

Introduction to Processing Digital Records and Manuscripts

Presenter: Sibyl Schaefer

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Digital Archives Specialist (DAS)

Curriculum and Certification Program offered by SAA:

- Foundational Courses—must pass 4
- Tactical and Strategic Courses—must pass 3
- Tools and Services Courses—must pass 1
- Transformational Courses—must pass 1
- Course examinations are administered online.



your instructor

Sibyl Schaefer is the Digital Preservation Analyst and Chronopolis Program Manager at UCSD. Schaefer was previously the Head of Digital Programs at the Rockefeller Archive Center.



Schaefer has an MLIS with a specialization in Archival Studies from UCLA. She is currently Chair of the ArchivesSpace Technical Advisory Council and is a member of the Digital Archives Specialist (DAS) Committee. She was previously elected to co-chair for the ALA Digital Preservation Interest Group and has provided consulting services on digital preservation issues.

workshop assumptions

 Sound understanding of archival arrangement and description for analog materials



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- Will provide an high-level overview of how to think about processing digital records and manuscripts

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- Will provide an high-level overview of how to think about processing digital records and manuscripts
- Will reference other DAS courses that will provide more in-depth information on selected topics



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- Based on Module 2: Processing Digital Records and Manuscripts by J. Gordon Daines
- The tools mentioned in this webinar are for illustrative purposes and are not endorsed by SAA.

processing =

The arrangement, description, and housing of archival materials for storage and use by patrons

- SAA Glossary



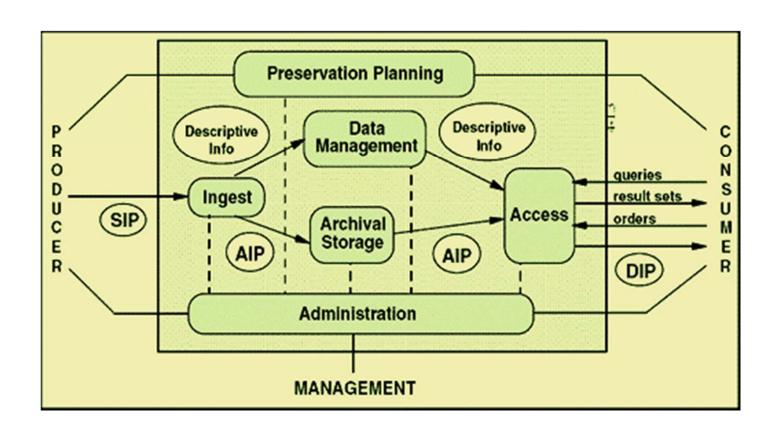
Critical information needs to be captured and gathered prior to arrangement and description.

What steps are involved in processing?

- Accessioning records
- Gathering contextual information about the records
- Performing a conservation assessment
- Establishing an arrangement scheme
- Arranging the records physically, if necessary
- Describing the records
- Creating access tools

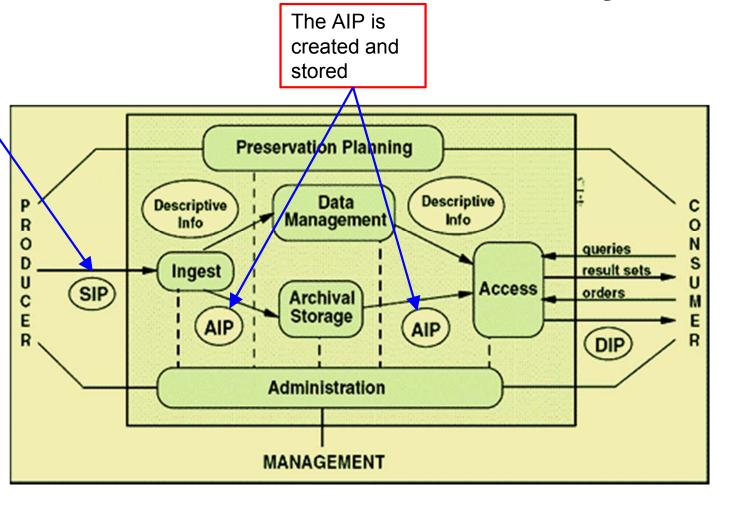


OAIS: Open Archival Information System



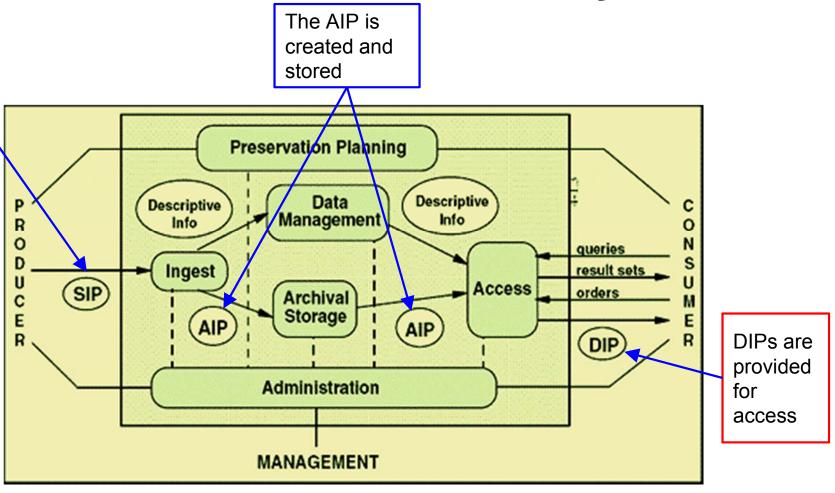
OAIS: Open Archival Information System

Processing starts with the SIP



OAIS: Open Archival Information System

Processing starts with the SIP



SIP: Submission Information Package

Submission Information Package

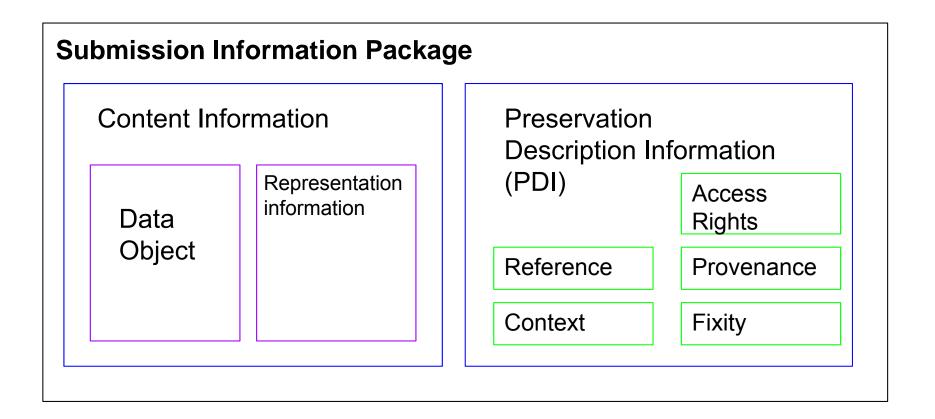
Content Information

Preservation
Description Information
(PDI)

SIP: Submission Information Package

Content Information Content Information Preservation Description Information (PDI)

SIP: Submission Information Package





"The property of a digital file or object being fixed, or unchanged.... synonymous with bit-level integrity"

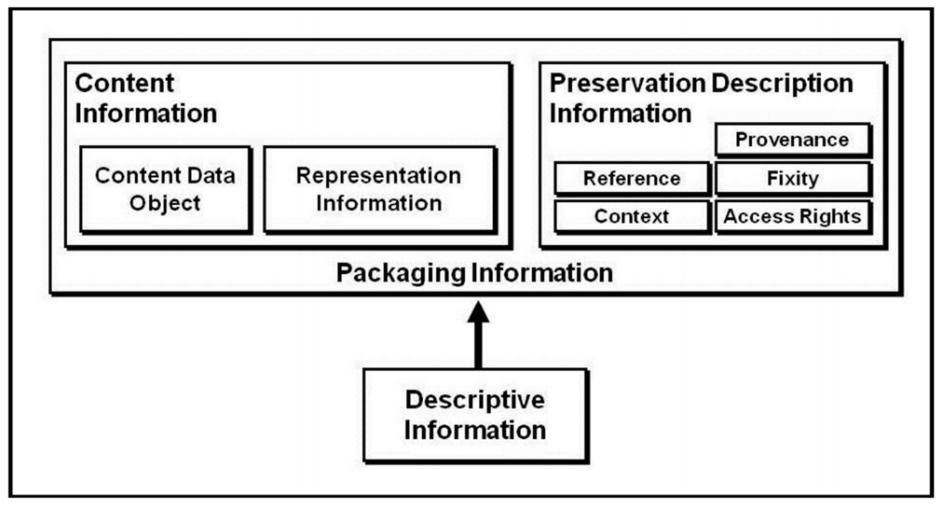
- NDSA, Checking Your Digital Content



Helps ensure:

- you've received the files you expected
- the files have not been altered or corrupted
- authenticity has been maintained over time
- error correction: erroneous files can be detected and replaced

AIP: Archival Information Package



related policies

- Collection development policy
- Preservation policy
- Donor agreements
- Transfer guidelines
- Access policies

key point:

Processing hybrid and digital-only collections begins with the decision to acquire records.

gather data

- How were the materials created?
- Why were they created?
- How were they managed?
- What is their current context?

Useful source: AIMS White Paper, Appendix F Donor Survey

accessioning

- Taking physical and administrative control of the materials
- Performing a conservation assessment
- Using case files to manage information about the accession
- Identifying the arrangement and description priority



taking physical control of digital records

Key Point: Protect authenticity

Copying files can be risky:

- incomplete/incorrect transfers
- missing files
- changes in file system metadata

DO NO HARM!

taking physical control of digital records

Key Point: Protect authenticity

Check fixity before and after transfer.

- Baglt

Use tested means of transfers:

- forensic disk imaging
- write blockers

taking physical control of digital records

Other transfer mechanisms:

- Web harvesting tools (Archive-it)
- Email (Offline IMAP)
- server to server (rsync)
- Cloud-based options

Watch out for viruses!

performing a conservation assessment

Key Point: Conservation happens when materials are ingested

- Virus scan
- Checksum generation
- Format identification and validation



accession workflow example: Asian Cultural Council Records (1)

- Appraisal review: set of files deemed to be a continuation of a series previously sent in analog form.
- 2. Donor sent a directory printout capture of materials in their original environment.
- 3. Worked with IT staff (in both institutions) to directly transfer the files (BagIt and rsync) to a standalone server.

accession workflow example: Asian Cultural Council Records (2)

- 4. Ran a virus check, saved the report.
- Verified the bag, reviewed contents, notified donor of success.
- 6. Moved the materials to a backed-up server.

accession workflow example: Asian Cultural Council Records (3)

- 7. Created an accession record in ArchivesSpace.
- 8. Created a transfer report.
- 9. Donor signed off on materials transferred.
- 10. Materials assigned processing priority.

related DAS courses



Accessioning and Ingest of Electronic Records

Digital Forensics: Fundamentals

Digital Forensics: Advanced

pop quiz!

A famous author wants to donate her papers to your archive. She has materials stored on a laptop, an external hard drive, and in her Gmail account. What's the best way to transfer the materials?

- a. Copy the files from her laptop and hard drive onto the archive's hard drive. Download the Gmail data using Google utilities.
- b. Use an email tool like Offline IMAP for her Gmail and disk image the rest of the materials.
- c. Set up a server that she can transfer the materials to, using command line utilities like rsync

questions?

sample arrangement and description workflow (1)

- Create processing plan
- Gather contextual information about the materials : creator, functions
- Examine the content identify PII, other sensitive information
- Arrange the materials intellectually
- Arrange the materials physically (if necessary)



- Describe the materials using EAD, Archivists' Toolkit,
 Archon, ArchivesSpace, AtoM, or some other tool
- Extract technical metadata
- Create access copies
- Move materials into a preservation environment

create a processing plan

I. University of Hull: Stephen Gallagher Processing Plan



Processing Plan

Acc No: 2010/15 Ref: U DGA

born-digital archives

OVERVIEW					
Collection Title:	Stephen Gallagher				
Creator / Depositor:	Stephen Gallagher				
Related Material at HUA	Α:				
- 2010/14 (12 boxes) - 1 Not tackled - blog / website (p Brief Description of the Material relates to his writing, (s	mainly paper with a few boxes of publications, copies of DVI further publications (foreign editions etc) and production main cossibly recommend the British Library Web Archive) and emmaterial: short-stories, novels, radio and screen) including research prog / website with some publicity/promotional material. There	ail cess, drafts etc.			
Extent: 13.6	GB No of files:	14,320 *			
Comments re extent:					
There are also 39 3" Amstrad o	discs				
ARCHIVAL DESCR	IPTION				
Proposed level of archive Primarily at series level	al description to be applied:				

Ca	Priority Score:				
١.	Research potential	3	5. Education potential	2	
2	HHC specialist area	3	6. Community/outreach potential	1	18 / 24
3.	Topicality / time crucial	1	7. Summary list is sufficient	3	10 / 24
4.	UoH teaching potential	2	8. Complexity of cataloguing	3	

APPRAISAL

Is appraisal necessary?

Yes No No

Potential for appraisal?

initial investigations identified very little material that could or should be appraised

ARRANGEMENT

Integrate with existing arrangement?

Yes | No | N/A

Does the current arrangement include b-d material?

Yes- No |-N/A

Justification:

There is considerable overlap between paper and born-digital material

Potential arrangement issues?

- Paper files being catalogued at file level need to consider implications for discovery & access
- To not try to describe each born-digital item but include an overview of born-digital material within the series description

Any restricted / sensitive content?

- Some personal material (e.g., references for 3rd parties) that should be closed
- Suggest that most recent work (i.e., last x years) should be closed [discuss this with SG]
- ResearchDocs folder (1226 files in 87 folders, 14.5MB) material is mostly saved web-pages need to consider arrangement /access issues
- MyRadio folder (44 files, 1.85GB) recorded broadcasts can be included in the archives but are subject to copyright so should not be made available online via repository

PRESERVATION

Media issues:

- Main body of material was selected by SG and transferred via external hard drive
- There are 39 3" Amstrad discs that cannot be read with current hardware

Content issues:

- 29 I files in FinalDraft format (*.fdr) contact Mary-Jane Dickenson (Drama) to use their copy of FinalDraft – looked at files (June/July 2011) and created PDF copies for access
- How to present the old website content to users as web pages (via a web browser etc) rather as individual unlinked pages

Proposed preservation actions:

Import the FinalDraft PDFs and attach to the original *.fdr file

Plan produced by: Simon Wilson Date: 13th Sept 2011

Suggested Review Date:



- Conduct background research on the person(s), family(ies), or organization(s) responsible for the creation of the records or manuscripts
- List events or activities reflected in the records or manuscripts
- Identify record-keeping practices revealed by the records or manuscripts
- Describe the functions and activities that led to the generation of the records or manuscripts

Key Point:

Create a working copy of the digital records to use during collection analysis



identify PII and other restrictions

PII = Personal Identifiable Information

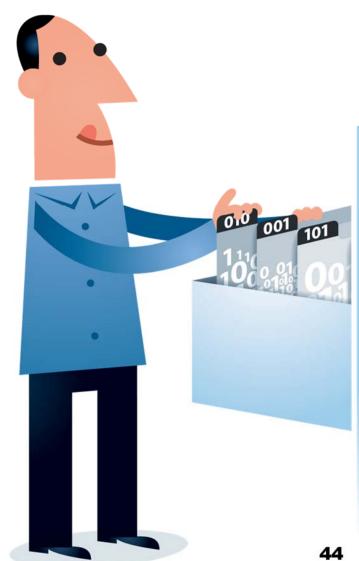
Examples:

- social security numbers
- bank account information
- IP addresses
- medical information



arrangement

- Determine whether or not the materials have an original order
- Identify the relationships between groups of materials within the collection
- Determine if physical arrangement is necessary



physical arrangement

How does the packaging of the materials effect arrangement/description?

Example:

Title: The Adventurous Archivist

DVD: many digital files -> one movie

Series: Films

File(level): The Adventurous Archivist



Example:

Thumb drive: many digital files -> LetterA MemoB

ReportX

Series: Correspondence

Item: LetterA

Item: LetterB

Series: Memorandums

Item: MemoB



Example:

Thumb drive - *Misc. office files 2007*DVD - *The Adventurous Archivist*3.5 floppy - *Book drafts*

Series: Imaged disks

File (level): Misc. office files 2007

File (level): The Adventurous Archivist

File (level) : Book Drafts



How does the packaging of the materials effect arrangement/description (if at all)?

Will my access system provide access through intellectual arrangement?



How does the packaging of the materials effect arrangement/description (if at all)?

Will my access system provide access through intellectual arrangement?

Does my preservation environment require a physical arrangement?

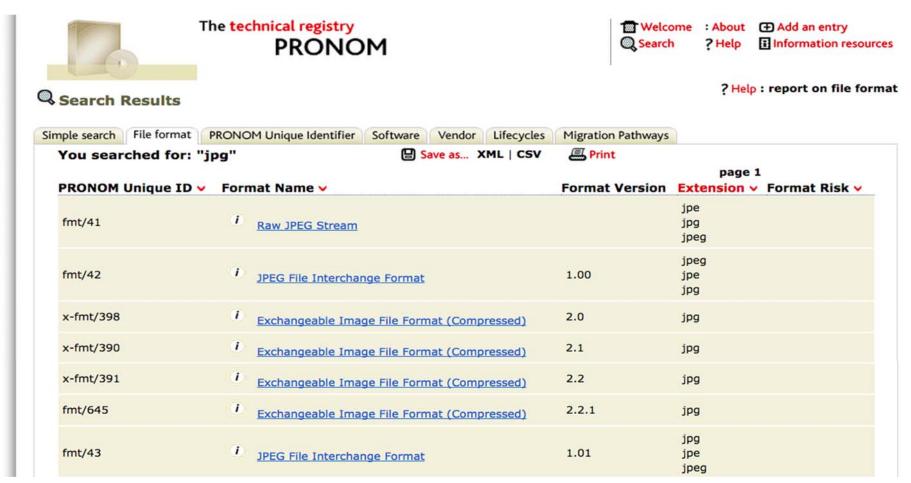
description

- Identify the appropriate level of description for the materials
- Gather information needed to identify the materials
- Describing the materials and their arrangement
- Describing the access and use conditions for the materials
- Identifying and gathering administrative information about the materials
- Gathering information about related materials
- Creating access points for the materials

Describes the technical processes used to produce, or required to use a digital object.

Can happen at various points in processing: as a function of accessioning or during ingest to a preservation environment.

Identification - what file format is this?



Validation - is this file format valid?



```
test_image2 - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8"?>
<fits xmlns="http://hul.harvard.edu/ois/xml/ns/fits/fits_output" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"</pre>
xsi:schemaLocation="http://hul.harvard.edu/ois/xml/ns/fits/fits_output
http://hul.harvard.edu/ois/xml/xsd/fits/fits_output.xsd" version="0.8.2" timestamp="6/24/15 10:39 PM">
  <identification>
    <identity format="JPEG File Interchange Format" mimetype="image/jpeg" toolname="FITS" toolversion="0.8.2">
       <tool toolname="Jhove" toolversion="1.5" />
      <tool toolname="file utility" toolversion="5.03" />
<version toolname="file utility" toolversion="5.03">1.01</version>
    </identity>
  </identification>
  <fileinfo>
    <size toolname="Jhove" toolversion="1.5">149644</size>
    <lastmodified toolname="Exiftool" toolversion="9.13" status="SINGLE_RESULT">2015:06:24 22:30:40-
07:00</lastmodified>
    <filepath toolname="OIS File Information" toolversion="0.2" status="SINGLE_RESULT">c:\Users\mgengenbach\Desktop
\test_image2.jpg</filepath>
    <filename toolname="OIS File Information" toolversion="0.2" status="SINGLE_RESULT">test_image2.jpg</filename>
     <md5checksum toolname="OIS File Information" toolversion="0.2"</pre>
status="SINGLE_RESULT">5761a56a4f89c36e107bad68d6db2310</md5checksum>
    <fslastmodified toolname="OIS File Information" toolversion="0.2"</pre>
status="SINGLE_RESULT">1435210240184</fslastmodified>
  </fileinfo>
  <filestatus>
     <well-formed toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">true</well-formed>
    <valid toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">false</valid>
<message toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">File does not begin with SPIFF, Exif or JFIF
seament offset=22</message>
  </filestatus>
  <metadata>
    <image>
       <byteOrder toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">big endian
       <compressionScheme toolname="jhove" toolversion="1.5" status="SINGLE_RESULT">jPEG (old-style)
</compressionScheme>
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<imageHeight toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">800</imageHeight>
<bitsperSample toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">8 8 8</bitsperSample>
       <samplesPerPixel toolname="Jhove" toolversion="1.5" status="SINGLE_RESULT">3</samplesPerPixel>
     </image>
  </metadata>
```

Characterization - what are the salient properties of the file?

technical metadata

extracted with ExifTool

```
MAC13441:~ Sibyl$ exiftool Desktop/Christian.jpg
ExifTool Version Number
                                : 9.98
File Name
                                : Christian.jpg
Directory
                                : Desktop
File Size
                                : 1837 kB
File Modification Date/Time
                                : 2015:06:26 23:26:12-07:00
File Access Date/Time
                                : 2015:06:27 17:14:21-07:00
File Inode Change Date/Time
                                : 2015:06:27 17:13:04-07:00
File Permissions
                                : rw-r--r--
File Type
                                : JPEG
File Type Extension
                                : jpg
MIME Type
                                : image/ipeg
Exif Byte Order
                                : Little-endian (Intel, II)
                                : SAMSUNG
Make
Camera Model Name
                                : SGH-M919
Orientation
                                : Rotate 90 CW
X Resolution
                                : 72
Y Resolution
                                : 72
Resolution Unit
                                : inches
Software
                                : M919UVUFNK2
Modify Date
                                : 2015:06:26 23:26:11
Y Cb Cr Positioning
                                : Centered
Exposure Program
                                : Program AE
Exif Version
                                : 0220
                                : 2015:06:26 23:26:11
Date/Time Original
Create Date
                                : 2015:06:26 23:26:11
Components Configuration
                                : Y, Cb, Cr, -
Metering Mode
                                : Center-weighted average
Maker Note Version
                                : 0100
Device Type
                                : Cell Phone
Face Detect
                                : Off
Flashpix Version
                                : 0100
Color Space
                                : sRGB
                                : 4128
Exif Image Width
Exif Image Height
                                : 2322
Interoperability Index
                                : R98 - DCF basic file (sRGB)
Interoperability Version
                                : 0100
Exposure Mode
                                : Auto
White Balance
                                : Auto
Scene Capture Type
                                : Night
Image Width
                                : 4128
Image Height
                                : 2322
Encoding Process
                                : Baseline DCT, Huffman coding
Bits Per Sample
Color Components
Y Cb Cr Sub Sampling
                                : YCbCr4:2:0 (2 2)
Image Size
                                : 4128x2322
Megapixels
                                : 9.6
```

create access tools

access tools = EAD finding aids, MARC records

Collections Management Systems:

ArchivesSpace, AtoM, Archivists' Toolkit, Archon

processing the Taconic Foundation: accessioning

 Digital records transferred via email – not recommended (issues with attachment size limits, etc.)

- Received directory print out listing the file hierarchy, plus metadata, of files in their original context

processing the Taconic Foundation: accessioning (cont.)

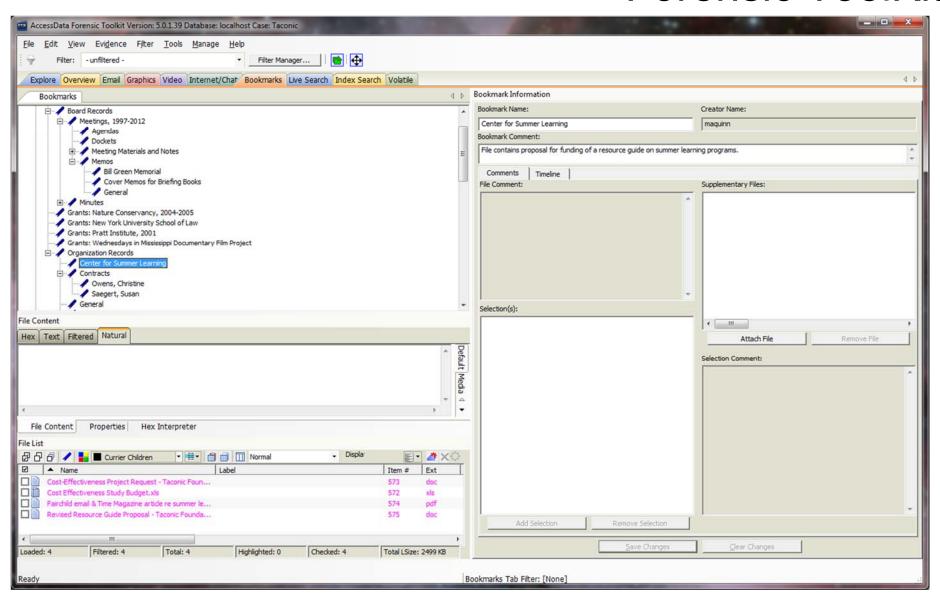
Documented the transfer – accession record, transfer report

- Some digital materials came in with the paper:
 - 3.5 floppies imaged using Kryoflux
 - 9 DVDs, some with simple digital files (PDFs), others with video

processing the Taconic Foundation: conservation and review

- Imported files and 3.5 floppies into Forensic ToolKit (FTK)
- FTK allowed us to:
 - □search for PII
 - search for and identify restricted materials,
 - □identify exact duplicate files
 - basic arrangement

Forensic ToolKit



All Issuers

AMEX

Visa

Mastercard 1

Discover

Credit Card Standard

Web Credit Card Transaction Receipt with X or #

Kazaa DAT file

Kazaa DBB

Limewire DAT

Link File Parser (fast) - (Run on unallocated)

Link File Parser with MAC/NETBIOS Info (Run on Unallocated)

INFO2 Files FAST All Years

INFO2-Expanded (Run on Unallocated)

MSN Hotmail Beginning

MSN Hotmail End

HTML Search Engine Return - Google Search

INDEX.dat entries and Search Engine Return - Google Search

HTML Search Engine Return - Ebay.com, search.aol.com, mamma.com

HTML Search Engine - Ask Jeeves

Orphaned Index.dat Files (with date)

Orphaned Index.dat Files (without date)

Orphaned History Index.dat Files

Orphaned Index.dat Cookie Files

IP Address

US Phone Number



UK Phone Number

Social Security Number

Edit expressions...

Forensic ToolKit

Forensic ToolKit

Live Search Results

```
Live Search {Prefilter:(-unfiltered -) Query:("social security")} (ID:9) -- performed 07/14/2014 19:54:43 -- 9 hit(s) in 9 file(s)
□ Live Search {Prefilter:(- unfiltered -) Query:("((\<1[\-\.])?(\(|\<)\d\d\d[\)\.\-/]?)?\<\d\d\d\d\\d\\\-]\d\\d\\d\\d\\-")} (ID:10) -- performed 06/03/2</p>
      □ Pattern Query: /((\<1[\-\.])?(\(|\<)\d\d\d[\)\.\-/]?)?\<\d\d\d[\.\-]\d\d\d\d\d\>/ <ANSI, Case Insensitive> -- 9666 hit(s) in 378 file(s)
            - Allocated Space -- 9666 hit(s) in 378 file(s)
                  1. 200 hit(s) -- Item 1145 [NYT 11.14.2011.pdf] 2013 23.ad1/Meeting Materials/2012-April.zip/2012-April/PPAH report materials/N
                  ± 200 hit(s) -- Item 8004 [Track 01] 2012_089_DM0000003098.iso/010709_1356 [CDFS]/Session 1/Track 01
                  1356 [ISO] -- Item 8092 [VOL 1.PDF] 2012 089 DM0000003098.iso/010709 1356 [CDFS]/Session 1/Track 01/010709 1356 [ISO]

    ⊕ 200 hit(s) -- Item 8093 [VOL2.PDF] 2012_089_DM0000003098.iso/010709_1356 [CDFS]/Session 1/Track 01/010709_1356 [ISO!]

                  1356 [Jolie] - 200 hit(s) -- Item 8185 [VOL 1.PDF] 2012 089 DM0000003098.iso/010709 1356 [CDFS]/Session 1/Track 01/010709 1356 [Jolie
                  ± 200 hit(s) -- Item 8186 [VOL2.PDF] 2012_089_DM0000003098.iso/010709_1356 [CDFS]/Session 1/Track 01/010709_1356 [Jolie
                  1. 200 hit(s) -- Item 9004 [Track 01] 2012_089_DM0000003097.iso/- [CDFS]/Session 1/Track 01
                  1/200 hit(s) -- Item 9006 [Housing New York City 2002.pdf] 2012_089_DM0000003097.iso/- [CDFS]/Session 1/Track 01/- [ISO966]
                  1/200 hit(s) -- Item 9008 [Housing New York City 2002.pdf] 2012 089 DM0000003097.iso/- [CDFS]/Session 1/Track 01/- [Joliet]/-
                  1/E- 200 hit(s) -- Item 9010 [Housing New York City 2002.pdf] 2012_089_DM0000003097.iso/- [CDFS]/Session 1/Track 01/- [UDF]/Hc
                  1 200 hit(s) -- Item 10004 [Track 01] 2012 089 DM0000003096 Track 01.iso/NYC Housing 2001 [CDFS]/Session 1/Track 01
                  1/Track 10006 [NYC_HO~1.PDF] 2012_089_DM0000003096_Track 01.iso/NYC_Housing_2001 [CDFS]/Session 1/Track
                  1 - 200 hit(s) -- Item 10008 [NYC_Housing_2001.pdf] 2012_089_DM0000003096_Track 01.iso/NYC_Housing_2001 [CDFS]/Session
                  155 hit(s) -- Item 103 [Full book - taconic.pdf] 2013_23.ad1/Meeting Materials/2011-March/2011-March3.zip/Full book - taconic.

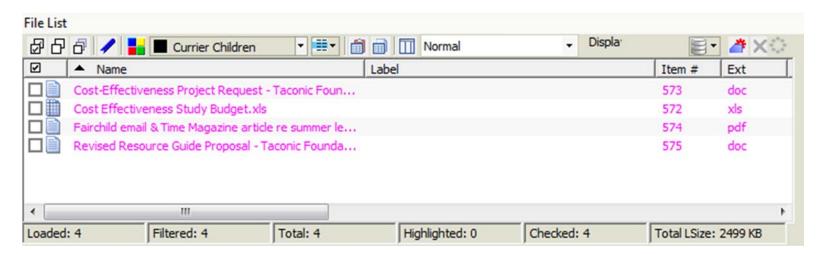
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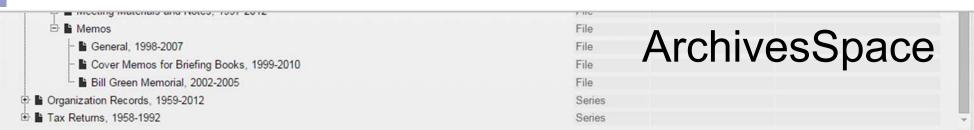
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                  1 77 hit(s) -- Item 612 [participants 2-18-05.doc] 2013 23.ad1/Section 8.zip/Section 8/participants 2-18-05.doc
                  1 T1 hit(s) -- Item 636 [board book - all docs.pdf] 2013_23.ad1/Meeting Materials/2011-May.zip/2011-May/board book - all docs.pdf]
                  1 To hit(s) -- Item 499 [December 2008 Proposals.pdf] 2013_23.ad1/Dockets.zip/Dockets/2008/December 2008 Proposals.pdf
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```

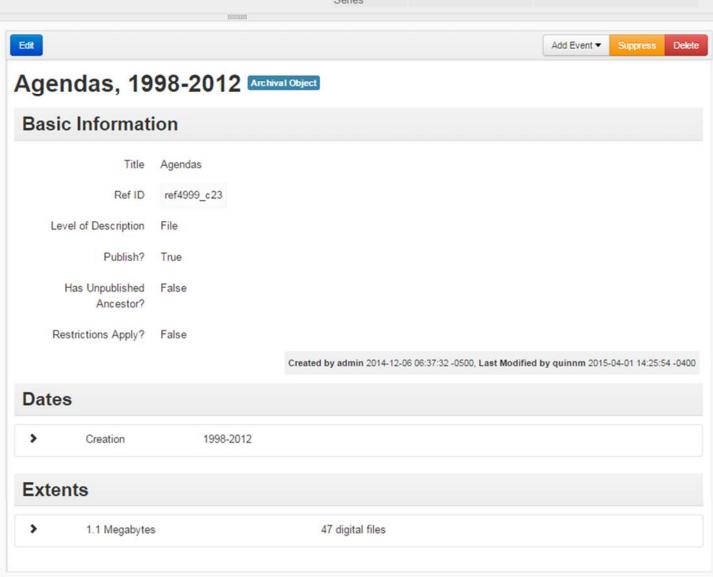
Forensic ToolKit



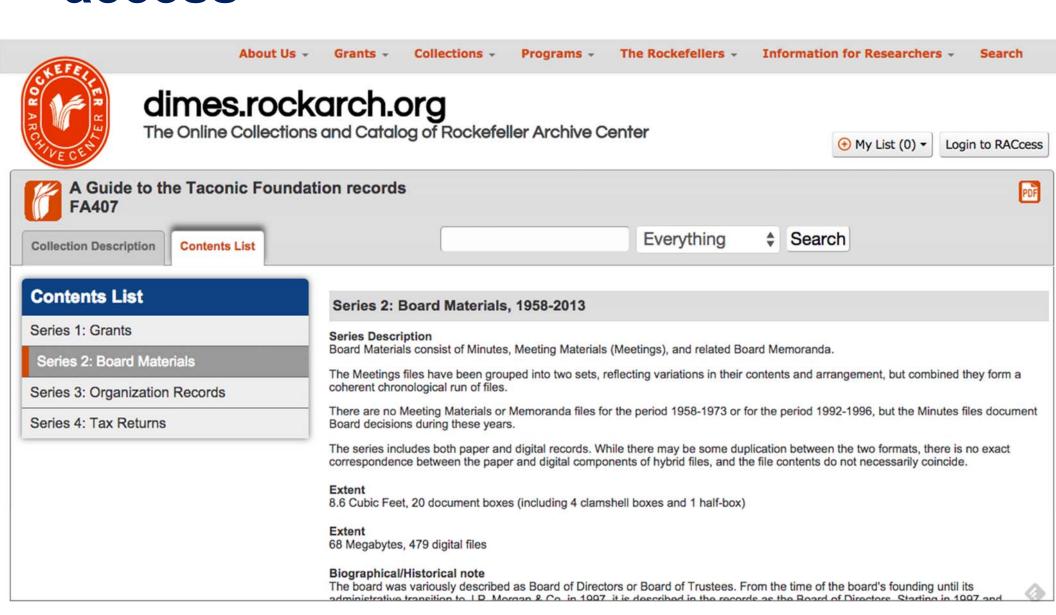




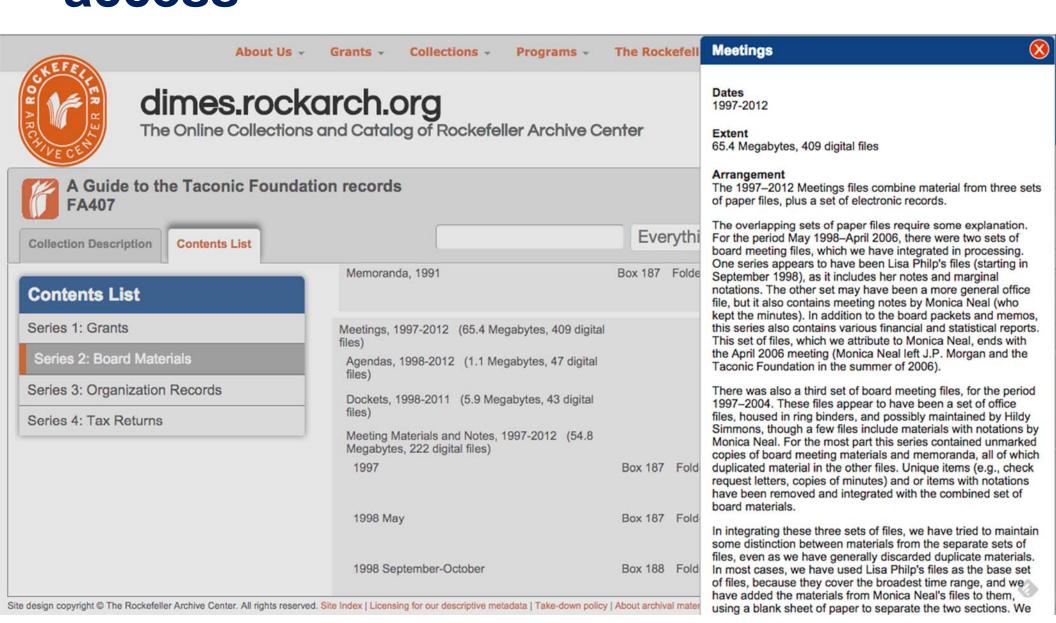




processing the Taconic Foundation: access



processing the Taconic Foundation: access



processing the Taconic Foundation: AIP packaging

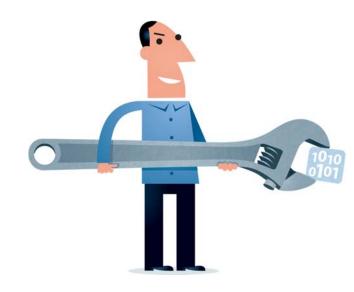
```
-<mets xsi:schemaLocation="http://www.loc.gov/METS/ http://www.loc.gov/standards/mets/version18/mets.xsd">
 +<dmdSec ID="dmdSec 1"></dmdSec>
 -<amdSec ID="amdSec 1">
   +<techMD ID="techMD 1"></techMD>
   +<rightsMD ID="rightsMD 1"></rightsMD>
   +<digiprovMD ID="digiprovMD 1"></digiprovMD>
   +<digiprovMD ID="digiprovMD 2"></digiprovMD>
   +<digiprovMD ID="digiprovMD 3"></digiprovMD>
   +<digiprovMD ID="digiprovMD 4"></digiprovMD>
   +<digiprovMD ID="digiprovMD 5"></digiprovMD>
   +<digiprovMD ID="digiprovMD 6"></digiprovMD>
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   +<digiprovMD ID="digiprovMD 9"></digiprovMD>
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   +<fileGrp USE="submissionDocumentation"></fileGrp>
   +<fileGrp USE="preservation"></fileGrp>
  </fileSec>
 +<structMap TYPE="physical"></structMap>
 </mets>
```

Archivematica METS

https://wiki.archivematica.org/METS

useful tools for reviewing materials

- Quick View Plus: www.avantstar.com/metro/home/Products/
- Treesize Pro: www.jam-software.com/treesize
- IrfanView: <u>www.irfanview.com</u>
- Disk Analyzer Pro: www.diskanalyzerpro.com



useful tools for extracting technical metadata

Identification:

- FITS: projects.iq.harvard.edu/fits
- FIDO: <u>openpreservation.org/technology/products/fido/</u>
- DROID: <u>www.nationalarchives.gov.uk/information-</u> <u>management/manage-information/policy-process/digital-continuity/file-profiling-tool-droid/</u>
- Siegfried: <u>www.itforarchivists.com/siegfried</u>

Characterization:

- Apache Tika: tika.apache.org/
- ExifTool: www.sno.phy.queensu.ca/~phil/exiftool/
- MediaInfo: mediaarea.net/en/MediaInfo

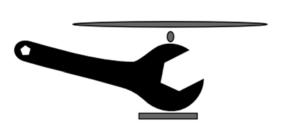


- Forensic disk imaging
- Identification of private and individually identifying information
- Export of technical and other metadata
- Specifically for disk images



COPTR: Community Owned Digital Preservation Tool Registry

Describes 398 tools used for digital preservation activities



 Includes the POWRR Tool Grid to help select tools by lifecycle stage and file format type

COPTR: Fixity

Pages in category "Fixity"

The following 15 pages are in this category, out of 15 total.

A

ACE (Audit Control Environment)

B

- Bagger
- Bagit Transfer Utilities
- BIL (Baglt Library)

C

Cksum Unix command

F

- Fixi
- Fixity

M

- · Md5deep and hashdeep
- · Md5sum Unix command
- Md5summer

N

NARA File Analyzer and Metadata Harvester

P

Python checkm package

R

Rhash

S

- · SAFE Archive Audit System
- SSDeep

COPTR: POWRR Tool Grid



arrangement & description: related DAS courses



- Arrangement and Description of Electronic Records – Parts 1 and II
- Archival Collections Management Systems (webinar)

Additional Resources

Daines, J. Gordon III, Trends in Archives Practice, Module 2: Processing Digital Records and Manuscripts. Society of American Archivists, 2013.

AIMS Born Digital Collections: An Inter-Institutional Model for Stewardship White Paper, 2009-2011.

http://www.digitalcurationservices.org/aims/white-paper/

Trends in Archives Practices: Rights in the Digital Era. Society of American Archivists, 2015.

Brian F. Lavoie, The Open Archival Information System Reference Model: Introductory Guide (2nd ed). DPC Technology Watch Series Report 14--02. Digital Preservation Coalition (UK): 2014. http://dx.doi.org/10.7207/twr14-02

Additional Resources (2)

Describing Archives: A Content Standard, Second Edition (DACS). http://www2.archivists.org/standards/DACS

National Digital Stewardship Alliance, Checking Your Digital Content: What is Fixity, and When Should I be Checking it? http://www.digitalpreservation.gov/ndsa/working_groups/documents/NDSA-

Fixity-Guidance-Report-final100214.pdf

Digital Curation Google Group. https://groups.google.com/forum/#!forum/digital-curation

Questions?

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