

Avalon Media System update

Open Repositories 2014

13 June 2014

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Claire Stewart, Northwestern University

Project Objectives

Goal: Create an open source system to enable libraries and archives to provide online access to video and audio collections

- Digital audio/video management and delivery system, focused on needs of libraries and archives
- Follow an agile, open source development model
- Leverage existing technologies, where feasible
- Communicate and market the project broadly to increase awareness and grow the community of users and developers

Project Overview



- Funded in part by a National Leadership Grant from the Institute of Museum and Library Services
- Original name: **Variations on Video**
- Planning grant:
 - August 2010 – July 2011
- Implementation grant:
 - September 2011 – October 2014
- Partnership between libraries at Indiana University and Northwestern University

Project Partners and Advisors



opencast



UNIVERSITY OF
Miami

UNIVERSITY
of VIRGINIA

Ψ
INDIANA UNIVERSITY



ROCK AND ROLL
HALF OF FAME + MUSEUM

NORTHWESTERN
UNIVERSITY

NEW YORK UNIVERSITY

STANFORD
UNIVERSITY

WGBH

THE UNIVERSITY *of York*
avalon
MEDIA SYSTEM

Project Partners and Collaborators

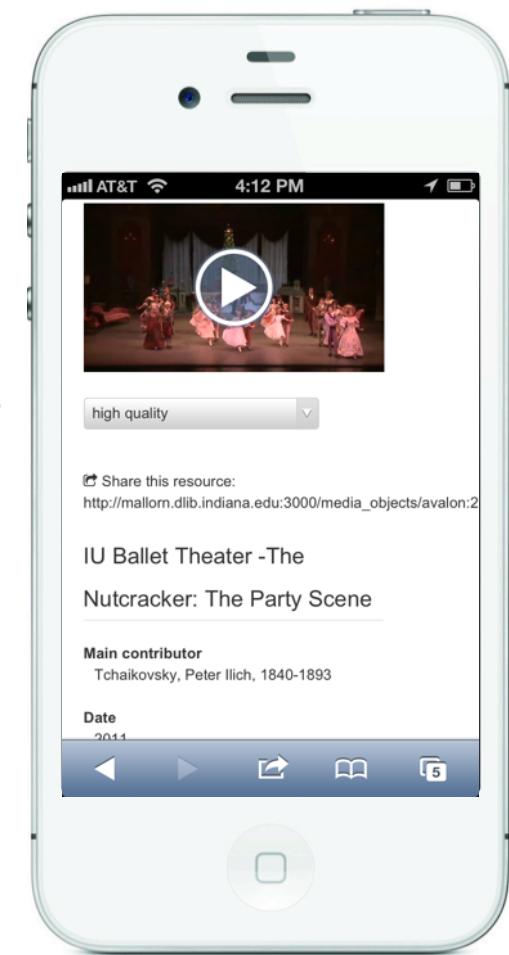


Project Progress

- Development team hired
- Trained on agile development (Scrum), May 2012
- Releases:
 - Release 0, July 2012
 - Release 0.5, October 2012
 - Release 1.0, May 2013
 - Release 2.0, November 2013
 - Release 3.0, April 2014
- Participation in [Hydra](#) and [Matterhorn](#) communities

0 – 2.0 Release Functionality

- **Secure** delivery of video and audio to **desktop** browsers and **iOS** (iPad/iPhone) devices
- Integration with a **variety of authentication systems** are supported, along with management of group-based authorization
- Content can be added using **manual upload** and description, or using the **batch import** facility (dropbox + spreadsheet)
- Server-side **transcoding** using ffmpeg/Matterhorn
- For fast and easy discovery, **faceted search** is based on the **Blacklight** discovery tool using MODS metadata
- Support for **both Adobe Media Server** and the **Red5** open source media server for audio and video streaming
- Hierarchical **permissions** model: for each Unit and Collection, 3 assignable roles: Manager, Depositor, Editor

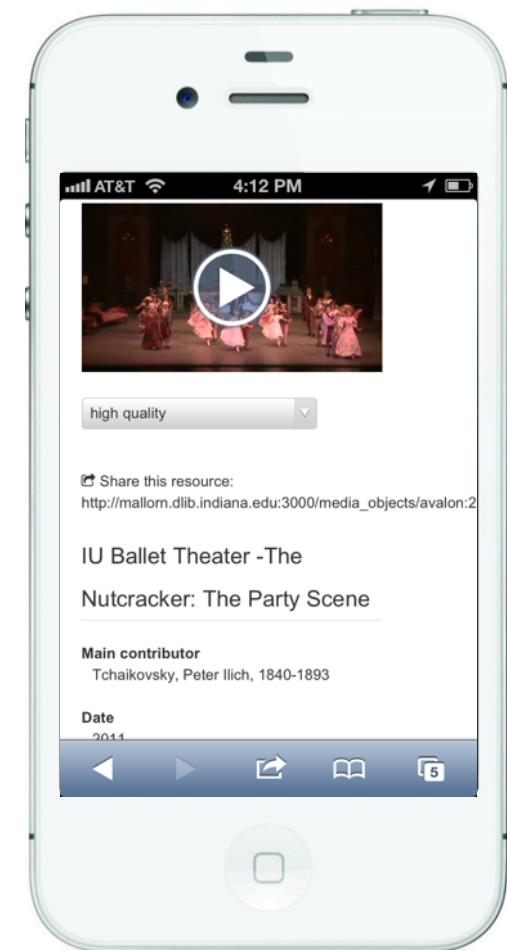


Permissions model

	Administrator	Manager	Editor	Depositor
Create Administrative Units	✓			
View All Collections	✓			
Create Collections	✓	✓		
Edit Collection Information	✓	✓	✓	
Set Default Collection Access Controls	✓	✓		
Delete Collections	✓	✓		
Manage Groups	✓			
Add/Remove Managers	✓			
Add/Remove Editors	✓	✓		
Add/Remove Depositors	✓	✓	✓	
Add Items	✓	✓	✓	✓
Set Item Access Control	✓	✓	✓	✓
Add Metadata	✓	✓	✓	✓
Publish Items	✓	✓	✓	✓
Edit Published Items	✓	✓		
Delete Published Items	✓	✓		
Unpublish Items	✓	✓		
Edit Unpublished Items	✓	✓	✓	✓
Delete Unpublished Items	✓	✓	✓	✓
Batch Upload	✓	✓	✓	✓
View Administrative Metadata	✓	✓	✓	✓

3.0 Release April 2014

- Learning Tools Interoperability (LTI) support for secure integration with learning management systems
- Embedding with authentication
- Support for permanent URLs (e.g. PURL at IU, Hdl at NU)
- Skip transcoding option
- Configurable options for handling master files: delete, move, do nothing
- Privacy between dropboxes
- Media player improvements, better Android support



Demo ? of Version 3.0

Matterhorn Services

```
active online org.opencastproject.annotation
active online org.opencastproject.caption
active online org.opencastproject.capture.admin
active online org.opencastproject.composer
active online org.opencastproject.distribution.acl
active online org.opencastproject.distribution.download
active online org.opencastproject.distribution.streaming
active online org.opencastproject.distribution.youtube
active online org.opencastproject.episode
active online org.opencastproject.files
active online org.opencastproject.fileupload
active online org.opencastproject.info
active online org.opencastproject.ingest
active online org.opencastproject.inspection
active online org.opencastproject.manipulator
active online org.opencastproject.organization
active online org.opencastproject.scheduler
active online org.opencastproject.search
active online org.opencastproject.series
active online org.opencastproject.serviceregistry
active online org.opencastproject.textanalyizer
active online org.opencastproject.userdetails.roles
active online org.opencastproject.users.jpa
active online org.opencastproject.usertracking
active online org.opencastproject.videosegmenter
active online org.opencastproject.workflow
```

Mediainfo

```
path /usr/bin/mediainfo
version 0.7.68
```

Streaming server

```
fms1.at.northwestern.... alive
```

Repository | audio + video

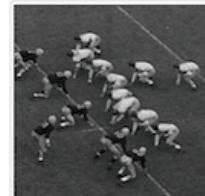
Browse

Browse by

- Format >
- Sound Recording (84)
- Moving Image (46)
- Main contributor >
- Date >
- Genres >
- Collection >



Robert Marcellus Master Class
Audio Archives



Northwestern University
Football Films

Using the System

Use the search box, or browse using the terms on the left side to discover content. Some content is only available when you sign in. Sign in with your Northwestern NetID and password.

Contact Us

For more information contact Digital Collections
Northwestern University Library, 1870 Campus Drive, Evanston, IL 60206-2300
Phone: 847-467-1080; E-mail: digitalcollections@northwestern.edu
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NORTHWESTERN
UNIVERSITY

Avalon home, Northwestern branding

Repository | audio + video

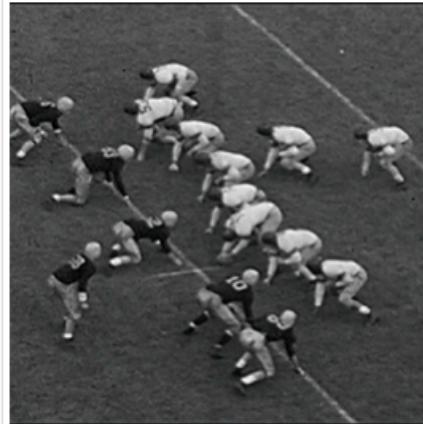
Browse Search

Browse by

- Format >
 - Sound Recording (62)
 - Moving Image (45)
- Main contributor >
- Date >
- Genres >
- Collection >
- Unit >



Robert Marcellus Master Class
Audio Archives



Northwestern University
Football Films

Using the System

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Faceted browse via Blacklight

Repository | audio + video

Browse Search

You searched for Format > Moving Image [x](#) Start Over

« Previous | 1 - 10 of 45 | Next » [10 per page](#) [Sort by Relevance](#)

1. Northwestern Football vs. Army, 1951 (1:08:33)



Main contributors: Northwestern University
Date: 1951
Summary: Final score, NU: 20, Army: 14. Second game of the season at home. Includes marching band and cheerleader footage.

2. Northwestern Football vs. California (Rose Bowl), 1949 (40:07)



Main contributors: Northwestern University
Date: 1949
Summary: Northwestern (#7) vs. California (#4). Final score, NU: 20, California: 14. Northwestern's Rose Bowl win. The first half is filmed in color, while the halftime show and second half are black & white.

3. Northwestern Football vs. Illinois, 1950 (1:01:04)

Manage Content

claire-stewart@northwestern.edu | Sign out

Repository | audio + video

Browse Manage Content Manage Groups Search

My Collections

Claire collection	3 items (3 unpublished)	1 manager	It's for testing and interestingness	Delete
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Create Collection

Role based permissions

The screenshot shows a digital repository interface with a dark purple header bar. In the top right corner, it displays the email address "claire-stewart@northwestern.edu" and a "Sign out" link. Below the header, the title "Repository | audio + video" is visible. A navigation bar at the top includes links for "Browse", "Manage Content", "Manage Groups", and a search bar. The main content area is titled "Claire collection". It contains a description: "Description: It's for testing and interestingness" and a unit: "Unit: Digital Collections". Below this, there are three buttons: "Create An Item" (highlighted in dark blue), "List All Items", and "Edit Collection Info". A note below the buttons says, "Or learn how to create items using batch upload." In the "Assign Staff Roles" section, there are three categories: "Manager", "Editor", and "Depositor", each with an "Add" button and a list input field. The "Manager" field contains the email "claire-stewart@northwestern.edu" with an "X" icon to its right.

claire-stewart@northwestern.edu | Sign out

Repository | audio + video

Browse Manage Content Manage Groups Search

Claire collection

Description: It's for testing and interestingness

Unit: Digital Collections

Create An Item List All Items Edit Collection Info

Or learn how to create items using batch upload.

Assign Staff Roles

Manager ?

Editor ?

Depositor ?

claire-stewart@northwestern.edu X

Collection: default access control

Set Default Access Control for New Items

Item discovery

Hide this item from search results

Item access

- Available to the general public
- Logged in users only
- Collection staff only

Assign special access

User ?

Group ?

Class ?

Add item: upload or dropbox

Claire collection > Untitled item

Manage file(s)

Upload through the web

Uploaded files must not exceed 250 MB

trippy-fish.MOV

Skip transcoding ?

Import from a dropbox

Use the dropbox to import large files. Attach selected files after uploading. Files will begin processing when you click Save and continue.

Metadata: MODS

claire-stewart@northwestern.edu | Sign out

Repository | audio + video

Browse Manage Content Manage Groups Search

Manage file(s)
Associated bitstreams

Resource description
Metadata about the item

Structure
Organization of resources

Access Control
Who can access the item

Preview
How end users see the item

Delete this item

Claire collection > Untitled item

Resource description

Fields followed by an asterisk (*) are required.

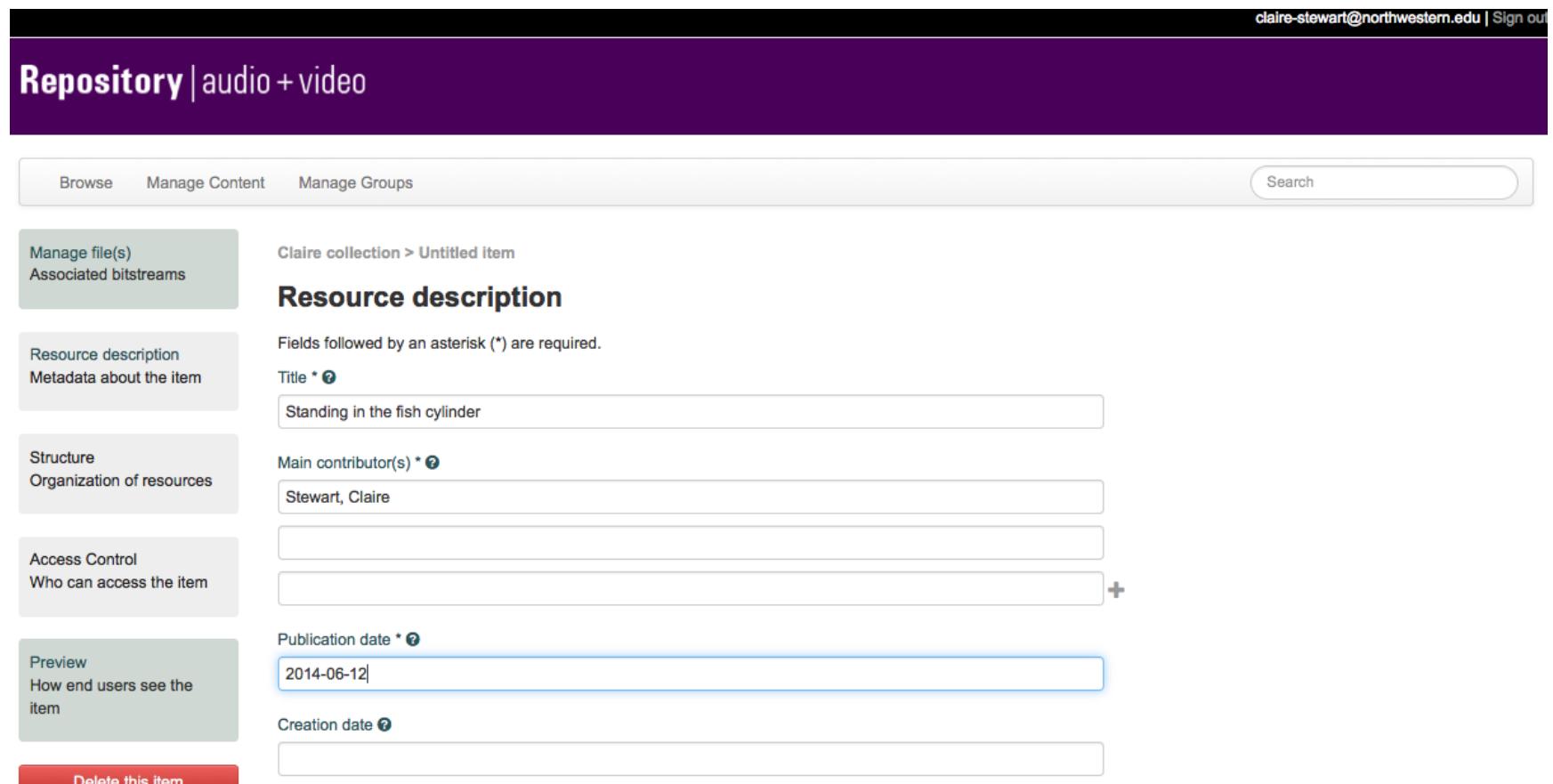
Title *

Main contributor(s) *

+

Publication date *

Creation date



Add sections, rearrange structure

claire-stewart@northwestern.edu | Sign out

Repository | audio + video

Browse Manage Content Manage Groups Search

Manage file(s)
Associated bitstreams

Resource description
Metadata about the item

Structure
Organization of resources

Access Control
Who can access the item

Preview
How end users see the item

Claire collection > Standing in the fish cylinder

Structure

Drag files to reorder them.

Type	Title	File name	Size
☰	Swimmy	trippy-fish.MOV	16 MB

Save Save and continue

LTI integration: class permissions

Claire collection > Standing in the fish cylinder

Access Control

Item discovery

Hide this item from search results

Item access

- Available to the general public
- Logged in users only
- Collection staff only

Assign special access

User 

Add

Group 

Add

Class 

Add

2014_TESTING_JRR907-2

Save

Save and continue

Permanent URL minted on Publish



Standing in the fish cylinder

Main contributor

Stewart, Claire

Date

2014-06-12

Collection

Claire collection

Unit

Digital Collections

[View Raw Metadata](#)

[View Fedora Objects](#)

Share this resource

Embed

Copy the link below to share this resource

Item

<http://hdl.handle.net/2166/avalon.j82k225m3h>

Section

Viewing a media set from Canvas

canvas Courses Assignments Grades Calendar Mary Stewart Inbox Settings Logout Help

BB106 Home Announcements Assignments Discussions Grades People Pages Files Syllabus Outcomes Quizzes Modules Conferences Piazza Collaborations Settings claire-stewart@northwestern.edu Sign out>

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Browse PrimoTest Search

Browse by Format > You searched for External Group > PrimoTest x Start Over

Moving Image (5) 1 - 5 of 5 10 per page ▾ Sort by Relevance ▾

1. (TEST) Azubi (26:44)
Main contributors: Franziska Lys
Date: 2000

Main contributor Date Collection Unit

2. Balloon launch (00:08)
Main contributors: Stewart, Claire
Date: 2014

Avalon 3.0 Rollouts

Northwestern

- First production system going live (any second now):
 - (Matterhorn) = (Hardware) 20 Cores/40 Threads
 - (Web) = (Virtual) 4 Cores
 - (Database) = (Virtual) 2 Cores
 - (Solr) = (Virtual) 4 Cores
- Summer 2014 soft rollout with NU courses in Canvas; Archival collections: Marcellus audio, Northwestern football films
- MultiMedia Learning Center (MMLC) non-library pilot partner

Indiana

- Pilot site live:
 - (Matterhorn) = (Hardware) 12 Cores/24 Threads
 - (Web and Solr) = (Virtual) 4 Cores
 - (Database) = (Virtual) 4 Cores (shared)
- Film Archive exhibit in Omeka, conference proceedings in OJS, music course pilots
- Production in August 2014: migration of video e-reserves
- MDPI in Fall 2014

Future Releases – 3.1 and beyond

- Release 3.1 – key improvements planned
 - LDAP groups support
 - Legacy permalinks
- Release 4 and beyond
 - Metadata import from ILS
 - Bulk actions
 - Media processing prioritization
 - Structural metadata, playlists
 - Accessibility, transcripts
 - Array of metadata improvements

Track the roadmap:

<https://wiki.dlib.indiana.edu/display/VarVideo/Road+Map+Post+R1>

Julie Hardesty
metadata analyst



Leah Lee
developer



Chris Colvard
lead developer



Ariadne Rehbein
Project assistant



Mark Notess
product owner/manager



INDIANA UNIVERSITY



Brian Keesee
developer

Jon Dunn
project director



Stu Baker
project director



Jim Bottino
DevOps



Stefan Elnabli
metadata/preservation specialist



Adam Hallett
developer



NORTHWESTERN
UNIVERSITY



Shelby Silvernell
testing and prod support



Claire Stewart
product owner/director



Julie Rudder
product owner



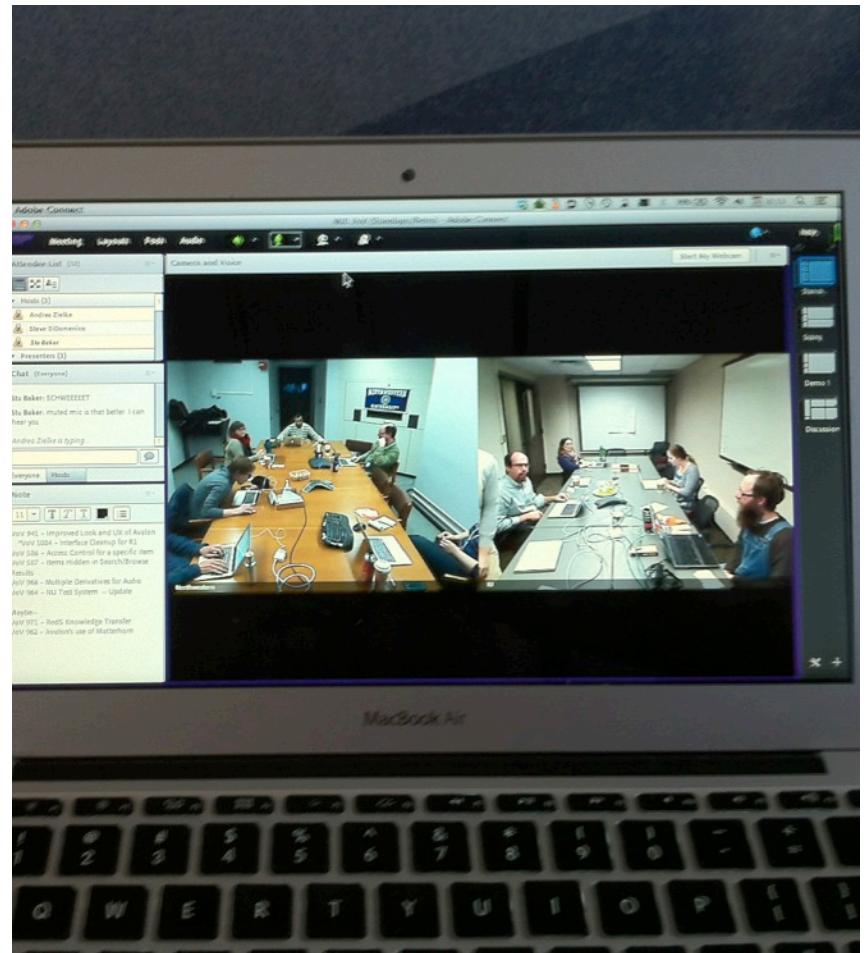
Karen Miller
metadata analyst

Michael Klein
lead developer

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Development process

- A single, blended team
- Scrum & JIRA
- F2F for scrum training, prioritization
- Daily standups, IRC
- Pulling in sysadmins, testers as needed
- More PO time



Community and future directions

- Lessons learned in development process
- Multiple implementations going on in community
- Exploring roles beyond library/archives
- Working with Hydra community, sustaining development after grant is over
- Building teaching and research tools: Avalon project or community project? Role of standards?
- HydraDAM and Avalon, other preservation-specific integrations

Learn More About Avalon

- **Website:** <http://avalonmediasystem.org/>
- **Listserv:** E-mail avalon-discuss-l-subscribe@indiana.edu to subscribe
- **Social media:**

@avalonmediasys

facebook.com/avalonmediasys

- **Or contact:**
 - Jon Dunn: jwd@indiana.edu
 - Claire Stewart: claire-stewart@northwestern.edu

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