Hitting the Road towards a Greater Digital Destination: Evaluating and Testing DAMS at the University of Houston Libraries

Annie Wu, Rachel Vacek, Santi Thompson, Andy Weidner, Sean Watkins, Valerie Prilop
Overview

Background and Methodology
Evaluation and Results
Insights
Next Steps
Background and Methodology

...with Annie
UH Digital Library

- Launched in 2009
- 64 collections
- 60,000+ digital objects
- Images, text, audio, video
- CONTENTdm with a custom user interface

http://digital.lib.uh.edu/
DAMS Evaluation - Rationale

- CONTENTdm allowed us to build an initial digital library
- We needed a more robust DAMS for new digital initiatives
  - Is more flexible, scalable, interoperable
  - Manages larger amount of data in a variety of formats
  - Accommodates creative workflows
  - Allows for configuration of additional functionalities
  - Supports and enables linked data
“...work assiduously to expand our unique and comprehensive collections that support curricula and spotlight research. We will pursue seamless access and expand digital collections to increase national recognition.”
DAMS Implementation Task Force
The Team

Metadata & Digitization Services

Co-Chair
Head of Metadata & Digitization Services
(Annie Wu)

Metadata Services Coordinator
(Andy Weidner)

Web Services

Co-Chair
Head of Web Services
(Rachel Vacek)

Web Projects Manager
(Sean Watkins)

Digital Repository Services

Head of Digital Repository Services
(Santi Thompson)

Special Collections

Digital Projects Librarian
(Valerie Prilop)
The Charge

- Perform a needs assessment and build criteria and policies based on evaluation of the current system and requirements for the new DAMS
- Research and explore DAMS on the market and identify the top 2-3 systems for beta testing in a development environment
- Generate preliminary recommendations from stakeholders' comments and feedback
- Coordinate installation of the new DAMS and finish data migration
- Communicate the task force work to UH colleagues
Methodology

● Needs assessment

● Broad evaluation
  o Evaluate 12 systems using broad criteria

● Detailed evaluation
  o Install systems for testing environment
  o Evaluate top 2 systems from previous evaluation using detailed criteria

● Data analysis and recommendation
Needs Assessment - Goal

- Collect key requirements of stakeholders
- Identify future features of the new DAMS
- Gather data in order to craft criteria for evaluation
Needs Assessment - Activities

- Internal focus group interviews
- Reviewed scholarly literature on DAMS evaluation and migration
- Researched peer/aspirational institutions
- Reviewed national standards around DAMS
- Identified materials and users
- Determined both the current use of the DL as well as its projected use of the DL
Evaluation and Results

...with Sean
Broad Evaluation

Building the criteria:
- Focus group interviews
- Literature reviews
- DAMS best practices

Organizing the criteria:
- Covered 4 topics
  - System Function
  - Content Acquisition / Management
  - Metadata
  - User Interface and Search Support
Broad Evaluation Results

Scoring:

- Scores were determined by reviewing supporting documentation, marketing information, or talks with vendors
- 0 - Does not support criteria
- 1 - Supports criteria
- Scores where totaled up and top 2 systems were evaluated for the final round
Score of 12 DAMS from testing using Broad Evaluation Criteria

<table>
<thead>
<tr>
<th>DAMS</th>
<th>Evaluation Score</th>
<th>Possible Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fedora</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>Fedora / Hydra</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>Fedora / Islandora</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>Collective Access</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>DSpace</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>CONTENTdm</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Rosetta</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Trinity (iBase)</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>Preservica</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>Luna Imaging</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>RODA</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Invenio</td>
<td>5</td>
<td>29</td>
</tr>
</tbody>
</table>
Detailed Evaluation

- Detailed criteria drawn from the same sources used previously
- Looked at specific features for DAMS
- Criteria was divided into eight testing sections
  - System Environment and Testing
  - Administrative Access
  - Content Ingest and Management
  - Metadata
  - Content Access
  - Discoverability
  - Report and Inquiry Capabilities
  - System Support
System Setup

- Virtual servers were set up for each system
- Latest stable versions were chosen (no betas) and installed
- All supporting server software was installed
- Additional software to support the evaluation testing was installed and set up
Gathering Collections for testing

- Wide variety of item formats currently available
- Variety of item formats for future projects
- Large collections
- Included items with bad metadata, wrong formats, and corrupted data
Detailed Evaluation Results

Scoring:

- Each system was tested with the same set of collection items
- Ranged score 0 - 3 (0 failed - 3 fully supported)
- Yes / No criteria was scored 0 or 3
- System documentation was still used in some scoring
# Score of top 2 DAMS from testing using Detailed Evaluation Criteria

<table>
<thead>
<tr>
<th>Testing Sections</th>
<th>DSpace Score</th>
<th>Fedora Score</th>
<th>Possible Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Environment and Testing</td>
<td>21</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>Administrative Access</td>
<td>15</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Content Ingest and Management</td>
<td>59</td>
<td>96</td>
<td>123</td>
</tr>
<tr>
<td>Metadata</td>
<td>32</td>
<td>43</td>
<td>51</td>
</tr>
<tr>
<td>Content Access</td>
<td>14</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Discoverability</td>
<td>46</td>
<td>84</td>
<td>114</td>
</tr>
<tr>
<td>Report and Inquiry Capabilities</td>
<td>6</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>System Support</td>
<td>12</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL SCORE:</strong></td>
<td><strong>205</strong></td>
<td><strong>300</strong></td>
<td><strong>393</strong></td>
</tr>
</tbody>
</table>
Top 2 System Evaluation Results

- Scores were tallied to show top ranked system
- Systems summarized into advantages and disadvantages
- Recommendation was compiled and written into the final report
# Fedora/Hydra - Advantages and Disadvantages

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open source</td>
<td>Steep learning curve</td>
</tr>
<tr>
<td>Large development community</td>
<td>Long setup time</td>
</tr>
<tr>
<td>Linked Data ready</td>
<td>Requires additional tools for discovery</td>
</tr>
<tr>
<td>Modular design through API</td>
<td>No standard model for multi-file objects</td>
</tr>
<tr>
<td>Scalable, sustainable, and extensible</td>
<td></td>
</tr>
<tr>
<td>Batch import / export of metadata</td>
<td></td>
</tr>
<tr>
<td>Handles any file format</td>
<td></td>
</tr>
</tbody>
</table>
# DSpace - Advantages and Disadvantages

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open source</td>
<td>Flat file and metadata structure</td>
</tr>
<tr>
<td>Easy installation / turnkey system</td>
<td>Limited reporting capabilities</td>
</tr>
<tr>
<td>Existing familiarity through TDL</td>
<td>Limited metadata features</td>
</tr>
<tr>
<td>User group / profile controls</td>
<td>Does not support Linked Data</td>
</tr>
<tr>
<td>Metadata quality module</td>
<td>Limited API</td>
</tr>
<tr>
<td>Batch import of objects</td>
<td>Not scalable or extensible</td>
</tr>
<tr>
<td></td>
<td>Poor user interface</td>
</tr>
</tbody>
</table>
Insights

...with Rachel
Project Management

- Initial planning
- Tools
- Flexibility
- Meetings
- Food
- Milestones

http://infospace.ischool.syr.edu/files/2014/04/Project-Management.jpg
Committee

- Size
- Representation
- Shared understanding
- Diverse skillsets

http://img.timeinc.net/time/2007/eating/makes_eat/makes_eat_time.jpg
Time

- Manage expectations
- Balance
- Intensive research

http://img.timeinc.net/time/2007/eating/makes_eat/makes_eat_time.jpg
Communication

- Administration
- Key stakeholders
- Entire library
- Other libraries

Testing

- Turnkey vs. framework systems
- User interfaces
  - Local installation
  - Other institutions
Evaluation

- Different criteria sets
- Consistency
- Vetting process
- Awareness of possibilities
Next Steps

...with Andy
Next Steps

- Phase 1: Systems Installation
- Phase 2: Data Migration
- Phase 3: Interface Development
- Assessment, Documentation and Training
Phase 1: Systems Installation

- Development environment
- Rewrite DL front-end for Fedora/Solr
- Data models
- Digital preservation workflow
- Hydra content management application
Phase 2: Data Migration

● Content migration strategy
● Migrate test collections
● Data migration
● Continued Hydra development
Phase 3: Interface Development

● Re-evaluate user interface
  ○ Conduct user testing
  ○ Re-write DL front-end in Hydra OR …
  ○ Update current PHP front-end

● Inter-departmental production workflows

● Refine Hydra content management application
Assessment, Documentation, and Training

● Assess service impact
● User testing
● System enhancements
● New workflows
● Create and maintain documentation
● Get training
  o Conferences, webinars, workshops, etc.
Thank you!

Annie Wu, Head of Metadata & Digitization Services, awu@uh.edu
Rachel Vacek, Head of Web Services, revacek@uh.edu
Santi Thompson, Head of Digital Repository Services
Andy Weidner, Metadata Services Coordinator
Sean Watkins, Web Projects Manager
Valerie Prilop, former Digital Projects Librarian