

# Why Media Preservation Can't Wait

## The Gathering Storm

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November 8, 2013

*Website: <http://www.mdpi.iu.edu>*

*Blog: <http://mediapreservation.wordpress.com/>*

*Slide design by Mike Lee*



“...it is alarming to realize that nearly all recorded sound is in peril of disappearing or becoming inaccessible within a few generations.”

*--National Recording Preservation Board in  
“Capturing Analog Sound”*



“in the mid- to long-term  
there is a major risk that  
carrier degradation  
combined with playback  
obsolescence will defeat  
the efforts of archivists...”

*--International Association of Sound and  
Audiovisual Archives*



“Audiovisual materials are the fastest growing segment of our nation’s archives and special collections.”

*--The Library of Congress National Recording Preservation Plan, page 6*





# What is the problem?

- Large numbers
- Degradation
- Obsolescence
- High research value
- Short time window





# Indiana Numbers

- More than 560,000 audio, video, film objects
  - 364,000 audio (64%)
  - 125,000 video (22%)
  - 78,000 film (14%)
- 80 units
- 50+ formats



# Degradation

- All analog and physical digital media objects actively degrading – some catastrophically



*Vinegar Syndrome*  
*Delamination*  
*Curling*  
*Scratches*  
*Oxidation*  
*Undiagnosed Unplayability*  
*Sticky Shed Syndrome*  
*Hydrolysis*  
*Shrinkage*  
*Binder Breakdown*  
*Fungus*  
*Color Fading*  
*Efflorescence*  
*Breaking*  
*Windowing*  
*Plasticizer Exudation*  
*Shedding*  
*Mechanical Issues*  
*Cupping*  
*Crystalline Residue*























# THE SCARIEST MONSTER IN MEDIA PRESERVATION...



# Obsolescence

- Media formats
- Equipment (playback machines, test devices)
- Repair parts
- Playback expertise
- Repair expertise
- Tools
- Supplies



# Obsolescence

- Technics SP-15 turntable main bearing unavailable at any price
- Sony PCM-70x0 series DAT machine capstan motors unavailable at any price
- Audio alignment tapes—one company
- Last run of playback heads for Studer tape machines
- 1” video machines, parts, playback expertise scarce
  - Type C head assembly \$16,000



# Obsolescence

- Quad (video) machines, parts, playback expertise very scarce
- Standard industry professional format
- Estimated 100-200 machines left worldwide
- Ampex AVR-1 (1970s) compressed air diaphragm unavailable at any cost
- Playback heads must be replaced every three months

# Obsolescence

- One supplier – technician is age 65
- Company appealing for money to continue refurbishing program
- Trouble getting supplies
- 2009 cost for new head= \$3500
- 2012 cost = \$5200

--information courtesy of George Blood

# Obsolescence

All analog audio  
and video formats  
are at different  
points on a similar  
obsolescence slope



# Obsolescence

- Not enough working audio and video playback machines to digitize everything currently in vaults
- Audio equipment doubling/quadrupling in price on eBay

# Degradation/Obsolescence

“For video the problem is even sharper:  
complete disappearance of an  
(affordable) ability to transfer.”

*--Richard Wright, AMIA list, 2/17/2013*

# Degradation/Obsolescence

“75% of the analogue video held in Europe in 2006 will be lost by 2023 when video digitisation will simply have "ceased to be."”

--Richard Wright, *PrestoCentre Answers*, 2/5/2013



# Degradation/Obsolescence

“ There is a massive disaster happening here.”

-- Clifford Lynch, *Coalition for Networked Information*, 2011



# Degradation/Obsolescence

How much time do we have?

- 15-20 years



h.koppdelaney

Flickr@h.koppdelaney

# Degradation/Obsolescence

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“...many analog audio recordings **must be digitized within the next 15 to 20 years** – before sound carrier degradation and the challenges of acquiring and maintaining playback equipment make the success of these efforts too expensive or unattainable.”

*--The Library of Congress National Recording Preservation Plan, page 7*

# Degradation/Obsolescence

How much time do we have?

- 15-20 years
- Less for some formats
- Degradation + Obsolescence = Impossible/  
Too Expensive
- Vendors and a few institutions stockpiling



# Degradation/Obsolescence

How much time do we have?



*10-15 Years*

# Film

- Cold storage ~~current primary strategy~~
  - Library and Film Archivist leadership
  - This is helpful—it buys time, but...
- Still degrading, just more slowly (IPI)
- Future digitization uses film in worse condition
- Researcher access is not robust or efficient
- Obsolescence issues will not be better in the future

# Film

In 50 or 100 years...

Will digitization be cheaper, faster, or even possible?

Will we be able to play them back?

Will there be machines? Supplies? Tools?

Will all of the above work for large collections?



# Film

High-end scanners...

- Made by only a few companies
- Small market
- Motion picture industry no longer needs scanning for new productions
- Archival market is very small
- May not be available in 10 years

# Film

Cold storage is not a  
preservation solution

It is a **short-term partial** preservation strategy

(and it may be putting the problem off to a time  
when it may not be solvable)

# Strategies

Audio and Video

How long will it take?

At our current pace...

Archives of Traditional Music: 58 years

Music Library: 120 years

*Key Words: Massive, rapid, considered*





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# What is Indiana University Doing to Weather this Storm?



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# Media Preservation Survey



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# Strategies

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## Planning Project

- July 1, 2010—June 30, 2011
  - Funded by Provost, OVPR, UITs, Libraries, COAS
  - Creation of Media Preservation Task Force
  - Consultant—AudioVisual Preservation Solutions (AVPS)
  - Charge from Provost
-





# Meeting the Challenge of Media Preservation: Strategies and Solutions

[illegible]



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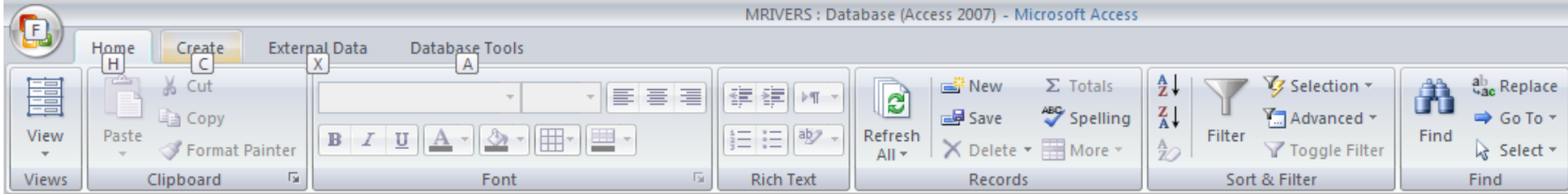
## Research Value

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### MediaRIVERS

- Media **R**esearch and **I**nstructional **V**alue **E**valuation and **R**anking **S**ystem
- Developed by NEH-funded Sound Directions Project and MPI and AVPS
- Campus stakeholder group: Music Library, University Archives, Lilly Library, Archives of Traditional Music, AAAMC, Digital Library Program





**Security Warning** Certain content in the database has been disabled [Options...](#)

## Identifier

PrimaryID: SC 39 series 3 Title: Smithsonian Black Radio Collection, Interview Series

Characteristics:

Project Title: Test Runs IUB Unit: AAAMC IUB Worker: Michael T Casey

Date Completed: 4/20/2012

	Score	Notes
Subject Interest:	5	Interviews with African American artists and music/radio executives who were instrumental in the fo
Content Quality:	5	Duration and quality of interviews is substantial and provides very thorough documentation of the his
Rareness:	3.8	Many of these famous figures did do frequent interviews (some of which are represented by other AA
Documentation:	5	Includes production materials, publicity for radio series, subject files, release forms, clippings about r
Technical Quality:	4 <small>Unknown</small>	Some quality lost during transfer to cassette, but interviews were recorded by a professional producti

**Collection Score:** 4.6

Generation Statement: First copy Notes: First generation copies. Originals are DAT tapes recorded in 1995. DATs are in the possession of the producer, who has proven unwilling to deposit them to either Smithsonian or the AAAMC because of a falling out she had with Smithsonian when they closed

IP Statement: Notes: Co-own rights with Smithsonian Institution and generally ask them to grant permission on their end to create and distribute research copies as a courtesy. They often honor these requests, but not always. NOTE: Smithsonian does not possess its own copies.

General Notes:



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# MediaSCORE

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- Media **S**election: **C**ondition, **O**bsolence, and **R**isk **E**valuation
- Developed by MPI with AudioVisual Preservation Solutions (AVPS)

CREATE UNIT

Search all records



Show Filter

Unit	Created	Created By	Updated On	Updated By	Duration
<a href="#">African American Arts Institute</a>	2012-06-11 12:14:39	Patrick Feaster	2012-06-14 17:45:59	Patrick Feaster	28:01:00
<a href="#">Anthropology Department of</a>	2013-03-26 15:32:06	Josephine McRobbie	2013-03-26 15:32:24	Josephine McRobbie	85:28:00
<a href="#">Archives of African American Music and Culture</a>	2012-06-11 12:02:28	Patrick Feaster	2012-06-14 17:45:44	Patrick Feaster	1809:02:00
<a href="#">Archives of Traditional Music</a>	2012-06-11 11:41:47	Patrick Feaster	2012-06-11 11:41:47	Patrick Feaster	481:35:00
<a href="#">Astronomy Department of</a>	2013-01-14 16:25:33	Patrick Feaster	2013-03-26 15:32:34	Josephine McRobbie	24:15:00
<a href="#">Black Film Center/Archive</a>	2013-02-12 10:38:47	Josephine McRobbie	2013-02-12 10:38:47	Josephine McRobbie	896:08:00
<a href="#">Center for Disability Information and Retrieval</a>	2012-11-15 10:37:32	Patrick Feaster	2012-11-15 10:37:32	Patrick Feaster	386:24:00
<a href="#">Center for the Study of History and Memory</a>	2012-10-08 10:50:02	Jason Groth	2012-10-08 11:08:59	Patrick Feaster	724:44:00
<a href="#">Central Eurasian Studies Department of</a>	2013-03-21 14:47:38	Patrick Feaster	2013-03-26 15:32:46	Josephine McRobbie	60:20:00
<a href="#">Cook Music Library</a>	2012-07-12 12:37:15	Patrick Feaster	2012-07-12 12:37:15	Patrick Feaster	4673:57:00
<a href="#">Indiana University Art Museum</a>	2013-03-29 14:29:39	Josephine McRobbie	2013-03-29 14:29:39	Josephine McRobbie	81:50:00
<a href="#">Law Library</a>	2012-11-12 14:28:29	Jason Groth	2013-03-23 23:38:12	Josephine McRobbie	573:35:00
<a href="#">Lilly Library</a>	2012-06-11 12:04:34	Patrick Feaster	2012-06-14 17:46:27	Patrick Feaster	1677:58:30
<a href="#">Media Design and Production</a>	2012-10-22 11:14:36	Patrick Feaster	2013-02-15 15:50:20	Josephine McRobbie	226:08:00
<a href="#">University Archives</a>	2012-06-11 12:08:48	Patrick Feaster	2012-06-19 13:04:06	Mike Casey	1468:07:00





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- Digitization of all significant audio and video recordings
- IU digitization master plan for all research collections





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- 5-year plan
- IU Bicentenary Initiative

“We got five years, my brain hurts a lot.  
Five years, that’s all we’ve got”

» David Bowie



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- Funded by:
  - Office of the President
  - Office of the Provost
  - Office of the Vice President for Research





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- University-wide initiative
- Other IU campuses
- Preliminary survey
  - ~76,000 objects
  - ~22,000 unique objects



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- Film
  - Develop separate proposal
  - Longer than five years?





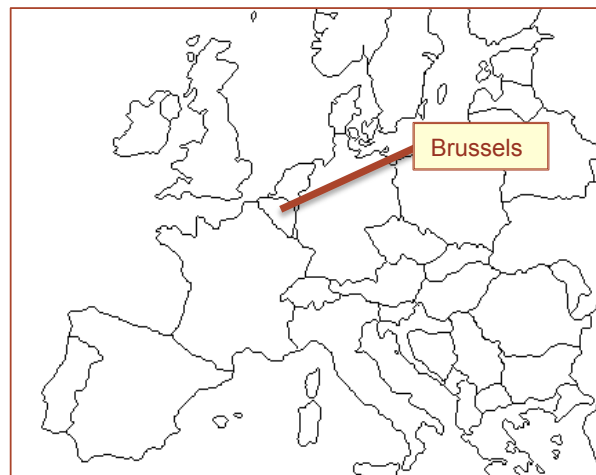
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- Partnership



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# Memnon Archiving Services Brussels & Liège facilities



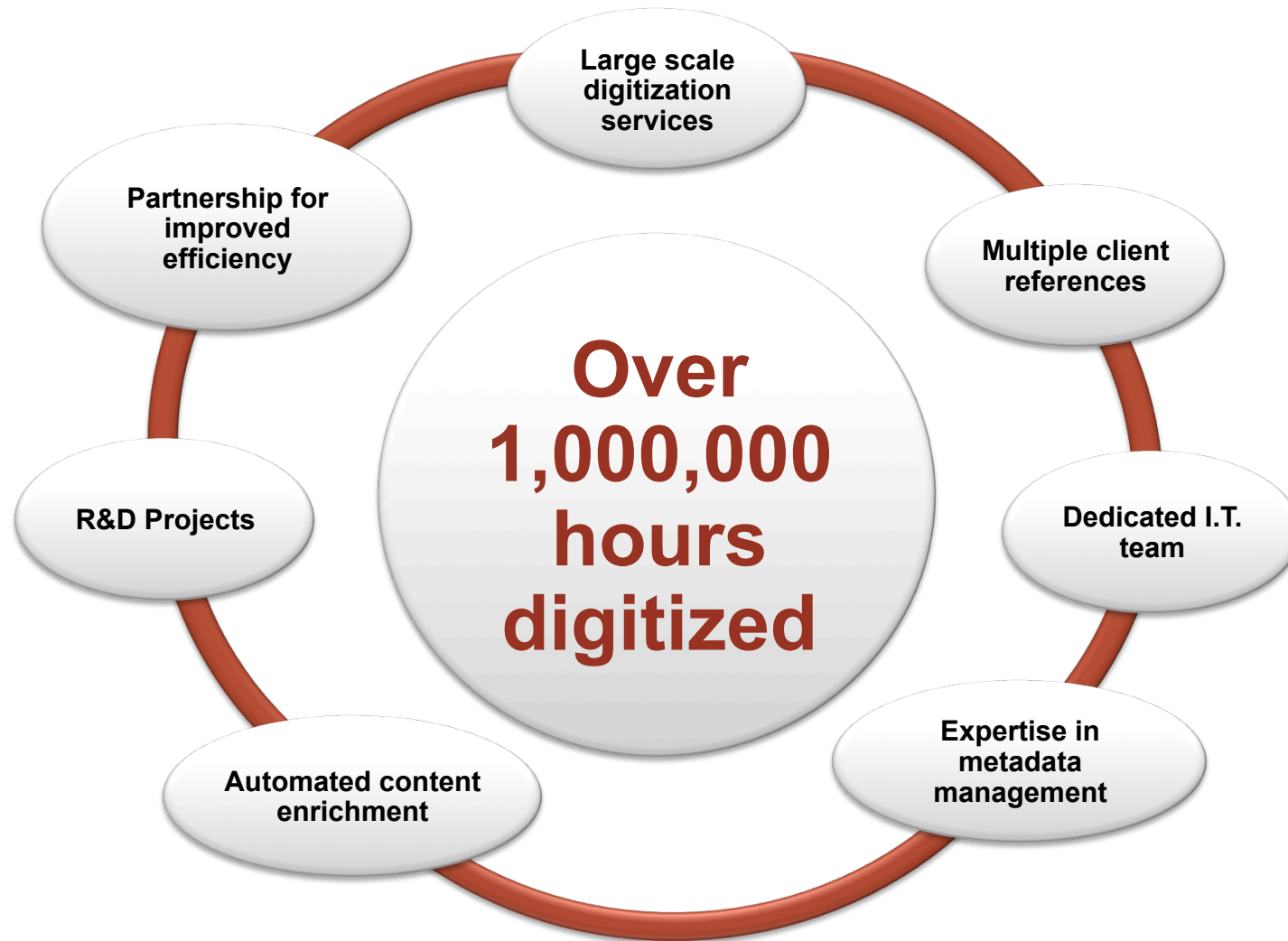
# Video Digitization / encoding facility

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# Over 10 years experience in large scale digitization

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- Strategy
  - Memnon – parallel transfer workflows
  - IU – 1:1 workflows for fragile formats and items



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