



global
performing
arts
consortium

On with the Show

Access to the World's Performing Arts through Museums and Libraries

Background and Goals

This project is proposed by Cornell University Library as an outgrowth of its active participation in GloPAC (Global Performing Arts Consortium), an international consortium of individuals and institutions committed to using innovative digital technologies to create important multi-media information resources for the study of the performing arts. The ephemeral nature of the performing arts, their dependence on image and sound, and the complex context of their creation are all elements that make the use of digital technologies in the study of performance particularly potent. Consequently, these digital tools are inspiring new paradigms for research in the performing arts—going well beyond simply providing a different means for disseminating existing forms of research.

One of the major projects of GloPAC has been to create GloPAD (Global Performing Arts Database), a prototype multi-media, multi-lingual database of several thousand digital images of performing arts material from around the world, accompanied by a depth of information often only available to research scholars. The effectiveness of this model image database, with its own library of information, depends on the skillful linking of the power of a sophisticated database with a carefully designed metadata structure and on the collaboration of curators, librarians, scholars, and artists. It is this innovative combination of the resources of libraries and museums, the contributions of performing arts specialists of all types, twenty-first century technology, and new metadata standards for describing the performing arts that is at the heart of our proposal.

The development of GloPAD over the past three years has highlighted the need for a metadata standard for the performing arts. We quickly realized that existing metadata standards fail to provide a satisfactory framework for describing performance—a complex event that often has multiple creators and participants. Our research revealed that little had been done in this area, although some groups, like the Dance Heritage Coalition and the Performing Arts Data Service, have grappled with some of these issues (see Appendix D). To lay the foundation for such a standard, GloPAC partners have worked together to create a prototype metadata structure aimed at accommodating the particular descriptive requirements of performance. This prototype has undergone several revisions, and we are now eager to include other major museums and libraries in the evaluation and further development of the metadata structure.

An important feature of this database is that it is entirely Web-based: the addition of images with accompanying authoritative information (the ingest process), as well as the process of searching or browsing the database to obtain information (the discovery process), can be carried out from any Internet-connected computer in the world. Thus

the number of museums and libraries that could eventually participate in this project and the size of the potential audience are unlimited.

During the ingest process, record creation in GloPAD is simplified by the employment of standardized vocabulary and specially designed templates. The authority of the information is assured by the supervision of performing arts specialists and qualified editors. Thanks to integrated system design, many pieces of information need only be entered once and are then automatically linked to all related items. Information added in the future is immediately linked to items previously entered.

The result at the discovery level is that a student researching Shaw's *Arms and the Man*, or the amateur director of a community center production of that play, could search GloPAD and find images from many different productions, including pictures of performance, costumes, and set designs, as well as play scripts and promptbooks. Detailed information about the specific images, as well as about the people involved in the production, the nature of the play itself, and the performance spaces in which it has been produced, would also be readily available. For further examples of potential users, see Appendix E.

Some of this is already possible in our prototype database, but further development is critical if we are to realize the full potential of this resource (see information about the prototype, including a CD demo, in Appendix A). Our goals for this project include:

- developing GloPAD into a robust and highly effective database capable of holding hundreds of thousands of well-documented performing arts images from around the world, with Web-based user interfaces that effectively serve libraries, museums, and their international audiences;
- creating a sophisticated metadata infrastructure that is both highly interoperable and readily adaptable to changing conditions and varying local needs—a metadata structure that can be easily used by libraries, museums, and scholarly associations to serve a multitude of functions;
- ensuring an effective ingest process resulting in high quality information by creating templates, a help function, and other appropriate tools;
- making the discovery process as effective as possible for audiences ranging from young students to senior citizens, from scholars to artists, by developing pull-down lists based on standardized vocabulary; and
- working cooperatively with producers of existing thesauri to assure that this standardized vocabulary will serve the widest possible audience.

In addressing these goals, the project will serve as an international model for cooperation among cultural repositories to enhance the value and impact of their unique resources. We are requesting a National Leadership Grant for Library-Museum Collaboration to assist us in realizing this vision.

Project Implementation

In managing performing arts information, three types of metadata are needed:

1. *descriptive metadata* to provide tools for searching;
2. *structural metadata* to provide public and internal links to the images; and

3. *administrative metadata* to provide the control elements needed for current and long-term access. This includes rights and access information, and data on the creation and preservation of the digital objects.

Cornell University Library's experience in managing digital collections and leadership in developing structural and administrative metadata standards provides the necessary foundation in those areas. In the area of descriptive metadata, however, neither the various cultural repositories nor the performing arts community has reached consensus. Consequently, the development of a model metadata structure for the performing arts necessitates the following:

1. To ensure that our existing prototype metadata structure will grow to meet the goals outlined above, we will

- evaluate the prototype and develop revisions and new approaches by involving diverse professionals representative of community expertise, including metadata specialists, librarians, archivists and curators, and performing arts scholars; and
- map the emerging model to requirements of other metadata structures and to accepted vocabularies, assuring that our recommendations will have a broad compatibility.

We recognize the importance of the use of controlled vocabulary in creating effective metadata and we are aware that important work is being done in related areas. We also recognize the impossibility of creating and maintaining an independent thesaurus, and therefore, we will work through established efforts. We will focus on contributing new terms and descriptions to existing thesauri with particular attention to performance-specific terminology and the expansion of foreign name authority lists to meet our cross-cultural objectives.

2. To assure that our model metadata structure effectively serves both museums and libraries, we are asking several institutions and individuals to digitize and enter materials from their collections into GloPAD (see Appendix B for participants). Appropriate staff will be trained in record creation by project staff and will create records for each of the scanned items. To assure that our evaluation and testing cover the widest range of materials, we will select items that

- cover the entire array of performing arts materials—representations of performance, models of sets, letters from playwrights, musical instruments, architectural drawings, promptbooks, posters, box office records, etc.;
- draw on performing arts from a wide range of cultural traditions; and
- use a variety of audiovisual formats (slides, photographs, streaming video and audio, sound recordings, 3D models, etc.).

As part of the record-creation process, the curators and their staff will help to test and evaluate the metadata structure. This evaluation and testing will be done via their record-creation work, discussions with the grant's metadata archivist and other personnel, and participation in workshops and meetings devoted to metadata evaluation and development.

3. To serve these evaluators as well as future users of the database, we will modify and convert our existing instruction manual into an online help system and create a help button for each field that will define the information requested and provide assistance on the input process (see Appendix A for the table of contents of the current manual). This system will not only simplify the process of record creation, it will also help assure the quality of the information entered. A database programmer will redesign the current database to reflect the evolving metadata structure, work with the editor to design the help function, and develop templates and other tools to streamline both the ingest and the discovery processes.

4. A metadata structure should enable the discovery process to function effectively. Through the participating museums and libraries we will conduct focus groups of potential users to evaluate the effectiveness of information discovery mechanisms. We will also focus on the intuitive nature of the user interface. In this effort, we will also conduct analysis of Web site activity by examining how users navigate the site. As part of this process we will make every effort to determine and meet the special needs of students and adult learners. An interface specialist will be employed to further develop the user interface and to work with the evaluators in testing and redesign.

5. Based on the results of our tests, we will complete remaining modifications to the metadata structure and redesign the database accordingly. We will field test these modifications briefly, and then broadly disseminate the results through our Web site, appropriate listservs, presentations, training workshops, and appropriate media attention (see Dissemination, below).

National Impact

As a result of the project supported by this grant, libraries and museums in the U.S., and worldwide, will:

- have an effective metadata structure to describe their performing arts holdings;
- be able to provide access to their collections to a broader audience by including digitized images of materials from their collections in GloPAD; and
- be able to independently adapt tools and templates created for GloPAD for use in areas other than the performing arts.

In short, the work of curators, archivists, and librarians will be made easier and their efforts more effective.

The American public (and indeed, people around the world) will have immediate access to a database of over 5,000 images and video clips linked to reliable, in-depth information. The fact that these materials will be drawn from many areas of the world is appropriate in twenty-first century America, which is rapidly developing into a multicultural society. We expect the number of items in the database will increase significantly once this development phase is completed. With this array of resources readily available to students, scholars, artists, and the general public, the ways in which the performing arts are studied, researched, created, and enjoyed will be revolutionized.

- Research methods in the performing arts and related disciplines will be transformed by the instant availability of still images, streaming video and sound,

virtual tours of theatres, 3D models, and the like. Cross-cultural study will be simplified. Information from unfamiliar and remote collections central to a scholar's work will be accessible.

- Educators will be able to introduce the performing arts into their learning modules at all levels in social science, arts, and humanities classes.
- Performing arts practitioners will be able to browse the world's performing arts to get inspiration and practical information for creating new works of art.
- Lifelong learners in the twenty-first century, this year's target audience at IMLS, will be able to use GloPAD images and information to educate themselves, to inform their participation in theatrical activities, and to enrich their exploration of the performing arts.

Curators, librarians, and scholars in other disciplines that study events, such as social anthropology, religious studies, and popular culture, could adapt the performing arts metadata structure and tools for their own purposes. For some specific examples, many based on real-life situations already encountered, see GloPAD's Audience, Appendix E.

Design

Our first, very informal needs assessment was simply listening to the cry from librarians, museum curators, and even private collectors for an effective way to fully describe and effectively disseminate their materials. The first collections we dealt with were representations (slides and photographs) of performances, so we developed a relatively simple metadata structure to deal with them. However, especially after consultations with theatre museum curators in St. Petersburg and Moscow in August 2000, we realized not only how many other types of materials relating to the performing arts were potentially available, but also how daunting the task was for museums and libraries to create a metadata structure to describe those diverse items. No single museum or library on its own could devote the resources necessary to develop a carefully constructed metadata standard for the performing arts. The consortial work that has already been done by GloPAC in this area, combined with the joint effort of the participants in "On with the Show," has the potential to meet this need for all museums and libraries.

We have continued to make regular presentations to various types of groups in many parts of the world to assess needs and receive feedback. Some of the groups we addressed are primary and secondary-school teachers at the Japan Society in New York City (November 1999); educators interested in the use of technology in the classroom and theater practitioners in Singapore (February and March 2000); Cornell University performing arts graduate students and professors (November 2000 and February 2002); East Asian scholars from upstate New York (April 2001); scholars and librarians at the joint national conference of the American Society for Theatre Research (ASTR) and the Theatre Library Association (TLA) in San Diego (October 2001); librarians and museum curators in New York City and San Francisco (January, February, and March 2002); and performing arts festival organizers and government officials in Osaka (March 2002).

The needs we discovered led us to expand our project and to radically re-envision the metadata structure required to achieve our goals. A primary need expressed is for an approach centered on performance itself, as well as one that describes the nature of the items being digitized. For example, a painting of a scene from a production of *A Midsummer Night's Dream* that features the character Bottom may be significant to us

because it was done by a famous painter or because it was executed in pastel or oil. Of greater importance, however, is the subject matter: the depiction of the character Bottom, his costume, his posture and gestures, and the depiction of the performance space he occupies. Being able to address both types of needs is critical in meeting our goals.

In addition to describing direct representations of performances, there is a wide range of objects that must also be accommodated in the same metadata framework. Architectural drawings, theatrical posters, props, costumes, and scene designs, for instance, have different requirements, which must also be integrated into the metadata structure. Our solution has been to identify categories of performing arts' components that can effectively define the enormous array of the world's performance practices, past and present, and then narrow the definitions hierarchically. This is, of course, what all useful classification systems do, but we know of no other project focused on the performing arts broadly and cross-culturally.

We regularly encountered the need for a simplified input process to maintain standards of consistency and accuracy while reducing the workload of curators and librarians. GloPAD is currently designed so that information relating to many items is entered and linked to related items in the database. For example, if a museum has a collection of a hundred photographs of a production of Max Reinhardt's *Faust*, the curator would discover in the current version of GloPAD that information about the piece, the playwright (Johann Wolfgang von Goethe), and the director (Max Reinhardt) has already been entered in the database and can be linked to each of his items simply by selecting the proper label on a pull-down list. Thereby, the value of each person's work is cumulative.

Templates for bibliographic information to be used if the object being digitized is a book or to record the source of the information being entered are also provided. Additionally, curators and librarians can capture and store local management information. Future development will allow confidential information to be password protected. The metadata should also support linking to collection-level description, enabling a user to learn about the quantity and content of the collection to which an item belongs. Other capabilities will be incorporated in the course of the grant as the need for them becomes apparent.

Adaptability

The question of adaptability is central to the project and has been extensively described in the above sections. The model metadata structure and the tools and templates developed will be designed to be readily adapted by libraries, museums, and scholarly groups to suit repository-specific needs. Involvement by the diverse range of project participants ensures that the needs of a wide range of institutions and organizations will be addressed. Separate from the specific goals envisioned by the GloPAC partners, any other initiative could employ this performance/event-centered metadata structure for their own purposes.

The successful cooperation of our group of museum curators, librarians, archivists, metadata specialists, scholars, technology experts, information specialists, and artists should itself also serve as a model to inspire other groups to join in innovative collaborations.

Management Plan and Personnel

The Cornell University Library has been an international leader in digital library development for over a decade. Its accomplishments are broadly recognized and respected. In 2001, the Cornell University Library was recognized as a Sun (Microsystems) Center of Excellence for Digital Libraries. In 2002, the Cornell Library was named the Outstanding University Library by the Association of College and Research Libraries.

H. Thomas Hickerson is Associate University Librarian for Information Technologies and Special Collections in the Cornell University Library, and will be Principal Investigator for this project. His special collections responsibilities include oversight for the Library's principal rare book and manuscript programs, and he directed the Division of Rare and Manuscript Collections from 1992 through 1998. His information technologies role includes direction of the Division of Digital Library and Information Technologies, with general responsibility for library systems operation, digital library development, and scholarly communication. He was the founding director of the Cornell Institute for Digital Collections (CIDC). The Institute was formally established with private funding in September 1997, succeeding the Digital Access Coalition, which he organized in 1992. CIDC is an interdisciplinary unit with a campus-wide mandate to explore and promote the use of emerging technologies to expand access to cultural and scientific collections and to support the development and use of such resources through academic, corporate, and institutional partnerships. He is a Fellow and recent president of the Society of American Archivists and presently serves on the executive committee of the International Council on Archives. He was named a 2001 Computerworld Honors Program Laureate in recognition of his contributions to the use of information technologies for the benefit of society.

Professor Karen Brazell, the current Director of GloPAC, will be Project Manager; she will be responsible for the overall direction of the project as well as its day-to-day management. Her long history of administrative experience is outlined in her resume. Professor Brazell will retire from her undergraduate teaching responsibilities at Cornell in July 2002 to become Goldwin Smith Graduate Professor of Japanese Literature and Theatre (Department of Asian Studies), enabling her to devote at least 25% of her time to this project. Ann Ferguson, the Associate Director of GloPAC, will work closely with Brazell on planning and development. Ferguson, currently the Curator of Theatre Collections at Cornell, will move to the University of Washington in October as a part-time member of their Digital Initiatives Program and will have major responsibility for the project's West Coast training and workshops. She will also serve as the project manager for the University of Washington's partnership efforts.

Each of the museums and libraries participating in the project will provide either a performing arts specialist, archivist, librarian, or curator to oversee the selection of materials, supervise the digitization of objects and record creation, assure the quality of information added, and test and evaluate the metadata structure. The quality of materials and information from Russia, Singapore, and Japan will be guaranteed by the oversight of three multilingual, performing arts experts: Nikolai Pesochinsky, Beng Choo Lim, and Monica Bethe, respectively.

Marcy Rosenkrantz, Director of Library Systems, Division of Digital Library and Information Technologies will manage the project's technical work. She will supervise the efforts of the database programmer and the interface specialist. The metadata archivist will work under the direction of Eleanor Brown, Technical and Digital Services Archivist (Division of Rare and Manuscript Collections). Brown has a strong history of work in managing digital projects. Both the editor/trainer and the administrative assistant will work directly under Professor Brazell. Cornell-based project management and staff will meet biweekly, and face-to-face meetings with other participants will occur once or twice a year. Regular e-mail and telephone/Web conferencing will assure the smooth functioning of the project team.

Budget and Contributions

Since GloPAC's establishment three years ago, the Cornell University Library has been one of its leading supporters, providing the programming staff and funds for the creation, maintenance, and backup of GloPAD and design of the Web interface, intellectual guidance through curators and program directors, and materials from its theatre collections for inclusion in GloPAD. In this effort it is partnered with Cornell's Department of Asian Studies and East Asia Program, which have provided funding for editing material in the database, producing the instruction manual, and training participants. They have also provided the desktop workstations, general administration, and leadership in project planning and coordination of the work of Asian collaborators. A third original partner, the Gertrude Stein Repertory Theatre, has contributed technical and artistic leadership, especially in the areas of distance learning, the use of streaming video, virtual tours, 3D models, and Web conferencing. They have been GloPAC's liaison to Russian collaborators and obtained a grant from The Trust for Mutual Understanding to enable a week's trip of six GloPAC leaders to St. Petersburg and Moscow to meet with theatre museum curators and technical advisors. As shown in the budget, these original partners will financially support and intellectually guide the "On with the Show" project.

In addition, the Max Reinhardt Archive, Binghamton University, and the C.V. Starr East Asian Library, Columbia University, joined GloPAC in 2000 and 2001 respectively. The Museum of the City of New York, the San Francisco Performing Arts Library and Museum, and the University of Washington Libraries joined as official partners of the "On with the Show" project this year. Each official partner and participating university is contributing the time of their curators and scholars, as well as materials from their collections, to the project.

In the budget, permanent staff time is entirely contributed by the participating institutions. We request funding for project staff and consultants, as described in the budget, as well as for scanning 2,000 new images, digitizing 80 video clips, creating records for these digital objects (an integral part of the evaluation and testing process), and for conducting training and evaluation workshops (see Project Implementation, above, and Budget Justification).

Project Evaluation

Evaluation is a central component of this project. Major objectives of the project include redesign and evaluation of our metadata structure and testing of templates, help

functions, and the underlying technology infrastructure. In Project Implementation, above, we outlined how these elements will be evaluated.

Toward the end of the grant period, during dissemination presentations, we will ask external participants to evaluate the revised project products in terms of functionality, user friendliness, and compatibility with other databases and systems. In addition, we will develop a program for recording the number and length of site visits and the sections visited. Our Web site will include convenient mechanisms for users to contact us with their questions and comments. We will use these statistics and comments for on-going evaluation.

Dissemination

The Web-based nature of the project itself enables efficient and widespread dissemination. We will announce the availability of the database to listservs for museum curators, librarians, performing arts practitioners, scholars, primary and secondary-school educators, area studies specialists, lifelong learners' associations, etc. We will also assure harvestability of metadata through compliance with the Open Archives Initiative protocol. In addition, we will continue to make presentations to relevant groups and conferences, as well as publish announcements and articles in appropriate journals and other news media, and conduct training sessions for museum and library staff who want to enter their materials into GloPAD or to adapt the model metadata structure for other uses.

Sustainability

The Global Performing Arts Consortium is dedicated to the realization of a long-term vision. Its participants are committed to broadening accessibility to performing arts resources around the world. That Cornell and its partners have maintained this development for three years is indicative of the on-going nature of the endeavor.

The Cornell Library has developed and maintained over fifty digital projects and services. Exemplary among these is the Making of America Collection (908,000 pages), which presently records as many as 20,000 explicit uses (not Web visits) per day. International confidence in the long-term availability of this digital resource has led some academic libraries to remove printed holdings reflected in this database from their shelves. The Cornell Library has a similar interest in this project. The combination of the Library's commitment, resources, and leadership in the field of digital archiving ensures the continued availability of the results of this project to users world-wide.