

**the web of collaboration:
new technologies, new opportunities
for
the visual arts in a digital age
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introduction

The twenty-first century networked, digital world poses many challenges to museums. As conservative institutions, designed to preserve and interpret static objects, art galleries and museums must come to terms with a constantly changing and evolving environment, where traditional audiences are fragmenting and new audiences are highly demanding.

Museums must rethink themselves and their traditional relationships to other organizations – and their publics – if they are to maintain their relevance in this new digital century. As museums struggle to find ways to develop programming and deliver content, they will find themselves challenged by some of the constituencies that they have traditionally served. While museums have often thought of schools, teachers, students and researchers as a natural community of users, the educational and research sector is developing its own culture of presenting ‘original’ materials in digital form that may, unintendedly, challenge the nature and future of museums themselves. When the *idea* of the museum has the organizational and presentational power that the many online exhibitions and digital museums on the Web show it has, the need for *real museums* with the full curatorial and preservation apparatus may be called into question. When others can tell their own story, why does the museum need to tell one too?

Ironically, the technologies that provide the tools for others to mimic the museum in a digital form are the same tools that museum professionals must themselves embrace if they are to continue to develop and deliver the stories and histories of the art and culture they preserve. Through an innovative use of digital communications technologies, and through creative collaborations with other organizations – including some institutions not traditionally thought of as allies – the museum community can establish a new relevance, as a touchstone of the real in an increasingly virtual world.¹

This paper will explore the challenges and opportunities presented to heritage institutions in this changing landscape. We'll begin by identifying some traditional communities and purposes that museums have served in our society, and re-examine the goals of museums in each of these areas. We'll establish the way in which these sectors interact with cultural organizations and see how museums can learn from these intersections.

Then we'll look at the institutional landscape within which museums work, reviewing the other kinds of organizations that engage in cultural preservation and interpretation, with which museums will have to collaborate. We'll look at the skills these other organizations could bring to a partnership, identify what they might hope to gain from collaboration and identify where and how museums could benefit from new kinds of alliances enabled by technology.

¹ See "When All You've Got Is 'The Real Thing': Museums and Authenticity in the networked world," presented at the Annual Meeting of the Documentation Committee of ICOM/CIDOC, Nuremburg, 1997, and *Archives and Museum Informatics: the cultural Heritage Informatics Quarterly*, Vol. 12, no. 2, 1998. Presentation available at <http://www.archimuse.com/papers/jt.cidoc.97/index.htm>

We'll then move to a brief review of the kinds of technologies that may be of benefit in each of these sectors, looking at where and how technological development needs to take place for the arts to fully benefit from technological advances. As change is ongoing, developing the technical agenda for the arts is essential to shaping technologies to fit our needs.²

The Art Museum Image Consortium (AMICO) will provide an example of how all of these various issues can come together in a new model that enables the educational use of museum multimedia. AMICO's addressed challenges in some of these areas, and has taken advantage of technology to build new relationships among museums and the educational community. The AMICO example shows how museums can use new technology to reach out, engaging new people through collaborating with different kinds of institutions. We'll also look at other examples of projects that use technology to bridge the gap between museums and many of their user populations.

New collaborations such as these can lead to a new relevance for cultural institutions.

Objectives

Articulating objectives is key to understanding how museums can relate to potential partners in the digital age. This slide identifies four broad spheres of museum activity.

Museums seek to raise **public awareness** of their collections and the meanings inherent

² Such as the J. Paul Getty Trust's *Research Agenda for Networked Cultural Heritage*, 1995-1996 and NINCH project exploring inter-relationships between Computer Science & the Humanities <http://www.ninch.org/ninch.html#projects> and <http://www.ninch.org/PROJECTS/science/science.html>

in them. They wish to further **scholarship**, and develop further understanding through **research and creative enquiry**. All of this activity takes place within an overall framework of **economic activity**.

Each of these environments has something to offer museums. Through **scholarship**, museums are assured of the authenticity of the objects in their care. Experts who study our works of art and the circumstances of their creation, and puzzle over their meaning, provide museums with knowledge of the objects in our we care; teachers aid in their interpretation. Scientific **Researchers** and **creative artists** provide museums with new methods of preserving and presenting our collections, challenging us with new ideas about their meaning and makeup and offering new interpretations and juxtapositions.

Funding comes to museums through the **economic activity** of both government and private initiatives. **Public awareness** and appreciation of museum collections and programming gives them their relevance, and helps transfer cultural meaning into the broader sphere. This in turn ensures ongoing support and funding for cultural institutions.

Partners

There are logical institutional partner for museums in each of these spheres. In **Libraries and Archives** museums can find fellow collecting institutions that specialize in reaching out to potential audiences, both in schools and in the general public. While they have been limited in the past to the passive delivery of ‘traditional’ information products – books and at their most adventurous videos and CD-ROMs – these organizations are anxious to deliver information in new multimedia formats to their traditional clients.

Original materials and special collections, including art, rare books, and local history materials, have proven to be powerful tools for engaging the general public, teachers and

students with the collections of libraries and archives. Many examples can be found in digital library initiatives throughout the country, including those at the University of Michigan (Project CHIO³) and the University of Illinois, Urbana Champaign⁴. By integrating representations of physical objects into their digital collections these organizations become more and more museum-like. The exhibition and interpretative paradigms of museum discourse are being adopted outside the museum community. Museums can play a vital role, helping these consortia understand the difference between passive and active service delivery (interpreting an exhibition instead of checking out a book).

Museums themselves can also look to the **academy** – universities, colleges and schools – for partners in scholarship and research. These organizations are poised to adopt new digital resources and integrate them into their teaching and research, and in concert with governments are ready to explore new methods for service delivery. Museums provide a new source of engaging and interesting teaching material. The challenge is to make it relevant and present it in a manner that meets the needs of this demanding community. The ArtsConnectEd project, a collaboration of the Walker Arts Center and The Minneapolis Institute of the Arts with the support of MCI/WorldCom, gives us an excellent model for the integration of users into the development of educational

³ Olivia Frost, Engaging Museums, Content Specialists, Educators, and Information Specialists: A Model and Examples, *Museums and the Web 2001*, Archives & Museum Informatics <http://www.archimuse.com/mw2001/papers/frost/frost.html>

⁴ Nuala A. Bennett, Beth Sandore, Amanda M. Grunden “Integration of Primary Resource Materials into Elementary School Curricula”, *Museums and the Web 2000*, Archives & Museum Informatics <http://www.archimuse.com/mw2000/papers/bennett/bennett.html>

programming, and for the state-wide linkage of cultural organizations and educators in a collaboration that benefits all involved.

In **government** museums can find increasing support for the development of new strategies and structures that serve needs in the public sector. By encouraging collaboration across agencies, governments are furthering an agenda to improve service delivery. Museums often play leading roles in educational and social consortia, finding funding and relevance in areas that have not traditionally supported the arts.⁵ For example, the Cleveland Museum of Art is now developing new audience in a project that, uses broadband networked technology to deliver arts programming to elderly and handicapped shut-ins.⁶ Supported by the Department of Commerce, this project marries the governmental goal of decreasing the digital divide with the museum's goal of community outreach and audience development. Government support in other areas has helped organizations such as the STOA Consortium (www.stoa.org) explore models for electronic publishing and scholarly communication.

Collaboration with **for-profit organizations** – indeed creating for-profit organizations – seemed to be *the* way forward for some museums in the midst of the dot-com boom. However, with the readjustment of the markets, museums are once again reminded of the need to think carefully about how their mission and goals relate to the goals of a for-profit partner. While there are many possible opportunities in the development of new

⁵ Reading the Museum, a literacy project of the Canadian Museums Association
<http://www.nald.ca/rtm.htm>

⁶ Lenord Steinbach "A collaborative Model for Lifelong Learning and the Arts using Broadband Multicasting". Proceedings of the *International cultural heritage informatics meeting, cultural heritage and technologies in the third millennium*, September 3-7, 2001. 107-140..

ventures, museums must be particularly careful that they are not just experimenting with technology rather than delivering a program or service. For example, while early experiments with ‘portable’ PCs in the gallery may not have paid off, the use of the Compaq i-paq in the San Francisco Museum of Modern Art (SFMOMA) seems to have been a success.⁷

Museums, and particularly art museums, have learned that they need find ways to manage intellectual property in the networked environment. We’re learning to work with **rights holders** – and they are learning to work with us – as we develop a better understanding of the value and cost of creating digital cultural resources. In doing so, we can also find new sources of revenue – or cost savings – for the museum.

Technologies

These new collaborations are enabled by a range of emerging social and scientific technologies. Understanding what the technologies are, and how they fit into the varied mosaic of museum digital programming, is often complex, particularly as the landscape is a fast changing one.

We have seen that the general public is excited by the delivery of **multimedia** over the Internet, whether for entertainment only – in the form of a movie clip – or as education – in the form of a QuickTime movie from the Art Institute of Chicago’s *Cleopatra*

⁷ Peter S. Samis, “Points of Departure: curators and educators collaborate to prototype a ‘Museum of the Future’” proceedings of the *International cultural heritage informatics meeting, cultural heritage and technologies in the third millennium*, September 3-7, 2001. 623-637.

⁸interactive. These new forms of communication are engaging and challenge museums to develop more interactive and lively interpretation of their collections both online and in-gallery.

To support this we are seeing the development and deployment of a range of **technical file formats and metadata standards** that will enable the capture and documentation of a wide range of sound, motion video, animation and image data as well as text. Managing these digital assets is becoming a technical challenge for museums. This is an area worth investing in, however, as these digital materials represent a significant investment in their creation.

These new forms of information are being used in increasingly complex ways. New **creative and analytical tools** enable users to manipulate and process digital information quickly and easily. Large volumes of data are now being used in basic research (such as the linguistic studies supported by the Oxford Text Archive⁹). Much work remains to be done to create the kinds of fully integrated study environments that we envision for the future, or the kinds of workflow we would like to support in teaching and learning.

What is becoming clear is that we must expand upon traditional **business models** to support this new activity. New modes and methods of doing business are developing that recognize the changing distribution of costs and benefits in the digital environment. Museums must address the challenge of sustainability, and the responsibility of preservation, as we explore ways to support our digital activities. The climate has

⁸ <http://www.artic.edu/cleo/>

⁹ <http://ota.ahds.ac.uk>

changed, and the possibility that traditional philanthropy will support digital culture is waning.

AMICO's example

The Art Museum Image Consortium (AMICO) provides one example of an innovative collaboration of museums that have come together to enable educational use of museum multimedia. Working together in the digital environment to accomplish things that they cannot do alone, AMICO's more than thirty members are creating The AMICO Library™ a shared digital repository of their collections documentation. Not just a digital slide collection, the AMICO Library incorporates the full range of documentation available in museums, from images and text, to sound and motion video. It has been available since 1999 through the campus networks of subscribing educational institutions. Faculty, students, staff and researchers can make unlimited use within the terms standard license agreements developed in conjunction with users.

Full details about AMICO can be found on our Web site at www.amico.org. What is of importance here is the web of collaborations we have had to develop to make AMICO work for all those involved.

AMICO's Collaborations

Within AMICO, **museums** are collaborating over the long term to create standard digital documentation of their collections, and merge it into an integrated whole. Members govern the Consortium, through representation on the Board and participation in working committees on issues such as Technology, Editorial practices, User relations and Rights.

AMICO collaborates with other organizations in all spheres to facilitate the creation and distribution of The AMICO Library. To reach **libraries and archives**, rather than duplicate the significant efforts and investments of existing **information service providers**, AMICO partners with the likes of the Research Libraries Group (RLG) and VTLS to make The AMICO Library available to the communities they serve. By bringing museum content closer to the users, presenting it within the context of institutions they use regularly (their libraries) and displaying it within the context of systems they are familiar with, we hope to break down some of the barriers to the use of our new kind of digital information. It's important to remember that these communities may not be seeking out museum content – it's up to us to make sure they have access to it.

AMICO is working with **schools, teachers, students, faculty and researchers** through a variety of projects designed to test the delivery of The AMICO Library in different contexts. In 1998 we launched the **University Testbed** project, and studied use of a beta version of The AMICO Library on campuses in the US and Canada. In 2000 we launched a similar testbed in **schools**, recognizing that the institutional and social dynamics of primary and secondary education is significantly different to that of research universities. These collaborations with users have helped us to learn more about the nature of user needs and desires, and to help guide their perceptions of The AMICO Library. There is a strong desire to cast our efforts in the shadow of known models – like the digital slide library or the picture collection. Working with users helps us raise awareness of the new kinds of materials offered in The AMICO Library and their potential to enliven education and exploration.

We're working with new kinds of governmental bodies in the USA and abroad. As the public sector struggles to find ways to manage funds for networked information resources efficiently, new kinds of consortia and committees are emerging, that provide significant opportunities for museums to reach a wide range of users.

In the United Kingdom, digital content and delivery for education is managed centrally, at the **federal** level, through the JISC or Joint Information Systems Committee. AMICO was able to work with the JISC to reach all of UK higher education through a single collaboration! Such national coordination is not possible in the US; however, many **state** education agencies or library consortia are emerging. We've made state-wide agreements in Ohio, with OhioLINK and are close to one in New York, with NYLINK. Again, through a collaboration with a new kind of entity, we've broadened our reach and leveraged our efforts. One contract centrally is much preferable to a multitude of contracts with each of OhioLINK's member universities and colleges.

AMICO has also moved -- in a measured way -- towards collaboration in the for-profit sector. We've had to deal from our inception with the issue of intellectual property rights, particularly as many of our members collect contemporary art. This has meant negotiating permissions and sometimes paying fees for the use of works of art under copyright in The AMICO Library. Again, our strategy involved identifying organizations we could collaborate with to help meet these requirements. We have been able to negotiate an agreement with the **Artists Rights Society (ARS)** to enable the inclusion of

works whose copyright is represented by ARS—breaking the rights barrier for a major portion of modern art history!

Collaboration with for-profit organizations has also made it possible for AMICO to enhance the content of The AMICO Library in other ways. But it's important to note that we review many opportunities for partnering in the corporate sector, and decline most. Where we have partnered, it's been with a clear idea of AMICO's goals and an understanding of how collaboration in the for-profit sector could help meet those needs. For example, working with **Antenna Audio**, we've brought the digital sound files created for member museum in-gallery audio tours into the networked information environment. Antenna is returning these files, through AMICO, for member's use in The AMICO Library and elsewhere. What was once a single-use project has become a long-term asset.

AMICO has also announced a collaboration with **H. W. Wilson**, the publisher of *The Art Index*, *Art Bibliographies Moderne* and the *Art Full Text* databases. This for-profit publisher is able to reach a broader audience than any of our specialized library network distributors. Through Wilson, we will be able to bring The AMICO Library to public libraries (and hence individual users) and to many smaller colleges and public schools. As with other distribution environments, we hope in time that linkages between The AMICO Library and other art resources will be developed, to improve the user experience and make the web of knowledge a richer one. There are still many opportunities for collaboration there!

Reaching People through Organizations

Key to AMICO's strategy has been the recognition that we can reach people in this new environment by collaborating with the institutions that serve them. **Libraries and archives** have direct relationships with many people who have been historical visitors to museums – and to many who would become museum patrons if they were exposed to the riches of our collections. **Schools and school boards** are redeveloping curriculum to meet new requirements for the integration of technology. Digital museum content can be there – from the outset – and capture the imagination of a new generation of students, who may first encounter art in its digital reproduction. **Government agencies** are creating many opportunities for creative partnerships, though they may be in areas of activity not traditionally thought of as the province of the museum. Creative thinking, however, can take advantage of these programs to enhance the museums outreach to underserved populations. **Corporate partners** can help museums in areas where risk is higher, and possibly returns are greater, but we have to be careful that our mission isn't skewed in the process.

This web of collaboration offers many opportunities to museums and cultural organizations as they seek to position the arts in the digital age.

Reaching the General Public

For example, museums can work more in the public sphere, collaborating with libraries and archives, or working with the for-profit sector to develop new programs and services. The previously mentioned work at San Francisco Museum of Modern Art (SFMOMA) is

a great example of how a new technology -- the handheld computer -- can bridge time and space. Bringing technology into the galleries allows the artists to speak -- through digital video -- and encourages the visitor to engage with the artist and her creative process. Nothing can compare to the direct impact of Louise Bourgeois's discussion of the relationship between her mother and spiders!

There is much more we can do to bridge the gap between artistic creators and gallery-goers.

Reaching Scholars and Researchers

Opportunities also exist, on a much larger scale, for changing the nature of relationships between and among collecting institutions -- museums, archives and libraries -- and their traditional audiences of schools, scholars and researchers. The combined forces of digital technologies break down the barriers between dispersed collections, and allow the direct engagement of students in many disciplines with cultural content.

The Perseus Project at Tufts University¹⁰, now funded by the Digital Libraries program of the National Science Foundation, is one such initiative that is building a widely-used digital collection related to the study of the Classics.¹¹ Constructed from the perspective of the scholar / researcher, Perseus disassembles collections and presents their contents thematically. Collaboration in Perseus by museums such as the Museum of Fine Arts,

¹⁰ <http://www.perseus.tufts.edu>

¹¹ Gary Marchionini "Evaluating Digital Libraries: A Longitudinal and Multifaceted View", *Library Trends* 49(2), Fall 2000

Boston, requires a willingness to change one's perception of collection, and to profit from the re-presentation of works in a new context.

These large digital library projects challenge museums to engage with the academy. At the University of Virginia, the Center for Advanced Technology in the Humanities has developed an archive of the work of Dante Gabriel Rossetti, that integrates his exploration themes across many media. This textually-driven perspective offers new insights into Rossetti's iconography and impact. But the absence of a strong curatorial input on the research team shows in the nature of the documentation presented. For such digital library projects to be widely useful, arts professionals need to become more closely involved, for their methods of analysis and modes of enquiry differ.

What these two projects show is that the academy is not going to wait for museums to create digital representations of their collections. If the academic drive to assemble a digital corpus for study exists, the collection will be developed. Museums owe it to the collections in their care to ensure that they are represented as well as possible within these new digital resources. There are many opportunities for the integration of digital art and museum collections into the wider discourse of humanities teaching and scholarship, and we should take advantage of them!

new collaborators, new relevance

New collaborations offer ways for museums to achieve a new relevance at a time when their very existence may be challenged.¹² Rather than fading into the distance as relics of a physical past, museums could embrace the digital future. By focusing on the communication of knowledge about the objects in their care, and by taking advantage of new vehicles for reaching new audiences, we can create a pivotal position for cultural institutions in a digital world.

The strategic choice of technologies and partners that can further our collective mission will be an ongoing challenge to museums in the years to come. There are many opportunities for the arts in the digital age. As digital technology becomes pervasive, and information is available instantly, anywhere, the role of the arts institution becomes that of re-presentation. We are the advocates for culture in the digital sphere, as we are in the physical sphere. Our challenge is to define the new roles and relationships that enable us to be effective. We need to ensure that the place of the arts, and the voice of the artist and the viewer are not lost in the new digital environment. We can succeed as arts institutions in a culture of ubiquitous networking by striving to create ubiquitous networked culture.

¹² Susan Hazan, "The Virtual Aura - Is There Space for Enchantment in a Technological World?" *Museums and the Web* 2001, <http://www.archimuse.com/mw2001/papers/hazan/hazan.html>