Digital Curation: making the most of it

Europeana Space Conference
Berlin 2016

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Digital Curation Certificate Program in Museum Studies
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about me

• US National Archives & Records Administration, 1988-98

• US Institute of Museum & Library Services, 1998-2011

• University College London School of Information, 2011-13; Humboldt University School of Library and Information Science, 2013-14

• Johns Hopkins University Digital Curation program, 2014-present
Overview

• Historical Perspective

• Integration into Education

• Soft Infrastructure/Curriculum Framework

• Integrating Research into Practice

Created by President Bill Clinton, headed by Vice-President Al Gore, 1993

- Strategy to expand knowledge and promote global e-commerce through advanced IT
Blue Ribbon Advisory Panel on Cyberinfrastructure

10 years later:

Predicted that cyberinfrastructure will become as fundamental as

• laboratories and instrumentation
• classroom instruction, and
• the system of conferences and journals for dissemination of research outcomes.

“Cyberinfrastructure”

“Research environments that support advanced data acquisition, data storage, data management, data integration, data mining, data visualization and other computing and information processing services distributed over the internet beyond the scope of a single institution.”

Advisory Panel Recommendations

Increase NSF funding by $1 billion for

• basic and applied research on cyberinfrastructure with investment in data repositories and digital libraries

• “well curated data repositories” and

• better ways to organize and manage large repositories through software infrastructure and the development of standards to ensure interoperability through automated techniques to allow data to be “self-documenting and discoverable.”

(no funding for implementation or education)
Meanwhile...

Task Force convened by the Joint Information Systems Committee (JISC) to discuss the "feasibility and potential benefits of a strategic approach to the preservation and reuse of primary research data, focused on the expertise required to perform essential tasks." 2002

(no mandate for research)

Digital Curation Centre established 2003

(no funding for graduate education)
Digital Curation in the U.S.: Curriculum Development Grants

Support for graduate education in digital curation through grants to schools of library and information science, 2003-

Laura Bush 21st Century Librarian Program
(no funding for museum professional development)
2016: Digital Curation in Museum Studies

M.A. in Museum Studies & Graduate Certificate in Digital Curation

First digital curation certificate in a U.S. museum studies program
2 years old
JHU MA in Museum Studies

• Launched 2008

• Mostly online:
  9 online courses
  1 onsite seminar (US and abroad: London, Berlin, Barcelona)

• 500+ graduates
  [Link](http://advanced.jhu.edu/academics/graduate-degree-programs/museum-studies/)
Graduate Certificate in Digital Curation

- Launched 2014 with dual option
- 6 courses: 5 core + 1 elective
- Online with one on-site internship
- Currently about 60 students

http://advanced.jhu.edu/academics/certificate-programs/digital-curation-certificate/
Digital Curation Curriculum
6 courses: 3 basic and 3 customized

Common Courses:
1. Digital Preservation
2. Foundations of Digital Curation
3. Managing Digital Information in Museums
   **based on standards and principles of interoperability**

Customized Courses:
4. Internship — 15-week course, 120 hours onsite
5. Elective OR 2nd Internship
6. Research paper – builds on internship
Digital Curation:

“the planning and management of digital assets over their full lifetime, from conceptualization through active use and presentation to long-term preservation in a repository for future re-use.”

--adapted from Digital Curation Centre
Digital Curation Models

OAIS Reference Model

Digital Curation Life Cycle Model

Conceptual Reference Model
Protocols for Interoperability

Open Archives Initiative-Protocol for Metadata Harvesting (OAI-PMH)

Linked Open Data
Platforms for Data Sharing

Digital Public Library of America

ARTstor

Google Arts & Culture

KRIEGER SCHOOL of ARTS & SCIENCES
ADVANCED ACADEMIC PROGRAMS
A Framework of Guidance for Building Good Digital Collections

Principles of good practice for creating:
• Collections
• Objects
• Metadata
• Projects
Metadata Schemas

- LIDO: Lightweight Information Describing Objects
- EAD: Encoded Archival Description
- MPEG-21 DIP
- Biodiversity Information Standards
- VRA CORE
- PREMIS: Preservation Metadata
- METS: Metadata Encoding & Transmission Standard
- MODS: Metadata Object Description Schema

Johns Hopkins University

Krieger School of Arts & Sciences
Advanced Academic Programs
Controlled Vocabularies

- Art & Architecture Thesaurus
- Union List of Artist Names
- Getty Thesaurus of Geographic Names
- Cultural Objects Name Authority

Library of Congress Authority
Tools and Services

AUDIT AND CERTIFICATION OF TRUSTWORTHY DIGITAL REPOSITORIES

TRAC Checklist

DMP Tool
Guidance and Resources for your Data Management Plan

DuraCloud

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Open-Source Software

Archivematica
https://www.archivematica.org/en/

BitCurator
http://www.bitcurator.net/bitcurator/

Space Sniffer
http://www.uderzo.it/main_products/space_sniffer/
Capturing Stories as Documentation

- Data Curation Profiles: Getting the Story of the Data

- Artist Interviews: Documenting Significant Properties of New Media Art

- Digital Storytelling
Customized Courses

- Elective
- Internship
- Research Course
Customized Program: Electives

Added to the Museum Studies Curriculum:
• Managing Analog and Digital Photographs
• Introduction to Archives

Considering:
• Provenance Research for Archival Context (LOD)
• Storytelling & Digital Interviews
Internships
Research

• Investigate a problem in digital curation

• Contribute to the emerging research literature

• Create an environment to sustain ongoing research

Credit: Smithsonian Museum Conservation Institute ("Where’s the data?")
Research

- Digital forensics in archives
- Capturing field archaeology data
- Color settings for imaging artworks
Digital Forensics in Archives

- Tested software on a quarantine station to investigate removable media found in special collections

- Many more devices found in storage than recorded in database—it’s a huge problem!

Credit: the University of Texas at San Antonio
Digital Archaeological Data Collection

- Investigated barriers and approaches to data capture and publishing of field archaeological data
- Interviewed experts—published literature lags behind development

Open Context
https://alexandriaarchive.org/

the Digital Archaeological Record
https://www.tdar.org/

Field Acquired Information Management Systems (FAIMS)
https://www.fedarch.org
Vermeer, “The Milkmaid.”
Rijksmuseum
Vermeer, “Woman Holding a Balance,” Using D50 Illumination

Using “cloudy day” illumination

Credit: Julie Goforth
<table>
<thead>
<tr>
<th>Setting/Location</th>
<th>Example</th>
<th>Illuminant Type</th>
<th>Color Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Church</td>
<td>Byz.Icon</td>
<td>Candlelight</td>
<td>1800-2000K</td>
</tr>
<tr>
<td>Outside or Daylight lit studio</td>
<td>Vermeer</td>
<td>Daylight</td>
<td>5000-10000K depends on location</td>
</tr>
<tr>
<td>Commercial Building</td>
<td>Rothko</td>
<td>Fluorescent</td>
<td>4000K</td>
</tr>
<tr>
<td>Art Gallery</td>
<td>Rothko</td>
<td>LED</td>
<td>3000-4500K</td>
</tr>
</tbody>
</table>

Credit: Julie Goforth
Recommendation: A scholarly historical image should be preserved as a benchmark alongside a publication quality master--Julie Goforth
Integrating Research into Practice: Digital Curation in Art Museums Summit October 2015

Explored potential for collaboration between art museums and graduate education programs, especially for interns and student researchers

Hosted by JHU with support from Samuel H. Kress Foundation


“Gallery Wall”
Credit: Cleveland Museum of Art
Digital Curation in Art Museums Summit
Some Findings

- There is no consensus on the definition of digital curation or roles of digital curators
- Preservation of innovative installations should be considered at the time of creation and is the responsibility of the institution
- Many art museums would like to integrate digital curation into their practices

“Gallery Wall”
Credit: Cleveland Museum of Art
Summit Recommendations: Highlights

• Resolve the ambiguity around the definition of digital curation
• Create advocacy strategy with the art museum community
• Highlight stories of innovative and effective practices (awards?)
• Promote the value of internships for the sponsor and the profession
• Identify potential projects for interns and student researchers
• Involve professional associations in all areas

Goal: Create communities of practice and research, integrated with the information infrastructure
Conclusions

• We now have an information (including soft) infrastructure to support innovative use and re-use of cultural heritage assets
• The infrastructure must be sustained and enhanced to ensure future availability of digital assets
• The entire cultural heritage community must be involved
• Museums must take responsibility for all of their digital assets
• Archives (archivists and collections) have an increasingly important role in digital curation
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