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Museums on the Web: Exploring the past for the future

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Abstract

Museums on the Web:
Exploring the past for the future

Chairs:

Karin de Wild

Nadezhda Povroznik

This panel will shed light on the histories of museums on the Web. The advent of on-line technologies has changed the way museums manage collections and access them, shape exhibitions, and build communities and participation. Aspects can be found in histories about museums and digital technologies (see for example Parry 2007; 2009; Cameron 2003; Cameron and Kenderdine 2010; Bowen 2010; Gartner 2016; Legene 2016). However, scant attention has been given to how museums' online presence has developed over time, from the mid-1990s to the present. This panel will present different perspectives in the history of museums on the Web. What can we learn from the pioneering virtual museums and online exhibitions? How did (information) architecture and museums websites develop over time? And how have online collections been built, circulated, and made accessible?

Due to the Covid-19 pandemic, museums enhanced their digital activities and the importance of the Web to engage with audiences was felt throughout the sector. Furthermore, in today's fast-changing digital landscape, museums are facing new challenges such as the rise of AI and the semantic Web. By engaging with the past, we can enhance our understanding of how museums are functioning today and offer new perspectives for future developments. Therefore, this panel will explore the past, but with an eye on the future.

This panel coincides with the release of a Double Special Issue "Museums on the Web" in the journal *Internet Histories: Digital Technology, Culture and Society* (Routledge/Taylor

*Speaker

& Francis).

Early Virtual Science Museums: Case Studies and Conclusions

Giuliano Gaia

Stefania Boiano

Jonathan P. Bowen (online)

Ann Borda (online)

This paper discusses three case studies of early science museum-related websites in the 1990s and early 2000s. The Virtual Museum of Computing (VMoC) was a completely virtual museum, originally produced in 1995 as part of the Virtual Library museums pages (VLmp), an international online museum directory within the WWW Virtual Library, adopted by the International Council of Museums (ICOM). This experiment demonstrated the speed with which a virtual museum could be established. It included virtual galleries, most notably on the computing pioneer Alan Turing (1912–1954) by his biographer Andrew Hodges. The virtual museum was mirrored around the world as part of the VLmp project.

The Science Museum in London was one of the first museums in the United Kingdom to have its own web server, second only to the Natural History Museum next to it. The Science Museum hosted an early meeting on web service provision by and for museums, concurrently with an exhibition on the "Information Superhighway" at the museum in 1995. Exhiblets were launched online in 1998 and they were considered the first virtual exhibition on the museum website that was not connected to a physical space or exhibition at the museum. Exhiblets were a low-technology enhancement to the website and were intended to be widely accessible for the public and school students. The name Exhiblet was a combination of "exhibition" and "Java Applet". Ingenious was a multi-site digital collections transformation project, launched as a website in 2003. It made publicly accessible 30,000 digitised images together with related records sourced from the museum, the Science and Society Picture Library, and other related museums, with topical stories informed by the Exhiblets development and toolkits for users to build on their experience, by tagging and sharing object images. Virtual Leonardo and Leonardo's Ideal City were two experiments conducted by the digital team of the Science and Technology Museum of Milan, between 1999 and 2001. The experiment consisted in the creation of a shared online 3D world, namely a reconstruction of the real museum in the first case and a completely imaginary world in the second case. The projects were based on an innovative platform developed by the Polytechnic University of Milan working on VRML, Java, and Java3D. Although there were technological issues, the platform offered many advanced features, such as: virtual guided tours, actionable machines, interaction between avatars, automated avatars, etc., well before Second Life.

This paper describes the above three case studies from the early World Wide Web and then draws some general conclusions, from first-hand experience of developments at the time. We cover both the advantages and the challenges encountered by the various projects and illustrate why they did not necessarily become established, despite promising early results. At that time, web information provision was relatively simplistic, although changing fast. We are now at a new expansion point in the web with the metaverse and Web3. We consider some possible future advances with the hindsight of early web experiences.

A diachronic analysis of Danish museum websites

Mette Skov

Tanja Svarre

Having an online presence in the form of a website is mandatory for most museums. However, whereas the development and use of digital technologies within the physical museum has received much attention, less attention has been devoted to understanding the role and

development of museum websites. Overall, the present study aims to provide an overview of the development of Danish museum websites across the domain and through a fifteen-year period. The main research question is: What characterizes the development of Danish museum websites through the years 2005-2020?

The methodological approach is a diachronic analysis of Danish museum websites. It is a historical study building on a sample from the Danish Internet Archive. Similar to Chakraborty and Nanni (2017), we use archived websites as a primary source to trace and describe the development of museums' online presence. The sample includes representations of all state owned and state approved museums' websites including the years 2005, 2010, 2015 and 2020 (counting 147 museums in 2005 which are reduced to 102 museums in 2020). The sample includes representations of the hidden web strata (Brügger, 2018) in the form of text files (written text from the websites) and metadata files with information about date, title, URL, document type, etc.

The analysis is mainly quantitative and consists of two parts. The first part uses descriptive statistics to explain the characteristics of Danish museum websites and their development through the years 2005-2020 regarding development in size, document types etc. across museum categories (art museums, cultural and natural history museums). The second part of the analysis uses text analytics, first to analyse the development of term use in the period, and then to identify clusters of different categories of museum websites by using k-means clustering (Jain, 2010).

The characteristics identified in the first part of the analysis and an earlier categorization of museum websites (Schweibenz, 2004) will serve a starting point for the cluster analysis aiming to establish categories of archetypal museum websites on the basis of term occurrences. Have Danish museum websites transformed from 'information leaflets' to destinations in their own right, or what is the case?

Qualitative selected examples from the data set serve to illustrate and further elaborate the quantitative analysis. Finally, the article discusses the methodological challenges and shortcomings of using archived web materials to describe the development of a domain.

Rethinking openness: a social constructivist approach to the promises of the new museology

Tiancheng Leo Cao

From early adoption of open-source collection management software to recent open access projects emphasizing public participation, the integration of digital technologies in museums has been accompanied by a parallel transformation of how museum professionals conceptualize and operationalize the notion of openness in practice. The Covid-19 pandemic foregrounded the importance of digital technologies for museums, which struggled to remain open online and keep audiences engaged during the global shutdown. This study examines how the understanding of openness has changed among museum professionals in recent decades and what it means for the museum community in a post-pandemic world.

Taking a social constructivist approach to understanding the use of digital technologies in the museum context, this study adopts the Social Construction of Technology (SCOT) as a conceptual and analytical framework to examine the changing attitudes and practices among museum scholars and practitioners. The SCOT framework highlights the roles of relevant social groups, especially how they attach different meanings to the same artifact creating an interpretative flexibility and how power relationships lead to the dominance of a particular interpretation resulting in a stabilization of the meaning of the artifact (Pinch & Bijker, 2012; Lievrouw, 2010). Importantly, SCOT also emphasizes how deeply institutionalized social values may shape the practices of individual actors (Klein & Kleinman, 2002).

In the museum context, one such set of social values is the New Museology, a theoretical movement seeking to redefine the role of museums in society and their evolving relationships with the public. It prescribes a fundamental shift in focus from collection care to public service (Vergo, 1989; Stam, 1993; Hooper-Greenhill, 2000). Considering this reorientation "from being about something to being for somebody" (Weil, 1999), one might expect that openness in museums might have undergone a similar transformation. This study establishes a connection between the two distinct bodies of literature by providing empirical evidence regarding this museological transformation.

Methodologically, this study investigates the archive of the Museums and the Web (MW) conference and has identified 36 conference papers presented between 1997 and 2020 related to the topic of openness. Informed by the SCOT framework and using a combination of open and axial coding (Corbin & Strauss, 2015), this study performs a qualitative content analysis based on the following template: Through open (practices), the (projects) allow museums to achieve (goals) to serve (relevant social groups), if (challenges) can be overcome. Through this analysis, this study seeks to identify the primary actors in the adoption of open-related practices, explain how these groups have endowed openness with different meanings, and understand whether this interpretive flexibility has led to an epistemological and operational stabilization. Importantly, MW's historical archive allows this study to probe the changing institutional and social contexts in which open-related practices were adopted and therefore to understand how openness has changed in the museum community in the past thirty years. This study contributes by reconsidering a concept that is instrumental to the museums' increasing adoption of digital technologies and their expanding presence on the web.

Short biographies

Chairs:

Dr. Karin de Wild is Assistant Professor in Contemporary Museum and Collection Studies at Leiden University, The Netherlands. Her research interests are on digital heritage, arts and cultures. She is a board member of the Henri van der Waal foundation (international research network for digital art history and image studies) and a member of WARnet (the European Research network for Web ARChive studies). Before joining Leiden University, she was a digital fellow at the School of Museum Studies, University of Leicester, UK. In her past life as curator and researcher, she collaborated with a wide range of private collections and museums including SFMOMA (US), de Young Museum (US), Victoria and Albert museum (UK) and Rhizome (US).

Dr. Nadezhda Povroznik (Technische Universität Darmstadt)

Panellists:

Prof. Jonathan P. Bowen, MA Oxon, FBCS, FRSA, is Emeritus Professor of Computing at London South Bank University and Chair of Museophile Limited, a museum and IT consultancy company that he founded in 2002. He has been a visiting scholar/professor at a variety of institutions including the Israel Institute for Advanced Studies (Jerusalem), King's College London, the Pratt Institute (New York), and Southwest University (Chongqing, China). Previously he has held academic/research posts at Birmingham City University, University of Reading, Oxford University Computing Laboratory, and Imperial College London. Jonathan's research interests range from computer science, especially software engineering, through to the history of computing, museum informatics, and digital culture. He contributes to Wikipedia on cultural and computing-related topics. In 2017 he co-authored *The Turing Guide* on the computing pioneer Alan Turing and in 2019 he co-edited the book *Museums and Digital Culture*. www.jpbowen.com

Dr Ann Borda, PhD, is an Associate Professor in the Melbourne Medical School at the

University of Melbourne, Australia. She has a doctorate in informatics from University College London. She is an Honorary Senior Research Associate at UCL and a Fellow of the Australasian Institute of Digital Health. Her research interests include citizen science, smart cities, living lab methodologies, digital health futures, and participatory design. In Australia, Ann has held positions as CEO of the Victorian Partnership for Advanced Computing, and Executive Director of the state government-funded VeRSI consortium. Prior to this, Ann was based in the UK at King's College London with the JISC government-funded program for eScience. Concurrently, she was a Visiting Research Fellow at the Institute for Computing Research, London South Bank University. Following her PhD, Ann was Head of Multimedia Collections at the Science Museum in London. findanexpert.unimelb.edu.au/profile/197899-ann-borda

Tiancheng Leo Cao is a doctoral candidate from the School of Journalism and Media at the University of Texas at Austin. His current research examines the digitization and platformization of museum collections from the interdisciplinary perspectives of museum studies, media studies, digital heritage studies, and cultural policy research. As a graduate research assistant at the Technology & Information Policy Institute, he also investigates the use of surveillance technologies by the public sector in the context of smart city development and ethical decision-making, focusing on issues of privacy, governance, data, and public engagement.

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A pioneer in the field of digital communications for museums in Italy, **Giuliano Gaia** built the first website for WWF Italy, founded the New Media Department at the Science Museum of Milan and created Virtual Leonardo, an online 3D interactive world that anticipated Second Life and was mentioned in the New York Times. He is the co-founder of InvisibleStudio, a cultural innovation studio based in London and Milan, and is a tenured teacher of Digital Communication for the Arts at IULM University in Milan.

Mette Skov is Associate Professor at Aalborg University, Department of Communication and Psychology, Denmark. She holds a master and a Ph.D. degree in Library and Information Science from the Royal School of Library and Information Science, Denmark. Her main research interests include everyday life information seeking, user studies, user experience and interaction design. With a special interest in the cultural heritage domain, she has been involved in a number of projects related to how users interact with ICT in the physical museum as well as how they interact with digitized cultural heritage collections online. She can be contacted at: skov@ikp.aau.dk.

Keywords: Virtual museums, online exhibitions, digital collections, information architecture