

Managing Digital Assets: Planning the Digital Future of NIST



Electronic Resources and Libraries Conference

March 25, 2006

**Susan Makar, Web Manager
Information Services Division**



National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce



Presentation Overview

A thick, horizontal yellow brushstroke with a textured, painterly appearance spans the width of the slide, positioned directly beneath the title.

- Introduction and background
- Digital Content Management (DCM) Team
- First steps
- Developing criteria for evaluating systems
- Lessons learned - so far!
- What's next?

What You Will Take Away

- **Workflow process for planning large, complex project**
- **Process for selecting a digital repository management system**
- **Strength and power of teamwork in completing a process**
- **Collaboration efforts of a diverse team of individuals**
- **Some best practices for planning the digital future**

National Institute of Standards and Technology (NIST)



- Non-regulatory federal agency within the U.S. Department of Commerce
- Gaithersburg, MD and Boulder, CO campuses
- Science and technology research
- About 1500 scientists and 1800 guest researchers and post-doctoral students
- NIST's Mission
 - To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

Information Services Division (ISD)



- **ISD's Mission**

- To support and enhance the research activities of the NIST scientific and technological community through a comprehensive program of knowledge management and superior customer service

- **Organizational structure**

- Research Library and Information Group (ELPG)
- Electronic Information and Publications Group (RLIG)
- Museum and History Program

Digital Content Management (DCM) Team



- **Assembled in the fall of 2005 to determine how best to manage NIST's digital content**
- **Tasked with developing a plan for managing this content**
- **Asked to make recommendations to ISD Management Team**

Questions to be Answered



Why manage digital content?

What content should be included?

How do the pieces fit together?

What training do we need?



What are our system evaluation criteria?

How do we best manage digital content?

DCM Team Challenges

A thick, horizontal yellow brushstroke with a textured, painterly appearance spans the width of the slide, positioned directly beneath the title.

- **Looking at the big picture and understanding how the pieces fit together**
- **Identifying the technologies that best meet ISD's and NIST's needs**

First Steps

A thick, horizontal yellow brushstroke with a textured, painterly appearance spans the width of the slide, positioned directly below the title.

- **Learn as much as possible through research and reading**
 - **Look at tools other institutions have developed**
- **Determine training needs for planning project**
- **Complete MIT Libraries' institutional repository worksheet**
- **Establish time frame for completion of project**
- **Develop criteria for evaluating digital repository and content management systems**
- **Divide and conquer!**

Why manage digital content?

- **Increase impact of NIST research**
 - Increase and improve access to NIST's research output
 - Showcase NIST's research output
 - Raise visibility and prestige of NIST
- **Capture and preserve institutional record**

What content should be included?



- **Base collection**

- NIST-authored publications
- Images of NIST museum collection
- Photo collections, oral histories, and other NIST archival material
- Journal of Research of NIST

- **For future consideration**

- Electronic resources purchased by NIST Research Library

How will these pieces fit together?



- **NIST Virtual Library (NVL)**
- **NIST Virtual Museum (NVM)**
 - Registrar's Database
 - Photo Gallery
- **New NIST Publications database (NIKE - NIST Integrated Knowledge EditorialNet)**
- **Library's online catalog**
- **System managing purchased content (yet to be implemented)**

What training is needed?

A thick, horizontal yellow brushstroke underline is positioned directly beneath the title.

- **Demos of digital content management software**
- **Visits to nearby research institutions implementing digital repositories**
- **Courses related to managing digital content**
- **Collaboration with other federal agencies**
- **Self study – reading and research**

What are our system evaluation criteria?



- **Evaluation criteria were developed for the following**
 - **Content to include in digital library**
 - **Digital repository management software**
 - **Metadata standards**
 - **Interface and search applications**
 - **Web content management system (CMS)**

What are our system evaluation criteria? (cont'd)



- **Process for developing criteria**
 - **Create criteria lists for evaluating systems and application features**
 - **Form DCM team sub-groups to develop specific criteria lists**
 - **What are the “must have” features versus the “nice to haves”**

How do we best manage digital content?



- Yet to be answered.....
- Selection of digital repository management software and content management software is still under review
- How pieces fit together now may be very different in the future

Digital Repository Management Systems



- **aDORe**
 - Developed by the LANL Digital Library Research & Prototyping Team
 - Open-source software similar to Fedora
- **CERN Document Server**
 - Dissemination of scientific results in high-energy physics
- **Digital Commons**
 - Commercial product (ProQuest)
 - Includes manuscript submission and review system
- **DSpace**
 - Jointly developed by MIT Libraries and Hewlett-Packard Labs
 - Open source “out-of-the” box software

Digital Repository Management Systems



- **EPrints**

- Dedicated to supporting open access to research
- Promotes author/institution self archiving

- **Fedora**

- Most extensible digital repository system
- Behavior of object is managed in Fedora

- **Greenstone**

- Produced by the New Zealand Digital Library Project
- Open source software; easy installation

NOTE: Identification of commercial entities in this presentation is not intended to imply recommendation or endorsement by the National Institute of Standards and Technology.

Collaboration and Teamwork

A thick, horizontal yellow brushstroke underline is positioned directly beneath the title "Collaboration and Teamwork".

- **Task requirements are too complex for a single individual to handle**
- **Draws on the skills and talents from across the organization**
- **Learning and growth experience for team members**

DCM Team Operations

- **Team leader schedules meetings and facilitates discussions**
- **Formation of sub-teams**
 - **Digital Repository Management Software**
 - **Web CMS**
 - **Options for managing purchased content (i.e., LOCKSS)**
- **Meetings held as needed**
- **Decision-making by consensus**

Team Discussions

A thick, horizontal yellow brushstroke underline is positioned directly beneath the title "Team Discussions".

- Debating the best digital content management systems
- Developing consensus on final system evaluation criteria
- Understanding and working within our IT environment
- Viewing and discussing demos of various systems
- Meeting with other federal agencies planning similar projects

Where We Are Now?

- **Good understanding of the “big picture”**
- **Investigations and research coming to a close**
- **Finalizing system evaluation criteria lists**
- **Weigh options against criteria and make recommendations**

Lessons Learned (so far)

A thick, horizontal yellow brushstroke underline is positioned directly beneath the title.

- Takes some time to understand and grasp the big picture
- Divorce the project goal from the technology
- “Divide and conquer” strategy works well
- Manage larger project by creating smaller projects with short deadlines

What's Next?

- **Write proposal with recommendations**
- **Meet with and present proposal to ISD Management**
- **Implement Management's decisions**
 - **Upgrade current Web CMS or move to new CMS**
 - **Implement digital repository management software**
- **Fit the pieces together!**

Questions?

A thick, horizontal, yellow brushstroke with a textured, painterly appearance spans the width of the slide, positioned directly below the "Questions?" heading.

Email: susan.makar@nist.gov