An Introduction to Digital Preservation

Make Plans to Manage Content and Provide Access Over Time

(Last of 3 ASERL Webinars)
February 21, 2012

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Content primarily from the Library of Congress DPOE Baseline Modules, version 2.0, Nov 2011
DPOE Modules

**Identify** - what digital content do you have?

**Select** - what portion of that content will be preserved?

**Store** - what issues are there for long term storage?

**Protect** - what steps are needed to protect your digital content?

**Manage** - what provisions are needed for long-term management?

**Provide** - what considerations are there for long-term access?
Managing Content Over Time

DPOE Baseline Modules: Intro, version 2.0, Nov 2011
Why do we emphasize management?

- Rapid technological obsolescence
- Media fragility
- Legal and organizational environment in flux
- Complex practical issues
- Lack of clarity as to procedures and responsibilities
- Multiplicity of types of content in growing number of formats
- Massive amounts of content

Preserving Digital Information

Report of the Task Force on Archiving of Digital Information
commissioned by
The Commission on Preservation and Access
and
The Research Libraries Group

May 1, 1996

Preserving Digital Information (PDI), 1996
Balanced Management

An effective approach will address:

- Organizational requirements and objectives
- Technological opportunities and change
- Resources – funding, staff, equipment, etc.

http://www.dpworkshop.org/
Organizational Requirements: Planning

- Preservation Planning (ongoing)
- Self-assessment (internal process)
- Audit (external review by peers)
Organizational Requirements: Planning

Also:

• Business Continuity
• Disaster Planning
Organizational Requirements: Policies

Benefits of a preservation policy:

- Raises awareness
- Identifies issues and challenges
- Defines roles and responsibilities
- Developing the policy builds your team
- Clarifies level of institutional commitment
- Manages expectations – sends a message to stakeholders
Organizational Objectives: DP Standards

Standards emerging since 1996 report:

- Trusted Digital Repositories, 2002
- Open Archival Information Systems (OAIS) Reference Model, 2003 and 2009 revision
- Preservation Metadata Implementation Strategies, 2005 plus updates
- Trustworthy Repositories Audit and Certification (TRAC), 2011

Common practices are emerging and evolving
Trusted Digital Repository

A TDR should have these characteristics:

- **community standards** (OAIS Compliance)
- **commitment** (Administrative Responsibility)
- **management** (Organizational Viability)
- **resources** (Financial Sustainability)
- **infrastructure** (Technological ... Suitability)
- **protection and control** (System Security)
- **documentation** (Procedural Accountability)
Community Expectations: Ten Principles

1) Demonstrates **organizational fitness** (including financial, staffing, and processes) to fulfill its commitment.

2) Acquires and maintains requisite contractual and legal rights and **fulfills responsibilities**.

3) Has an **effective and efficient policy** framework.

4) Acquires and **ingests digital objects based upon stated criteria** that correspond to its commitments and capabilities.

Available on the CRL website
Community Expectations: Ten Principles

5) Maintains/ensures the integrity, authenticity and usability of digital objects it holds over time.

6) Creates and maintains requisite metadata about: actions taken on digital objects during preservation and relevant contexts before preservation:
   •  production
   •  access
   •  usage

Available on the CRL website
Community Expectations: Ten Principles

7) The repository **commits to continuing maintenance** of digital objects for identified community/communities.

8) **Fulfills requisite dissemination** requirements.

9) **Has a strategic program** for preservation planning and action.

10) Has **technical infrastructure adequate** to continuing maintenance and security of its digital objects.

Available on the CRL website
Technological Opportunities: Investing in Technology

- **Prioritize**: weigh requirements to be met
- **Assess**: define criteria to select appropriate
- **Sequence**: identify steps to meet goals
- **Fund**: decide when to own/join/share
- **Anticipate**: look ahead, be prepared
- **Evaluate**: measure outcomes and success
Technological Opportunities: Adopting Technologies

Characteristics of sound software:

• written in a well-documented language
• usable on a wide variety of platforms
• sustained support by creators/developers
• modular in design
• supports batch processing and workflows
• licenses support secondary use
Resources: Skills

- Policy development
- Project management
- Repository/software management, programming
- Metadata management
- Legal expertise
- Marketing expertise
- Other?
Resources: Designated Funding

- Funds set aside for digital preservation
- Measurable indication of intent to preserve
- Challenging to do, but important
- Over time, contributes to track record
- May not be explicit (e.g., budget line item)

... but must be able to make a compelling case
Effective and sustainable DP programs address:

- **Value** – understand and stress content value
- **Roles** – identify stakeholders and involve them
- **Incentives** – identify “carrots” for preserving

*Identify and address costs across life cycle*

See: *Blue Ribbon Task Force Report on Sustainable Preservation and Access Report*
Outcomes

What will standards conformance and good practice look like for your organization?

How will your organization demonstrate good practice?
Questions for YOU!

Gap analysis as a management approach:

• Where are we? (status):
  - Preservation Planning:
    - management
    - technology
    - resources
  - Self-Assessment & External Audits
  - Business Continuity & Disaster Planning
Questions for YOU!

Gap analysis as a management approach:

• Where do we want to be? (requirements)
  ✓ Preservation Planning:
    ➢ management
    ➢ technology
    ➢ resources
  ✓ Self-Assessment & External Audits
  ✓ Business Continuity & Disaster Planning

• Therefore, what gaps need to be filled? (objectives)
What is Long-term Access?

Preservation makes long-term access possible...

**Preservation**
- relies upon *proven* technologies to preserve digital objects across generations of technology
- *accumulates* metadata over the life cycle to trace preserve content

**Access**
- relies on *cutting edge* technologies to provide best and fastest access at a point in time
- *selects* metadata needed to use and understand content
What is Long-term Access?

Preservation makes long-term access possible...

**Preservation**
- preservation systems *create* new versions of digital objects for access to deliver as needs change over time
- purpose: ensure long-term access
- focus: *future* users

**Access**
- access systems *deliver* objects with user-oriented services to make the objects
- purpose: provide content to users
- focus: *current* users
Understand Users

- Who are your users? Track and respond to them.
  
  *User expectations will change over time, and must be monitored.*

- Preservation provides pathway from one generation of technology to the next
  
  *Digital content will need to be packaged in new ways for delivery over time.*
Access Policies: Issues

- Who is allowed to have access to content?
- Are access policies equal for all content?
- If not, how are categories managed?
- How are exceptions/special requests handled?
- How do users request/get access?
- What options (if any) do users have?

Consider using FAQs as a step to develop policies
Managing Life Cycle Legal Issues

• Legal issues include copyright, but copyright is only a portion of legal issues in DP

• Legal questions emerge throughout lifecycle … and most of us are not lawyers

• Access raises legal issues, but manage from submission (or before) throughout lifecycle

• DP requires well-formed, valid documentation
  – agreements, contracts, licenses, policies, etc.

• Good legal advice should enable well-formed evidential documentation and transparency
Create and use Permissions Agreements

The Donor grants [...] and its agents the right to:

• Digitize all submitted content, and create derivative representations for web access
• Reproduce and distribute reprints or derivative representations for noncommercial scholarly purposes
• Augment or create metadata to enhance accessibility and management of content
• Electronically view, present and display the full digital content to others, including providing open access via the web
• Electronically store, archive, copy and/or convert the digitized content for preservation and access purposes

http://www.lib.ua.edu/wiki/digcoll/index.php/Digital_Services_Permission_Agreement
Your Role in Life Cycle Legal Issues

- **Know who your legal adviser is** (or find one) and develop a sound working relationship
- **Understand your content** to address relevant legal issues for preservation and access
- **Document and preserve your decisions** about legal issues regarding access to your content
- **Work to balance legal requirements and long-term access expectations and responsibilities**

--- Be prepared then seek and heed advice ---
Access Policies: Implementation

- Access decisions should be documented and translated into policy statements.
- Access policies should address requirements for preservation systems to produce access objects.
- Access policies should reflect and respond to new discovery/delivery issues that emerge.
- Preservation systems and procedures should incorporate policy decisions.
Requirements for providing access

Content should be delivered to users over time:

- **Easily** – using current and known technologies
- **Coherently** – well-documented and presented
- **Completely** – intact and well-formed
- **Correctly** – accurately representing deposits
- **Reliably** – using well-managed technologies
- **Consistently** – in accordance with policies
- **Fairly** – with equity and precedent
Organizational Responsibilities

- Develop and maintain comprehensive access policies
- Manage preservation and access in parallel
- Be transparent and compliant about access
- Provide content to current and future users
- Adapt new technologies for discovery and delivery
- Manage legal issues throughout life cycle
Roles for providing access

- **Access service managers** – define services
- **Policy developers** – capture access decisions
- **Access system developers** – enact decisions
- **Access system managers** – monitor and respond
- **User support staff/systems** – assist users
- **System administrators** – manage environment
- **Users of content** – understand and follow rules
Outcomes

- **Clear access policies** that address long-term access
- **Links between preservation and access** over time that address current and long-term access
- **Capacity to disseminate** from preservation packages using current technologies
- **Awareness of and control** over relevant rights management issues from creation and/or deposit on
DPOE Baseline Principles (1-2)

1. Define the digital content within your scope of responsibility [Identify]
2. Specify the digital content you need/want to preserve [Select]
3. Establish requirements for storing files in preservation formats [Store]
4. Determine (and review) your best option for storing your content [Store]
5. Ensure that your content is secure during day-to-day activities [Protect]
6. Work to ensure that your content is prepared for an emergency [Protect]
7. Develop (and review) plans for managing content over time [Manage]
8. Use policies to contain and develop your preservation program [Manage]
9. Remember that long-term access is the purpose of preservation [Provide]
10. Make sure the means to deliver content to users remains current [Provide]
Identifying Next Steps

• Write down the *top 2 or 3 things* you think you *most* need to do

  *(not more than 3)*

  *(Leave space after each one)*
Identifying Next Steps

• For each one, think through:
  – What the desired outcome will be
  – Challenges you face
  – How might you address those?
  – How much time you might need

Then pick one goal—and start THERE
More Resources

- ICPSR Digital Curation:
  http://www.icpsr.umich.edu/icpsrweb/ICPSR/curation/

  http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf
  [NOTE: ISO 16363 version of TRAC approved fall 2011]

- Center for Research Libraries Reports on Digital Archives and Repositories:
  http://www.crl.edu/archiving-preservation/digital-archives/digital-archive-reports

Exercises and the DPOE Resource lists:
http://jodyderidder.com/resources/

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