

SUMMIT

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ISEA2020 SUMMIT ON NEW MEDIA ARCHIVING

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Preface

On October 16, 2020, during the ISEA2020 symposium in Montreal, Canada, a full-day networking summit takes place to discuss a multitude of issues related to archiving new media arts. The event is coordinated by representatives of the ISEA online Symposium Archives, the Archive of Digital Art, the Ars Electronica Archive, and SIGGRAPH Digital Art Show Archive. The aim of the summit is to discuss roads towards realising the Liverpool Declaration goals related to Media Art Archiving collaboration, funding and formats.

The Liverpool Declaration makes a case for the need to establish international and sustainable funding structures. This includes the development of a cooperative process of knowledge transfer between artists, institutions and researchers internationally. Through the supported alliance of art organisations, media art archives, and individuals, a system of sharing data, resources, and expertise can be established. This declaration was signed by close to 500 leading experts and institutions in the field of new and electronic media art.

The summit opens with a keynote speech by Oliver Grau, Department for Image Sciences, Donau-Universität Krems, Austria. Fifteen plenary presentations address topics related to international support, project infrastructures, new strategies, archiving technologies, documentation of artifacts, collections, preservation and new approaches to archiving new media art. Break-out sessions will allow for discussions on common concerns. The summit concludes with a moderated discussion which outlines a structured roadmap and concrete proposals.

The Liverpool Declaration: <http://www.isea-archives.org/docs/MediaArtHistoryDeclaration.pdf>

Summit Committee:

Wim van der Plas, ISEA Online Symposium Archives <http://www.isea-archives.org/>

Oliver Grau & Wendy Coones, Archive of Digital Art, <http://www.virtualart.at/nc/home.html>

Bonnie Mitchell, SIGGRAPH Digital Art Show Archives & ISEA Online Symposium Archives
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Museum Network for Digital Arts: A concerted collection, documentation, and conservation strategy

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Abstract

In the past five decades, Media Art has evolved into a critical field at the intersection of art, science and technology, however, a significant loss threatens this art form due to rapid technological obsolescence and static documentation strategies. This talk will give an outline for research, documentation and preservation of digital art by: a) developing international archive-research infrastructures, similar to those already available in the natural sciences, b) contributing to the development of infrastructures with museums, which are interested in bringing the art of our time into their collections through concerted networks of scholarly and mostly technological expertise. In this way relatively small units, museums, can also deal with the very demanding challenge. The Archive of Digital Art (ADA) www.digitalartarchive.at addresses these issues through an innovative strategy of ‘collaborative archiving’, social Web 2.0, 3.0 features foster the engagement of the international Media Art community, web 3.0 elements are integrated through a ‘bridging thesaurus’ linking the extended documentation of ADA with other ‘traditional’ art history databases to facilitate interdisciplinary and trans-historical comparative analyses. ADA informs a needed concerted museum network, to collect, exhibit and preserve digital art forms.

Keywords

Digital Art, Digital Humanities, Archive, Museum, Preservation, MediaArtHistories, Museums&democratic Problem, Image Science

Hard Humanities: Media Art Histories & Image Science

Over the last five decades, Media Art has evolved into a significant contemporary field. It encompasses art forms produced by the very digital technologies that are fundamentally revolutionizing our world as well as how we perceive and interact through images with globalization, the Internet, social networks, Web 2.0 and 3.0. Media Art can take disparate forms, and includes genres such as

genetic, database-art, animation, glitch, interactive installations, net art, telepresence, and virtual reality art.

Through the study of MediaArtHistories the most pressing socio-cultural questions of our time are investigated: artworks dealing with big themes of our time, like media and image (r)evolution, climate, finance, virtualization or surveillance. While the critical lexicons of classical art history are relatively fixed, the classifying language of Media Art is defined with dynamic terminologies that are continually in flux. Yet, despite worldwide recognition, strategies for documenting the ‘art of our times’ continue to be met with serious challenges within the memory institutions of our societies. As Media Artworks frequently have functionalities across variable media substrates, and these constituted by the latest technologies as well as characterized by a rapid obsolescence, the work of Media Artists complicate both object-oriented preservation methods as well as static indexing strategies. Consequently, artworks originating even just ten years ago can often no longer be exhibited. Although there are hundreds of festivals with tenth of thousands of participants since decades, Museums and Libraries rarely include more complex Media Art in their collections, and those that do struggle to sustain finance, expertise, and technology for the preservation of artworks through strategies such as migration, emulation, and reinterpretation. Further, that Media Artists engage the most contemporary digital technologies leads to the production of artworks that are necessarily “processual,” ephemeral, interactive, multimedia-based, and fundamentally context-dependent.

It is specifically the subject of the MediaArtHistories conference series, a biannual world conference held on various continents. A number of documentation projects have also been established over time, some continue to exist online, but they lost key researchers, funding expired, or projects terminated. Consequently recently expressed in the International Liverpool Declaration, signed by more than 450 scholars and museum heads from 40 countries, there is an urgent need to create a stable international platform of interoperable archives. Indeed, it is no exaggeration to state that we continue to be threatened with a significant loss of this critical art form, both in the archives of art history and for future scholarship [1].

Media Art (R)Evolution and the Archive of Digital Art

Since the year 2000, the Archive of Digital Art (ADA) has grown into the most complex research-oriented resources available online as a platform for both scientific information and social communication. Hundreds of leading Media Artists are represented by several 1,000 documents, with more than 3,500 articles and a survey of 750 institutions. Besides the artists, there are also more

than 250 theorists and media art historians involved in making ADA a collective archiving project.

Because of the singular structure of Media Art, the Archive of Digital Art developed an “expanded concept of documentation.” ADA’s data model includes biographical and bibliographic information about the artist, inventions, awards; exhibitions, and publications; information on software and hardware configuration; technical instructions; interface and display, as you see here; references and literature about the artists; information about the technical staff; institutions; and copyright [2].

The system offers a tool for artists and specialists to individually upload information about works, people, literature, exhibits, technologies, and inventions. Over the last fifteen years some 5,000 artists were evaluated, of which 500 fulfilled the criteria of five artworks and/or published articles to become a member of ADA. Resulting in the documentation of many of the most relevant artists of the field. In Austria we were just awarded 1,2 Mill. Euro by the federal ministry for such an infrastructure. Moreover, artists of the University for Applied Arts and the Art University Linz will develop new and accessible entries to the archive. Also, ADA began 20 years ago at the Humboldt University can and will function as an information pool for the pending task in Germany.

Documenting Media Art: Implementing 2.0 3.0 Features

For the Archive of Digital Art, the first online collaborative archive that is both scholarly and social in either art history or media studies, documentation is understood as a process that integrates a continuous exchange between users, scholars and artists. An essential aspect of its *Interactive Archive and Meta-Thesaurus for Media Art Research* project (AT.MAR) was thus to transfer ADA into a Web 2.0 environment. The database was opened up on the ‘retrieval-side’ by making data available and easier to share for users, and on the ‘archivist-side’ by allowing contributions of diverse individuals in order to facilitate a collaborative and more balanced preservation practice [3]. Newly innovated ADA features support the group engagement and foster motivation. A messaging system and “News” section allow archive community members to interact with peers. Contribution monitoring and a function for colleague ‘following’ provide updates on the research and activities of other Archive members. In addition, collaborative processes of peer-reviewing and content curation integrate the community’s decision-making and agenda setting into ADA itself.

Members also engage in selecting an artist or scholar who is featured on ADA’s homepage, social media, and through web newsletters. This “Featured Artist/Scholar” introduces ADA visitors to artists and scholars distinguished by their peers; allows Archive members to commemorate achievement within the discipline or recognition within the community; and supports active participation in content direction. Additionally, ADA’s

“Light Box” feature is both scholarly and social. Promoting the comparative analysis of Media Artworks on the Archive, this tool permits community members to assemble individual arrangements from the extended documentation. These “Selected Items” can then ‘enlarge’ and ‘overlap’ so that relevant image details can be compared and analyzed.

Indexing Media Art: The Bridging Thesaurus

Keywording is bridge building! Important innovations such as, ‘interface’ or, ‘genetic art’ were considered along with keywords that play a role in traditional arts—such as ‘body’ or ‘landscape’—with a bridge-building function. For the ‘bridging thesaurus’ of the FWF funded AT.MAR project it is the intent to establish a framework that allows for the classification of the aesthetics, subjects and technologies of artworks. New Keywords are empirically selected to achieve a comprehensive overview of the knowledge domain of Media Art, but also a manageable one, this vocabulary is limited to around 250 terms [4]. In relation to other vocabularies, ADA “Keywords” have a unique hierarchical schema based on a categorical triad of ‘aesthetics’, ‘subject’, and ‘technology’. This top-down distinction of categories allows for the contextual specification of vocabulary as well as for the conceptual analysis of these levels by users: Aesthetics: ranges from phenomenological observations such as ‘immaterial’ to ontological qualities such as ‘site-specific’ and ‘object-oriented’. Subject: The ‘subject’ category encompasses iconographic terms established in art history and Media Art Histories, in subcategories like: ‘Body and Human’, ‘Magic and Phantastic’, ‘Nature and Environment’, ‘Technology and Innovation’, ‘Power and Politics’, ‘Psychology and Emotion’. And there is a ‘Technology’ section as well. The resources of terms and concepts used in the development of AT.MAR define the very foundation of this controlled vocabulary. They include (1) ‘traditional’ art history iconographical terms from the Getty Art and Architecture Thesaurus (AAT) and the Warburg-Index, as well as (2) Media Art databases, like GAMA, Langlois Foundation and Netzspannung and festivals, like Ars Electronica; FILE, ISEA; Transmediale and (3) several thousand titles of research literature.

Future Media Art Research: The Göttweig Collection

A second main step of contextualizing media art can be done based on an internationally unique situation, combined with the 45,000 prints of the Göttweig Collection. ADA thus has an important art historic collection in highest resolution emphasizing Renaissance and Baroque works on its side—representing a library of 150,000 volumes going back to the 9th century, like the Sankt Gallen Codex. The Göttweig collection is effectively an index of Renaissance and Baroque visual knowledge. Abbot Bessel (1672-1749) sent his agents over Europe to

buy 30,000 prints in less than 10 years—a visual encyclopedia of almost all available knowledge of the time—a unique attempt to collect the world—here you see image collection plus *Wunderkammer*. ADA strives to achieve the goal of a deeper mediaarthistorical cross-pollination. This context will be explored deeper through the “Thesaurus Bridge.” Just as the MediaArtHistories conference series bridges a gap, the combination of the two and additional databases offers further historic references and impulses. The collection also documents subjects from the ‘representation of knowledge’ and ‘history of science, like the history of optical image media, intercultural concepts, caricatures, illustrations of landscapes in panoramic illustrations. For the future, this may provide resources for a broader analysis of media art.

Thesaurus keywords, navigable as “Hierarchical,” “Alphabetical,” and “As Cloud,” stimulate users to bridge the ‘traditional’ artworks and the Media Art of ADA, providing complex image resources for a richer analysis of Media Art.

The collective Archive of Digital Art counts many Digital Art Installations, and it is important to contextualize them within media art histories, for example the one of immersion. We also have to consider the histories of artificial life, telematics, panoramas of phantasmagoric imagery, automata, etc. There are hundreds of historic traditions and given that there is a common ground with media art history collections, we might better decipher what we need to collect and to preserve digital art in our memory institutions, and also to understand what is really new in digital media art and in (hard) humanities.

For a concerted Museum-Network of Digital Art

The worldwide museum community is more than 55,000 institutions strong. The US has more than 17,000 alone, Japan 5,700, and Germany 6,300, Canada hundreds with flagship institutions like the Musée d’art contemporain de Montréal in Stockholm... It may seem that this infrastructure in all its diversity and history is such a mighty monolith that drastic change would be difficult to imagine. However, the digital age enters with force and alters that status quo. It comes with new tools to present, collect, access (cultural artefacts), connect, explore, analyze, manage, and visualize data. It comes with its own digital-born arts and cultures, which have their own history of more than five decades. Digital arts and cultures play a role in 200 biennials around the world and in more than 100 specialized festivals. However, digital art is not collected systematically in a concerted strategy by museums, because the basic structures of the 240-year-old institution date back to a time when different artistic media prevailed. That is why we as citizens are facing a massive problem in terms of democratic discourse via art. Although in Europe or Canada most museums are financed by our taxes, they can’t fulfil their official tasks in the range of digital

contemporary art. A systematic preservation requires the cooperation of museums and libraries into specifically funded working groups and expertise networks.

The museum setting in our contemporary world has diversified not only due to the digital revolution that has come to permeate global culture and interaction, but also due to many other non-digital transitions that have come about alongside or due to digital developments. Digital technology has introduced new multifarious ways of expression that change the nature of the object to be collected, as well and changing the expressive methods available for displaying and archiving collections. These new objects and the techniques used to preserve and interpret them embrace interactivity, make use of linear and non-linear structures equally, and encourage new methods and ever-deepening degrees of participation.

Empirical investigation shows that although Digital Art deals with thematic clusters of high political relevance for our democracies, including: climate change, genetic engineering, new extremes of surveillance, virtual financial economics, migration as well as the image and media (r-)evolution, this art form of our time has not been introduced to our permanent collections so far. It will be completely lost if there are no modifications in cultural collecting policies around the world.

The importance and urgency of the preservation of the digital cultural heritage was articulated in the Liverpool Declaration for digital art and in the UNESCO Charter on the Preservation of Digital Heritage for Digital Culture. ICOM is working on an appropriate definition which will be decided in Australia this year. However, we continue to be almost completely detached from reflections on our time based on its arts -- this seems to happen unintentionally as a form of system failure. In societies whose art system is largely tax-funded, such as in Europe, we are simultaneously facing a civic democracy problem.

One strategy to enable the museum to fulfill its duties in a globalized and networked democratic society would be the establishment of a concerted Museum-Network of Expertise and Preservation. Although in Europe most museums are financed by our taxes, they can't fulfil their official tasks in the range of digital contemporary art. A concerted collection policy would be located over the level of a single museum, and this meeting is a glimpse of such a development to overcome single institutional limitations to protect 21th century art, endangered by a lack of personal, budgetary and technical restraints. A regional or nationwide network of expertise could help to preserve digital art with the systematic help of main strategies developed in case studies, strategies such as emulation, recreation and interpretation. However, it depends on the will of those who are responsible for cultural policies. Federal structures in Germany, Austria and other countries could help through a practice of shared responsibilities. If only 5% from Germanys 700 Museums dedicated to Art would participate in a cross-federalized framework, Bavaria for example could—say with 5 Museums—be

responsible for the preservation of— interactive Installations and build up adequate expertise, Saxony for Bio Art, Brandenburg for net art and so forth. This alliance could be informed by ADA Networks, ZKM, Ars Electronica and in Switzerland by HEK etc. We could help to protect not all but the most important digital Art works and bring them into public discourse. This is a big task, but just one challenge in the wide range of digital strategies for the transforming Institution Museum.

In this mode, a museum in Frankfurt, for example, can rely on the expertise of the museums in Bavaria if it wants to buy an interactive installation or only exhibit it for a while. Conversely, the Bavarian museums would be able to count on Hesse for NetArt. The conservation service can barely be measured in comparison with the restoration of traditional art forms and could lead to the creation of specialized StartUp companies and also offer the necessary services to collectors of digital art and thus alleviate this art's breakthrough in private collections.

At the same time we know that there are countless studies on the conservation of digital art: EU research projects, museum research by for example TATE, Guggenheim, SFMoma, ZKM; many colleagues here have conducted basic research - Netherlands Institute for Media Art, Department for Image Science with its Erasmus Joint Master MediaArtsCultures, studies in France, Australia, Poland, Brazil, Canada and many more. In the coming months it is necessary to bring together the technical art genres and their main works with the conservation studies that were developed in the last decades in a single information pool in order to prepare a concerted policy for the museums. A large part of the conservation research, listed here as examples, was or is being conducted in individual studies. It is now necessary to form a museum network of digital art and to support the political decision makers. A national, coordinated strategy for the long-term preservation that also includes the important stakeholders is pending. Due to the complexity of the task, a concerted collection policy must begin above the level of the individual houses.

Approved procedures for the preservation of digital technologies, interactive installations and other elements of the digital arts have already been developed. Digital art and its storage media have caught our archive systems unaware, so to speak: Although methods for the long-term preservation, such as emulation, migration, and recreation do exist, they are not implemented within a concerted-networked collection policy that our federal museum system for the classical modern or post-war art realized in an exemplary manner. The establishment of a competence network one level above the level of the small-scale museums has not yet been set into place. Not even the three to six percent of the art works that according to estimates have survived from the art of earlier centuries can be

preserved -- this does not even represent the most important works of artists exhibited worldwide. If we do not do anything now, we will lose the entire digital art of the present day -- a tabula rasa that is quite comparable to that of iconoclasm and war losses.

Historically *Wunderkammer* and *studiolo* were places of play, where the practice of *ars combinatoria* created something new each viewing by recombination, chance, or instant linkage and inspiration. Creative process and knowledge production essentially were driven by comparison and (inter-)active combination. Today, the active component, which was later restricted by the object-oriented museum, is re-entering the digital Museum and Archive. In the current setting of digital media and the enveloping windowless dark space, which functions again now as a precondition and enforcement for a digital *ars combinatoria*, digital artworks, object representations, and clusters of image worlds can now be partly experienced interactively, influenced by the audience and recombinied.

The massive developments in digital-born media art and popular culture have been growing exponentially for decades now. Consequently, this requires that among the thousands of existing museums for traditional art media, a significant percentage of Museums and Archives must be dedicated to fulfil their fundamental functions to collect, preserve, explore, mediate, and taxonomize the digital cultures of the last decades.

Media Art also requires the owners of soft- and hardware companies, of new social networks who are in a position and responsible to help museums to preserve art on the technology that made them rich. We need an appropriate structure to preserve at least the usual one to six per cent of present media art production, the best works.

To achieve this, we need a concerted policy of collection and preservation on a much larger scale, appropriate to serve digital culture of the 21st century. If we compare the worldwide available budget to preserve and explore traditional art forms compared to electronic art forms, then we understand how inadequate the support for our present digital culture is; it is almost statistically immeasurable. The faster this essential modification to our cultural heritage record can be carried out, the smaller the gap in the cultural memory; shedding light on the dark years, which started about 1960 and lasts until now. Only when we develop systematic and concerted strategies of collecting, preservation and research we will be able to fulfill the task which digital culture demands in the 21st Century.

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Authors Biographies

Prof. Dr. habil. Dr hc Oliver Grau, MAE was appointed first Chair Professor for Image Science in the German speaking countries at the Danube

University in 2005 and has held more than 350 lectures and keynotes at conferences worldwide. Grau's publication "Virtual Art", MIT Press 2003 is with approx. 1800 citations internationally the most quoted art history monograph since 2000. His main research areas include histories of media art, immersive images, emotion, the history of artificial life and digital humanities. Grau conceived new scientific tools for image science developing the first international Archive for Digital Art (ADA, since 1999). Since 2005 Grau has led the development of the database of Goettweig's Graphic Print Collection, Austria's largest private collection with 30,000 works, from Duerer to Klimt. In addition, Grau has also developed new international curricula: MediaArtHistories MA, Image Science, Digital Collection Management, the EU supported Program joint master in MediaArtsCultures. Grau was the founding director and is chair of the MediaArtHistories Conference Series. 2014 he received a doctor h.c., 2015 he was elected into the Academia Europaea, 2019 received the Science Award of L. Austria.

Wendy Jo Coones, M.Ed. is a member of the academic and research staff in the Dept. for Image Science at the Danube University in Krems, Austria. Since 2005 she is responsible for curricula development, teaching, and support of research initiatives. She is MediaArtHistories Conference series Headquarters Director and Administrator for the MediaArtHistories Archive. Since 2003 she provides Institutional Coordination for the Archive of Digital Art / formerly Database of Virtual Art. In her capacity as academic lead for post-grad courses in related to digital cultural life, its histories, she prepares post-graduate students for emerging futures in the cultural and creative sectors. She is currently primary coordinating staff for an EU-funded Erasmus Mundus European Master of Excellence program in Media Arts Cultures.

Preservation Begins at Creation: Integrating an Embedded Digital Archivist Within an Academic Media Art Program

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Abstract

One of the key insights from the InterPARES project investigating the preservation of electronic records was the observation that preservation begins at (record) creation. While the numerous challenges of preserving media art are documented to some extent, the literature largely reflects a conservation paradigm wherein actions are taken to repair damaged works. The proposal to integrate an embedded digital archivist within an academic media art program instead adopts a preservation lens with the intent of reducing or preventing the degradation of media art by equipping students with digital preservation skills early on in their artistic career.

Keywords

Digital preservation, preservation of media art, media art conservation, archiving digital art, embedded librarianship, embedded digital archivist.

Introduction

One of the key insights from the multi-year International Research on Permanent Authentic Records in Electronic Systems (InterPARES) project was the observation that *preservation begins at creation*;¹ that is, in order to preserve authentic, accurate and reliable digital records for long-term access and use, it is important for record preservers to work together with creators of records to consider what preservation actions should be taken from the outset. [1] Many media artists, however, are unlikely to be practicing in contexts with trained records managers or archivists as colleagues; indeed, media artists must often act as the steward of their own records until they enter the custody of an art museum or gallery. The importance of developing the capacity of media artists to preserve the works they create, then – such as determining which file formats are deemed to be archival, how often to refresh digital files, what metadata ought to be captured and so on – cannot be overstated.

Much of the existing literature regarding the preservation of media art, though, can be characterized as theoretical

guidance relating to the work of conservators and curators, informed by the reactive stance of a conservation paradigm. Falcão and Ensom of the Tate Gallery highlight the conceptual and technological contributions of digital preservation to the field of digital art conservation, but do not make specific reference to collaborations between conservators and creators of media artworks at the point of their creation. [2] A coordinated strategy aimed at establishing the research infrastructure required to support the long-term preservation of works of media art and other records of media artists' practice must therefore build upon the (art) conservation approach – remediating damage after it has occurred – with the objective of minimizing or preventing degradation presupposed by a (digital) preservation approach. One possible means towards achieving the latter is by embedding a digital archivist within academic media art programs.

Embedded Librarianship & Archival Work in Academic Institutions

Embedded librarianship in an academic institution implies an integrated and collaborative presence within teaching, learning and research activities rather than requiring users to seek out library services. [3] It frequently – though not always – involves an instructional component, as an extension of the literacy promotion facet of the librarian's role. An embedded librarian may work closely with a faculty member on the design of a research assignment or offer reference help directly within an online course, for example. The aim of embedded librarianship is to provide better access to library resources by reaching out to user communities, reflecting a larger shift in the library profession towards a more user-centric service orientation.

Archivists within academic institutions have also begun to explore the possibilities afforded by an embedded role. Case studies documenting the experiences of embedded archivists suggest that, to date, the emphasis in these collaborations has been on the use of primary sources and supporting the development of learners' archival research skills;

¹ The project, based out of the University of British Columbia and led by archival theorist Luciana Duranti, explored the knowledge domain requirements for preserving authentic records created or

maintained in digital form, and was undertaken in four phases – InterPARES 1, 2, 3 and InterPARES Trust – between 1999 and 2018.

that is, instructional activities grounded in the assumption that students are users of archives. Another significant area in which an embedded archivist could contribute, however, is in teaching students digital preservation practices with the acknowledgement that they are also *creators* of archives. Extending the early intervention logic implied by “preservation begins at creation” to the record creators themselves, students in media art programs stand to gain the necessary competencies to preserve their works at the beginning stages of their practice through tailored instruction and other discipline-specific support provided by an embedded digital archivist.

Digital archivists, in academic settings and elsewhere, perform a wide range of duties related to preserving and providing access to born-digital archives, or those archives created within a digital environment (as opposed to physical documents that have been digitized). They often work with a variety of digital objects – including audiovisual media, websites, software, databases and so on – equipping digital archivists with both the conceptual and methodological expertise to enrich media art students’ understanding of the preservation requirements for the media they create with. The technical nature of a digital archivist’s work, however, may lead to fewer opportunities for them to interact with students in a public service or instructional capacity. Academic digital archivists seeking to embed themselves within their institution’s media art program, then, may need to actively advocate for the importance of establishing the role.

The Embedded Digital Archivist in Practice: Relationship-Building with the University of Windsor’s School of Creative Arts

Early in the Winter 2020 academic term, I began the relationship building process with faculty members in the University of Windsor’s School of Creative Arts (SOCA). Although an academic media art program may derive a considerable benefit from the support of an embedded digital archivist, it is also necessary to recognize the additional labour involved for faculty partners to accommodate the archivist within their teaching or research activities, and the time it takes to build the trust central to any collaboration. Having trained as a media artist and, in fact, graduated from the school’s fine arts program allowed me to quickly establish a rapport with the SOCA media art faculty. Nonetheless, planning in Winter 2020 was approached with the objective of instituting the embedded digital archivist role in the Fall 2020 term. Potential activities of interest to faculty included developing digital archiving and preservation workshops for specific disciplinary areas, participating on panels of guest speakers, providing individual consultations to media art students and advising on the preservation of Master’s theses.

Initial discussions with SOCA faculty also surfaced a pivotal insight: while media artists can conceptualize the complex preservation challenges associated with their work, communicating the urgency of performing preservation actions early in the work’s lifecycle and the artist’s

responsibility in effecting them will foreseeably be a core function of the embedded digital archivist role. That is, one of the most significant barriers to promoting digital preservation competencies among media art students may be attitudinal; an interview with artist Roberto Cuoghi when asked how he thought his audio installation works would “age” is illustrative:

I don’t really know what destiny the things I’m doing will have. Aging ceases to be acceptable only when the work begins to be objectively compromised. Intervening becomes necessary when the work’s “functioning” starts to be compromised. [4]

Though the question was framed from a conservation perspective, Cuoghi’s response suggests that media artists and students of media art may not act to preserve their work until there are appreciable signs of degradation or loss; indeed, some artists may welcome or even invite technological obsolescence as an intrinsic feature of the work. Media art students intending for their work to endure, however, may be motivated to perform a feasible set of preservation actions when gradually introduced and reinforced through interactions with an embedded digital archivist.

Developing the requisite skills and knowledge to preserve one’s body of work is particularly difficult for media artists; it is telling that the second phase of the InterPARES project focused heavily on the preservation of artworks, noting the challenges posed by the diversity of record outputs in creative fields. A one-time workshop teaching the basics of personal digital archiving is likely to be inadequate in preparing media artists to preserve the variety of formats they will work with over their lifetime. To address the specific concerns related to preserving media art, then, the personalized and sustained instruction enabled by embedding a digital archivist within an academic media art program suggests a more fitting approach. Providing media art students with a foundational grasp of digital preservation not only has the potential to facilitate the subsequent work of media art conservators, it also reciprocally promises – through collaboration with students and faculty practicing in a range of media – to advance the digital archivist’s own understanding of their practice, which can be shared with the media art preservation and conservation community.

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Author Biography

Devon Mordell is the Digital Scholarship and Archiving Librarian at the University of Windsor, and a settler living and working on the traditional territories of the Three Fires Confederacy of First Nations, which includes the Ojibwa, the Odawa, and the Potawatomi. She initially trained as a media artist but was later drawn to the archival profession by the issues and challenges surrounding the preservation of digital artworks. Her research draws from critical data and algorithm studies to extend and contribute to archival thinking in the digital age.

Archiving Interactive Art for Art Practitioners and Theorists

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Abstract

Due to limited exhibition spaces, art has been mainly consumed with specific documentation formats. Books or catalogs were key media to experience painting and sculpture. Later on, in addition to print media, video became a major platform to document installation art and performance art. However, documentation techniques of those formats do not fit for archiving interactive art due to its multifaceted properties including emerging technologies, audiences' participation, and spatiotemporal environments. This paper stresses that current documentation for interactive art needs an interlocked archiving system including conceptual, technological, and phenomenological approaches.

Keywords

Interactive art, Phenomenology, Archiving, Art-and-technology, Documentation, Conceptual art

Introduction

Recently, virtual museums with VR technology have been introduced so that visitors can see artworks in a long-take & long-shot without cinematic manipulations as if they were in a real museum. [1, 2, 3] The platforms provide visitors with a semi-spatial experience of artworks as compared to art archives online and offline. Specifically, this approach can be developed to provide audiences with active participations in interactive art. Even though this method can be valid for spectators who cannot take part in the real event, it has a phenomenological issue because virtual museums would be based not on a real process of interactive art, but hyperbolic visual-centric computer graphics of representing the process without tactile interactions.

Issues in Interactive Art Documentation

In the article, "Survey and Analysis of Interactive Art Documentation, 1979–2017," I examined that documentation for interactive art tended to use a cinematic language to make interactive art more appealing. [4] This cinematic approach, such as cutting shots and adding background music, can result in filmic illusionism. Most interactive art documentation gets divorced from interactive art. In other words, documentation for an interactive art project does not refer to the interactive art piece, but documentation itself becomes a

new type of creative video work. However, a main purpose of archiving art is to document or record information on projects. As academic and practical literature, archiving is still required to providing neutral information to creators.

Three Degrees of Interactive Art Documentation

With cinematic documentation for interactive art, artists have a hard time finding practical information. Likewise, scholars need to spend more time researching interactive art to check out precise data from diverse resources. They should fully understand an art piece to interpret, criticize, and develop it. In this regard, interactive art needs a more critical and more organized archiving system for those creators.

Without detailed technological information, scholars are only able to focus on its "ideal" idea without "real" realization. Likewise, artists could not find an exact approach to making a specific interactive project while researching art pieces that use similar technologies to their work-in-progress. Both need to thoroughly figure out how specific technologies realize interactive art in a variety of approaches. For more practical achievements, I insist three degrees of interactive art documentation, which are interlocked with each other, can contribute to archiving interactive art.

Three Degrees of Interactive Art Documentation

For art practitioners and theorists, this paper suggests three degrees of interactive art documentation: 1) Concept, 2) Technology, and 3) Phenomenology.

First, the conceptual approach in interactive art has been reevaluated. Edward A. Shanken argues that interactive art has a strong relationship with conceptual art and explores how to incorporate it in the mainstream of contemporary art. [5] This approach focuses on a textual quality of art. However, the conceptual approach in interactive art should be different from texts for art in usual art literature. Rather, it can be similar to a home appliance manual. We could not fully research specific technologies from instruction manuals for home appliances, likewise conceptual documentation can include simple diagrams, illustrations, and conceptual texts to briefly show how a concept works with specific technologies. This documentation will be used to help creators understand how to operate interactive art and conceptually criticize interactions and technologies of interactive art. In this degree, it does not matter whether interactive art

properly works. This contributes to evaluating interactive art as a conceptual art project.

Next, the technological approach will be able to precisely describe interactive art in an engineering way. This can include similar detailed still-images of Greek sculptures in an art history book. This will be used to show detailed information including close-up parts of the installation, circuits, inventory lists, schematics, and coding from interactive art. Specifically, inventory lists can incorporate versions of applications & OS, specifications of electronic devices, and places where items were purchased. This information along with close-up pictures can help creators easily understand and fix a technical issue. For example, simulating input objects, aka.mouse and aka.keyboard, for Max/MSP do not work anymore after upgrading to MacOS Catalina due to an accessibility issue (See Figure 1). To run an art piece with simulating keyboard and mouse inputs, those objects must be replaced with other external objects such as 11clicks and 11strokes2. The detailed information should be shared with contemporaries. The original creator can help others to save time with less trials and errors, and creators can support the project to be sustainable. To share with creators on the world wide web environment, Creative Commons can also apply to this technological documentation.

Finally, the phenomenological approach will be able to film interactive art with less visual exaggerations. Most documentation for interactive art tends to be illusionistic and cinematic. [6] This documentation style discourages viewers from understanding interactive art with an invisible camera filter. Technological issues can be hidden by cinematic montage techniques. It is also necessary to study how the documentation can convey the phenomenological work to the viewer in a realistic way as film critic Andre Bazin argued with the illusion of montage. [7] Russian filmmaker Andrei Tarkovsky's long-take and long-shot camera technique can apply to this phenomenological video documentation. While audiences take part in interactive art, this phenomenological documentation "witnesses" their interactions with the project without any intentional interventions. This will be used to show how interactive art physically works with few cinematic exaggerations although it cannot provide the audience with a real tactile experience.

Those three approaches could hardly provide creators with significant archives separately. Instead they should be interlocked with each other to give creators an organic archiving system for researching and creating interactive art, which is a more complicated form of art.

Conclusion

Most major art conferences and festivals in the field of interactive art request applicants to upload texts with specific templates and moving/still images with specific codecs and dimensions. By developing an application system based on

the three degrees of interactive art documentation, those art events will be able to keep well-organized archives of interactive art and help artists and theorists understand, research, and develop interactive art projects. In addition, applicants can save time documenting their projects separately.

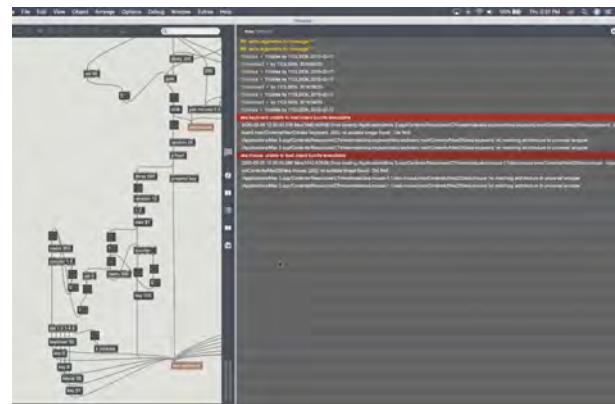


Figure 1. An error message from Max/MSP Jitter 7. ©Respect Copyright.

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VR as a Preservation and Simulation Tool for Media Art Installations

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Abstract

David Hall (1937-2014) was one of the pioneers of video art in the UK, beginning with *TV Interruptions* that he made for STV in 1971 as part of the Edinburgh Art Festival. He continued to make single screen video works, but his main focus was the creation of video sculptures. Most of these sculptures used old cathode ray tube monitors. Although these are still available and working at the moment, over time it will become more and more difficult to find any working examples. Due to these problems with technological obsolescence, many of Hall's and numerous other artists works may not be so easily replicated in the future. With this in mind, other ways to present these works need to be considered to allow them to be appreciated by future audiences. One way to do this is by using virtual reality. This paper summarises the recreation of two David Hall video installations in VR. Viewers experienced the work by being immersed in a 3D virtual gallery. This gave the viewer an idea what the work would be like in real life. The process of creation, maintaining the integrity of the work, authenticity and the user experience will be examined.

Keywords

Video, art, electronic, virtual reality, VR, obsolescence, immersive, media, installation, sculpture

Introduction

Media Art and the problems of technological obsolescence and deterioration is well known, particularly those artworks which rely on the failings or quirks of the technology to achieve their aim. [1] Although many artists using analogue video had been careful to keep their original tapes, less attention was paid to keeping the equipment needed to display these works in an exhibition context [2]. This was perhaps due to the cost of the equipment for most artists and the expectation that the equipment would always be available. Artists such as Naim June Paik tried to keep his apparatus in most cases, but it has still suffered problems of deterioration, such as in his *The More The Better* (1988) installation at the National Museum of Modern and Contemporary Art in Gwacheon, South Korea. [3] There have been many documented projects to digitise and archive artists video tapes from obsolete formats, such as the REWIND project in the UK, but less so the equipment, which has become the reserve of the larger institutions and niche organisations in the museum and media art research sector.

Cathode Ray Tube Monitors

The most ubiquitous piece of apparatus used in early video art is the CRT (Cathode Ray Tube) monitor. Although many of these are still around and working today, they are no longer generally manufactured. The death knell was when Sony announced in 2008 that they would cease production of their sought-after Trinitron monitor and eventually those still in existence will stop working when the tube fails. [4] Although many vintage video artworks will work on modern flat screen displays or projected, there are various reasons why this might not be desirable. Firstly, the artwork may be sculptural, where the monitor itself is part of the work, and this may even relate to what is being displayed on the screen. Secondly, the quirks or idiosyncrasies of the CRT monitor may also be part of the work e.g. Paik's *Magnet TV* (1965) where an industrial magnet distorts the image on the TV, which wouldn't be possible on a modern display. Thirdly, most early video works were produced for 4:3 ratio monitors and it is difficult to find modern flat screens that are not 16:9 ratio, especially larger ones. This is particularly important when re-exhibiting pieces created for video walls, which became increasingly popular in the 1980-90s, when video channel syncing technology became available. Finally, the images that CRT monitors display have a certain aesthetic that may be important to the artwork. Older work can look 'better' on CRTs due to the correct display of interlaced work and the perceived reduction of video noise.

Virtual Reality

What happens then in the future if an artist, collector or gallery wishes to re-exhibit an artwork where the original equipment has not been collected or the equipment required is entirely obsolete and unavailable? One possible solution is to use Virtual Reality (VR). The widely used preservation model of either migration, emulation or reinterpretation can perhaps be used here, and would involve aspects of all three. [5] However, I suggest that a re-created piece in VR should be referred to as a simulation or an illustration rather than a version of the work itself. That way, any arguments about the lack of complete authenticity can be avoided.

The first time the author used VR was in 1991. At that time the technology wasn't advanced enough to use for this

purpose in any worthwhile way – the headsets were bulky and heavy, the latency of the display was high, which meant you had to move slowly, and the graphics required a low polygon count which resulted in a lack of resolution. The substantial cost of the technology meant that the main applications were restricted to arcade gaming, military and aerospace uses. [6]

It has now come to the point where substantial advancements in VR technology and computer speed have meant that VR can be used for considerably more applications in a useful way. The introduction of equipment from companies, which include HTC and Oculus, have made the technology much more affordable and accessible along with ‘game engine’ software such as Unity and Unreal. The fact that these are called ‘game engines’ highlights that this technology is still being driven by the gaming industry, but it is being adapted for use in many other areas.

Due to these advances in technology, the author decided to engage in some experimentation using VR to re-create media artworks susceptible to obsolescence. Duncan of Jordanstone College of Art & Design (DJCAD) at the University of Dundee already had a well-established 3D lab, and also the author was engaged in the preservation of media art through the REWIND research project and its associated projects. This resulted in two experiments featuring the work of pioneering UK video artist David Hall (1937-2014). The reason Hall was selected was due to his sculptural use of the CRT and that the author had worked with him previously on re-staging a number of his artworks, so there was a tacit understanding of Hall’s rational and philosophy. A summary of these two case studies now follow, which were permitted by David Hall’s estate.

A Situation Envisaged: The Rite II (Cultural Eclipse)

This piece by Hall was first created in 1988-90, it consists of 15 CRT monitors built as a videowall 4 high by 3 across close to a white wall. All but one face the wall and are not seen. Pre-recorded TV broadcasts reflecting on the wall form an aurora of changing light. In the centre, on the only screen to be seen, is an image of the moon recorded using equipment similar to that used by John Logie Baird in the 1920s. The sound, by David Cunningham, is derived from multiple broadcast channels and composed as a musical score, which is heard coming from within the videowall. This piece was chosen as being a good test to ascertain how well this could be replicated due to the range of different videos playing on multiple CRTs and the reflection of these videos on the wall (Fig 1).

The VR model was created in 2017 with Rhoda Ellis who was a recent undergraduate in Art & Philosophy at DJCAD, who for her degree show had re-created sculptures in immersive VR. Before he passed away Hall had written reasonably detailed plans of a number of his installation works which he had editioned with his gallery, Richard Saltoun. These were used as the basis for the simulation, and as it is virtual, all of his ‘ideals’ could be accommodated without



Figure 1. *A Situation Envisaged: The Rite II (Cultural Eclipse)*, 1988-90 on display at Richard Saltoun Gallery, London, 2015
©Adam Lockhart & Debi Hall.

the restrictions on equipment availability or compromised by the size and shape of the gallery. In fact, theoretically, one could choose to have the piece shown in a virtual version of any gallery in the world. The monitors which Hall specified were 26” minimum cube videowall monitors. It was decided to base the model on the Hantarex EQ/3 and the use of these would then determine the size of the gallery. Part of Ellis’s process during her previous work was to scan sculptures using photogrammetry and laser scanning techniques, which would lead to the creation of the 3D models. This was attempted with an actual Hantarex monitor, but due to reflections on the glass and the lack of features on the black casing, this approach was problematic and subsequently abandoned. The monitors were then created directly in the VR game engine software, Epic Games’ Unreal Engine, as boxes with the screen side curved and a photographic image of the rear of a monitor on the back. This software was also used to create the whole scene. Once the videowall was modelled, the gallery was built around this to an appropriate size, with the monitors near the back wall of the gallery. The original multichannel videos for the piece were already available in the REWIND archive and these were embedded on each of the monitors according to Hall’s specifications. They were also ‘projected’ onto the back wall as a virtual light to create the reflective aurora (Fig 2). The sound for the piece was directionally located inside the videowall, as it would have been in the original piece, rather than just being heard as general ambient sound. A door was added on the opposite wall from the installation, with a lit-up information panel on the side wall to further create the feel of a gallery. Although it is possible for this model to be viewed and accessed via a 2D computer screen, the idea was that this should be a fully immersive piece to allow the experience to be as authentic as possible. In order to do this an HTC Vive headset was used with stereo sound, along with



Figure 2. *A Situation Envisaged: The Rite II (Cultural Eclipse)*, 1988-90 VR simulation. ©Rhoda Ellis & Debi Hall.

motion sensor lighthouses which allow the headset's position to be detected in space.

The results from simulation were showcased at the NEoN Digital Arts Festival in Dundee, Scotland in 2017. This was located in a large disused factory building, so there were no issues of restrictive space. The virtual walls of the gallery were mapped onto the floor with tape, so that the 'arena' was the same size. This gave a good opportunity to discover reactions from members of the public, which yielded some unexpected results. Once the user entered the virtual gallery, by putting on the headset, they were located near the door end of the model, which would allow them to walk towards the installation. For many people, it was still the first time they had used immersive room scale VR so the novelty and amazement of the experience was more of interest to them than looking at the artwork itself. Another issue was that people who were not familiar with this particular piece couldn't quite work out what they were viewing, in respect to the virtual apparatus. This then had to be explained, which would have been unnecessary in the real-life installation. Therefore, three levels of explanation were required – the practicalities of the VR, what they were looking at in the virtual space and the interpretation of the work itself. Only the last of these would be required in the physical world. Those who were already familiar with the piece reacted quite positively and found that they were unintentionally able to see more of the piece than in the real world due to the lack of physical walls i.e. one could put one's head outside the virtual walls and look back in. This then revealed more clearly the content of the videos on the monitors which were not meant to be seen this way, but were there to provide the reflective aurora on the wall.

TV Interruptions (7 TV Pieces): The Installation

After the outcomes of the first experiment, it was decided to focus on a more accessible piece for the viewer to experience. In this case it was decided to model Hall's *TV Interruptions (7 TV Pieces): The Installation*. This piece was originally made for Scottish Television in 1971, as seven different short abstract interruptions to be broadcast unannounced throughout the duration of the Edinburgh Festival in the same year. This piece was then turned into an installation in 2006 in conjunction with the author as part of the REWIND project. The installation consists of 7 CRT monitors on plinths, placed in a cluster and facing in different directions. All of the monitors play out the full 7 TV pieces, but in a different order, so that the same one is not on at the same time. Again, instructions on the preferred type and size of monitor, in this case a Hantarex EQ/3, 25", and the distance apart of the monitors were stipulated by Hall in his specification.

For this experiment, the author partnered with a 3D animation specialist, Sang-Hun Yu, who is a colleague at DJCAD and a PhD student investigating the use of 3D modelling for forensic purposes. In this case, Yu used his skills as a 3D modeler to create the CRT monitors from specifications from The Block, a specialist monitor rental company and measurements from an actual Hantarex monitor. [7] This was carried out using Maya software and included such things as sockets and cables emerging from the rear of the monitor and proper textures added to the surfaces, all adding to the authenticity (Fig 3). Unity was used as the game engine to build the VR model in which Yu was more proficient, so this also provided an alternative to Unreal for a

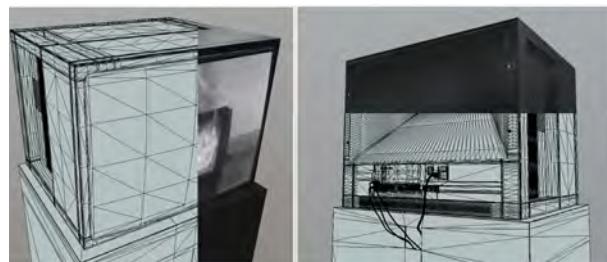


Figure 3. *TV Interruptions (7 TV Pieces): The Installation*, 1971/2006, VR simulation Monitor 3D Model. ©University of Dundee & Debi Hall.

comparison. The model from Maya was imported into Unity, replicated and placed on plinths into a gallery space built to fit with Hall's specification. The videos were then inserted into all 7 of the monitors, with the sound from each directionally coming from each monitor (Fig 4).

This simulation was exhibited at the Besides the Screen Conference, Kings College, London in July 2018. The HTC Vive headset and equipment were used again for this. The reaction from the users was much more positive in this case, in that it was more obvious what was being displayed, so the



Figure 4. *TV Interruptions (7 TV Pieces): The Installation*, 1971/2006, VR simulation. ©University of Dundee & Debi Hall.

second explanation from the last experiment was not required. It was also more lifelike due to the superior 3D models and the videos played back well without any stuttering. The room in which the work was exhibited, was smaller than the virtual gallery, so care had to be taken to ensure the user didn't walk into the real walls. Interestingly the viewers tended to still walk around all the monitors on plinths even though they could actually walk straight through them.

An odd experience for some people in both of these examples was the lack of a virtual body and particularly their arms. The HTC Vive comes with handsets, but these were not required, as there was no interactivity in the scenes. Others were affected by mild virtual reality sickness, a form of motion sickness, but the time spent in the virtual space in these cases was short enough that this was not a significant problem. [8]

Conclusion

Overall these experiments were valuable but unexpectedly the main focus ended up being the experience of the viewer. Once immersive VR becomes more normalised in society, the novelty of the experience should dissipate enough to allow a more formalised study of the audience reaction. There is also the issue of preserving the VR simulations, which may become obsolete before the original artwork does, akin to the BBC Domesday project of 1986. [9] Tate are in the process of conducting a research project in the preservation of immersive media with results to be published in 2020. [10] The author intends to continue research in this area exploring further the capabilities of VR and augmented reality as the technology improves.

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A Database of Interdisciplinary Art in Russia

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Abstract

This paper looks at a new database of interdisciplinary art in Russia that is currently at the design and development stage. The database is intended as an open resource providing description and documentation of events and projects in the 20th and 21st centuries that involve early experiments and works of technological art, media art and art-science. The paper shows the specifics and aims of creating the database in the context of existing archives dealing with contemporary art in Russia. The paper presents an approach to data collecting and establishing selection criteria for the database materials and their basic structure. The paper concludes by description of opportunities in data analysis for those studying convergence of art, science and technology.

Keywords

Database; digital archive; Russian interdisciplinary art; interdisciplinary researches; art events; technological art; media art; computer art; net-art; art-science; digital analysis; data visualization; interactive anthology.

Introduction

The idea of the database and the context

The Database project of Interdisciplinary Art in Russia is aimed at gathering information about innovative experiments in art and at the investigation of art, science and technology convergence in a local and international context. At the beginning of the 20th century in Russia this convergence resulted in several inventions, such as Graphical (drawn) Sound (by Arseny Avraamov, Boris Yankovsky, Eugene Shelpo, Nikolai Voinov) or electronic musical instruments (by Lev Theremin), as well as in art practices inspired by scientific methods and technology (Meyerhold's Biomechanics for theater, Solomon Nikritin's Projection Theatre). Later, during the soviet period these kinds of experiments became marginal and in the main were related to kinetic art, experiments in cybernetics and activities by "Prometheus" group (Kazan). The Intensive appropriation of new technologies in art started in 1990s. Artists began to explore the possibilities of video, sound,

computers and Internet. They started to search a language of expression by means of different media. At the beginning of 2000s the interdisciplinary (or transdisciplinary) practices of art involving technology became widespread. They already included methods of various sciences and were associated with the term "science-art". Due to the popularity of these practices and the attention to the "science-art" phenomenon, the interest to previous experiments arose. As a result, a need for understanding and rethinking of the development of Russian technological and media art in local and international context increased. However, not all art projects, and events have been carefully documented; the existing information about them is contained in various state and private archives. Most of them are not digitized yet. There is currently no full online media/technological art archive in Russia.

The most large-scale current project is The Russian Art Archive Network (RAAN) [1], aimed at preserving and digitizing archival documents and photographs related to Russian contemporary art. It is being implemented by Garage Museum of Contemporary Art (Moscow). The digital catalog of RAAN archive collections is regularly updated with materials from the collection of Garage Museum and its partner organizations. A collection of photo materials, press-releases, press publications and other documents, including those related to video and media art is located in the Scientific Archive of National Centre of Contemporary Arts (NCCA) [2]; all materials are accessible only in the NCCA library. The video art collection online available is gathered by CYLAND Media Art Lab [3], which has been holding Cyberfest festival since 2007. The collection includes works of artists who have participated in the festival. Descriptions of some significant projects in the field of media art developed by NewMediaArtLab (since 1993) and then MediaArtLab [4] (since 1999) can be found on the MediaArtLab's website. In contradistinction to the resources presented, the "Database of Interdisciplinary Art in Russia" focuses on

events exactly related to technological art, media art, "science-art" and discussions around relationships of art, science and technology as well as collaboration between artists and scientists. The purpose of the database is gathering information reflecting discussions, research and art projects formats, and also developing affordable tools to researchers (and a wide audience) to visualize and analyze collected data.

"Interdisciplinary art" in the title of database is an umbrella term which implies going beyond the boundaries of art practices to technology and science fields and vice versa. The results of this border crossing cannot always be considered as belonging to the field of art, therefore the database unit is not an artist or an art project, but an event, that is, a public presentation (for a wide or professional audience) of research, experiments and developments created at the intersection of art and technology or art and science. An exhibition, a symposium, a festival, a conference, a seminar, a public lecture, an artist's talks, a workshop, etc. can be considered as an event. The database includes not only events organized in Russia but also international projects in other countries with participants from Russia. Thus, the database provides information to study the development of contemporary Russian "Interdisciplinary art" in relations with international context.

The selection criteria for the data

To formulate accurate criteria for the selection of events is quite difficult. Firstly, there are constant terminology transformations. For example, it is not clear if the term "computer art" covers art objects made with the use of microcontrollers or smartphones. Secondly, the formation of interdisciplinary practices or researches does not always take place under the auspices of art institutions. In the 1990s, the entertainment industry had a particular value, in the 1960-1970-s the first experiments bounded at the intersection of cybernetics and art took place within academies of science and universities. And finally, these practices and experiments took various started to take (video, installations, performances, concerts, CD-ROM, web projects, etc.). To overcome these complexities, an event was made the key unit of the database and basic criteria for events selection were formulated. An event becomes a part of the database if:

1) The event is accompanied by texts manifesting the boundaries erosion between art, science and technological invention;

2) The theme of the event relates to rethinking and interpretation of technology impact, scientific ethics, scientific data and strategies by means of art;

3) Art projects shown within the event include new technologies, methods, tools and equipment from applied or natural sciences, as well as systems of medical influence on a person (for instants, psychotherapy, psychology);

4) Art projects, demonstrated within the event have a goal to invent a new method of data obtaining, collecting or analyzing.

However, in the process of working on the project, these criteria can be adjusted. It is also assumed that when the database is finished and accessible, new information can be added according to the recommendations received from users.

The 1990s, the period of active appropriation of new technologies by artists in Russia especially in Moscow and St. Petersburg, served as the starting point for the database. The database is started from "Archive of Interdisciplinary Art of St. Petersburg of the 1990s", created by curator Irina Aktuganova, and belonging now to RAAN. It is assumed that the period from 1990 to 2020 will be covered in most detail in the database; however, work on the project is going in two directions from the 1990s to the beginning of the 20th century and to the present moment.

The basic data structure

The database has a relational structure. The main spreadsheet contains basic information about the event - date, city, type and the title. Other data categories that can be divided into subcategories or, conversely, be absent are placed in related spreadsheets.

The database contains the following categories of information: date of event; type of event (conference, exhibition, etc.); title; location; description / announcement of the event; organizers; partners; names of curators and participants, as well as information about their status and place of residence; titles of projects or paper of participants; photo and video materials of artists' projects; links to digital archives containing documents or information related to the event (RAAN, Ars Electronica Archive, ISEA Symposium Archives, etc.).

The sources for the database are archival documents, publications (announcements, press releases, etc.) accompanying the event and interviews with participants. Texts describing the events in the spreadsheet are placed in their original view, without any changes. All texts written by researchers or based on the recollections of the

participants are posted separately. Each event will be accompanied with English annotation.

Data analysis

Structuring the information in the database implies the possibility of selecting and arranging events according to the chronology, type or topic, by the names of institutions, names of participants, technologies used in projects, etc. Thus, the database can be an interactive anthology that builds material according to specified criteria. In addition to these functions, it is assumed that data visualization (timeline, map, social networks) and statistical analysis will be available.

The project is currently at the data collection stage and is being implemented at European University at Saint Petersburg in collaboration with Techno-Art-Center (St. Petersburg).

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ePPA project: Telling Peru's video art histories through a unified platform

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Abstract

ePPA – Espacio/ Plataforma de preservación audiovisual (ePPA – Space/ Platform for Audiovisual preservation) aims at making Lima Art Museum (MALI) and Hi-Andean Technology's (ATA) video art collections available to a wider audience. By creating a platform, the project provides remote users with descriptive information of the artworks, and museum visitors with full access to the collection of video art. This paper discusses the challenges faced by the project in creating a platform that would work as a comprehensive database and, at the same time, would narrate the possible histories of video art in Peru.

Keywords

Video Art, Media Art, Archives, Platform, Research.

Introduction

ePPA – Espacio/ Plataforma de preservación audiovisual (ePPA – Space/ Platform for Audiovisual preservation) is the result of the joint efforts of the Lima Art Museum (MALI) and Hi-Andean Technology (ATA) to preserve their moving-image based works, relevant to the understanding of the history of visual arts in Peru. The two largest video art collections in Peru, owned by these institutions, comprise more than 200 works in videotape formats (from the 70' to the 2000', in U-Matic, VHS, Betacam, and miniDV), digital formats and recently digitized works in film (from the late 60', in 16 and 35mm). The aim of the project is twofold. On the one hand, it aims at providing a physical space where users would visualize the full contents of the works in modules installed in the library of the museum. On the other hand, users would have remote access to information about the artworks through an online database. When no copyright restrictions are being infringed, a link to the artwork is embedded. These two ways to access the collection respond to the need to open it to a wider audience: to researchers and students but also people visiting the museum that are not necessarily familiar with video as an art form. The challenge we faced was to create a comprehensive database that would, at the same time, tell the possible

histories of video art in Peru. The chosen tool for this purpose was Collective Access, an “open-source software for managing and publishing museum and archival collections”¹. This paper aims at discussing and contextualizing the complexity brought by the different objectives of the project by looking at the characteristics of the collections and the state of moving-image archives in Peru.

In the following paragraphs, a brief description of the state of moving image archives in Peru will be provided. The characteristics of the collections will be analyzed and the ways in which we extracted information from both will be analyzed in the second and third parts. In the last part of this short paper, the structure of the platform will be described in relation to the project's objectives of archiving and making the collections easily navigable.

In the absence of a National Film Archive

To this day, Peru does not have a publicly run film archive. However, a certain number of private institutions and individuals hold valuable funds that are progressively being made available to a wider audience. Although numerous voices have been claiming for a government intervention regarding this issue, concrete measures are yet to be executed. Even though actions have not been taken yet that seem to lead to the creation of a reclaimed National Film Archive, the Ministry of Culture, through the Directorate of Audiovisual, Phonography and New Media (DAFO), has created a grant scheme which enables archive owners and other cultural managers to get funding to develop projects for media preservation (e.g., film, video, etc.). ePPA was a recipient of this grant scheme in 2018, along with six other projects of very diverse nature and objectives (from the digital restoration of films by a well-known Peruvian film collective to the digitalization and cataloging of a vast rural participative video collection). This brief contextualization of the project is meant to highlight the fact that the basis for film and moving image preservation are in the process being made, following different paths, related to the different professionals' career paths and priorities. Even if state-run institutions such

¹ <https://www.collectiveaccess.org/>

as the Peruvian National Archives or the National Library of Peru hold audiovisual collections (Wiener, 2015), there is no unified national policy related to preservation standards and homogenized cataloging criteria. The relative newness of the field allowed ePPA to explore and follow its own path, attending to the diverse yet particular needs of MALI and ATA's collection. In particular, the project allowed to point out the specificity of the artwork with regards to other kinds of time-based works. Indeed, as it will be explained in further detail, it was important for the project to emphasize that these artworks are part of a museum collection on the one hand and a historical archive of the beginnings of video art in Peru on the other.

Two stories in one: collection profiles

Alta Tecnología Andina (Hi-Andean Technology) was created in 1995 as a non-profit organization that would become the epicenter of multiple cultural events dealing with art, science, and technology. Between 1998 and 2003, ATA organized the International Festival of Video and Electronic Art (Festival de Video/Arte/Electrónica) in the city of Lima that would then, under the direction of Realidad Visual, expand to other cities (Delfín, 2019). These Festivals became the heart of cultural activities related to the moving image and sound-based artistic practices, showcasing recent work by novel artists as well as connecting them with the broader circuit of global video art (Mariátegui, 2019). Artists, scholars and cultural managers converged in this annual meeting. Parallel to the organization of this showcase of Peruvian art, ATA –inspired by spaces like the CICV, Centre International de Crédit Vidéo– ran a space dedicated to experimentation with video, from 1998 to 2004. Artists and people coming from different disciplines, with a shared interest in the production of the moving image, converged in the headquarters of an advertisement agency, where, during the night, the equipment was available for other kinds of –more creative– uses. It is from this six-year experience that the ATA archive comes from. The video pieces, that transpire the social concerns and aesthetic values of the Peruvian early 2000 can be seen as a first period of intense creative work in that media. Although it is not the first generation of artists using video or film, this group occupies an interesting place in the history of moving-image creation in Peru, in the sense that they were neither dependent on the logics of the teamwork that characterizes film production, neither on independent, one-men/woman crew that would characterize the next generation of creators in Peru.

Probably not coincidentally, the Lima Art Museum holds another crucial set of artworks that help the viewer have a rather comprehensive idea of the history of contemporary art in Peru and what does video art represents within this practice. This set of artworks are authored by Peruvian artists that studied and live(d) abroad and whose pieces circulate in

an international market, such as those by Gabriel Acevedo, Marco Pando, Ishmael Randall Weeks, Maya Watanabe, David Zink Yi, among others. MALI also holds other important pieces that do not necessarily fall into that category, such as a historical piece by Teresa Burga as well as video artworks by non-Peruvian artists, not to mention sound art pieces and techno-sculptures. These video artworks are part of a large collection that spans from pre-hispanic times to our current year; they respond to curatorial decisions that are different from those of ATA. MALI's collections have a decisively more historical approach and the place video art has within these collections should be considered in relation to the eighteen thousand art pieces that the museum holds. Contemporary art in general, is, in MALI's collection, integrated within a larger history (Lerner, 2013) and a broader geographical context. In that sense, ePPA benefits from the presence of artworks from international artists. Although video art is by no means the most well-known art form in Peru it has, in the past ten years, had a consistent presence in the gallery circuit. Private collectors are interested in purchasing video art (Hernández-Calvo, 2019) but this is not necessarily the case for museum collections, with the exception of the MALI.

The above-mentioned collections, ready to be hosted by a museum institution with a public library and archive, are revealing of diverse modes of production and the reflection of different timelines of Peruvian video art history. Their modes of preservation and the information available for both collections is also revealing of their provenance. A first step towards the creation of ePPA's website was thus unifying the categories through which we would describe the artworks. Borrowing from valuable sets of documents written by leading institutions and projects dealing with media art preservation (DOCAM - Documentation et conservation du patrimoine des arts médiatiques; Matters in media art), ePPA team came up with a set of fields to be used in the description of their artworks. We adapted those recommendations to make the most of the information we had on the artworks but, most importantly, to properly convey the specificity of this two-part video collection that would henceforth find in the museum institution its place of existence. How to create a space for consultation that would, at the same time, speak to the project of a museum facing important changes? How to remain aligned with archival best practices while at the same time remain relevant to any visitor of the museum? How to highlight the specificity of ATA and MALI's collection while, simultaneously, weaving an intertwined history? How to tell possible histories by means of a database? The response to those questions would have to be solved in the immateriality of the platform we were to create and sometimes –against the grain– of what platforms (as they come in their predetermined form) suggested to us.

Excel sheets and unnamed fields

The detailed information on the artworks we aimed at providing, pushed ePPA team to dig into the history of each artwork, their numerous iterations (especially in the case of video installations), the historical context in which they arrived at the collections and the curatorial criteria for their purchase or donation. The attempts to properly organize these diverse and non-homogenous pieces of information into excel sheets had the benefit of helping us visualize the overflow of data we didn't really need and, in some cases, were not allowed to share (contracts, internal correspondence, etc.). It was important to know the information that was missing to understand the history of each collection. On the one hand, we had detailed information on how some video artworks entered the MALI collection (the conditions of purchase, the amount paid, etc). This rich data, along with other documents (e.g., curatorial reports, technical reports, preservation conditions) were useful to understand the criteria behind the integration of video into a larger collection. This qualitative data would fit, with difficulty, into Collective Access' predefined fields, even if the election of that tool was based on the flexibility it allowed. These pieces of information might not fit into those fields but are valuable in order to write a history of video art curatorship from the perspective of the museum. On the other hand, ATA's video pieces are rich in histories that link each piece to a broader, collective movement. Here, again, we're facing the kind of information that would slip between the cracks of the fields, even after an important effort of customizing Collective Access to our needs. To summarize, we were trying to create an archive with information that largely exceeded that purpose. We would quickly realize that the frustration produced by what seemed a misunderstood outcome for the project would transform into what we needed to achieve a second stage for the project: that of conveying the diverse narratives of video and media art in Peru.

How to give a proper account of these complex sets of information is a challenge intimately related to the affordances of Collective Access, the presentation software chosen to harbor the collections. Creating a template to document the artworks amounted to establishing a dialog between the non-systematized media art collecting practices in Peru with that of world-class institutions and research initiatives that have been working in the field for at least a decade. Also, we attempted to modify a pre-configured standard (Dublin Core) taking into consideration the information that was already available in the MALI's collection management software (The Museum System - TMS). Also, the process of translation, adaptation or refutation of, among others, the Media Art Research Thesaurus and DOCAM's *Glossaurus*, made it clear that we weren't simply (re-)cataloging the pieces but, to a certain extent, re-writing a part of video art history in Peru.

Creating entry points to the archive

An application programming interface (API) and a graphic user interface (GUI) provided us with the means to create a second layer of information that significantly differs from the type of data gathered for documentation purposes. Narrative threads were woven that would allow users to delve into the collections. These entry points are not innocuous, they inevitably shape the user's understanding and even visualization of the history of video art in Peru. A first version of the database was not supposed to include this second layer of contextual information. A group of professionals in charge of user experience design suggested that we provided some guidance to the visitor. They were right. And they were right not only because it would provide a more user-friendly interface to the collection, but because they made us realize we were assuming there was a more or less well-known history of video art in Peru. If it is true archives provide historians and researchers with invaluable material, it might also be true that it is valid to provide visitors with cues to navigate this archive.

We decided not to create two separate buttons for each collection (ATA / MALI) and chose four main "journeys" to be displayed on ePPA's homepage. These journeys are thematic but also historical. One of them is dedicated to the history of VAE festivals and, another, to "rescued" film works that are either experimental or that are valuable documents to understand art practices of a certain time period (i.e. art production during president Juan Velasco Alvarado regime). The challenge for ePPA is to be useful for museum's library and archive visitors –from general audiences, to students, academics or researchers– that are not expecting to curate their own journey through the archive while at the same time, acknowledging that the histories it features are incomplete and elements of the archive will be less visible than others. Ideally, access to the collections will provide researchers in the field with the information needed to write new, challenging narratives.

Conclusion

The context in which this project is being carried out might, in many ways, not seem ideal. There is much to be done for the preservation of materials and the maintenance of such efforts throughout time, to mention only two urgent needs. But on the other hand, this context also allows for enriching dialogs within different kinds of archives, exchanges that should tell us something about the specificity of the materials we preserve but also about the shared common ground: that of revealing untold or less visible histories. At a regional level, a survey was carried out by ATA, revealing the need to create cataloguing and storage standards. It is, in that sense, a propitious moment to think about the tools we're using and how they shape the projects we are carrying out.

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Carving out a Path. Building Research and Knowledge Environments (RKE) in a Digital Culture

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Abstract

This paper presents the work done at the NT2 lab (UQAM) designing a digital ecosystem specialized in research on contemporary imagination and digital culture. The very first Research and Knowledge Environment (RKE) was put online in 2005, specializing in Hypermedia Art and Literature. That experience led the NT2 Lab and the Figura Research Center to join their forces to build and promote the Observatory on Contemporary Imagination at the core of a research-based digital ecosystem.

Keywords

Digital culture; digital ecosystem; research and knowledge environments (RKE); hypermedia; hypertext; research community; contemporary imagination; directory; research-creation.

Introduction

I am first and foremost a semiotician, one interested in the way signs and discourses can be produced and understood, how they enable knowledge to evolve. Knowledge seems to be a simple notion, one we can easily grasp, but it represents a highly complex activity. In fact, it's more a process than a result or a quantity. We say: I know this, I know things. As if it were a simple possession: I have what I know, and nobody can take it away from me. This is my knowledge. But what part of it is personal, what part is public? Why do I remember this instead of that? How does that knowledge evolve throughout time? Not just on the historical level, but on the personal one as well? Knowledge never stays stable, making it more a flux or a process than a static form. So how can we be part of this process, individually or collectively?

Imaginary Network

When I was doing my undergraduate studies in literature at the University du Québec à Montréal in the 1980's, my roommate was doing his studies in computer sciences. While I was reading literature, especially contemporary American literature, he was finetuning his lunar landing skills on his micro-computer. He was programming on a cassette deck, jacked to a motherboard bought at Radio Shack and connected to an old Sony Trinitron television. It was tedious work, but highly engaging.

This was the time of arcade parlors and video games, Space Invaders, Pacman, Asteroids. Even though we didn't have modems or access to ARPANET, he was still playing a multi-user interactive fiction, a game based on the Colossal Cave Adventure developed for a mainframe. The game he played, that we played since he got me interested really quickly, was of the galactic empire and war genre. The mainframe was somewhere in the USA. My roommate and I controlled a fleet of spacecrafts. Every week, we would receive notice of our allies' and opponents' moves, learn of battles and wars fought in our sector; we could then plan our own moves, were allowed one phone call to another player, and then would send our own set of moves by mail. We had to wait a week, before receiving a new list of moves, which told us of the consequences of our actions and those of our allies and enemies. It was a really slow process, advancing at a snail-mail pace. But somehow it didn't matter. The computer opened up a realm of possibilities, a whole universe of interactions and fictional creations. The computer wasn't just a tool, it was also becoming the ground for symbolic forms to develop. A galactic war was a stereotypical form, embedded in the space opera subgenre, but still, it was played live, across the North American continent, and it was as thrilling as MMORPGs were when they first started.

This game told me, above all, that a new cultural form was evolving, one as fascinating as literature

could be. It also illustrated the compelling aspect of a network, even a rudimentary network, in fact more the illusion of a network than a network per se. And finally, having vanished almost completely from the surface of the earth, the game spoke of the precariousness of such cultural artefacts.

As a professor, I became a specialist of contemporary American literature. One of my main areas of interest was the complexification of literary narratives and its burden on readers. Metafictions and postmodern fictions were highly addictive; works where texts and images bonded called for a renewal of literary theory, even before the heydays of graphic novels; the intricate plays between literature and cinema called for the development of an intermedial theory; games on identity and on genre imposed a new theoretical and political standpoint. My own research dealt with the labyrinth as a guiding metaphor representing narrative and cognitive complexity. Quite understandably, as soon as they appeared, I got into fictional hypertexts, which easily represented the most elaborate narrative labyrinths ever conceived. They appeared to be the future of literature. They didn't rely on the book or on paper; therefore, they could only be read on a computer. They were non-linear, interactive, iconotextual works. Think about Michael Joyce's *Afternoon a story*, Stuart Moulthrop's *Victory Garden*, Shelley Jackson's *Patchwork Girl, or A Modern Monster*, to name the most prominent ones.

At the same time as hyperfictions were appearing, the Internet became public, a hypertextual network of interrelated websites. And new forms of literature started appearing, like hyperfictions and hypermedia projects that didn't require an editor or an umbrella company, such as Eastgate Systems, but simply started spawning across the web. As early as the turn of the XXI century, their number always on the rise, they appeared to be the beginning of a new cultural form, of a new culture, manifestations of which could already be seen.

But, for the game my roommate was playing these works were as compelling as they were ephemeral. As soon as the operating system would evolve, they would become obsolete, unreadable. This situation prompted me to propose an extensive project, which, once funded in 2003, became the NT2 Lab. The basic argument for the NT2 infrastructure was simple: a new culture was emerging due to the development of the Internet, and we had to start studying it if we wanted to understand what was happening. Such study required the same type of infrastructure as the one used to produce these cultural artifacts. The focus was on the computer not as a tool but as a media, a mode of representation and mediation; the reading process of complex forms based on hypertextuality and

interactivity; the development of strategies for studying new forms of texts and art, as well as for publishing research; and finally the impact of this new media and screen-based culture on contemporary imagination.

Our first task at the NT2 Lab was to build a directory of hypermedia works, more specifically an online open-access and process driven directory, a database accessible through our website. We identified and collected information gradually on over 4,000 works from Canada, the USA, France, Spain, Portugal, and more. One of the first consequences of the open access of our database was the interest it attracted. Artists and writers wanted to be part of the Directory. Professors and students wanted to know what theory or metalanguage to use to study these works. We realized that just putting a resource online wasn't sufficient, we also had to complement it with strata of information, critical discourse and tools (a taxonomy, a bibliography). The website had to become more than just a hub of activity for our group, but a source of knowledge and insight. The NT2 directory became our first Research and Knowledge Environment (RKE); this is the expression we used and started to promote (following the first INKE conference in Victoria BC, organized by Ray Siemens). It became our official publishing strategy. A Research and Knowledge Environment is an online encyclopedic platform offering the results of ongoing research, through layers of analysis that exploit a theme. Our hypothesis was that such a resource can become to digital culture what the codex has been to the book culture, i.e. its primary mechanism of organization, transmission and valorization of information.

The first RKE was the NT2 Hypermedia Arts and Literature Directory, which we worked on extensively for fifteen years. The Directory can be searched by a faceted search engine. Each of the more than 4000 entries identifies a hypermedia work, incorporates extracts, some screen captures or a filmed navigation, gives information on the author or authors and lists the work's URL, since most of them are on the Internet. A description of the work itself is provided, focusing on specific aspects, namely the forms of interactivity. To these entries are added, and this is where the concept of RKE became real, a set of thematic dossiers which highlights topics pertinent to these works, a series of blogs written by the NT2's researchers, and a series of virtual publications. We have our own podcast channel, Radio ALN|NT2, on which 46 podcasts have already been broadcast.

We also started doing online exhibitions curated by members of the team, namely by Professor Joanne Lalonde, an art historian and the NT2 co-director. Five such exhibits have already been shown, three of which

are notable. The first, *The Web Alphabet (Abécédaire du web)*, received the Gold Web Art award at an international museology festival in 2012. The second, *Uchronia|What if?*, was presented at the 2017 Venice Biennale as part of the HyperPavilion project and later selected to be part of the 36th edition of the Rendez-vous Québec Cinéma in 2018. The third, *Re|Search*, is currently presented at the ISEA 2020 conference.

The Directory was an important part of the ecosystem we started to put together; it was a stepping stone and a lot of lessons learned while doing the project were put to use deploying the various RKEs we ended up designing. Before getting to this ecosystem, I want to describe one immediate offshoot of the directory: the project *Archiving the Present. Exhaustivity as an Aesthetics in Contemporary Cultural Practices*. This RKE, which is online since late 2018, is a direct consequence of the Directory. Having spent 15 years describing and cataloguing digital and hypermedia art, in a truly abductive manner (cf C. S. Peirce's notion of abduction), we realized that a new paradigm in the creative process had appeared, one where, to put it in a nutshell, systematicity was favored over originality, fascination or obsession for an object over mastery of an art or a technique, and exhaustivity of description over precision of execution. This paradigm shift is present not just in digital aesthetics or in what Lev Manovich calls info-aesthetics, but in all types of artistic and cultural practices. So we set out to prove this hypothesis, and to do this we conceived the *Archiving the Present* RKE. The central piece of the project is the Collection, a Directory of all types of works based on a systematic approach. These works range from literary texts to found footage, videos, photography and post-photography, to collages, performances, artist books, etc.

Ecosystem

At the same time as I was directing the NT2, I was also the founding director of Figura, the Research Center on Text and the Imaginary, funded by the FRQSC (Fonds de recherche du Québec: société et culture). Figura brings together more than 55 professors and 400 graduate students, from 5 universities and 4 colleges. I approached my colleagues with the possibility of imagining new strategies to publish research, namely in the form of RKEs, and to help convince them we gave out internal grants to help organize and put their projects online. Thus, at the NT2, we started receiving proposals for RKEs. We did not just theorize the advantages and forms of RKEs, we set out to establish them on a major scale. We didn't develop the content management system we

were using from scratch, instead we chose the open source CMS Drupal and used it to answer the needs of our community. Our aim was not to build a prototype, but to deploy an ecosystem of online RKEs, and to see it evolve. The objective of this ecosystem was and still is to renew the way research is carried out and published on the Internet, by creating structured research platforms that are institutionally recognized (by being part of a Research Center for instance) and linked by the same search engine.

At Figura, we went on to propose as our core project, not a book-based publication, but a web-based one, an online encyclopedia devoted to contemporary imagination, studied from the point of view of artistic, cultural and literary practices. Thus, the Contemporary Imagination Observatory (oic.uqam.ca) was created in 2009. Now in its third version, the Observatory is set up much like the NT2 Hypermedia Arts and Literature Directory, as a website publishing research in an ongoing manner. It has multiple layers of discourses and analyses. For instance, as of this winter, the OIC has brought online:

- 117 conferences (42 videos, 76 audios)
- 61 symposiums, 27 workshops, 46 round tables for a total of 1306 talks, of which 548 are recorded videos
- 48 remediated publications from the Figura series of *Research Papers* (485 articles)
- 136 republished articles from Figura's researchers (part of the Patrimoine section)
- 27 research blogs (323 entries)
- 11 publications from the *ReMix* series (125 articles)

One of the main features of the project is its search engine, a faceted search engine based on our own taxonomies. For a word such as "ville/city", we get over 1800 results. We can refine our search in terms of types of results (bibliography, articles, etc.), historical periods, geography, disciplines, artistic movements, cultural practices, figures and motifs used, theoretical aspects. Not only is this search engine faceted, it functions across multiple websites. Using the expertise acquired while working on the CELL project with ELO, the Electronic Literature Organization, we started adjusting our projects so they could be harvested by the Apache Solr engine. Thus, when do you do a search on the Observatory, you get results from up to seven distinct projects. The results for "ville/city" are located not only on the Observatory database, but also on *Revue Captures*, our peer reviewed journal; *Magazine Spirale*, a cultural journal covering the arts and the humanities; *Hochelaga Maisonneuve*, a creative writing website exploring a

Montreal district through a geopoetic stance; *Pop en stock*, an RKE specializing on popular culture, from comic books to television and video games; and *Revue Postures*, a UQAM student journal in literary criticism.

The search engine is a gateway to our ecosystem devoted to contemporary imagination and cultural practices, from the traditional to the virtual. Our next objective is to put in place a website centered on the search engine, which will serve as a centralized access point to all the affiliated projects. In the meantime, our ecosystem is visible through the search result on the Observatory and on the banner atop the website, which list all the 26 projects connected. Our Observatory was initially research driven. Now, as research-creation becomes more popular and graduate programs incorporating it multiply, the impetus for having a web presence is becoming stronger. Our next major project will be to develop a centralized website, *La Fabrique de l'imaginaire contemporain*, granting access to the resources in research-creation put online by our community of creators and researchers.

Conclusion

I could go on and describe all the projects assembled in our ecosystem, but that would be tedious. Let's just say that all our major projects are still going strong, new ones have appeared and continue to enrich our ecosystem. To say the least, they are an extraordinary window on our community's numerous activities.

On a more personal level, if I look at how far I've come since the early interactive games we played through letters and phone calls across North America, the path seems strangely clear-cut. I started out being preoccupied by the fate of hyperfictions and web-based art and literature which disappeared as soon as the medium they relied on evolved, preoccupied therefore by our capacity to experience and, especially, conserve these fleeting forms; and I ended up building an ecosystem dedicated to the study of contemporary imagination, an ecosystem built by a research community interested in the numerous cultural, artistic and literary practices that make our world. I was driven by a simple directive: Know your world and share your findings. Know your world

through its representations, whatever the medium or the technology; and share it, whatever way available. And do it before it becomes obsolete and disappears. This directive, I must admit, has never lost its meaning.

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Bertrand Gervais holds the Canada Research Chair in Digital Art and Literature. Full professor in the Literary Studies Department at the Université du Québec à Montréal (UQAM), he is the founding director (1999-2015) of Figura, the Research Center on Textuality and the Imaginary, and of the NT2 Lab, the Research Laboratory on Hypermedia Art and Literature. He teaches American literature and literary theory, specializing in theories of reading and interpretation, and in contemporary cultural, artistic and literary practices as well as in electronic literature and digital aesthetics. Member of the Canadian Royal Society, he has published and edited numerous essays on contemporary theory, literary aesthetics, semiotics and symbolic processes. He is also a novelist.



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