Digital Curation in the Era of Big Data: Career Opportunities and Educational Requirements: Entertainment Industry Perspective

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Agenda

• About this Academy
• About this Academy’s digital preservation work and related research
• Perspectives from the Entertainment Industry and the broader audiovisual archiving community
• Key take-aways
About this Academy

• Founded in 1927
• Much more than the Oscars
• Over 6,000 members in 33 countries
• Margaret Herrick Library
• Academy Film Archive
• >$1 million in grants
• It’s about the arts & sciences, not the business
Digital preservation work

- **The Digital Dilemma** published in 2007
- LC NDIIPP Partner:
  - Research: grid storage and low-cost/high reliability disk storage for archival applications
- **Ongoing work:**
  - Workflow and digital archive practice evaluation
  - Collaboration with CineGrid
Educational activities

- 100 public programs/year
- Visiting film scholar program
- Library and Film Archive internships
- Building the pipeline for next-generation motion picture technologists:
  - Council Internship Program
  - Entertainment Technology Curriculum Initiative
**TDD findings**

- There is no digital solution that meets film’s 100-year archival characteristics and low cost
  - $400/yr to archive a film master vs. $11,000/yr to archive a digital master (2006)
- Even well-funded organizations can’t afford to preserve important digital materials
- Collaboration is key
- Digital preservation is an enterprise-wide issue (it goes well-beyond the “curator”):
  - Commitment needed from top leadership
The Digital Dilemma 2

• Released January, 2012
TDD2 findings

- Independent filmmakers, documentarians and nonprofit audiovisual archives are loosely-coupled, widely dispersed communities
  - This makes collaboration more difficult
- Poorly funded and insufficiently staffed
- Insufficient technical training:
  - No STEM background
  - No technology project management training
  - Over-reliance on/no support from IT departments
TDD2 recommendations (excerpts)

• Education:
  – Training: make the next generation of audiovisual archivists “digital natives”
  – Raise awareness in the independent filmmaking community – they are stakeholders, too

• The Technology Obsolescence issue:
  – Technology providers must take archival lifetimes into account
  – New thought: train systems engineers to consider data lifetimes
And from the Library of Congress:

The State of Recorded Sound Preservation in the United States: A National Legacy at Risk in the Digital Age

August 2010

Council on Library and Information Resources and the Library of Congress

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Audio archive role definition and skills/focus areas

• Archivist, Preservation Manager, Preservation Engineer (a sampling):
  – Material science
  – Disaster planning and preparedness
  – Technology assessment
  – Media refreshment
  – Electronic repository construction, use and administration
  – Metadata and access
  – Digital archaeology
  – Project management
• Doctoral studies (a sampling):
  – Non-destructive media testing
  – New media design
  – Advanced secure network and archive structures
  – Public policy development

• Tomorrow’s digital curation innovators need to master several different disciplines
Entertainment Technology Curriculum Initiative (in process)

- Industry interviews:
  - More concerned about technology refresh and innovation than cultural preservation
  - Reasonably effective in managing digital assets for fulfillment. Long-term preservation not addressed.

- Academia interviews:
  - Emphasis on technology advancement for tools and improving the theatrical experience
  - One MIAS program chair interview: Eastman House
    - No technical prerequisites
    - Regular interactions with tool vendors, but not with University of Rochester engineering program
Some “supply side” observations

- Informal survey of MIAS programs:
  - Little emphasis on business, technology courses or born-digital collections
  - Most courses taught by non-tenured faculty
  - Promising: University of Amsterdam

- Informal survey of MSCS/MLIS informatics programs
  - No coursework in curation of large datasets
  - Promising: UC Berkeley: deals with organizingfinding, but not preserving; also U. Michigan

- Suggestion: higher minimum GRE Quant. scores?
  - Library and Archival Studies students score lower than average
Additional “demand side” data points

• The digital audiovisual content (r)evolution continues:
  – Major Hollywood Studios: no film prints in 2014
    • ~400 movies/yr * 2PB/movie = a lot of data
  – CNN:
    • 1.5 million archived assets
    • 2500 new archive objects/wk
  – YouTube: 72 hours of video uploaded every minute

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Furthermore

- Next generation content creators are digital natives, but no Curatorial Awareness™
- Digital curation is not just for curators
  - Executives and managers need to know this is a core business function
  - It is not just another IT chore
- NSF/NEH data preservation plan requirements are noble but “unsupported” mandates

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Key take-aways

• Show business is a “business”
  – Without economic incentives or a shift in management perspective, commercial enterprises will not drive academic direction for long-term data curation
  – “Need” does not necessarily create “demand”

• The nonprofit audiovisual archive community is poorly organized
  – Next-generation archivists will not be properly trained without academic direction from influential and well-resourced leaders (few of those exist)

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Key take-aways - 2

- **Next-generation audiovisual archivists:**
  - Need to be digital natives with solid math, science and long-term data management training
  - Implementing interdisciplinary graduate/research programs is key

- **Next-generation audiovisual archive executive leadership and management:**
  - Need to understand why and how to integrate long-term data preservation methodologies across the entire enterprise
  - Digital curation and long-term archiving need a business context and value proposition
For more information:

http://www.oscars.org/tdd
http://www.ala.org/alcts/sites/ala.org.alcts/files/content/resources/preserv/preseddir/Preservation_Education_Dir_9thEd.pdf
http://www.cinegrid.org

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