Annual Review

Office of Strategic Initiatives
Fiscal 2004

The LIBRARY of CONGRESS

Leading Digital Culture

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Contents

OPPOSITE PAGE

Minerva, the Roman goddess of learning and wisdom, greets visitors to the Thomas Jefferson Building as they ascend the stairs to the Main Reading Room's observation gallery.
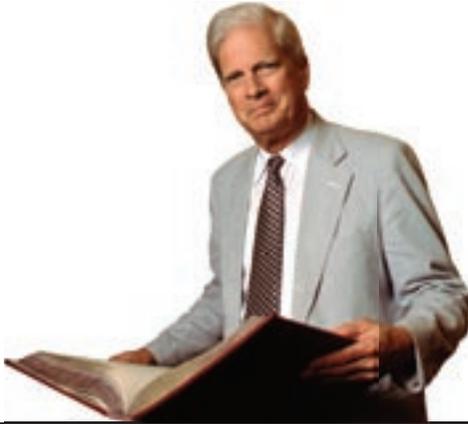
A Message
from the Librarian of Congress

During most of its first 200 years, the Library of Congress operated in a world in which technology had little effect on daily operations. Books, newspapers, maps, manuscripts, films, recorded sound and other materials were routinely served to readers in one of our 22 reading rooms on Capitol Hill. But by the mid-1960s, the Library was looking into making its catalog records "machine readable" and, by 1969, catalog cards on all English-language books published after 1968 were in automated form.

And it was not until 1975 before the first computer for public use was installed in one of our reading rooms. In 1982, an automated database became the official catalog of the Library, with the manual card catalog being retained but no longer updated – a relic of an earlier era. In just 30 years, technology has come to affect nearly all aspects of Library operations.

The challenge for the Library of Congress – and all libraries – is how to leverage the benefits of technology for the benefit of our users.

Today, we not only make our unparalleled resources available to researchers in our three buildings on Capitol Hill, but we also disseminate more than 25 million digital materials to users across the country and around the world through our popular Web site (www.loc.gov). Millions more people can access our materials than ever before.

The majority of our digital materials are available through our award-winning American Memory Web site, established in 1994. Other sites are geared toward children (America's Library), or users interested in the workings of the U.S. Congress (THOMAS) or those who want access to our international collections (Global Gateway). We also offer a monthly magazine (Wise Guide). Thus, the Library is itself a major creator of electronic information.

How to decide which electronic materials to collect, how to preserve them and how to make them available?

So are millions of others – publishers, writers, musicians, filmmakers, scholars, the general public and the "bloggers."

We are now faced with the enormous challenge of collecting and preserving these digital materials for this and future generations. How to decide which electronic materials to collect, how to preserve them and how to make them available?

It's a challenge no single institution can meet. This is why in 2000 the Library was asked by the U.S. Congress to lead a nationwide effort to collect and preserve important at-risk materials before they are forever lost. We are making excellent progress in forming a national network of "digital preservation partners" – institutions that are committed to saving America's digital heritage.

This project, formally called the National Digital Information Infrastructure and Preservation Program, is leading the way to a future in which digital materials will be as well preserved as their analog counterparts have been for centuries by the Library of Congress and other repositories.

In this Annual Review, you will see how the Library is harnessing new technologies as part of its centuries-old mission "to sustain and preserve a universal collection of knowledge and creativity for future generations."

James H. Billington
The Librarian of Congress
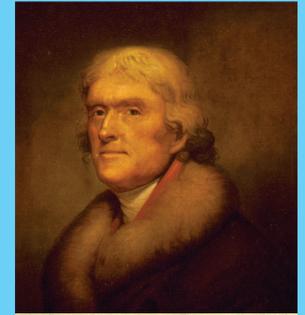
The personal library of Thomas Jefferson was reassembled and placed on view in the Library of Congress building named for the third president.

Leader's vision changes history.

The personal library of Thomas Jefferson is the "seed" from which the Library of Congress's unparalleled collections have grown into the largest repository of knowledge ever assembled in the history of the world. When the British burned the U.S. Capitol in 1814, the collections of the Library of Congress, which were housed in the building, were destroyed. Thomas Jefferson, whose personal library was one of the largest and most comprehensive in the country, offered to sell his beloved volumes to the nation for any price set by Congress. In 1815, Congress purchased the 6,487 volumes for $23,950 and more than doubled the holdings lost in the fire.

Jefferson's collection touched on an extraordinary range of subjects, and many of the books were in foreign languages. But, according to Jefferson, "I do not know that it contains any branch of science which Congress would wish to exclude from this collection . . . there is in fact no subject to which a member of Congress may not have occasion to refer." Jefferson's belief in a "universal" collection of knowledge has guided the collecting policies of the Library of Congress to this very day, to policies that include a collection of digital materials – a format the third president could never have foreseen.

A Message
from the Associate Librarian

When the Library of Congress embarked on the congressionally mandated National Digital Information Infrastructure and Preservation Program (NDIIPP), we knew that the greatest challenges were not technical but social, legal and economic: Which digital information will be deemed important enough to be saved? Who will make these determinations? Which institutions will assume responsibility? How to balance the interests of intellectual property owners with the public's need for information? Who will pay for what?

NDIIPP achieved an important milestone in fiscal 2004 when it announced eight awards totaling nearly $14 million to eight consortia comprising 36 institutions. These institutions are committed to collecting and preserving specific materials that will be important to the nation. The benefits of these eight projects are manifold. In addition to collecting at-risk digital materials such as public television programming, geospatial data, social science datasets and political Web sites, we will learn about so-called best practices in the field of digital preservation.

> *"NDIIPP achieved an important milestone in fiscal 2004 when it announced eight awards totaling nearly $14 million to eight consortia comprising 36 institutions."*

We call these eight awards "investments" for a very good reason. We are ultimately investing in the intellectual future of the nation. Without projects such as NDIIPP and with information increasingly being "born digital" (created in digital form), scholars, researchers and lifelong learners would otherwise lose access to critical pieces of America's cultural and historical record.

NDIIPP is making investments in other areas as well. The Library is working with four major universities to test the "ingest" of large archives from one institution to another. The National Science Foundation and the Library will establish the first research grants program to specifically address digital preservation. And we are working with research laboratories to determine technical standards.

The flagship project of the Library's National Digital Library Program, American Memory, now offers 126 thematic collections whose variety reflects the breadth and depth of the Library's collections and those of its partners in this effort. The newest additions – the papers of a Civil War captain, baseball guides from the late 19th and early 20th centuries, and plays by author, anthropologist and folklorist Zora Neale Hurston – reflect this diversity.

Other American Memory presentations were upgraded with additional materials. Most notable is that we are now offering the complete papers of George Washington, Abraham Lincoln and Thomas Jefferson from the Library's Manuscript Division.

Speaking of Thomas Jefferson, whose personal library was the "seed" of the current Library of Congress, I believe he would approve of the work the Library and its partners are doing in creating a digital library for the nation.

Laura E. Campbell

Laura E. Campbell
The Associate Librarian for Strategic Initiatives
and Chief Information Officer

Office of Strategic Initiatives
Mission & Goals

The Office of Strategic Initiatives was born out of necessity.

Librarian of Congress James H. Billington knew that technology would continue to have an ever-increasing influence on the operations of the institution. So in 1998 he commissioned a study from the Computer Science and Telecommunications Board of the National Research Council to "provide strategic advice concerning the information technology path that the Library should take."

In 2000, a report, *LC 21: A Digital Strategy for the Library of Congress*, was issued. Among the constructive recommendations was that a new integrative approach to information technology be undertaken and that a new position be created to oversee this initiative. Thus, Laura E. Campbell was appointed by Billington in October 2001 as Associate Librarian for Strategic Initiatives. Campbell had already been managing the highly successful National Digital Library Program for the Library, a position she still maintains.

The Library's newest service unit, the Office of Strategic Initiatives (OSI), also includes Information Technology Services, which oversees the technology needs for the entire Library. OSI's institution-wide approach to the management of digital initiatives and technology requirements is organized into the following units to meet the needs of a 21st century Library:

→ Operations,
→ Digital Resources Planning and Management,
→ Integration Management,
→ Educational Outreach,
→ Web Services and
→ Information Technology Services.

Because the Library of Congress is required to maintain a "universal" collection of materials, the institution has been thrust headlong into the digital age, as the amount of information in electronic form continues to explode. A highly regarded study by the School of Information Management and Systems at the University of California-Berkeley, called "How Much Information? 2003," calculated that "about 5 exabytes" of new information was produced in 2002. The report goes on to say that "5 exabytes of information is equivalent in size to the information contained in half a million new libraries the size of the Library of Congress print collections."

Obviously, such an extraordinary amount of information cannot be preserved – nor should it. But making decisions on what to preserve and in whose repository is a monumental task that no institution – not even the Library of Congress – can assume alone.

This is why the Library is leading the National Digital Information Infrastructure and Preservation Program (NDIIPP) with the goal of forming a national network of partners that have agreed to collect and preserve specific types of significant digital information that will be important for the national collections today and tomorrow.
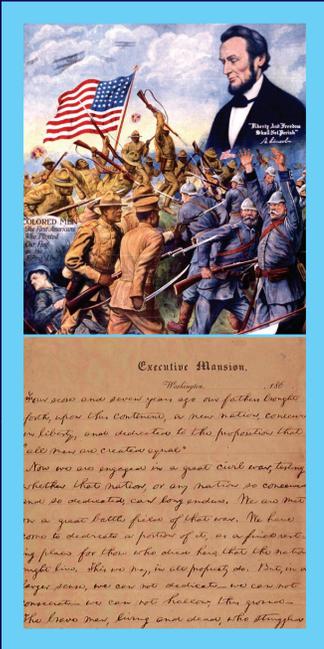
Abraham Lincoln and his Gettysburg Address of Nov. 19, 1863.

Leader's conviction changes history.

Were it not for the conviction of Abraham Lincoln that the nation must remain one, the United States as we now know it might not exist. Lincoln's extraordinary leadership successfully carried the nation through its darkest days.

The digital revolution, which the Library of Congress joined before most other federal agencies, has enabled the institution to offer its rare American historical materials to millions of "virtual visitors" through the power of the World Wide Web. The Library's early leadership in the field of digital technology makes it one of the leading providers of high-quality noncommercial content on the Internet.

National Digital Information Infrastructure and Preservation Program

The Library of Congress, the national library of the United States, assumed leadership of the National Digital Information Infrastructure and Preservation Program (NDIIPP) under legislation passed by Congress in December 2000. In October 2002, the NDIIPP "master plan," formally called *Preserving Our Digital Heritage: Plan for the National Digital Information Infrastructure and Preservation Program,* was approved by Congress. Although the plan has evolved since its acceptance, it nonetheless still serves as the cornerstone of the digital preservation program.

Between 2000 and 2002, the Library engaged in extensive fact-finding and planning to ensure the integrity of the "master plan" for the foreseeable future:

Consultation with stakeholders included a series of meetings that brought together representatives from across the nation in areas such as film, music, entertainment, publishing, libraries, museums, commercial and noncommercial enterprises, foundations, cultural institutions and software and Web designers. The prestige and trustworthiness of the Library of Congress provided a "safe" forum in which to discuss common concerns. These meetings were supported by the formation of a National Digital Strategy Advisory Board comprising individuals from similar backgrounds and organizations.

The enthusiasm and esprit de corps that participants brought to these sessions resulted in very encouraging consensus in key areas.

The necessity of a program such as NDIIPP was paramount among the stakeholders. They also agreed that institutions across the country would need to partner with NDIIPP and assume a role in creating a "digital preservation network." Continuing technology research would always be important to ensure the stability of any preservation architecture. And considerations such as, Who will agree to preserve? Who will pay? and How to satisfy copyright holders and information users?, would likely

prove to be important hurdles to success as well.

Background research led the Library to survey collecting institutions in the United States and abroad about their current digital preservation strategies. Six so-called "environmental scans" provided an overview of the collection and preservation challenges for electronic books and journals; digital sound, film and music; and Web sites.

Scenario planning allowed the Library and stakeholders to look at several possible future outcomes for NDIIPP so that no single solution would be "locked in," giving the program the flexibility to accommodate change.

Defining the components of the digital preservation infrastructure led to the conclusion that the NDIIPP model would be based on:

→ forming a "digital preservation network" of institutions with defined roles and responsibilities working within a

→ "digital preservation architecture" that provides the technical framework for a safe and reliable repository that keeps pace with rapidly evolving technology, supported by

→ basic computer science research into technical solutions, tools and techniques that facilitate digital preservation.

The First NDIIPP Awards for Digital Preservation

The most significant NDIIPP achievement this fiscal year was the Sept. 30, 2004, announcement that eight institutions and their partners had received awards from the Library totaling nearly $14 million.

A total of 36 institutions will match these NDIIPP investments with in-kind or other resources, thus maximizing the impact of the Library's awards. These first formal NDIIPP partners will perform pioneering work in both the collection and preservation of vital born-digital materials that might otherwise be lost. The effects of these synergistic projects will be far greater than the sum of the individual efforts.

The three-year projects that received awards had responded to a "Program Announcement to Support Building a Network of Partners," which closed Nov. 12, 2003. The projects include digital content relating to important people, events and movements that have had a major impact on the nation's history, such as the birth of the "dot com" era, satellite mapping, public television programs, historical aerial photography, and opinion polls and voting records.

All applications were subjected to a peer-review process administered by the National Endowment for the Humanities. Librarian of Congress James H. Billington made the final selections.

Following are the winning lead institutions, their partner institutions and the subject area of the project:

Lead institution: California Digital Library at the University of California.

Partners: New York University, University of North Texas, The Libraries, and the Texas Center for Digital Knowledge.

Collaborators: San Diego Supercomputer Center, Stanford University Computer Science Department and Sun Microsystems Inc.

Subject: This award is for a project to develop Web archiving tools that will be used by libraries to capture, curate and preserve collections of Web-based government and political information. This literature is a critical element of our nation's heritage and is increasingly found exclusively online, putting it at greater risk of being lost. The collections will focus on local political activities and movements, such as the California gubernatorial recall election of 2003.

Lead institution: University of California at Santa Barbara.

Partner: Stanford University.

Subject: These institutions will lead the formation of a National Geospatial Federated Digital Repository to design an infrastructure and collect materials across the spectrum of geographic formats. The born-digital materials to be collected and preserved will range from LANDSAT imagery to other cartographic content from university, corporate and government resources as well as Web sites. The repository will preserve content vital for the study of history, science, environmental policy, urban and population studies, census construction and analysis, and other fields requiring U.S. geospatial information.

Lead institution: Educational Broadcasting Corporation (EBC) (Thirteen/WNET New York).

Partners: WGBH Educational Foundation, Boston, Mass.; Public Broadcasting Service (PBS), Alexandria, Va.; New York University (NYU), N.Y.

Subject: Partners in this project will collaborate to establish the first procedures, structures and national standards necessary to preserve public television programs produced in digital formats. EBC and WGBH are the two largest producers of public television content in the United States. Through PBS, their productions are made available to audiences from coast-to-coast. Together, these three entities produce and distribute the majority of public television in the United States. NYU is home to one of America's most distinguished research libraries and has become a major player in the field of digital preservation of moving images. The four partners will focus on such influential series as "Nature," "American Masters," "NOVA" and "Frontline," which are increasingly being produced only in digital formats, including the new high-definition standard (HDTV). The project will also examine issues associated with the preservation of important corollary content, such as Web sites that accompany broadcasts.

Lead institution: Emory University.

Partners: The University of Louisville Libraries, Virginia Polytechnic Institute and State University Libraries, Florida State University, Auburn University Libraries, Georgia Institute of Technology Library and Information Center.

Subject: This project will develop a MetaArchive of Southern Cultural Heritage (www.metaarchive.org) by creating a distributed digital preservation network for critical and at-risk content relative to Southern culture and history. The partners will select and preserve institutional digital archives, as well as ephemeral works such as online exhibitions and cultural history Web site displays. This body of digital content includes a wide variety of subjects complementary to Library of Congress collections such as the Civil War, the civil rights movement, slave narratives, Southern music, handicrafts and church history.

Lead institution: University of Illinois at Urbana-Champaign Library, Graduate School of Library and Information Science, and National Center for Super-computing Applications.

Partners: OCLC Online Computer Library Center, Tufts University Perseus Project, Michigan State University Library, and an alliance of state library agencies from Arizona, Connecticut, Illinois, North Carolina and Wisconsin.

Subject: This project will develop criteria for determining which digital materials to capture and preserve, as not all digital material can or should be preserved. These materials will include sound and video recordings, historical aerial photography, Web-based government publications from the partner states, and primary and secondary historical materials made available by the Perseus Project.

Lead institution: University of Maryland Robert H. Smith School of Business.

Partners: Center for History and New Media at George Mason University; Gallivan, Gallivan and O'Melia LLC; Snyder, Miller, Orton Lawyers LLP; and the Internet Archive.
Subject: This project will preserve at-risk digital materials from the American business culture during the early years of the commercialization of the Internet -the "Birth of the Dot Com Era," specifically 1994-2001. The materials, collected through Web portals at www.

businessplanarchive.org and www.dotcomarchive.org and through direct contact with former participants in the Dot Com Era, will be of incalculable historical value to Americans eager to make sense of this remarkable period of venture creation.

Lead institution: University of Michigan Inter-university Consortium for Political and Social Research.

Partners: The Roper Center for Public Opinion Research at the University of Connecticut, the Howard W. Odum Institute for Research in Social Science at the University of North Carolina-Chapel Hill, the Henry A. Murray Research Center at the Radcliffe Institute of Harvard, the Electronic and Special Media Records Service Division of the National Archives and Records Administration and the Harvard-MIT Data Center.

Subject: These institutions will create a partnership to identify, acquire and preserve data used in the study of social science to ensure that future generations of Americans have access to this vital digital material that will allow them to understand their nation, its social organization and its policies and politics. Examples of data that will be preserved are opinion polls, voting records, large-scale surveys on family growth and income, and focused studies on effects of events such as factory closings or the need to care for aging parents. Together the partners will build a shared catalog, adopt a common standard for describing survey data and develop strategies for ensuring that the data remains available for analysis.

Lead institution: North Carolina State University Libraries.

Partner: North Carolina Center for Geographic Information & Analysis.

Subject: The project will collect and preserve digital geospatial data resources, including digitized maps, from state and local government agencies in North Carolina. Geospatial data are created by a wide range of state and local agencies for use in applications such as tax assessment, transportation planning, hazard analysis, health planning, political redistricting, homeland security and utilities management. Although this project will focus solely on North Carolina, it is expected to serve as a demonstration project for other states.

One of the most critical issues NDIIPP faces in the preservation of digital materials is a need for better technology and methods to manage these objects over long periods of time.

Exploring Strategies for Acquisition of Archives:

The Archive Ingest and Handling Test

The Library has entered into a joint project with Old Dominion University, Department of Computer Science; Johns Hopkins University, Sheridan Libraries; Stanford University Libraries & Academic Information Resources; and Harvard University Library to explore strategies for the ingest and preservation of digital archives. The project is supported by Information Systems Support Inc.

The Archive Ingest and Handling Test (AIHT), is designed to identify, document and disseminate working methods for preserving the nation's increasingly important digital cultural materials, as well as to identify areas that may require further research or development. The success of the AIHT is key to the future of NDIIPP because the integrity of digital files must be maintained during the transfer of large archives from one institution to another.

The AIHT participants are investigating and applying various digital preservation strategies, using a digital archive donated to the Library by the Center for History and New Media at George Mason University. The archive is a collection of 57,000 digital images, text, audio and video related to the Sept. 11, 2001, events. The transfer of these 12 gigabytes of digital content is being used to emulate the problems that arise in digital preservation and to test possible solutions.

Participants in the AIHT range from fully operational repositories to an advanced research project investigating methods for preserving digital objects; additionally one institution is comparing multiple technical solutions within one environment. A broad array of current open-source and proprietary digital-object management and preservation technologies are deployed in the test.

In addition to testing the intake of the archive into diverse systems, the participants are also working to understand the difficulties in transferring large and complex digital archives. This is a critical piece of any larger digital preservation effort, as the number of individuals and organizations that produce digital material is far larger, and growing much faster, than the number of institutions committed to preserving such material. Thus, any practical preservation strategy requires mechanisms for continuous transfer of content from the wider world into the hands of preserving institutions.

A final report for the Archive Ingest and Handling Test will be issued in 2005.

Cutting-Edge Research to Support the Management of Digital Information:

NDIIPP and the National Science Foundation Establish Grants Program

The Library is partnering with the National Science Foundation (NSF) to establish the first research grants program to specifically address digital preservation. NSF will administer the program, and the Library will fund the bulk of the program that will fund cutting-edge research to support the long-term management of digital information. This effort is part of the Library's collaborative program to implement a national digital preservation strategy. The application deadline was Sept. 14, 2004, and award announcements were to be made in mid-2005.

One of the most critical issues NDIIPP faces in the preservation of digital materials is a need for better technology and methods to manage these objects over long periods of time. Working with the National Science Foundation will encourage important research breakthroughs.

The Library of Congress and NSF will collaborate over the next decade in a broad set of research activities related to digital libraries and digital archives. The formalized collaboration arose from a joint Library of Congress and NSF workshop in April 2002 that developed a research agenda in these areas. Through their leadership, NSF and the Library will encourage other government agencies to continue research support for improving the state of knowledge and practice of digital libraries and digital archiving.

The new Digital Archiving and Long-Term Preservation research program, which expects to make approximately $2 million in initial awards using NDIIPP funds, has three main focus areas:

→ Digital repository models

→ Tools, technologies and processes

→ Organizational, economic and policy issues.

NSF has a history of support for research in digital government and digital libraries, which will benefit the new collaboration with the Library of Congress. The NSF Digital Government Research Program was established in 1999 in response to a number of national workshops recommending sponsored research in this area. Its goal is to study problems that intersect traditional computer science research and the information needs of federal agencies. The program supports research projects that innovatively, effectively and broadly address potential improvement of agency, interagency and intergovernmental operations and government-citizen interaction.

NSF led the federal government's interagency 1994-2004 Digital Libraries Initiative, which was established to extend and develop innovative digital library technologies and applications. The initiatives involved the Library of Congress, the Defense Advanced Research Projects Agency, the National Aeronautics and Space Administration, the National Library of Medicine and the National Endowment for the Humanities, with participation from the National Archives and the Smithsonian Institution.

Jackie Robinson, Martin Luther King Jr. and Frederick Douglass (clockwise from above) all broke down barriers that discriminated against people based on the color of their skin.
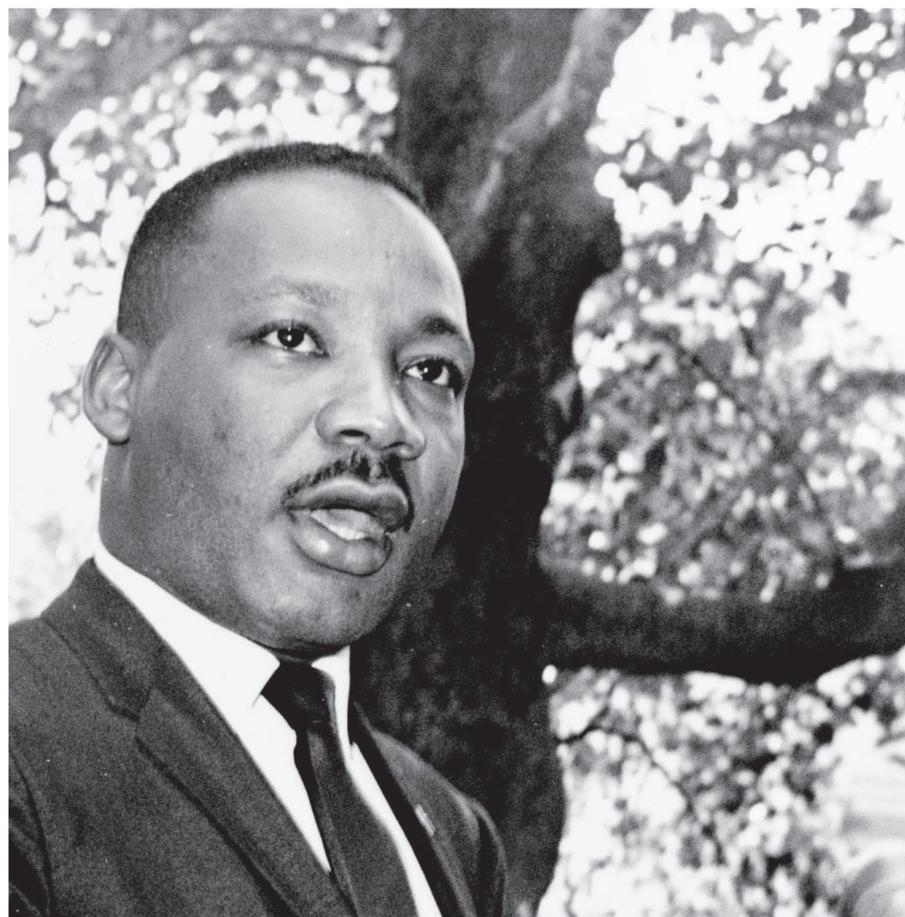
Leader's determination changes history.

The dream of Martin Luther King Jr. fueled his determination to secure equal rights for all Americans. Like his contemporary Jackie Robinson, who broke the color barrier in Major League baseball in 1947, and Frederick Douglass, who, even after the conclusion of the Civil War, declared that "the work of abolitionists is not done," King never lost sight of his goals.

The National Digital Library Program's American Memory Web site features inspirational leaders such as these who have fulfilled America's promise as the land of possibilities.

National Digital Library Program

No single initiative in the more than 200-year history of the Library has had a greater impact on the institution's ability to make its extraordinary collections accessible than the National Digital Library Program.

The National Digital Library (NDL) Program was a pioneer among cultural institutions in making high-quality intellectual content available over the Internet. Established in 1994 with initial private contributions of $13 million and a commitment from the U.S. Congress to provide $15 million over five years, the NDL Program has garnered numerous awards and praise from the media as well as the millions of people who visit its Web sites (www.loc.gov) daily. By 1998 private contributions exceeded $48 million.

American Memory was the original NDL Web site and it continues to be the most popular. Today it offers more than 10 million digital items in 126 thematic collections that range from the papers of U.S. presidents, Civil War photographs and early films of Thomas Edison to papers documenting the women's suffrage and civil rights movements, Jazz Age photographs and the first baseball cards. The materials are drawn from the Library of Congress and its partners in this effort. The site registered more than 617 million "hits" in fiscal 2004.

New American Memory Collections

Three new multimedia collections have been added, bringing the total by Sept. 30, 2004, to 126 collections.
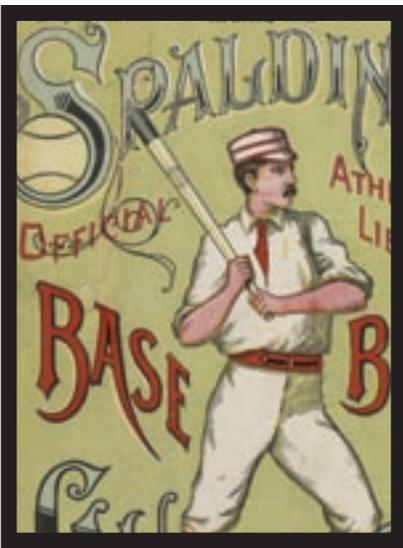
"The Spalding Baseball Guides" comprises a selection of the historic "Spalding's Official Base Ball Guide" and the "Official Indoor Base Ball Guide." The collection reproduces 35 of the guides, which were published by the Spalding Athletic Co. in the late 19th and early 20th centuries. "Spalding's Official Base Ball Guide" was perhaps the premier baseball publication of its day. It featured editorials from baseball writers on the state of the game, statistics, photographs and analyses of the previous season for all the Major League teams and for many of the so-called minor leagues across the nation.

"The Zora Neale Hurston Plays at the Library of Congress" presents a selection of 10 plays written by Hurston (1891-1960), author, anthropologist and folklorist. Deposited in the U.S. Copyright Office between 1925 and 1944, most of the plays remained unpublished and unproduced until they were rediscovered in the Copyright Deposit Drama Collection in 1997. The plays reflect Hurston's life experience, travels and research, especially her study of folklore in the African-American South.
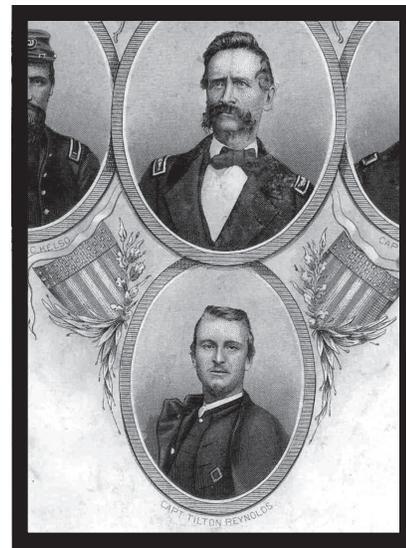
"A Civil War Soldier in the Wild Cat Regiment: The Papers of Tilton C. Reynolds" documents the Civil War experience of Captain Tilton C. Reynolds, a member of the 105th Regiment of Pennsylvania Volunteers, also known as the Wild Cat Regiment. The correspondence, photographs and other materials from the Tilton C. Reynolds Papers span the years of the Civil War (1861-1865). Transcriptions of 46 of the most significant letters are also available.

New Content

Many existing American Memory collections were expanded with new content, including:
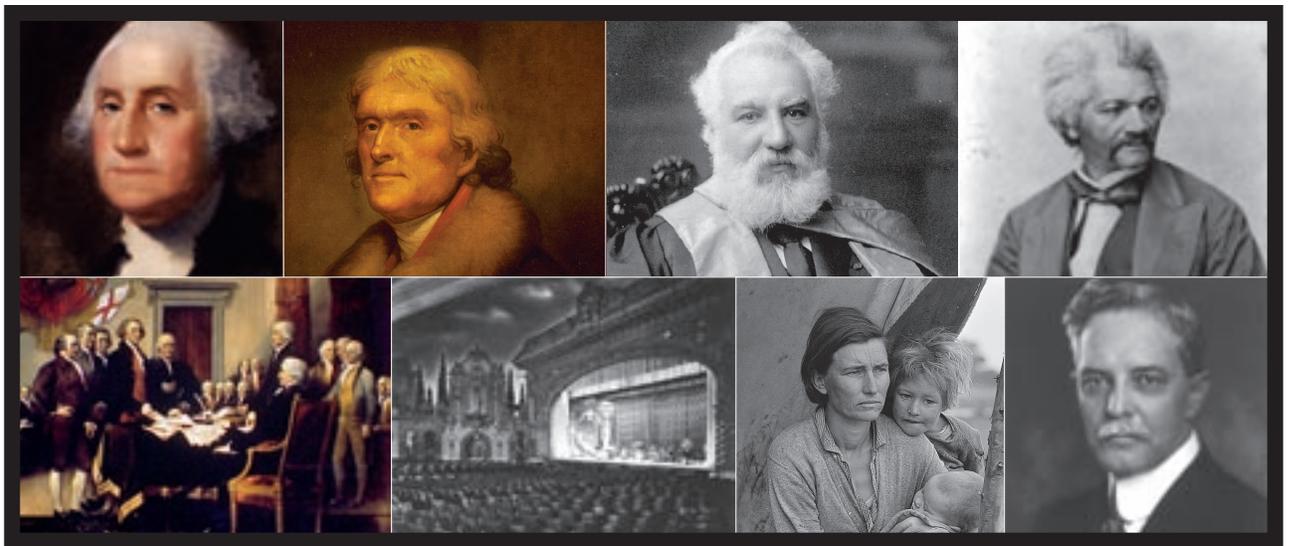
→ "The George Washington Papers"
→ "The Thomas Jefferson Papers"
→ "Alexander Graham Bell Family Papers"
→ "Frederick Douglass Papers"
→ "Continental Congress and Constitutional Convention"
→ "Built in America: Historic American Buildings Survey/Historic American Engineering Record, 1933-Present"
→   Documenting America: Photographs from the Farm Security Administration/Office of War Information"
→ "Dayton C. Miller Flute Collection"

Updates to the Washington, Jefferson and Bell papers completed those projects by placing all papers in those respective Library collections online. A redesign of the American Memory Web site was under way in fiscal 2004 for launch in fiscal 2005.
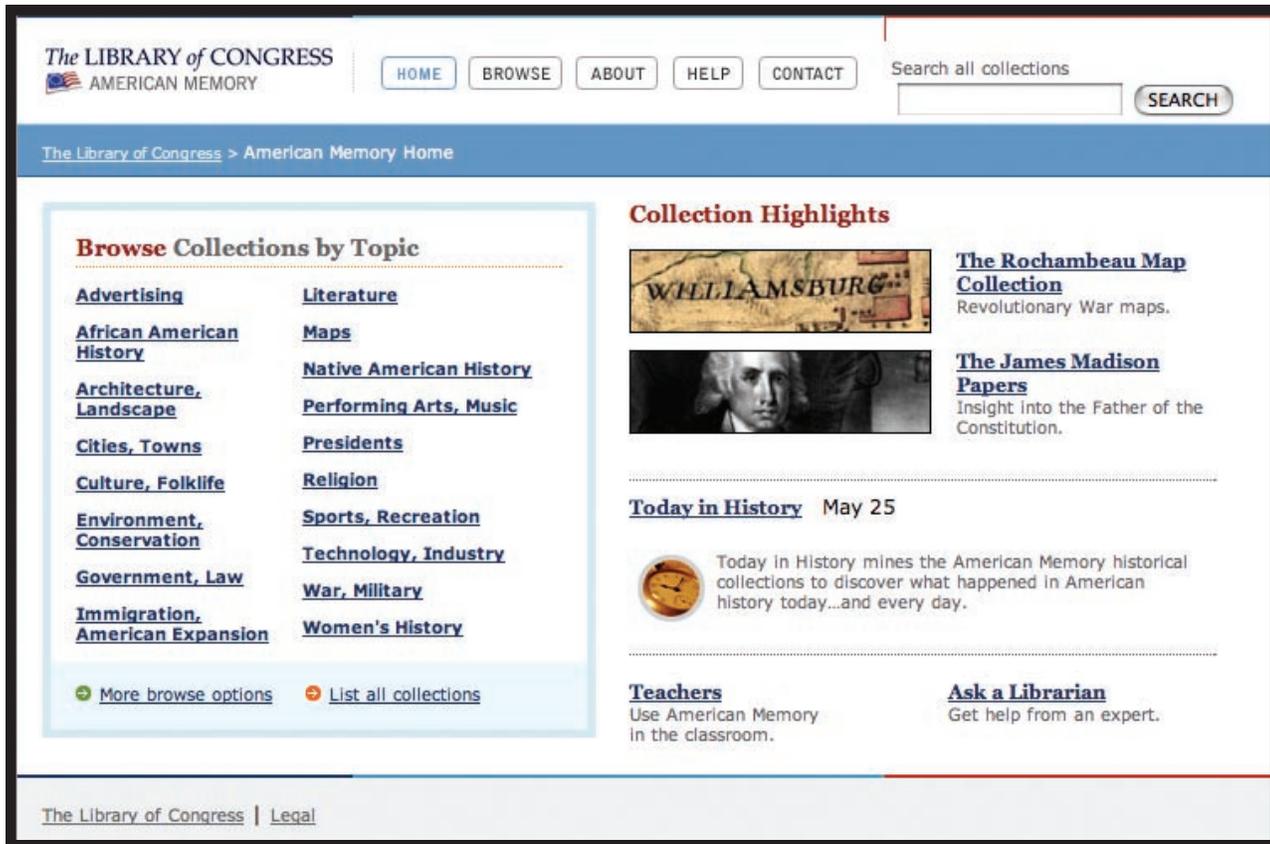
A redesign of the American Memory Web site was under way in fiscal 2004 for launch in fiscal 2005.

America's Library

In fiscal 2004, the America's Library Web site for children and families handled 218 million "hits," making it among the most popular of the Library's sites. The site attracted users with new kid-friendly content, including interactive games and other activities.

Today in History

Based on materials in American Memory, the Today in History site offers information on what happened on any day in history. This site was also in the process of being redesigned for a launch in fiscal 2005.

THOMAS

This Web site that tracks the workings of the U.S. Congress continues to be relied upon by those with a need to know as well as others who have come to count on its daily update of legislative information.

Wise Guide

The Library's monthly magazine, the Wise Guide, is designed as a Web portal to introduce users to the many fascinating, educational and useful resources available from the Library online. The Wise Guide is refreshed monthly, with articles and links to the best of the Library's online materials in its other Web sites.

Collaborative Digital Initiatives

The Global Gateway Web site features the extraordinary international collections of the Library and other major repositories from around the world

In fiscal 2004, four features were added:
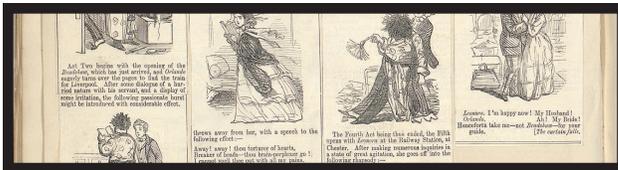
"The Lewis Carroll Scrapbook" is an original scrapbook kept by Charles Lutwidge Dodgson, a lecturer in mathematics at the University of Oxford. He is better known as Lewis Carroll, the Victorian-era children's author of such titles as "Alice's Adventures in Wonderland" (1865) and "Through the Looking-Glass" (1871). The scrapbook appears to have been kept by Carroll between the years 1855 and 1872 and contains approximately 130 items, including newspaper clippings, illustrations and photographs. These items were personally selected and arranged by Carroll, giving the user insight into his interests and collecting habits. The scrapbook also includes a limited number of handwritten annotations, some presumably by Carroll. The scrapbook was sold after Carroll's death in 1898 to Frederic L. Huidekoper, an undergraduate at Oxford, during a sale held at the Holywell Music Rooms. The Library of Congress acquired it shortly thereafter.
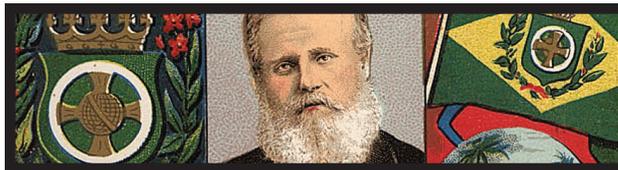
"United States and Brazil: Expanding Frontiers, Comparing Cultures" includes some 9,800 images from the rare book, manuscript, map, print and photographic collections of the Library of Congress and the National Library of Brazil. The site represents the first phase of a continuing project by the National Library of Brazil and the Library of Congress that is being carried out under a cooperative agreement.

"Selections from the Naxi Manuscript Collection" features ceremonial writings of the Naxi people of China's Yunnan Province. The Library's Naxi collection is the largest outside of China and is considered one of the finest in the world. The Naxi use a unique pictographic writing system that is similar to the ancient Egyptian and Mayan writing systems. It is the only living pictographic language in the world today. This online presentation features 185 manuscripts, a 392 -foot funerary scroll and an annotated catalog of the entire collection.

"The Atlantic World and the Netherlands" focuses on the Dutch influence in America, from Henry Hudson's voyage of 1609 to the sale of New Amsterdam to the British in 1664. The presentation was developed by the Library in cooperation with the National Library of the Netherlands. The site is the first stage of a continuing project, "Atlantic World: America and the Netherlands," being carried out under a cooperative agreement signed by the two institutions earlier this year.

New content was added to several existing Global Gateway presentations, including **"Meeting of Frontiers: Russia,"** and the Web site is undergoing a redesign to be launched in fiscal 2005.

Mother Jones (right) and Carrie Chapman Catt are women who dared to change history.

Leader's courage changes history.

Pioneers such as Mary Harris , better known as Mother Jones, and suffragist Carrie Chapman Catt blazed trails for women -- as well as men -- who followed. Jones organized laborers to secure better working conditions; Catt organized women to gain the right to vote and in the process taught men that women could be equal contributors to American society.

The stories of these women are available at the Library's Web site to teachers and their students nationwide through various educational outreach initiatives.

Reaching Teachers and Students Nationwide

Educational Outreach Initiatives

Today's teachers are faced with a surfeit of digital information that could potentially benefit their students. But how to find time to locate appropriate resources and then tailor that material for young minds?

One answer lies in the services provided by the Library's Educational Outreach team.

These programs, created by teachers for teachers, leverage the primary resource materials already available through sites such as American Memory.

The Learning Page

The Learning Page Web site is designed specifically to help teachers use the Library's online primary source materials in the classroom. It offers ready-to-use, teacher-tested lesson plans, activities and features as well as a Community Center chat room that puts teachers in touch with one another on a variety of education topics.

Among the new offerings of the Learning Page are:

→ an updated "Getting Started" section to ease usability,

→ four features and activities,

→ four lesson plans,

→ four Community Center chat rooms,

→ five "Collection Connections," which point teachers to highlights in each of the American Memory Web site thematic collections.

Teacher Workshops and Presentations

The Educational Outreach staff reaches other teachers in the nation through workshops and presentations at such major conferences as the National Council for Social Studies (4,000 attendees) and the National Educational Computing Conference (17,000 attendees). This staff also made presentations during the Library of Congress National Book Festival and in five states and the District of Columbia, reaching more than 800 teachers.

More than 600 educators attended 26 workshops held at the Library of Congress, and more than two dozen video-conferences reached teachers nationwide.

Adventure of the American Mind

The Adventure of the American Mind (AAM) project is designed to train in-service and pre-service classroom teachers and teacher-education faculty to access, use and produce curriculum using the Internet and the digitized primary source materials from the collections of the Library. This congressionally mandated program is active in Colorado, Illinois, Pennsylvania, Virginia, North Carolina and South Carolina.

These six states have a total of 19 participating institutions. New partners were added from Eastern Illinois University, Barat Educational Foundation (Ill.), Illinois State University, Waynesburg College (Pa.), California University of Pennsylvania and Metropolitan State College of Denver.

During fiscal 2004, the Library hosted two new-partner orientations and two directors' meetings, bringing directors from all partner schools to the Library for professional development activities, curatorial visits and program meetings. Library staff made presentations with seven AAM directors at 18 workshops in four states, reaching more than 600 educators.

George Washington, James Madison and Benjamin Franklin (clockwise from above) firmly believed in the principles of democracy and in knowledge as democracy's cornerstone.
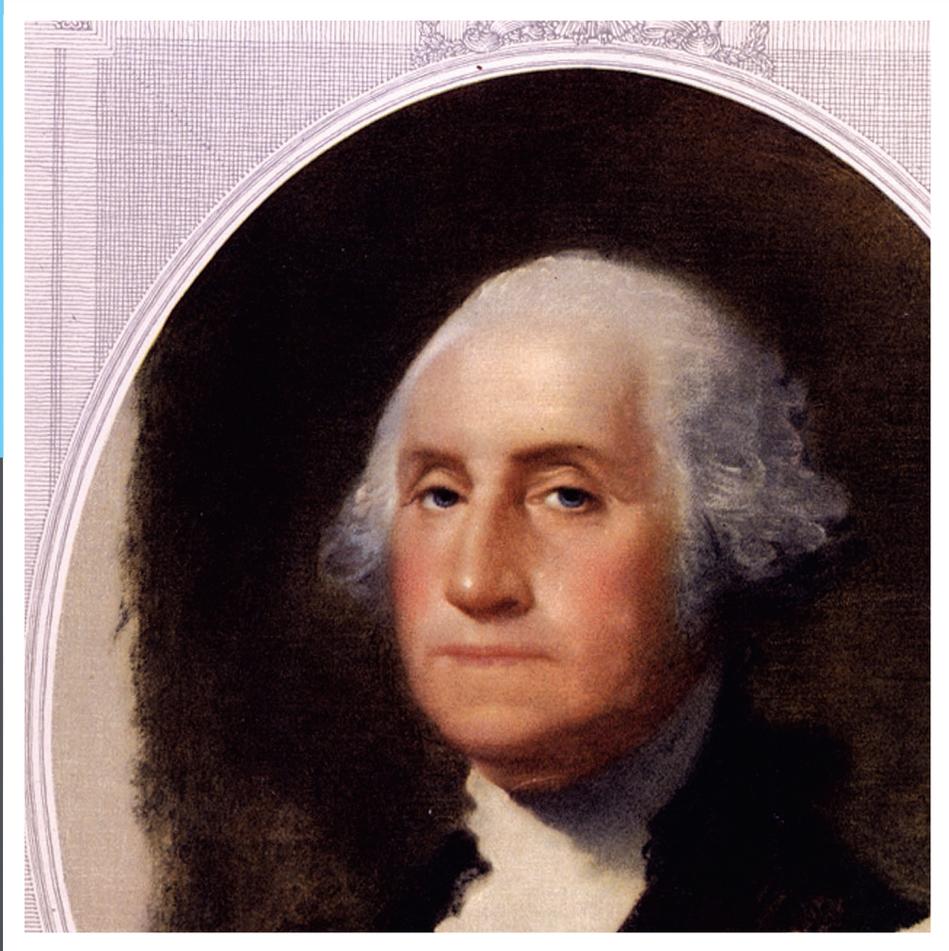
Leader's principle changes history.

The Founding Fathers imbued the nation with the spirit of freedom – a spirit that led to America's independence and has made the world's oldest democracy the leader in initiative and creativity.

Information Technology Services

Providing the Technological Foundation

This year, Information Technology Services (ITS) initiated significant strategies to ensure the current and future soundness of the Library's technical infrastructure. With these strategies, ITS will continue to provide the highest levels of service to Congress and the public, through the Library's digital initiatives and business applications. ITS also supports the technology needs of all Library service units and their staffs.

Service to Congress and the Public

The Library's online computer resources attracted an even greater number of users than previous years. This year, there were more than 3 billion Internet transactions on the Library's Web sites, an increase of 20 percent over fiscal 2003.

To improve service on these popular sites, ITS launched an upgraded Web site search engine, implemented enhancements to the Legislative Information System (LIS) for Congress, installed new features for THOMAS (a Web site with current and historical information on the U.S. Congress) and began work on implementing a new American Memory interface design to improve navigation of the growing number of collections.

ITS brought more processing power to the Library's on-line catalog system, called the Integrated Library System (ILS), to meet increasing demand from all sectors. The upgrades allow for a doubling of the number of sessions available for search and retrieval.

ITS also doubled the number of multimedia programs that are captured, edited and distributed through the Web. Programs made available on the "Webcasts" page include the Congressional Medal of Honor Award ceremonies, the news conference for the opening of the papers of Supreme Court Justice Harry Blackmun, the National Book Festival, World War II Memorial/Veterans History Project events, Kluge Center scholarly lectures and conferences, exhibition openings and Living Legend award events for Dave Brubeck and Odetta.

Support of Digital Initiatives

ITS worked closely within OSI and with Library Services on a range of research and development projects to support the Library's digital initiatives for the 21st century, including the National Digital Information Infrastructure and Preservation Program (NDIIPP), as well as all new collections and materials added to the National Digital Library. ITS made available four Web archives collections hosted at the Library in support of NDIIPP.

As the Library assumes a larger leadership role in establishing standards, specifications and processes for preservation of digital content, ITS continues to provide analysis and technical evaluation, as well as the infrastructure to support and sustain digital materials collected by the Library, such as Web content and audiovisual collections. ITS supported a range of pilot projects, such as those for electronic journals and digital copyright deposits.

Strategies for Sustaining the Infrastructure

To ensure that the technical infrastructure is available and sustainable for current and future operations, ITS launched a number of multiyear initiatives:

The largest effort was the establishment of standard operating procedures and regular testing for the Alternate Computer Facility. Building on an earlier mirroring effort in support of the Legislative Information Service, ITS created this fully mirrored, remote computing facility with a separate Internet connection, independent voice communications facility and Windows server environment to ensure sustainability of services during disaster situations.

In conjunction with the Alternate Computer Facility, ITS launched a Continuity of Operations Plan (COOP) for survivability of the information technology (IT) infrastructure and the more than 200 applications that the infrastructure supports. The COOP provides the foundation for a rigorous, well-documented and repeatable set of procedures for accountable management of the Library's valuable IT resources.

A major milestone was the issuance of the first IT Security Plan based on the guidelines of federal security "best practices." The Security Plan, developed with service unit representatives, serves as the basis for associated security directives and practices to ensure the protection and safeguarding of IT data and systems in an increasingly complex and uncertain environment.

To provide a disciplined methodology for managing current and future IT activities and reducing risk, ITS led the Library in adopting and implementing project management practices. ITS initiated a Library-wide training program in project management that has been well-received by all service units and issued an ITS Project Management Handbook that provides guidance for project managers and project sponsors and users. ITS recruited and hired four new high-level project managers to boost this effort.

Strengthening of the Infrastructure

ITS implemented a system development life cycle (SDLC) methodology to reflect current "best practices" in industry and government IT management. ITS managers and staff apply SDLC practices within a project management framework to continue to improve the quality and vigor of Library IT activities.

Following through on the importance of discipline in security and management of IT resources, ITS launched several Library-wide programs to strengthen the technical infrastructure. Most important, a Certification and Accreditation program for new IT systems was initiated. New application systems now undergo the same rigorous process employed in other federal agencies.

Another large and successful project was the creation of a separate test and development environment for the enterprise Unix, Linux and Windows server environments. An ambitious program to upgrade all 6,000 Library workstations (employee, reading rooms, etc.) to current operating system and virus protection levels has brought an unprecedented level of rigor and service unit involvement with the workstation management process in the Library.

Through the recruiting and hiring process, ITS continues to enhance staff security skills. During FY 2004, two Certified Information Security System Professionals (CISSPs) were added to the staff.

ITS retained the services of expert consulting to perform a top-to-bottom analysis of the Wide Area Network, Metropolitan Area Network and Local Area Networks of the Library. Still in progress, the effort has yielded several critical recommendations for the improvement of the Library's network architecture and support operations. At the end-user level, ITS continued to migrate the Jefferson and Adams Building users off an old Token Ring network and onto the high-speed Ethernet network.

Installation of the In-Building Wireless system began in FY 2004, and at the close of the year nearly the entire Madison Building had been wired as well as much of both the Jefferson and Adams buildings, keeping the project on schedule for a December 2005 launch. This project is a large undertaking to ensure that most wireless devices (cell phones, PDAs, pagers, etc.) operate reliably for members of Congress, visitors and staff throughout the common and office areas of the Library's buildings

As part of the major effort to ensure the security and integrity of the Library's infrastructure and data, ITS restructured the Library's firewall configurations to implement a management server that controls the configurations. This included installing a new Intrusion Detection System (IDS). To keep up with ever increasing storage needs, ITS installed two new, higher capacity, faster EMC DMX storage systems, replacing four older Symmetrix systems. This major effort involved moving more than 40 terabytes of data attached to 15 enterprise-class UNIX servers. The tape back-up system and software were also upgraded to adjust to the demands for backing up the growing digital libraries and archives.

Working closely with Architect of the Capitol staff, ITS commissioned an expert analysis of the electrical and environmental services in the Madison Building data center. The study will establish a definite baseline of current services and project short- and long-range needs. Here as elsewhere in the infrastructure, ITS aims to bring a more disciplined approach to the development and support of mission-critical services.

Business Applications and Support of Staff

ITS continued to provide support throughout the Library in application development and product integration. During

this year, significant work was performed on most of the major administrative applications that support the work of Library staff.

Following through with the Project Management initiative, ITS provided project teams for large projects, including the Copyright Business Process Reengineering effort and the replacement of the Hiring and Classification System.

Working with the Office of the Chief Financial Officer and its contractors, ITS successfully deployed a new financial system (Momentum) on a modern, open-system platform. The new system features data warehousing capabilities for reporting and retrospective analysis.

During this year, ITS staff completed the implementation and deployment of a Web-based time and attendance system for Library staff, which significantly reduces time spent entering data and improves accuracy. A new imaging system for the Copyright Office was also implemented, which provided additional capacity for the Copyright Office to increase processing throughput for Copyright registrations.

As part of the plan to achieve better efficiencies in system development for the Library, ITS has provided an enterprise platform for the secure management and deployment of Crystal Enterprise, which provides a central repository and control for management reports for more than a dozen major Library database-based application systems. This project has provided a focus for "best practices" for report development and management. Similarly, ITS has leveraged the Remedy product line to provide rapid and repeatable development and management of tracking applications. Development staff deployed six new tracking applications using the Remedy utilities. These are the Basic Activities Tracking System, the Dispute Resolution Office system, the Facility Application Service Tracking System, the Hazardous Abatement System, the Office of Investigations systems and the Planning, Management and Evaluation Directorate Processing System.

ITS assembled a team of senior technical staff and expert consultants to design an architectural model for the transport and preservation storage of digital audiovisual materials in the National Audio-Visual Conservation Center (NAVCC). The proposed architectural model has been vetted with various groups, and ITS has built an initial prototype that uses audiovisual material from Vanderbilt University, the American Folklife Center and the Motion Picture, Broadcasting and Recorded Sound Division as input. At present, the system is accepting an average of four to five terabytes of new material each week.

Staff designed, developed and implemented a set of programs to limit the impact of Web site robots on the performance of the Integrated Library System. ITS developed mainframe migration plans for two major mainframe applications to use the same software as the ILS. Staff created test environments and detailed plans for these migrations.

Major strides were made in addressing Library assistive technology needs. Staff planned and implemented the creation of an Assistive Technology Demonstration Center. The center includes more than 50 enabling equipment and software disability-accommodation products. Staff have provided needed assistance to more than 30 Library employees. A coordination program was also successfully started with the Library's Industrial Hygienist, Safety Services, Office of Workforce Diversity and professional disability evaluation contractors. Other successes in this area include replacing obsolete teletypes with a modern TTY Local Area Network that currently supports more than 20 employees and installing 20 Web cameras for video interpreting.

The Digital Scan Center continued to play a significant role in support of a number of programs by digitizing tens of thousands of images for National Digital Librray Program initiatives. While successfully providing these services, the center underwent a complete business process reengineering study (BPR). Nearly all of the recommendations from the BPR were implemented, including the request and prioritization process, workflow process, tracking software and project management.

Overall, during fiscal 2004, research and development staff, while maintaining more than 200 enterprise-level applications, initiated myriad efforts to improve work processes and applied them to more than a dozen new development efforts, including several large projects. On the infrastructure side, staff made big leaps in positioning the Library for the enormous amounts of digital materials to be acquired and produced as part of the National Digital Library, NDIIPP and other Library programs. Several studies initiated in FY 2004 that will be completed in FY 2005 will serve as an architectural roadmap for the further evolution of the infrastructure.

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Looking Ahead

The challenges and opportunities that lie ahead are as extraordinary as they are exciting.

The eight NDIIPP partnerships will foster an outpouring of information about the best practices for digital preservation while at the same time preserving important at-risk digital information now and into the future. These first formal partnerships will surely attract other institutions to work with the Library in a groundbreaking effort that will have lasting and far-reaching effects on the intellectual and cultural livelihood of the nation.

The Office of Strategic Initiatives also looks forward to the results of the Archive Ingest and Handling Test and to making, with the National Science Foundation, the first research grants in the field of digital preservation research.

The flagship American Memory Web site and other projects of the National Digital Library Program will continue to add new materials online that were once available only to those who came to our reading rooms on Capitol Hill. In just 10 years, this effort has digitized and made available more than 10 million American historical items from the Library and its partners.

In the international arena, we will continue to work with major overseas repositories to bring the riches of their collections to our users.

And our educational outreach initiatives are having a positive impact on teachers as they prepare their students for a century in which technology will play an ever-increasing role.

Although it cannot be predicted with certainty all that the future may hold for the Library of Congress during its third century, one thing is clear: By harnessing the opportunities that technology provides and combining them with the creative and intellectual capacities inherent in the institution, the Library will continue to fulfill its mission for Congress and the nation for many centuries to come.

If your actions inspire others to dream more, learn more, do more and become more, you are a leader.

John Quincy Adams