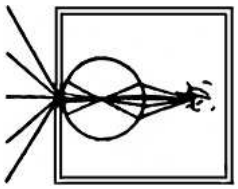
CHArt

COMPUTERS AND THE HISTORY OF ART



Display: Consume: Respond – Digital Engagement with Art

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The Association of Art Historians, 70 Cowcross Street, London EC1M 6EJ

- ABSTRACTS -

Anna Bentkowska-Kafel,
The Virtual Museum – the concept and transformation

The virtual museum is often seen as the embodiment of André Malraux's proposition for 'museums without walls'. However, the concept of a 'museum without walls' derives from the English edition of Malraux's original *Le musée imaginaire* (1947); the meaning and context of the latter seem altogether different. In 2002 Erkki Huhtamo noted the vagueness of the term 'virtual museum', although he only looked at museums on the web.

A need for an interdisciplinary, in-depth study into the theory and practice of virtual museums has been recognised by the European Union Seventh Framework Programme when, in 2010, funding was given to institutions across Europe to establish the Virtual Museum Transnational Network (2011-2015). V-MusT.net invites submission of information about virtual museums. At present (11th June 2012) there are 39 links to virtual museums. Is this selection representative of virtual museums worldwide? Do they share the same understanding of the role of museums as custodians of artefacts and educators? How are virtual collections of artefacts and exhibits created? How can we tell a good museum from a bad one? What are the criteria?

V-MusT defines virtual museums as 'a new model of communication that aims at creating a personalized, immersive, interactive way to enhance our understanding of the world around us'. As part of the V-MusT training and mobility programmes a number of national and international schools are being organised. The UK school is organised by the Department of Digital Humanities at King's College London with support from several London museums. The 11-day School will be held in September 2012. How is the virtual museum taught in Europe? This presentation will outline the learning objectives of national schools – 'training of Virtual Museums' experts and professionals to shape the future of Virtual Museums' – and the outcomes of the UK School.

Bianca Bocatius
State-of-the-Art: German Museum Education on the Social Web

This paper will focus on the questions, how do German museums use the social web to enhance their museum education services, and why is there barely any educational museum service established on the Web yet?

In Europe museums are places of learning. Participation, visitor engagement, self-organized and collaborative learning represent keywords mentioned in relation to museum education online. This paper will demonstrate that online learning is still an exception in the German museum world and therefore the gap between the presentation of general information like contact details and an educational service using social media to engage audiences is still large. In this paper some German examples of museum education services on the Internet and the use of social media will show the state-of-the-art of online learning within the German museum field. The website of the Jewish Museum Berlin is a good-practice example of online learning. The Weimarpedia project demonstrates a blended learning project with the use of wiki software and the exhibition website 'Wir waren so frei!' shows how social media is utilized in a crowd-sourcing project. In comparison some good-practice examples from UK museums will illustrate how social media can be used on the Web to offer participatory opportunities to contextualized artworks, communicate and activate dialogues, enable user-generated content and guarantee a participatory relationship between the museum and its visitors onsite or online. The Tate website illustrates how online learning is established in the English sector in comparison to the website of the Jewish Museum Berlin. The Dulwich OnView blog shows how to use a blog generated by a community in a 'proper Web 2.0 way' and the exhibition project, Click! A Crowd-Curated exhibition demonstrates another crowd-sourcing project with the use of social media.

Fliedl (1995) formulates the contradiction between potential thinking and reality as a common problem of the conservative museum. The conservative museum, especially art museums in Germany, had hardly any intentions to explain original meanings and functions of museum objects or to contextualize museum objects with current social needs. The development of the museum as a *"mausoleum of everlasting cultural heritage to an agency of a vivid social memory*" (Fliedl, 1995, 53) is therefore still a challenge for the entire museum – onsite and especially online, as only a few guidelines and barely any frameworks for museum education can be found on the Web.

Andrew Greg

The Your Paintings Tagger - theory and practice

The Your Paintings Tagger project (www.tagger.thepcf.org.uk) has been designed by the Public Catalogue Foundation (www.thepcf.org.uk) to create descriptive tags for 200,000 oil paintings included in the online database Your Paintings (www.bbc.co.uk/arts/yourpaintings). The pragmatic aim of the project is to create terms that the users of Your Paintings can employ to search for paintings of interest to them. Tagger creates descriptive metadata by crowd-sourcing tags from thousands of participants and by subjecting the raw data to statistical algorithms it aims to produce sets of useful, reliable and consistent tags and index terms.

Tagger allows participants to tag images of paintings that are presented to them randomly from the project's central database. The public tagging tasks, or workflows, include, in order: free text descriptive 'terms'; the names of people, places or events depicted; genres, or 'types', of paintings drawn from a prescribed list of keywords; and finally subject matter, selected from a comprehensive hierarchy of subject headings and subheadings.

The principles of Tagger were influenced by those of the Galaxy Zoo project (www.galaxyzoo.org): pictures are presented to taggers at random; no art history expertise is required; and a tag or keyword is only accepted after a threshold number of taggers recording that term has been reached.

This paper will discusses the origins of the Your Paintings Tagger, the needs it addresses, the research behind the project and the sources of the methodologies adopted, the piloting, testing and tweaking of the live project, and, crucially, the first results. The tagging of the first 2,278 paintings resulted in a vast database of over 190,000 tags. These confirmed the ability of the project to create high quality results and also revealed some unexpected phenomena.

The project partners agreed that Your Paintings should address the needs of a 'mainstream audience', which includes learners. The tags therefore have to be 'useful, reliable and consistent' and not be merely an unmediated set of public tags. On the other hand the project's raw data also provide the opportunity to explore unmediated public tagging on a large scale. This paper will therefore also explore some of issues behind public tagging which are particularly pertinent to the Your Paintings Tagger. These include the potential conflicts between 'folksonomies' and academic art historical taxonomies, and between art historical integrity and the needs of a mainstream audience.

Jo Clements

New Poetic Associations: Location, Instruction and Re-appropriation

This paper seeks to effectively demonstrate how the re-appropriation of digitised, archived sponsored films (films produced to document, influence, teach and persuade) has been effective in artist Jo Clements' art practice as a mode of production for the creation of new artworks. More broadly it will also explore modes of production adopted by visual artists who use digitised film and moving image as an integral component for the creation of new artworks. Underlying these methods of production are issues of originality, authorship and ownership. Whilst artists have been borrowing from other forms and re-appropriating existing media throughout history, the difference for today's artists lies in the ready availability of pre-existing images, texts, films etc for them to use. With digitization and the Internet, all information now has the potential to be globally accessible, a readymade available museum that is accessible to anyone with access to a computer.

The author will argue that artists, who use pre-existing works as a major component of their practice, contribute to the removal of established distinctions between authenticity and deception, and reality and fiction. Clements contributes to these processes by using creative play as an interrogative strategy that both deconstructs and re-evolves content through the manipulation of linear time (narrative), use of archival materials produced to influence previous generations and the creation of disjointed, time-based, moving image cocktails. There is an additional dimension in that the work discussed is often viewed in unexpected settings, such as in hidden woodland via QR code installations, that bring the external and internal, past and present together in a poetic association of location and time.

The significance of location for viewing film that has, as its main function a desire to persuade or instruct, can be paramount. Much has been written about contexts for viewing artworks, particularly installation works, that affect meaning and reception and these ideas will be explored further within the digital context of the work being discussed - in this instance via mobile technology.

Kevin Day

The Democratic and The Algorithmic: Art in the Age of Post-Fordist Immaterial Consumption/Production

In an essay published on *e-flux* titled 'The Comrades of Time', art historian Boris Groys outlines what he terms the crisis of the artist in the information age where mass participatory consumption is branded as a mode of cultural and value production. For him, in the contemporary context of information technology and social media, the 'spectator' of art who "can overlook the immeasurable quantity of artistic production and […] single out this particular artist from the mass," no longer exists. Following Guy Debord's formulation of the spectacle, Groys contends that contemporary society "seems to be a spectacle without spectators."

This rendition of cultural production hinges on Maurizio Lazzarato's concept of 'immaterial labor,' wherein digital communication becomes an interface between the consumption and production relationship, where the consumer is constructed as a producer as well, propagating and (re)producing social relations. In other words, a spectacle without spectators exists as such because all the spectators are in the midst of actively producing through communication. However, this newly endowed subjectivity is merely an illusion, whereby the producing users/consumers feed directly into the production of immaterial commodities through communication, both disseminating the cultural values/norms/relations and giving the digital administrators (such as Google and Amazon) more crowdsourced market information.

In this essay, the role of the artist in relation to the newly emerged state of post-Fordist immaterial labor will be examined. In particular, two issues will be tackled. Firstly, the polemics of the Internet and its supposed democratization/leveling of cultural production, specifically its relation to artistic production and consumption, through the writings of philosophers such as Hubert Dreyfus, Jürgen Habermas, and media theorist Diana Saco. Secondly, the ways in which this democratization may veil another insidious form of control, such as the notion of the 'protocol,' envisioned by media theorists Alex Galloway and Eugene Thacker, will be investigated. In particular, the point of focus will hone in on the relation between immaterial labor and the rising prominence of what communications theorist Ted Striphas terms 'algorithmic culture,' the ways in which societal behaviors and expressions, patterns of relations, biometrics, are all codified into quantifiable hermeneutics.

To go back to Groys, how does art function, or even, can it function, in an age of increased administration via algorithms, of mass participatory consumption and production, of post-Fordist immaterial permeation?

Gabriella Giannachi,

Art Maps

This paper introduces Art Maps, a collaborative project between three departments at Tate (Tate Learning, Tate Online and Tate Research) and researchers in Computer Science (University of Nottingham) and Performance and New Media (University of Exeter) funded by RCUK as part of Horizon digital economy research.

Art Maps consists of a suite of applications that explore how people relate artworks to places, sites, landscapes and environments. Through Art Maps, artworks from Tate's collection can be encountered and annotated outside of the museum. This allows audiences to experience the environment they are in through its artistic representation or connection.

This paper offers an evaluation of the first phase in the development of the project, including an analysis of how a group of users responded to Art Maps over a two-day public engagement workshop run at Tate Britain in April 2012 as part of its public events programme. The aim was to use photography, video, audio and text functions on users' mobile phones, to explore and respond to the area between Tate Britain and Tate Modern by documenting, editing, recording and creating *en route*, to evoke and share a sense of place.

Taking inspiration from the Tate Collection and Patrick Keiller's 2012 commission The Robinson Institute, the first workshop aimed to encourage users to familiarise themselves with a number of documentation tools and online sharing to map their physical and mental meanderings, by setting a series of steps, or tasks, that had to be carried out within a period of time. Participants were at the same time mapping, (i.e. exploring the territory) and map making, (i.e. capturing, documenting the journey), through different techniques, (e.g. drawing, sound maps) and technologies, (e.g. googlemaps, trailfinder), utilising art as a strategy for motivation, (e.g. as a point of inspiration to explore an area), comparative tool, (e.g. as a means to look at the contemporary in relation to the past), or even transportation, (e.g. as an instruction to be distracted by). The second workshop encouraged users to develop their own journey, taking inspiration from an artwork in the Tate collection. Whilst participants were again given tasks, the overall frame of the second workshop was looser, encouraging participants to make their own way. In under two days about 200 contents/objects, among which 94 photos, 25 videos, 9 maps, 19 audio and 34 textual files, were uploaded.

Tula Giannini

Brooklyn's Museums and Libraries Collaborate to Grow the Arts and Information Digital Landscape

Since becoming dean in 2004 of Pratt's School of Information & Library Science (SILS), I have served as principal investigator for a series of four grants funded by the Institute of Museum & Library Services (IMLS), that I designed and secured for Pratt-SILS in partnership with Brooklyn's leading cultural institutions, Brooklyn Museum (BM), Brooklyn Historical Society (BHS) and Brooklyn Public Library (BPL). Purposed to advance museums, libraries and archives in the digital world through digitization projects expanding digital sources for researchers, these collaborative grants have created new innovative programs that integrate digital technology, art and information while supporting SILS students for tuition scholarships, conference travel, workshops, seminars, and internships with stipends to carry-out project work on-site at the collaborating institutions.

In 2000, Pratt was the first library and information science school to introduce cultural informatics, defined at the intersection of culture, digital technology and information science, to serve as an overarching theme for research, curriculum and program development. In 2008, building upon our 2005 3-year IMLS funded project for $591,206 IMLS with BHS to support archival education and a new archives certificate program, we again sought IMLS funding to advance our efforts in cultural informatics and to situate our work in the emerging digital landscape. This resulted in a 2008 grant for $946,324 with the Brooklyn Museum under the rubric, M-LEAD (Museum Library Education and Digitization) that introduced a 12-credit museum libraries certificate (the only such program in the US). In 2010, Pratt was awarded a 3-year grant for $971,404 under the rubric Project CHART (Cultural Heritage Access, Research and Technology) in collaboration with our three former grant partners – BHS, BM and BPL. Project work, done by Pratt students supervised by museum staff, centers on digitizing, describing and providing access to Brooklyn historic photography collections across the three Brooklyn institutions via a newly created project Web site hosted by BPL at http://www.brooklynvisualheritage.org. The project provides tuition scholarships to a new 18-credit curriculum within the MSLIS entitled Digital Management for Cultural Heritage.

Most recently, in June 2012, we were awarded a 3-year IMLS grant for $261,987 for M-LEAD-TWO (Technology-Web-Online). As a continuation of M-LEAD-1 with BM, it extends project collaboration to the Frick Reference Library and the New York Art Resources Consortium (NYARC) that includes the Museum of Modern Art. M-LEAD-TWO expands and enriches NYARC's shared online catalog (Arcade), and the digitization of collections by the three collaborating museums facilitated by the project's student internship program.

On the education side in addition to the certificate programs and internships, Pratt's IMLS grants have inspired the introduction of a new dual-master's with Pratt's Department of Digital Arts and the expansion our dual master's degree with the Department History of Art & Design which currently has 44 students in the program. Dual-degree students as well as those in art librarianship are advantaged by the increasing digital context of Pratt's curriculum evidenced by courses such as digital humanities, digital scholarship, information visualization, museum informatics and digital preservation and curation, all of which support our new digital humanities concentration.

This study brings focus to Project CHART (2010-2013), with special attention to the recent launch of the project Web site highlighting Brooklyn historical photography collections digitized by the project's three partner institutions. The Web site incorporates the open source meta Web design tool, Drupal, as well as social media for user interaction as well as GIS and augmented reality software to explore new ways to link cultural resources to communities and users. Further, it brings insight to the challenges and rewards of collaborating across Brooklyn's premier cultural institutions, icons of its diverse and vibrant arts community.

Skyler Hijazi

Flickering Transmissions and Insecure Provenance: Valuating the Back(ground) of Electronic Fanart

Taking electronic fanart - i.e. postproduced 'amateur' artworks created and consumed by fans of popular media - as its starting point, this paper explores the possibilities opened by a critical rethinking of provenance and its relationship to understandings of value.

Across a range of disciplines, the principle of provenance functions as a method to guard against the loss of value (whether monetary or contextual) during transmissions across space and over time. It is a method of looking into an object's background to determine its currency in the present. Importantly, in art history, provenance may be encoded and traced through marks on the literal back of a work.

But if the markings on the backs of paintings trace a kind of genealogical background of the work of art, then what is to be said of electronic art images which have no back side to their canvas, per se? How does the (physical and theoretical) back of a piece of art relate to its ability to adhere in place, time, and context; its ability to hold value? And what does postproduction - the remixing of mass-produced readymade forms - do to the back of the material that it (re)works in its recombinant gestures? This paper takes up these questions as a phenomenological and epistemological challenge with immediate importance for the work of fanartist consumer-producers.

While the logic of provenance draws a link between an object's (exchange) value and a confirmation of its status as self-same from its point of origin, electronic fanart (which tends to circulate unsigned and often without attribution) presents us with a genre in which provenance is fundamentally insecure and intrinsically destabilized.

What is at stake for traditional understandings of ownership and property, authenticity and value, when provenance is destabilized, becoming a matter of flickering code? What forms of meaning and valuation might escape or exceed the transmission of data over the global network of the Internet, (dis)appearing as the remainder when the same image appears on two (or more) computer terminals? What happens to the notions of provenance and background when art is transmitted through code and flickering signification?

This paper will propose some ways in which a subcultural economy (like that of media fandoms online) centered on artworks of radically destabilized provenance may have the capacity to productively destabilize other structures in its proximity, including lived offline structures of value and artistry.

Annemarie La Pensée

Things that we thought were straightforward when we started 3D scanning cultural heritage; copyright, data archiving, Internet security, and access for all

Non-contact triangulation based 3D Laser scanning was pioneered in the automotive and aeronautical industries in the late 1980s. That the highly accurate 3D data sets laser scanning produces could be a useful tool in the field of cultural heritage emerged a few years later. The variety of applications of such 3D data sets within cultural heritage is impressive. However due to its relatively novel nature, the existence of this 3D data is presenting unique challenges, not only for storage and access, but also with respect to the copyright and data security. The issues associated with data storage have been addressed in recent years by research such as the ‘Big Data Project’; however the conclusions of this research and best practise can be challenging to retrospectively apply to an archive. Moreover, if a digital 3D object falls outside of the scope of a given 3D data archive, it can be difficult to link it to an existing catalogue or data base in a meaningful way. We will examine these themes in the context of a data archive of loosely related 3D digital objects, with diverse multiple stakeholders, users and owners. The issue of data ownership is becoming more relevant as the creation and use of 3D data is becoming more commonplace in the cultural heritage sector. We examine what copyright law in the UK implies about the 3D recording of artworks, in the context of some commonly arising situations for museums, artists, those commissioning and those generating 3D content. We will also examine why it can be that cultural institutions are currently particularly ill prepared to deal with these issues. Finally, we will examine how an attempt to make 3D digital objects more widely available and accessible via the web has become an exploration of online data security and 3D data stakeholder’s perceptions of web based interaction. For this research we have examined issues such as user interfaces, large model and remote rendering, shape-from-image capture as an online security hazard, and how attempts to mitigate its possible misuse can interfere with object interaction.

Oonagh Murphy

Hacking Art History

Digital technologies provide visitors, students and emerging professionals with new ways to consume and respond to art history. This creates new challenges for museums and art historians as they try to maintain the integrity of their collection, and find new ways to respond to visitor initiated 'hacks'.

This paper will take a university initiated hack day as it's core case study and will move on to look at the broader landscape of visitor-initiated re-appropriation in museums. In April 2012 the University of Ulster held a 12 hour Hack Day for Museum Studies and Interactive Media Arts students at the Ulster Museum. This event was part of a semester long programme called 'This is our Playground’. Students were tasked with creating playful, mediated experiences that either reinterpreted the museums collection or created deeper more meaningful visitor experiences. Whilst aware that the hack day was taking place the museum was not involved in the planning or management of the event. Museum staff gained access to student hacks via a publically accessible tumblr blog.

Visitor initiated hacks can had value to an art collection, and can also provide museum curators with access to new technologies and ways of thinking about their collection. 'Art Invasion' an unofficial AR exhibition that took place at MoMA (October 2010) and 'Paint Job' an unofficial AR tour which took place at the Rijksmuseum (June 2012) both generated significant media coverage. Where these a valuable addition to art history interpretation, or merely digital vandalism?

Finally this paper discusses partnership working, and looks at the ground breaking 3D Hackathon that was jointly managed by The Metropolitan Museum of Art and Makerbot in June 2012. Through the use of four timely case studies this paper provides a strong foundation for challenging conversations, and for difficult questions. In conclusion it makes the case for more research in this new and evolving area of digital culture, and its impact on the work of art historians.

Cassiope Sydoriak

The Autonomous Digital Image: An Investigation of Independence in Virtual Art Collections

In this research, I will argue that digital art collections and online museums place emphasis on the individual viewer and autonomous objects. Increasingly sophisticated technological platforms are contributing to digital re-workings of historical semantics in the arts, and paying attention to digital heritage studies encourages scholars and museum professionals to reflect on technology's influence on the conceptualization of research, education, and accessibility. But how do digital art collections problematize the idea of the object?

Incorporating an exploration of Walter Benjamin's *The Work of Art in the Age of Mechanical Reproduction* and Michael Fried's *Art and Objecthood*, I will identify how the digital object translates physicality, focusing on the object's function as an independent actor and the methods by which the individuated copy gains precedence. First, digital collections have begun to detach curatorial and historical narrative from its referent to the past and the real, conceptually re-framing objects through Internet hyperlinks. Second, when an observer encounters a digital reproduction, physical objects become a site of verification of their own existence, leading to slippage between material and immaterial forms and increasing independence of viewer interpretation. Focusing on two websites - the Google Art Project and Your Paintings - I will examine how paintings are transformed and reframed in diverse digital contexts. Ultimately, by dissecting four concepts prevalent in both digital and real museums - curatorial narrative, the frame, recontextualization, and performative space - I will conclude that digital reproductions accentuate individual visits and autonomous objects. Collectivity, discourse, and context are rapidly transforming, potentially leading to major shifts in the art historical discipline.

V. Mom and G. Koert

Documenting modern art: Mycelium database systems

Usually, works of art are not born from a vacuum: artists often make many sketches and studies before the actual object is created. And for disciplines like sculpting and land art this is especially true, as the high costs of raw materials and logistic activities usually prevent much improvisation.

However, all these preparatory documents seldom find their way to oeuvre catalogues and exhibition rooms. This is a pity as, from a cultural heritage point of view, these materials contain important information related to the genesis of the actual works of art. We may use the metaphor of the mushroom and its mycelium: the mushrooms that we see are the fruits of a vast underground network, the mycelium, hidden for us but nevertheless the indispensable source of the fruit. This mycelium is the artist's repository of ideas and concepts, the material biography (materiography) of the artist.

Currently we are developing Mycelium database systems for three Dutch sculptors: Sjoerd Buisman, who gained fame since the seventies with his 'Growing Projects', Trudy Kunkeler whose specialty is combining photos with abstract ceramic objects, and Cor van Dijk, an outspoken constructivist. On average their number of works is about 400, the number of secondary items about 10,000 each.

As an example we present the works of Cor van Dijk who has been working as a professional sculptor since his graduation from the Rotterdam Academy of Arts (1976). His oeuvre currently consists of about 200 steel sculptures, all 'without title', as "... the works speak for themselves..." Apart from these sculptures there are many thousands of sketches, pictures, photos, articles, letters and other documentary items. All this material was digitized, the corresponding metadata residing in a relational database. As neither the titles of the works ("W.T.") nor the choice of material (steel, no exceptions) provide much help to navigate through the data, a special shape language was developed, based on the shape idiom of Van Dijks work.

Gareth Lloyd Roderick

Space and Place: rethinking the online presence of an artist's archive for *Kyffin Williams Online* at the National Library of Wales

This paper charts the progress of creating a web presence for an artist's archival collection and concentrates specifically on the challenges of using and displaying works of art in a library collection and of digitally mapping the life and work of an artist. The Sir Kyffin Williams bequest at the National Library of Wales consists of approximately 2,000 works. While it is housed in a specially maintained store, there is no permanent space for displaying the collection. An online presence has been commissioned to allow digital access to the work.

Williams (1918- 2006) is widely regarded as one of the preeminent Welsh artists of the twentieth century (Bell: 1957, Rowan: 1984). His work has retained popular appeal since his death and is often said to have a particularly Welsh feeling or mood. The paper begins by discussing current art historical theories of landscape and whether national identity can be conveyed in painting. It considers the ways in which art historical research has influenced the development of digital tools for exploring the collection online; for example, how the application of GPS information onto landscape paintings can allow an understanding of space and place in Kyffin Williams's paintings and working towards a 'distant reading' (to use Moretti's, 2005 term) of the collection.

By working on both the geography (Pevsner, 1964) as well as the history of Williams's art, the digital collection is given an extra access point with works able to be explored and investigated spatially as well as temporally. The paper concludes by explaining how digitally 'mapping' the life and work of Kyffin Williams can be a valid contribution to the art historical understanding of this artist and address some of the challenges when creating an illuminating and engaging online presence for a collection within a library rather than gallery context.

Guillaume Vandame

Ellie Harrison: A Discussion of Consumption, Body Image and Digital Media

Known for her application of digital media and studies of everyday culture, this discussion will focus on noted British artist, Ellie Harrison, and her work, *Eat 22* (2001-2002). *Eat 22* is an interdisciplinary project conducted by the artist over the period of a year and a day. Harrison documented every single meal she ate with a photograph and documented these digital images into a complete anthology spanning this time period. This anthology includes two separate but complementary components: a video and text. For the text, a total of 1640 images and brief descriptions and observations of the meals she ate were included in a bound book specifically commissioned by the Wellcome Collection in London for the permanent exhibition, *Medicine Now*. This unique text is featured on a pedestal beneath a looped video that includes all these images moving at one-second intervals.

In one way, this work of art is a performance because for Harrison the work is contingent on her physical participation and she is using her body as a medium to create the work. She uses this process as a commentary on the expectations of women in society, the debate of body image, and how individuals have turned to digital media to capture every moment in their lives and share their stories on new outlets such as Facebook and Twitter. These movements of consumption are carefully recorded and archived and the dissemination of big data is filtered through the mechanical process of reproduced digital media via her text and video. Through these methods, the viewer can experience the work in binary fashion and access Harrison's work in a contradictory approach of distance and proximity because of her use of digital media.

This paper will look at Harrison's career and background and begin with a screening of her short video which is accessible online. Following this screening, the conversation will consider *Eat 22* as a discussion of obsession, narcissism and feminism, contextualize Harrison with artists including Yayoi Kusama, Tracey Emin and Nan Goldin, and refer to other works including *Confessions of a Recovering Data Collector* (2009). Harrison's dialogue with the viewer concludes with the division between public and private spaces and an assessment on how effective new media aids communication in the 21st Century.

Jana Wedekind

insidAR - Augmenting physical works of a museum/gallery with digital information

Previous conference sessions have presented various approaches to achieve more user engagement outside the museum context, for example through collaborative picture tagging. There are, however, great possibilities using new media to include the visitors of an exhibition space more actively as well. In this paper we would like to present insidAR, a solution for augmenting physical works of a museum/gallery with digital information.

insidAR, the name connects the words insider and augmented reality; the service is supposed to reveal insider information to the exhibition's visitors and thereby develop a deeper understanding of the objects displayed and engage them in an active discussion about art. Augmented reality is a term that refers to the expansion of physical objects by computer-generated input such as audio, video, images or GPS data. In this way, insidAR supports curators to address the growing number of smartphone users and creates engagement between the exhibition space and its audience. This directly relates to this year's conference theme of "Display: Consume: Respond – Digital Engagement with Art".

Visitors are encouraged to share their own experience with a certain digitally connected exhibit or space through comments, photos, sounds or videos related, which they can upload using insidAR. This effectively enables a crowdsourced storytelling environment for the museum visit. Other visitors can explore the personal experiences of other users, rate the more interesting bits and virtually connect with the narratives of others. Naturally, the curated material will be clearly marked from the user generated content. After the visit, users can opt to receive a virtual package containing the entire digital story that they created from the collection shown. In this way the visit becomes much more memorable and creates engagement with the exhibits and their location even after the visit is over. In addition to this, there is also the possibility to create dynamic tours that combine navigation, information provision and entertainment, or virtual exhibitions for a selected collection.

The proposed approach uses technology for displaying, consuming and responding to art through an ecosystem approach where managing content, geo-localising it, constructing virtual exhibitions, publishing collections and actively involving users are an integral part. insidAR is based on ON:meedi:a, a service-oriented framework that can be easily customized to cover all necessary steps.

Madeleine Pearce

'Fair was the web, and nobly wrought': Digital curation and the Pre-Raphaelites

In the last decade several significant online archives and resources have emerged surrounding the Pre-Raphaelites and their circle, such as the Rossetti Archive (http://www.rossettiarchive.org/), BMAG's Pre-Raphaelite Online Resource (http://www.preraphaelites.org/about-this-site/) and Ruskin's Drawing Collection at Oxford (http://ruskin.ashmolean.org/). In this same period, many Pre-Raphaelite scholars and authors are using social media and online resources to further their research and connect with the audiences for their work.

Through interviews with bloggers, authors, curators, archivists and academics, a real-life snapshot of how Pre-Raphaelite resources online are being utilized and created can emerge for analysis. This sample will provide a view of current trends and will demonstrate digital curation issues these professionals are experiencing. Areas of overlap between disciplines and new ways of working will become clear through their experiences and descriptions of their academic lives. It will also address perceptions surrounding online resources in terms of their usability, integrity and academic value. Grey areas of ownership of ideas and imagery being explored through movements such as Creative Commons will show how rapid technological changes have also impacted them.

This paper will aim to show how the act of digital curation has brought together these professionals in a new way, allowing for a collaborative and iterative process across disciplines. It will explain how this new curatorial focus has drastically improved the ability to disseminate Pre-Raphaelite art across the globe and facilitate a richer, more contextualized experience for users. Usage of metadata, reciprocal linking and carefully planned presentation and indexing of digital assets by institutions and individuals has rapidly transformed how research can be conducted. It has led to previously unimaginable relevancy in the searching and comparing of artworks, texts, preparatory works and personal correspondence from members of the Pre-Raphaelite circle.

The wealth of enhanced scholarship gathered through active engagement and contributions will ensure Pre-Raphaelite art will not only survive, but also thrive for future generations.

Deborah Maxwell and Mel Woods

Encouraging Reflexivity in Mobile Interactions

In this fast moving world of mobile technology responsiveness and instantaneity are key. Mobile Internet devices have become an integral part of everyday life, and smartphones now provide ubiquitous information access to help people stay connected to work, home and leisure. The term mobile computing is often used to describe activities performed on these 'ever present, always on' devices, and a culture has developed where users and devices utilise and optimise snippets of 'in-between' time. Here, information access and digital reading experiences shift towards hyper-current, 24hr, bite size consumption, aided by social media, and mobile software and services have evolved to support this.

Critically however, mobile devices are *mobile*. Advances in display technology and sensors enable richer, more embodied interactions not only with the devices themselves but also with nearby surroundings. However, there is an inherent tension in shifting a user's focus between 'online' and 'offline' cognitive states. There is, we argue, an emergent trend towards 'slowing down' across all walks of life, which is characterised by the slow movements in cities (e.g. Cittaslow), food production, communities, and trade, in a bid to move away from materialism towards reflection, personal growth and satisfaction. Connected to these movements, the slowing down of mobile and situated digital experiences is a less developed but nevertheless growing undercurrent, relevant to creative practices, and cultural heritage and education sectors, amongst others.

How then can mobile technology overcome these challenges and harness positive affordances to encourage a deeper sense of engagement, one that supports human perceptual and cognitive skills in situ? How can meaningful cognitive connections be maintained between digital and physical spaces, without the user experiencing an abrupt disconnect between the two spheres? Bolter & Grusin's [1999] 'double logic of remediation' argues that digital media paradoxically seeks to provide such immersion with the content, that the medium itself (in this case smartphones) 'disappear[s] from the user's consciousness', which may mitigate this disconnect.

This paper outlines the issues encountered when bridging the gap between digital and physical spaces by reference to real world examples, and explores the tensions between the need for reflective 'offline' thought and user expectations for real-time system responsiveness. Examples of case studies include the Rock Art Mobile Project (Newcastle University), Serendipitor iPhone app, Blast Theory's 'A Machine To See With' and a prototype space for Serendipity, SerenA, which is under development at University of Dundee.

Deborah Maxwell, Mel Woods, Jamie Shek

The Digital Quill: Inspiring Creativity through Design

The recent information revolution has transformed many facets of our lives in the move from analogue to digital. Word processing is no exception; paper has been replaced with a screen and hard drive, and the pen replaced by mouse and keyboard. The mainstream deployment of touchscreen technology found in the emerging stream of mobile tablet and notebook technologies now provides opportunities to rethink the physical process of writing in

digital form. Some of the earliest records of writing have been found on tablets, and although Cuneiforms were clay based surfaces from the Bronze Age, they have a conceptual link to today's digital counterparts, however even this early civilization did not use digits to inscribe and draw, but rather a stylus formed from a blunt reed.

Touchscreen devices enable a previously unimagined range of interaction techniques, and the combination of gestures performed by digits could be considered more instinctive or natural. However, 'finger painting' presents challenges when used for writing and drawing on tablet devices. Affordances, such as accuracy, dexterity and aesthetics are important factors, but the relationship between the user and stylus goes beyond ergonomics towards the sensory. Increasing download statistics suggest widespread adoption of digital drawing, diary, and sketchbook applications, such as 'Paper' by FiftyThree. It is therefore timely to consider the continuing co-development of technologies and tools and envisage the role and design of the digital stylus.

The Digital Quill project explores the user experience of a bespoke, unconventional stylus, which aims to inspire creativity by situating the user in a playful and delightful mind-set; a place where many creative and innovative ideas begin. It asks whether the user experience, specifically in creative and drawing applications, can be enhanced through the use of a stylus for touchscreen devices. Furthermore, it considers what the benefits might be of a bespoke stylus, when applied to digital sketchbook and drawing applications.

This paper will demonstrate and discuss the iterative development and early testing of the Digital Quill, a range of goose feather quill prototypes. For example, an early prototype required the user to dip the quill in an 'ink pot' to induce conductivity, thereby allowing the stylus to function, replicating the experience of an old fashioned writing quill. A series of short, informal workshops with artists and designers explored the effectiveness of varying digital quills against conventional styluses and the human digit, specifically eliciting participants' emotional and drawing responses.

Ashley Wheat

Using Digital Technology to Enhance and Enrich Visitor Experience in Exhibition Spaces

Museums, art galleries and exhibitions play an important role in the discovery of knowledge, information and learning as well as places where we can indulge in art and culture. In a modern world where ubiquitous and pervasive computing is commonplace, and digital technology is interweaved in all aspects of our lives, these institutions can be left behind relying on old methods of delivering information such as printed brochures and pre-recorded audio guides.

In a research and development project carried out at Middlesex University in 2011/12 a new mobile system for museums and art galleries was developed and tested in a live exhibition with real visitors. The system, namely Mimir consists of two elements; a client side smartphone application employs context-aware technology, allowing users to capture a quick-response (QR) code situated near an exhibit to access dynamic, media rich information about it. A remotely accessed content management system allows exhibitors to upload their own exhibit information, videos, images and audio to the system dynamically, which can then be accessed by exhibition visitors.

The system project aimed to provide an alternative to traditional methods of information delivery, providing a more engaging experience for museum and gallery visitors. User testing was carried out in two separate studies at Middlesex University, the first in an exhibition of student's work where they were asked to upload content to the content management system and make use of the smartphone application in the live show. A second study took a group of volunteers who used the system in an exhibition. Data was collected from both studies resulting in a successful adoption of the concept, and an improved user experience. Using these evaluation results alongside a review of literature from previous related projects, the project concluded that the use of digital technology, and systems such as Mimir could be used in significantly improving the experience of visitors to exhibition spaces, and provided a number of implications for future work.

Further development of the project proposes a system that can be used in exhibition spaces to assist in the learning and discovery of information, building a more immersive and engaging exhibition environment with focus on the social experience of an exhibition visit, encouraging conversation and interaction between visitors, put simply: getting people talking about what's on display.

Ruth Alexandra Moran

User-Interface-Art

The advent of digital technologies in the twentieth century transformed media culture. Their increasing presence in audiovisual arts practice in this century has democratised its processes of production, distribution and access, and has correspondingly yielded an independent movement in digital audiovisuality that has proliferated on video-streaming websites and within online creative communities. This comprehensive democratisation has freed the audiovisual practitioner from the commercial concerns that typically govern industrial audiovisual practices, fostering a creative freedom that characterises digital audiovisuality. This paper focuses on a particular aspect of this burgeoning practice whose distinct audiovisual aesthetics overtly reflect its technological context, as they have been stimulated by the various processes of human-computer interaction that increasingly define contemporary culture. I define aesthetics as the convergence of the sensuous construction and conceptual drives of creative practice as they relate to the cultural and technological context from within which they emerge. By exploring the aesthetics of three exemplary audiovisual texts I show how the artists' familiarity with the technological interfaces and devices that pervade contemporary culture has engendered their innovative approaches to audiovisual aesthetics. I examine *zZz | Grip* (2007) by Ivo de Jongh and Roel Wouters, *Moonwalk* (2008) by Martin Kohout and *Noteboek* (2008) by Evelien Lohbeck in order to illustrate how the connections that their aesthetics manifest between art, interface design, usability and user experience, speak to the pervasive presence of digital technology in contemporary culture. The digital interfaces and devices that have inspired the construction of these distinct aesthetics reflect the recent developments in digital technology that have changed the ways in which we engage with art, particularly through the internet. As digital means of access have had a profound effect on how we consume and respond to art, so our interaction with art through such means have engendered technologically influenced art forms.

Alice Watterson, Aaron Watson and Kieran Baxter
Visualising Neolithic Orkney: digital dwelling at Skara Brae

In the field of archaeological illustration (digital or otherwise) the 'reconstruction' of a site or landscape has often been the culmination of archaeological practice, rather than situated alongside the research process. Might archaeologists engage with visualisation as an integral part of interpretation?

This paper will discuss an interdisciplinary project to create a narrative visualisation of the Neolithic settlement of Skara Brae in Orkney. This brings together three visualisation specialists who work with very different methods and mediums, and will consider how our engagement and understanding developed over the course of the work:

- Alice Watterson works with a variety of digital media, most recently working with laser scan datasets to produce photorealistic visualisations of archaeological sites using 3D modeling and animation.

- Aaron Watson explores conceptual and experiential approaches to the depicting people and places, often integrating creative and abstract visual elements.

- Kieran Baxter uses systematic means to depict archaeological sites from a more structural perspective using a combination of kite aerial photography and photogrammetry.

Our collective concern is with the process by which visualisations are formulated, from the interrogation of the archaeological record through to the production of images and animations. While technology is advancing, our theoretical understanding of the value and application of visualisation within archaeology is not. Data capture through technologies such as photography and laser scanning can even serve to distance the fieldworker from interpretation, as their interactions become mediated through methods and machines.

Visualising Neolithic Orkney converges data collection with dwelling. By combining site visits with laser scanning, photogrammetry, kite photography, film, painting and drawing we hope to generate a unique and dynamic visual interpretation of Skara Brae. Ultimately, could this offer a means by which we can move beyond disembodied digital perspectives when recording and picturing the past in the present?

Margarita Benitez and Markus Vogl
The use of custom co-configurators, open source development and content creators in our (//benitez_vogl) collaborative praxis

Margarita Benitez and Markus Vogl work within a collaborative art praxis called //benitez_vogl. //benitez_vogl concentrates on open source projects such as the development of the open source loom, interactive installations and applications and co-configuration tools. For this particular paper we propose a brief breakdown on how our collaborations' work and to inform about 3 of our current projects: OSLOOM, S.A.R.A. and Coded Fashion.

OSLOOM – open source loom

OSLOOM (short for OPEN SOURCE LOOM) is a project aimed at creating an open source electromechanical thread-controlled floor loom that will be computer controlled. Jacquard looms allow for the individual control of each thread, which in turn allows for photographic imagery to be woven. Jacquard looms like this exist commercially but they are very expensive (upwards of $30,000) which puts them out of reach for individuals and small educational facilities. The OSLOOM project is aimed at producing the loom at a more affordable cost and potentially truly revolutionizes what the studio weaver could accomplish. The OSLOOM project website gives more insight on the project: http://osloom.org/

S.A.R.A. – synesthetic augmented reality application

S.A.R.A. is an interactive software application (App) written for mobile computing devices, such as the iPhone or Android phones. S.A.R.A. will be a fully interactive application that creates its own sounds and visuals based on the camera recorded video input. The app will be available for download at no cost under Creative Commons agreements.

Coded Fashion

Coded ;; Fashion is a project at the intersection of new media and fashion design. It investigates the role of the designer and consumer and how these roles can be intertwined through interactive coding experiences. Coded :: Fashion is a series of computer applications that manipulate imagery and prepares files for prêt-à-faire (ready to make). The first application takes an image from a camera (external webcam or built-in) and manipulates the input imagery based on the computer code. The software outputs a vector pdf file that is inserted into a custom pattern and can be loaded into a lasercutter to be cut. The lasercut pattern pieces are then sewn into a unique garment. There also is an option to choose to get the lasercut pattern pieces pre-sewn to add another level of interaction with the production of the garment.

Alessandra von Aesch, Nicholas Badcott, Shelley Mannion, Will Robinson

Exploring new models for mobile learning in museums

Education activities in art museums often focus on the formal qualities of artworks that students are asked to observe. What happens when we move away from these formal qualities and focus on experiences that represent the context around the works? Emphasising experience is especially relevant for exhibitions of religious art, where the value of objects is largely determined by how they are used and who uses them rather than what they look like. This paper explores the challenges faced by the British Museum's education team in designing a mobile learning application for secondary school students for the recent temporary exhibition, Hajj: Journey to the Heart of Islam.

The application, which launched in January 2011, took a different approach from traditional audio and multimedia guides which deliver interpretive content in a predictable uni-directional format. Each "stop" or activity was unique and designed to stimulate interaction and participation by encouraging students to empathise with and follow the experiences of Hajj pilgrims. The newest features of smart phones were used to reinvent worksheet tasks such as multiple choice questions and drawing. Some activities employed completely new styles of interaction made possible by the devices. These included touch and gesture for simulating religious rituals on the screen, and tools for participation like voice recordings and photography. Tawaf, for example, the first ritual of Hajj in which pilgrims circumambulate the Ka'ba, was explored through circular motions on the screen.

Our paper will explain the design of the activities and the new styles of interaction they included. It will present the results of evaluation with students and teachers which assessed learning outcomes in terms of experience and engagement rather than factual knowledge and information. Early analysis indicates the application successfully encouraged participation and generated lively discussions among students around serious topics. Although some features of smart devices are seen as gimmicks, when used appropriately they can be used to generate meaningful learning interactions around artworks and diversify the way we teach religious education through objects. This development is an important step towards a new model for mobile learning in museums.