# Avalon Media System: Community Implementation and Sustainability

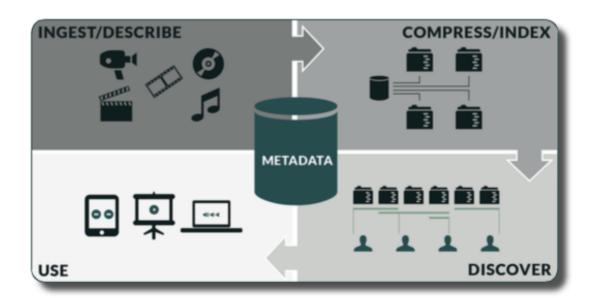
Open Repositories 2015 10 June 2015

Jon Dunn, Indiana University
Julie Rudder, Northwestern University
Debs Cane, Northwestern University
Mike Durbin, University of Virginia
Hannah Frost, Stanford University



### What is the Avalon Media System?

The Avalon Media System is a robust, fully open source solution for curating and providing online access to digital audio and video collections in libraries and archives. The system is being developed collaboratively by the libraries at Indiana University and Northwestern University in partnership with ten additional institutions that have committed resources for testing, evaluation and feedback.



# **Open Source Technologies**





## With Avalon You CAN:

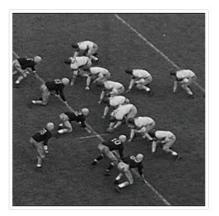
Browse

Search

Browse By	
Format	~
Moving Image	39
Sound Recording	31
Main contributor	>
Date	>
Genres	>
Collection	>
Unit	>
Language	>



Robert Marcellus Master Class Audio Archives



Northwestern University Football Films

#### Using the System

The Audio+Video Repository houses audio and video collections.

- 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 with your NetID and password.
- . Login to Blackboard or Canvas to access course materials via the Library Media link.



Manage Content Manage Groups Manage Selected Items (0)

Search

#### My Collections

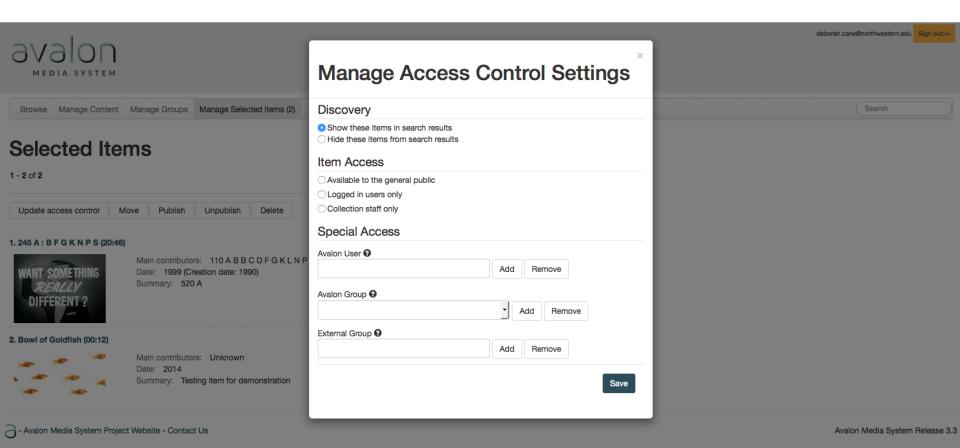
Northwestern University Football Films	23 items (1 unpublished)	0 managers	Delete
Robert Marcellus Master Class Audio Archives	22 items	0 managers	Delete
Course Video	37 items (2 unpublished)	2 managers	Delete
Streaming Testing	18 items (11 unpublished)	1 manager	Delete
Course Audio	25 items (1 unpublished)	2 managers	Delete

Create Collection

New Collection	×
Name	
Description	
Unit	1
Music Library	-
Charles Deering McCormick Library of Special Collections Center for Scholarly Communication and Digital Curation Galter Health Sciences Library, Special Collections	
Melville J. Herskovits Library of African Studies	
Music Library Northwestern University Archives Northwestern University Pritzker Legal Research Center Northwestern University Transportation Library	
Marjorie I. Mitchell Multimedia Center Digital Collections WCAS Multimedia Learning Center	
1 manager Test by Debs Cane 5.5.15 Delete	



Manage Selected Items (2) Manage Content Manage Groups Public Demonstration Collection > Untitled item Manage file(s) Associated bitstreams Manage file(s) Upload through the web Resource description Metadata about the item Uploaded files must not exceed 250 MB Structure Select file Organization of resources Import from a dropbox Access Control Use the dropbox to import large files. Attach selected files after uploading. Files will be begin processing when you click Save and continue. Who can access the item Open Dropbox Preview How end users see the item Dropbox location: sftp://localhost/srv/avalon/dropbox/Public\_Demo\_Collection Contact your system administrator for more information. Delete this item Save Save and continue



Unpublish

Edit

Delete



#### Panza Monologues, The

Main contributor

Mayorga, Irma

Date 2008

Collection

Course Media

Unit

Digital Collections

View Raw Metadata

View Fedora Objects

Share this resource

Embed

Copy the link below to share this resource

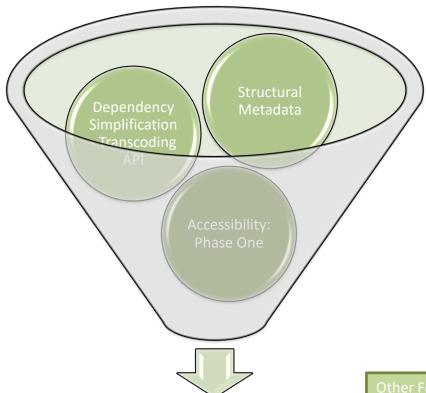
Item

http://hdl.handle.net/2166.MEDIA/j82k22rq52

Section

http://hdl.handle.net/2166.MEDIA/j82k22rq6c

# Release 4: Summer 2015



Release 4



- Continuing software development and integration
- Assessment of Scholarly Needs
- Business and Sustainability Model Development
- Hosted Service Offering





# **Release Functionality**

The team approaches release plans in an agile manner, allowing for a solid path forward but also leaving room to respond to community and user feedback in a timely manner.

#### Release 5

December 2015

- Technical environment for pilot SAAS
- Captioning
- Robust API development

#### Release 6

June 2016

- Bookmarking, Clip making, Playlists
- Annotation
- Synchronized Transcripts
- Spotlight Integration

#### Release 7

December 2016

- Publishing Out to External Media Sites
- Dynamic Adaptive Streaming
- Access control enhancements



#### Assessment of Scholarly Needs

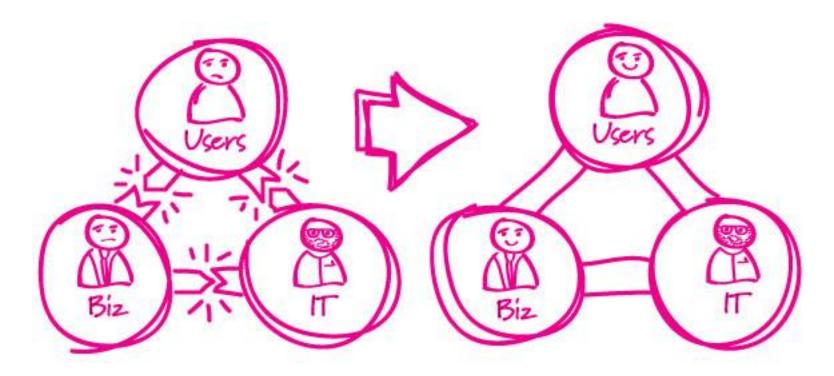
One important goal of this project is to fill out the Avalon requirements and implementation such that the system offers robust support for humanities scholarship.





#### **Business and Sustainability Model Development**

The community of Avalon users and developers needs to become a robust, self-funded entity attracting continued investment so it can keep pace with technology changes and emerging use cases.





#### **Hosted Service Offering**

Even some larger institutions have indicated an interest in being able to subscribe to a cloud-hosted instance of Avalon without having to devote their own system administrator and developer resources to its installation, maintenance, customization, and technical support.





# **Development Team**



#### INDIANA UNIVERSITY



Jon Dunn

**Project director** 

Julie Hardesty

Scrum master, metadata analyst

Cynthia Ramlo

**Lead User Experience Designer** 

**Chris Colvard** 

Lead developer

**Brian Keese** 

Developer

Leah Lee

Developer

Julie Rudder
Project owner

Stefan Elnabli

**Audiovisual Media Specialist** 

Karen Miller

Metadata analyst

Michael B. Klein

Lead developer

Paul Clough

Developer

**Debs Cane** 

**Repository Community Manager** 









# **Avalon at Indiana University**



### **IU Context**

- History of audio/video digitization
- Legacy systems for delivery
- Eight campuses
- New demands
- Media Digitization and Preservation Initiative





# **Legacy Systems**

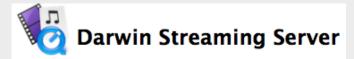








Libraries Video Streaming Service







# **IU Deployment Environment**

Library servers

University IT Services

Avalon Web App Solr, Fedora

4 core, 1GB RAM VM 1GB Disk (VMware)

Transcoding

12 core, 120GB RAM,8TB dedicated hardware Redundant Archive Storage (HPSS)

Master Files

Shared SAN

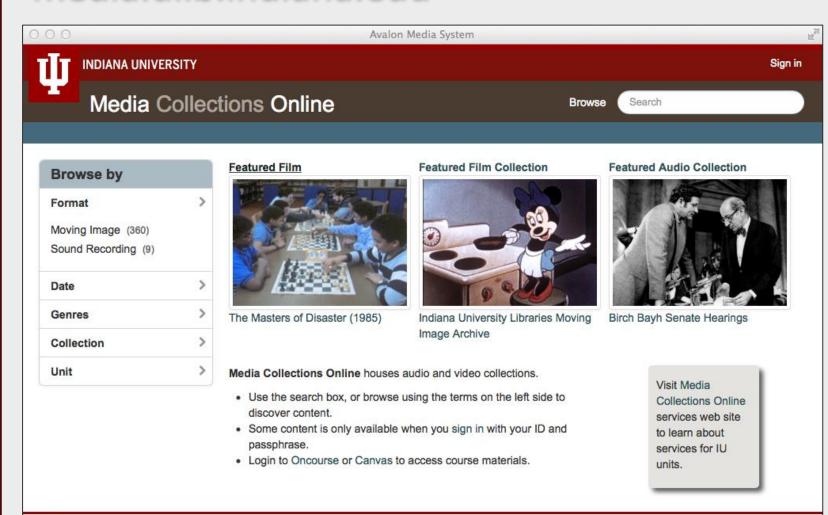
Derivatives

IU Enterprise Streaming

Adobe Media Server



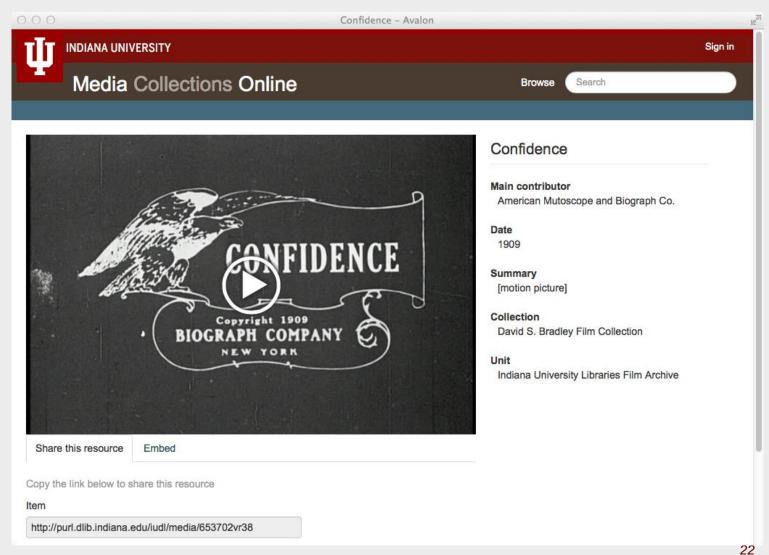
# IU Production Instance media.dlib.indiana.edu





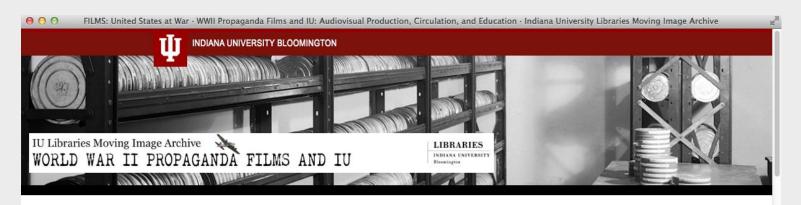


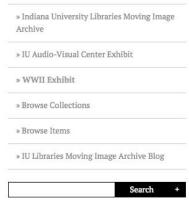
### **Archival Film**





# Omeka Online Exhibit: World War II Propaganda Frilms





FILMS: Agriculture WWII Propaganda Films and IU: Audiovisual Production, Circulation, and Education: FILMS: Air Raid Precautions and Fire Fighting FILMS: Allied Countries at War FILMS: Child Care FILMS: Conservation and Salvage FILMS: Health FILMS: Machine Shop Training FILMS: United States at War FILMS: Post War Planning FILMS: Pre-Flight Training FILMS: Production FILMS: Schools and Education FILMS: War Savings FILMS: Women at War Distribution and Production Documents Exhibit Bibliography

#### **FILMS: United States at War**







The Case of the Tremendous Trifle



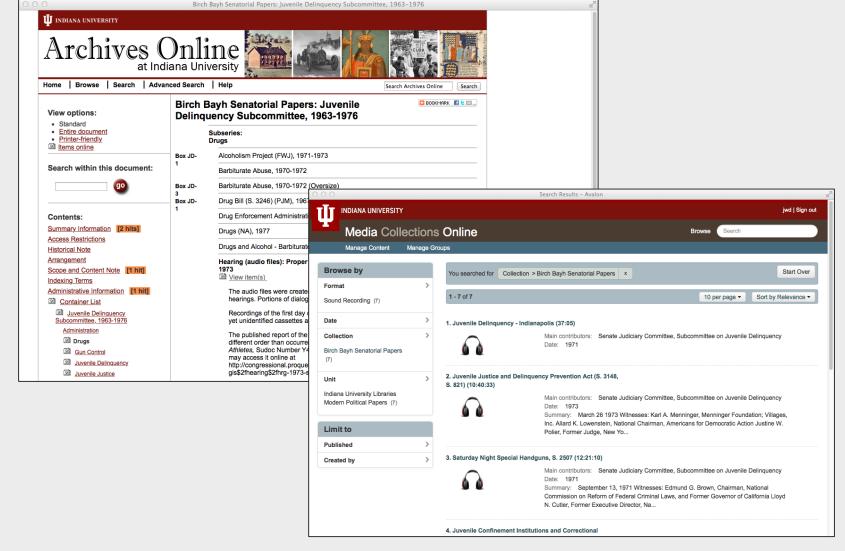
China Crisis: The Story of the Fourteenth Air



Film Communique: Twelfth Issue

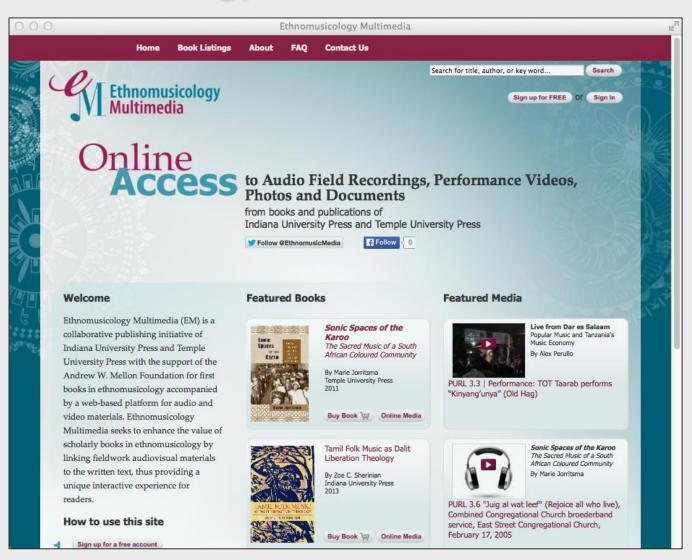


### Media Within Archival Collections



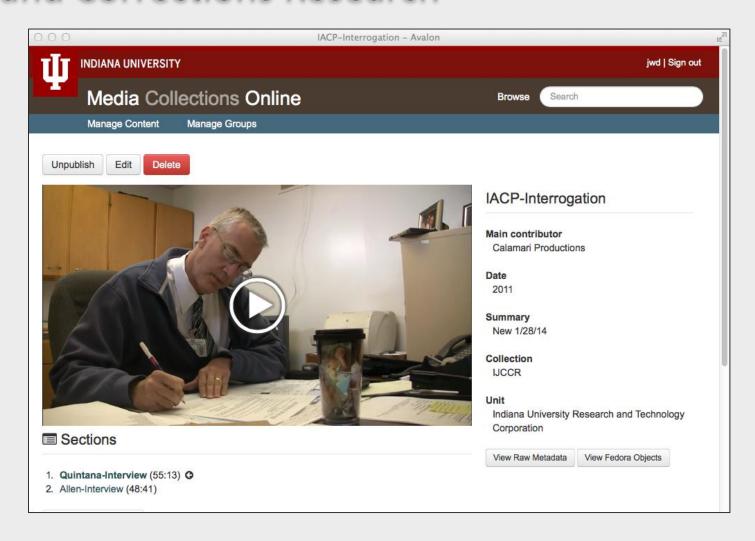


# Online Publishing: Ethnomusicology Multimedia



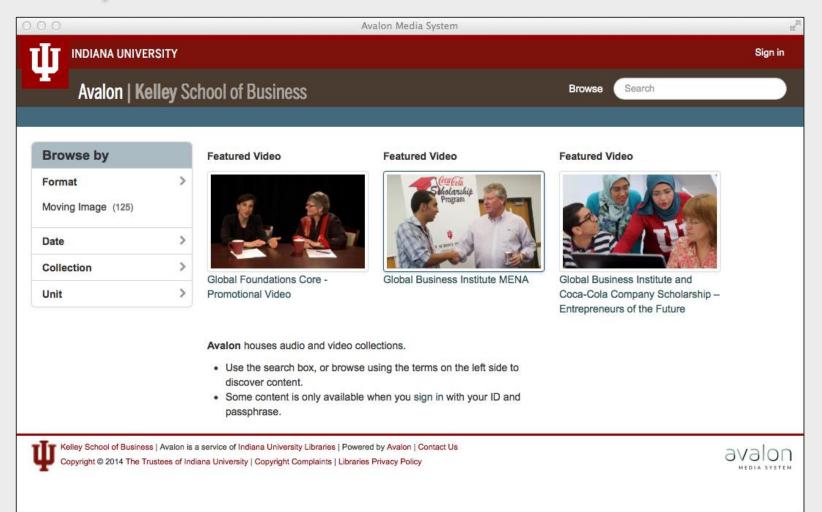


# Institute for Juvenile Court and Corrections Research





# Specialized Avalon Instance: Kelley School of Business



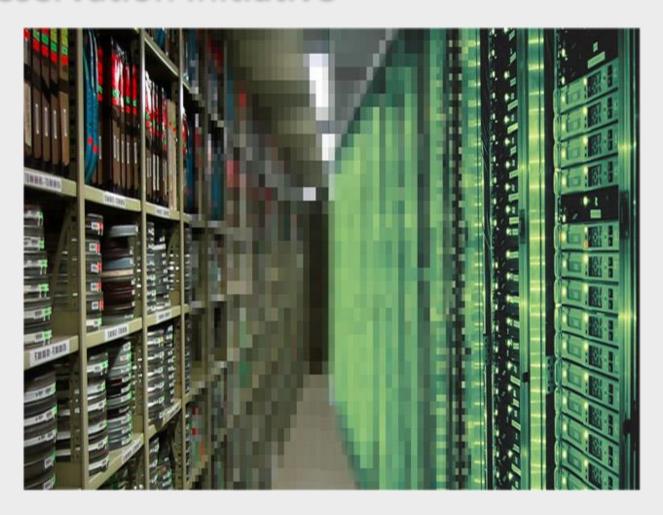


## **Future Migrations**

- Video e-reserves
  - LTI integration with Sakai, Canvas
- Licensed educational video
  - LDAP for campus restriction
- Variations: music audio
  - Pedagogical, annotation tools
- Media Digitization and Preservation Initiative



# IU Media Digitization and Preservation Initiative





mdpi.iu.edu

Julie Rudder j-rudder@northwestern.edu Digital Initiatives Project Manager OR2015







and



# How we managed 30k assets

- Spreadsheets
- Emailing links
- Limited access control
- Lots of support, help pa
- Minimal metadata

Add 🗠	I ☑ Edi	t 🖾 Clone X Delete   💠 Sort asc	<b>⋄</b> Sort desc
DMS project #	Date created	Title handle	Additional title
33495	09/29/2014	http://hdl.handle.net/2166.MEDIA/4227059	
33495	09/29/2014	http://hdl.handle.net/2166.MEDIA/4227059	
30293	07/08/2014	http://hdl.handle.net/2166.MEDIA/6305264	
30293	07/08/2014	http://hdl.handle.net/2166.MEDIA/6305264	
29928	07/02/2014	http://hdl.handle.net/2166.MEDIA/1099398	
29928		http://hdl.handle.net/2166.MEDIA/1099398	• 1
age	06/35/20:4	phone calls, er	man ho.
29872	,	http://hdl.handle.net/2166.MEDIA/5787433	Symphony no. 5
29876	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787852	
29876	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787852	
29870	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787430	part 2
29870	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787430	part 2
29870	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787430	part 1
29870	06/24/2014	http://hdl.handle.net/2166.MEDIA/5787430	part 1
29873	06/23/2014	http://hdl.handle.net/2166.MEDIA/4635154	
29873	06/23/2014	http://hdl.handle.net/2166.MEDIA/4635154	
29290	05/29/2014	http://hdl.handle.net/2166.MEDIA/6306086	
20200	05/20/2014	http://hdl handle net/2166 MEDIA/6306086	

# Really long help pages

Click "More Info" to be directed to the Java install page.



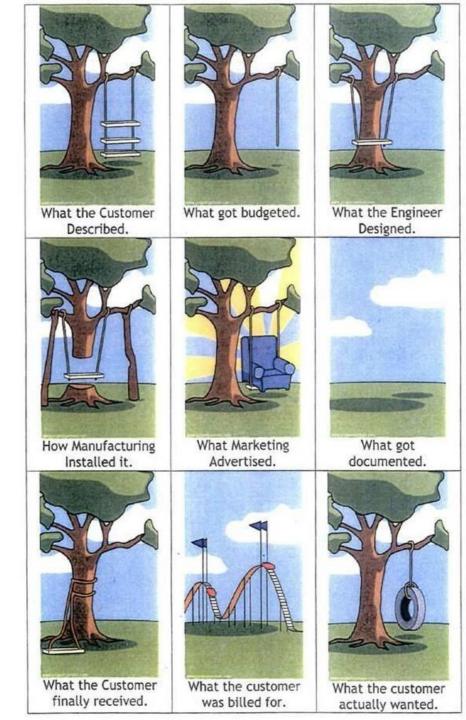
- Click "Agree and Start Download".
- 5. Click "Save File" as shown below.











#### Repository | audio + video

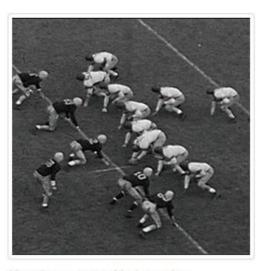
Browse Manage Content Manage Groups

Browse by	
Format	>
Moving Image (1352)	
Sound Recording (202)	
Date	>
Genres	>
Collection	>
Unit	>





Robert Marcellus Master Class Audio Archives



Northwestern University Football Films

#### **Using the System**

The Audio+Video Repository houses audio and video collections.

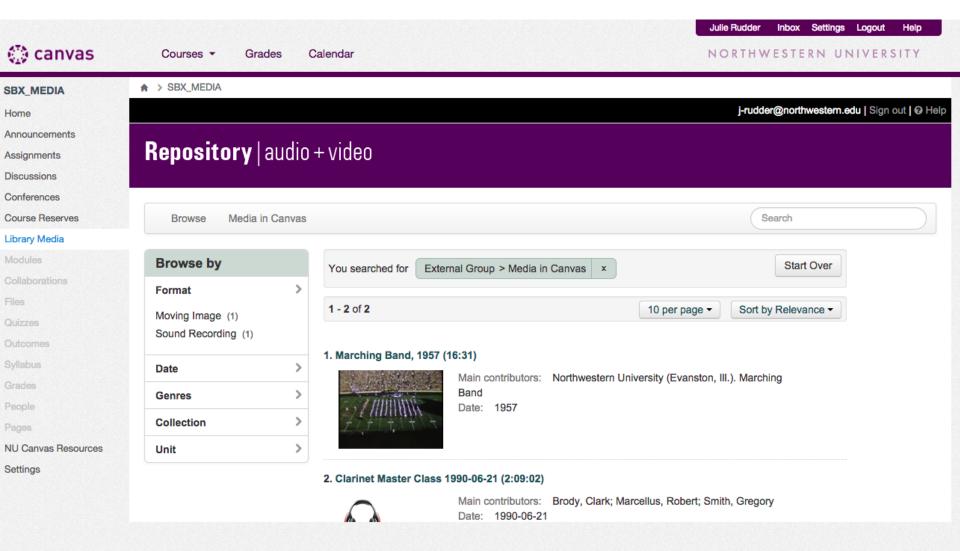
- Use the search box, or browse using the terms on the left side to discover content.
- · Some content is only available when you sign in with your NetID and password.
- Login to Blackboard or Canvas to access course materials via the Library Media link.



### **NU** Integrations

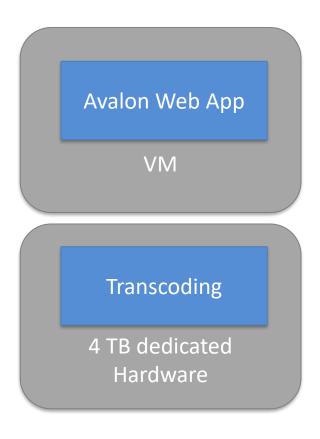
- LDAP
- Permanent URLs Handle.net
- Private dropbox for collections (SMB mounts)
- AMS streaming
- Integration to existing Fedora
- Canvas LTI

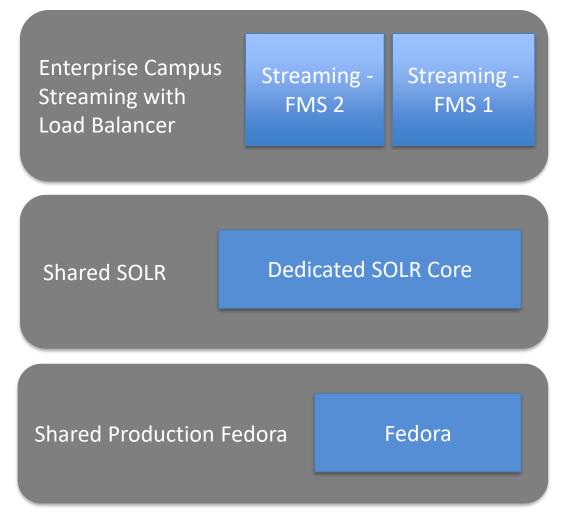
# **Avalon LTI View**





Browse Manage Content	Manage Groups Manage Selected Items (7)				Search
Manage file(s) Associated bitstreams	Public Demonstration Collection > Prelinger Access Control	Archives. 1955 Chevrolet Screen Ads			
Resource description  Metadata about the item	Item discovery  Hide this item from search results				
Structure Organization of resources	Item access				
Access Control Who can access the item	<ul><li>Available to the general public</li><li>Logged in users only</li><li>Collection staff only</li></ul>				
Preview How end users see the item	Assign special access  Avalon User     Output   Description:	Avalon Group <b>②</b>	Ext	ernal Group <b>②</b>	
Delete this item	j-rudder@northwestern.edu ×	<b>\$</b>	Add	imoTest	Add ×
	Save Save and continue				





### **NU Production Environment**

# Staffing and Support

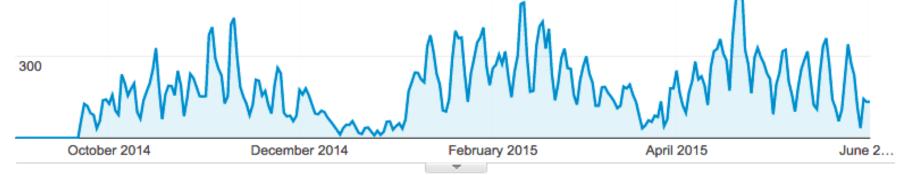
1 DevOps (install, configure, support)

1 Developer (app customization, support)

1 Project Manager (app oversight, integrations oversight)

1 Service Manager (liaise with units & users, workflow, support

Google Analytics
Sept 1, 2014 to June 1, 2015





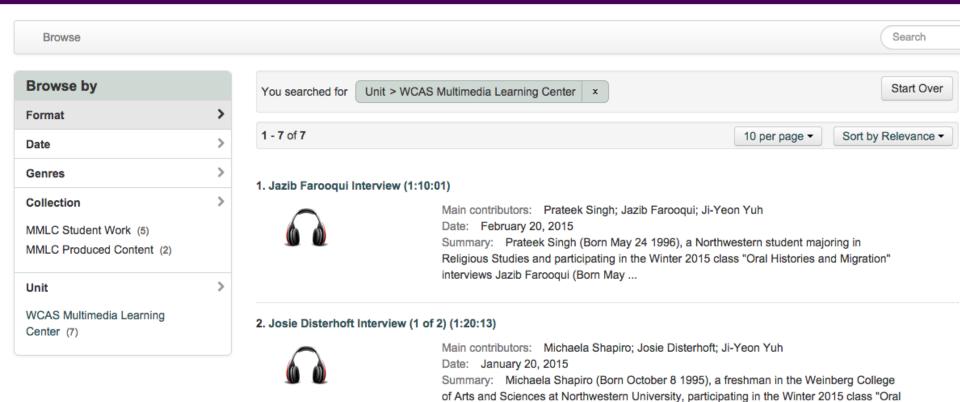


### Avalon allows for new uses

- Collections that were not available before or were scattered around on Youtube
- Digital Humanities support
- Faculty research output
- Multimedia Learning Center

### Unit -Multimedia Learning Center

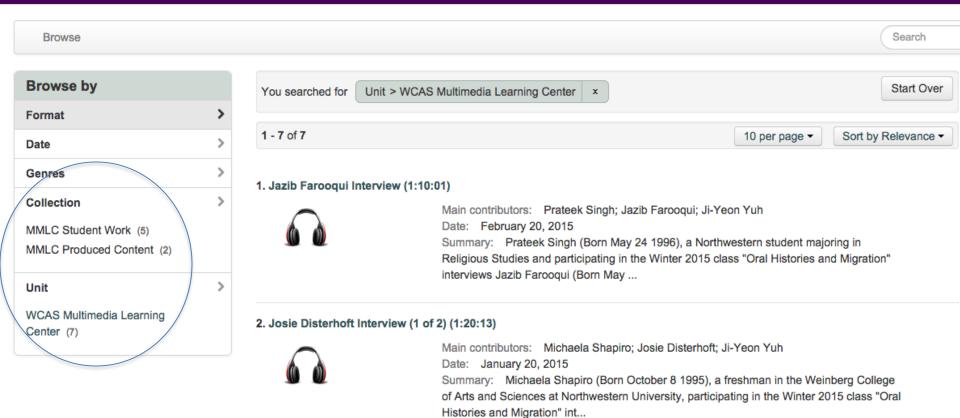
#### **Repository** | audio + video



Histories and Migration" int...

### Unit -Multimedia Learning Center

#### **Repository** | audio + video



### Supporting faculty research

### Ji-Yeon Yuh

Writer

Ji-Yeon Yuh is a reporter, writer, editor and professor in Asian American history and Asian diasporas at the Northwestern University. Since 2005, Yuh is the director of Program in Asian American Studies at Northwestern University. Wikipedia



Education: University of Pennsylvania, Stanford University

# AVALON at the University Of Virginia

Open Repositories 2015



# Background



### Online Access before Avalon

- "Boutique" websites
  - QuickTime media embedded in static pages
  - occasional access controls
- Kaltura-hosted streaming media linked from MARC records
- Kaltura video embedded in OPAC view
- Shared Shelf



### Description before Avalon

- MARC records in Sirsi Workflows
- Google Forms
- Spreadsheets
- Shared Shelf



### Preservation before Avalon

Lots of copies with...

...info about where they were...

...spread across staff members for safe keeping.

LOTS OF COPIES on my desk KEEPS STUFF SAFE





# Current State



# Implementation Timeline

- 2014-July 3.0 soft launch
- 2014-September 3.1 upgrade
- 2015-January 3.2.1 update
- 2015-February OPAC integration
- 2015-May 3.3 update
  - added MARC import feature for copy cataloging



### Content

- Licensed commercial content
- University-produced content
  - lectures
  - concert recordings
- Reformatted rare and unique A/V resources
  - o films
  - newsreel footage
  - o radio programs
  - oral history recordings
  - unpublished traditional music recordings



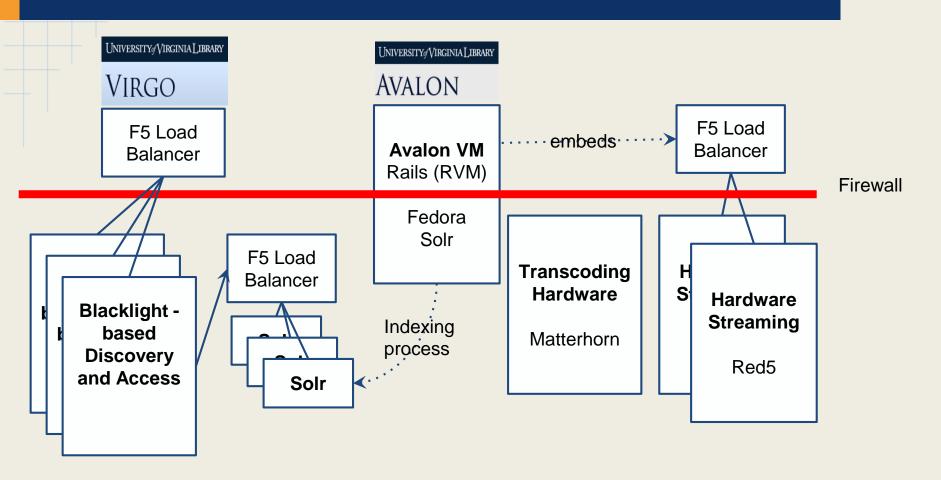


### Access Scenarios

- Consortial access
- University access
- Collection Manager access
- Public access



# Production Setup





# Access Experience

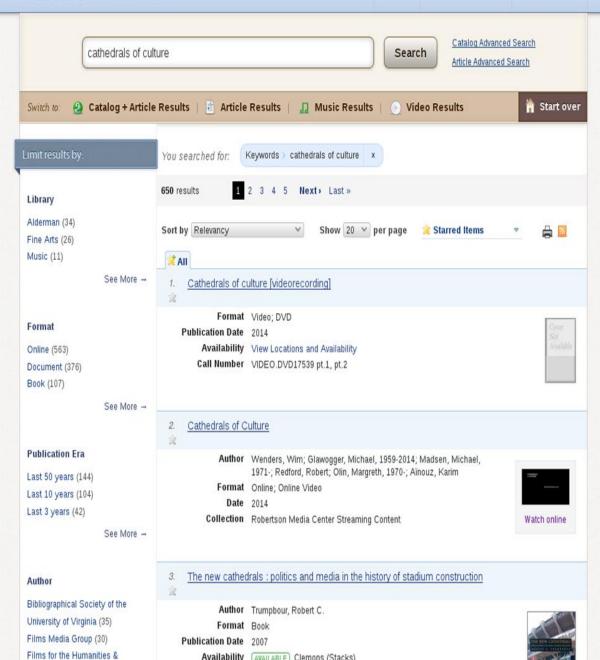
- Consortial Users access the materials directly in Avalon through links at portal sites or within their catalog
- UVA users view content embedded within Virgo
- Privileged/Expert users may access or discover resources directly within Avalon



#### VIRGO Catalog Search

LIBRA Course Reserves

Virgo Classic







#### Authors

- · Wenders, Wim
- Glawogger, Michael, 1959-2014
- · Madsen, Michael, 1971-
- · Redford, Robert
- · Olin, Margreth, 1970-
- · Aïnouz, Karim

#### Related Subjects

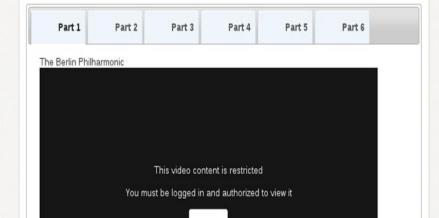
- · Architecture and society
- Philharmonie (Berlin, Germany)
- Rossiĭskaîa natsional'naia biblioteka
- Salk Institute for Biological Studies
- · Operahuset (Oslo, Norway)
- Centre Georges Pompidou



#### Cathedrals of Culture

Format	Online; Online Video			
Creator	Wenders, Wim; Glawogger, Michael, 1959-2014; Madsen, Michael, 1971-; Redford, Robert; Olin, Margreth, 1970-; Ainouz, Karim			
Date	2014			
Summary	Six acclaimed filmmakers bring their own visual style and artistic approach to the exploration of six different landmark buildings, showing us how they reflect our culture and guard our collective memory. The buildings featured are the Berlin Philharmonic Hall, the National Library of Russia, Halden Prison, the Salk Institute, the Oslo Opera House, the Centre Pompidou.  Six 26-minute episodes of a made-for-TV documentary series.			
Duration	2:40:15			
Publisher	Neue Road Movies (Firm)			
Collection	Robertson Media Center Streaming Content			

#### **Watch Online**





#### Authors

- · Wenders, Wim
- Glawogger, Michael, 1959-2014
- · Madsen, Michael, 1971-
- · Redford, Robert
- · Olin, Margreth, 1970-
- · Ainouz, Karim

#### Related Subjects

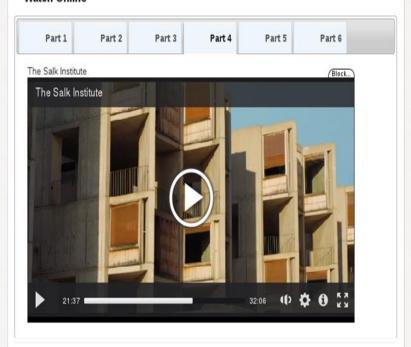
- · Architecture and society
- Philharmonie (Berlin, Germany)
- Rossiĭskala natsional'nala biblioteka
- Salk Institute for Biological Studies
- · Operahuset (Oslo, Norway)
- Centre Georges Pompidou

Start over R Add Star Item Actions

#### Cathedrals of Culture

Format	Online, Online Video
Creator	Wenders, Wim; Glawogger, Michael, 1959-2014; Madsen, Michael, 1971-; Redford, Robert; Olin, Margreth, 1970-; Aïnouz, Karim
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	Six 26-minute episodes of a made-for-TV documentary series.
	See more

#### Watch Online



# Description Workflows

- Spreadsheet import
  - legacy collection, migration
- Avalon form entry
  - o customized descriptions and guidelines from Metadata team
  - Training and documentation for catalogers



### Preservation

- Avalon is now the system of record for item-level descriptive metadata
- Master files are passed along to mirrored storage
- External processes can perform fixity checks
- Content can be packaged for submission into AP Trust



# Conclusions



# Customization/Integration

- Authentication
- Branding
- Publication pipeline
- Preservation pipeline



### Results

- A service and a brand
- Replaced old functionality
- Addresses many needs as "low-hanging fruit"
- Frees up time, clarifies needs for more robust preservation planning



# Thanks

Michael Durbin md5wz @ virginia.edu





# **Avalon** at Stanford



Hannah Frost
Services Manager
Stanford Digital Repository
Stanford Media Preservation Lab

**OR 2015 \* Indianapolis \* June 10, 2015** 



### Imperfect World





Adobe Experience Manager















### **Stanford Media Group**

SUNet Login

Search this site...



Communities of Practice

Supporting collaboration among Stanford professionals

Home Community Directory Creating a Community Key Concepts Resources Contact Us

API DEVELOPERS

APPLICATION SUPPORT AT STANFORD

CLOUD COMPUTING

COMMUNITIES OF PRACTICE

CONTENT STRATEGY

CREATIVES

DESKTOP ADVISORY GROUP

DEVELOPMENT PRACTICES

DRUPALLERS

EMAIL CAMPAIGN

### Stanford Media Group

The SMG is a vibrant community of individuals from across the campus involved in video and audio media. We come together to share and foster best practices, expose and address common needs, and propose and implement solutions — all in the interest of supporting teaching, learning, and research at Stanford University. All are welcome to join.

#### Upcoming SMG meetings

Date: May 29, 2015

Time: 3-4:30 PM

**Location: Turing Auditorium** 

**Topic: Asset Management** 

Kathleen Cameron (and others) will present on the current requirements and vendor evaluation around Digital Asset Management (DAM) products. Come hear the latest on this exciting front!



### **AV Media Assets to Manage**

- Collections acquired by the library
- Works produced by faculty, students, campus units
- Content selected for course reserves



# **Our Special Concerns**

- Metadata standards
- Preservation
- Rights management
- Controlled access
- Persistent online location
- Accessibility



# **Need 1: Library collections**

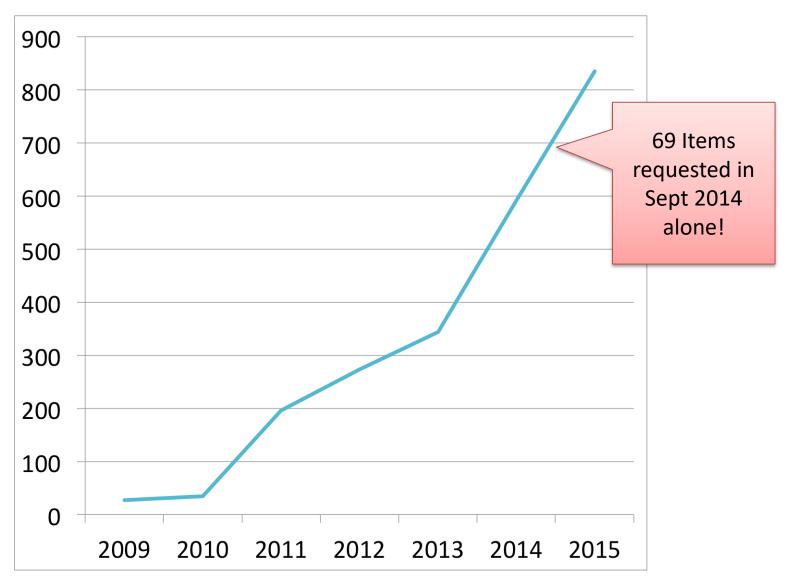
### **Media Preservation Program Goals**

- Maintain long-term access to at-risk materials through high-quality reformatting
- Support collection development
- Promote use of media in teaching and research
- Integrate with digital library
  - Services
  - Technology
- Develop expertise, best practices, community



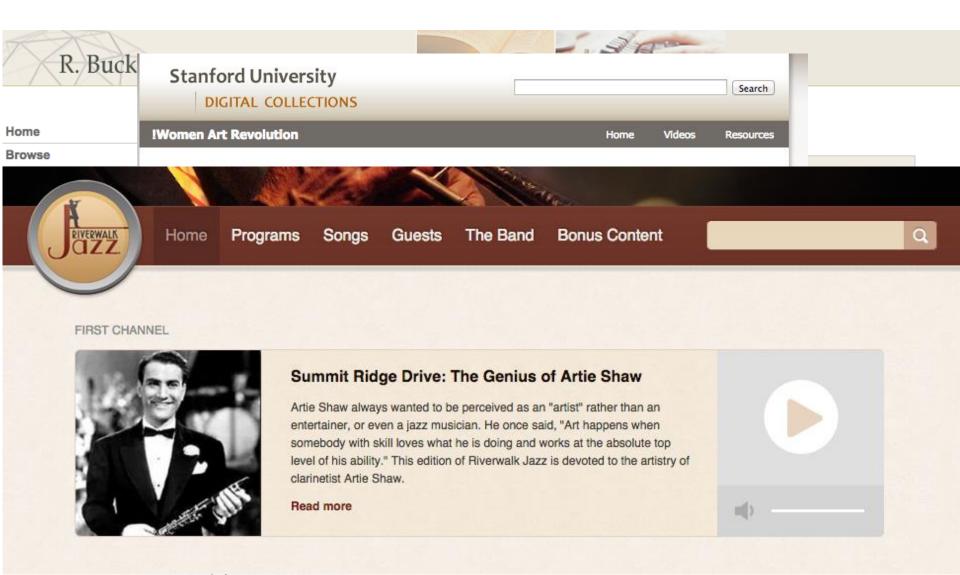


# Rising Patron Digitization Requests





# **Top Collection Websites: Media**





# Program Goals - Checking In

- ✓ Maintain long-term access to at-risk materials through high-quality reformatting
- Support collection development
- Promote use of media in teaching and research
- Integrate with digital library
  - Services
  - ☐ Technology: *discovery and delivery*
- ✓ Develop expertise, best practices, community



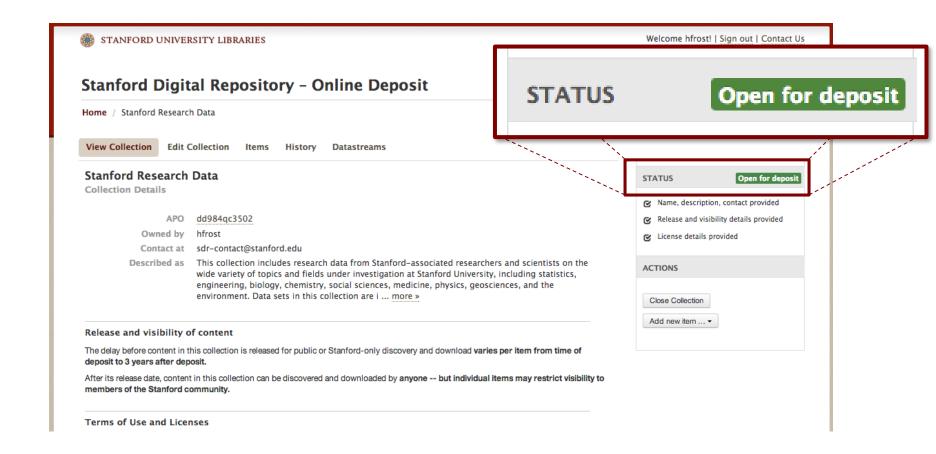
# Media Access Working Group (2013)

## Recommendations include:

- Augment systems and tools that
  - Reduce ingest backlog
  - Promote discovery and use
- Confront the rights barriers by
  - Developing reasonable access policies
  - Implementing technologies to control access



## Need 2: Stanford media makers

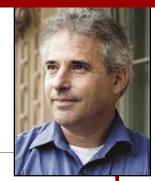


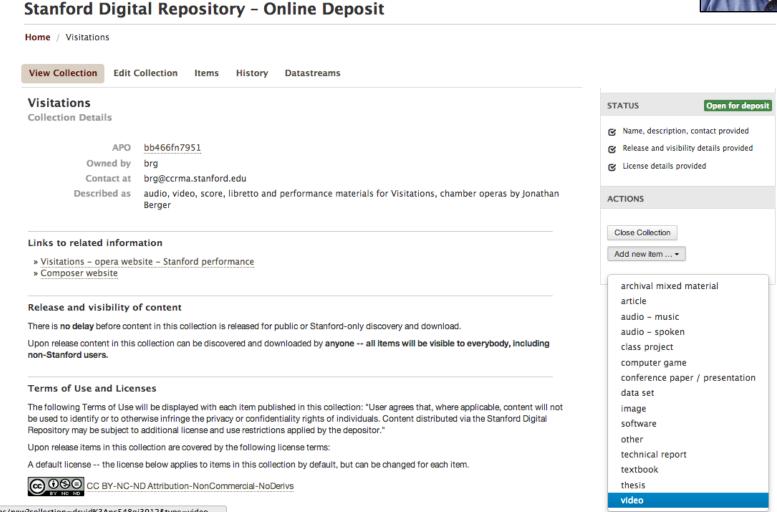
Launched 2013 \* 562 collections \* 358 depositors



## Jonathan Berger, Professor & Composer

#### **Department of Music**





#### 🙀 STANFORD UNIVERSITY LIBRARIES

The War Reporter - Stanfor ×

G

purl.stanford.edu/ss383wm3905



#### **Stanford Digital Repository**

#### The War Reporter

Author/Creator: Berger, Jonathan (Creator)

O'Brien, Dan (Creator)

Date created: April 01, 2013

Type of resource: Moving image

Genre: Motion picture

Abstract: The War Reporter is a chamber opera by Jonathan Berger

Preferred Citation: Jonathan Berger. (2014). The War Reporter. Stanford Digit

Contact: brg@ccrma.stanford.edu

Collection: Visitations
Subject: hallucination

music opera

computer music ambisonic chamber music



File (Download)

Description



The\_War\_Reporter\_ST\_070713\_web.mov (2 GB)



war-reporter-SCORE-8x14.pdf (6 MB)

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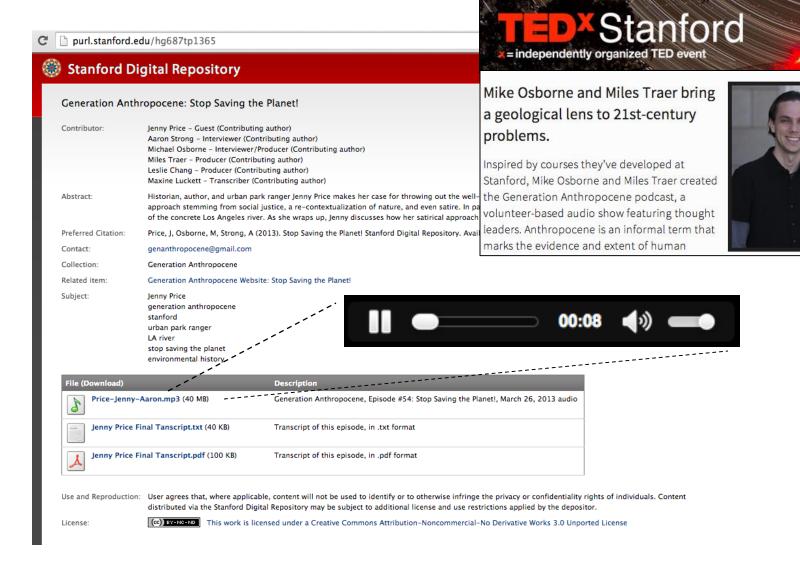
SUL

Stanford University Libraries SearchWorks eJournals My Account Ask Us





## Michael Osborne & Miles Traer, PhD Students





## Anna Schultz, Assistant Professor

#### **Department of Music**



#### Stanford Digital Repository

#### Capoeira in the San Francisco Bay Area

Contributor: Mattar, Daniel (Contributing author)

Sebastian, Esther (Contributing author) Barbosa, Jomar (Contributing author)

de Sa, Ronaldo "Mestre Beiçola" (Contributing author)

Boxley, Rahan (Contributing author)

Author/Creator: Makam, Megha (Author)

Date created: June 2014

Type of resource: Sound recording-nonmusical

Genre: Sound

Abstract: The files here contain interviews with practitioners of capoeira that live in the San Francisco Bay Area. The interviews include the following people: Daniel Mattar is

an instructor at FICA Oakland, teaching the Capoeira Angola style. Esther Sebastian and Jomar Barbosa are students of Capoeira Angola style and attend Daniel's training sessions in Sunnyvale, CA. They are visiting from Brazil and have a group that they train with in Sao Paulo (Grupo Nzinga). Mestre Beiçola (actual name

Ronaldo de Sa) is a capoeira mestre from Rio d ... more »

Contact: meghasmakam@gmail.com

Collection: Music Ethnography of the Bay Area Collection - ARS.0152

Subject: ethnomusicology

capoeira ethnography Brazil Bay Area martial arts culture movement music dance nterviews include the following people: Daniel M students of Capoeira Angola style and attend Da o Paulo (Grupo Nzinga). Mestre Beiçola (actual n





## **Chris Gerdes, Director**

Revs Program, Dynamic Design Lab



STANFORD UNIVERSITY LIBRARIES

#### Stanford Digital Repository - Online Depos

Home / Dynamic Design Lab / Autonomous Vehicle Control ... (draft)

View Draft

**Edit Draft** 

History

Datastreams

#### Autonomous Vehicle Control Up to the Handling Limits Supplemental Material

Item Details

Will be online at http://purl.stanford.edu/jf481sc6894

In collection Dynamic Design Lab (view items)

Deposited by jfunke

Contact at jfunke@stanford.edu

Version Details v1.0.0 - Initial Version

Item created 2015-04-21 4:16 pm

Version started 2015-04-21 4:17 pm

Last saved 2015-04-21 4:23 pm

#### **Authors and Contributors**

Author Funke, Joseph

Author Brown, Matthew

Author Erlien, Stephen

Author Gerdes, J. Christian



Item can be published

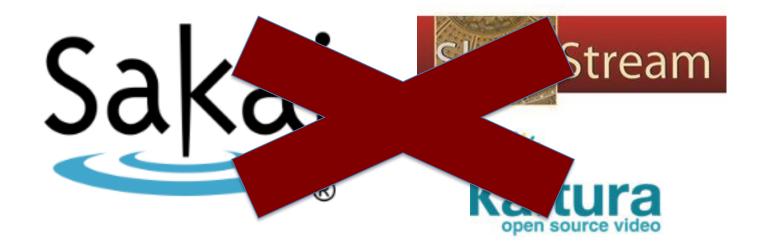
#### **ACTIONS**

Publish

- View Terms of Deposit
- Share link to this item
- Discard this item



# Need 3: Content for access by LMS







# Looking for a Solution

- Technology
  - Open source
  - Open-minded and flexible





- Community
  - Vibrant, smart
  - Digital library-centric





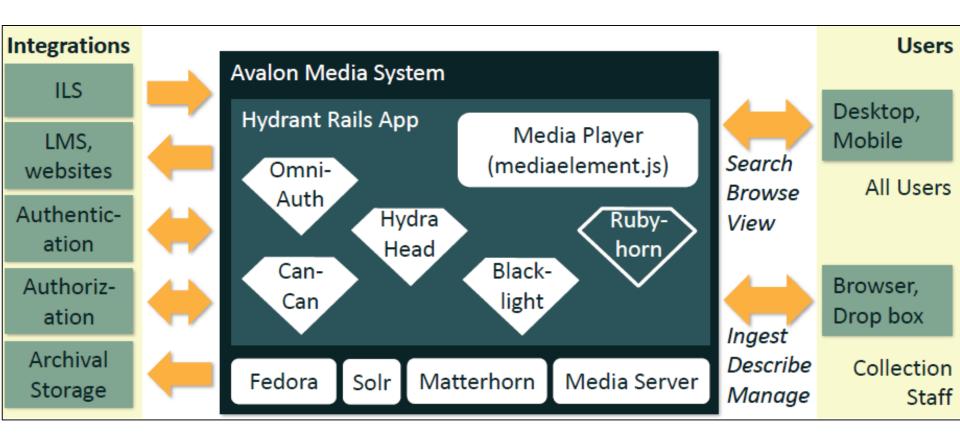
## **Avalon at Stanford**

- Shares common concerns
  - Standards, preservation, access control, persistence, etc.
- Meets our core needs
  - Functional, technical, philosophical
  - Tested by Media Access Working Group
  - Supported by SUL Management

Adoption has been obvious, but ...

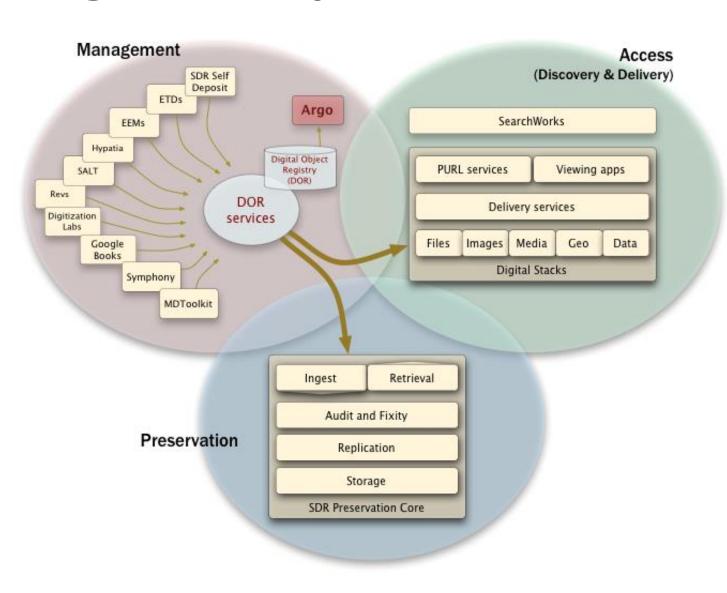


## **Avalon is self-contained**





# Our digital library is not self-contained

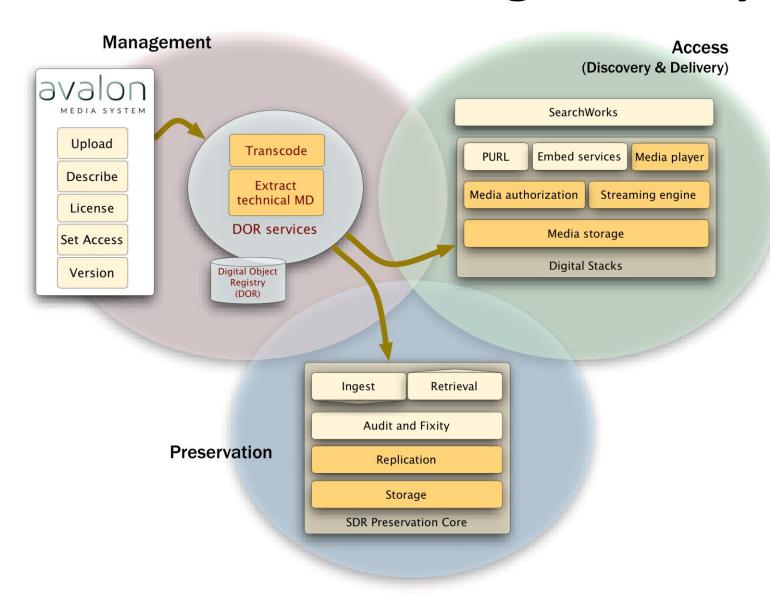




# Then comes Avalon Release 4



## Avalon on Stanford's digital library





# **Special Areas of Interest**

- Wowza Streaming Engine
- Pluggable transcoding engine
- Open Annotation
- Transcripts/captions
- Capturing special license terms
- Integration with Fedora 4
- Making Avalon more modular



# Thank you!

Hannah Frost hfrost@stanford.edu

# Questions?

www.avalonmediasystem.org

