

CCA:



THE ARCHIVING AND PRESERVATION OF BORN-DIGITAL ART WORKSHOP

Introduction

Digital artworks are often described as processural, temporary, virtual, interactive, participatory, live, or site-specific. The digital formats, of which they are composed, are characterized as ephemeral, unstable, or variable. As such, they are taken to pose numerous challenges to the collecting, classificatory, documentation and preservation practices typical to the traditional art world. Indeed, for a period of time, arts institutions and museums demurred over their collection, and, consequently, issues relating to the preservation of artworks comprising digital media have been slow to gain momentum and attention.

Yet, as curator Steve Dietz suggested in 2000, there will be a 'huge lacuna in our cultural memory, if we don't try to save some kind of representation of this tremendously fertile and important moment' [Dietz, 2000]. Such an imperative as Dietz puts forward has, in the main, motivated the efforts of a range of artistic, academic and museum contexts in the US, Europe and in Australia to formally engage in the collecting, documenting, and archiving of digital artworks and projects in a broad range of manifestations. They have done so with the specific intent of recording and preserving longer-term access to them and information about them for the future. Those efforts have led to the creation of numerous international projects and networks such 'Archiving the Avant-garde', the 'Variable Media Network' and 'PANIC' (Preservation webservices Architecture for Newmedia and Interactive Collections), which are conducting research that seeks to define strategies for, and best practice with regard, to the documentation and preservation of new media and, specifically, digital artworks.

ERPANET, in association with the Centre for Contemporary Arts in Glasgow, has invited speakers from European arts organizations and academic contexts, as well as artists and curators based in Britain to present on a range of issues regarding the documenting, archiving, collecting and preservation of digital artworks. The key aim of the workshop is to initiate wider discussion within the artistic, academic, museums and visual resources communities in Britain specifically with regard to those issues, and to invite them to contribute their own experiences, levels of ambition and viewpoints in relation to them. For the majority of public collections in the UK for

instance, the acquisition of born-digital artworks remains tentative at best and highly selective, and no one institution has so far sought to acquire a digital artwork with a network dependency. The workshop, vitally, provides the first invitation for representatives from a selection of European-based organisations and projects to disseminate their policies, approaches, research, and case studies within in the UK.

Statement of task

The purpose of this workshop is to

- Initiate wider discussion within the in Britain specifically with regard to the archiving, and the collecting and preservation of digital artworks.
- Disseminate selected policies, approaches, research, and case-studies developed by organisations and projects based in Europe with regard to the documenting, archiving, collecting and preservation of digital artworks to workshop participants drawn from the artistic, academic, museums and archives communities in Britain.
- Provide a networking opportunity for workshop participants drawn from the artistic, academic, museums and visual resources communities in Britain to meet with European counterparts.
- Publish a report, prepared by ERPANET, that summarizes selected approaches and practices, established and emerging, relating to the collection, documentation and preservation of digital artworks within artistic, academic, museums and visual resources communities in Europe and Britain.

Born-Digital Art

Digital technologies are a ubiquitous presence in contemporary art practice. Artists, (as well as the arts institutions, organizations and venues that support them) employ them in the production of artworks through to their presentation and preservation. Christiane Paul notes that digital art provides something of an umbrella for a broad range of artistic works and practices, and is itself situated within a wider notion of new media practices.

Paul makes a crucial distinction between contemporary artists who use digital technologies as a *tool* within the scope of their wider practice, and those that use it as their *medium*. The former may utilize them in support of analogue technologies such as video and film, or incorporate a digital component within a multi-media installation. The latter typically explore, extend, harness, or critique their inherent properties, conventions, contents, contexts and politics of use, and potentials for interaction and participation.

This workshop focuses on born-digital artworks, which it takes to be those that are created, displayed, experienced and stored using digital formats, programmes, equipment and interfaces.

They may take the form of a networked or 'stand-alone' installation; a digital environment; a website or web-broadcast; a hypertext story; custom software; a

computer game; or an attachment to an email. Frequently, they are context-specific, or temporary in their realization. Typically, they will be subject to variability and change in terms of content, context and constitution - through the manipulation or interaction of a user; content modifications or updates by the author/s; but also by the on-going upgrades and developments in digital media.

Contexts currently documenting, archiving and collecting digital art forms

Those contexts formally engaging in collecting, documenting, and archiving digital artworks and projects include new media centres such as ZKM (Karlsruhe, Germany); organizations like Rhizome.org (New York, US) and V2 in Rotterdam; academic/research projects such as the Database of Virtual Art (Humboldt University, Berlin); and larger museum institutions such as the Guggenheim (New York, US), Berkeley Art Museum (California, US) and the Walker Art Gallery (Minneapolis, US). Some have collecting remits, or are developing them. Other organizations, such as V2 in Rotterdam, have no collecting remit. They, like other new media agencies, are responsible for the form, management and accessibility of their own archive, which comprises projects that they have co-developed with artists.

In the main, those contexts that are 'acquisitive' - that assemble 'actual' works and/or collect descriptive, technical information and documentation relating to them - take three forms:

The on-line, artist-driven database or archive collection.

Those such as the Database of Virtual Art and Rhizome's ArtBase act as information resources and web-based showcases for media art. They additionally provide means for artists to document on-line projects, software art, games, and new media performances and installations. The Database of Virtual Art provides a documentation system that focuses on recording information about the technical requirements, installation settings, blueprints, software-hardware configurations, interface and display information relating to digital and new media artworks. In addition the Database records biographical and bibliographical information about the artist, references and literature about the artists, audio documents, interviews, work and lists of exhibitions (title, date location, funding), and digital image documents (in various formats, JPG, GIF, TIF, etc).

In 2003, Alena Williams estimated that Rhizome's ArtBase contained over 650 'art objects', a term it uses to refer to the collection of stored metadata, such as keywords and technical information that relate to a given artwork. Approximately 10 new objects are added each week. They classify those objects as either "linked" or "cloned." Linked objects include the artist's statement and bio, a description of the artwork, a thumbnail image, keywords and other indexing information, and a link to the artwork (in the form of a URL). Cloned objects include all the above metadata, in addition to an archival copy of the artwork that is stored on the Rhizome server. In a

recent white paper, Rhizome has suggested that it may consult conventional museum acquisitions policies to inform its on-going collecting activities.

Other on-line 'repositories' are emerging. Runme.org is one such, constituting an open, moderated database to which people are welcome to submit projects they consider to be interesting examples of software art, and which was launched in January 2003.

The 'study' collection.

The Walker Art Gallery in Minneapolis has a discrete, online digital arts study collection, initiated by former curator Steve Dietz. It is accessible through its website, and hosts numerous of the works which it commissioned from artists for its virtual space 'Gallery9'. It also provided the umbrella under which Dietz undertook responsibility to keep the äda'web site originated by Benjamin Weil, and the numerous projects it contained, accessible and active. He also added to the collection another project by Sawad Brooks and Beth Stryker, which was first shown at the Wexner Center and which they could not maintain themselves. As Dietz suggested in 2000, 'it's sort of an in-between collection. Rather than go through the issue of "Is this project by John Simon as good as the work in our collection by Jenny Holzer or Bruce Nauman?" and getting into a debate early on about quality – "Is it good enough?" -- we created a digital art study collection. The collection is really in-between creating a collection of art objects and a context for those art objects. It's a hybrid collection.'

There is also ZKM's Media Library's collection, which consists of several kinds of information media and known as the Mediathek. Its aims are to secure, preserve, develop and make available audiovisual media and materials as an important cultural resource for the interested public. It participates in the Network of Multimedia Resource Centres, which links 27 important archives, libraries, document centres, museums and research facilities in various locations

The permanent collection.

In the US, the Guggenheim Museum and Berkeley Art Museum, and ZKM in Germany, for example, have accessioned web-based works or 'network-dependent' multimedia installations into their physical collections, as an extension of their commitment to represent new media practices more broadly. As Jon Ippolito has stated in his '10 Myths about Internet Art' for example, 'the Guggenheim is bringing a particularly long-term vision to collecting online art, acquiring commissions directly into its permanent collection alongside painting and sculpture rather than into ancillary special Internet art collections as other museums have done.' Ippolito had to negotiate tailor made terms by which to accession Mark Napier's 'Net Flag'. As he revealed recently, 'the trustees of the Guggenheim (or whatever museum) typically seem to require some kind of exclusivity. That is what museums imagine, based on this older model. (..) Mark Napier wanted to make sure that his web site is always accessible. So that if the Guggenheim would have to, say, pull the plug for some technical or technical reasons, he could re-host it back on his site. This is something which is successfully worked into the contract.'

The documentation and preservation issues those contexts face

Digital artworks, and media artworks more broadly, have, as Richard Reinhart has recently suggested, confounded

traditional approaches to documentation and preservation because of their ephemeral, documentary, technical, and multi-part nature and because of the variability and rapid obsolescence of the media formats often used in such works [...] In many cases these art forms were created to contradict and bypass the traditional art world's values and resulting practices. They have been successful to the point of becoming victims to their own volatile intent. Individual works of media art are moving away from all hope of becoming part of the historic record at a rapid rate. Perhaps as important, the radical intentionality encapsulated in their form is also in danger of being diluted [Reinhart, 2003].

The challenges that those contexts face not only in documenting digital artworks, but in ensuring longer-term access to, and experience of, 'actual' examples, are many. There are issues arising from the technology itself: specific hardware, software, operating systems, and browsers, upon which many digital artworks run, are threatened by obsolescence and supersession. There are also the specific and idiosyncratic ways in which individual artists employ them, and the numerous ways in which they may function within a single artwork. The interactivity of a work may need to be reasserted, or a specific context or environment might need to be recreated. For those that are 'network-dependent', that feature links to other sites or projects, or contain 'live' elements such as a chat room facility, the Internet itself is an unstable context, subject to constant change and its own potential vulnerabilities.

Such factors make the task of documenting, and preserving the longer-term accessibility of, digital artworks problematic. Steve Dietz has posed a key question that most organizations that begin to collect digital art will have to face: 'Do you change the artwork so that it fits into the existing structure, or do you think about changing the institutional structure so it can accommodate what actual artistic practice is?'

Most organisations have acknowledged that the development of documentation and preservation strategies requires collaboration with the artist. As a baseline, and where possible, those organisations consult to ensure that the intentions, techniques, and behaviours of a given artwork are fully understood. Most works require what is referred to as a 'layered' approach that involves aspects of the following strategies

- **Static preservation:** This method undertakes the preservation of a fixed record of a digital artwork, which would comprise descriptive and technical data and screenshots, but from which the functionality of the work could not be re-created.
- **Migration:** This approach entails upgrading a digital artwork's content (e.g. original files) and systems to a contemporary standard. However, the replacement and substitution of a hardware or software component will effect on the form, the

meaning and the aesthetic experience of the work in question. Hans Dieter Huber has noted that differences in factors such as clock frequencies, scanning rates and access speeds can alter a work's performance. Windows, Apple Macintosh and UNIX are the three biggest operating systems, for each of which there are a wide variety of versions that impact fundamentally on a software's appearance, form and behaviour. Specifically with net-based media art works, Internet connectivity is another crucial factor with regard to the aesthetic experience [Huber, 2003].

- **Emulation:** This strategy involves writing a new piece of software for a future computer that causes that computer to mimic, or 'emulate' all of the hardware behaviour of an earlier computer. As Richard Reinhart has suggested, 'if one wanted to run a piece of software from 1999 on a computer in 2050, then one would write a piece of software called an 'emulator' which would cause the 2050-era computer to appear to all software as if it were a computer from 1999. Once this emulation software was in place, one could run the original software from 1999, including the operating system, the application and all the document files.' [Reinhart, 2001]
- **Reinterpretation:** Where migration and emulation are not viable options, reinterpretation may be necessary to keep a work functional. As Jon Ippolito has noted, 'In some cases, however, there is no clear industry standard to upgrade to; when hardware is replaced by a different apparatus with the same social or metaphoric function (a teletype becomes a cell phone), or when a performance is recast in a completely different time period and setting we say the artwork has been **reinterpreted**. This strategy takes the greatest liberties with the original, but also represents the most flexible approach to cultural as well as technical obsolescence.'

Networks, consortia, research initiatives and forums

The activities of those contexts and projects have come to form the basis of larger-scale initiatives or projects that are seeking to develop comprehensive, standardized preservation strategies, and for which funding national governments and organizations such as the Daniel Langlois Foundation for Art, Science and Technology in Canada have made available.

The Archiving the Avant-Garde consortium includes the University of California, Berkeley Art Museum and Pacific Film Archive; the Solomon R. Guggenheim Museum; Cleveland Performance Art Festival and Archive; Franklin Furnace Archive; and Rhizome.org. Its collaborative development, methods of dissemination, and compliance with standards such as the Open Archival Information Systems model and metadata standards will yield a strategy that is applicable across communities aside from the museums domain.

The Variable Media Network was initiated by the Guggenheim, originally as the Variable Media Initiative, as part of its efforts to preserve its world-renowned collection of conceptual, minimalist and video art, and is now supported and, co-ordinated in conjunction with, the Centre for Research and Documentation (CR+D), Daniel Langlois Foundation.

The PANIC (Preservation webservices Architecture for Newmedia and Interactive Collections) project is one of the current research activities being undertaken by the MAENAD [Multimedia Access across Enterprise, Networks and Domains] group at the Distributed Systems Technology Centre, based at the University of Queensland in Brisbane, Australia.

Capturing Unstable Media is a research project by V2_Institute for the Unstable Media, a center for art, culture and technology in Rotterdam (the Netherlands), supported by the Dutch Mondriaan Foundation

Fuller descriptions of those and other projects, which include their partners, aims and objectives, where relevant outcomes are given in the appendices.

Amongst their shared aims, those projects are working to:

- Establish metadata standards.
- Developing software tools for preserving of media objects, i.e. metadata/documentation input tools, automatic reformatting software.
- Create terms for interoperability and produce strategies that are compatible with with preservation framework standards such as Open Archival Information Systems (OAIS).
- Further assess migration and emulation as preservation strategies.
- Draw on latest research from within the Digital informatics and Digital Asset Management communities.

Useful reference documents and texts on archiving and preservation issues

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Rothenberg, Jeff, and the Council on Library and Information Research (1999), "Avoiding Technological Quicksand: Finding a Viable Technical Foundation for Digital Preservation" (1999), presenting emulation as a viable strategy, retrieved at <http://www.clir.org/pubs/reports/rothenberg/contents.html>.