the Web*, Museums and the Web (2006)
6. Spadaccini, J.: *Museums and Web 2.0*. In: Spadaccini, J. (ed.) *ideum* (2006)
7. ARC Centre of Excellence for Creative Industries and Innovation (February 10, 2007) <http://www.cci.edu.au/>
8. *New Literacy, New Audience*, <http://www.cci.edu.au/nla> (February 10, 2007)
9. Gillard, P.: *Museum Visitors as Audiences: Innovative Research for Online Museums*. In: O'Regan, T., Balnaves, M., Sternberg, J. (eds.) *Mobilising the Audience*, University of Queensland Press: St Lucia, Queensland. p. xii, 363 p.177 (2002)
10. See for example <http://www.youtube.com/watch?v=PdKHboldZIA>
11. See for example <http://www.flickr.com/photos/tags/selfportrait/>
12. LaValee, A.: *Museums Try YouTube, Flickr To Find New Works for the Walls*, in *Wall Street Journal Online*. New York (2006)
13. Shedroff, N.: *Information Interaction Design: A Unified Field Theory of Design*. In: Jacobson, R.E. (ed.) *Information Design*, p. 357. MIT Press, Cambridge, MA (1999)
14. Checkland in Long, J. and J. Dowell. *Conceptions of the Discipline of HCI: Craft, Applied Science, and Engineering*. In *Proceedings of the Fifth Conference of the BCS HCI SIG*. 1989. CUP (1989)
15. Turpeinen, M.: *Co-Evolution of Broadcasted, Customized and Community-Created Media*. In: Remit, L.G.F., H.T. (eds.) *Broadcasting & Convergence: New Articulations of the Public Service 2003*, Nordicom, Göteborg (2003)
16. Schofield, J.: *Microsoftie tries to improve Wikipedia, indirectly*. Guardian Unlimited, London (2007)
17. Australian Museum Audience Research Centre (February 10, 2007) <http://www.amonline.net.au/amarc/index.htm>
18. Kelly, L.: *Developing educational websites: investigating internet use by students and teachers*. In: *Proceedings of Thinking, Evaluating, Rethinking, ICOM-CECA Conference*, Rome: ICOM (2006)
19. Druin, A.: *The Child as Learner, Critic, Inventor and Technology Design Partner: An Analysis of Three Years of Swedish Student Journals*. *International Journal for Technology and Design Education* 12(3), 189–213 (2002)
20. Groundwater-Smith, S.: *Millennials in Museums: Consulting Australian Adolescents when Designing for Learning*. Invited paper presented to the Forum of Museum Directors, National Museum of History, Taipei (October 2006)
21. Molnar, H., Meadows, M.: *Songlines to Satellites: Indigenous communication in Australia, the South Pacific and Canada*. Pluto Press, Sydney (2001)

22. Springer, J., Kajder, S., Borst Brazas, J.: Digital Storytelling at the National Gallery of Art. In *Museums and the Web 2004*. Toronto, Archives & Museum Informatics (2004)
23. Vergo, P.: The Reticent Object. In: Vergo, P. (ed.) *The New Museology*, pp. 41–59. Reaktion Books, London (1993)
24. Australian Centre for the Moving Image (February 11, 2007) http://www.acmi.net.au/digital_stories.htm
25. Watkins, J., Russo, A.: New media design for cultural institutions. In: *Proceedings of the Conference on Designing for User eXperience, AIGA, San Francisco, USA (2005)*
26. Holden, J., Jones, S.: Knowledge and Inspiration: the democratic face of culture. In: Demos (ed.) *Museums, Libraries and Archives Council*, London, p. 23 (2006)
27. Russo, A., et al.: How will social media affect museum communication? In: *Nordic Digital Excellence in Museums (NODEM 06)*, Oslo (In press) (2006)
28. Nie and Erbring in Etzioni, A.: On Virtual, Democratic Communities. In: Feenberg, A., Barney, D.D. (eds.) *Community in the digital age: philosophy and practice*. Rowman & Littlefield: Lanham, Md. Oxford. p. 229 (2004)
29. Livingstone, S.: Media Literacy and the Challenge of New Information and Communication Technologies. *The Communication Review* 7(3), 5 (2004)
30. Taxén, G.: Introducing Participatory Design in Museums. In: *8th Biennial Participatory Design Conference*. Toronto, Canada (2004)
31. Nikolova-Houston, T.: Using Participatory Design to Improve Web Sites. In: Hoffman, D. (ed.) *Computers in Libraries*. Information Today, Inc. (2005)
32. Greenbaum, J.: A Design of One's Own: Towards Participatory Design in the United States. In: Schuler, D., Namioka, A. (eds.) *Participatory design: principles and practices*, p. 28. L. Erlbaum Associates, Hillsdale, NJ (1993)
33. Ames, M.: Museology Interrupted. *Museum International* 57(3), 44 (2005)
34. Schuler, D.: Community networks: building a new participatory medium. *Communications of the ACM* 1(37), 38–51 (1994)