

NARRATIVE

National Impact

The past decade has shown that digitization has immense potential for opening up museums and their collections to a wider public than ever before. CD-ROMS, on-line projects and databases, and especially distribution on the World Wide Web are now available in private homes, libraries, and schools across the nation. Today, it is no longer a question of whether museums will have an illustrated Web site or digitize their collection records. That has happened. But in a larger sense, the revolution has only begun. *We must train museum professionals to respond effectively and efficiently to the digitization challenge.*

When library digitization projects began, librarians had already done the most difficult work of creating data systems to manage control of collections. Their practices and training programs were professionalized; traditions of union cataloging predated the formation of digital cataloging consortia like OCLC and RLG (see the attachments for a list of abbreviations). No such foundation was available to museums when they began to digitize the documentation of their collections. Without a national standards body, without union databases and with few professional museum-training programs, museum registration and cataloging methods still vary widely from institution to institution.

The visual, physical, historical, and multi-cultural nature of museum objects makes them far more complex and difficult to describe and categorize in digital form. Museums, therefore, need to be very strategic in capturing the information they create, over time, in a way that will make it re-usable in digital form. *We are unlikely to have the luxury of re-cataloging entire collections.*

Early museum digitization projects were generally collection “control” projects that chose to record only a small amount of data. Too often, even these produced incomplete or proprietary results; when “start-up” grants ran out for such projects, systems declined for lack of funds. Compared to library digitization, museum digital documentation is still patchy, unfinished, and institutionally precarious. Although many large, established museums have some digitized documentation of their collections, much work remains. Many museum objects have never been photographed at all, much less made available digitally. Many older museums have a large percentage of records that have not been updated or even re-examined since they were created in the late 19th and early 20th centuries. In most museums – large and small – documentary sources of various kinds (texts, books, curatorial and registrarial records, exhibition labels, photographs, video, sound) are created by and for different people, often without documentation or links to particular objects in the museum’s collection. Much of this information is created within the context of a particular exhibition or publication, and is not managed for long-term retention or re-use. Almost always, the data is incompatible with data from other museums and inconsistent with data in other scholarly databases.

Each museum’s methods have concrete costs, levels of effort, and quantitative documentation results. Each process creates assets with greater (or lesser) long-term value. *Museums as institutions and their staffs as professionals still have much to learn to adopt workable, cost-effective, long-term solutions to the problems of storing, preserving, and providing access to essential information about our cultural heritage.*

Museums, whatever their resources and previous experience, need help to develop digital documentation with a tested and consistent methodology. They also need training to assess and reconsider the range of current documentation and in-house communication practices, and to compare local practice to that of other institutions. A recent survey showed that 82% of respondents

“owned some of digitization equipment” but relatively few had the “knowledge required to effectively digitize cultural heritage collections” (Illinois, Jones/Sandore 2002). *Currently, no tested training programs are available to museum professionals to help improve institutional digital documentation practices. This grant aims to create and test such a program and make it available for museums, museum professional associations and museum educators to use for free.*

AMICO as a Laboratory

The Art Museum Image Consortium (AMICO) is in a unique position to create a *Digital Documentation Training Program for Museum Professionals*. Formed in September 1997, AMICO is a unique self-funded collaboration among museums that shares, shapes and standardizes museum digital documentation. Together, AMICO’s Members construct The AMICO Library, a coherent and unified digital resource offered to a range of educational users. AMICO’s membership includes over 35 museums in the US, Canada and the United Kingdom, representing a broad range of sizes and institutional types, from the Terra Museum in Chicago with a permanent collection of approximately 700 items, to The Metropolitan Museum in New York with a collection of millions. An independently incorporated organization (with 501-C3 designation from the IRS), AMICO is governed by its Members, who see participation as part of their educational mission. Membership in AMICO is open to any non-profit institution with visual collections it wishes to make available to a broad, educationally oriented audience. While Members pay dues, AMICO’s Board recently introduced a dues rebates to Members in good standing.

AMICO links its Members and their collections to a wide variety of educational users and organizations. Through data distributors like the Research Library Group (RLG) and OhioLINK, The AMICO Library is now available for use by more than three million undergraduates, researchers, professors and staff at more than 280 colleges and universities of every size and type, worldwide. AMICO has also begun distributing The AMICO Library to K-12 schools and public libraries and in the first 6 months of this program has subscribed over 60 K-12 schools and public libraries in the United States. As an organization, AMICO was the first to bring such a broad-based network of museums and users together in an on-going collaboration. *We are ideally positioned to broadly influence professional practice both inside and outside AMICO membership.*

Within its collaborative structure, AMICO brings together significant human resources in museum documentation and digitization. Professionals at AMICO and in AMICO Member institutions are involved in many museum and digital library standards projects, including the Consortium for Computer Interchange of Museum Information (CIMI), the NISO Image Metadata Initiative and the Dublin Core, MARC formats for archives and visual museum, the *Art and Architecture Thesaurus*, the *Union List of Artists Names*, and the *Categories for Description of Works of Art*. We also maintain professional, membership, and contractual relationships with the Artists Rights Society (ARS), the Visual Artists and Galleries Association (VAGA), the College Art Association (CAA), the Museum Computer Network (MCN), the National Initiative for Networked Cultural Heritage (NINCH), the Documentation Committee of the International Council of Museums (ICOM/CIDOC) and many other relevant professional groups and organizations (See References).

AMICO’s approach for developing a training program is to identify beneficial changes at every stage of the life-cycle of information capture – from the earliest encounter of a curator with an object being considered for acquisition, through the latest loans, conservation assessments and publicity releases. Any digital documentation program should acknowledge the practical requirements for uniformity in construction of shared resources, providing a focus for abstract and theoretical guidelines. *AMICO’s hard-won experience in creating six editions of The AMICO Library (the 2003*

edition will document over 120,000 works of art), combined with the best current documentation practices, will produce clear and usable end-to-end documentation methods that benefit museums nationwide. It will also ensure the digital cultural documentation produced by museums meets user needs for consistent, readily searchable digital resources.

To meet the needs of museums of all shapes and sizes, with differing levels of experience and resources, the training program will analyze workflow within museums. Training modules will be structured around tasks in documentation, independent of a specific assignment of responsibilities, introducing best practices where they will have the greatest impact on quality. Training materials will be designed in modular sections to allow individual institutions to structure their learning according to their own needs.

Adaptability

Digital documentation issues are cross-departmental, cross-institutional and relevant for all types and sizes of museum. Whether a museum has entire departments devoted to collections documentation, registration, photography, conservation, or provenance research, or only occasionally performs these tasks, the digital documentation can be more effective through planning and training. Some departments within a museum “consume” information first generated in other tasks; others produce or initially acquire information used throughout the institution. Influencing how data is managed in those places that have the greatest impact on future in-house and external uses will exert the greatest influence over the efficiency and effectiveness of the overall digital documentation process. These results are general and adaptable across all museums.

Whether a museum is conducting multiple digitization projects or just starting out, improving digital documentation practices (which we define as reducing cost and effort and increasing quantity and quality results) begins with a review of current methods. Museums identify documentation produced across departments and flag what is not incorporated into the digital stream. Each institution needs to assess the data it creates in terms of guidelines and standards developed to promote long-term management and accessibility of digital documentation. *A Digital Documentation Training Program for Museum Professionals* will assist any museum planning a digital documentation project to adapt their organizational structure to meet the digitization challenge.

A Digital Documentation Training Program for Museum Professionals is designed to address specific issues relevant for all museums through modular training plans that are adaptable. Two distinct methods of delivery for the training materials will be developed and tested during this project: workshop-based face-to-face training and workbook-guided self-study. Our goal is to develop materials that will deliver needed professional training as effectively as possible. Not every institution (or individual) will best be suited to one approach. In additions, participants in workshops will be able to use the materials to train others in their institution or region.

Design

Through the AMICO Editorial, Technology, Rights and Users and Uses Committees, AMICO Members have reviewed methods and made recommendations regarding best practices. Since 1997, in face-to-face meetings and on electronic discussion lists, we have explored how museums do digital documentation work, and have compared documentation practices from many institutions. We have begun to record our findings in “How to AMICO” guides, the first step towards articulated

professional practices (See Attachments). The design of this project builds on this experience and professional practice. In *A Digital Documentation Program for Museum Professionals*, four modules will be developed as workshops and provided in four workbooks for self-study or classroom use.

Workshop 1 (Day 1) *Analysis of Collection-Related Documentation and Interpretation Sources*
(Day 2) *Defining In-House Documentation Practices*

Workshop 2 (Day 1) *Data, Image and Multimedia Acquisition and Capture*
(Day 2) *Long-Term Usability of Digital Documentation*

Module 1: Analysis of Collection-Related Documentation Processes

Taking advantage of workflow is the critical issue for integrated information management in any museum. Understanding workflow is also a way to understand the differences between individual museums, and determine how practices within each area can be harnessed effectively through professional training in digital documentation. By analyzing information creation processes up front, participants will begin to develop “buy-in” from critical team members. Each person or department involved in creating documentation will be identified and the current documentary sources they create and use will be enumerated. Sources of existing digital documentation such as word-processing text, images captured digitally or scanned, sound recordings, databases and numeric information from sources such as conservation instruments will be located and made part of the conceptual universe of digital documentation. Participants will develop new workflow plans that streamline the overall process, and identify the authoritative sources for particular kinds of information created in the museum. After completing the first module, participants will understand the relationship between different sources of documentation, both digital and not-yet-digital, in their current environment.

Module 2: Defining In-House Documentation Practices

The next step in improving the way that digital documentation integrates across museum departments is to analyze its content. Specific pieces of information may link one resource to another or serve as authoritative information about a collection object. Through understanding how these relatively few elements of information work, or fail to work, within each existing in-house recording system, and across those systems, participants will be prepared to identify needed changes. In this module, in-house and external standards will be examined to see how they contribute to making better digital documentation. This module’s exercises and detailed analysis focus on the concrete information requirements within the previously analyzed workflow. They also explore how data is – or could be – accessed (current indexing methods) and is displayed (current reporting capabilities). The requirements for data when it is exported from one system to another or linked across systems in a neutral environment will also be considered. In each case, methods will be employed that identify the costs and benefits for digital documentation within existing in-house environments and beyond the walls of a museum.

Module 3: Data, Image and Multimedia Acquisition and Capture

Digital documentation is created in-house or acquired from outside sources based on specifications. Refining the articulation of the specifications and codifying the methods by which digital documentation enters museum systems is essential for accurate, efficient, complete and standard data acquisition – all characteristics that add to digital documentation’s utility over the long-term. Criteria for selecting appropriate technological methods from the wide variety of possibilities will be defined. The application of each criterion will be assessed within the context of institutional workflow and the content of existing data repositories. Those institutions just embarking into the

digital realm gain an advantage, because they can learn from the examples of others. Some early museum digitization projects adopted proprietary and restricted approaches. As professional practices evolved, museum staff realized that technology should be open, accessible, and adaptable. Early adopters need guidance to make the switch to open solutions. The methods required to integrate digital documentation in data, text, image, sound and multimedia resources exist, but they need to be implemented within the contexts identified previously in workflow and repository analyses. In this module, content representation standards will be reviewed and integrated into the adopted workflow solutions.

Module 4: Long-term Usability of Digital Documentation

Systematic consideration of long-term sustainability has not been a formal part of documentation systems planning in most museums. Although the issue of longevity is woven into all of the concerns reviewed in previous modules, it deserves special attention. Requirements for data interchange, data migration, and data re-use need to be factored in to methods adopted throughout the institution. Substantial and unexpected expense and effort to maintain digital documentation, and large lump sum expense to convert or recover data can be avoided. In this module, technical and budgetary calculations will be identified and their implications integrated into the overall plan.

AMICO staff and project staff will be responsible for research, analysis and drafting of the *Digital Documentation Training Program for Museum Professionals*. Each module will be reviewed by an Advisory Committee, and reviewed, tested and evaluated with a total of twelve AMICO Member museums, representing a broad spectrum of institutional types and sizes, and newer members with less experience. AMICO and project staff will complete baseline evaluations of digital documentation. The effectiveness of the professional training program will be evaluated by comparing baseline data to samples taken after training.

The project will be conducted in four phases:

Phase One begins the project with three months of detailed planning and baseline documentation. Participants will be notified, a Research Associate hired, the project Web site will be constructed and launched, and detailed project plans will be developed and reviewed. AMICO's Director of Member Services (the Principal Investigator), the Director of Strategy and Research, Executive Director and the Research Associate will define baseline measures of current digital documentation practices (derived from analysis of prior year costs, labor, and quantities and qualities of digital documentation). These measures, will be applied by project staff to six AMICO Museums participating in the training programs, and six other AMICO Museum participants will apply the baseline measure on their own. These measures will be the foundation for assessing the success of the *Digital Documentation Training Program for Museum Professionals* and serve as the basis for required revisions.

Phase Two begins four months into the project. Working under the direction, and with the assistance, of other AMICO staff, the Research Associate will review the content of existing training programs (such as the "School for Scanning," the Library of Congress digital documentation guidelines, etc.) and relate those materials to the four module themes. The Principal Investigator and the Research Associate will conduct a review of published literature and create an annotated bibliography. Topics identified in the literature review and analysis of existing training materials will be reviewed and augmented by the Advisory Committee. An outline of each module, submitted for review by all AMICO Members, may identify areas where formal guidance is needed. Once topics are set, the Principal Investigator and other AMICO staff will draft a detailed outline of each

module. These will be augmented by expert advice from specialists at AMICO member institutions. The Advisory Committee will review drafts of each curriculum unit. Four draft workshop plans and four draft workbooks will be produced in this phase.

Phase Three begins in the ninth month of the project. Each of the four modules will be “workshopped” with staff of six of the participating museums. A two-day session devoted to the first two modules will be followed by a second session devoted to the final two modules. The participants will evaluate each module, and the workbooks will be revised, refined, and offered to a second group of six AMICO Member Museums for use in self-study training in the second year of the project. These six self-study museums can then be compared with those museums with the benefits of workshops, and to six museums with similar profiles that have had no formal training. Four revised workshop outlines and workbooks will be produced and data for assessing the effectiveness of workshops and self-study will be collected and analyzed in this phase.

Phase Four takes place throughout the project, with a focus in the final four months of the project. A final evaluation will be conducted, assessing and reporting outcome-based results. This evaluation and edited versions of each module (workshop curriculum and workbook) will be prepared for publication, printed and placed on the Web. After the formal conclusion of the project, AMICO will distribute the printed product, a *Digital Documentation Training Program for Museum Professionals*, to all participants, AMICO Members and professional organizations, and fulfill individual orders. AMICO will maintain the Web site for user printing of workbooks, and will enhance and update it for future use.

Management Plan

AMICO has exceptional human resources at its disposal. As previously outlined, AMICO staff and members are actively involved in national and international standards development activities. AMICO’s Executive Director, and Director of Strategy and Research bring extensive experience in consortial collaboration and project management for large-scale computerization and digitization projects. Both have conducted the kinds of systems analyses required for improved cross-departmental digital documentation.

An Advisory Committee, comprised of experienced professionals from imaging, publishing, collections documentation, and educational delivery and multimedia technology management areas of museums will review and approve plans. This group will also define evaluation criteria for the project, and assess the results of the testing sessions. Biographical sketches of the members of the Advisory Committee are appended.

Scott Sayre, Director of Member Services, will serve as the Principal Investigator with active participation in the initial phases from Jennifer Trant, Executive Director of AMICO, and David Bearman Director of Research & Strategy. All three have significant experience in managing successful collaborations and administering consortia. They are well versed and respected in the international museum information standards and digital library communities (see appended Curriculum Vitae). As Principal Investigator, Sayre will chair the Advisory Committee, including leading professionals from AMICO member museums (see Attachments).

Twelve AMICO Members institution will participate in training (six employing the face-to-face workshop training method and six through individual self-study). Each participating museum will establish project teams representing each department or area of responsibility that is likely to be involved in digital documentation (typically including collections management, education,

publications, right management, information technology, photography and curatorial). Six museums will be asked to select *Training Participants* to attend the two, two-day workshop modules. A second group of personnel from six additional museums will use the four workbooks in self-directed training during the second round of testing the curriculum.

The Principal Investigator will work with the museum directors to select participants, ensuring range of collections size, staffing levels, budget sizes, institutional sizes, previous digital experience and technology skills, and a varying of organizational cultures (AMICO includes public, private, and university museums).

Budget

The project implementation costs detailed within the budget forms and budget justification include project related salaries, benefits, stipends, travel expenses, print design, telecommunications and supplies. Salaries include that of the Principle Investigator (60% time) and the Research Associate (50% time). Subsistence and travel costs are covered for members of the Advisory Committee, round 1 and 2 workshops participants, and the AMICO staff involved in the project. An effort has been made to minimize travel by locating advisory meetings and workshops in central locations. The budget also includes funds for a contracted Publication Designer to design the training materials. An additional travel budget is included for conference presentation of the projects.

Contributions

AMICO will make a 37.5% in-kind contribution to this project through indirect costs, salaries, benefits and stipends. Salaries and benefits include 20% of Executive Director and Director of Research time dedicated to advising on the project. Stipends will be provided for all Advisory Committee members and workshop participants.

Personnel

AMICO will hire a Research Associate to produce training materials, and lead the analysis and synthesis/compilation of research. The Principal Investigator and Research Associate will lead the workshops and direct the project reporting, manage the activities of the Project Team comprised of Research Assistants and coordinate the contributions of other permanent AMICO staff.

The Principal Investigator will ensure that the project tasks are conducted in a timely fashion, conduct research where necessary, draft reports, develop the content and update the project Web site, moderate among participants, and coordinate the production of the training materials. A Job Description for this position is appended.

A Publication Designer will be contracted to assist in the design of the printed training materials; Graduate Research Assistants (museum studies or library science) will provide support for the project during research, data analysis, and compilation.

Project Evaluation

The project is designed to build on knowledge already acquired by AMICO Members and AMICO as a consortium. The process of digitally documenting collections and creating The AMICO Library will form the foundation of rigorous evaluation by the Advisory Committee and by AMICO staff. Quantitative results will be compared to baseline measurements of the documentation experiences of AMICO Members to assess the effectiveness of the training program developed.

A Digital Documentation Training Program for Museum Professionals will be evaluated in three ways:

- 1) An analysis of baseline digital documentation practices and their results, as measured by quantitative assessment of cost, effort, quantity and quality of output and compared to measures of these practices, however modified, after a cycle of training,
- 2) An Advisory Committee review of the training materials, and an assessment of the materials by workshop and self-study participants.
- 3) A qualitative assessment of the workshop and self-study training, and its impact, by the participants in these programs after they have had a year to implement the recommendations and test the results.

The workshop curricula and self-study workbooks will be refined and evaluated, based on their ability to influence the quality and efficiency of actual digital documentation.

The foundation for all evaluation will be an assessment of the baseline digital documentation practices of the participating museums before training. This assessment will examine four dimensions of digital documentation practices and products: the *personnel* effort involved; the *cost* (including technology costs using a life-cycle model); the *quantity and range* of documentation made digitally available; and the *quality* of the data (with special attention to its conformance to the kinds of standards that will ensure its longevity and utility over time). AMICO has experience gathering this information already and has learned to focus on specific data that museums are able to provide to gauge the extent of staff time, institutional cost and documentation quantity and quality. Baseline assessment will be conducted during the first two months of the project by the Principal Investigator and Research Associate, using data that AMICO Member Museums contribute to AMICO during the construction of the 2003 version of The AMICO Library (September 2002 to April 2003).

After the six museums participating in the workshop series have completed their training (scheduled to run May to August 2004), they will prepare digital documentation for the year 2005 AMICO contribution cycle. Assessment of the cost, effort, quantity and quality of data from this cycle will be the basis of the first evaluation of workshop training and will identify areas needing revision.

A second group of six museums will participate in self-study workbook-based training. The impact of their training will also be assessed from data compiled following the year 2005 AMICO contribution cycle (in May-June 2005). These participants will provide input into the final revisions of the workbooks and the outcome-based assessment of the overall project.

Final evaluation by participating museums will focus on the quantitative findings of the outcome-based evaluation and on more qualitative reflection on their experiences. At the AMICO annual meeting in June 2005, participants in the grant project will have a day of focused analysis and reflection, and work with senior AMICO staff and the Advisory Committee on revisions to the products.

They will explore issues, such as: How did each of the participating museums act on training received in this project? How did the museum's participation in *Training for Implementing Digital Documentation in Museums* impact digital documentation processes and/or outcomes? How did staff feel this training contributed to support of the institution's mission and/or personal benefit to the professional? *The final evaluation will report measures of the success of the two delivery methods for the training programs in terms of inputs, activities, outputs, and outcomes. Results will be incorporated into published materials.*

Dissemination

Communication and dissemination are essential for the project's success. From the inception of the project, an area on the high-traffic AMICO Web site (<http://www.amico.org>) will inform the community of the project and its agenda, provide access to the literature review and annotated bibliography, and solicit review and input from a broad range of museum professionals. AMICO will maintain an on-line discussion list as a forum for review and comment, and will make its archive accessible on the Web.

The *Digital Documentation Training Program for Museum Professionals* developed in this project will, likewise, be widely disseminated. The Workbooks will be made available on request through Kinko's Print-On-Demand service, for local delivery throughout the country. The workbook binder series will be distributed to AMICO Museum Members, to all participants in the training session, to all Advisory Committee members, and to selected professional organizations and publications for review. The *Digital Documentation Training Program for Museum Professionals* will be widely advertised through press releases to professional journals and newsletters and on electronic discussion lists of professional organizations.

The physical workbooks will be designed for ring binders, so that sections of the training program can be reorganized based on institutional responsibility and requirements. Component sections can then be re-sequenced and reconfigured as needed for teaching, and in response to institutional needs. They can be easily updated as new formats and standards become available. Four workbook-like products will be both published in hard copy, and distributed freely on the Web.

AMICO will also offer full-day and two-day workshops presenting the developed training program at such meetings as Museums and the Web, American Association of Museums and the Museum Computer Network (national and regional).

AMICO is committed to distributing the results of this project widely, in part because a profession prepared with widespread experience in digital documentation will, over the long term, make programs like AMICO easier and more successful.

Sustainability

The Art Museum Image Consortium (AMICO) is a self-supporting long-term program for enabling the educational use of museum multimedia. The creation of sustainable methods and professionally trained digital documentation staff are central to our mission and our service to our members and the museum community broadly. AMICO is committed to publishing *Training Professionals for Digital Documentation in Museums* and to maintaining and distributing it on-line and in print (at cost) after the grant cycle has ended.

The *Digital Documentation Training Program for Museum Professionals* is a first step in a long-term effort to professionalize museum digital documentation practices. Just as AMICO will continue to develop, refine, and expand The AMICO Library, so we plan to incorporate the lessons and results of this training program, into our own training and institutional practices. We will pass necessary skills on to both exiting and new members, to our users, and to others through regular service activities and via our many organizational affiliations and cross-institutional projects. Thus the training program developed in this project will be maintained, continuously upgraded and used by future teams of museum digitization systems and staff – not just within AMICO, but throughout the entire museum community. Working collaboratively, AMICO Members can share the expertise

they have developed and ensure that all museums, large and small, have the benefit of their experience.

In the on-going process of acquiring and integrating digital documentation from its members, AMICO is continually confronted with rapidly changing technology and evolving organizational structures. By developing a professional training program that communicates an awareness of best practices and instilling attention to standards and workflow in museum digital documentation projects, we hope to assist museums in adapting to the changing organizational demands of technology-based projects. These issues surface in any networked information project; the success of initiatives like the Open Archives Initiative lie in the consistency of the content accessible. *Without shared professional practices, we may technologically be able to harvest metadata, but we won't be able to intellectually integrate it.*

Digitization will continue in museums and in other cultural heritage organizations – that is no longer the issue. What is of prime concern is how well it will be done, and how much backtracking will be necessary to correct problems and inconsistencies. *Now* is the moment that this national program needs to take place, *after* museum digitization has begun on a national scale but *before* everything is too established to change.

The Digital Documentation Training Program for Museum Professionals will be an outcome-validated curriculum. Future training based on these materials will strengthen American museums as they face the challenges of the digital age. Consistently communicated professional practices will ensure that the digital materials they produce meet user demands for quality research resources. Training materials that make professional standards accessible will help all museums adapt their operations in response to the challenges of new technology. AMICO offers a climate of collaboration and a new environment of partnership in which to develop this needed resource.