A Final Report to the National Endowment for the Humanities
NEH Grant PE-50129-15

Digital POWRR - Preserving Digital Objects With Restricted Resources
From Theory to Action: Extending the Reach of Digital POWRR Preservation Workshops

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Narrative Overview

The Digital POWRR grant brought much needed digital preservation (DP) training to 370 professionals from 217 institutions, 29 states and the District of Columbia, and 10 Native American tribes and cultural heritage institutions. The pragmatic, hands-on workshops taught across the country focused on the initial steps necessary to accession digital content and to realistically approach developing a sustainable DP program to aid smaller institutions in their DP efforts.

Project Activities

Below are the high-level activities contained in the original scope of work (presented in **BOLD**), followed directly by the efforts undertaken to complete those activities.

Perform environmental scan of recent publications, reports and research findings in order to determine if workshop curriculum should be revised and updated (Months 1-2).

The Digital POWRR Workshop had been developed as a result of an IMLS-funded research grant on digital preservation tools and services. The workshop had been developed in early 2014. Conducting an environmental scan was crucial to determine if the curriculum needed to be updated and revised. The following steps were taken:

- Reviewed articles and blogs posted by leading organizations of digital preservation and training, such as the Library of Congress, the National Digital Stewardship Alliance (NDSA), and the Society of American Archivists (SAA). Summaries of conference sessions and slides were often found, serving as another way to keep current of trends in digital preservation
- Joined and participated in listservs that discuss digital preservation as a way to stay informed on issues important to information professionals
- Surveyed websites of tools and services discussed in the workshop curriculum to determine if major changes had been made to the functions and features
- Attended webinars provided by digital preservation vendors and services to learn more about emerging technologies and updated features

Develop program web site providing information about workshops, instructors and scheduled events as is possible (Months 1-2).

A website for the POWRR project (http://digitalpowrr.niu.edu/) had already been created during the IMLS-phase of the grant, so the first few months were also spent updating content to describe the new phase of the project, updating the biographies of our instructors, and serving as the portal to promote workshops and materials. The website has served as a tool to:

- Promote upcoming workshops and serve as the source to register for workshops
- Generate blog posts about recent findings in digital preservation and developments related to POWRR
- Freely provide workshop materials on the “I Survived A POWRR Workshop” section of the website. Attendees have used this as a reference point while also making materials available to those unable to attend a workshop in person

Perform formative evaluation, which includes review of information gathered in initial environmental scan and revision of workshop curriculum as needed; review of participants’ assessment materials and revision of workshop curriculum as needed; review of information gathered in ongoing environmental scan of digital preservation work as performed at conferences

and revision of workshop curriculum as needed; and review of project work plan and record of project activities in order to verify that project is proceeding appropriately. (Months 1-21).

The Project Director met with the Co-PIs of the project in-person several times throughout the grant to discuss the environmental scan of publications and latest developments in digital preservation. This resulted in some additions and minor changes to the workshop slides and the creation of a new tutorial and guides for Data Accessioner (DA), DA:Metadata Transformer Tool, as well as an updated tutorial for Internet Archive. The periodic meetings throughout the year also addressed the budget as a way of making sure the grant was using funds efficiently. For the last in-person meeting towards the end of the grant, the Project Director and Co-PIs discussed solutions for long-term sustainability of the project after the grant period. The Co-PIs recognized that, due to a variety of factors including reduced budgets and personnel, Northern Illinois University would not be able to sustain the project in a way that would meet the continued demands for the workshops. After much discussion, the team reached out to Lyrasis and the Northeast Document Conservation Center and began brainstorming ways in which POWRR could team up with these organizations. Lyrasis invited some POWRR team members to develop and teach a series of webinars based on the POWRR curriculum. By offering these webinars, the project could continue moving forward past the end of the grant period.

The project brought on Christopher J. Prom from the University of Illinois, Martin Halbert from the University of North Texas, and Katherine Skinner from the Educopia Institute (http://www.educopia.org) as consultants throughout the grant. They provided guidance to the team for updating the list of tools covered in the workshop curriculum. They also provided insight for the creation of a series of eLearning modules as a sustainable solution for the workshop after the grant period ended.

Another result of an in-person meeting in 2016 was the creation of eLearning Modules. We often received anecdotal feedback after workshops about offering the workshop online. The demand for workshops remained high throughout the grant period, but after certain point we were no longer able to schedule additional in-person workshops. The team wanted to re-create the experience of an in-person workshop in an online format.

As a result of these meetings, consultations, environmental scans of the digital preservation environment, and feedback from workshop participants, it became clear to the team that the workshop curriculum needed updating. Digital preservation can be a fast-changing environment, with updates to tools and services happening rapidly. New digital preservation tools and services that weren't even around 3 years ago when the curriculum was first created are now major players in the field. In order to keep the workshop fresh and relevant, it became clear to the team that a major revision was needed. The revision mainly focused on the tools section of the workshop. The team sought partner feedback for this and it led to the inclusion of another tool to use during hands-on time where folks practice the entire curation lifecycle...from triage to monitoring. The team also added a few new tools like BitCurator and Amazon Glacier to discuss in the tools section of the workshop.

Discussions with Katherine Skinner led to some much-needed revisions to the pre/post tests and evaluations, as well as the 3-month survey filled out by workshop participants. One problem the team ran into during the first year of the grant was a low response rate for 3-month follow-up surveys. She provided revisions to the language of the e-mail sent asking participants to take the survey, and suggested some much-needed revisions to the survey itself.

Develop informational/promotional materials for workshops. Continue development of promotional materials in order to reflect changes made to curriculum as appropriate. Work with collaborating organizations to use promotional materials to bring events to the attention of target audience (Months 1-20).

Reaching our target audience and promoting the workshops was a collaborative effort. Notable achievements include:

- Posting on various digital preservation and professional listservs
- Posting on training calendars maintained by the NDSA; MAC; DuraSpace; and the American Library Association (ALA) Digital Curation Interest Group
- Creating a Twitter account as a way to direct people to the website and advertise workshops. It has also served as a tool to keep up-to-date with updates to digital preservation tools and services and recent publications and reports
- Creating a Slack channel as a way for workshop participants to keep in touch after the workshop to ask questions and create and on-line community of practice
- POWRR lead instructor, Lynne Thomas, assisted with the daylong instruction to the newest class of the National Digital Stewardship Residents
- Project Director Danielle Spalenka gave an interview for The Signal, a blog run by the Library of Congress Digital Preservation and Outreach Education (DPOE). This resulted in great publicity for POWRR and resulted in scheduling of more workshops
- Creating a community on the Sustainable Heritage Network's website to post POWRR resources, allowing us to further reach indigenous communities
- The POWRR Team received the 2015 NDSA Innovation Award for an organization, as well as the SAA Preservation Publication Award for 2015. These honors helped spread the word further about the grant project and is a reflection not only of our IMLS phase efforts but also of the NEH phase activities

Planning and scheduling each workshop would not have been possible without collaboration with various regional and national organizations of information professionals. All coordinating partner organizations were able to provide workshop facilities at no cost to the grant, freeing those funds for additional workshops. There was never a need for paid promotion due to the workshops filling up within days of registration opening as a result of coordinating partner organizations' internal promotions, social media activity, and simple word-of-mouth. A list of coordinating partner organizations can be found in **Appendix A.**

Present workshops (Months 5-21)

We presented 17 workshops at 11 locations across the country, exceeding the minimum of six workshops over the course of the grant. We provided many takeaways and learning materials to workshop participants, including a flash drive filled with all workshop materials, tutorials, and slides. Each participant received a packet containing the workshop slides to take notes and follow-along to the slide presentation during the day-long workshop. The packets also included guides and tutorials designed to help perform basic DP activities and provide guidance in creating a sustainable DP program.

Perform summative evaluation (Months 21-23)

Workshop participants were asked to complete a pre-workshop test and a post-workshop test, enabling program organizers and evaluators to assess the workshop's effectiveness in producing its desired

outcomes. The POWRR team brought on Dr. Katherine Skinner of the Educopia Institute to review these pre/post-tests to improve the assessment process. These original tests were created by the team during the IMLS phase, but having the expertise of Dr. Skinner improved the tests to align better with standards in assessments and better demonstrated skills learned from participants. The summative evaluation activities also included a review and discussion of workshop participants' pre-test and post-test results and a report providing the granting agency with an account of the program's goals, its activities, and data shedding light on its effectiveness in reaching its goals as seen in **Appendix B**.

Accomplishments

The greatest accomplishment achieved by this project was exceeding the number of workshops originally proposed for the grant. The original project deliverable stated the team would provide a minimum of six workshops (up to twenty-five participants per event) to reach a group of a minimum of one hundred and fifty individuals. Instead, the project delivered 16 workshops at 11 locations across the country and reached 370 individuals. There were a number of factors that helped the team exceed the number of promised workshops:

1. Actual travel costs were lower than estimated travel costs because most coordinating partner organizations were able to procure below-market lodging for instructors; instructors often opted to travel home on the evening of workshops rather than incurring additional expense; and some instructors often shared lodging, booking rooms with double beds to share, or stayed with friends/relatives in the local area. The team was eager to keep costs low as the project received many requests for additional workshops. By keeping travel costs lower than estimated, the team was able to have the funds to accommodate as many requests as possible.

2. All coordinating partner organizations were able to provide workshop facilities at no cost to the grant, freeing those funds for additional workshops.

3. Printing and promotion costs were lower than estimated. There was never a need for paid promotion due to the workshops filling up within days of registration opening as a result of coordinating partner organizations' internal promotions, social media activity, and simple word-of-mouth. Project staff opted to print most materials in-house, out-sourcing only the slide packets, as a way to save money in order to meet the higher demand for more workshops.

The project promised to provide travel scholarships for individuals with limited or no travel budgets to attend, as well as a way to encourage individuals from historically underrepresented institutions to attend. The original budget estimated $10,000 for travel scholarships over the course of the grant period. The grant was able to provide $9,601.81 in travel scholarships to 29 individuals. Nine of the scholarship participants were from Native American and Native Hawaiian cultural heritage organizations, aligning with our goal to reach underrepresented institutions at workshops.

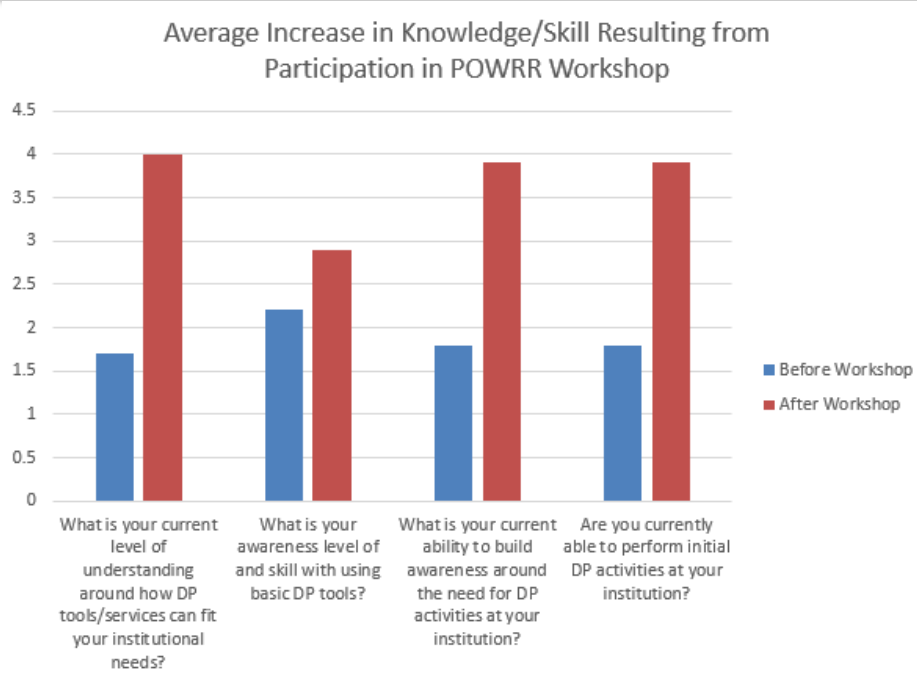
Many of the materials related to the project were updated throughout the course of the grant period. Digital preservation is an ever evolving process, so it was imperative that the team provide the latest improvements and standards used in the field. This led to updates to the workshop assessments (pre/post-test, workshop evaluations, and survey). The team also created step-by-step tutorials for the tools used during the hands-on demonstrations during the workshop. One of the POWRR Team members, Martin Kong, created automated scripts to help launch DataAccessioner from participants' laptops to help make the hands-on activities run smoothly. The scripts streamlined the process of testing each participants' personal laptops to make sure the tools would launch and run correctly on their own device.

Based on the assessments and evaluations from workshop participants, as well as discussions between POWRR team members, significant revisions were made to the curriculum. Participants had expressed a desire for more time to test and play with DP tools. The results included updates to the tools section of the workshop, and the additional of a tool to demonstrate the covers the end-to-end process of digital preservation.

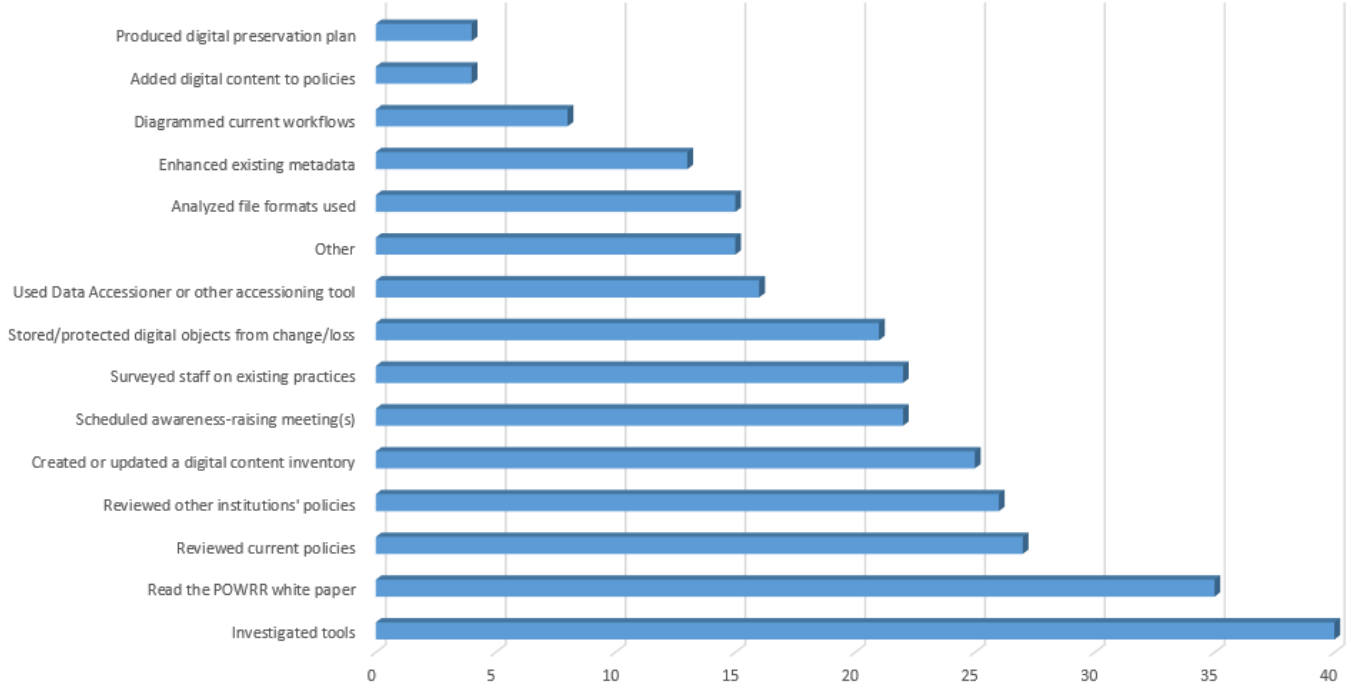
Another major accomplishment was the creation of eLearning modules. The creation of these modules was based on feedback received from those unable to attend the workshop. The modules took a bit longer than expect to create, based on revisions and editing through the collaboration of Northern Illinois University's eLearning and Outreach department. The modules should be made public by April 2017.

To gauge each attendee's knowledge about digital preservation and his/her confidence in his/her abilities to perform digital preservation activities, the team administered tests immediately before and after each workshop. The results in the graph below indicate a significant increase in both knowledge and confidence.

GRAPH DETAILS: Each workshop participant completed a workshop pre-test and post-test to measure the skills and knowledge conveyed throughout the workshop. Questions focused on the participant's level of understanding, level of awareness, ability to build awareness, and ability to perform initial activities. For all questions, answer statements were provided along with a numeric value for participants to select the most relevant statement to his/her situation. Numeric values ranged from **1**, indicating *low understanding or ability*, to **5**, indicating *high understanding or ability*.
Question 1: In addressing the participant's level of understanding, the provided responses ranged from 1: I am unfamiliar with DP tools/services and unsure how they might fit my institutional needs, to 5: I can explain to a colleague how certain tools/services can satisfy different needs within my institution.
Question 2: In addressing the participant's level of awareness and skills with DP tools/services, the provided responses ranged from 1: I am unfamiliar with DP tools and how they work, to 5: I am able to use at least one DP tool with confidence.
Question 3: In addresssing the participant's ability to build awareness around DP, the provided responses ranged from 1: I don't know how to build awareness regarding DP at my institution and am unaware of resources available to help me with this, to 5: I have the resources and enough skills necessary to build awareness at my institution, and have a plan of action for initializing/continuing discussions with others at my institution.
Question 4: In addressing the participant's ability to perform initial pre-ingest DP activities, the provided responses ranged from 1: I don't understand what pre-ingest activities are, to 5: I have a robust pre-ingest workflow that I can successfully use.



To measure the impact the POWRR workshops had on these practitioners and their institutions, the team surveyed attendees 3 months after their particular workshop (see **Appendix C-2**). 370 attendees received surveys and 112 responded, for a 30.27% response rate. Of those responding, 81.08% indicated that they had indeed initiated digital preservation activities at their institutions in the 3 months following the workshop. Of these, 71.262% of attendees stated that the skills and knowledge gained during the POWRR workshop were very helpful or crucial in choosing and implementing the digital preservation activities. The graph below details how many practitioners have initiated the following activities at their institutions.

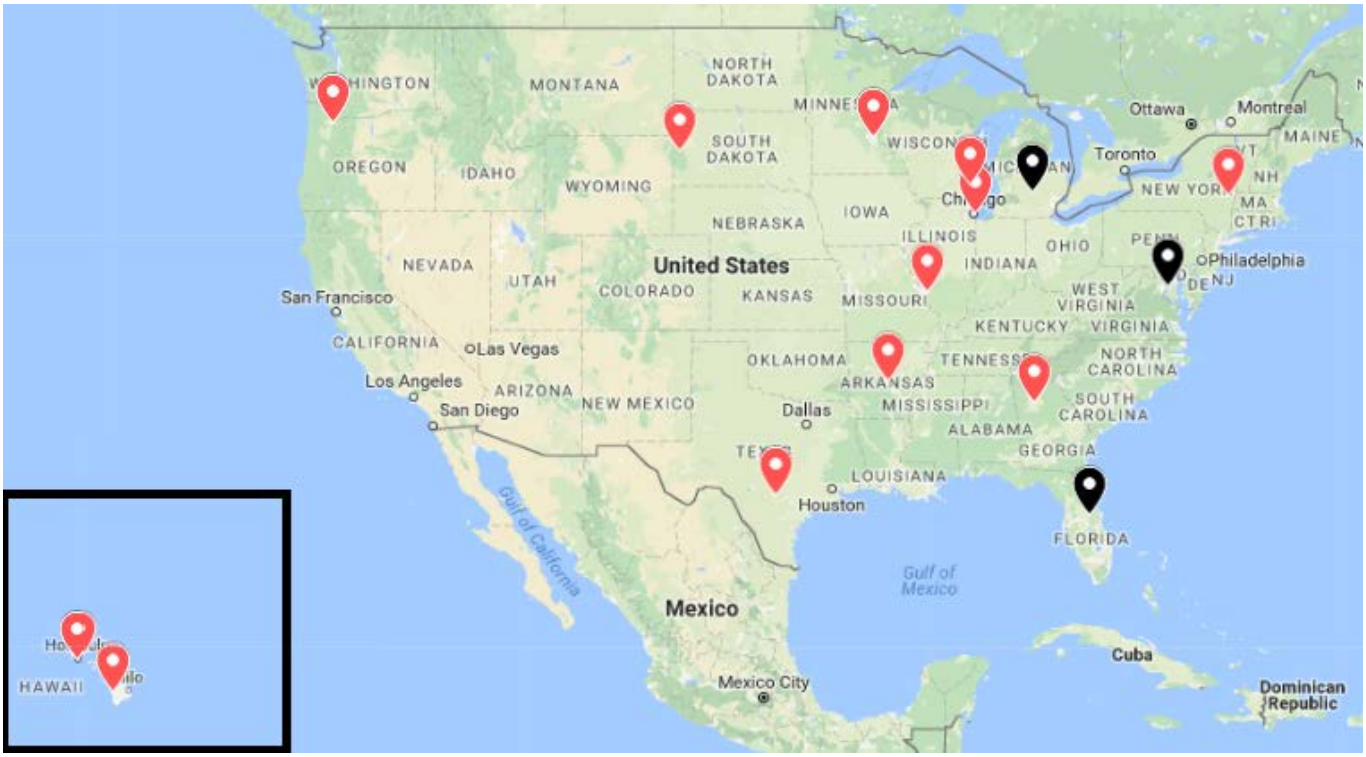


Please see **Appendix C-1** for additional supporting documentation relating to the outcomes and impact of the POWRR Workshops.

Project Audience

The project reached 370 individuals from 217 institutions from 29 states and the District of Columbia, and 10 Native American and Native Hawaiian cultural heritage organizations.

Geographic locations of POWRR workshops in 2015 and 2016:



Red marker= workshop location. Black marker = conference presentation

Each attendee was required to sign-in and fill out a pre-workshop test and post-workshop test. Attendees were asked to identify their job title/role at their organization, and indicate how many years they have been in that particular position. Of those that responded to all the information, 119 indicated they had been in their position between 1-5 years. 33 participants indicated they had been at their position for 5 to 10 years, and 41 people indicated they had been at their particular position for 10 years or more. Only 18 participants indicated they had been at their particular less than one year. Based on the information of job titles, the POWRR workshops reached all levels, from upper management and administration (32) to volunteers, interns, and grad students (12).

Please see **Appendix D** for additional supporting documentation relating to the audience and participants of the POWRR Workshops.

Project Evaluation

The project performed two types of evaluation activities: ongoing formative measures and a summative appraisal at the end of project activities. Christopher Prom (Assistant University Archivist and Associate

Professor of Library Administration; University of Illinois Library) and Martin Halbert (Dean of University Libraries, University of North Texas) served as the project's formative evaluators. Dr. Katherine Skinner, Executive Director of the Educopia Institute, provided both formative evaluation during the period of workshop revision and summative evaluation at the conclusion of the project's workshop activities. Formative evaluation activities included review of information gathered in the initial environmental scan and revision of workshop curriculum as needed; review of participants' assessment materials and revision of workshop curriculum as needed; review of information gathered in ongoing environmental scan of digital preservation work as performed at conferences and revision of workshop curriculum as needed; and review of project work plan and record of project activities in order to verify that project is proceeding appropriately. Summative evaluation activities included a review and discussion of workshop participants' pre-test and post-test results and preparation of a report providing the granting agency with an account of the program's goals, its activities, and data shedding light on its effectiveness in reaching its goals.

Continuation of the Project

Members of the Digital POWRR Project team are actively pursuing several avenues by which they may continue its work. Team members Jaime Schumacher, Lynne Thomas and Danielle Spalenka are presently teaching webinars based on the POWRR curriculum in conjunction with a program offered by Lyrasis. In January, 2017 Drew VandeCreek and Jaime Schumacher of Northern Illinois University Libraries submitted a proposal to the Institute for Museum and Library Services' Laura Bush Twenty-first Century Librarian grant competition, seeking support for the provision of five two-day institute events aimed at an audience of librarians and archivists employed at medium-sized and smaller institutions lacking large financial resources. If funded, these institute events would represent a second step in the POWRR curriculum, providing participants with opportunities to expand their knowledge of and experience with those elements of digital curation and preservation work that individuals attending the just-concluded program's events have specifically requested or suggested. These include additional time to work with digital curation and preservation tools in a hands- on manner with instructor supervision, as well as an opportunity to consult directly with members of the POWRR team in order to discuss digital curation and preservation tools and work flows that may prove practicable in their institutional environment. The development of this proposal enabled POWRR team members to build positive new relationships with members of professional groups representing library and information professionals, including the Historically Black College and University Library Alliance, the Appalachian College Association Library Group, and the Sustainable Heritage Network (serving libraries and archives reaching Native American communities). Subsequent to the submission of the above proposal, POWRR team members have held discussions with the Northeast Document Conservation Center, in which they began planning to provide the NEDCC with information describing a day-long event presenting Digital POWRR curriculum materials to practitioners in specific, underserved states of the Union, which would be part of a grant submitted to the National Endowment for the Humanities and, if funded, administered by NEDCC.

Long-Term Impact

Digital POWRR Project workshop events funded by this grant reached 370 individuals from 217 institutions, from 29 states and the District of Columbia, and 10 Native American and Native Hawaiian cultural heritage organizations.

Individuals completing workshop evaluations and three-month follow-up questionnaires mentioned several aspects of the activity that provided particular long-term benefits. These included the provision of several open-source software applications and directions on how to use them on a portable Flash drive; the opportunity for supervised, hands-on work with open-source applications for digital creation and preservation during the workshop itself; the review of available digital curation and preservation applications on the Digital POWRR Project Tool Grid, continued on the COPTR web site; the provision of a new sense of awareness of available technology in the field and the confidence necessary to begin working with it; the discussion of the necessity of advocacy for digital preservation measures, and strategies for doing so, within an institution; and the workshop's generally practical approach to the subject matter.

In addition to our own outreach, participants in our workshops have taken our materials and made use of them in their own instruction, as can be seen in the course materials listed in **Appendix F.**

The project will continue to provide instruction to practitioners in the field and members of the general public (as desired) by way of a series of online learning modules presenting a condensed version of the POWRR workshop curriculum online at our site: http://digitalpowrr.niu.edu/

Grant Products

All Grant products can be found in **Appendix E**.

E-1: Data Accessioner Step-By-Step Guide

Created for our workshop participants, this guide provides step-by-step instructions and screenshots for using Data Accessioner on Mac Computers. http://digitalpowrr.niu.edu/wp-content/uploads/2014/04/DA_printouts_afternoon.pdf

E-2: Data Accessioner Metadata Transformer Guide

Our tutorial for DA:MT shows how to take the raw XML generated by DA and create a more accessible format in both CSV and HTML files: http://digitalpowrr.niu.edu/wp-content/uploads/2014/04/DAMT-Tutorial.pdf

E-3: New Internet Archive Guide

For very small-memory institutions (like volunteer-driven historical societies), we have created a tutorial on how to upload content to the Internet Archive for free: http://digitalpowrr.niu.edu/wp-content/uploads/2014/04/New-Internet-Archive-Tutorial.pdf

E-4: POWRR Workshop Slides

These slides were created for our workshops and are available for sharing on our site. http://digitalpowrr.niu.edu/wp-content/uploads/2016/11/POWRRWorkshopSlides_Master.pptx

Project Partners

POWRR Team Members:

Jaime Schumacher	*Co-Primary Investigator*	Martin Kong	*Instructor*
Drew E. VandeCreek	*Co-Primary Investigator*	Meg Miner	*Instructor*
Danielle Spalenka	*Project Director*	Patrice Prud'homme	*Instructor*
Stacey Erdman	*Instructor*	Lynne M. Thomas	*Instructor*
Jeffrey Hancks	*Instructor*	Kelly Klecka	*Student Assistant*
Aaisha Haykal	*Instructor*	Jennifer Justice	*Graduate Assistant*

Appendix A – Conference Presentations, Papers, Posters, Workshops, and Participation

Workshops

2015 Workshops	2016 Workshops
April 24 – BMRC (Roosevelt University, Chicago, IL)	April 22 – SSA (Central Library, Little Rock, AR)*
June 30 & July 1 – NWA and SHN (Portland State University)	April 27 – MAC Annual Conference (Marquette University, Milwaukee, WI)
October 22 & 23 - MARAC & ENY/ACRL (University at Albany, SUNY)	June 9 & 10– Oberlin (Macalester College, St. Paul, MN)
November 13 – MAC (Deadwood, SD)*	July 8 – ACRL DCIG – Trinity University, San Antonio, TX
	September 1 & 2 – University of Missouri Digital Projects Committee, University of Missouri- St. Louis
	October 10 - AASLH (Atlanta History Center, Atlanta, GA)
	November 15 & 18 – AHA (Honolulu, HI and Kona, HI)

LIST OF COLLABORATING ORGANIZATIONS

- American Association for State and Local History (AASLH)
- Association of College & Research Libraries Digital Curation Interest Group (ACRL-DCIG)
- Association of Hawaii Archivists (AHA)
- Black Metropolis Research Consortium (BMRC)
- East New York Chapter of ACRL
- Mid-Atlantic Regional Archives Conference (MARAC)
- Midwestern Archives Conference (MAC)
- National Digital Stewardship Alliance (NDSA)
- Northwest Archivists, Inc. (NWA)
- The Oberlin Group
- Society of Southwest Archivists (SSA)
- The Sustainable Heritage Network
- University of Missouri Digital Projects Committee

Other Presentations

NDSR Resident Training, June 2015, Washington, DC - http://digitalpowrr.niu.edu/wp-content/uploads/2015/07/NDSASlidesThomas.pptx

ALA (American Library Association) Annual Conference 2016 – Orlando

ALA Annual Conference 2017 – Chicago

Invitation to speak to the University of Wisconsin Madison SLIS class, Electronic Records Books Camp (LIS 855), September 2016

Invitation to speak to the NDSR residents of the American Archive of Public Broadcasting

Appendix B – External Project Summative Evaluation

The POWRR Project
Summative Evaluation
March 2017

Dr. Katherine Skinner

Overview

The "From Theory to Practice: Extending the Reach of Digital POWRR Preservation Workshops" project (National Endowment for the Humanities, 2015-2016) requested support for planning, hosting, and evaluating at least six one-day workshops across the United States that would provide at least 150 archivists and librarians with intensive, practical hands-on skills and advocacy tools. This project built upon an Institute for Museum and Library Services-funded study of digital preservation approaches taken at medium and smaller institutions with fewer resources (financial, technical, or staffing based), in which the project team built the Digital POWRR curriculum and presented it to several groups of librarians and archivists at national and regional conferences.

This summative evaluation, conducted by the Educopia Institute for the project team, describes the impact of the 2015-2016 project on its targeted audience: archivists and librarians at smaller, less financially secure institutions. This work is a compliment to the formative evaluation work undertaken by Educopia at the start of the project in 2015, as well as the formative evaluation work undertaken separately by Independent Contractors Christopher Prom and Dr. Martin Halbert.

Methodology

The evaluation process began with Educopia Institute's analysis of the Digital POWRR team's IMLS project findings, deliverables (including workshop curriculum and evaluation instruments) and project evaluation reports. The evaluator, Katherine Skinner, became involved with the project team at the outset of the project, providing feedback on initial project directions and tools.

As the project progressed, Skinner checked in regularly with the Digital POWRR team, gaining access to both qualitative and quantitative measures of success for each of the individual workshops conducted by the team, including all pre-test and post-test results. The team maintained an open dialogue with Skinner, providing documentation and sharing insights and perspectives on the work it was conducting over the two-year grant.

During the final month of the project period, Skinner conducted brief interviews with randomly selected representatives of the workshops to better understand the impact of the curriculum and workshop experience on the attendees and their home institutions.

The evaluation results below summarize two distinct findings: 1) success attained against declared project goals, and 2) success attained against additional measures.

Project Goals and Intended Impact

The project proposal summarized the project goals and impact as follows (from the grant narrative):

- Provide information professionals with an opportunity to expand their knowledge and skills in ways that will **quickly promote the more effective preservation of digital objects at their home institutions**.
- Through trainees' work in building sustainable digital preservation programs, dramatically improve scholars, teachers, students, and lifetime learners' access to humanities materials over the long term.
- Through the survival of high-quality digital surrogates for rare/fragile primary materials, **ensure that valuable resources are not repeatedly subjected to the scanning/photography process**.
- Have a national impact by making workshop instruction available to information professionals working at any **archive, library, or museum** in the United States.
- Collaboration with regional organizational of information professionals will allow us to emphasize outreach to **medium-sized and smaller institutions.**
- Remove the boundary of "perfect" preservation by building trainee's confidence to take a "good-enough" incremental and practical approach to digital preservation.
- Unique training approach with hands-on instruction for specific basic digital preservation tools and critical overviews of other available tools.
- Six workshops with up to 25 participants per event, reaching 150 individuals or more.
- 3-3-3 Action Plan approach to ensure action in the three months following each event.

Project Activities

In 2015, the POWRR team kicked off project activities, including planning and implementing workshops in collaboration with a broad range of state, regional, and national associations and their annual gatherings. The team undertook an environmental scan of digital preservation tools, services, and activities in 2015 to help guide updates to the curriculum in 2015-2016. In October 2015, the team also worked on the refinement of pre- and post-tests, and established and approved a post-test survey process, email, and instrument. From April to November, the team hosted its first six workshops in Chicago, Illinois; Portland, Oregon; Albany, NY; and Deadwood, SD.

In 2016, the team completed a significant revision of the curriculum and slides. They hosted a total of 10 workshops around the country in Little Rock, AR; Milwaukee, WI; St. Paul, MN; San Antonio, TX (where the new curriculum was launched); St. Louis, MO; Atlanta, GA; Honolulu, HI; Kona, HI). They also taught two abbreviated versions of the curriculum through LYRASIS in fall 2016, and worked with LYRASIS on sustainability planning for the Digital POWRR curriculum.

The changes in the curriculum are notable and deserve recognition. The POWRR team responded to 2015 feedback to refine the program, increasing "hands-on" time and carefully restructuring the range of activities to answer often-heard requests. The thoughtful work completed on this was above and beyond what the team committed to in the grant. The need for

such work on a training workshop is inherent, though, in an area of information management that is changing so rapidly. In other words, even the significant revisions completed by the team mid-way through the current project will require additional significant revisions within the next two years. The team's awareness of this increased over the project lifespan and is marked by its increasing connection to LYRASIS as a potential sustainability host for the curriculum.

Project Pre- and Post-Test Evaluations

Workshop evaluations completed at the conclusion of the workshop included both quantitative and qualitative measures. Quantitative evaluations of the workshop were designed to elicit responses about the success of delivery (Objectives clear? Activities helpful? Pace appropriate? Instructors prepared?) and the success of workshop advertising (Expectations met?). In both years, and across all workshop instances, the quantitative evaluations were positive. Notably, on a 1-5 scale Likert scale, most scores were "3" or above, and the majority were "5s" (the highest).

Qualitative measures provided attendees with the opportunity to describe how they would improve the workshop. These also asked attendees to name the least valuable and most valuable parts of the workshop. In both years, these qualitative measures report the positive experiences of attendees. Attendees commended the team for its thoughtful preparation, hands-on examples, concrete takeaways (flash drives, information sheets), and overall informative atmosphere.

Praise for the workshop in the pre- and on-site surveys focused on the following aspects of the workshop:

1. Free offerings are always appreciated
2. Hands-on nature of exercises is unique in digital preservation workshops
3. Great advocacy information for educating others in and beyond the organization
4. Fantastic "take away" resources (flash drives, hand-outs)
5. Solid presentations by all trainers, with great encouragement of attendees

Improvement suggestions focused on the following aspects of the workshop:

6. Spend less time on "beginner" materials; perhaps by having a pre-workshop (virtual) for beginners, you could even out the audience and enable a quicker pace
7. Spend less time going through every tool on the chart; highlight some "best of" and highlight what function and size/type of institution they might be best suited for.
8. Spend less time on "pricey" options; at times felt like a "sales pitch," particularly for Preservica and for cloud-based storage options
9. Demonstrate or relate how the data produced by each tool is then used by preservationists to identify and correct problems

The POWRR Workshop also surveys attendees three months after the event to find out what concrete work each attendee has undertaken. This follow-up survey focuses in large part on the "3-3-3 Action Plans" completed by each attendee on site. In the "3-3-3 Action Plan," attendees focus on *three people* they commit to connect with and *three activities* they commit to undertake

within the *three months* following the workshop experience. This concretization of digital preservation planning and advocacy is among the highlights of the workshop, providing attendees with a structured mechanism to apply what they learned in the workshop quickly, transforming that knowledge into action.

Of the 103 respondents to this follow-up survey, 83 reported initiating at least one digital preservation activity at their institutions, including reviewing tools (39), reviewing current policies (26), and creating or updating a digital content inventory (24). Challenges reported by attendees included conflicting job descriptions, higher priority projects that took precedence, and push-back from other staff who do not yet see the value. When asked "What could the workshop have done differently to better assist you," respondents overwhelmingly said that the workshop was fantastic as is. The question "Do you have any other comments" likewise drew praise from a large number of respondents, many of whom said that this was either the best or one of the best professional development workshops that they had ever attended.

Interviews

The subset of participants who were interviewed by the evaluator is relatively small, but does include at least one participant from each location. These were selected at random from the lists of attendees provided to the evaluator by the POWRR team.

Interviewees agreed that the POWRR experience was positive, that they gained a valuable foundation in digital preservation and important grounding in and exposure to a few simple "get started" tools. Praise for the POWRR team and its workshop included:

- Instructors were knowledgeable, passionate, and committed to the workshop attendees. They wanted our stories and shared their own, building a sense of community in the room.
- Experiential learning is missing from most digital preservation workshops. Having the opportunity to dive into two tools on site demystified the process of getting started.
- Tools (especially Fixity) are immediately useful.

Areas spotlighted for improvement mostly related to work from a past project that was included in the NEH-funded workshops, especially the POWRR Grid.

- The Grid seemed really helpful at first, but when we tried to use it to make decisions, we realized it is based on one institution's experience in testing tools from a few years ago. It's being used by people with the expectation that it really represents the tools/services landscape accurately, but what it represents is the tools/services landscape a few years back as compared to the needs and experiences of the project team.
- The Grid needs to be updated and maybe reworked.
- Parts of the Grid are really helpful; other tools aren't as fleshed out in the descriptions and I'm not sure that the features are checked on all of them.
- The Grid makes a few tools seem really great—especially two vendor solutions. Our experience with one of those vendors hasn't been so great, it's just been expensive and frustrating.

One substantive suggestion that arose in three interviews was about the privileging of the Cloud as a "good enough" preservation solution. Attendees were uneasy about the degree of trust given to the "Cloud" and the degree to which the moniker "the Cloud" masks that almost all of the Cloud-based "preservation" options are controlled by one vendor: Amazon. Another focused on Preservica and the amount of time spent on this particular solution. Interviewees also questioned whether the assessment of community and/or open solutions as often being "too difficult" for smaller institutions was accurate or helpful.

Other minor suggestions tended to focus on non-substantive factors in the workshop, like food, microphones, and environment issues.

All interviewees felt that they had accomplished at least part of their 3-3-3 plan after the workshop. All interviewees also self-reported that they felt like they were better informed to make decisions and to take action after the workshop.

Success Against Declared Project Goals

Some of the project's goals (as stated in the grant narrative) are difficult to assess using the pre- and post-workshop evaluations. Where necessary, brief interviews with attendees helped to clarify the project's success against these declared goals.

Measure	Outcome
Expand professionals' knowledge and skills in ways that quickly promote more effective preservation of digital objects at their home institutions.	**Success:** Self-reports show that attendees are trying to implement tools (Data Accessioner, Fixity) to assist in the accession process—activities that were not underway prior to the workshop.
Dramatically improve scholars, teachers, students, and lifetime learners' access to humanities materials over the long term.	**Unknown:** "Long-term" is the operative phrase here—this is not possible to assess in a two-year project.
Ensure that valuable resources are not repeatedly subjected to the scanning/photography process.	**Unknown:** This is another longer-term goal which depends on stable, long-term stewardship of digitized objects that fend off loss (which may require rescanning of originals)
Make workshop instruction available to information professionals working at any archive, library, or museum in the United States.	**Success:** Travel scholarships, coupled with hosting 16 physical workshops in 11 locations around the US, plus additional virtual opportunities for participation, enabled the accomplishment of this goal.
Emphasize outreach to medium and smaller institutions through collaboration with regional organizations.	**Success:** Collaborations with BRMC, NWA, MARAC, SAA, ACRL, MAC, AASLH, Association of Hawaii Archivists, and others enabled the team to meet this goal, as evidenced by the wide range of attendees from small and medium-sized orgs.
Remove the boundary of "perfect" preservation and build trainee's confidence to take a "good-enough," incremental approach to digital preservation	**Success:** Attendees self-reported an increase in confidence and willingness to begin taking digital preservation action.

Reach more than 150 individuals	**Success:** Nearly 400 individuals were trained in person at Digital POWRR workshops funded by this project.
Ensure action through creation of a 3-3-3 Action Plan for each attendee	**Success:** Of 103 respondents to the 3-month survey, more than 80 reported initiating at least one digital preservation activity when they returned to their institutions.

Success Against Additional Measures

Number of workshops. Instead of six workshops, the team hosted *eighteen* workshops during the project period without increasing the project budget. The team modeled efficiency, working closely with partner institutions to procure below-market lodging for instructors, and to procure workshop facilities at no cost. Printing and promotion costs were low as well, due to the social media and word-of-mouth outreach conducted by the team and their coordinating partner organizations at the launch of each workshop. Over the course of the project, the instructors even took additional measures to "stretch" their funds, regularly sharing rooms, staying with friends and relatives, and paying for meal expenses out-of-pocket in order to stretch their funds further. In many ways, the actions of the instructors speak to the depth of commitment and sense of mission that they held.

Number of Scholarship recipients. Instead of scholarships for six events (as budgeted), scholarships were offered at all events. Again, the team's ability to offer so many travel scholarships depended on its efficiency and cost-effective planning. Increasing the number of scholarships provided direct benefits to recipients.

Broad impact. As evidenced by the wide range of citations and the broad usage of the Digital POWRR grid and white paper, uptake of the original grant deliverables continues to grow. The expansion of the POWRR team workshop teachers during the project period also increased the impact of the POWRR team's work through increasing the voices and perspectives that are actively spreading the project's outputs. Continuing to broaden the trainer base could provide another avenue for the POWRR team to explore as it seeks to ensure the sustainability of both the curriculum *and* the openness with which it has been taught to date. Connecting to groups such as the Coalition to Advance Learning could help the POWRR team to spread the curriculum and resources to and through additional associations.

Recommendations for Improvements

Based on the range of reviews conducted by Educopia, we offer the following recommendations to the Digital POWRR team as it continues moving this important curriculum forward.

10. Work closely with advanced practitioners to refine the "Grid". Some attendees commented on the confusion they experienced in the grid-based comparisons of digital preservation tools. External reviewers who were asked by the evaluator to comment on the grid also raised questions about the "apples and oranges" nature of many of the comparisons and questioned whether the grid helps or further confuses practitioners as they seek solutions.

11. Take a more nuanced view of "good enough" by giving it context. Some attendees raised questions about what happens *after* "good enough" preservation; others asked if "good enough" is really preservation at all. Demonstrating where "good enough" fits into the spectrum of options available to practitioners can be helpful. Keeping that tension between "good enough" and "optimal" preservation may help attendees know where to start, how to mature, and what their ultimate goals might be.
12. Shift the focus from a "tool-driven" set of modules to a "function-driven" set of modules. As several attendees noted, both in pre/post surveys and in interviews, you will better empower attendees if you first help them identify which functions they need, and then provide them with resources that will help them determine which tools might work together in a workflow built deliberately around those functions.
13. Contemplate whether the Cloud represents "good enough" preservation—and be more upfront with its limitations. Of particular concern, almost every one of the digital preservation solutions using the Cloud is using the Amazon Cloud—the same cloud that most academic IT infrastructures are also moving to right now. One of the crucial things about preservation storage is that you need to diversify your storage environment, in terms of equipment, ownership, and physical distribution. When all of the "Cloud" copies are held by the same company, is that a problem? Raising that context for the Cloud seems important.
14. Expand into a two-day workshop, dedicating the second day to hands-on implementation with *real data*. Ask attendees to bring to the table their actual accession process and a real collection that they can work with. Use Data Accessioner, Fixity, and other tools to demonstrate how they apply to those real collections.
15. The sustainability of this program is currently pursued in isolation from other continuing education offerings in digital preservation and digital curation. We recommend engaging with other digital preservation training groups, particularly those that have been funded primarily through grants and other time-limited funding streams, to consider how best to ensure longevity of this suite of training opportunities. (The work the team undertook at the end of the project with LYRASIS is a great step in this direction!)

Conclusion

The POWRR team has completed the "From Theory to Practice: Extending the Reach of Digital POWRR Preservation Workshops" project (National Endowment for the Humanities, 2015-2016) with a high level of impact on attendees and their own institutions. The POWRR team stretched every dollar in the grant, ensuring that the funds invested in this series really fed the community of practice nationwide. The recommendations of this evaluation report are intended to help the team as it continues this workshop program, both in cooperation with LYRASIS and potentially through future grant-funded projects; the current project has been a resounding success, as evidenced by multiple measures.

Appendix C – Supporting Documentation

C – 1: POWRR Workshop Impact and Outcomes – Additional Supporting Documentation

Selected comments from POWRR Workshop Evaluations:

- Great workshop. I enjoyed it very much and they made the material very relatable and taught to be practical and usable in the field.
- I did the DAS curriculum which was so theoretical. The POWRR workshop made everything much more understandable. Very practical indeed.
- Thank you!!! This was great and probably one of the best workshops I've been to. :)
- Wonderful presentations. The mix of personalities & changeup during workshop. Good for keeping audience attention.
- It's hard to have a workshop that everyone can benefit equally from since everyone come w/ different levels of understanding. I would have liked more information, resources on how to decide what + how much needs to be kept - always the hardest part of archives work for me. I hope you continue the POWRR group + add resources to your website as I will be a frequent visitor!
- Thank you very much for your work. This was the most useful workshop I have attended. :)
- I expected 110% heavy "computerized" presentation and I was fearful! But it was much more "prosaic" than I thought and that was outstanding!
- They did a good job in general. I think the "do something" message is good, and the workshop definitely fixes that stuck in indecision problem

Selected comments from POWRR Workshop evaluations for suggestions for improvement:

- I wish it was longer so we could go more in-depth, especially on fleshing out work-flows, as well as more practical hands-on.
- More hands-on activities. I would've been okay with staying for another hour or so.
- Would like to go beyond accessioning. If possible, a sandbox for digital curation tools would be nice
- I can see a full day of policy/planning workshop working well, PLUS self-guided web-based technology demos rather than one half & half workshop. These might cater to different audiences (higher-ups vs. techies)
- I would like for this to be expanded into a 2-day workshop so that we could get more practice using the open source tools
- I would just love to see this workshop expanded. It had such great info and I could see it adding more tools for fixity.
- Could you provide YouTube videos that we can access AFTER the workshop that re-enact the tools step by step?
- The overview of the products were great.....but I would like more time for hands-on. Could this be a 1.5 or 2 day workshop?

Selected comments from the Post-3 Month Follow-Up Survey:

- We are starting a pilot project with the office of sponsored research and other campus constituencies to archive student scholarship.
- We have established a digital preservation working group as a subcommittee of the Preservation Committee and the Digitization Committee. We have reached out to campus organizations to accession their born digital records into the archives by communicating that we have tools for digital preservation and are developing workflows. We are also developing policies, plans and procedures, starting with reading the POWRR white paper as a group, and looking at other institutions' policies and procedures. We have set up a virtual machine to run BitCurator and are in the process of developing and implementing workflows for digital preservation.
- The Archives here have been given new life - plans are afoot to update finding aids and begin digitization of print material.
- I also appreciate having the flash drive of sample collections to work with and the information resources POWRR provided. I feel very emPOWRRed!
- I am retiring this Friday and have been in touch with a number of principals in the organization about this project and possibly returning to consult. The Museum is moving to MS360 and SharePoint and it will take some time to transition to that system. Meanwhile, the team and staff, I'm leaving behind understand how this is so important a priority and there is some action moving (slowly) forward. Thanks so much for all your work and an excellent white paper and follow up program.

C – 2: 3 Month Follow Up Survey

3 month follow up survey questions:

Q2 Which workshop did you attend?

BMRC Roosevelt University, Chicago: April 2015
Albany, NY: October 2015
Deadwood, SD: November 2015
Portland State University, June/July 2015
Little Rock, AR April 2016
MAC Conference Milwaukee April 2016
San Antonio July 2016
St. Louis September 2016
St. Paul, MN June 2016
Atlanta, GA October 2016
Hawaii (Honolulu or Kona) November 2016

Q3 In the three months following the workshop, did you initiate any digital preservation activities at your institution?

Yes
No

IF YES, THEN THE FOLLOWING QUESTIONS WERE ASKED:

Q4 Which activities did you initiate?

Scheduled awareness-raising meeting(s)
Hosted a brownbag presentation
Created or updated a digital content inventory
Analyzed file formats used
Stored/protected digital objects from change/loss
Reviewed current policies
Diagramed current workflows
Investigated tools
Reviewed other institutions' policies
Read the POWRR white paper
Surveyed staff on existing practices

Q4a How helpful were the skills and knowledge you gained at the POWRR workshop in choosing and implementing the above activities?

Not helpful
Helped a little
Helpful
Very helpful
Crucial

IF NO, THEN THE FOLLOWING QUESTIONS WERE ASKED:

Q4 What prevented you from initiating your intended activities?

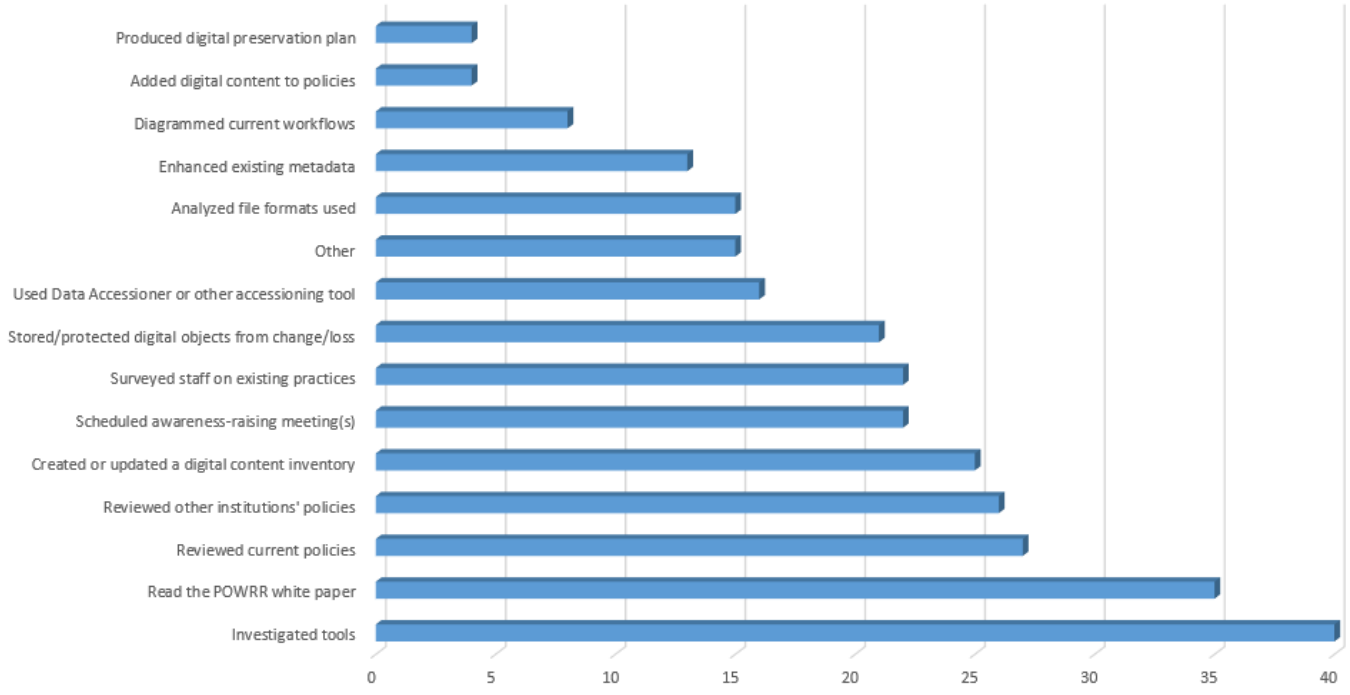
Q5 What challenges or roadblocks did you encounter when you tried to implement your 3-3-3 Action Plan?

Q6 What new opportunities haves arisen as a result of you 3-3-3 Action Plan work?

Q7 - What could the workshop have done differently to better assist you?

Q8 - Thank you for your feedback! Do you have any other comments?

To measure the impact the POWRR workshops had on these practitioners and their institutions, the team surveyed attendees 3 months after their particular workshop. 370 attendees received surveys and 112 responded, for a 30.27% response rate. Of those responding, 81.08% indicated that they had indeed initiated digital preservation activities at their institutions in the 3 months following the workshop. Of these, 71.262% of attendees stated that the skills and knowledge gained during the POWRR workshop were very helpful or crucial in choosing and implementing the digital preservation activities. The graph below details which activities the practitioners had initiated at their institutions.



Appendix D – POWRR Workshop Audience and Organization Impact

Arkansas	**New Jersey**
Arkansas Democrat-Gazette	District of Eastern North America Brothers of the Christian Schools
Butler Center for Arkansas Studies	Seton Hall University
Center for Arkansas History and Culture	**New York**
Mosaic Templars Cultural Center	Albany County Hall of Records
Northeast Arkansas Regional Archives - Arkansas History Commission	American Museum of Natural History
Sequoyah National Research Center	Brooklyn Academy of Music
UALR Center for Arkansas History and Culture	Center for Jewish History
Univ. of Ark. for Medical Sciences	Hamilton College
University of Arkansas	Historic Huguenot Street
University of Arkansas-Fayettevile	Jefferson Community College
California	New York State Archives
Cal Poly Pomona	NYC Dept. of Environmental Protection
The Claremont Colleges	NYPR/WNYC
Connecticut	R.C. Diocese of Brooklyn
Connecticut State Library	Rensselaer Polytechnic Institute
Connecticut College	Siena College
Georgia	Sisters of St. Joseph Brentwood
Atlanta History Center	St. Lawrence University
Atlanta University Center	State University of New York at Buffalo
College Park Historical Society	State University of New York at Fredonia
Emory University	SUNY Cortland
Federal Reserve Bank of Atlanta	Syracuse University
Museum of Contemporary Art of Georgia (MOCA GA)	The Winthrop Group
Society of Mary US Province	Union College Schaffer Library
The Breman Museum	University at Albany SUNY
The Westminster Schools	**North Dakota**
Hawaii	State Historical Society of North Dakota
Ulu'ulu Archive	**Ohio**
Bishop Museum Library & Archives	Federal Reserve Bank of Cleveland
Congregation of the Sacred Hearts U.S. Province	Oberlin College
Consuelo Foundation	Ohio Wesleyan University
Daughters of Hawai`i	The College of Wooster
DOE - Ke Kula 'o 'Ehunuikaimalino	Toledo Lucas County Public Library
Hawai`i Plantation Musueum	**Oklahoma**
Hawaii Preparatory Academy	Oklahoma Department of Libraries
Hawaii State Archives	**Oregon**
Hawaii Volcanoes National Park	Culture & Heritage Warm Springs Oregon
Hawaiian Electric Company	DuraSpace
Iolani School	Gay & Lesbian Archives of the Pacific Northwest
Kapiolani Community College	George Fox University

Kona Historical Society	Kaiser Permanente
Leeward Community College	Linfield College
NOAA NMFS Pacific Islands Fisheries Science Center Library	Metro
Pacific Aviation Museum Pearl Harbor	Oregon Health & Science University
Pacific Tsunami Museum	Oregon Historical Society
Pulama Ia Kona Heritage Preservation Council	Oregon State Archives
Research Corporation of the University of Hawaii	Oregon State University
Retired Judiciary History Center	Oregon State University Libraries & Press
The Center for Korean Studies	Pacific University
U.S. Army Museum of Hawaii	Portland State University
UHM Hamilton - Pacific Collection	Reed College
University of Hawaii at Manoa	Tamstslikt Cultural Institute
University of Hawaii Library	**Rhode Island**
US Army Garrison Hawaii DPW-ENV Cultural Resources	Brown University
Idaho	**South Carolina**
Basque Museum and Cultural Center	Coastal Carolina University
Nez Perce Tribe	Furman University
Illinois	**South Dakota**
Black Metropolis Research Consortium	Black Hills Mining Museum
Bronzeville Historical Society	City of Deadwood
Center for Black Music Research at Columbia College Chicago	Crazy Horse Memorial Foundation
Chicago History Museum	Grace Balloch Memorial Library
Chicago Public Library/Harsh RC	Hilton M. Briggs Library South Dakota State University
City of Chicago	Oglala Lakota College
Columbia College Chicago	P. A. Hearst Free Library Lead SD
CPL's Harsh Archival Processing Project	Rapid City Public Library
North Park University	South Dakota State Archives
Roosevelt University	South Dakota State Historical Society
Sousa Archives and Center for American Music	South Dakota State University Archives & Special Collections
University of Illinois at Chicago (BMRC member institution)	Unified Judicial System
The Urbana Free Library	University of South Dakota
Iowa	**Texas**
Buena Vista University Library	AT&T Archives and History Center
Coe College	Austin College
Dordt College	Austin Presbyterian Theological Seminary
Iowa State University	Baylor University
Kansas	Benson Latin American Collection University of Texas Libraries

Kansas Historical Society	Bexar County Sheriff's Office
Louisiana	Dallas Holocaust Museum
Loyola University New Orleans	Dallas Museum of Art
Maryland	East Foundation
Baltimore Museum of Art	Esperanza Peace & Justice Center
Massachusets	LLILAS Benson Latin American Studies and Collections UT-Austin
MA SHRAB	McLennan Community College
Northeast Document Conservation Center	McNay Art Museum
Minnesota	National Archives of the Marianist Province of the United States
American Craft Council	Our Lady of the Lake University -Center for Mexican American Studies
Bakken Museum	Recovering the U.S. Hispanic Heritage Project
Carleton College	Southern Methodist University
Carleton College	Southwestern University
College of Saint Benedict/Saint John's University	Texas A&M International University
Congregation of St. Agnes	Texas A&M University Corpus Christi
Evangelical Free Church of America	Texas A&M University-Commerce
Federal Reserve Bank of Minneapolis Research Library	Texas State University
Hennepin County Library	The Texas Collection Baylor University
Macalester College	The University of Texas at Austin
Minnesota Historical Society	Trinity University
Northwestern Health Sciences University	University of Houston Libraries
Red Wing Shoe Company	University of Texas at Austin Benson Latin American Collections Archive of the Indigenous Languages of Latin America
Somali Documentary Project	University of Texas Rio Grande Valley
St. Catherine University	Wittliff Collections Texas State University
University of Minnesota	**Vermont**
University of Northwestern	Middlebury College
University of St. Thomas	**Virginia**
YMCA Archives University of Minnesota	U.S. Geological Survey
Missouri	**Washington**
Columbia College	Kalispel Tribe Of Indians
Federal Reserve Bank of Kansas City	Northwest Indian Fisheries Commission
Federal Reserve Bank of St. Louis	University of Puget Sound
Fontbonne University	University of Washington
Jesuit Archives: Central United States	Washington State University Libraries
Kirkwood Public Library	Western Washington University
Lincoln University	**Washington, D.C.**
Missouri Botanical Garden	Georgetown University
Missouri State Archives	**West Virginia**

Missouri State Library	Shepherd University
Missouri State University	**Wisconsin**
Mizzou Digitization	School of Library and Information Studies University of Wisconsin-Madison
Reynolds Journalism Institute / MU Libraries	University of Wisconsin-Milwaukee
Rockhurst University	University of Wisconsin-Stout
Saint Louis University	
Special Collections & Archives Southeast Missouri State University	
St. Louis Public Library	
University City Public Library	
University of Missouri	
University of Missouri--Columbia	
USA Central and Southern Province Society of Jesus	
Washington University in St. Louis	
Wichita State University	

Appendix E – Grant Products

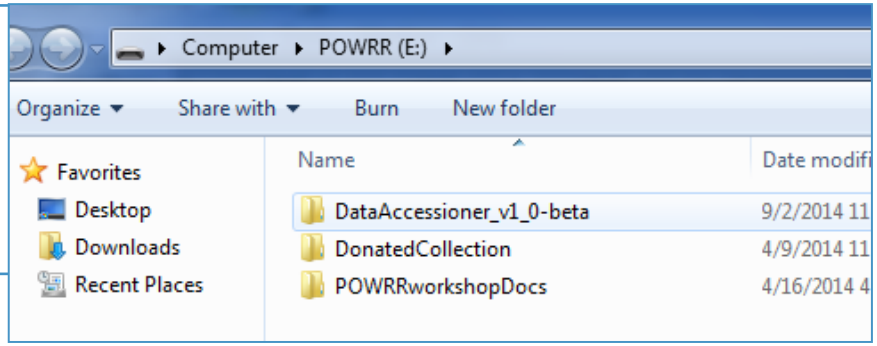
E – 1: Data Accessioner Step-By-Step Guide

1

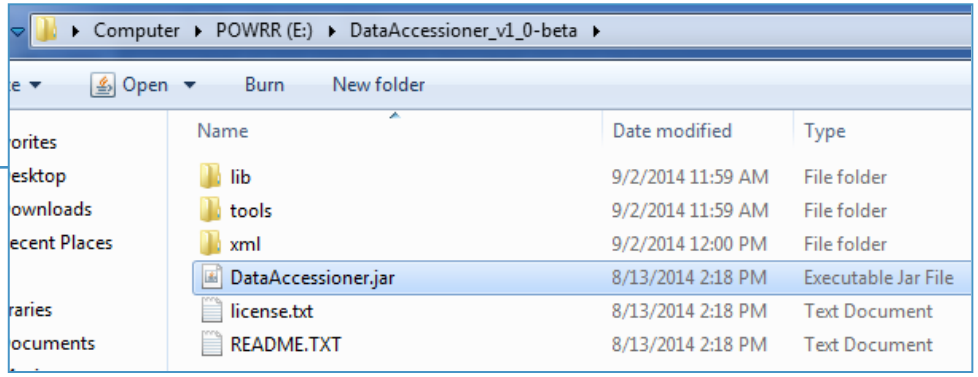
DataAccessioner Step-by-step guide

1. Insert flash drive and open the explorer window

Data Accessioner
Donated Collection Folder
Digital Collections Inventory file
Other stuff…..



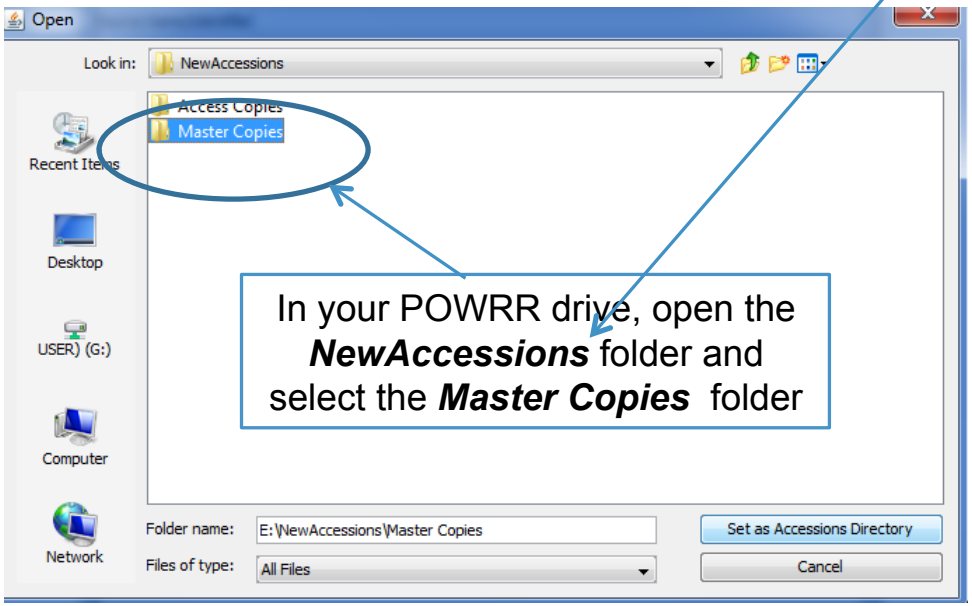
2. Navigate to DataAccessioner.jar and open it



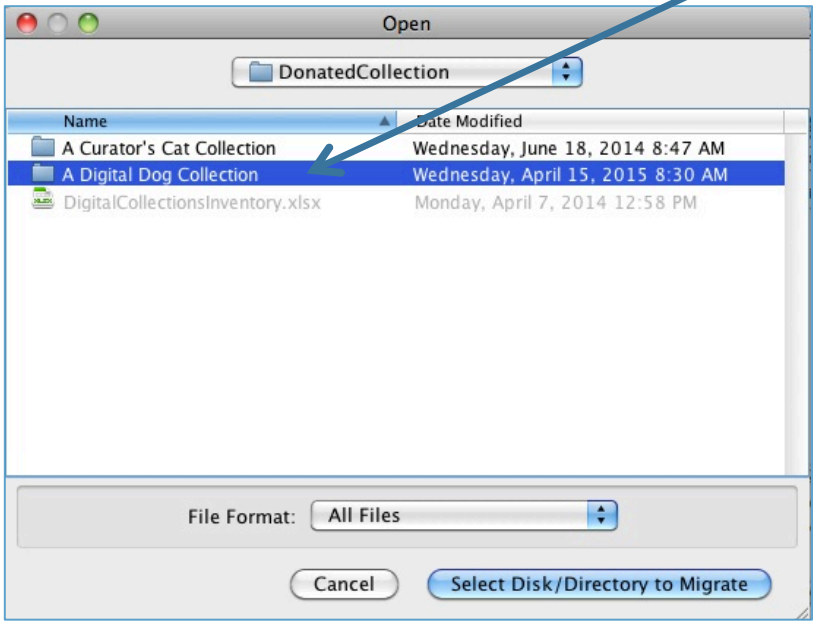
3.) Create your accession directory:

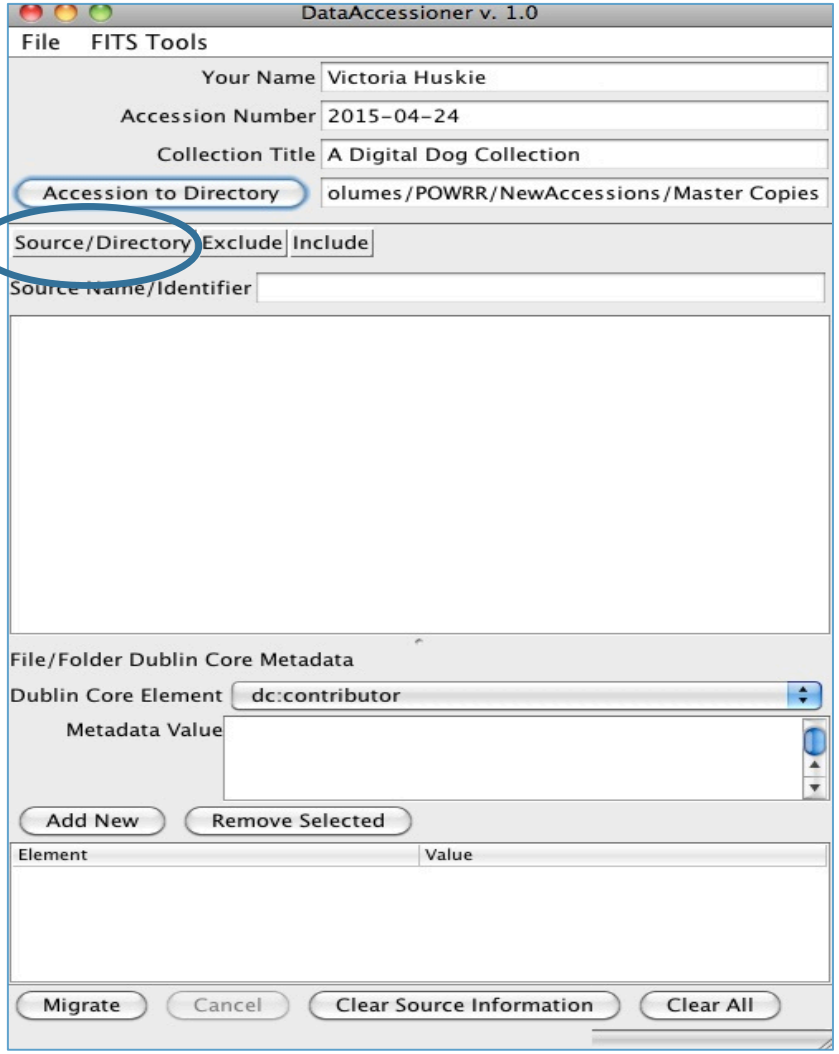
Where you want the collection to go live

Preferably a stable media like your network drive



4.) Select the collection you are accessioning



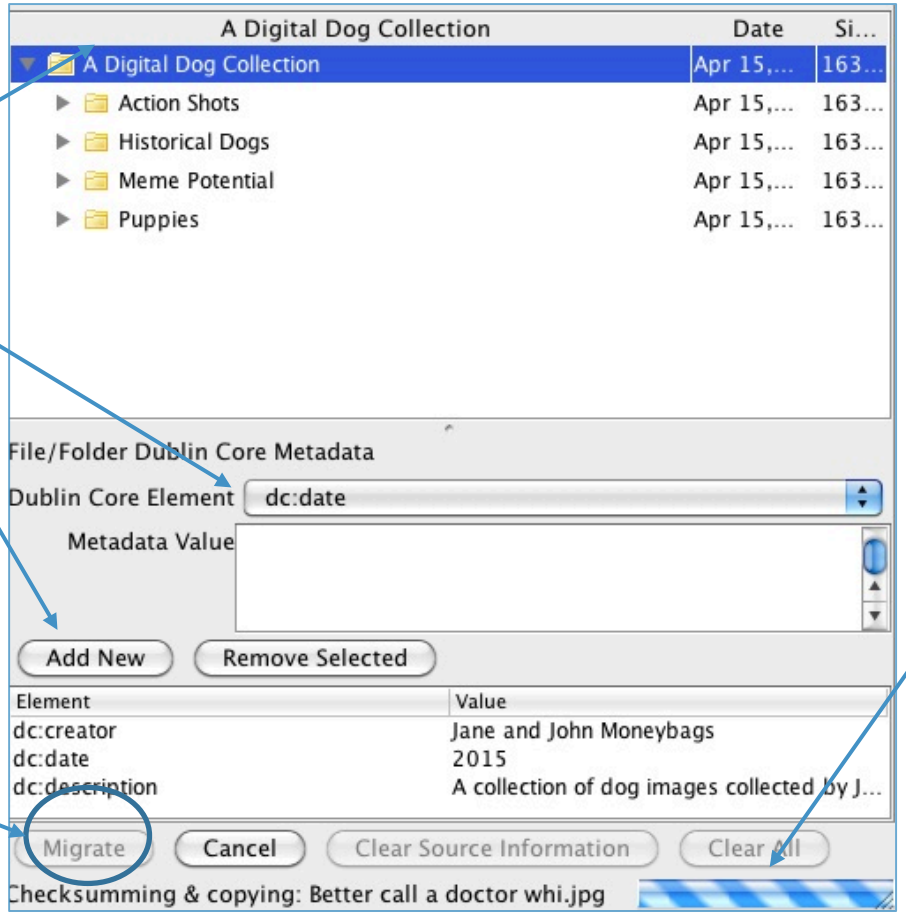


5.) Populate descriptive metadata and migrate your collection

Select which element you want to add metadata to

Add the Dublin Core Metadata goes here

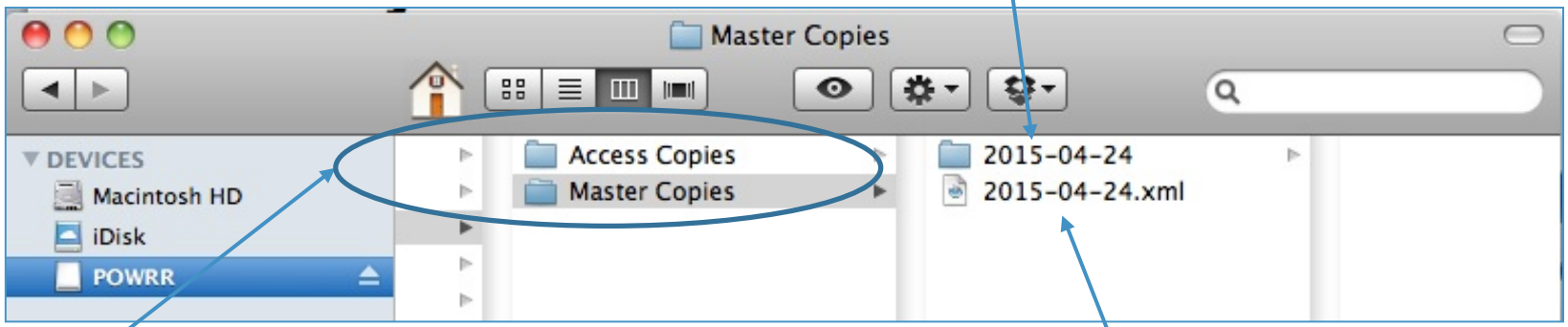
Hit the “Migrate” button to begin the migration process.



You will be able to see the progress bar move at the bottom.

6.) What did you create?

New copy of your migrated collection.

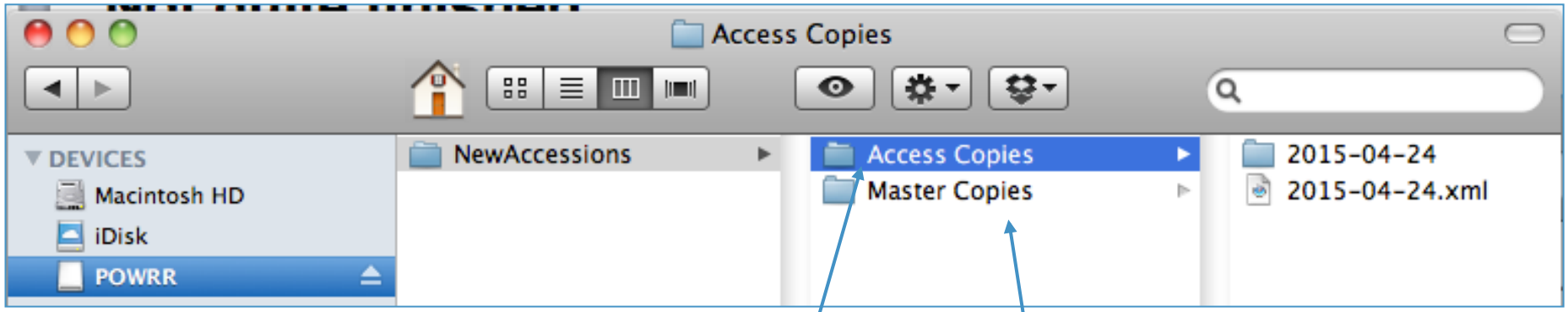


Located in the Directory that you specified

XML Metadata file

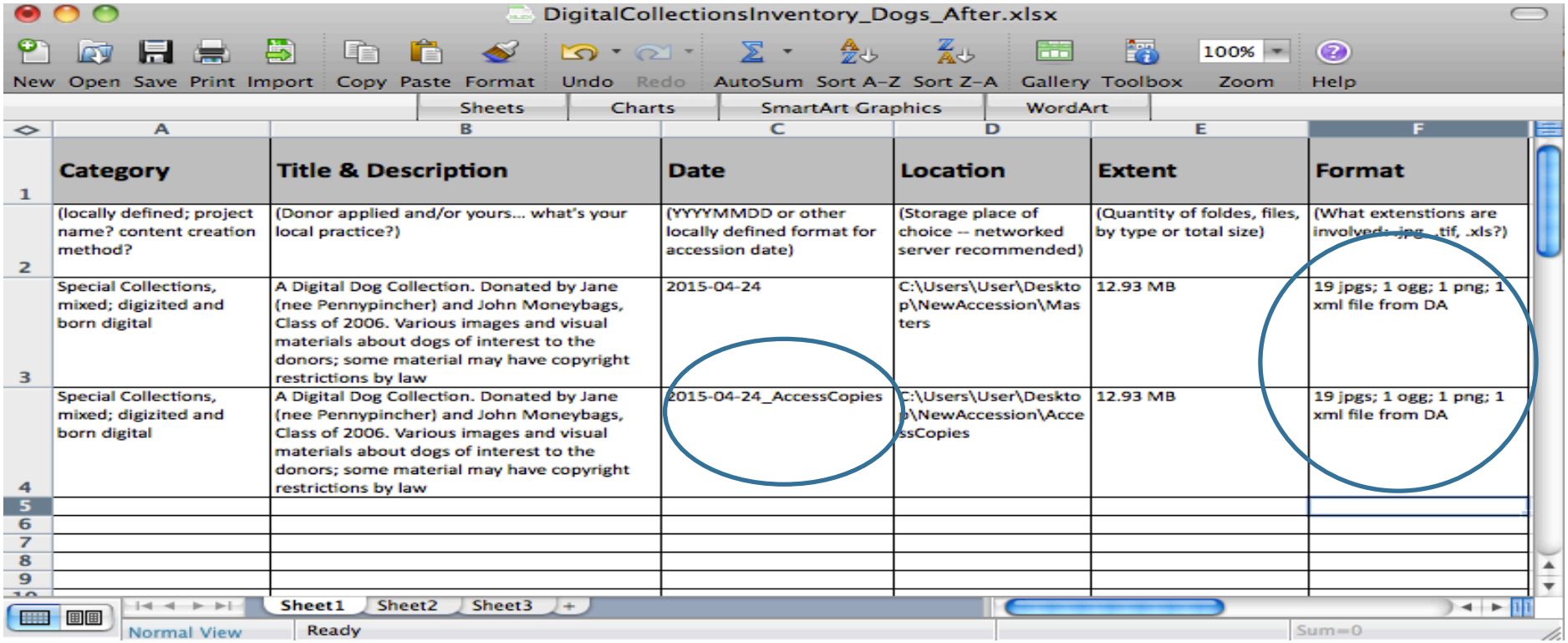
You. Are. AWESOME.

7.) Make copy of Master.



Make a copy of the Master, place in the Access Copies folder, and don't touch the Master Copy again unless a new derivative is needed or until you move it into a preservation system!!

8.) And finally…update your Inventory to reflect the location of the Access Copy. Note addition of XML file after processing.



DigitalCollectionsInventory_Dogs_After.xlsx

New Open Save Print Import Copy Paste Format Undo Redo AutoSum Sort A–Z Sort Z–A Gallery Toolbox 100% Zoom Help

Sheets Charts SmartArt Graphics WordArt

	A	B	C	D	E	F
1	**Category**	**Title & Description**	**Date**	**Location**	**Extent**	**Format**
2	(locally defined; project name? content creation method?	(Donor applied and/or yours… what's your local practice?)	(YYYYMMDD or other locally defined format for accession date)	(Storage place of choice -- networked server recommended)	(Quantity of foldes, files, by type or total size)	(What extenstions are involved: .jpg, .tif, .xls?)
3	Special Collections, mixed; digizited and born digital	A Digital Dog Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Various images and visual materials about dogs of interest to the donors; some material may have copyright restrictions by law	2015-04-24	C:\Users\User\Desktop\NewAccession\Masters	12.93 MB	19 jpgs; 1 ogg; 1 png; 1 xml file from DA
4	Special Collections, mixed; digizited and born digital	A Digital Dog Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Various images and visual materials about dogs of interest to the donors; some material may have copyright restrictions by law	2015-04-24_AccessCopies	C:\Users\User\Desktop\NewAccession\AccessCopies	12.93 MB	19 jpgs; 1 ogg; 1 png; 1 xml file from DA
5						
6						
7						
8						
9						

Sheet1 Sheet2 Sheet3

Normal View Ready Sum=0

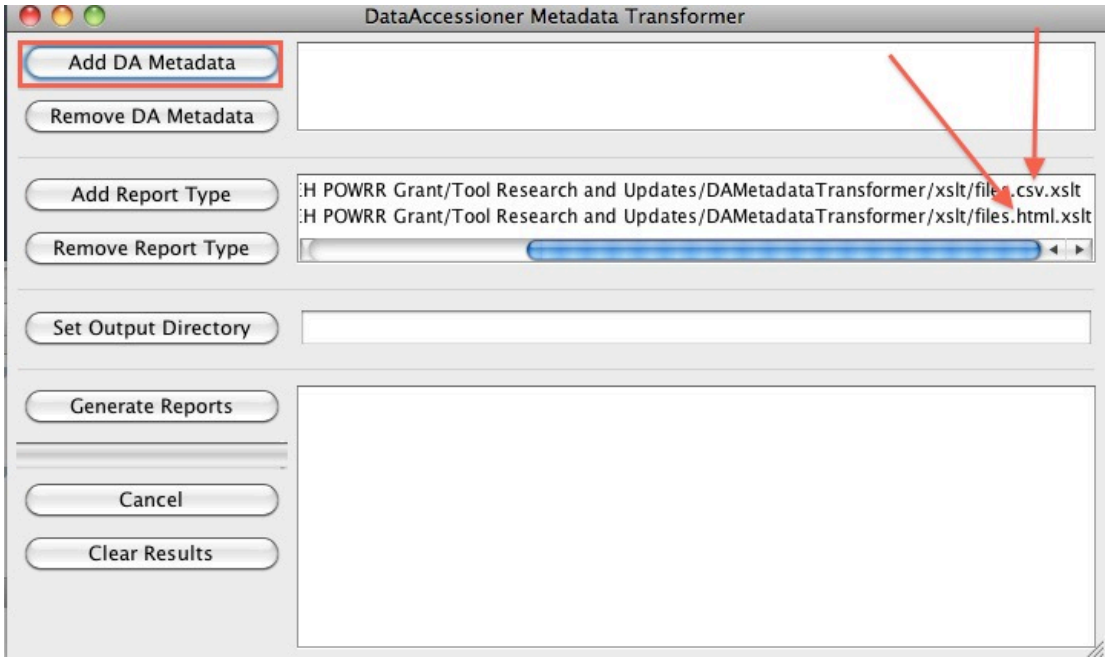
E – 2: Data Accessioner Metadata Transformer Guide

Data Accessioner - Metadata Transformer

A guide created by the Digital POWRR Project

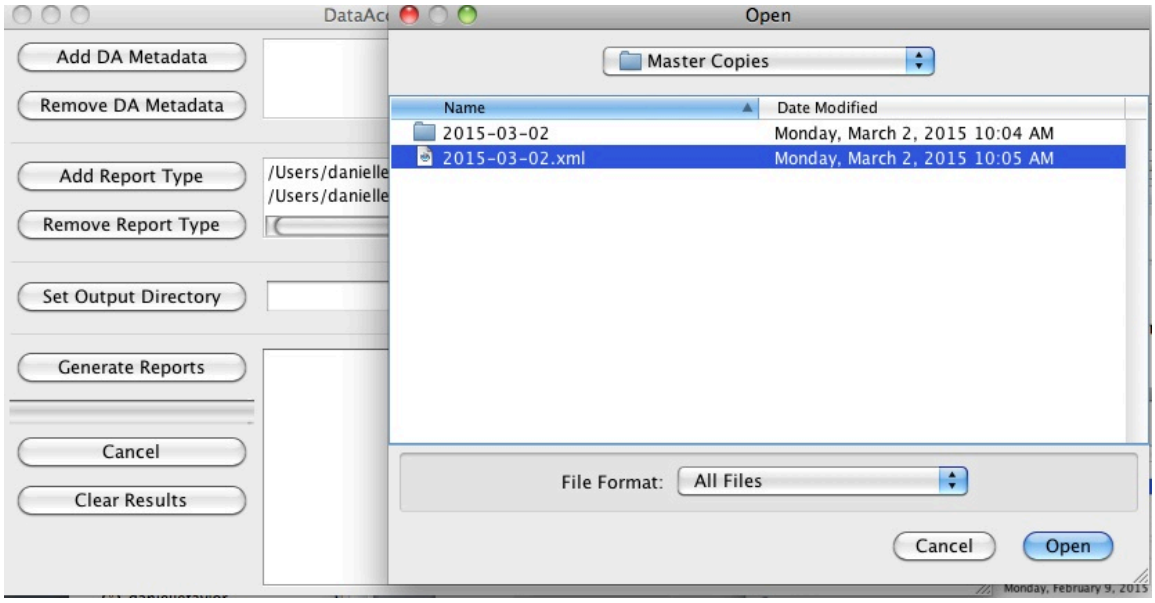
This is the home screen of the Data Accessioner - Metadata Transformer tool. You can use this tool to create a report from the XML. The tool will generate a .CSV and HTML file that is easier to read than the raw XML.

To get started, click on the "Add DA Metadata" button.

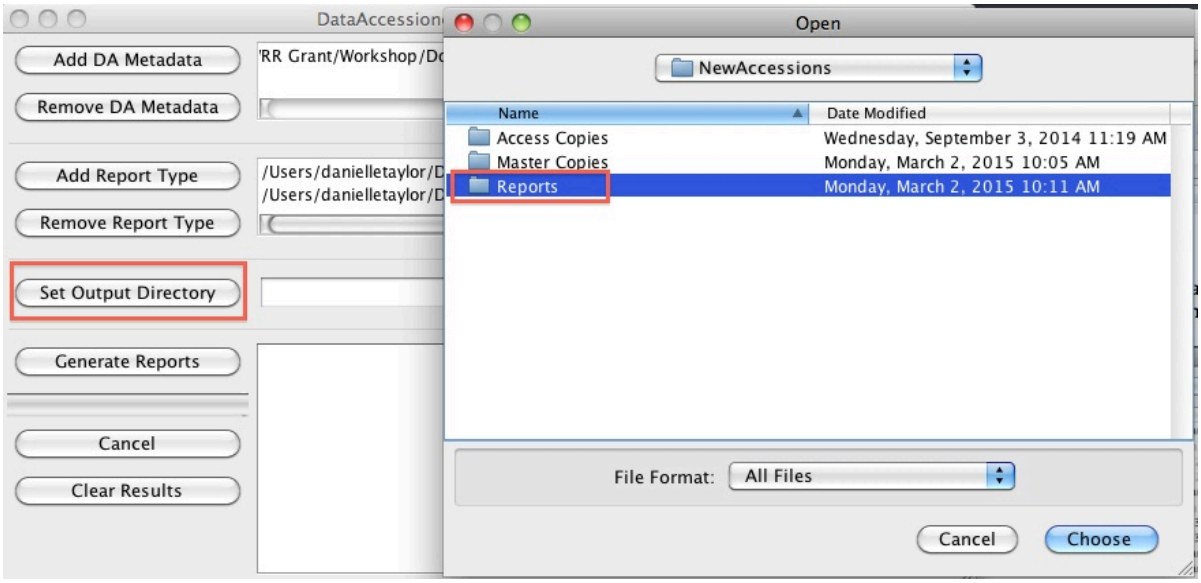


Arrows indicate the file types for the report

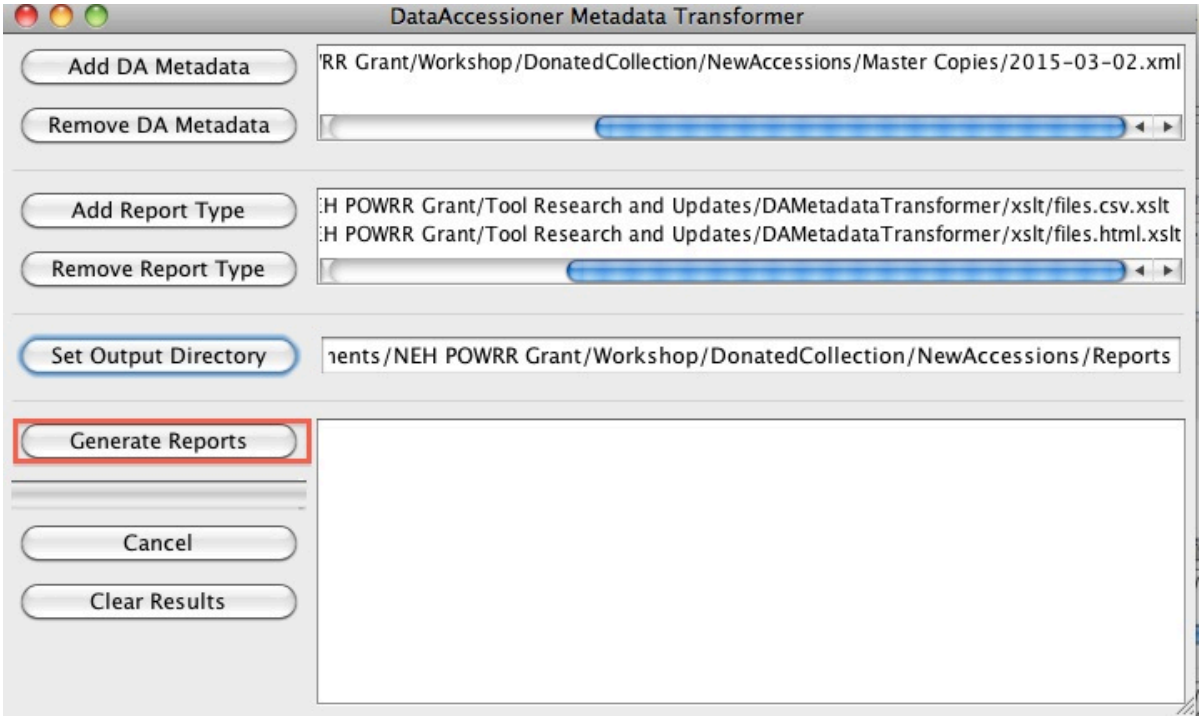
Click on the XML file that was generated from Data Accessioner (after you ran the accessioning tool on your files)



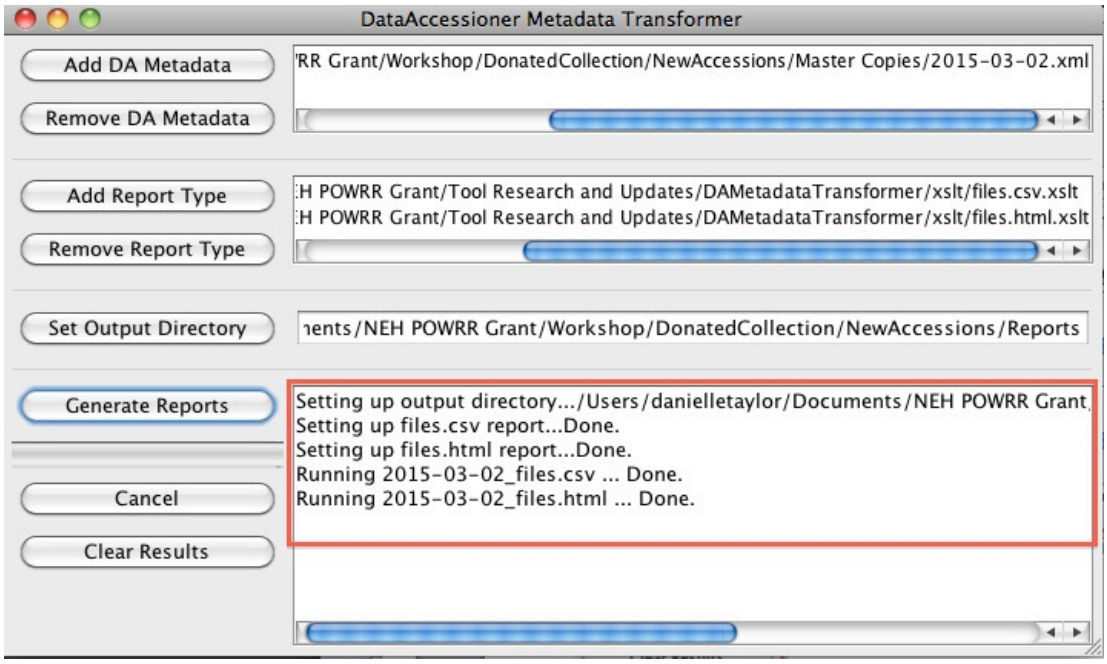
Next, choose a folder where the new reports are going to live. In this case, a separate folder called "Reports" is where the .CSV and HTML have been chosen to go after they are generated.



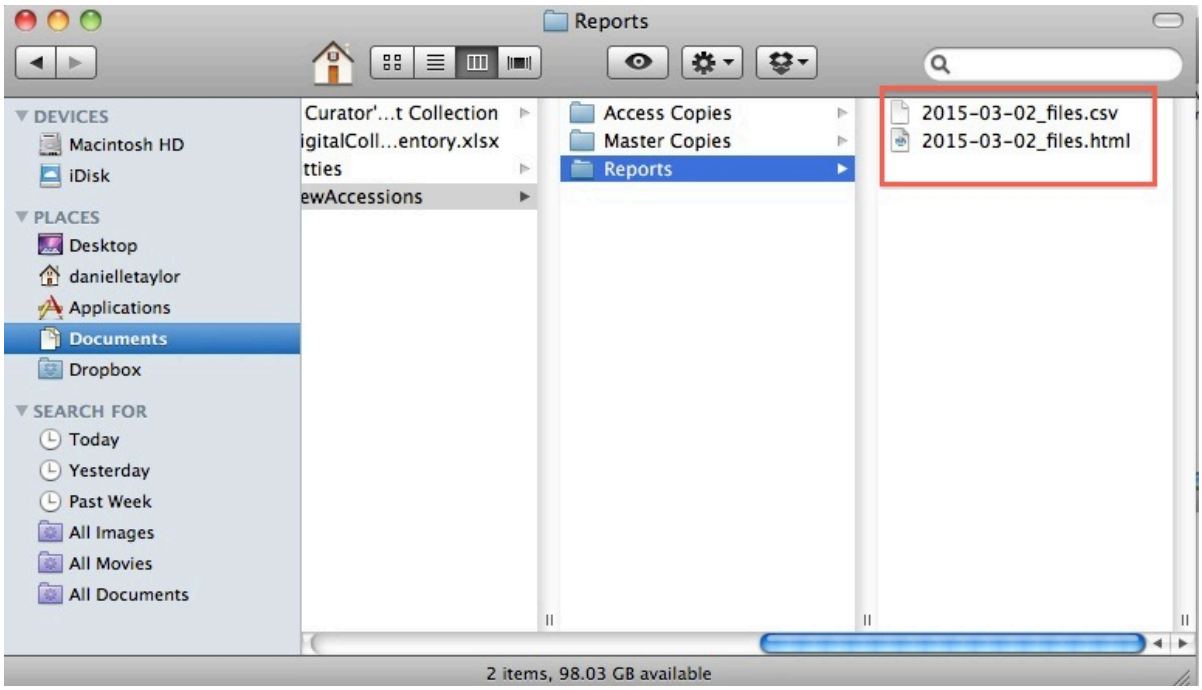
Click on the "Generate Reports" tab.



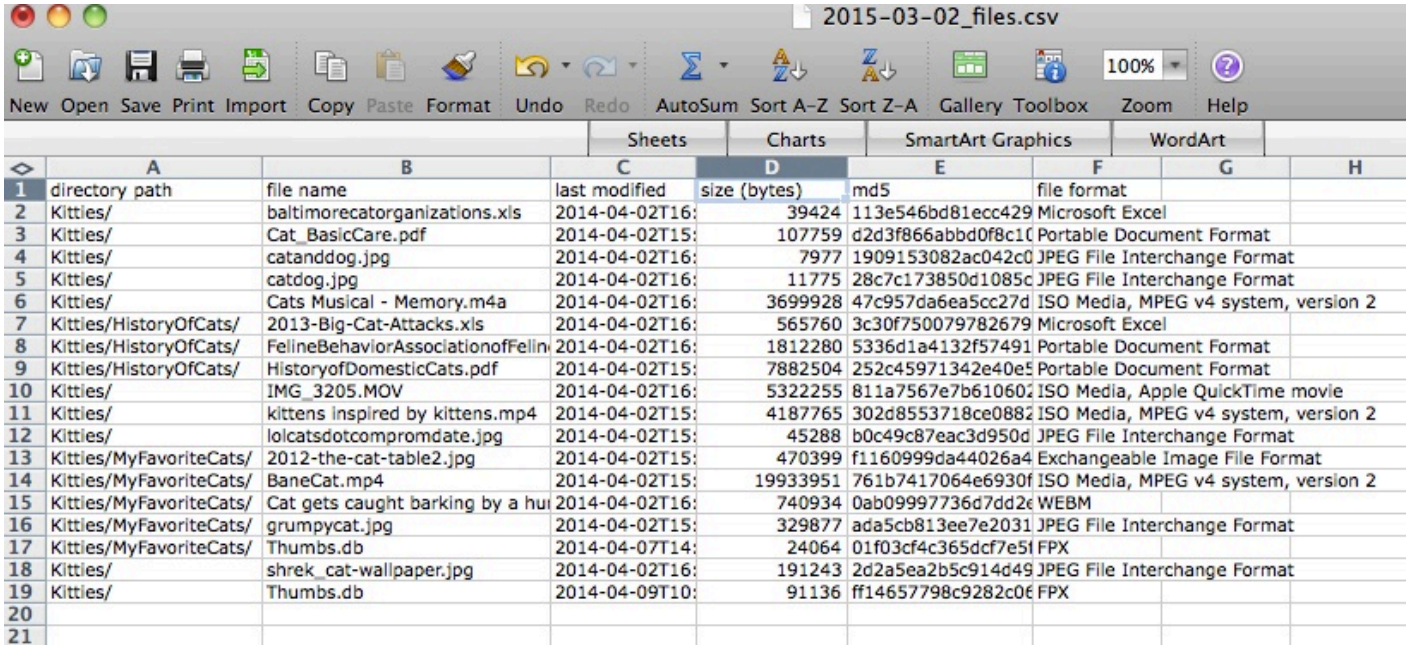
Once the reports have been generated, the Data Accessioner: Transformer Tool will show the results.



To view the reports, go to the folder chosen for the output directory (ie where you wanted the reports to live). In this case, the output directory chosen was a folder called “Reports.” You can now see that there are two types of files: a CSV and an HTML file.



This is what the report looks like in the .CSV format.



2015-03-02_files.csv

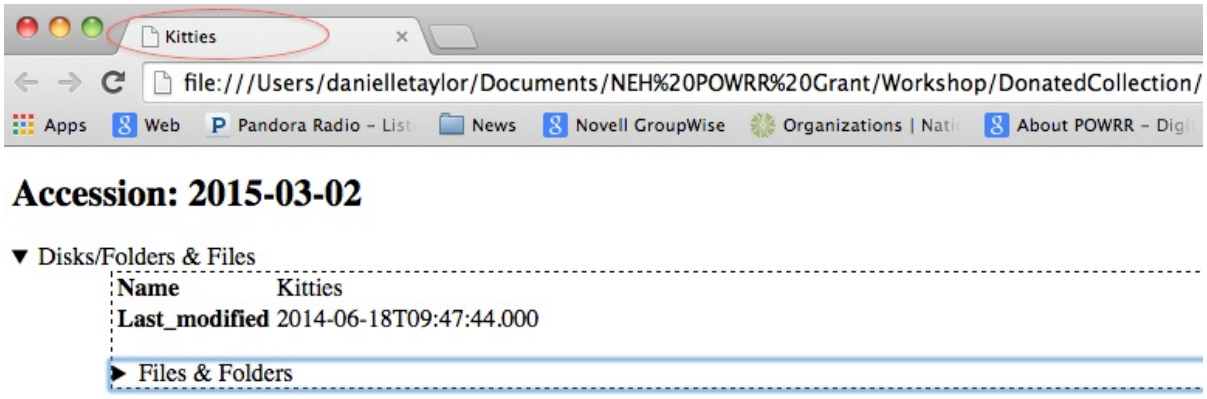
New Open Save Print Import Copy Paste Format Undo Redo AutoSum Sort A-Z Sort Z-A Gallery Toolbox 100% Zoom Help

Sheets Charts SmartArt Graphics WordArt

	A	B	C	D	E	F	G	H
1	directory path	file name	last modified	size (bytes)	md5	file format		
2	Kitties/	baltimorecatorganizations.xls	2014-04-02T16:	39424	113e546bd81ecc429	Microsoft Excel		
3	Kitties/	Cat_BasicCare.pdf	2014-04-02T15:	107759	d2d3f866abbd0f8c1(	Portable Document Format		
4	Kitties/	catanddog.jpg	2014-04-02T16:	7977	1909153082ac042c0	JPEG File Interchange Format		
5	Kitties/	catdog.jpg	2014-04-02T16:	11775	28c7c173850d1085c	JPEG File Interchange Format		
6	Kitties/	Cats Musical - Memory.m4a	2014-04-02T16:	3699928	47c957da6ea5cc27d	ISO Media, MPEG v4 system, version 2		
7	Kitties/HistoryOfCats/	2013-Big-Cat-Attacks.xls	2014-04-02T16:	565760	3c30f750079782679	Microsoft Excel		
8	Kitties/HistoryOfCats/	FelineBehaviorAssociationofFelin	2014-04-02T16:	1812280	5336d1a4132f57491	Portable Document Format		
9	Kitties/HistoryOfCats/	HistoryofDomesticCats.pdf	2014-04-02T15:	7882504	252c45971342e40e5	Portable Document Format		
10	Kitties/	IMG_3205.MOV	2014-04-02T16:	5322255	811a7567e7b61060	ISO Media, Apple QuickTime movie		
11	Kitties/	kittens inspired by kittens.mp4	2014-04-02T15:	4187765	302d8553718ce088	ISO Media, MPEG v4 system, version 2		
12	Kitties/	lolcatsdotcompromdate.jpg	2014-04-02T15:	45288	b0c49c87eac3d950d	JPEG File Interchange Format		
13	Kitties/MyFavoriteCats/	2012-the-cat-table2.jpg	2014-04-02T15:	470399	f1160999da44026a4	Exchangeable Image File Format		
14	Kitties/MyFavoriteCats/	BaneCat.mp4	2014-04-02T15:	19933951	761b7417064e6930f	ISO Media, MPEG v4 system, version 2		
15	Kitties/MyFavoriteCats/	Cat gets caught barking by a hu	2014-04-02T16:	740934	0ab09997736d7dd2(	WEBM		
16	Kitties/MyFavoriteCats/	grumpycat.jpg	2014-04-02T15:	329877	ada5cb813ee7e2031	JPEG File Interchange Format		
17	Kitties/MyFavoriteCats/	Thumbs.db	2014-04-07T14:	24064	01f03cf4c365dcf7e5	FPX		
18	Kitties/	shrek_cat-wallpaper.jpg	2014-04-02T16:	191243	2d2a5ea2b5c914d49	JPEG File Interchange Format		
19	Kitties/	Thumbs.db	2014-04-09T10:	91136	ff14657798c9282c0(	FPX		
20								
21								

You can also view the report in an HTML file. The HTML version has drop-down arrows so you can view more or less. It follows the hierarchical structure of the original folders and files chosen to accession in Data Accessioner.

NOTE: expand/collapse arrows currently only work in Chrome.



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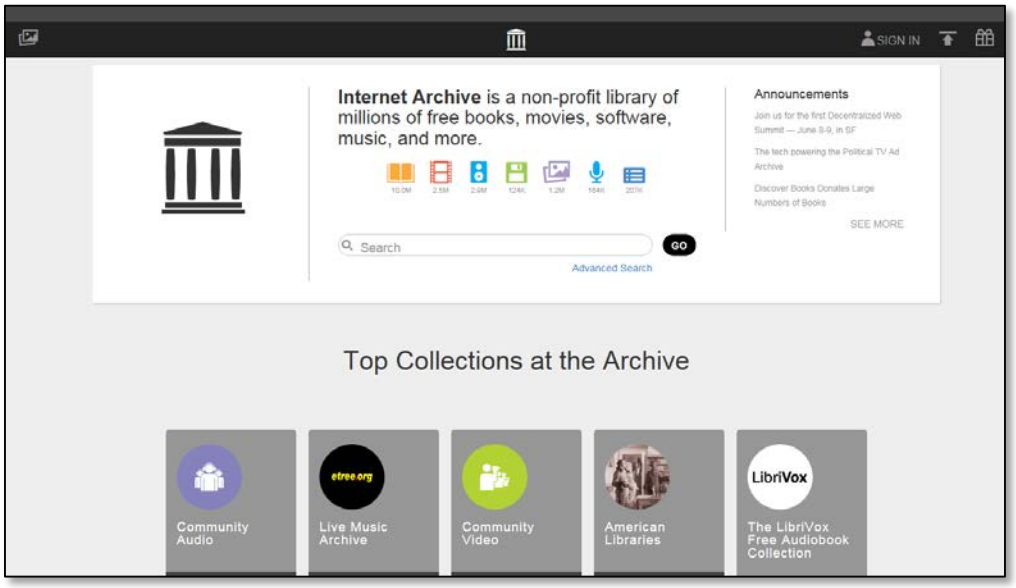

Internet Archive is a way to archive public domain materials free of charge. It is important to have multiple backups of digital files in case of unexpected loss of originals.

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A guide created by the Digital POWRR Project

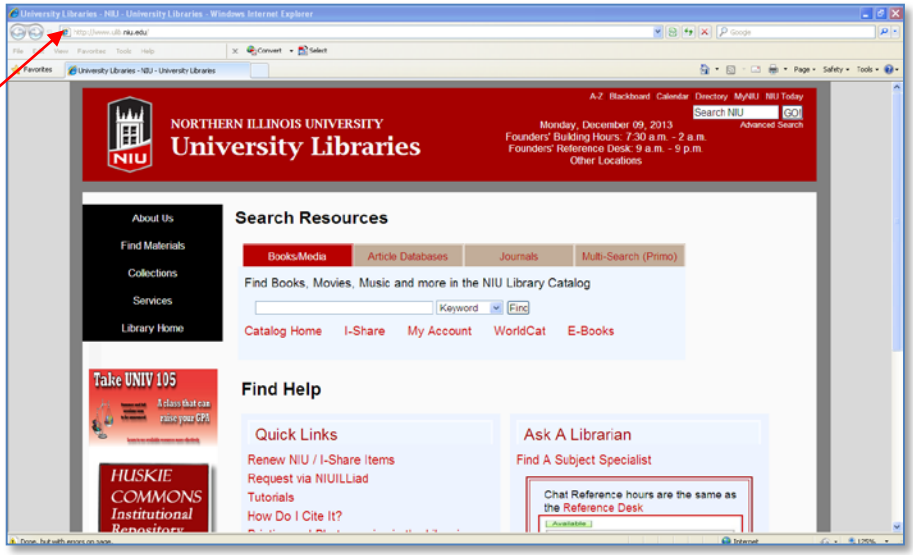
Navigating to the Website

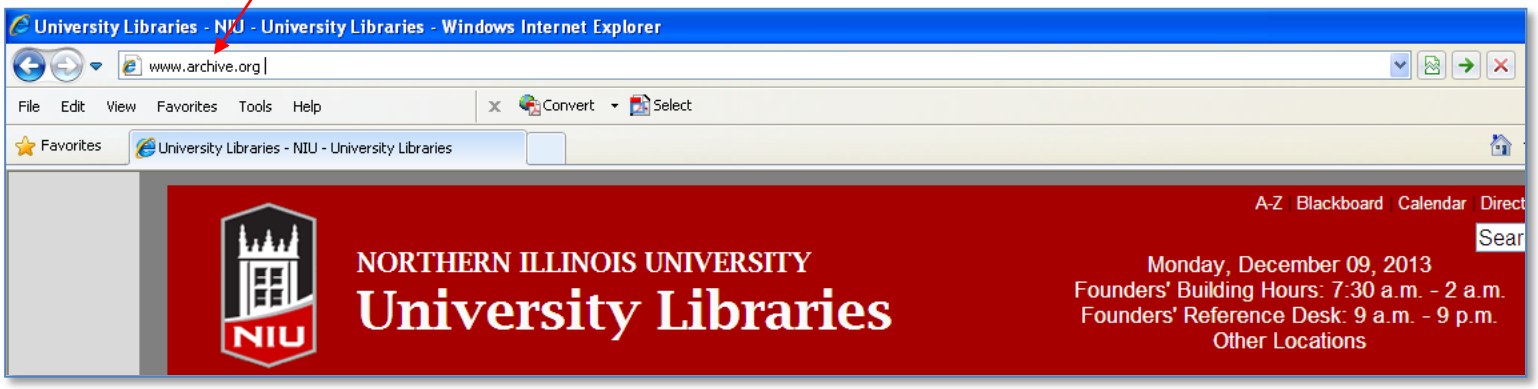
Open your broswer (Internet Explorer, Google Chrome, or Mozilla Firefox are all options)

Click on the URL bar

Type www.archive.org

Then hit the enter key





Using Internet Archive:

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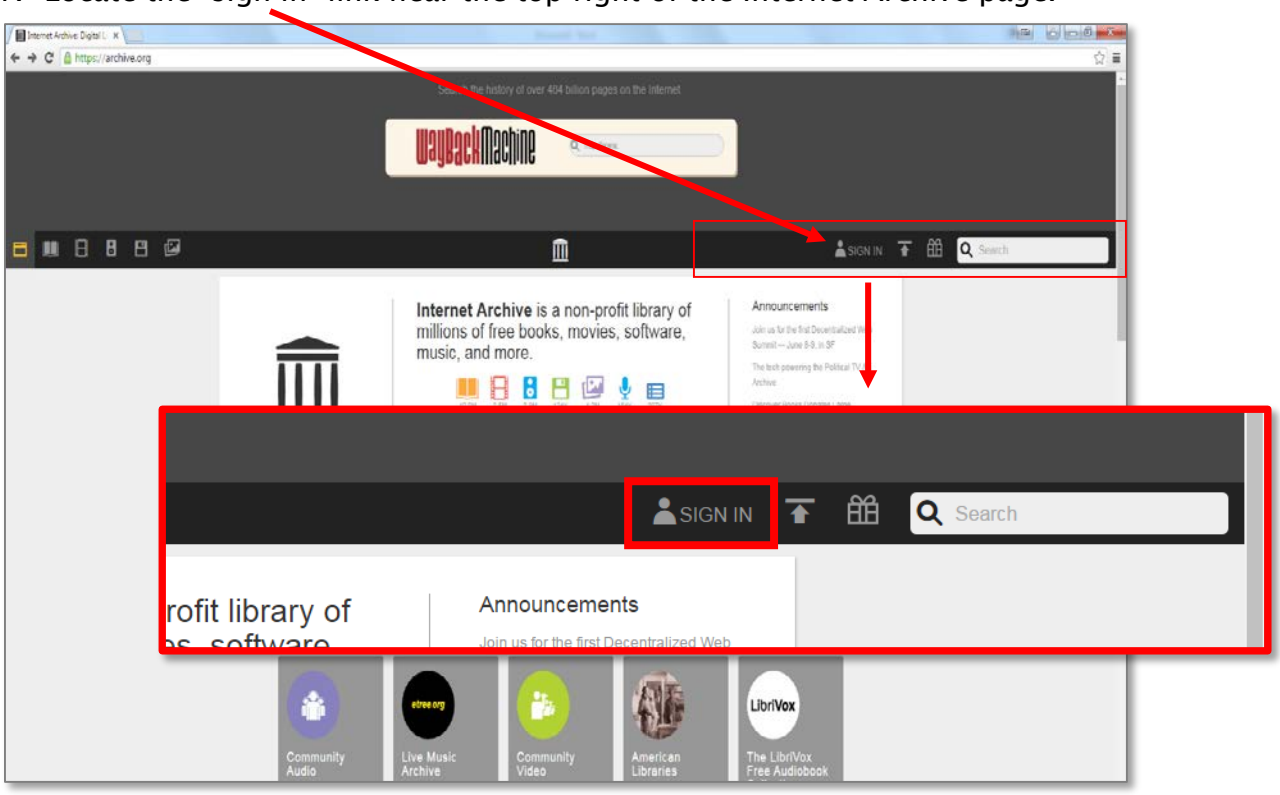
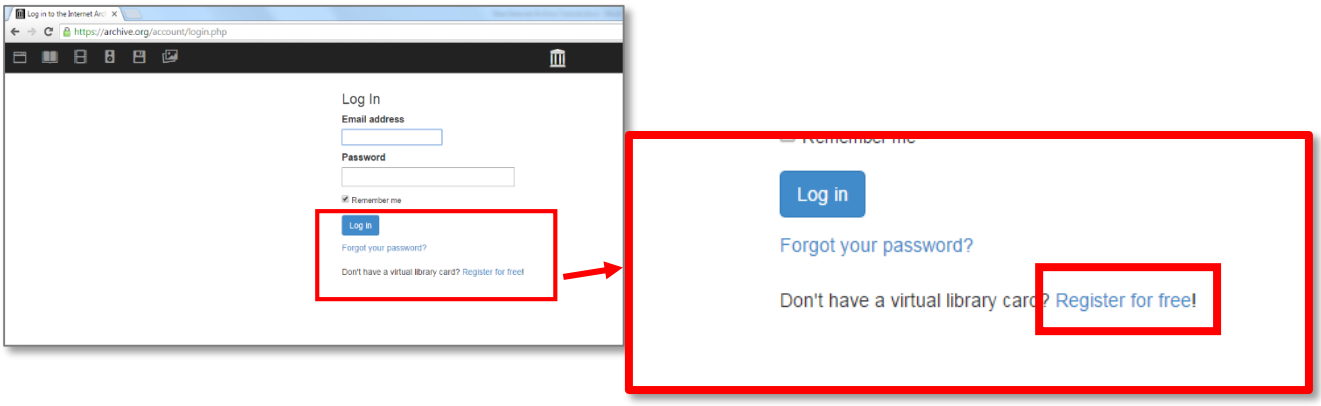
Creating an Account

It is best to create a user account for Internet Archive in order to make the best of all offered features before uploading any digital objects to the website.

1. Locate the "sign in" link near the top right of the Internet Archive page.



2. Click on the "sign in" link, then locate the "register for free" link.



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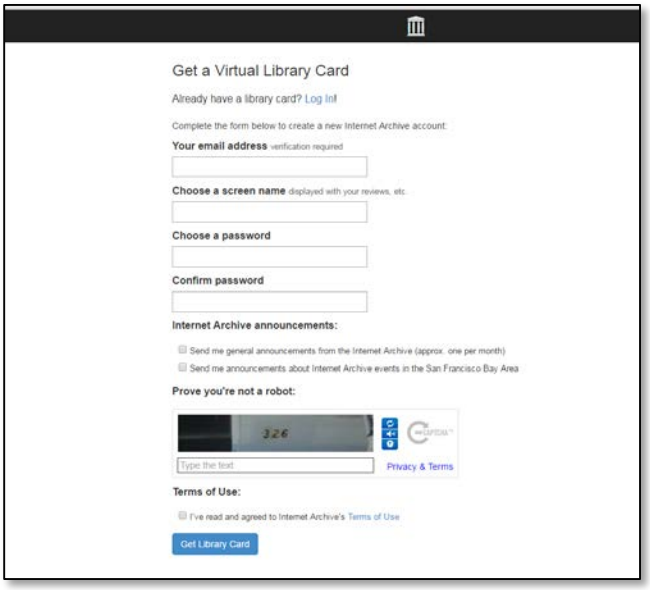
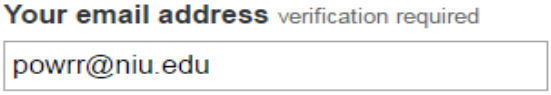
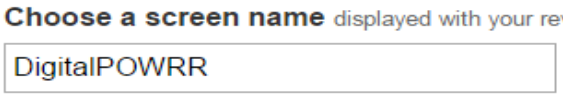
3. Click on the "register for free" link and fill in the required information.



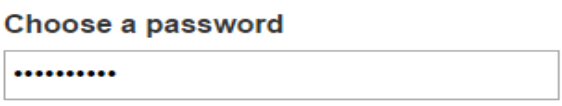
a. Add your e-mail address. It must be an e-mail address that you have access to check so you can confirm the address.



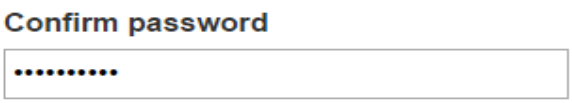
b. Choose a screen name. This will appear if you decide to write reviews or have other interactions publicly on Internet Archive.



c. Create a strong password, including a symbol such as !@*#$%^ will greatly strengthen your password.



d. Re-type the same password from step C into the confirm password field.



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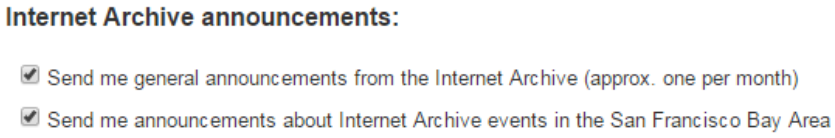
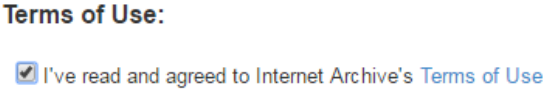
e. Decide if you would like to receive e-mails from Internet Archive, if so select the boxes. If not, feel free to leave them blank.

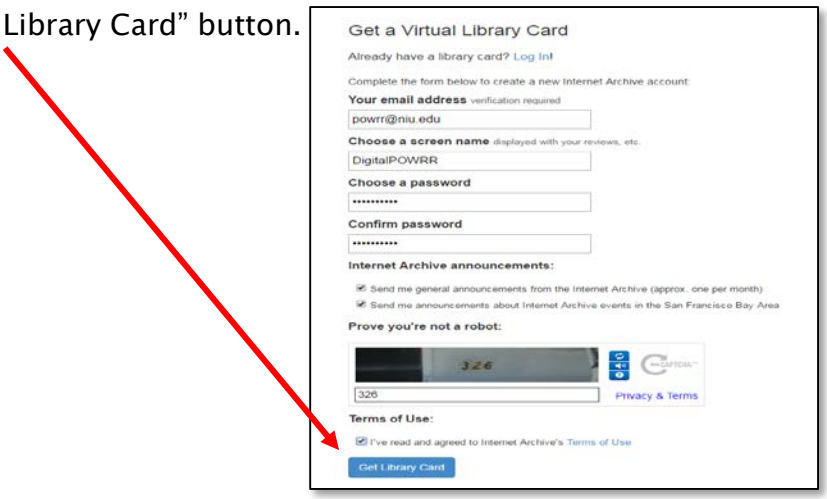


f. Complete the CAPTCHA

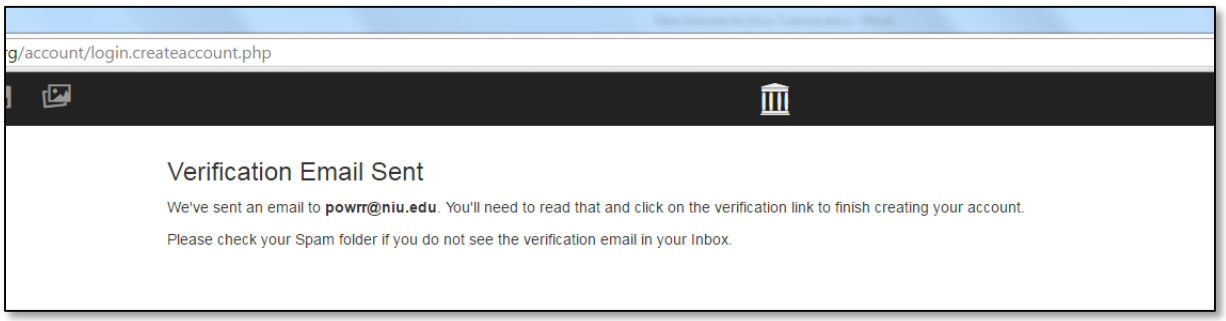
g. Read the terms of use and check the agreement box.



h. Select the "Get Library Card" button.



4. A confirmation screen should appear in your browser.



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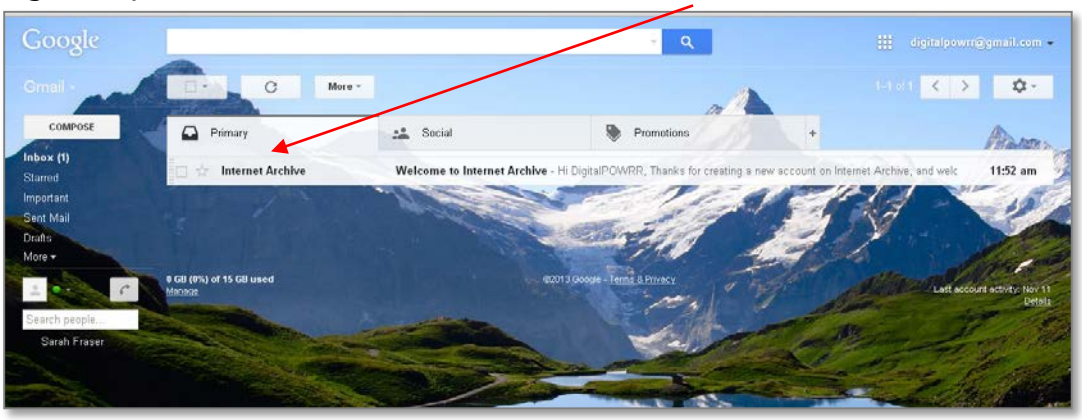
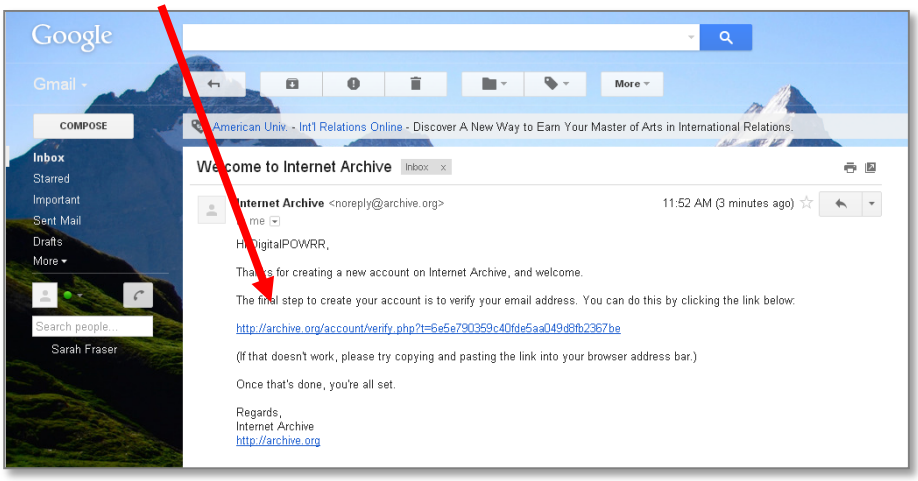
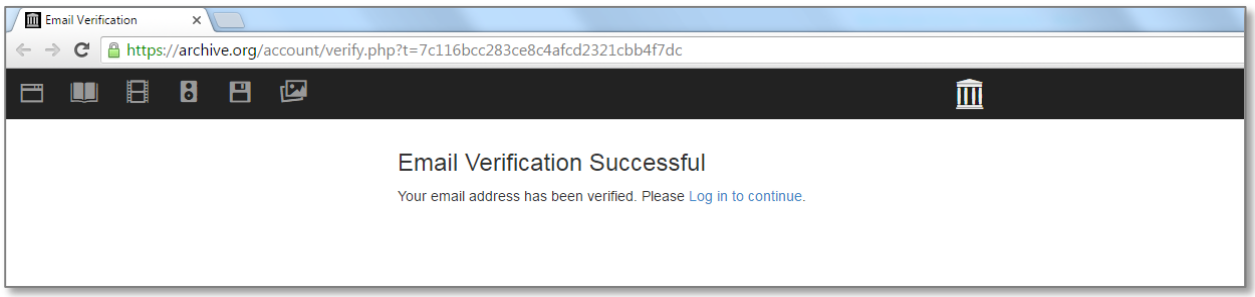
5. Log in to your e-mail account to read the verification e-mail.



6. Click the link given in the e-mail.



7. After a few moments you should receive "Verification Successful" screen.



Logging into Internet Archive

If you have not yet created an account please follow those steps first.

1. Navigate to the Internet Archive Homepage

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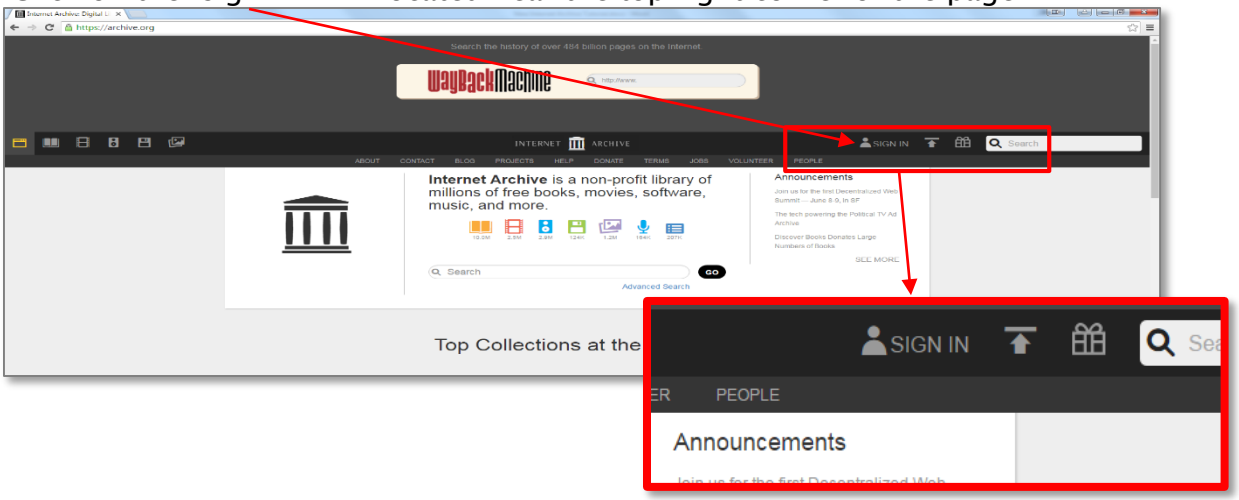
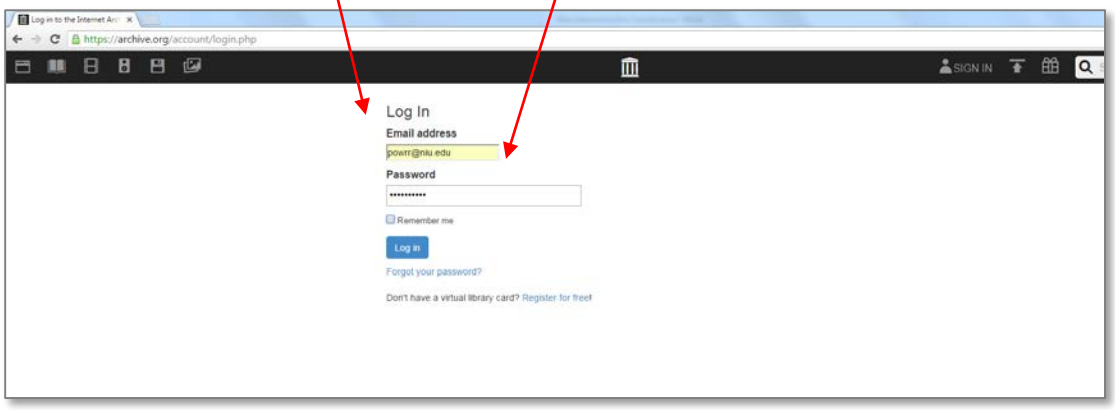
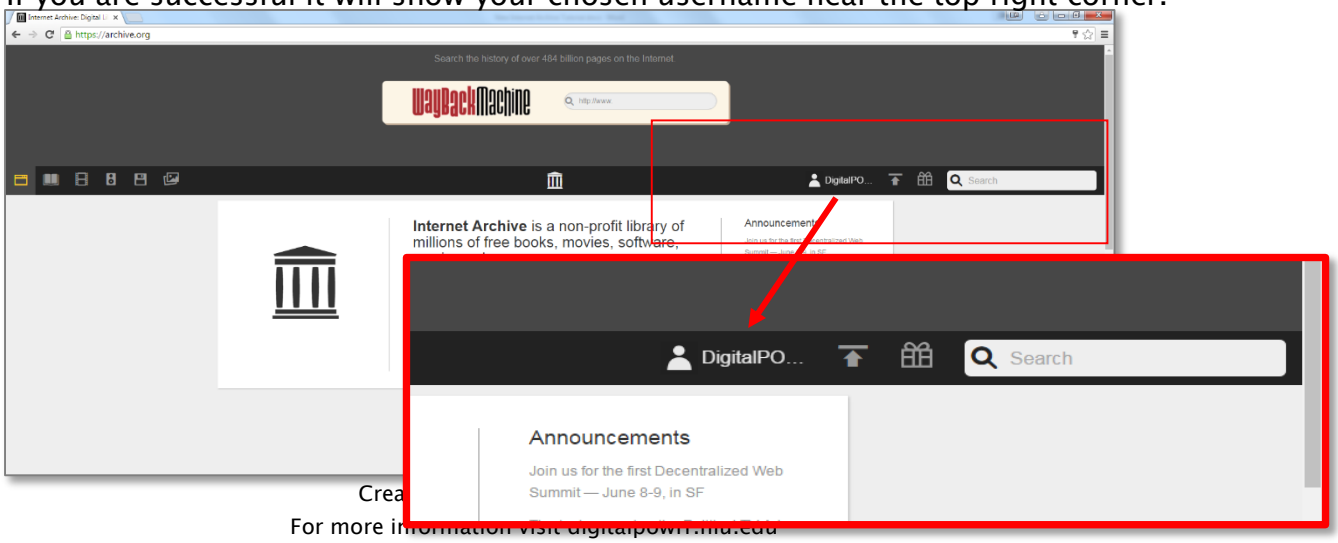
2. Click on the “sign in” link located near the top right corner of the page.



3. Enter the e-mail address and password you choose when registered.



4. Click “Log In”.
5. If you are successful it will show your chosen username near the top right corner.



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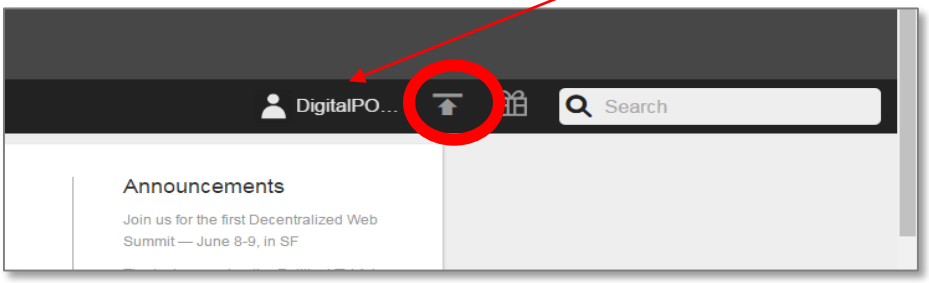
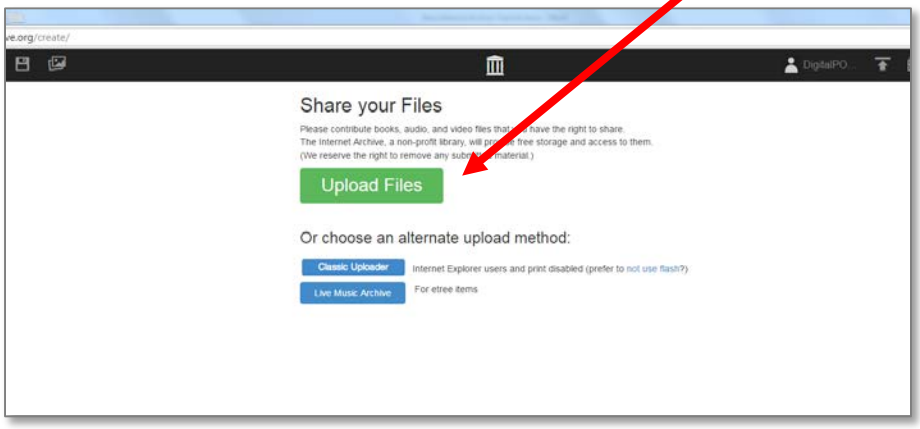
Uploading a digital object

1. Click on the "Upload" button located on near the top right corner of the Internet Archive homepage. Make sure you are logged in before doing so.



2. A "Share your Files" screen should appear. Click on the "Upload Files" button.



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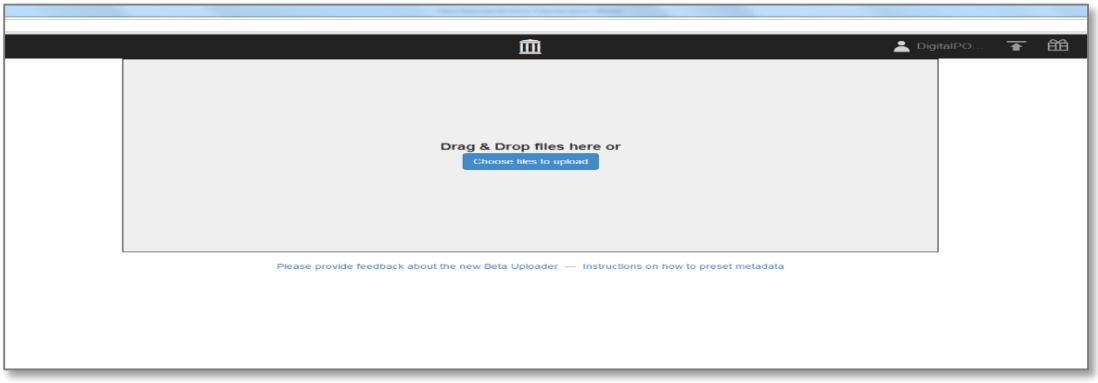
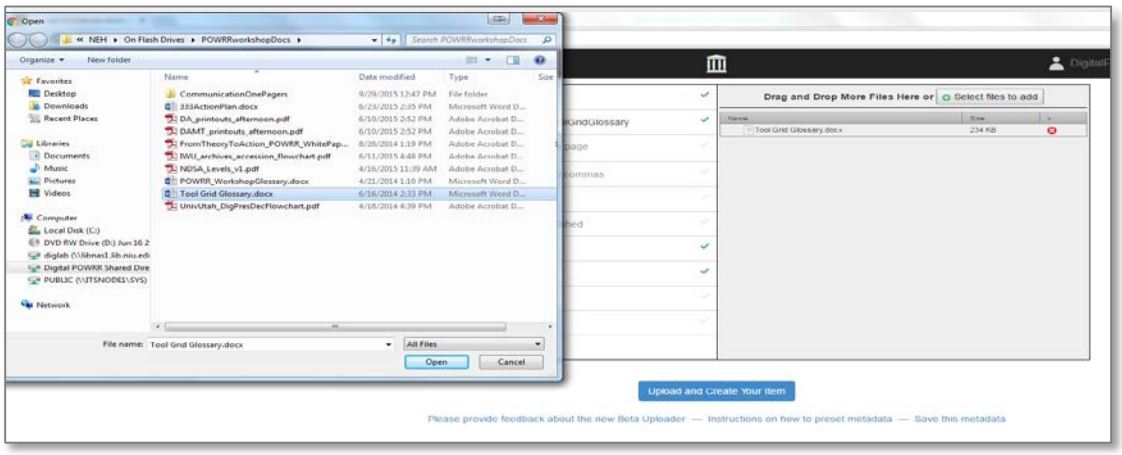
3. You may drag and drop the file from an open file explorer window, or you can click on the “Choose Files to Upload” button.



4. You may also drag the file from the “Choose files to upload” menu and drop them in the grey area. Once the file has been selected you may either click “Cancel” if you have already dragged and dropped the object, or “Open” if you prefer not to drag and drop.



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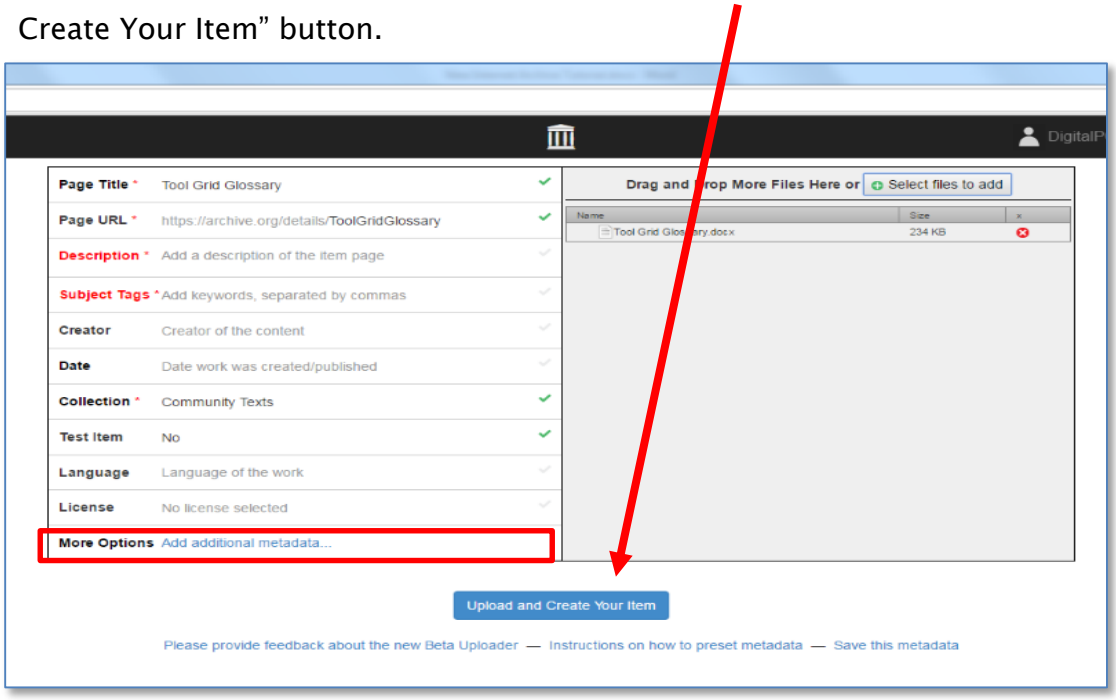
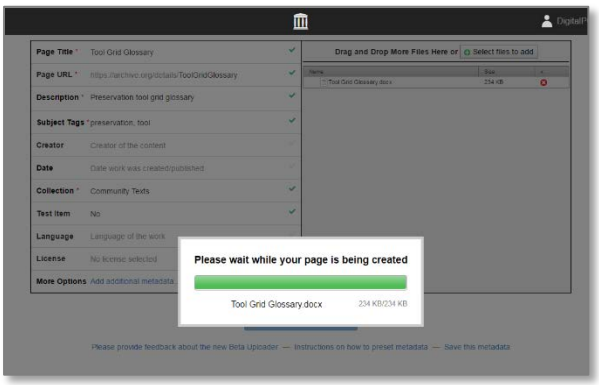
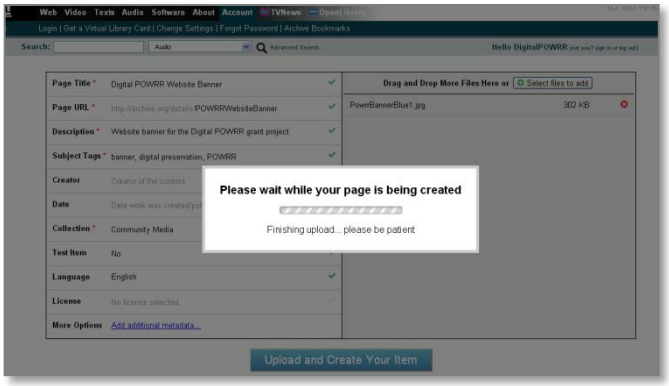
5. For the digital object you will want to edit the metadata available. For each area you can click on the area and edit the information as you wish. When you feel that the information is sufficient you can click the "Upload and Create Your Item" button.



6. You may receive a few different loading screens; just give Internet Archive a few moments to work.





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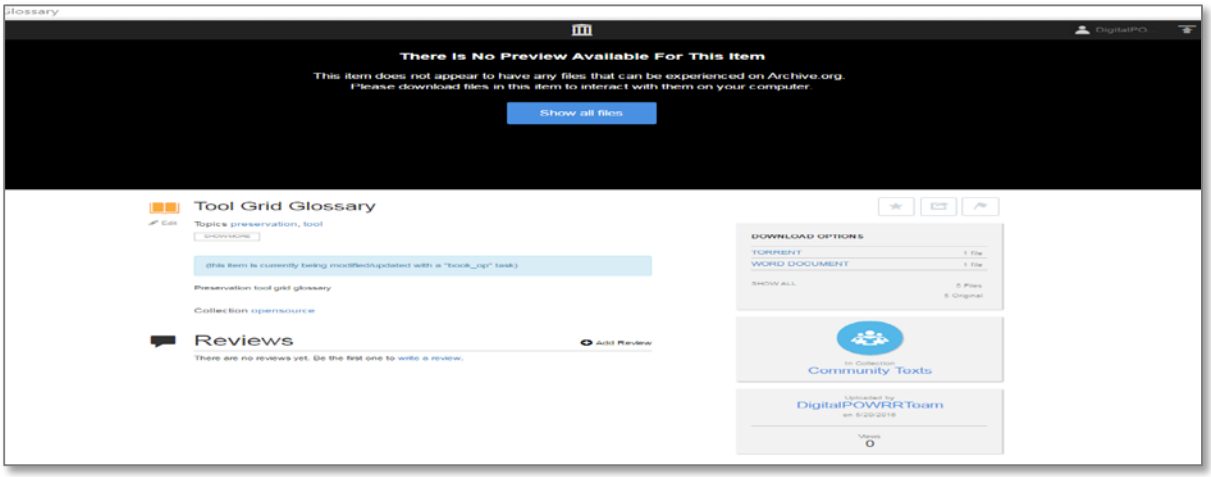
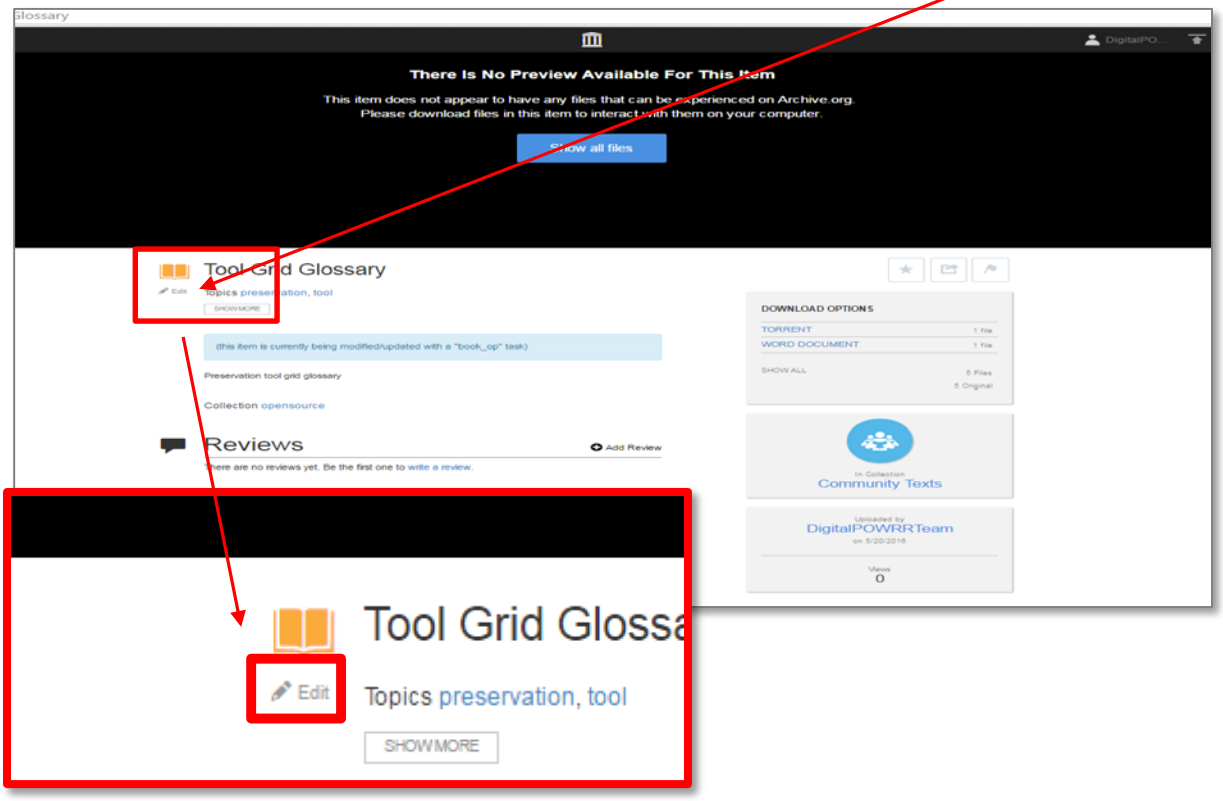
7. You will then reach a confirmation page that the page has successful been created.



8. If you notice a mistake you may edit the item by clicking the “Edit” link.



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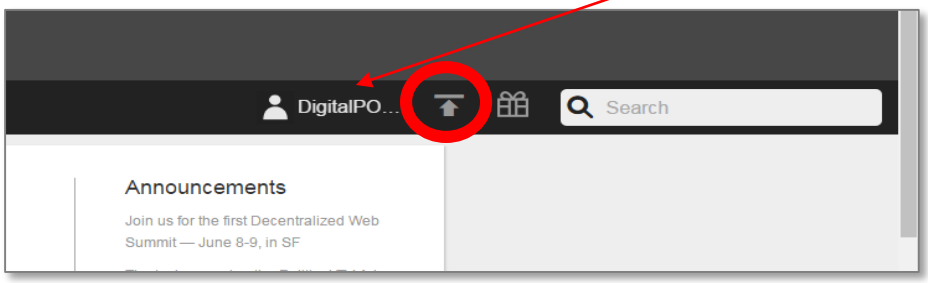
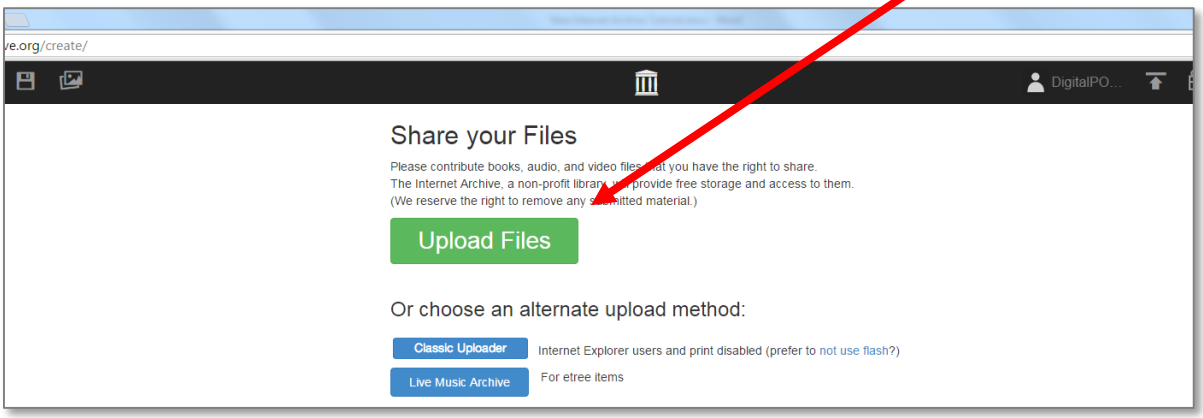
Uploading a Collection of Objects

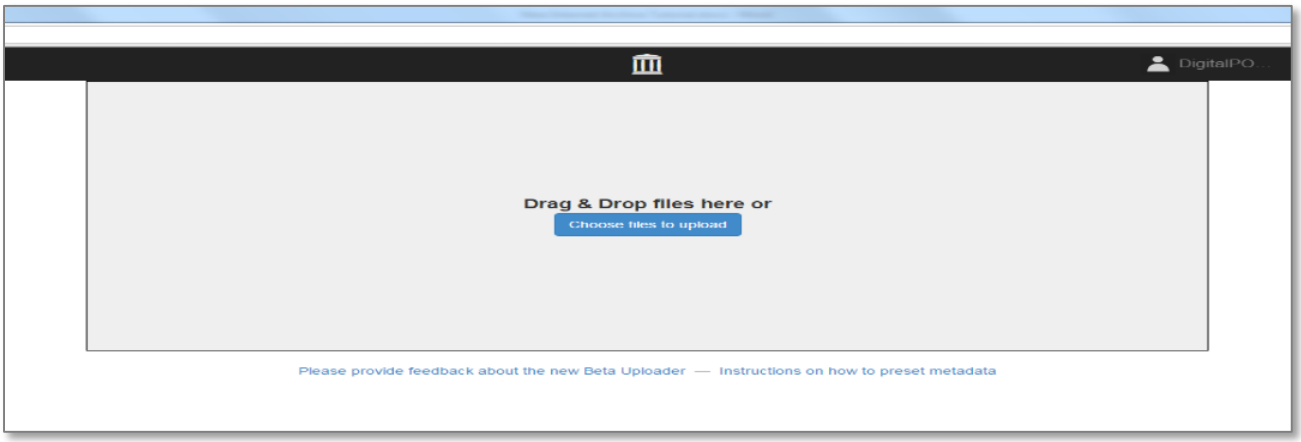
1. Click on the "Upload" button located on near the top right corner of the Internet Archive homepage. Make sure you are logged in before doing so.



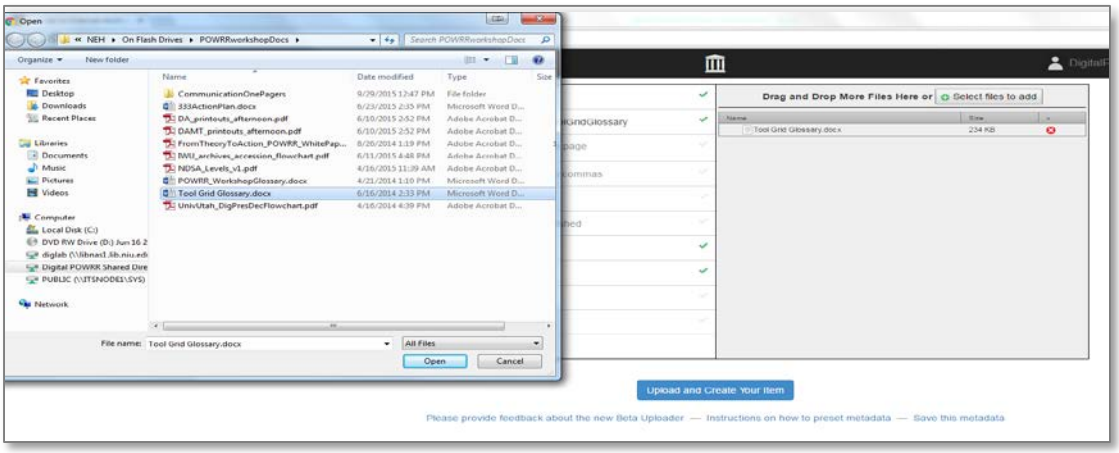
2. A "Share your Files" screen should appear. Click on the "Upload Files" button.



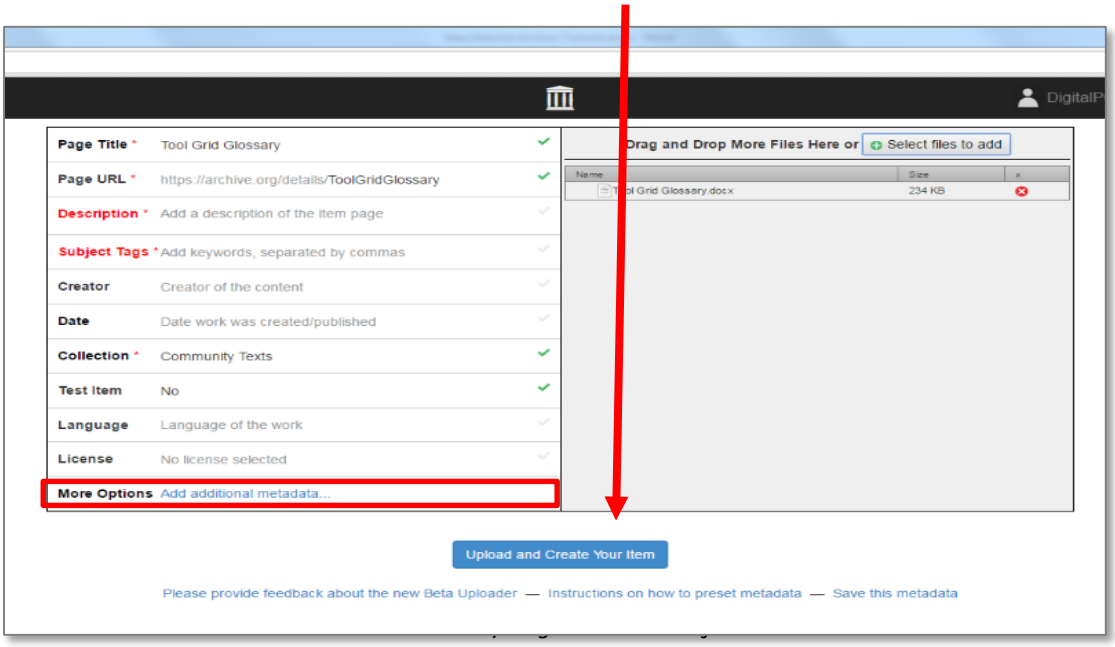
3. You may drag and drop the files from an open file explorer window, or you can click on the "Choose Files to Upload" button.



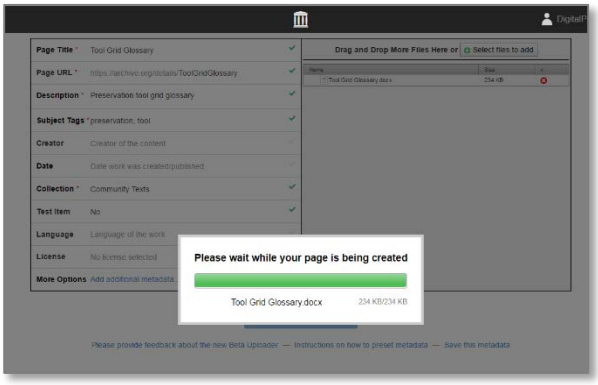
4. You may also drag the files from the "Choose files to upload" menu and drop them in the grey area. Once the file has been selected you may either click "Cancel" if you have already dragged and dropped the object, or "Open" if you prefer not to drag and drop. Make sure that all necessary items for the collection are listed in the grey area.

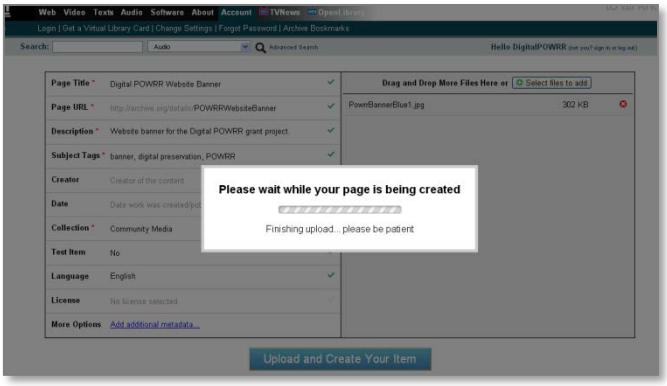


5. For the digital objects you will want to edit the metadata available so that it reflects the entire collection. For each area you can click on the area and edit the information as you wish. When you feel that the information is sufficient you can click the "Upload and Create Your Item" button.

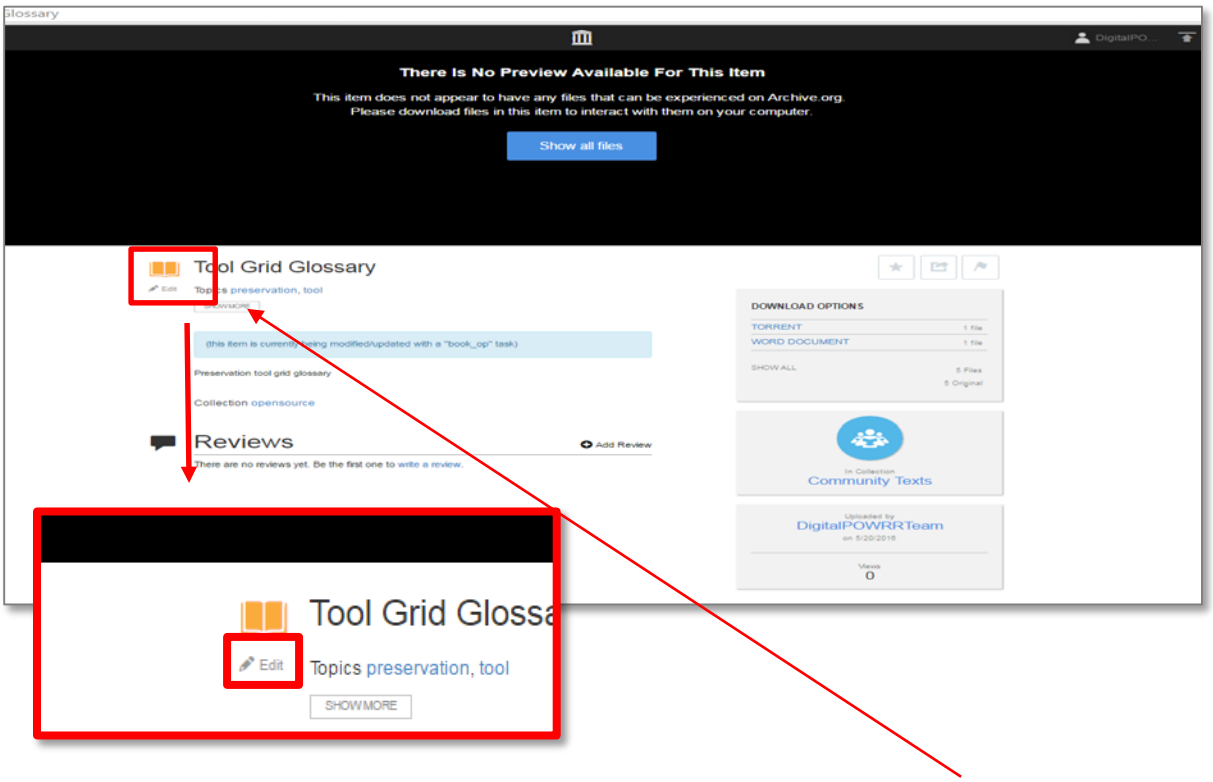


6. You may receive a few different loading screens; just give Internet Archive a few moments to work.





7. You will then reach a confirmation page that the page has successful been created.



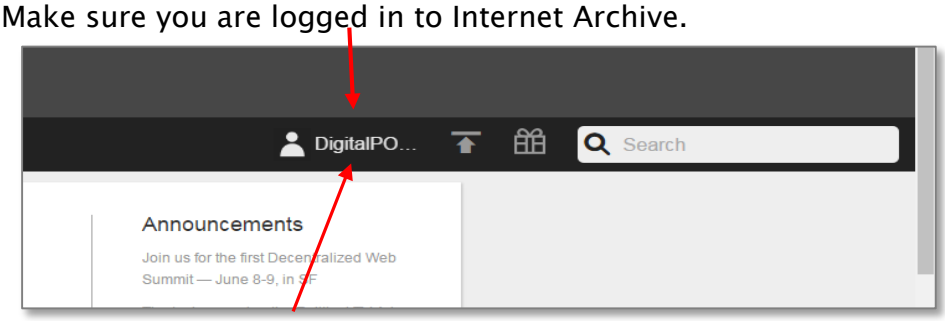
8. If you notice a mistake you may edit the item by clicking the “Edit” link.

Using Internet Archive:

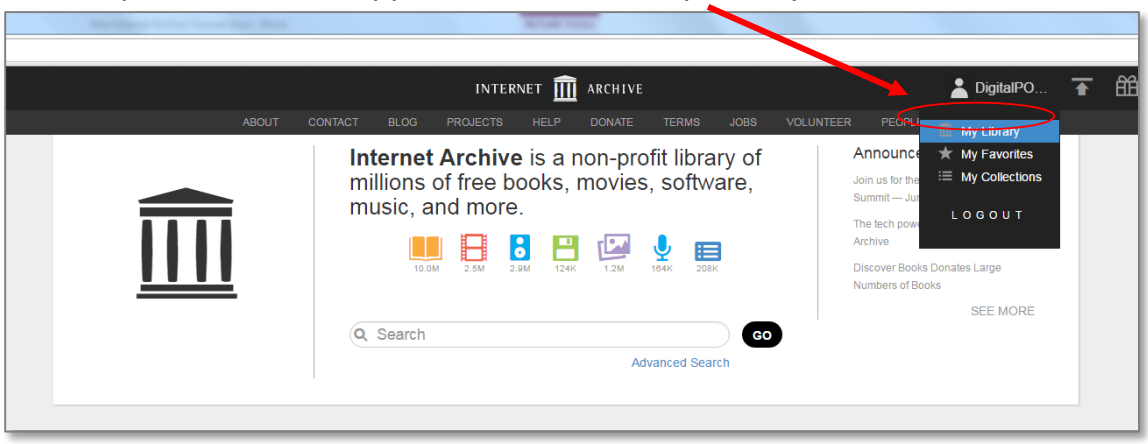
A guide created by the Digital POWRR Project

Viewing Previously Uploaded Objects

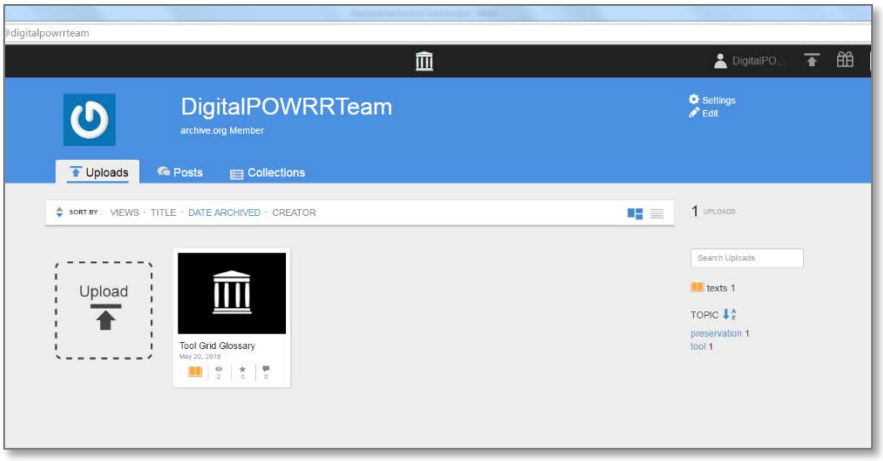
1. Make sure you are logged in to Internet Archive.



2. Click on your screen name link.
3. A drop down box will appear, click on the "My Library" link.



4. Your previous uploads will be listed. If an item or collection that you've recently added is missing it may not have finished going through the official process yet. Wait a couple of hours and check back again later.

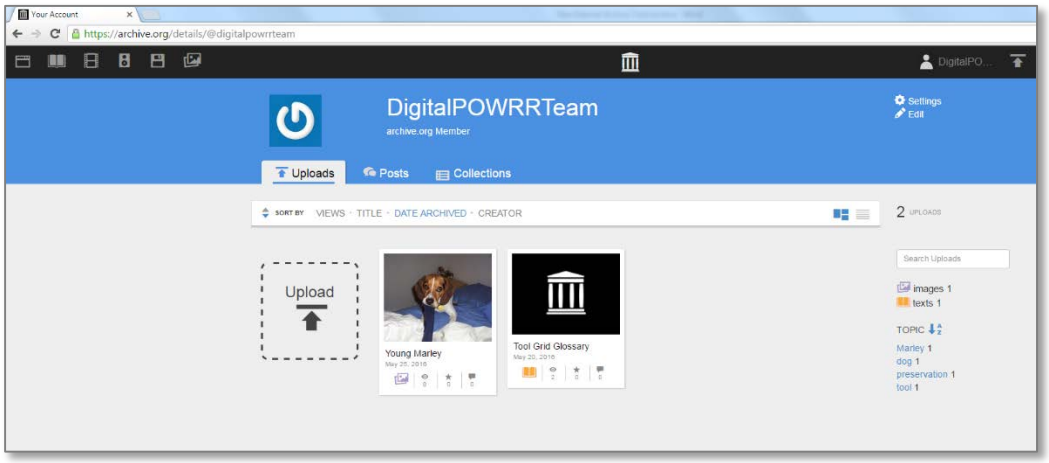


Using Internet Archive:

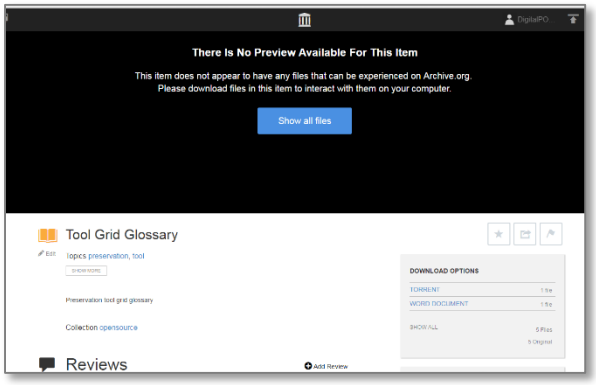
A guide created by the Digital POWRR Project

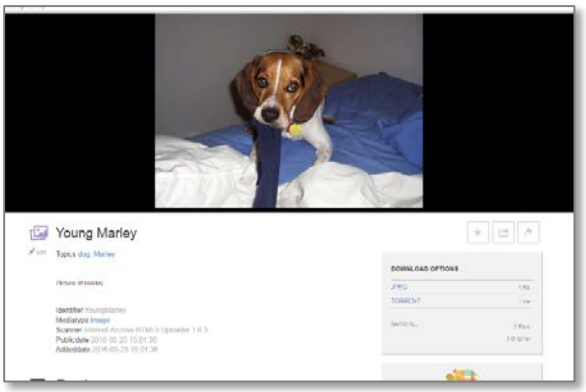
Download Previously Uploaded Objects

1. Follow the steps for "Viewing Previously Uploaded Objects" (see page 15)
2. From "My Library" choose the object/collections that you wish to download/recover and click on the title you gave the object/collection.

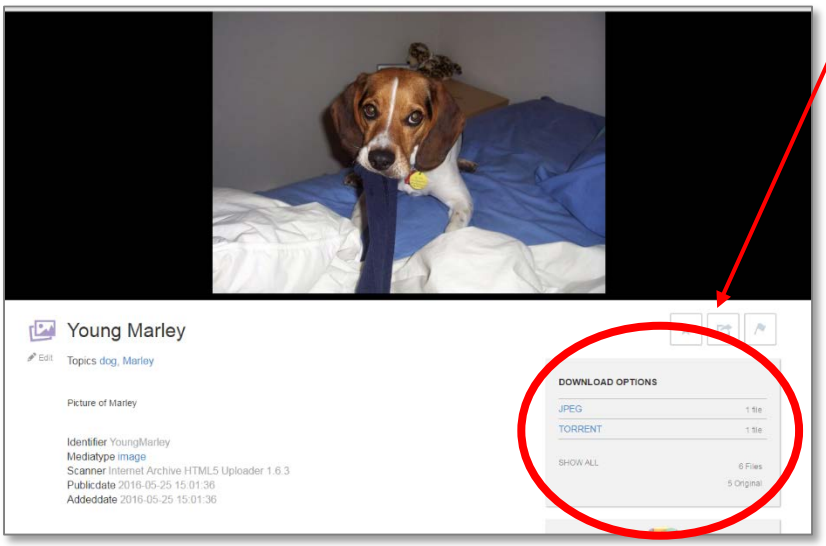


3. Depending on the format of the objects your screen may look a little different. For example texts versus pictures files.

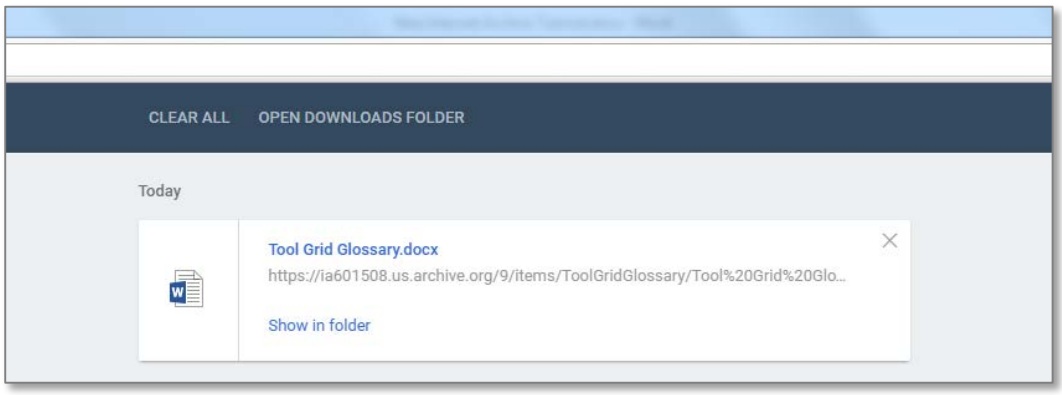




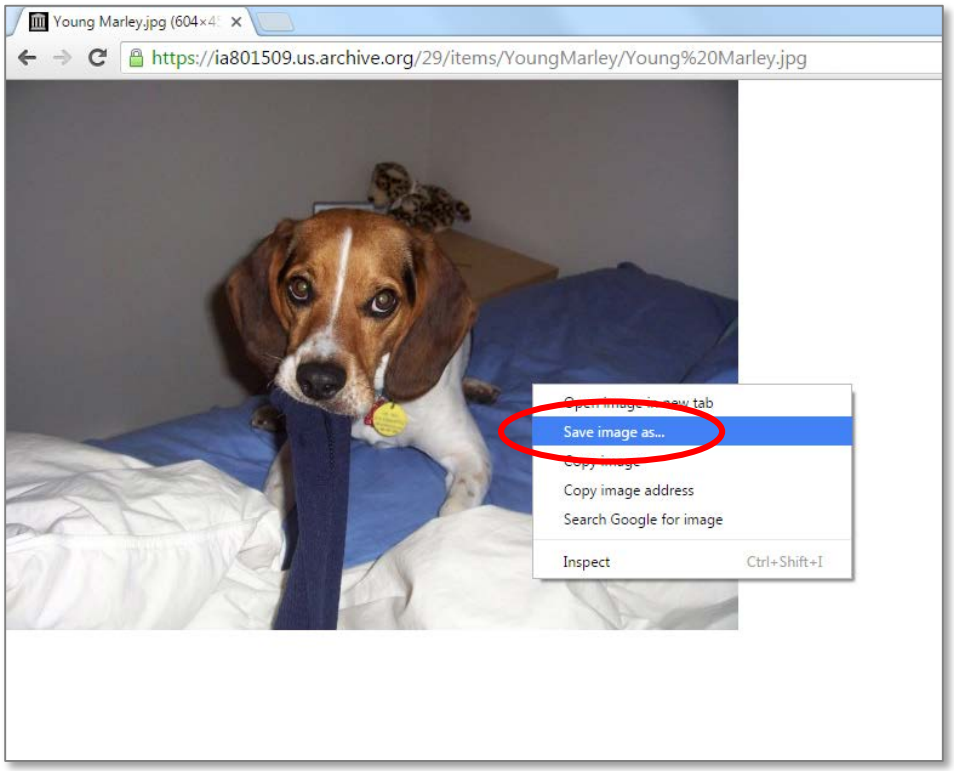
4. Locate the format of the object you would like to download/recover on the right hand side of the screen, and click on that link.



5. Depending on the browser you are using the download will appear in a different location. Sometimes the file may open right away. If you do not see the download in your browser and the file was not immediately opened, check the Downloads folder on your computer or browser. The following image is from the Downloads folder in Google Chrome.



6. You may download it in more than one format if you wish. Images may not automatically download; instead they may open in a new browser window. If so you can **right** click on the image and select "Save image as…" and save the object in the location of your choice.



E – 4: POWRR Workshop Slides

From Theory to Action

A pragmatic approach to digital preservation strategies and tools

Co-Sponsored by:

Today's Presenters:

Stacey Erdman Jaime Schumacher Lynne M. Thomas Drew VandeCreek

Logistics/Housekeeping

- Basic Logistics
- Handouts/Flash Drives
- Assessment/Evaluation (today and in 3 months) YOUR FEEDBACK IS VITAL
    - Pre-Test
    - Post-Test
    - Standard Workshop Evaluation
    - 3 Month Follow-up

Live Tweeting? @digitalPOWRR

First Up… The Day's Schedule!

MORNING

Now – 9:45

Collect Pre-Tests
Expected Outcomes
Background of POWRR
Levels of Preservation (*Activity*)

9:45 – 10:15

Solution in Theory *vs.* Solution in Practice
Your Pre-Ingest Workflow

10:15 → *Break*

10:30 – Noon

Investigation of Tools and Services

LUNCH!

AFTERNOON

1:00 – 2:30

Solution in Action:
Accessioning a Collection (*Activity)*

2:30 → *Break*

2:45 – 3:15

Policy, Advocacy

3:15 – 3:45

Your 3-3-3 Action Plan (*Activity)*
Potential Solution Models

3:45 – 4:00

Questions
Post-Test

Expected Outcomes

- You will understand that different digital preservation tools/services can perform different functions within the digital curation lifecycle, and be able to explain how these tools/services can be used within your institution's workflow.
- You will practice the initial pre-ingest steps necessary to accession a digital collection, as described in the OCLC report "Walk this Way," and gain the skills necessary to repeat this process at your institution.
- You will gain hands on experience with a basic digital preservation tool and understand how it can be used within your institution's workflow.
- You will take away resources that help align communication and advocacy, policymaking, and tool selection/implementation.
- You will create a 3-3-3 Action Plan to implement in the following 3 months that will move you closer to your digital preservation goals.

In other words…

- We can investigate potential tools and services
- We can triage our data for ingest
- We can upgrade our metadata and recordkeeping practices for the next steps
- We can build policies and plans
- We can better educate ourselves, our stakeholders, and our funders

Who we are….and how we got here….

- Defining Moments → Found Some Friends
- Applied for Implementation Grant → Received a “Figure It Out” Grant → Received NEH grant

We’ve learned a lot…and are a lot like you!

Proud to be works-in-progress:

Illinois State University
Illinois’ first public university

Illinois Wesleyan University

Northern Illinois University

Chicago State University

Western Illinois University

National Endowment for the Humanities

Institute of Museum and Library Services

Clarification: Preservation vs. Access

Long term access (Preservation)

- **Purpose**: ensure long-term access
- **Focus:** current & **future** users
- Relies on **proven (reliable)** technologies to preserve digital objects across generations of technology
- **Accumulate**s metadata over the life cycle to trace preserved content
- Preservation systems **create** new versions of digital objects for access to deliver as needs change over time

Short term access

- **Purpose**: provide content to users now
- **Focus:** current
- Relies on **cutting edge** technologies to provide best and fastest access at a point in time
- **Selects** metadata needed to use and understand content
- Access systems **deliver** objects with user-oriented services

LIBRARY OF CONGRESS

NDSA

Table 1: Version 1 of the Levels of Digital Preservation

	Level 1 (Protect your data)	Level 2 (Know your data)	Level 3 (Monitor your data)	Level 4 (Repair your data)
Storage and Geographic Location	- Two complete copies that are not collocated - For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system	- At least three complete copies - At least one copy in a different geographic location - Document your storage system(s) and storage media and what you need to use them	- At least one copy in a geographic location with a different disaster threat - Obsolescence monitoring process for your storage system(s) and media	- At least three copies in geographic locations with different disaster threats - Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems
File Fixity and Data Integrity	- Check file fixity on ingest if it has been provided with the content - Create fixity info if it wasn't provided with the content	- Check fixity on all ingests - Use write-blockers when working with original media - Virus-check high risk content	- Check fixity of content at fixed intervals - Maintain logs of fixity info; supply audit on demand - Ability to detect corrupt data - Virus-check all content	- Check fixity of all content in response to specific events or activities - Ability to replace/repair corrupted data - Ensure no one person has write access to all copies
Information Security	- Identify who has read, write, move and delete authorization to individual files - Restrict who has those authorizations to individual files	- Document access restrictions for content	- Maintain logs of who performed what actions on files, including deletions and preservation actions	- Perform audit of logs
Metadata	- Inventory of content and its storage location - Ensure backup and non-collocation of inventory	- Store administrative metadata - Store transformative metadata and log events	- Store standard technical and descriptive metadata	- Store standard preservation metadata
File Formats	- When you can give input into the creation of digital files encourage use of a limited set of known open formats and codecs	- Inventory of file formats in use	- Monitor file format obsolescence issues	- Perform format migrations, emulation and similar activities as needed

http://www.digitalpreservation.gov/ndsa/activities/levels.html

Activity Time!

NDSA Levels of Preservation

Where can my organization place its Bingo chips?

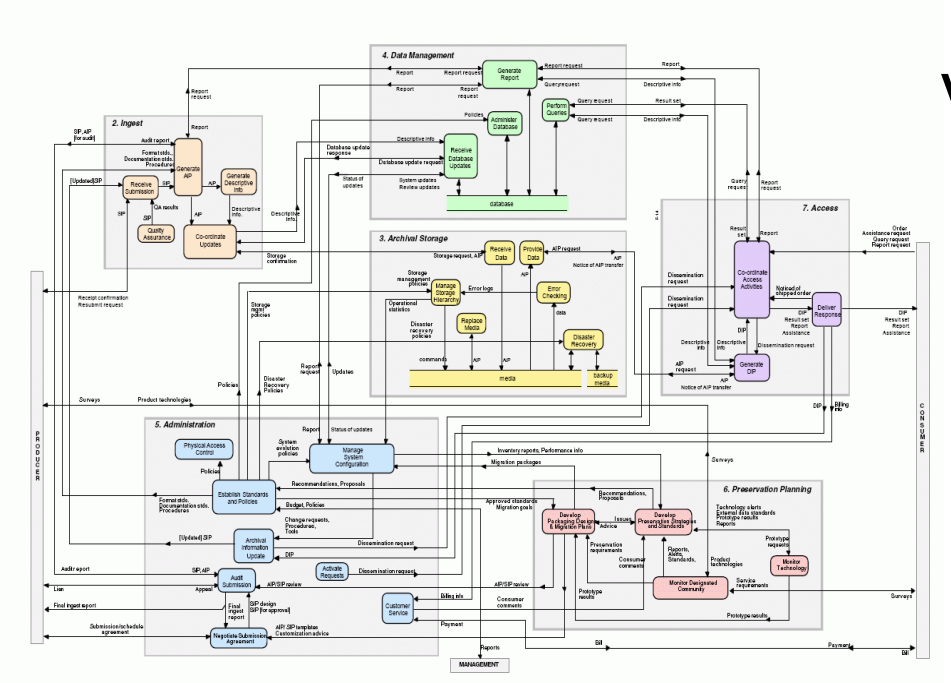
- We'll go first
- Small Groups – Where do you think you fit in?
- All Together – Poll of who is where!

NDSA

NATIONAL DIGITAL STEWARDSHIP ALLIANCE

How do we get from here to there?

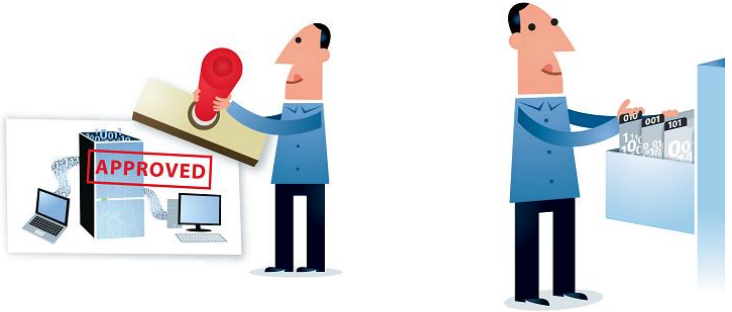
Solution in Theory



Scary OAIS Spaghetti Monster

vs.

Solution in Practice



Illustrations by Jørgen Stamp digitalbevaring.dk
CC BY 2.5 Denmark

Solution in Theory

- OAIS (Open Archival Information Systems) and other schematic models
- TRAC Certification (Trustworthy Repositories Audit & Certification)
- TDR ISO 16363 (Trustworthy Digital Repository ISO Standard)
- Curation Lifecycles that don't look a thing like our current workflows

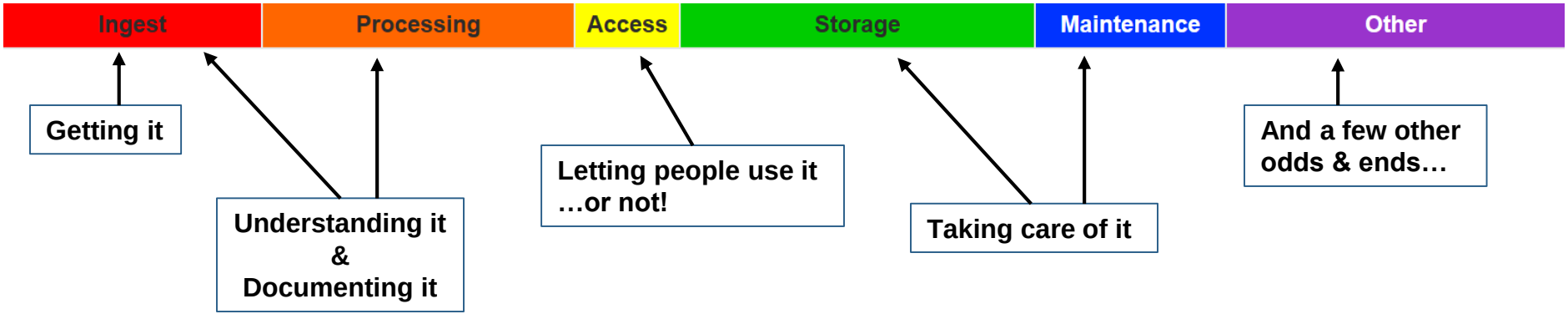
Open Archival Information System (OAIS) Model

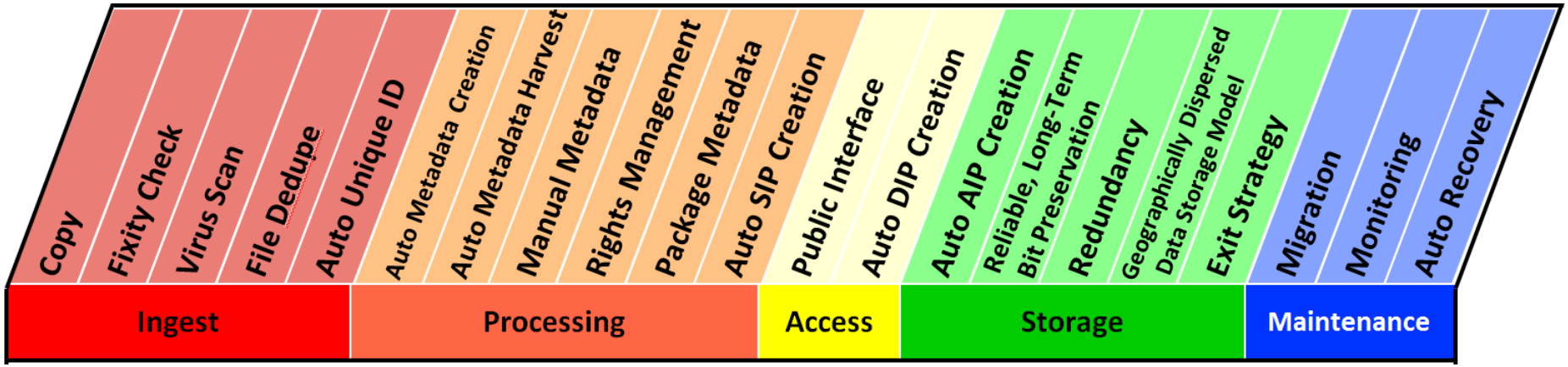
SIPs, AIPs, DIPs, Oh my!

Solution in Practice

AKA Good Enough DP for real people!!

Our take on what you need to consider when thinking about your digital stuff…..





Our take on some things that need to happen or be considered along the way to this *"Digital Preservation"* thing….

We used this to understand the myriad of tools and services that are out there by mapping them across this lifecycle.

http://digitalpowrr.niu.edu/tool-grid/

Solution in Practice

AKA Good Enough DP for real people!!

Some things to keep in mind…..

Not all tools and services are created equal.

Starting small is good enough!

Choices of tools are *not* forever. They serve what you need now, selected with an eye to later.

Today's hot new tools are tomorrow's orphans. Focus on workflows!

Knowing what you have is crucial.

Write. It. Down. And maintain it!

Actual Conversation, ca. 2004

“I’d like our institution to be the home for your literary papers.”

gets handed flash drive

Don’t Panic - Your Pre-Ingest Workflow

aka Wrangling your digital stuff before you can get it into a shiny system

NOTE: This is only ONE way to do this… Everyone’s workflow is a little different!

Yes, it can be as simple as creating a spreadsheet!.

Starting from scratch:

- Begin an Inventory Spreadsheet
- Run accessioning tools (creates basic preservation metadata files in XML for you!)

  - Move everything to a stable carrier (like a network drive)
- Make an Access Copy from your Master Copy
- Continue populating Inventory Spreadsheet (if needed)
- OPTIONAL: Keep original media

✓ *Most of these will cost you more time than money*

✓ *Document what you do pre-ingest. For future you.*

✓ *Remember: Good enough is just fine. For now.*

Pre-Ingest Inventory Spreadsheet Categories

These suggestions follow the recommended DPOE step “Identify” as locally defined by curator/archivist. Example at: http://www.carli.illinois.edu/sites/files/digital_collections/documentation/digipres_identify.pdf

- ❑ Category (digitization project; born digital; university archives)
- ❑ Title and Description
- ❑ Date(s) (date range of what’s IN there or date of creation if born digital)
- ❑ Location (CD, Jump drive, server location?)
- ❑ Extent (quantity: 48 journal issues; 106 images; 2 TB of video)
- ❑ Format (file formats: PDF, .Jpeg, Animated GIF, Wordstar2.0 file)

This is YOUR inventory… YOU get to decide if it needs additional fields, if some can be deleted, etc. You are the boss of this!

Category	Title and Description	Date	Location	Extent	Format

FILL OUT WHAT YOU CAN AS YOU WOULD WITH ANY NORMAL ACCESSION

BREAK TIME!

Back by 10:30, please

Next up: Tools and Services

Live Tweeting? @digitalPOWRR

Let's Talk About Tools….

*Tools/Services in RED were tested in-depth by POWRR

There are front-end/processing tools like…..

Archivematica
Curator's Workbench
Data Accessioner
BitCurator

And there are back-end storage/preservation services like…..

MetaArchive
DuraCloud
Amazon Glacier
Fixity
Internet Archive

There are even some services that will pretty much do it all like….

Preservica
Dspace Direct (uses DuraCloud)
ArchivesDIRECT

Note: Yes, there are also CMS's, IR software, ….ugh. However, these are outside the scope of this workshop!

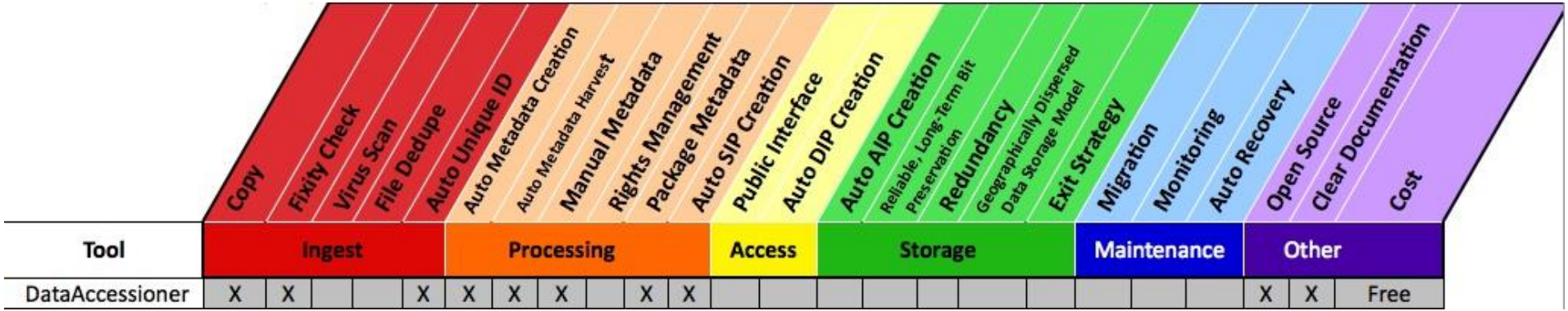
Technical skill available + amount of annual funding devoted to DP = range of tools you will be considering

A note about the word “free”

NOT

Open source software requires resources to install, maintain, and improve it.

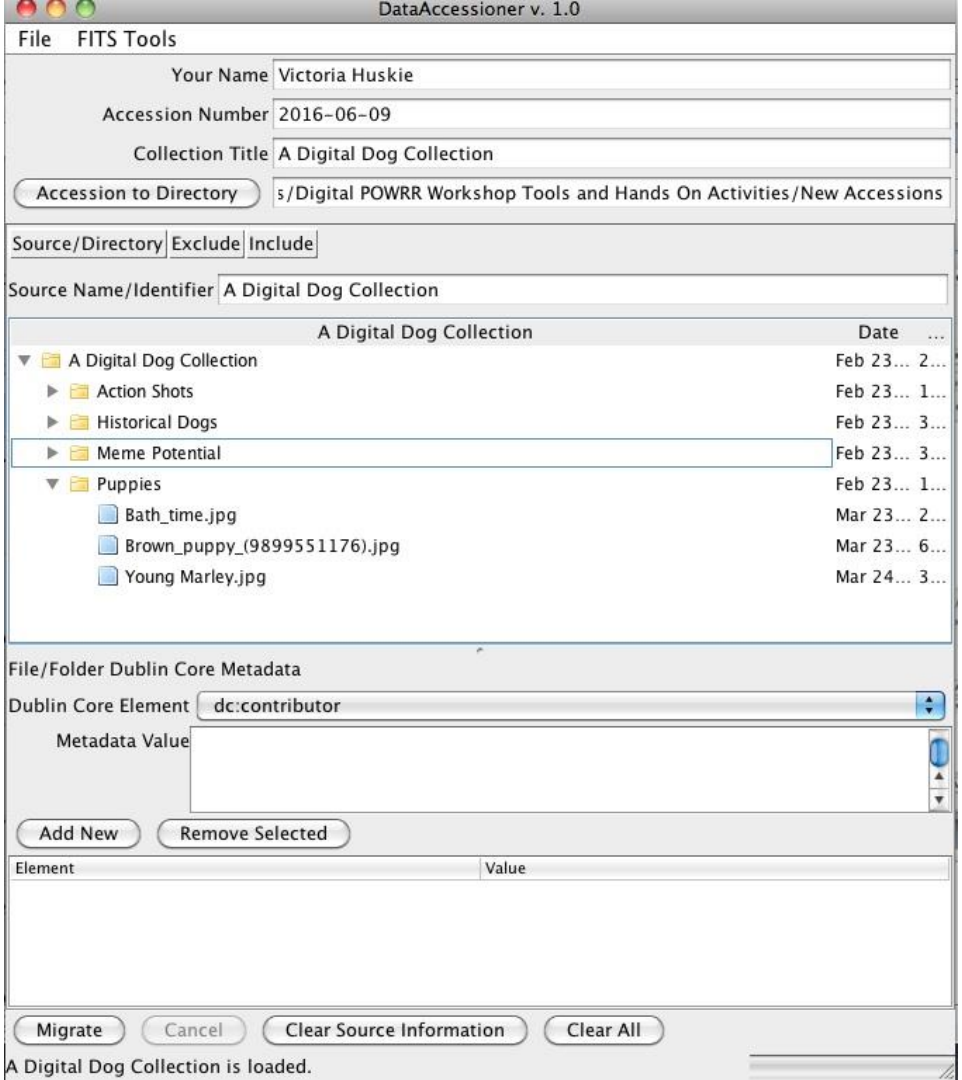
Front-End / Processing: DataAccessioner



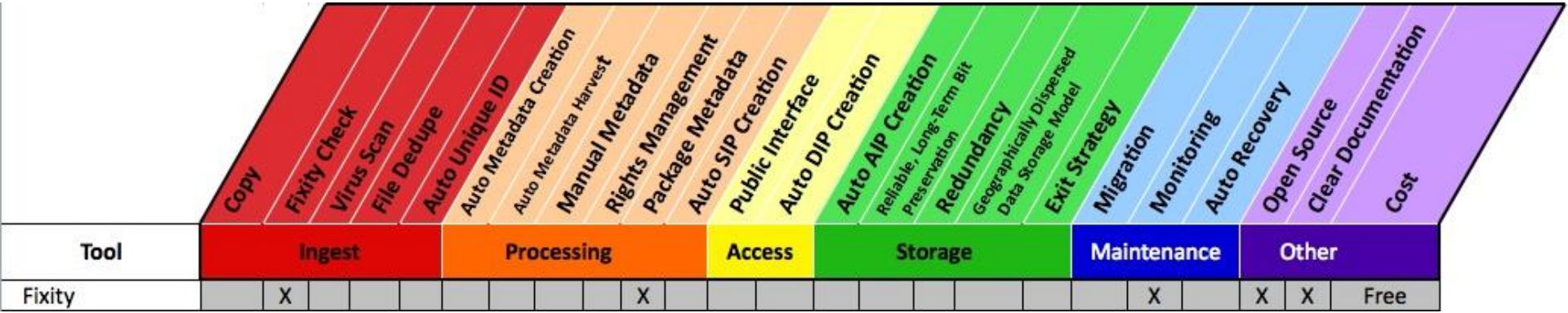
Front-End / Processing: DataAccessioner

- Open source/free software
- Requires no IT support – very easy to use
- Capability to manually add own descriptive metadata
- Identifies, validates, and extracts technical metadata for wide range of file formats
- Runs on FITS toolset (12 different tools)
- Migrates and makes a copy of digital objects
- Microservices only run when you use the program
- Raw XML output can be hard to read – need to use another tool (i.e. Data Accessioner: Metadata Transformer) to view in spreadsheet/HTML form
- Simplicity has limitations – needs to be used with other tools
- Can be a slow process if working with bigger collections

DEMO!


DataAccessioner v. 1.0
File
FITS Tools
Your Name
Victoria Huskie
Accession Number
2016-06-09
Collection Title
A Digital Dog Collection
Accession to Directory
s/Digital POWRR Workshop Tools and Hands On Activities/New Accessions
Source/Directory
Exclude
Include
Source Name/Identifier
A Digital Dog Collection
A Digital Dog Collection
Date
A Digital Dog Collection
Feb 23... 2...
Action Shots
Feb 23... 1...
Historical Dogs
Feb 23... 3...
Meme Potential
Feb 23... 3...
Puppies
Feb 23... 1...
Bath_time.jpg
Mar 23... 2...
Brown_puppy_(9899551176).jpg
Mar 23... 6...
Young Marley.jpg
Mar 24... 3...
File/Folder Dublin Core Metadata
Dublin Core Element
dc:contributor
Metadata Value
Add New
Remove Selected
Element
Value
Migrate
Cancel
Clear Source Information
Clear All
A Digital Dog Collection is loaded.

Back-End / Preservation: Fixity

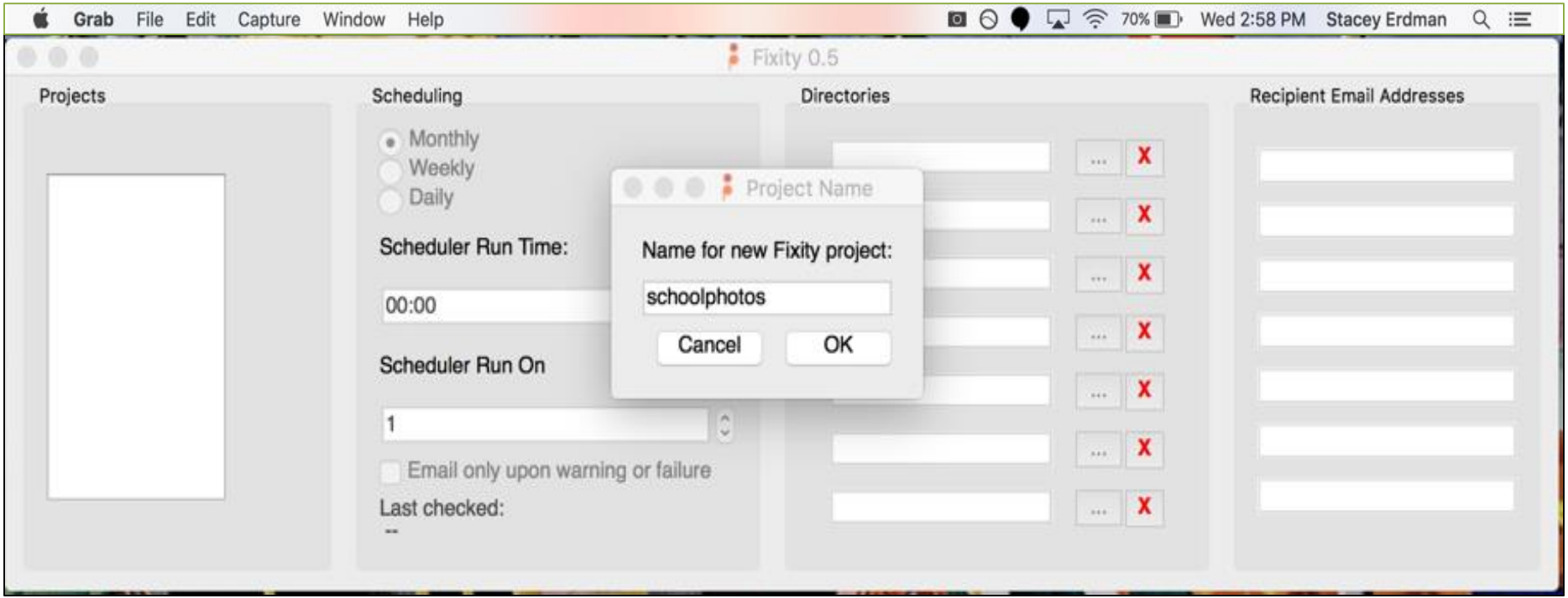


Back-End / Preservation: Fixity

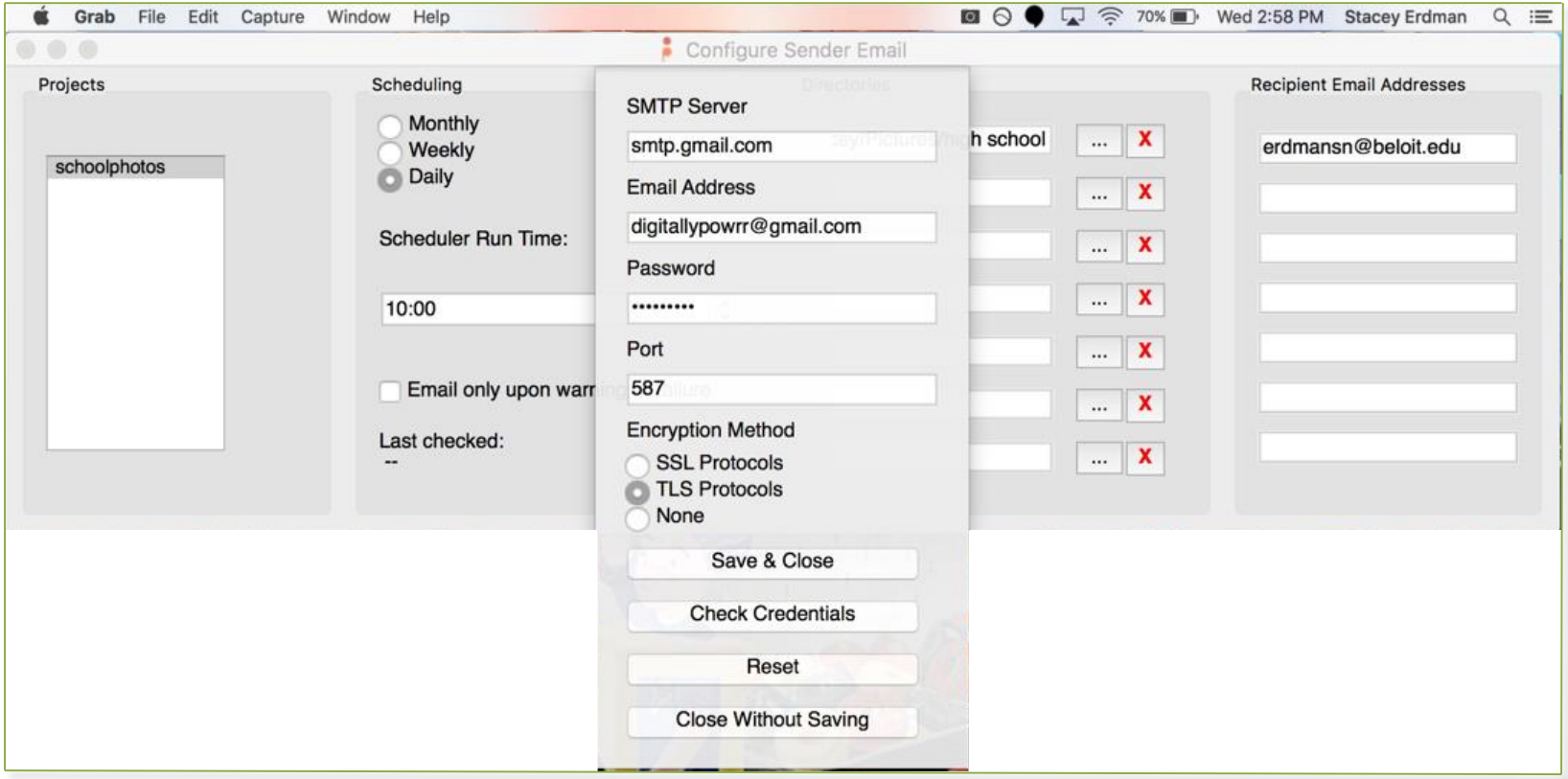
- Open source/free software
- Requires little IT support
- Simple interface – easy to use
- Automated – scheduled checks, e-mails alerts and reports
- Designed with small-medium sized collections in mind
- Great documentation, tutorials, and support

- Creates a manifest of files
- Monitors file integrity
- Works well with other tools like BagIt

Fixity: Save New Project



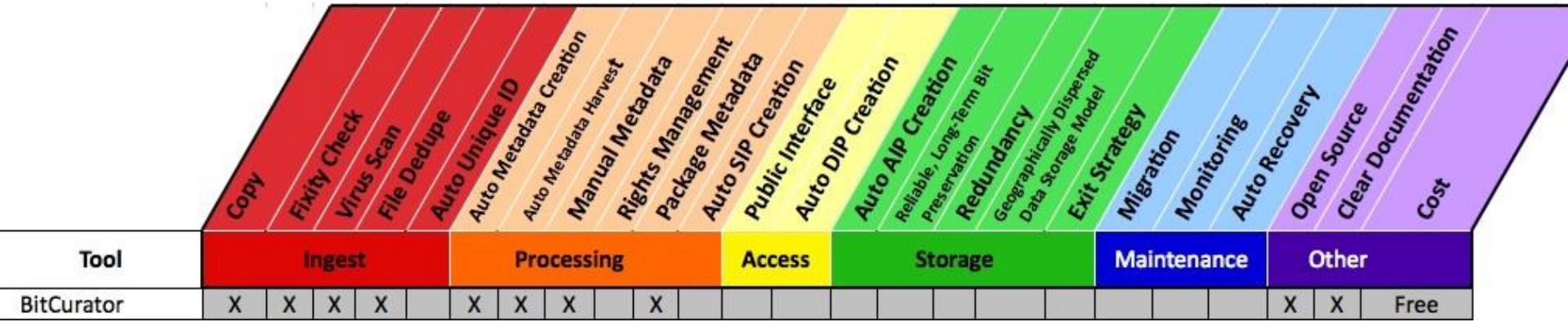
Fixity: SMTP Settings



Fixity: Report

	A	B	C	D	E	F	G
1	Fixity report						
2	Project name DigitalPOWRR						
3	Algorithm used sha256						
4	Date 2016-06-10						
5	Time Elapsed 0 hrs 0 min 0 seconds						
6	Total Files 24						
7	Confirmed Files 0						
8	Moved or Renamed Files 0						
9	New Files 24						
10	Changed Files 0						
11	Removed Files 0						
12	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						
13	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						
14	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						
15	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						
16	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						
17	New File: /Users/libcheckout/Desktop/New Accessions/Master Copies/2016-						

Front-End / Processing: BitCurator



A Note on Digital Forensics

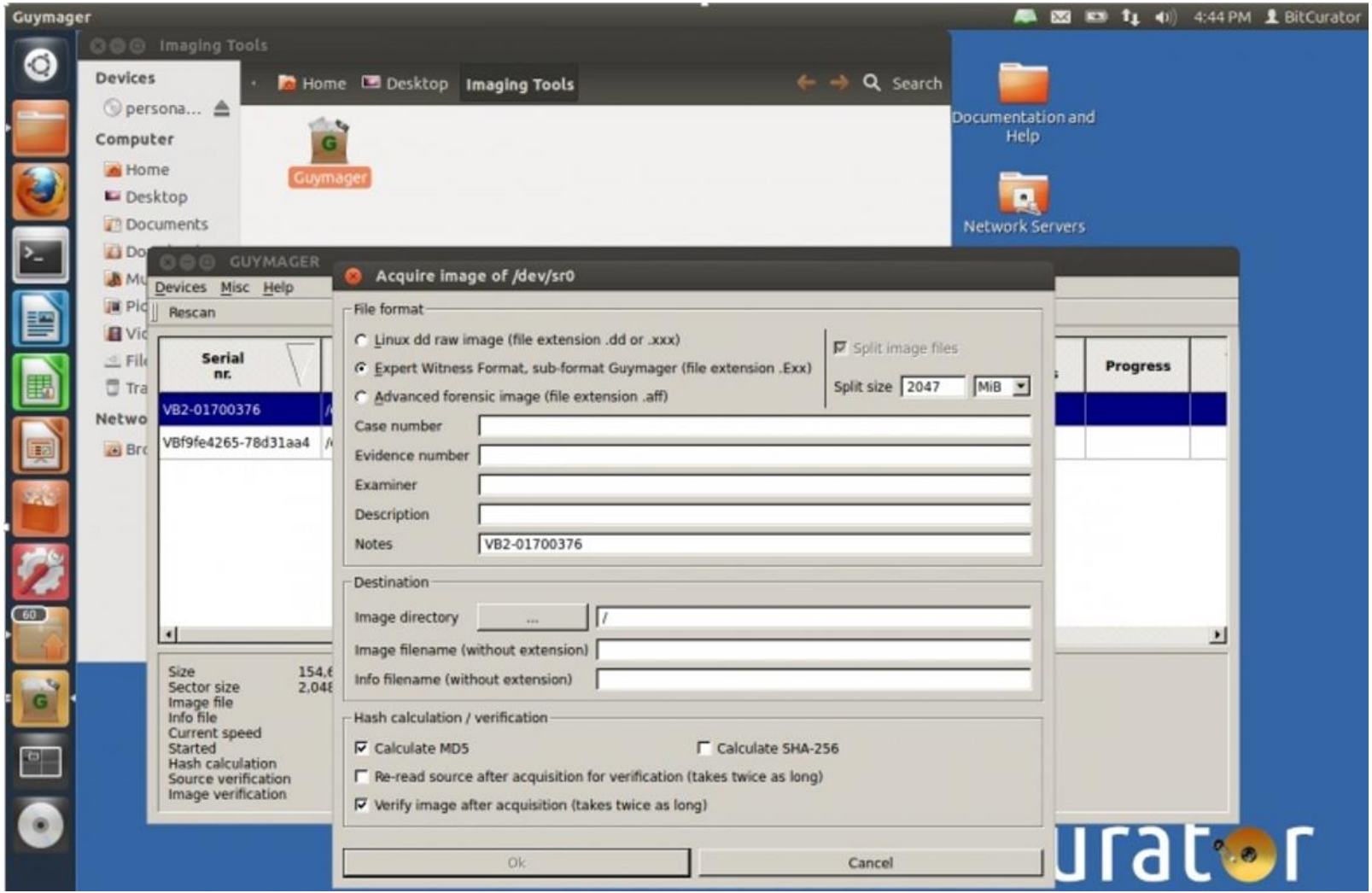
- Generally refers to the process of recovering, analyzing, and reporting on data found on digital devices
- Used to collect trustworthy evidence, through the extraction of data from devices and media, to pinpoint crimes/misconduct/security breaches
- Parallels with archives include providing accurate record of chain of custody, documenting provenance, and storing data in ways that resist tampering/loss

Front-End / Processing: BitCurator

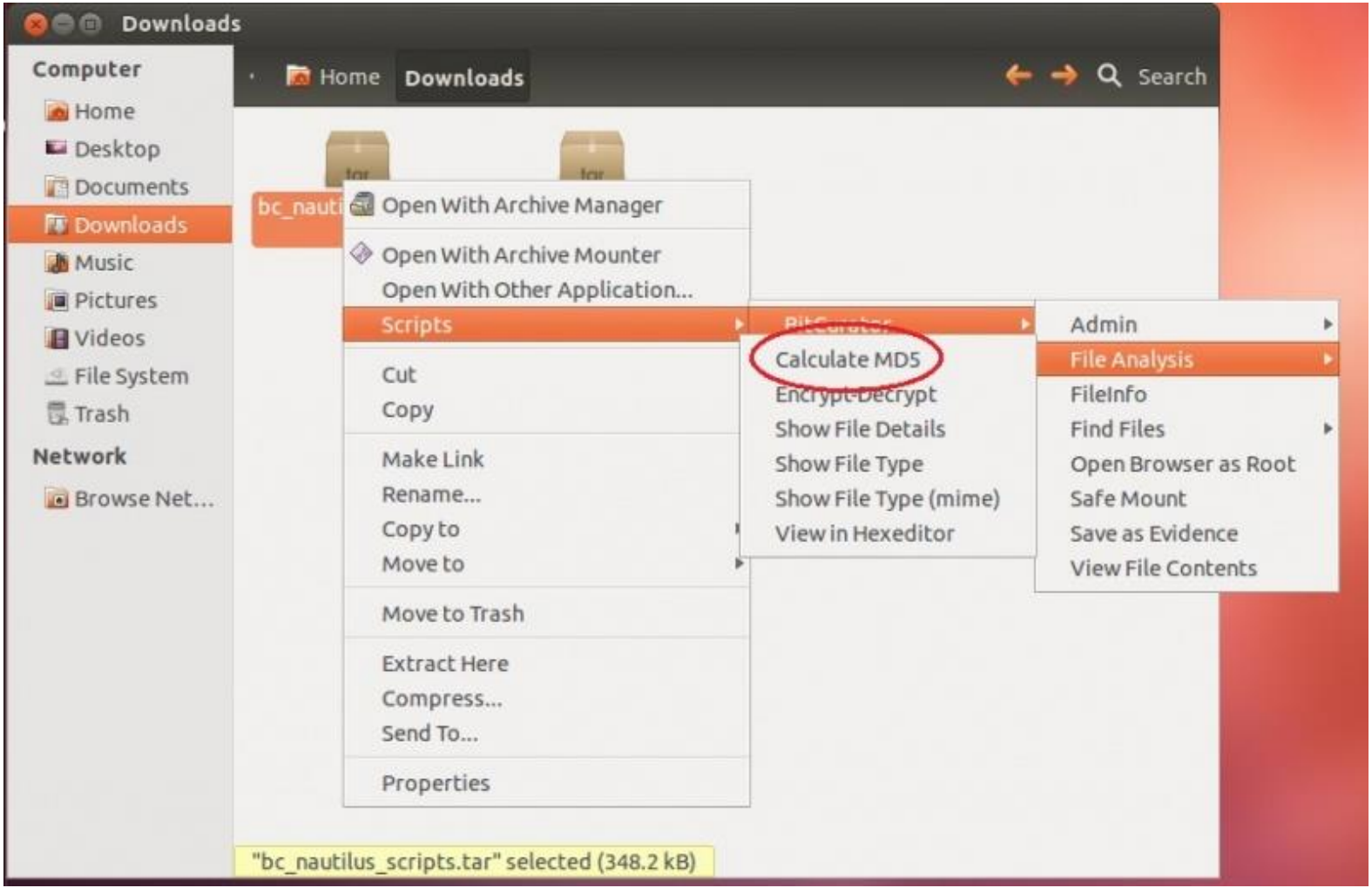
- Ensures authenticity, integrity, and provenance of digital material transfers
- Open source/free software
- Requires IT support (Virtual Machine or Linux environment); bootable USB version also available for download
- External peripherals (i.e. floppy drives) can be used, but require extra support
- Hardware write-blocker also recommended

- Supported tasks include:
  - ✓ Disk image creation
  - ✓ Data triage: analyze files/file systems, locate/remove duplicate files
  - ✓ Extract file system metadata
  - ✓ Identify and redact sensitive info
- Great support, documentation, and tutorials: http//:wiki.bitcurator.net
- Access component coming soon (BitCurator Access)

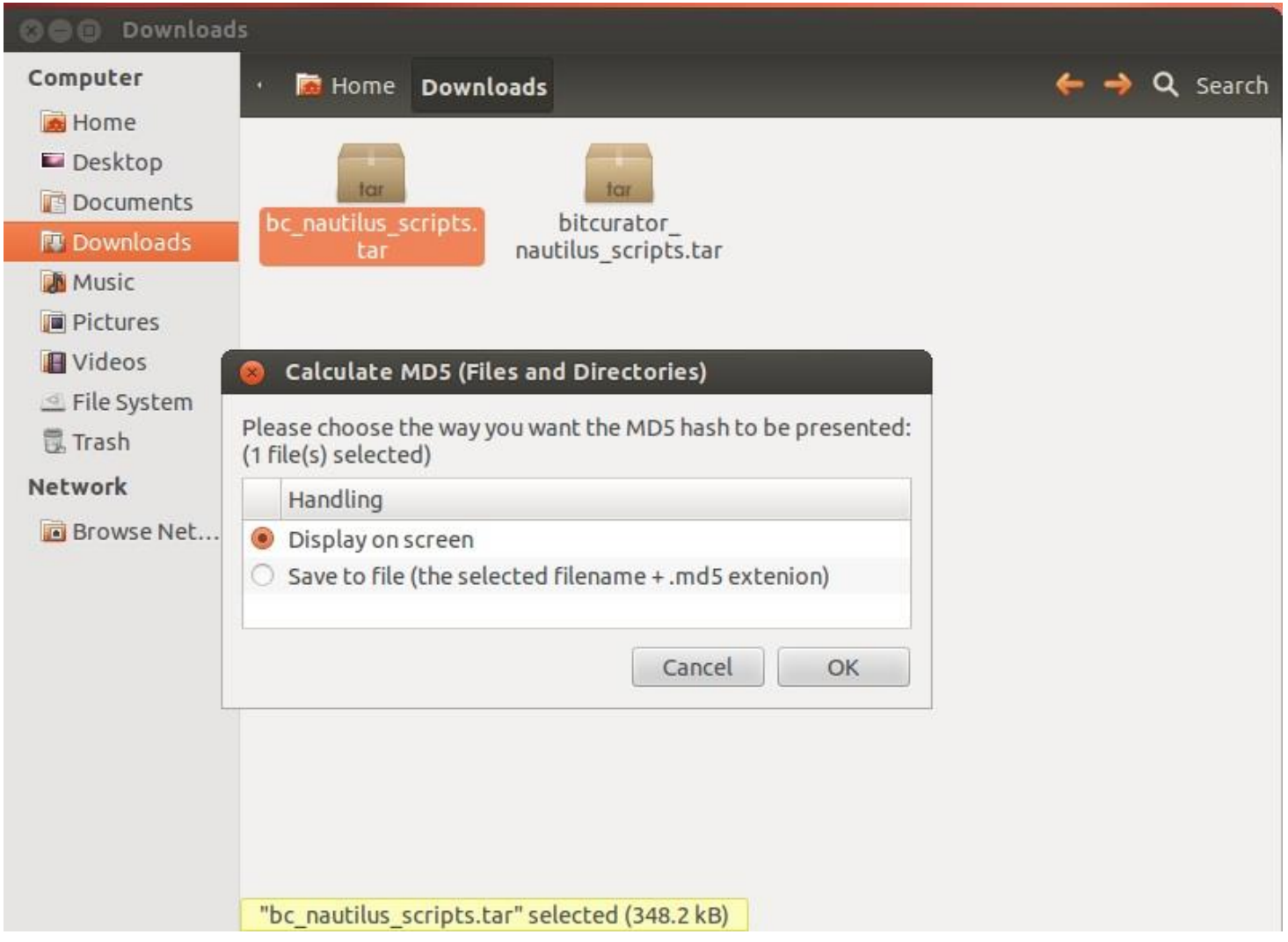
Creating a Disk Image: *Guymager*



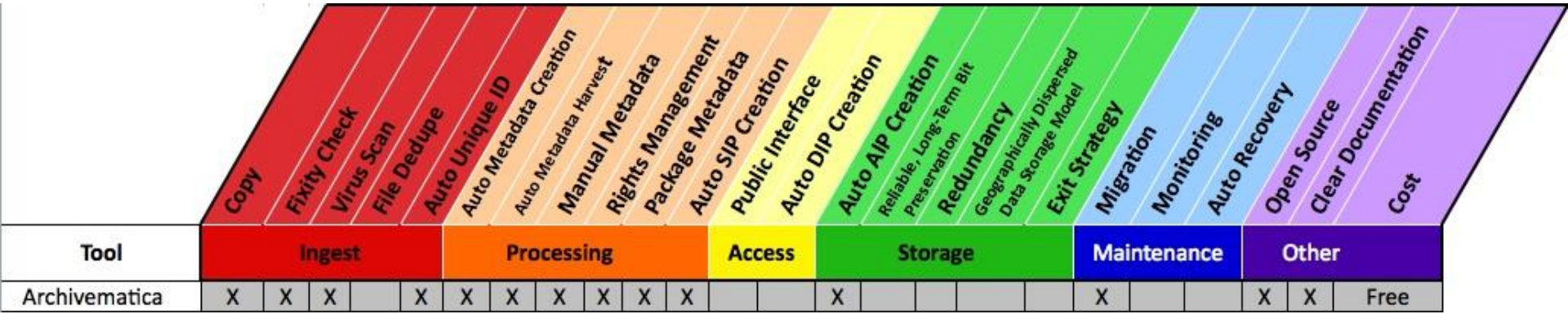
Generating a Checksum: *Nautilus*



Generating a Checksum: *Nautilus*



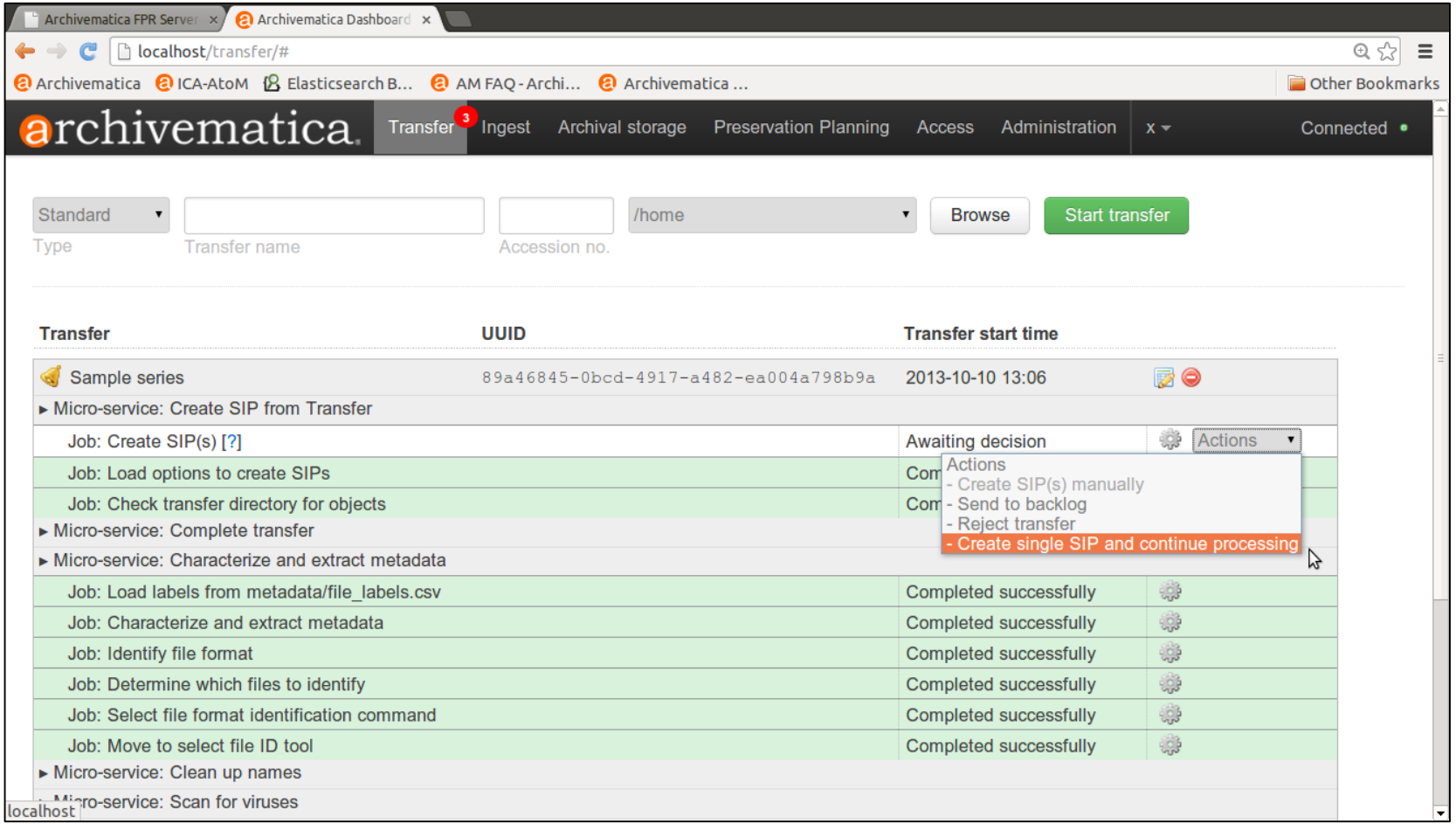
Front-End / Processing: Archivematica



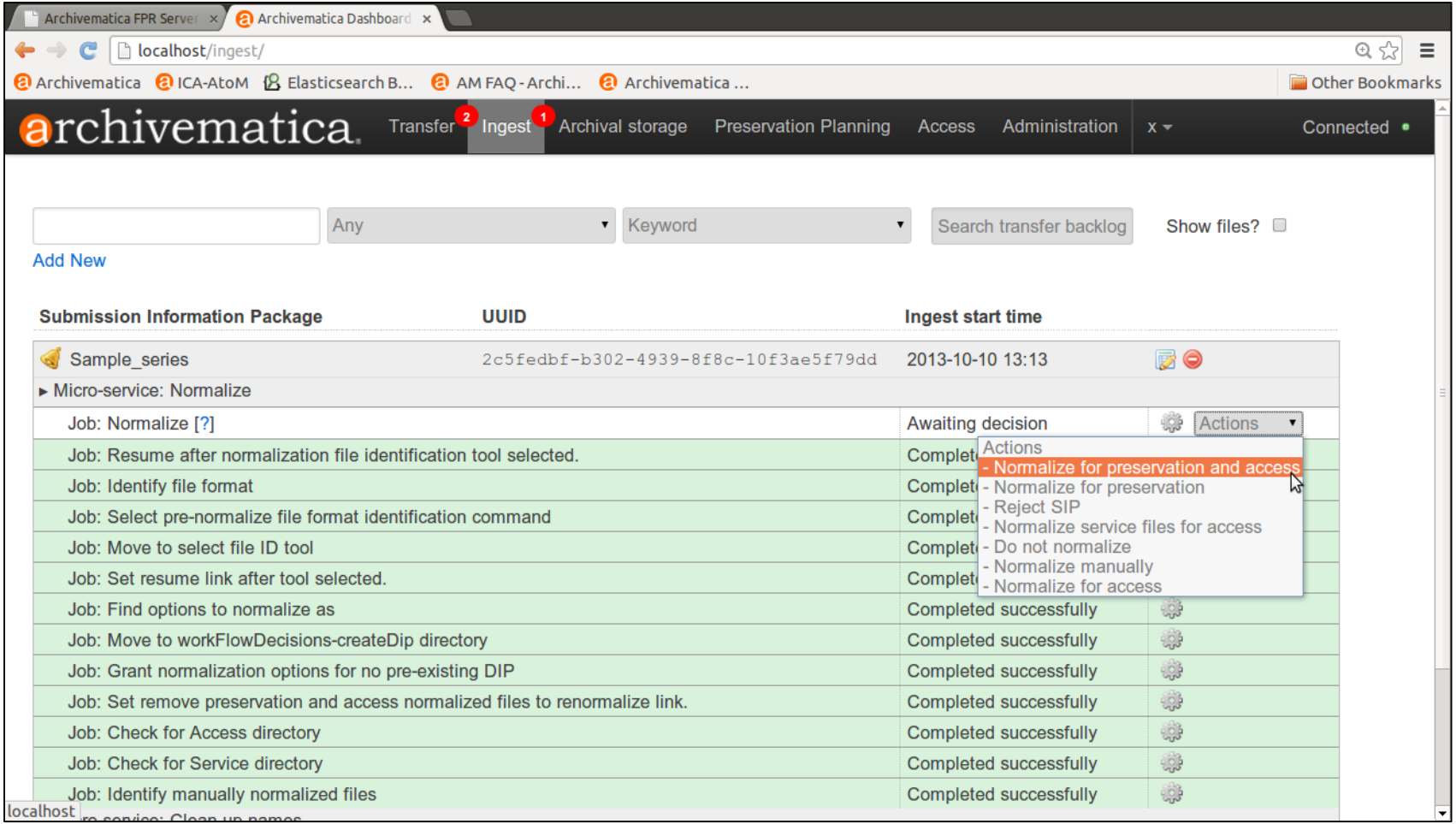
Front-End / Processing: Archivematica

- Open source/free software
- Requires IT support and administration (Virtual Machine, Ubuntu Server, etc.)
- Microservices run by themselves
- Shows all the steps for AIP, SIP, DIP
- Capability to upload own metadata
- Errors stop everything
- Great Google users group support
- Integrates with Content DM & DSpace
- Bundled with ICA-AToM (archival content management system like ARCHON)
- Hosted version now available
- File transfers not intuitive
- Slower processing, but that could be due to the fact that we are used to desktop-based applications

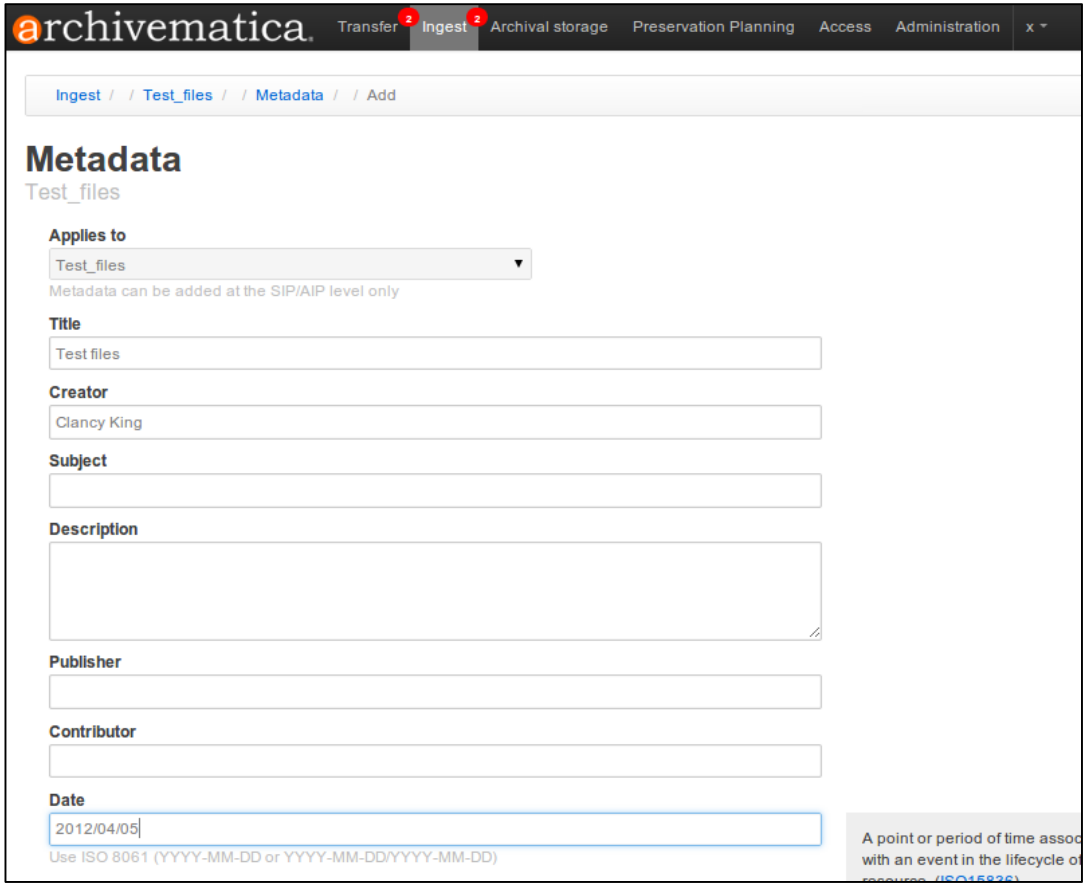
Archivematica: Transfer Collection



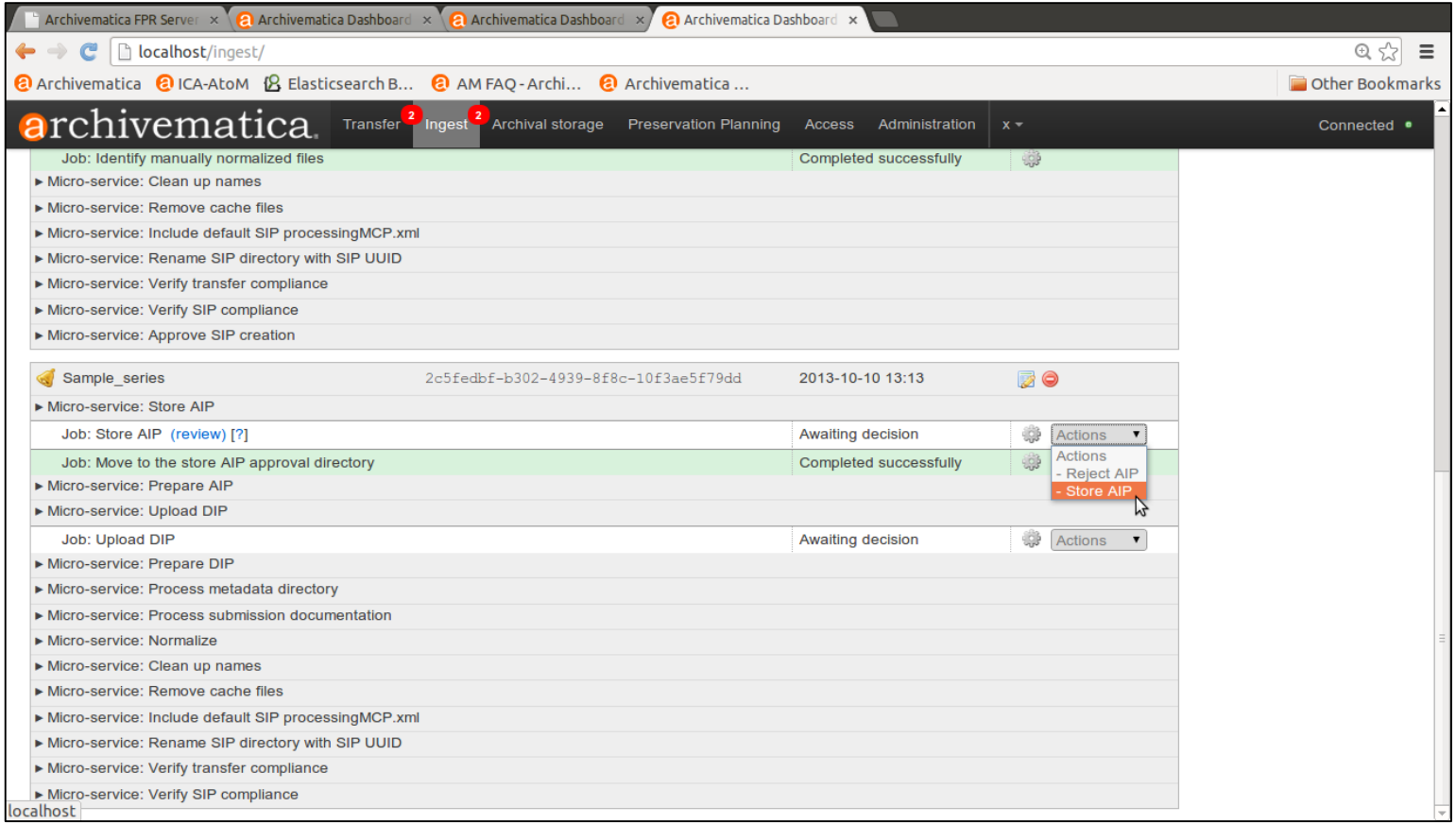
Archivematica: Normalization On Ingest



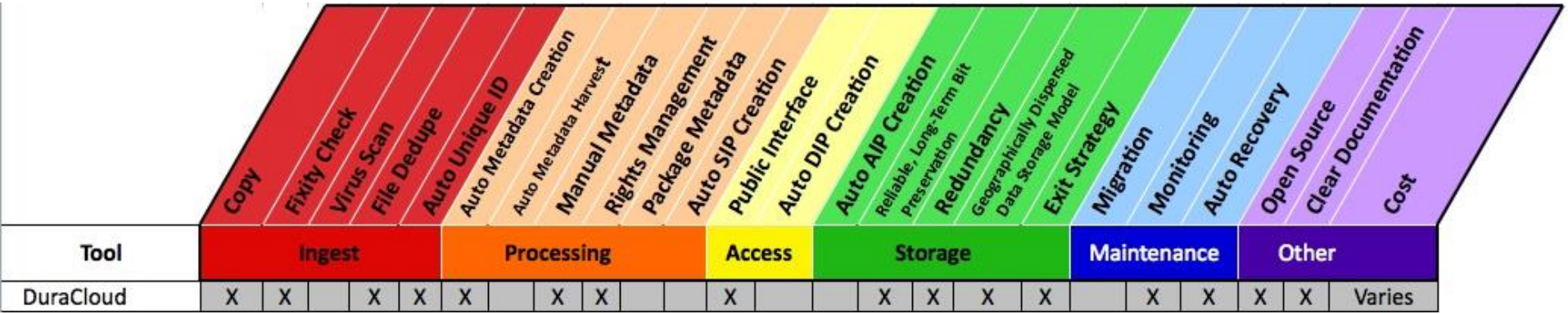
Archivematica: Add Metadata



Archivematica: Add AIP to Storage



Back-End / Preservation: DuraCloud



Back-End / Preservation: DuraCloud

- Nonprofit; Open Pricing; Community buy-in
- Cloud storage/preservation solution
- Different storage provider options
- Hosted service (requires little to no IT support on your end!)
- Some microservices available (like health checks that verify checksums)
- Different options/methods for uploading content (bulk, single item, etc.)
- Intuitive uploads and file management
- Easy exit strategy
- Integration with DSpace
- New: Integrated with hosted version of Dspace
- Media streaming based on Amazon's Cloud service
- Responsive customer service with very good documentation
- Affordable; Scalable; Easy to get started

Subscription Plan	Annual Price
DuraCloud Preservation The DuraCloud Preservation plan is suited for institutions that wish to store one copy of their content in the cloud. *Customers can store up to 5TB of content in the DuraCloud Preservation plan.* The DuraCloud Preservation plan uses Amazon Web Services Simple Storage Service (S3) to store content in the cloud. Features	**Subscription Fee:** $1,175 **Storage:** $700/TB
DuraCloud Preservation Plus The DuraCloud Preservation Plus plan is ideal for organizations that wish to store two or more copies of their content in the cloud. *Customers can store up to 5TB of content in the DuraCloud Preservation Plus plan.* The DuraCloud Preservation Plus plan uses Amazon Web Services Simple Storage Service (S3) to store the primary copy of content in the cloud. The customer can choose which cloud storage provider stores the secondary copy of content in the cloud -- options include: Amazon Web Services Glacier AND/OR the San Diego Supercomputer Center (SDSC) cloud storage service AND/OR Rackspace Cloud Files. Features	***Amazon S3 + Amazon Glacier*** **Subscription Fee:** $1,175 **Storage:** $825/TB ---------- ***Amazon S3 + SDSC*** **Subscription Fee:** $1,475 **Storage:** $1,400/TB
DuraCloud Enterprise The DuraCloud Enterprise plan is designed to meet the needs of institutions that wish to store one copy of their content in the cloud and need to share access with a variety of individuals, departments, research groups, etc. *Customers can store an unlimited amount of content in the DuraCloud Enterprise plan. Contact us for a custom quote for storage beyond 10TB.* The DuraCloud Enterprise plan uses Amazon Web Services Simple Storage Service (S3) to store content in the cloud. Features	**Subscription Fee:** $5,250 **Storage:** $500/TB

DuraCloud Enterprise Plus

The DuraCloud Enterprise Plus plan is intended to assist organizations that wish to store two copies of their content in the cloud and need to share access with a variety of individuals, departments, research groups, etc.

Customers can store an unlimited amount of content in the DuraCloud Enterprise Plus plan. Contact us for a custom quote for storage beyond 10TB.

The DuraCloud Enterprise Plus plan uses Amazon Web Services Simple Storage Service (S3) to store the primary copy of content in the cloud. The customer can choose which cloud storage provider stores the secondary copy of content in the cloud -- options include: Amazon Web Services Glacier AND/OR the San Diego Supercomputer Center (SDSC) cloud storage service AND/OR Rackspace Cloud Files.

Features

Amazon S3 + Amazon Glacier

Subscription Fee: $5,250

Storage: $625/TB

Amazon S3 + SDSC

Subscription Fee: $5,550

Storage: $1,200/TB

DuraCloud Enterprise Chronopolis

The DuraCloud Enterprise Chronopolis plan is intended to provide organizations with a Trustworthy Repositories Audit and Certification (TRAC) dark archive storage option through the Chronopolis network, which consists of three non-profit research organizations.

Customers can store an unlimited amount of content in the DuraCloud Chronopolis plan. Contact us for a custom quote for storage beyond 10TB.

Features

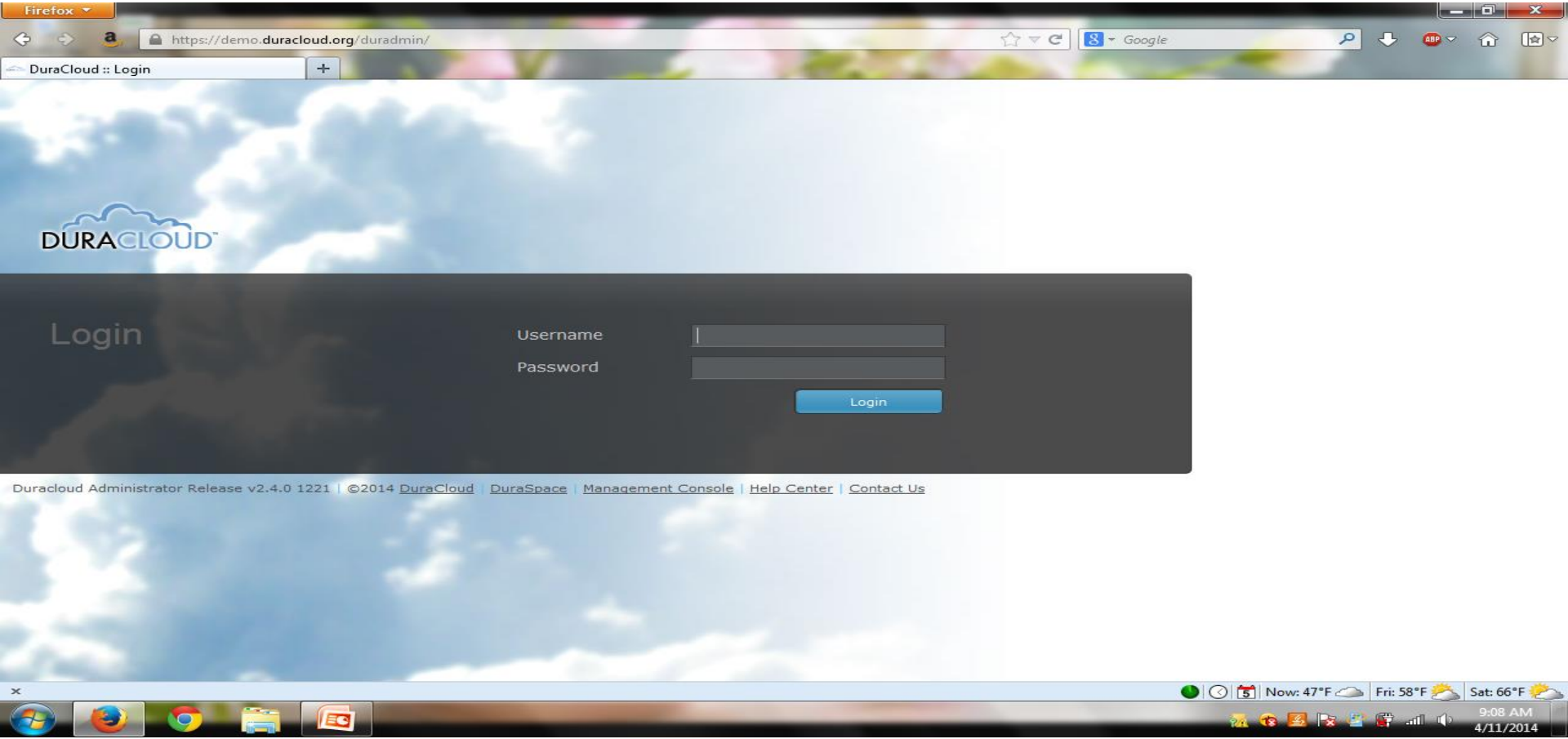
Storage in Chronopolis:

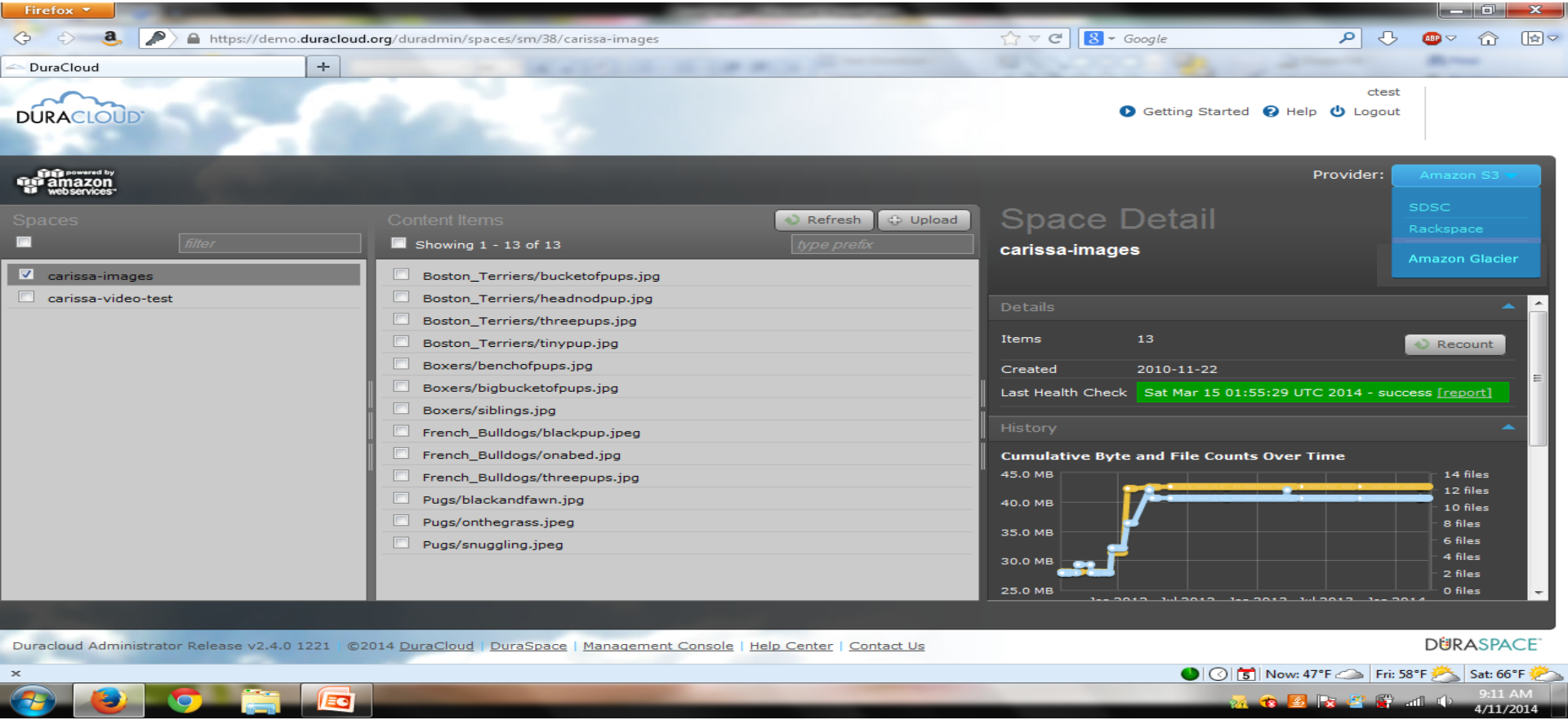
Subscription Fee: $2,750

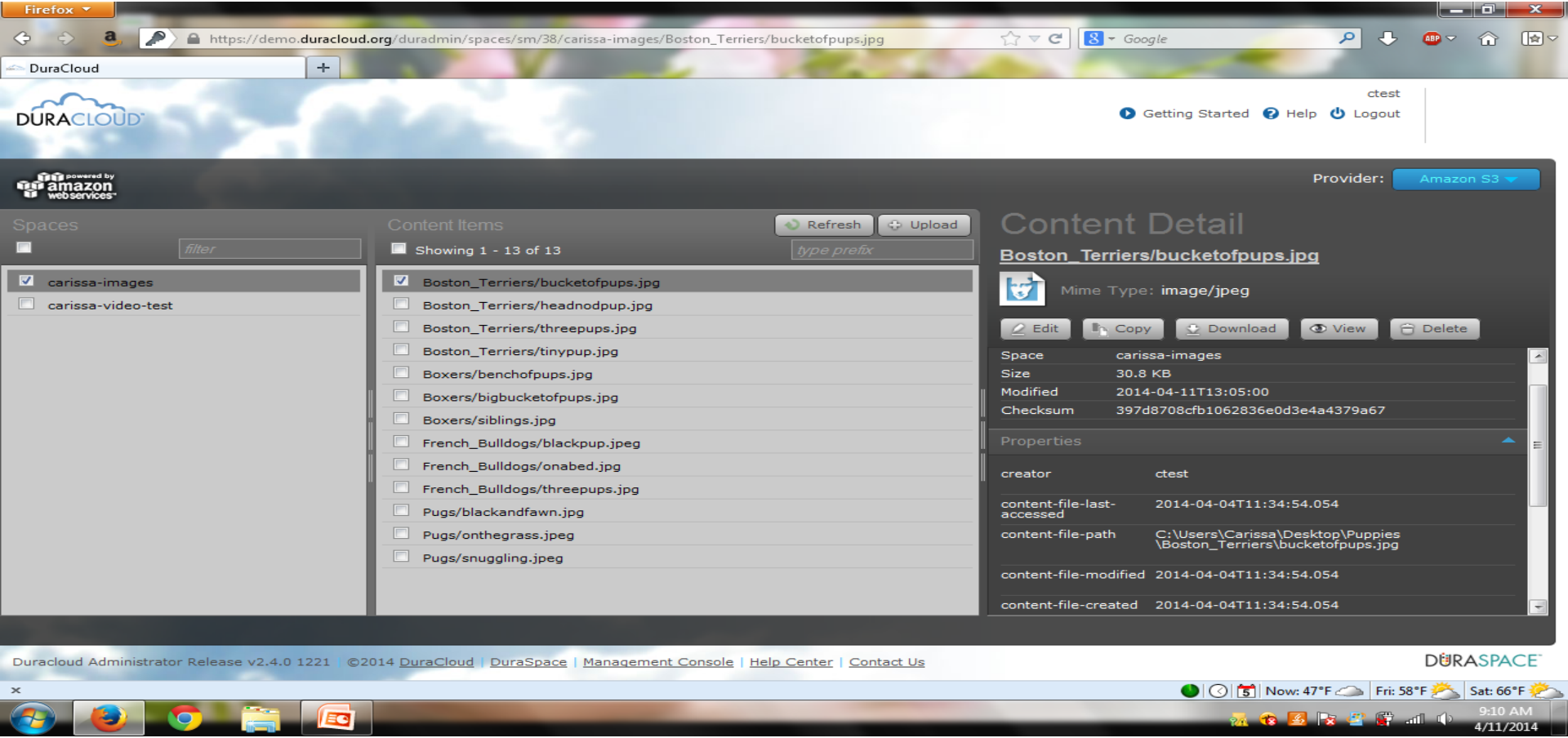
Ingest Fee: $310/TB

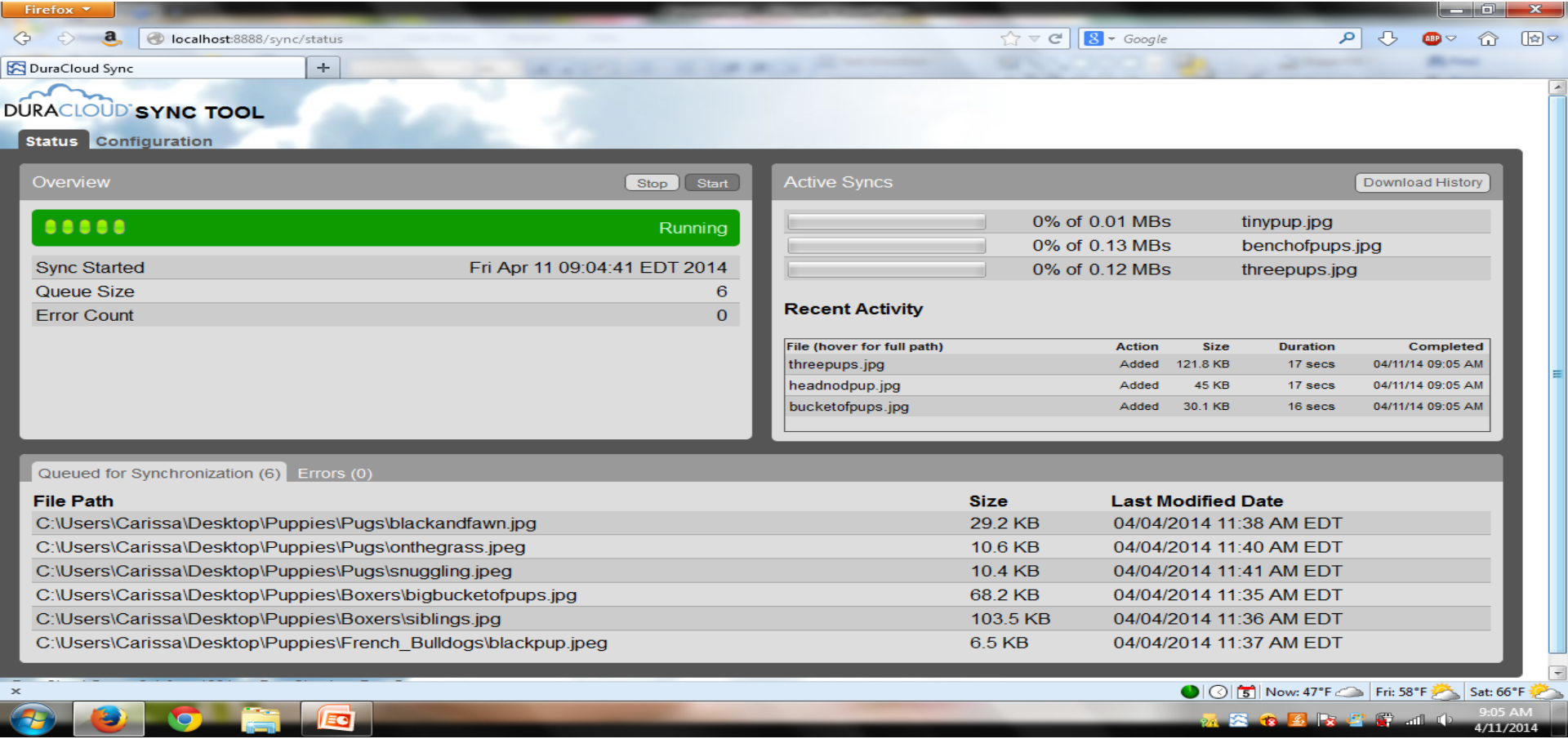
Storage: $500/TB

Retrieval Fee: Available on request

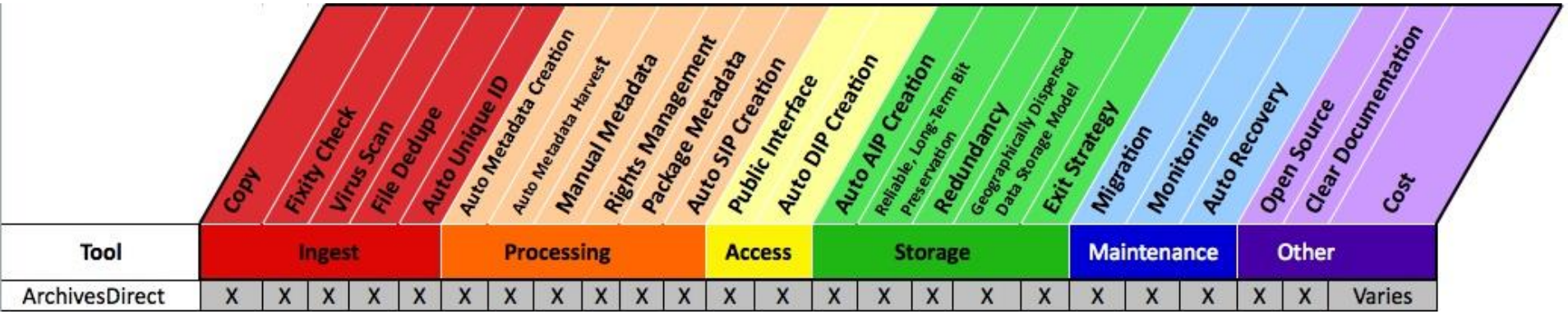

Firefox
https://demo.duracloud.org/duradmin/
Google
DuraCloud :: Login
DURACLOUD
Login
Username
Password
Login
Duracloud Administrator Release v2.4.0 1221 | ©2014 DuraCloud | DuraSpace | Management Console | Help Center | Contact Us
Now: 47°F
Fri: 58°F
Sat: 66°F
9:08 AM
4/11/2014


Firefox
https://demo.duracloud.org/duradmin/spaces/sm/38/carissa-images
Google
DuraCloud
DURACLOUD
ctest
Getting Started
Help
Logout
powered by amazon web services
Provider:
Amazon S3
SDSC
Rackspace
Amazon Glacier
Spaces
filter
carissa-images
carissa-video-test
Content Items
Refresh
Upload
Showing 1 - 13 of 13
type prefix
Boston_Terriers/bucketofpups.jpg
Boston_Terriers/headnodpup.jpg
Boston_Terriers/threepups.jpg
Boston_Terriers/tinypup.jpg
Boxers/benchofpups.jpg
Boxers/bigbucketofpups.jpg
Boxers/siblings.jpg
French_Bulldogs/blackpup.jpeg
French_Bulldogs/onabed.jpg
French_Bulldogs/threepups.jpg
Pugs/blackandfawn.jpg
Pugs/onthegrass.jpeg
Pugs/snuggling.jpeg
Space Detail
carissa-images
Details
Items 13
Recount
Created 2010-11-22
Last Health Check Sat Mar 15 01:55:29 UTC 2014 - success [report]
History
Cumulative Byte and File Counts Over Time
45.0 MB
40.0 MB
35.0 MB
30.0 MB
25.0 MB
14 files
12 files
10 files
8 files
6 files
4 files
2 files
0 files
Duracloud Administrator Release v2.4.0 1221 | ©2014 DuraCloud | DuraSpace | Management Console | Help Center | Contact Us
DURASPACE
Now: 47°F
Fri: 58°F
Sat: 66°F
9:11 AM
4/11/2014


Firefox
https://demo.duracloud.org/duradmin/spaces/sm/38/carissa-images/Boston_Terriers/bucketofpups.jpg
Google
DuraCloud
DURACLOUD
ctest
Getting Started
Help
Logout
powered by amazon web services
Provider:
Amazon S3
Spaces
filter
carissa-images
carissa-video-test
Content Items
Refresh
Upload
Showing 1 - 13 of 13
type prefix
Boston_Terriers/bucketofpups.jpg
Boston_Terriers/headnodpup.jpg
Boston_Terriers/threepups.jpg
Boston_Terriers/tinypup.jpg
Boxers/benchofpups.jpg
Boxers/bigbucketofpups.jpg
Boxers/siblings.jpg
French_Bulldogs/blackpup.jpeg
French_Bulldogs/onabed.jpg
French_Bulldogs/threepups.jpg
Pugs/blackandfawn.jpg
Pugs/onthegrass.jpeg
Pugs/snuggling.jpeg
Content Detail
Boston_Terriers/bucketofpups.jpg
Mime Type: image/jpeg
Edit
Copy
Download
View
Delete
Space carissa-images
Size 30.8 KB
Modified 2014-04-11T13:05:00
Checksum 397d8708cfb1062836e0d3e4a4379a67
Properties
creator ctest
content-file-last-accessed 2014-04-04T11:34:54.054
content-file-path C:\Users\Carissa\Desktop\Puppies\Boston_Terriers\bucketofpups.jpg
content-file-modified 2014-04-04T11:34:54.054
content-file-created 2014-04-04T11:34:54.054
Duracloud Administrator Release v2.4.0 1221 | ©2014 DuraCloud | DuraSpace | Management Console | Help Center | Contact Us
DURASPACE
Now: 47°F
Fri: 58°F
Sat: 66°F
9:10 AM
4/11/2014

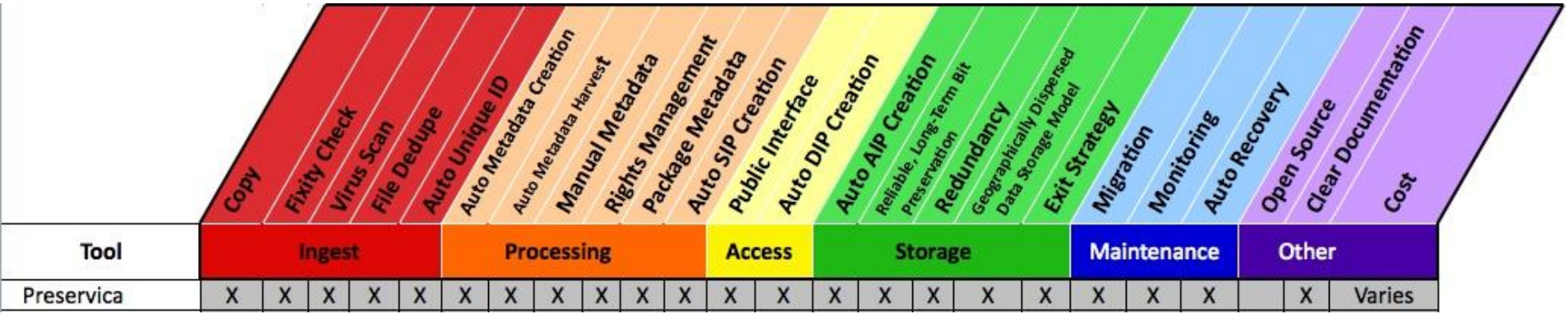

Firefox
localhost:8888/sync/status
Google
DuraCloud Sync
DURACLOUD SYNC TOOL
Status
Configuration
Overview
Stop
Start
Running
Sync Started
Fri Apr 11 09:04:41 EDT 2014
Queue Size
6
Error Count
0
Active Syncs
Download History
0% of 0.01 MBs
tinypup.jpg
0% of 0.13 MBs
benchofpups.jpg
0% of 0.12 MBs
threepups.jpg
Recent Activity
File (hover for full path)
Action
Size
Duration
Completed
threepups.jpg
Added
121.8 KB
17 secs
04/11/14 09:05 AM
headnodpup.jpg
Added
45 KB
17 secs
04/11/14 09:05 AM
bucketofpups.jpg
Added
30.1 KB
16 secs
04/11/14 09:05 AM
Queued for Synchronization (6)
Errors (0)
File Path
Size
Last Modified Date
C:\Users\Carissa\Desktop\Puppies\Pugs\blackandfawn.jpg
29.2 KB
04/04/2014 11:38 AM EDT
C:\Users\Carissa\Desktop\Puppies\Pugs\onthegrass.jpeg
10.6 KB
04/04/2014 11:40 AM EDT
C:\Users\Carissa\Desktop\Puppies\Pugs\snuggling.jpeg
10.4 KB
04/04/2014 11:41 AM EDT
C:\Users\Carissa\Desktop\Puppies\Boxers\bigbucketofpups.jpg
68.2 KB
04/04/2014 11:35 AM EDT
C:\Users\Carissa\Desktop\Puppies\Boxers\siblings.jpg
103.5 KB
04/04/2014 11:36 AM EDT
C:\Users\Carissa\Desktop\Puppies\French_Bulldogs\blackpup.jpeg
6.5 KB
04/04/2014 11:37 AM EDT
Now: 47°F
Fri: 58°F
Sat: 66°F
9:05 AM
4/11/2014

Full Lifecycle: ArchivesDirect



Subscription Plan	Features	Annual Price
ArchivesDirect Digital Preservation Assessment This plan is ideal for institutions just starting out with digital preservation or considering multiple preservation solutions. Use this service as an opportunity to learn more about digital preservation using Archivematica, to assess your readiness for digital preservation, and to plan your preservation workflows. Finish the three-month period with institution-specific use cases, workflow plans and sample Archival Information Packages (AIPs).	One Three-Month Hosted Archivematica Instance Customized Training and Consulting for Sample Materials Three-Month Storage: 500 GB	$4,500
ArchivesDirect Standard The ArchivesDirect standard plan is ideal for institutions with diverse digitized and born-digital holdings, including images, text files, office documents, PDF files, audio and video files, and forensic disk images. Users of this service will have access to a robust suite of digital preservation functions via a hosted instance of Archivematica. Archivematica is well known for its ability to produce highly standardized and interoperable Archival Information Packages (AIPs). AIP storage will be DuraCloud with secure, replicated storage in Amazon S3 and Amazon Glacier.	One Annual Hosted Archivematica Instance Annual Storage: 1 TB Customized Training and Consulting	$9,999
ArchivesDirect Professional For large-scale implementations with complex use cases, content collections, and/or amounts of data, please contact us for a custom quote.		Contact Us

Full Lifecycle: Preservica



Full Lifecycle: Preservica

- All encompassing:
  - Ingest
  - Processing
  - End-User Access
  - Preservation
  - Migration
- Aligned with OAIS reference model
- Hosted Service (Requires little IT support on your end)
- Very user friendly
- Intuitive workflows
- Exit strategy available (batch export)
- Ability to harvest via web crawls
- Solid customer support
- Different training options available for institutions with smaller budgets
- Currently uses only Amazon cloud storage
  - new options forthcoming
- Proprietary, vendor-based
- E-mail Preservation

Starter	**up to 250 GB** includes training, support & user group	$3,950 per year in Amazon S3
Starter Plus	**up to 500 GB** includes training, support & user group	$6,950 per year in Amazon S3
Standard	**1 to 10 TB** includes training, support & user group	$11,950 per year for first TB in Amazon S3 then $1,450 per TB S3 per year and/or $550 per TB Glacier per year
Volume	**10 TB+** includes training, support & user group	$ Discounted Plans (up to 50%) in Amazon S3 and/or Amazon Glacier

All plans include the following:

- ✔ One day in depth training on our user webinars
- ✔ Active user group with regular meetings and community portal
- ✔ Unlimited support by email
- ✔ Professional software maintenance and regular new feature upgrades
- ✔ Fully integrated suite of easy-to-use OAIS conforming workflows
- ✔ Public access/discovery module
- ✔ Active Preservation technology
- ✔ Automated DSpace ingest
- ✔ Automated BagIt ingest
- ✔ Automated CONTENTdm ingest
- ✔ PastPerfect ingest
- ✔ Automated Microsoft SharePoint ingest
- ✔ Automated Microsoft Outlook ingest
- ✔ Automated Google Gmail ingest
- ✔ Advanced Website Harvesting
- ✔ CALM, Adlib & ArchivesSpace catalogue synchronization
- ✔ Easy-to-use non-expert upload wizard
- ✔ Large file upload agent
- ✔ Policy & Classification support for long-term non-permanent records
- ✔ Linked Data Registries
- ✔ All hosting, backup and operations
- ✔ Metadata held in fast Amazon RDS storage
- ✔ Durable Cloud storage - multiple copies, multiple locations, integrity checking
- ✔ Choice of Amazon S3 and/or Amazon Glacier (above 1 TB) for optimal storage costs
- ✔ Copy back to local server option
- ✔ No penalty upgrades to higher plans
- ✔ No cost to retrieve content if you decide to leave the service

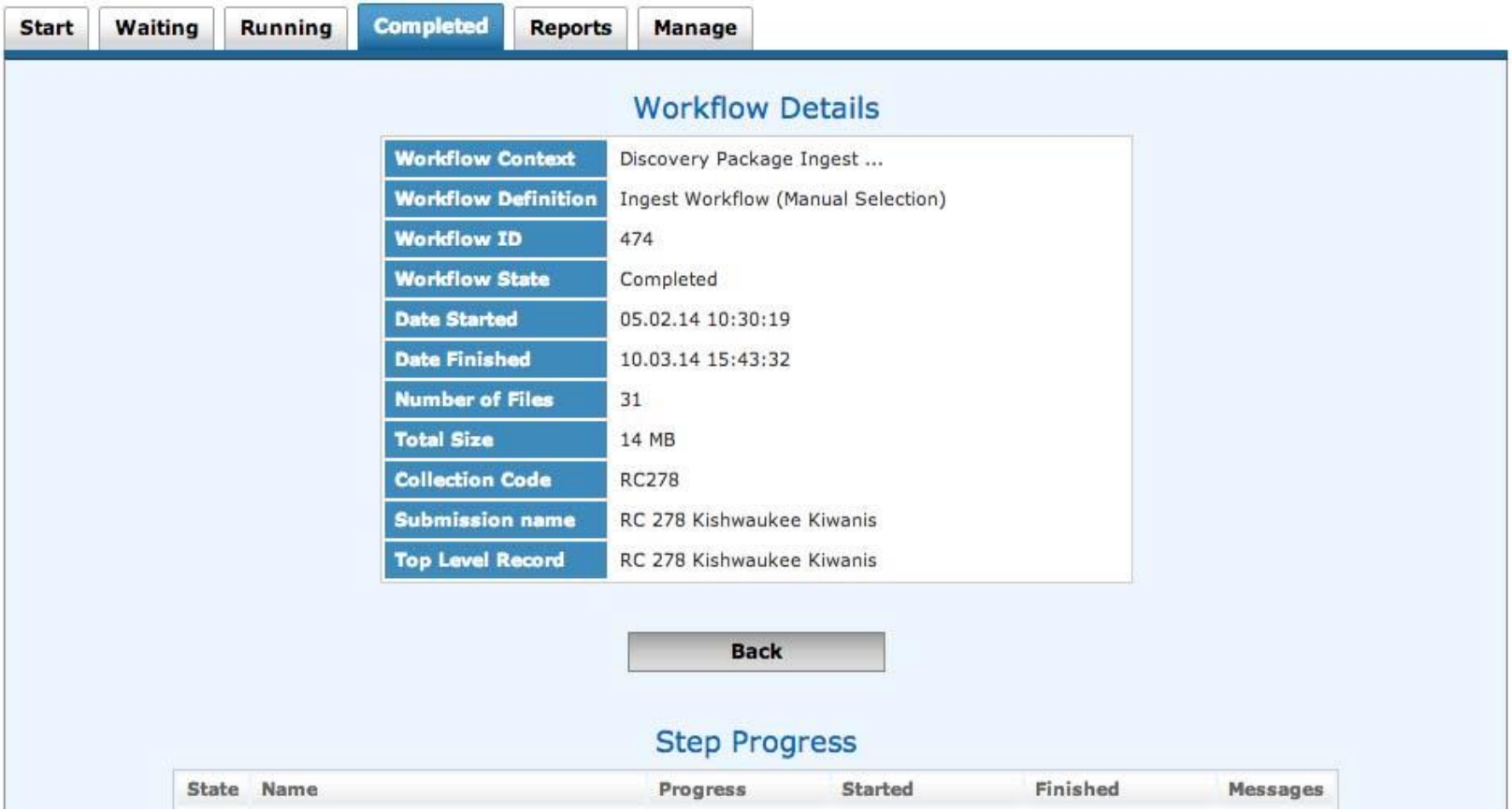
Preservica
Digital Preservation

Welcome, Danielle Spalenka | Inbox (0) | Logout

Preservica Digital Archive: Home

Help | Home | English

INGEST


Start
Waiting
Running
Completed
Reports
Manage
Workflow Details
Workflow Context
Discovery Package Ingest ...
Workflow Definition
Ingest Workflow (Manual Selection)
Workflow ID
474
Workflow State
Completed
Date Started
05.02.14 10:30:19
Date Finished
10.03.14 15:43:32
Number of Files
31
Total Size
14 MB
Collection Code
RC278
Submission name
RC 278 Kishwaukee Kiwanis
Top Level Record
RC 278 Kishwaukee Kiwanis
Back
Step Progress
State
Name
Progress
Started
Finished
Messages

Collection Code	RC 315
Submission name	RC 315 League of Women Voters of the Rochelle Area
Top Level Record	RC 315 League of Women Voters of the Rochelle Area

Back

Step Progress

State	Name	Progress	Started	Finished	Messages
✓	Import from Transfer Area		07.03.14 14:33:09	07.03.14 14:33:14	
✓	Virus Check		07.03.14 14:33:14	07.03.14 14:33:47	
✓	Fixity Check		07.03.14 14:33:47	07.03.14 14:33:50	
✓	Metadata Integrity		07.03.14 14:33:50	07.03.14 14:33:53	
✓	Content Integrity		07.03.14 14:33:53	07.03.14 14:33:56	
✓	SIP Validation		07.03.14 14:33:56	07.03.14 14:33:59	
✓	SIP Validation with Database Crosscheck		07.03.14 14:33:59	07.03.14 14:34:02	
✓	Characterise		07.03.14 14:34:02	07.03.14 14:34:17	**View**
✗	Store Files		07.03.14 14:34:17	08.03.14 05:09:08	**View**

Start | Waiting | Running | Completed | Reports | Manage

Workflow Details

Workflow Context	Migration (Filtered)
Workflow Definition	Preservation Workflow (Filter by Top-Level Collection)
Workflow ID	879
Workflow State	Active
Date Started	13.04.14 15:47:58
Date Finished	
Number Of File Sets	1
Migration Pathway Role	Preservation

Pause | Back | Terminate

Step Progress

State	Name	Progress	Started	Finished	Messages
	New Details		13.04.14 15:47:58	13.04.14 15:53:39	
	Pick Formats at Risk		13.04.14 15:53:39	13.04.14 15:53:49	
	Pick Formats at Risk		13.04.14 15:53:49	13.04.14 15:55:52	
	Pick File Sets		13.04.14 15:55:52	13.04.14 15:58:50	
	Ready		13.04.14 15:58:50	13.04.14 15:59:58	
	Migrate AIPs		13.04.14 15:59:59		

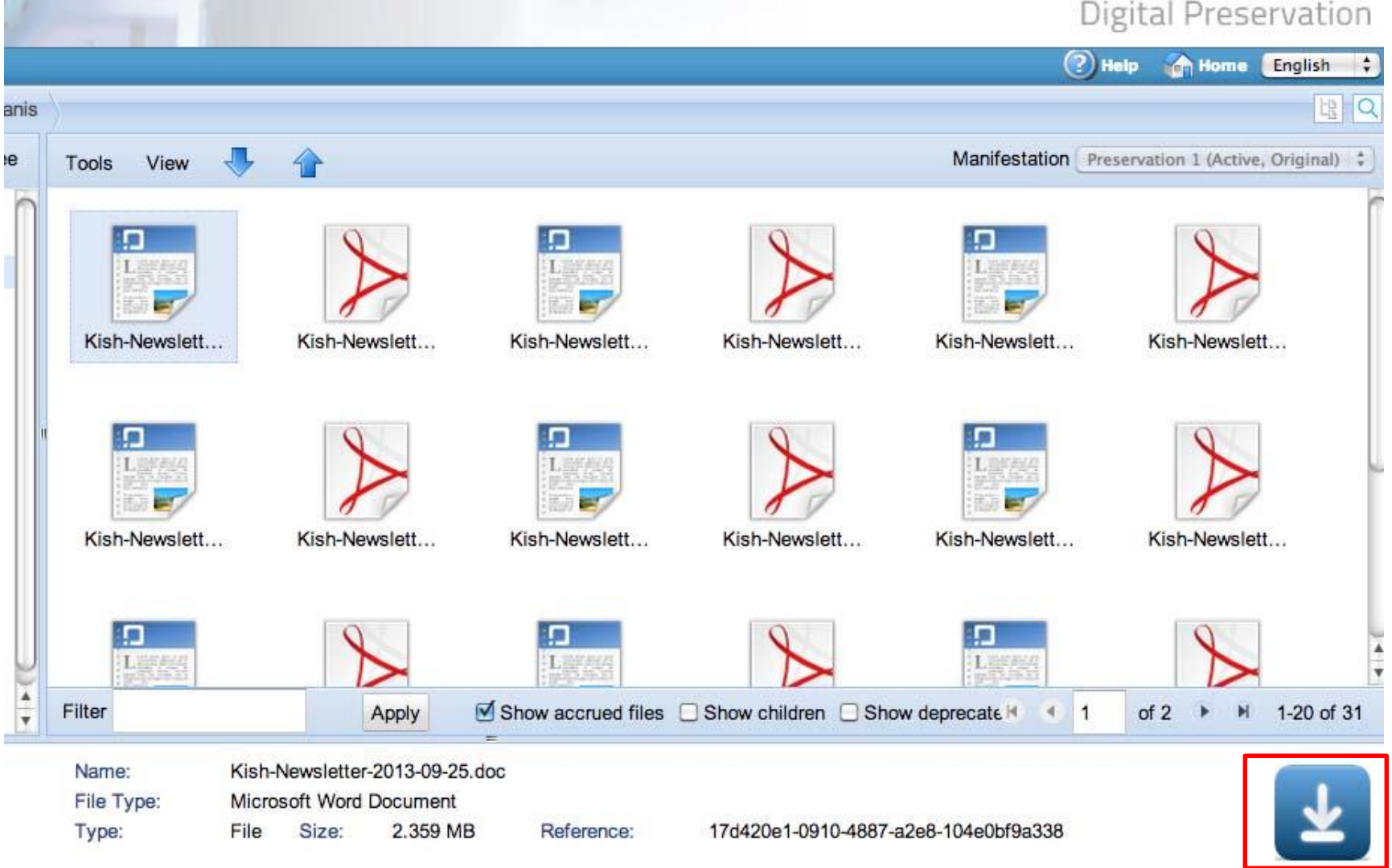
Spalenka Inbox (0) Logout

Preservica Digital Archive: Administration

Schema Management | Transfer Agreements | Workflow Definitions | Security | Reports | About

Saved Reports

Report Name	Report Summary	Download
Deleted manifestations	Show deleted redundant manifestations and associated files	Parameters
Download activity	Download activity summary	Parameters
File Download activity	File Download activity summary	Parameters
File formats	Show the breakdown of file formats in the archive	
File formats (details)	Shows the file formats with version and puid details	
Files At Risk	Show deliverable units containing 'at risk' files in their active manifestation	Parameters


Digital Preservation
Help
Home
English
Tools
View
Manifestation
Preservation 1 (Active, Original)
Kish-Newslett...
Filter
Apply
Show accrued files
Show children
Show deprecate
1
of 2
1-20 of 31
Name:
Kish-Newsletter-2013-09-25.doc
File Type:
Microsoft Word Document
Type:
File
Size:
2.359 MB
Reference:
17d420e1-0910-4887-a2e8-104e0bf9a338

dorsetforyou.com

browse archive

Search Our Archive

search

FEATURED

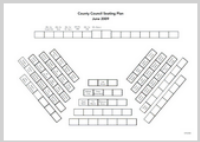
New Dorset Photo Collection

Please check out our new photo collection of donated photos from around the county supplied for free use. These photos have been provided by professional and amateur photographers and cover the period 1990-2002.

Object Type: Record
In Collection: Dorset Archives

details | view images

Other items of interest



2009 Council Seating

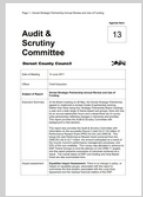
Council seating and processes

Object Type: File
In Record: Public Documents

Ancestry Documents

Collection of information supplied by Ancestry.com

Object Type: Record
In Collection: Dorset Archives



Dorset Strategic Partnership Annual Review

Audit & Scrutiny Committee : Dorset Strategic Partnership Annual Review and Use of Funding

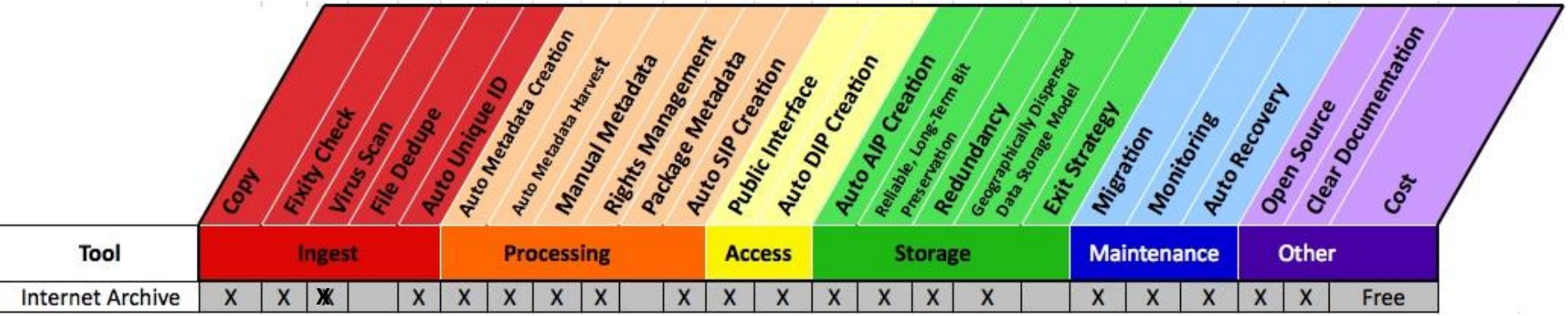
Object Type: File

William Barnes Collection

William Barnes is best known for his dialect poetry, though his formal schooling ended at the age of 13. The collection at the Dorset History Centre contains most of his published works.

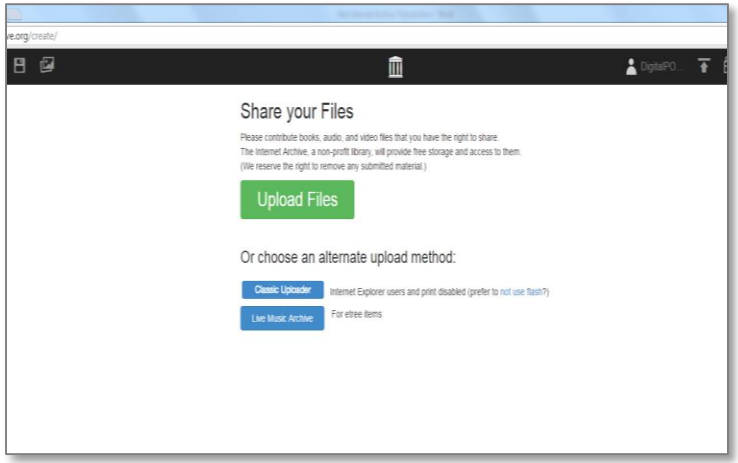
Object Type: Record
In Collection: Dorset Archives

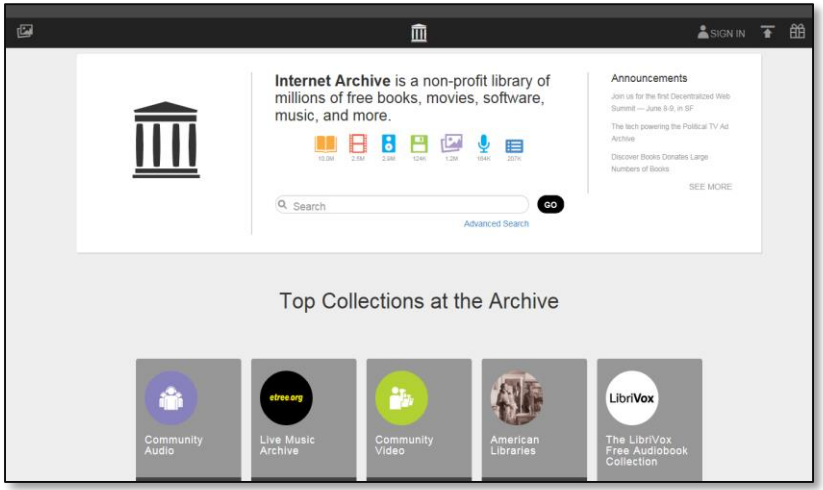
Full Lifecycle: Internet Archive



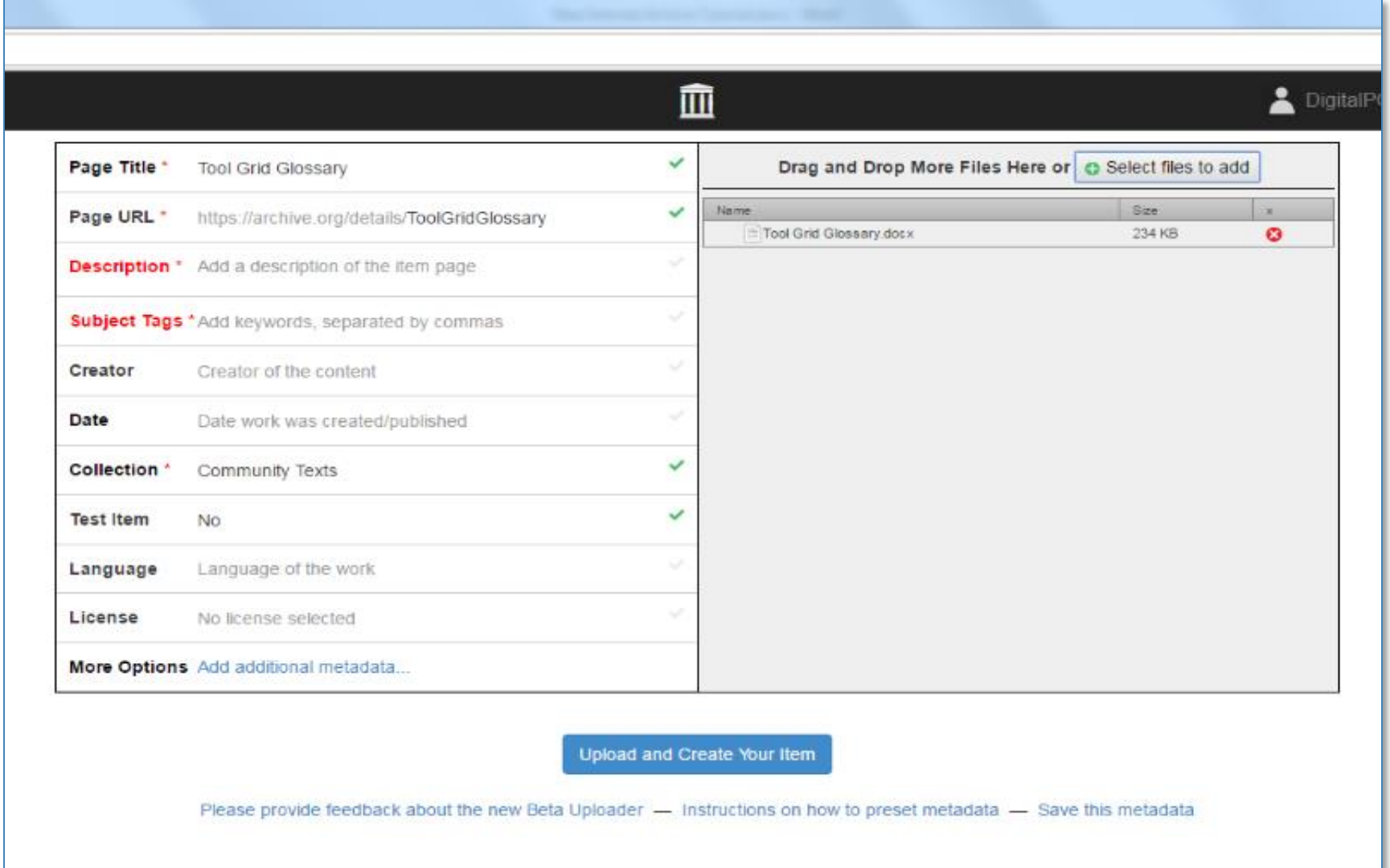
Internet Archive

- Intended for materials to be available to everyone (public domain, CC license)
- Geographically distributed copies.
- No frills (and no charge!) service.

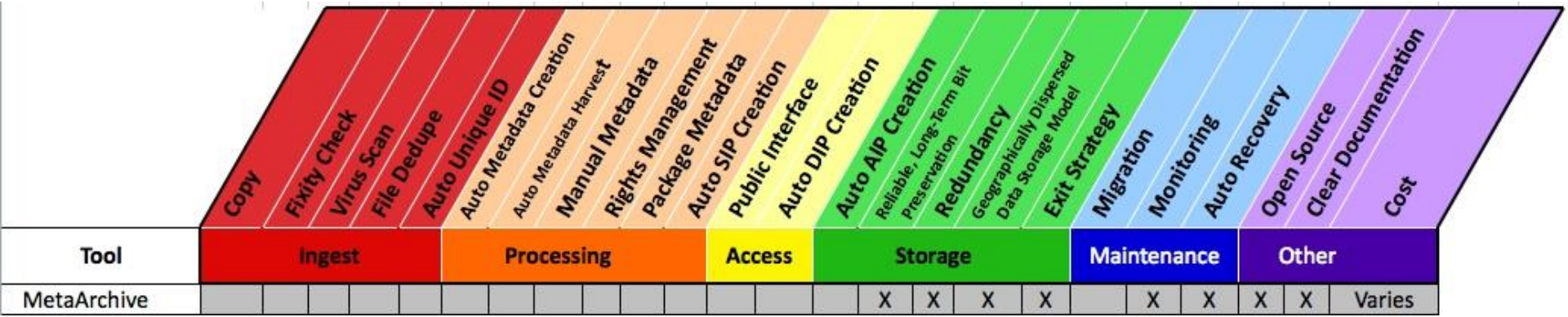




- Can text, audio, video, and images.
- Good option for small institutions with limited (or no) other alternatives.
- Does offer a more robust preservation product through its Archive-It service (web archiving only).


Page Title * Tool Grid Glossary
Page URL * https://archive.org/details/ToolGridGlossary
Description * Add a description of the item page
Subject Tags * Add keywords, separated by commas
Creator Creator of the content
Date Date work was created/published
Collection * Community Texts
Test Item No
Language Language of the work
License No license selected
More Options Add additional metadata...
Drag and Drop More Files Here or Select files to add
Name
Size
Tool Grid Glossary.docx
234 KB
Upload and Create Your Item
Please provide feedback about the new Beta Uploader — Instructions on how to preset metadata — Save this metadata

Back-End / Preservation: MetaArchive



Back-End / Preservation: MetaArchive

- Nonprofit; Open Pricing
- Instant community in the Cooperative!
  - All the cool kids are doing it!
- Helpful and responsive customer service
- Private LOCKSS network
- Dark Archive
- Requires dedicated IT administration
- Most memberships require attending meetings

- Assumes pre-processing work is done
- Rules for minimum processing requirements (ie file naming conventions)

What we tested

Sample costs

http://www.metaarchive.org/costs

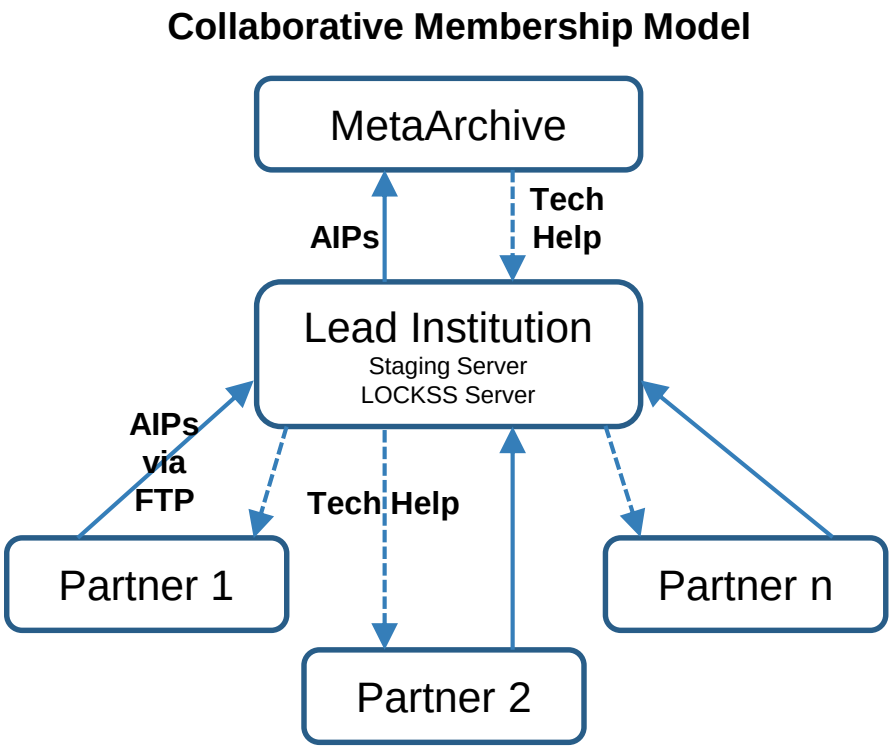
If an institution wanted to preserve 2 TB of content with us, they would pay:

Sustaining Member: [$5,500 (membership) +$1,170 (space) x 3 years] + $5,500 (server) = $25,510/3 years, or $8,503/year

Preservation Member: [$3,000 (membership) + $1,170 (space) x3 years] + $5,500 (server) = $18,010/3 years, or $6,003/year

Collaborative Member (mock example comprised of 20 institutions): [$4,000 (membership) + $1,170 (space) x3 years] + $5,500 (server) = $21,010/3 years or $7,003/year total or $350.00/year per member

Back-End / Preservation: MetaArchive



Very simplified version of how it works:

1) **Partners prepare their content for preservation and package it.**
   →We used the BagIt specification, and Bagger helped us with this

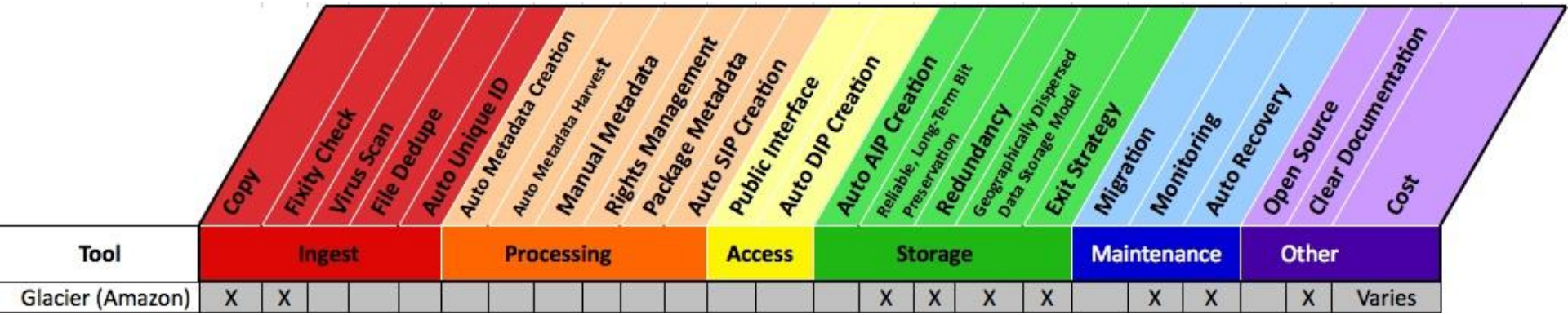
2) **Lead Institution prepares a staging server, sets appropriate access protocols and assists Partners with technical help.**

3) **Partners FTP their AIP's (Bags) to the staging server at the Lead Institution.**
   → We used Filezilla

4) **MetaArchive harvests the AIP's from the Lead Institution's staging server and pushes it into their LOCKSS network.**

   One other thing: **The Lead Institution also has a dedicated server that runs the LOCKKS software, is hooked into the MetaArchive network of servers across the globe, and is actively preserving the content of other Members.**

Back-End / Preservation: Amazon Glacier



Back-End / Preservation: Amazon Glacier

- Long-term, deep storage
- Cloud storage
- Good for large or growing collections
- Data stored is redundant across multiple Amazon data centers
- Pay-as-you-go pricing model
- Easy to retrieve information back but will cost you if you need it back quickly

- Visibility into fixity checking not available to clients
- Data management is limited

Amazon Glacier Pricing

Pay only for what you use. There is no minimum fee.

Storage Pricing

Region: US East (N. Virginia)

- $0.007 per GB / month

Except as otherwise noted, our prices are exclusive of applicable taxes and duties, including VAT and applicable sales tax. For customers with a Japanese billing address, use of AWS is subject to Japanese Consumption Tax. Learn more.

Request Pricing

Region: US East (N. Virginia)

	Pricing
UPLOAD and RETRIEVAL Requests	$0.050 per 1,000 requests
LISTVAULTS, GETJOBOUTPUT, DELETE† and all other Requests	Free
Data Retrievals	Free †

† Glacier is designed with the expectation that retrievals are infrequent and unusual, and data will be stored for extended periods of time. You can retrieve up to 5% of your average monthly storage (pro-rated daily) for free each month. If you choose to retrieve more than this amount of data in a month, you are charged a retrieval fee starting at $0.01 per gigabyte. Learn more. In addition, there is a pro-rated charge of $0.021 per gigabyte for items deleted prior to 90 days. Learn more.

Data Transfer Pricing

The pricing below is based on data transferred "in" to and "out" of Amazon Glacier.

Region: US East (N. Virginia)

	Pricing
Data Transfer IN To Amazon Glacier	
All data transfer in	$0.000 per GB
Data Transfer OUT From Amazon Glacier To	
Amazon EC2 in the same region	$0.000 per GB
Another AWS Region	$0.020 per GB
Data Transfer OUT From Amazon Glacier To Internet	
First 1 GB / month	$0.000 per GB
Up to 10 TB / month	$0.090 per GB
Next 40 TB / month	$0.085 per GB
Next 100 TB / month	$0.070 per GB
Next 350 TB / month	$0.050 per GB
Next 524 TB / month	Contact Us

Illustration by Jørgen Stamp
digitalbevaring.dk
CC BY 2.5 Denmark

POWRR Q&A

Tool	Ingest					Processing						Access		Storage					Maintenance			Other		
	Copy	Fixity Check	Virus Scan	File Dedupe	Auto Unique ID	Auto Metadata Creation	Auto Metadata Harvest	Manual Metadata	Rights Management	Package Metadata	Auto SIP Creation	Public Interface	Auto DIP Creation	Auto AIP Creation	Reliable, Long-Term Bit Preservation	Redundancy	Geographically Dispersed Data Storage Model	Exit Strategy	Migration	Monitoring	Auto Recovery	Open Source	Clear Documentation	Cost
DataAccessioner	X	X			X	X	X	X		X	X											X	X	Free
BitCurator	X	X	X	X		X	X	X		X												X	X	Free
Archivematica	X	X	X		X	X	X	X	X	X	X			X					X			X	X	Free
Fixity		X								X										X		X	X	Free
DuraCloud	X	X		X	X	X		X	X			X			X	X	X	X		X	X	X	X	Varies
MetaArchive															X	X	X	X		X	X	X	X	Varies
ArchivesDirect	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Varies
Preservica	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	Varies
Glacier (Amazon)	X	X													X	X	X	X		X	X		X	Varies
Internet Archive	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X		X	X	X	X	X	Free

Some other things to consider…

Web Archiving

- Process of collecting portions of the world wide web to ensure information is preserved in an archive for future researchers.
- Requires special software for capture and use
- Typically employ “web crawlers” for scheduled, automated capture
- Web ARChive format (WARC) is now an ISO Standard, used by LOC, de facto preservation standard

E-mail Archiving

What’s good? Well, we’re making progress!

- Open source solutions from trusted institutions
- Establishing archival standards – MBOX and EML

What’s scary?

- Proprietary software
- Formats within formats
- Maintaining conversational threads
- S C A L E

PROGRESS!!

✓ We can investigate potential tools and services

We can triage our data for ingest

We can upgrade our metadata and recordkeeping practices for the next steps

We can build policies and plans

We can better educate ourselves, our stakeholders, and our funders

LUNCH

Solution in Action: We've acquired WHAT?!?!

Activity Time!

1 – 2:30pm

1. Hypothetical Donation
2. Pre-Ingest Workflow
3. Inventory
4. Triage with **DataAccessioner**
5. Visualizing the output with **DataAccessioner: Metadata Transformer Tool**
6. Monitoring long-term health with **AVPreserve's Fixity**
7. Making decisions about <what> to preserve

Don’t Panic - Your Pre-Ingest Workflow

aka Wrangling your digital stuff before you can get it into a shiny system

NOTE: This is only ONE way to do this… Everyone’s workflow is a little different!

Starting from scratch:

- Begin an Inventory Spreadsheet
- Run accessioning tools (creates basic preservation metadata files in XML for you!)

  - Move everything to a stable carrier (like a network drive)
- Make an Access Copy from your Master Copy
- Continue populating Inventory Spreadsheet (if needed)
- OPTIONAL: Keep original media

Category	Title & Description	Date	Location	Extent	Format
(locally defined; project name? content creation method?)	(Donor applied and/or yours... what's your local practice)	(YYYYMMDD or other locally defined format for accession date)	(Storage place of choice -- networked server recommended)	(Quantity of folders, files, by type or total size)	(What extensions are involved: .jpg, .tif, .xls?)
Special Collections, mixed; digitized and born digital	A Curator's Cat Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Feline Health Research. No restrictions on access; some material may have copyright restrictions by law	20160610	C:\Users\Desktop\NewAccessions\Masters		

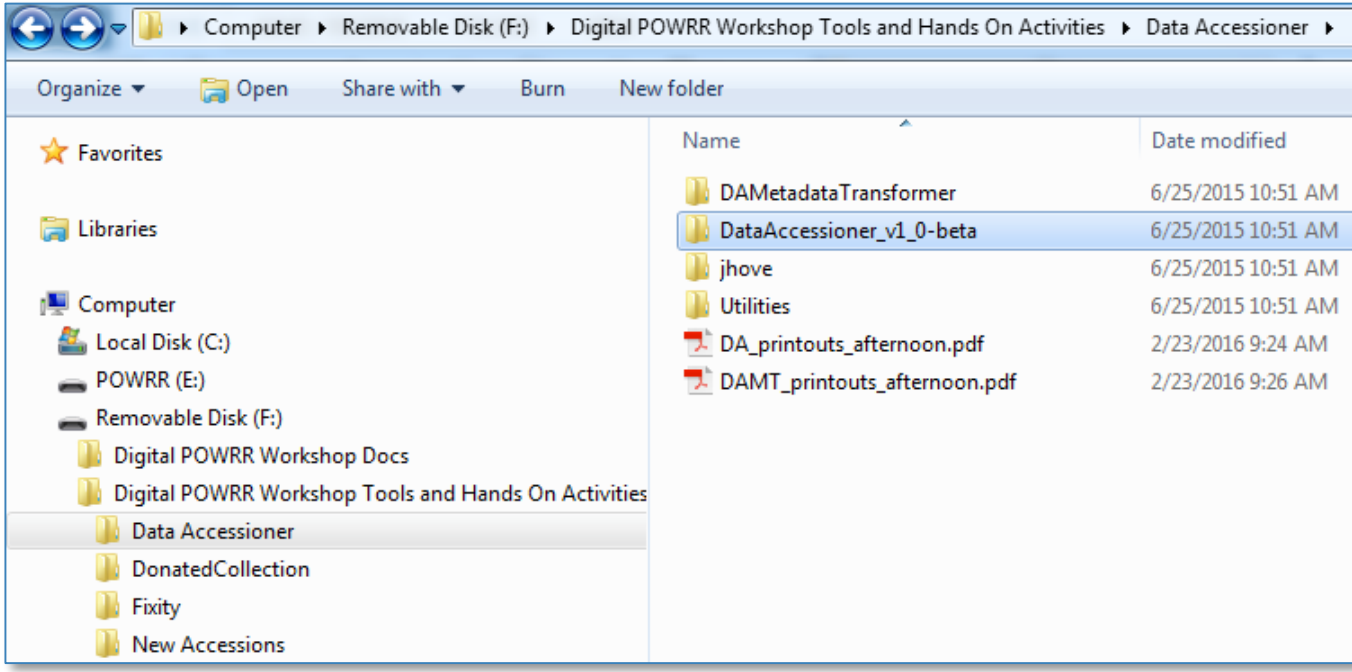
Live Demo of DataAccessioner and DA:MT

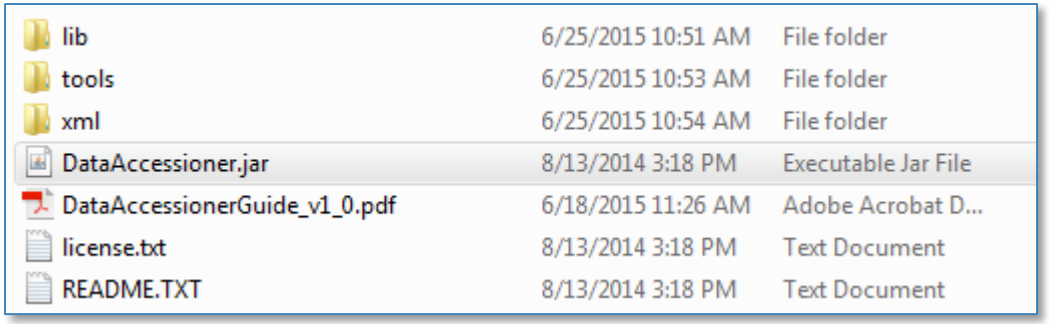
Category	Title & Description	Date	Location	Extent	Format
(locally defined; project name? content creation method?)	(Donor applied and/or yours... what's your local practice)	(YYYYMMDD or other locally defined format for accession date)	(Storage place of choice -- networked server recommended)	(Quantity of folders, files, by type or total size)	(What extensions are involved: .jpg, .tif, .xls?)
Special Collections, mixed; digitized and born digital	A Curator's Cat Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Feline Health Research. No restrictions on access; some material may have copyright restrictions by law	20160610	C:\Users\Desktop\NewAccessions\Masters	38.83 MB	11 jpg, 1 pdf, 3 PDF/A, 2 MPEG v4

Your Turn!

Insert flash drive and open the explorer window

→ Digital POWRR Workshop Tools and Hands On Activities
→ Data Accessioner
→ DataAccessioner_v1_0-beta



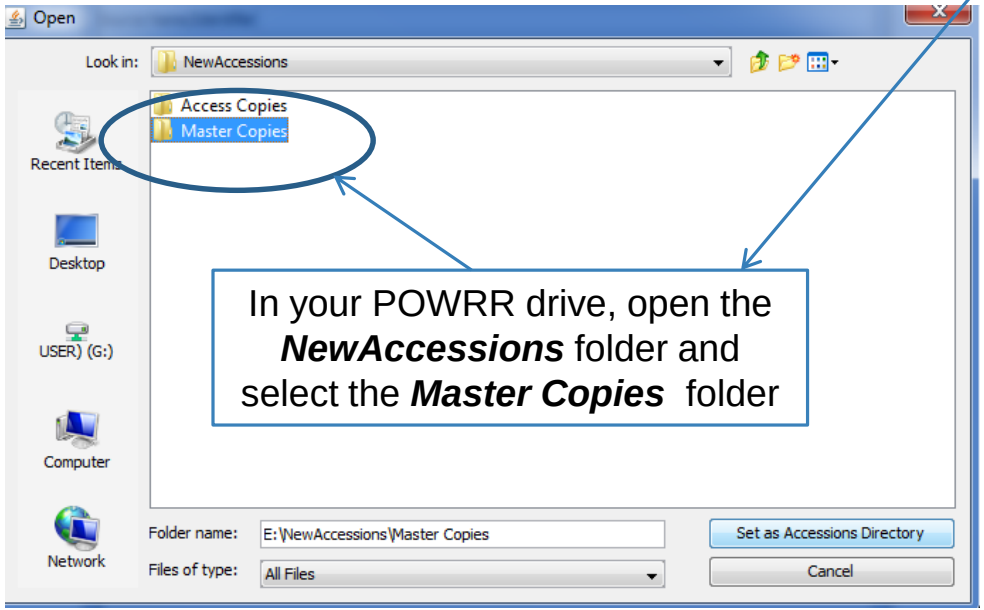


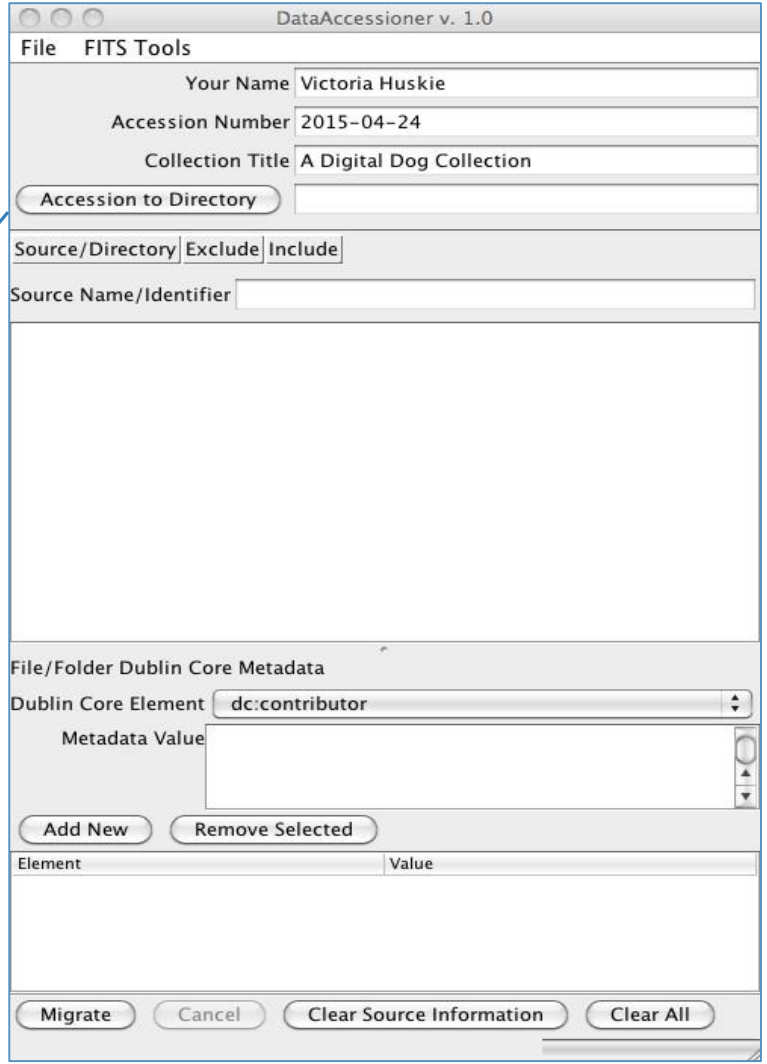
Navigate to DataAccessioner.jar and open it

Create your accession directory:

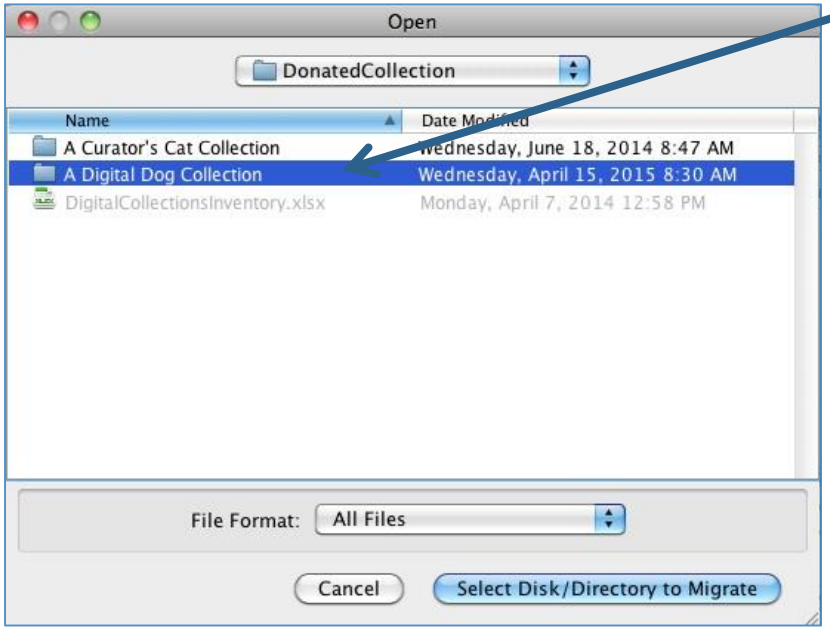
Where you want the collection to go live

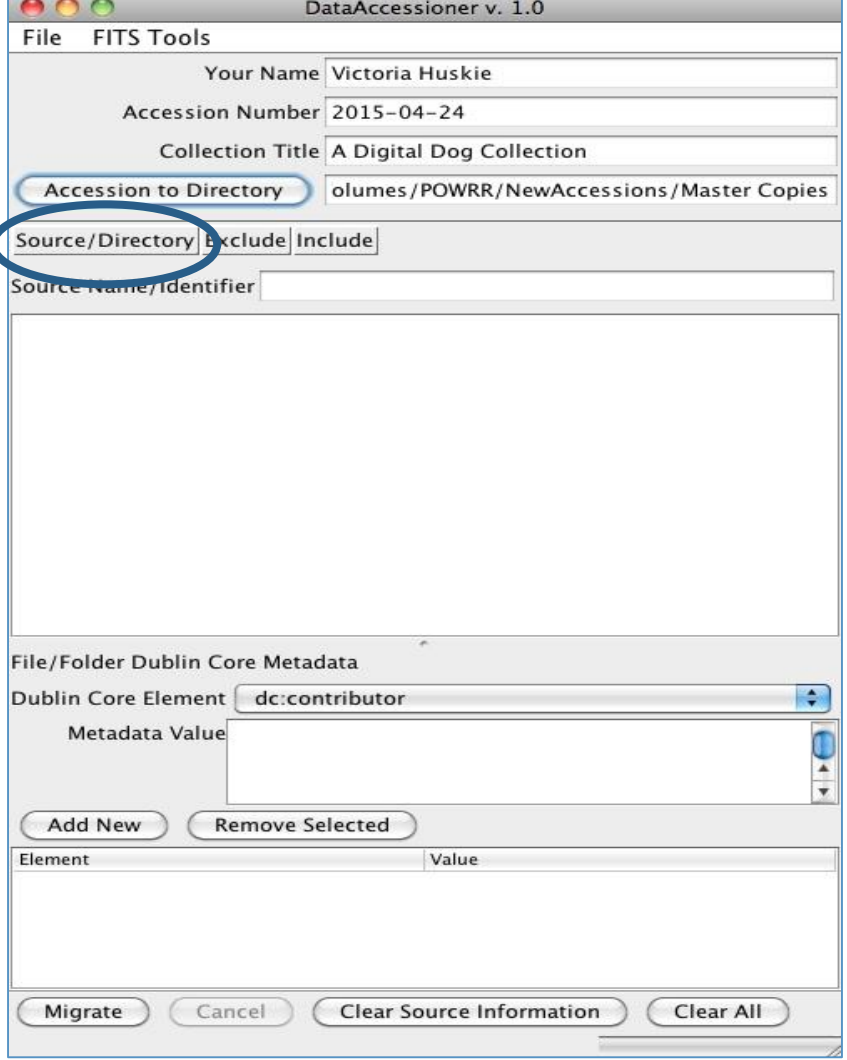
Preferably a stable media like your network drive





Select the collection you are accessioning



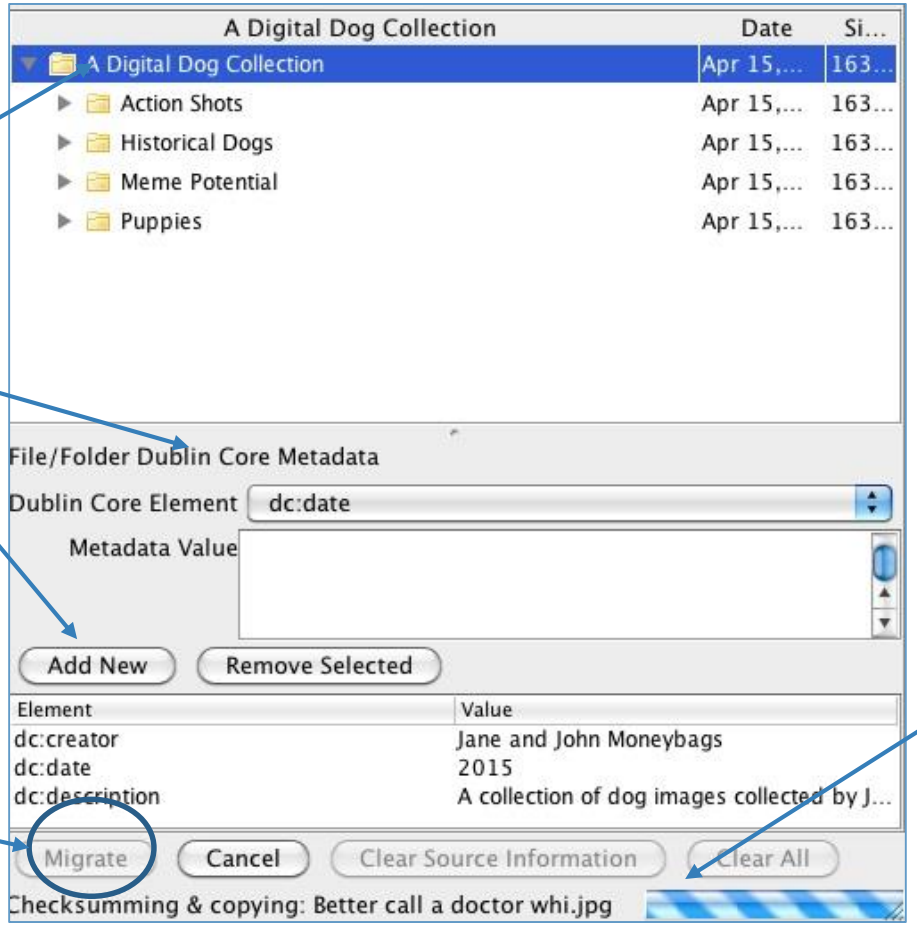


Populate descriptive metadata and migrate your collection

Select which element you want to add metadata to

Add the Dublin Core Metadata goes here

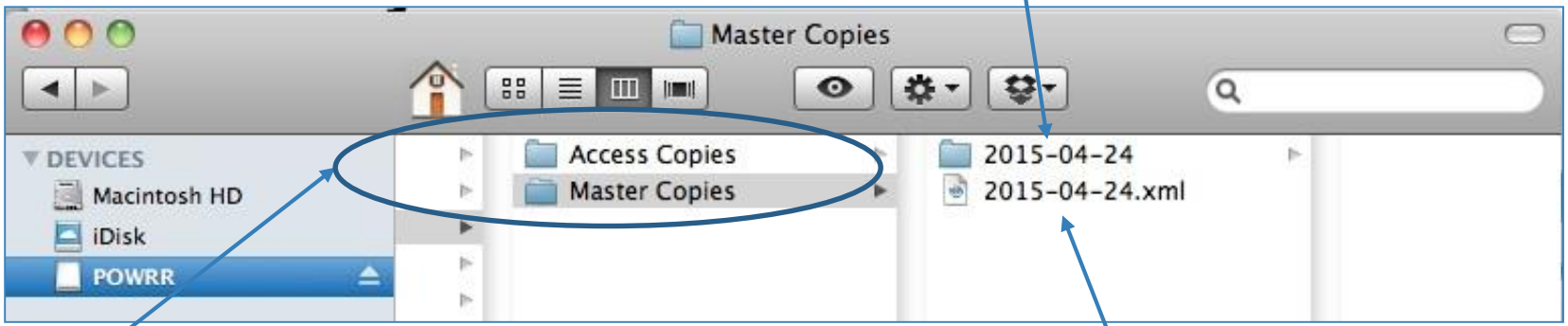
Hit the “Migrate” button to begin the migration process.



You will be able to see the progress bar move at the bottom.

What did you create?

New copy of your migrated collection.

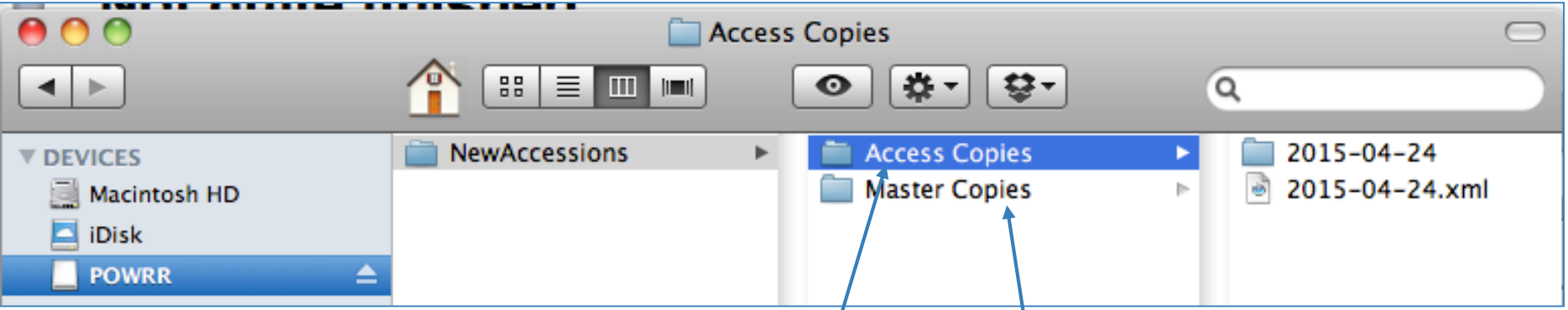


Located in the Directory that you specified

XML Metadata file

You. Are. AWESOME.

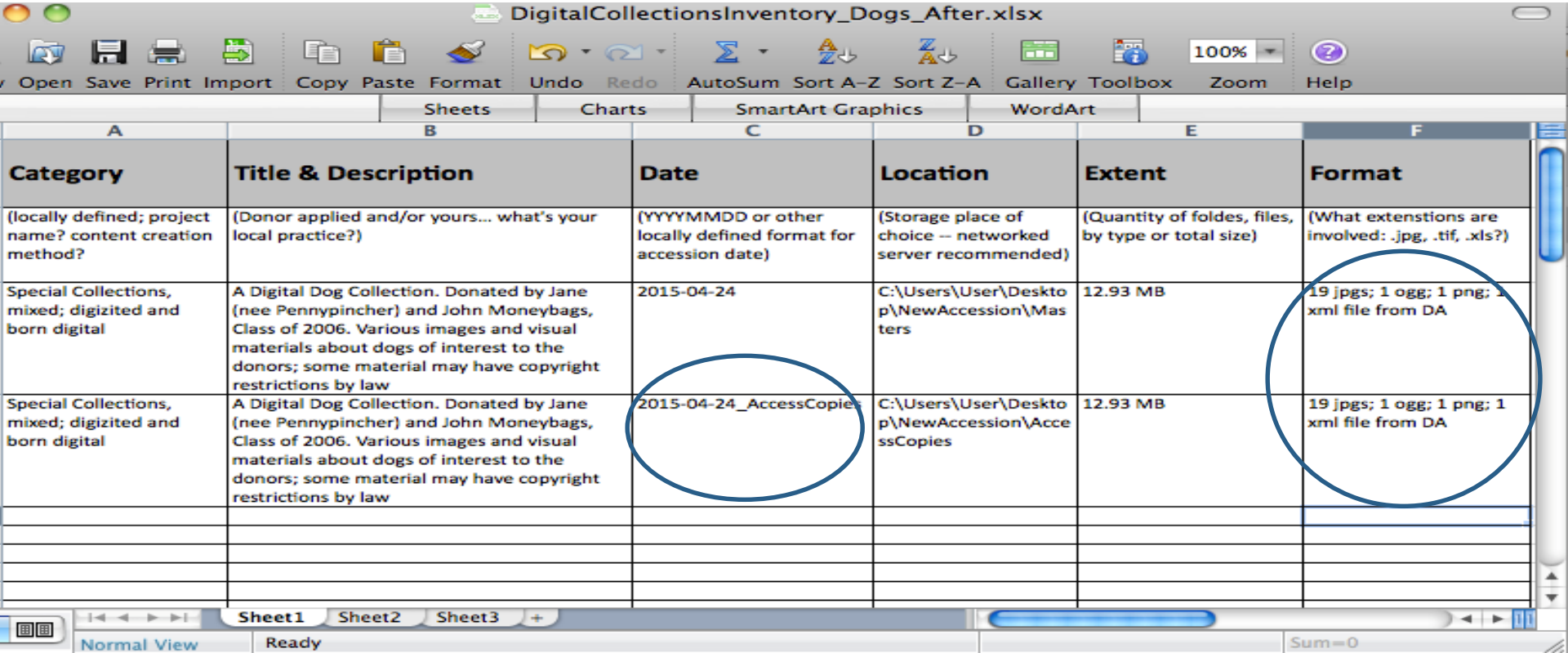
Not quite finished…



Make a copy of the Master, place in the Access Copies folder, and don't touch the Master Copy again unless a new derivative is needed or until you move it into a preservation system!!

```
<?xml version="1.0" encoding="UTF-8"?>
<collection name="Silly Kitties" xmlns="http://dataaccessioner.org/schema/dda-0-3-1">
  <accession number="2016_09_29_A">
    <folder name="A Curator's Cat Collection" last_modified="2016-09-21T12:01:47.395">
      <dcx:description xmlns:dcx="http://purl.org/dc/xml/">
        <dc:contributor xmlns:dc="http://purl.org/dc/elements/1.1/">Researcher, Famous</dc:contributor>
        <dc:date xmlns:dc="http://purl.org/dc/elements/1.1/">2016-09-29</dc:date>
        <dc:description xmlns:dc="http://purl.org/dc/elements/1.1/">This is a collection of very important documents that the researcher used</dc:description>
      </dcx:description>
      <folder name="Classic Kitties" last_modified="2016-09-29T11:53:01.984">
        <dcx:description xmlns:dcx="http://purl.org/dc/xml/">
          <dc:language xmlns:dc="http://purl.org/dc/elements/1.1/">Meow</dc:language>
        </dcx:description>
        <file name="233_638576246007_2392_n.jpg" last_modified="2014-04-02T18:27:06.000" MD5="e285034d51e058a277b02132d2ffa11f" size="82873">
          <premis:object xsi:type="premis:file" xmlns:uuid="java:java.util.UUID" xmlns:fits="http://hul.harvard.edu/ois/xml/ns/fits/fits_output"
          xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:premis="info:lc/xmlns/premis-v2">
            <premis:objetIdentifier>
              <premis:objectIdentifierType>uuid</premis:objectIdentifierType>
              <premis:objectIdentifierValue>c6f1811d-d0d8-47be-b21f-7dc6119ac5a5</premis:objectIdentifierValue>
            </premis:objetIdentifier>
            <premis:objectCharacteristics>
              <premis:compositionLevel>0</premis:compositionLevel>
              <premis:fixity>
                <premis:messageDigestAlgorithm>MD5</premis:messageDigestAlgorithm>
                <premis:messageDigest>e285034d51e058a277b02132d2ffa11f</premis:messageDigest>
                <premis:messageDigestOriginator>OIS File Information</premis:messageDigestOriginator>
              </premis:fixity>
              <premis:size>82873</premis:size>
              <premis:format>
                <premis:formatDesignation>
                  <premis:formatName>JPEG File Interchange Format</premis:formatName>
                  <premis:formatVersion>1.01</premis:formatVersion>
                </premis:formatDesignation>
                <premis:formatNote>Identified by: Jhove v1.5</premis:formatNote>
                <premis:formatNote>Identified by: file utility v5.03</premis:formatNote>
                <premis:formatNote>Identified by: Exiftool v9.13</premis:formatNote>
              </premis:format>
            </premis:objectCharacteristics>
            <premis:originalName>233_638576246007_2392_n.jpg</premis:originalName>
          </premis:object>
        </file>
        <file name="252214_10101729763467027_865277491_n.jpg" last_modified="2014-04-02T18:24:34.000" MD5="2cf2ac108018d1e6e7715529cde3b4fe" size="78193">
          <dcx:description xmlns:dcx="http://purl.org/dc/xml/">
            <dc:description xmlns:dc="http://purl.org/dc/elements/1.1/">More stuff</dc:description>
```

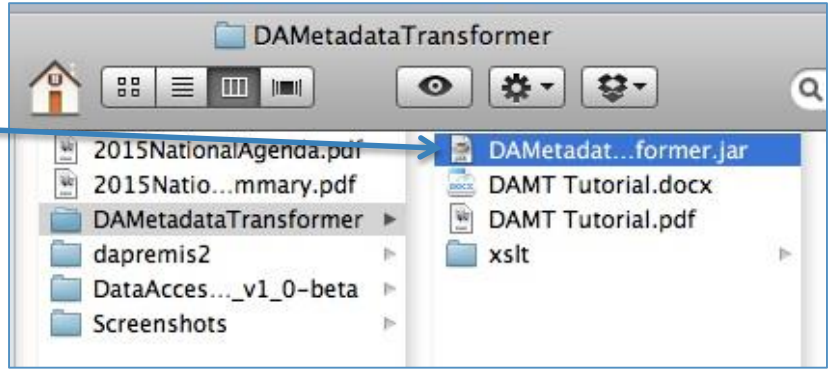
And finally…update your Inventory to reflect the location of the Access Copy. Note addition of XML file after processing.

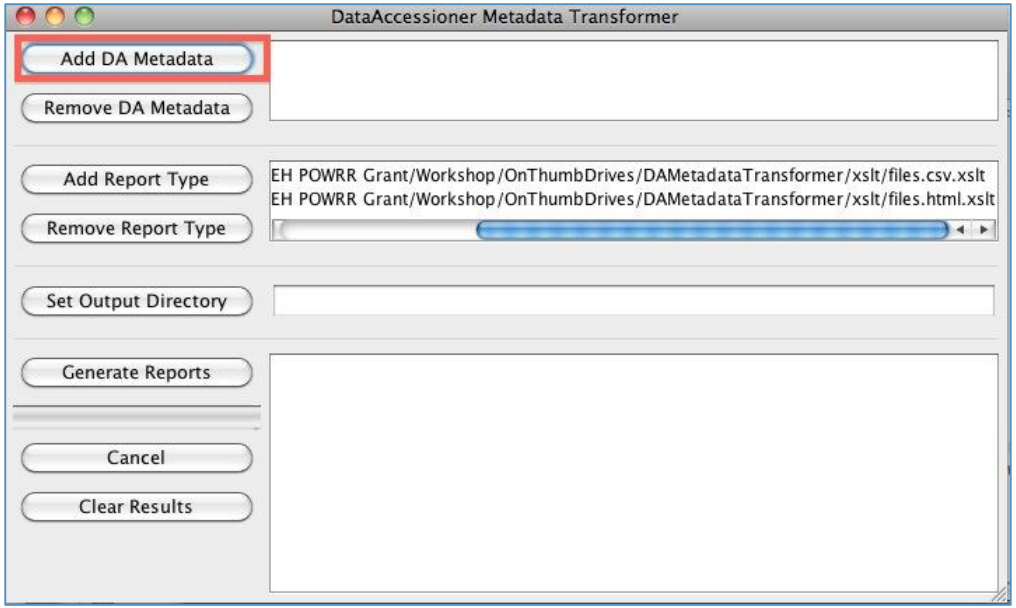


Category	Title & Description	Date	Location	Extent	Format
(locally defined; project name? content creation method?	(Donor applied and/or yours… what's your local practice?)	(YYYYMMDD or other locally defined format for accession date)	(Storage place of choice -- networked server recommended)	(Quantity of foldes, files, by type or total size)	(What extenstions are involved: .jpg, .tif, .xls?)
Special Collections, mixed; digizited and born digital	A Digital Dog Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Various images and visual materials about dogs of interest to the donors; some material may have copyright restrictions by law	2015-04-24	C:\Users\User\Desktop\NewAccession\Masters	12.93 MB	19 jpgs; 1 ogg; 1 png; 1 xml file from DA
Special Collections, mixed; digizited and born digital	A Digital Dog Collection. Donated by Jane (nee Pennypincher) and John Moneybags, Class of 2006. Various images and visual materials about dogs of interest to the donors; some material may have copyright restrictions by law	2015-04-24_AccessCopies	C:\Users\User\Desktop\NewAccession\AccessCopies	12.93 MB	19 jpgs; 1 ogg; 1 png; 1 xml file from DA

DA: Metadata Transformer

Navigate to DAMetadataTransformer.jar and open it

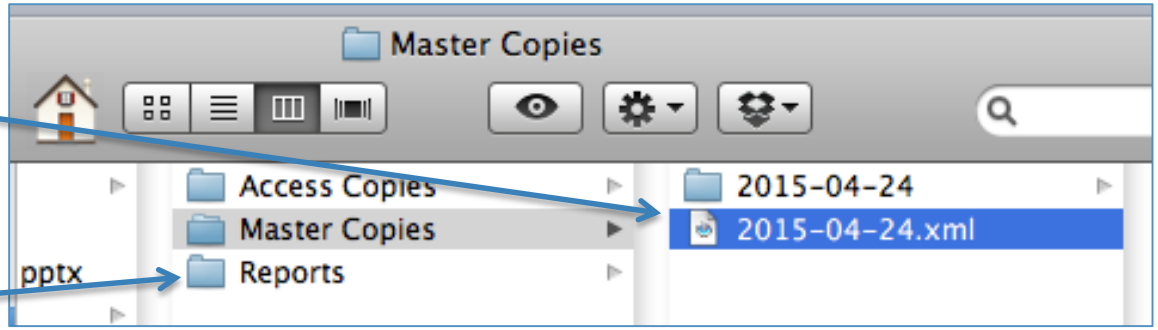




Click on “Add DA Metadata” button

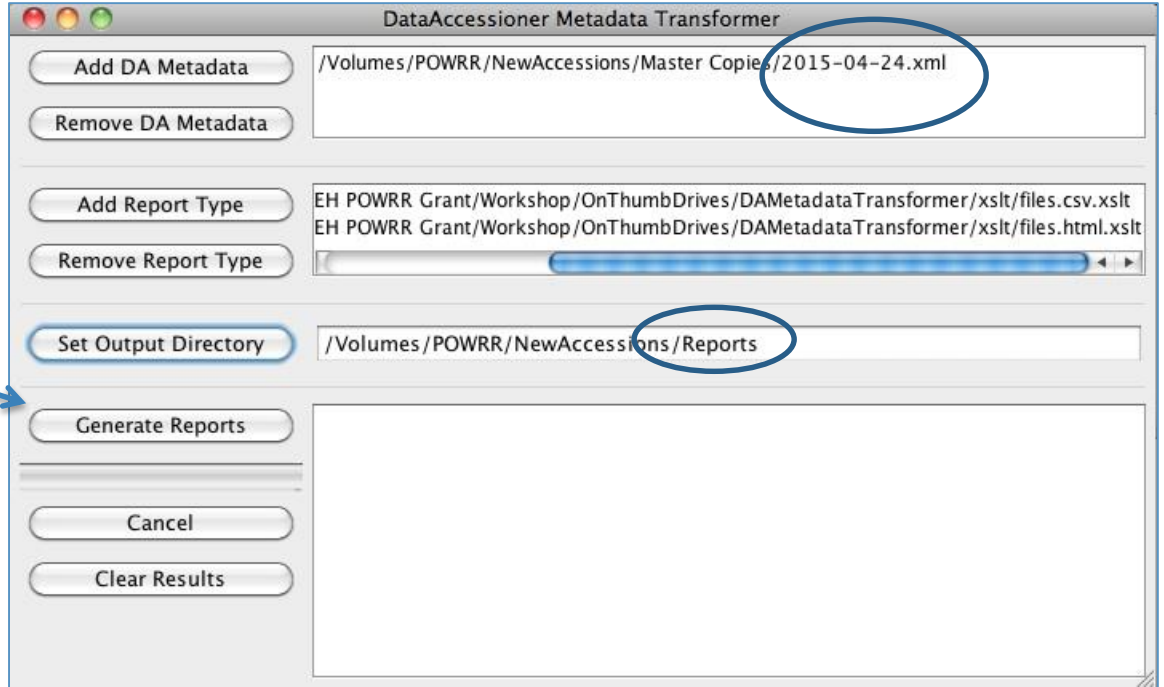
Navigate to the XML file you just created.

We also want a place where the new reports will go live. In this case, you can create a “Reports” folder



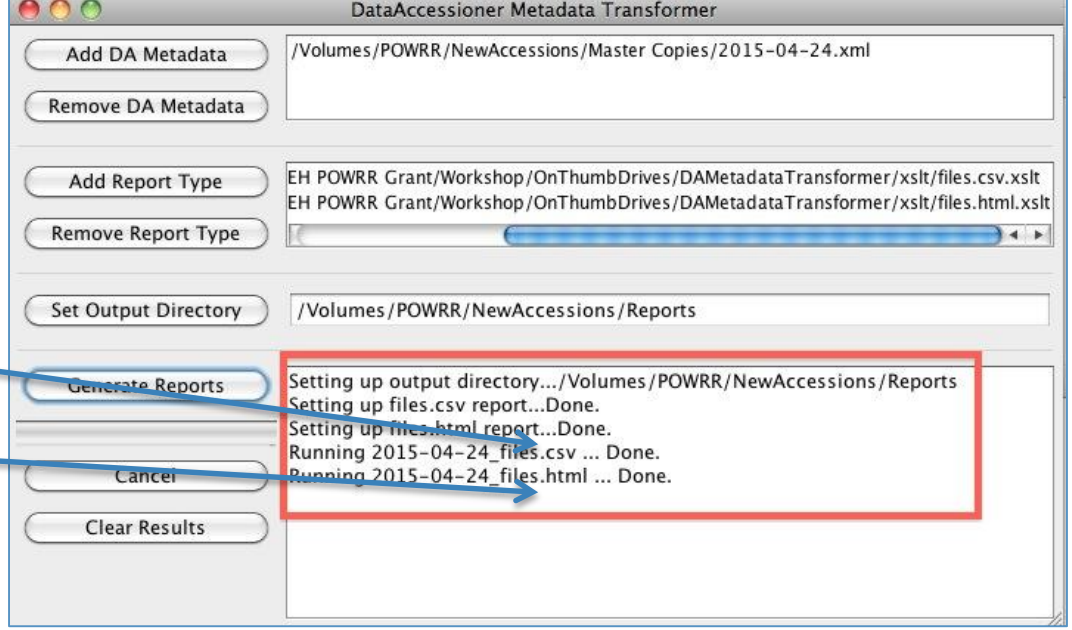
You will see the XML created and the folder where the new reports will go live.

Click on “Generate Reports”

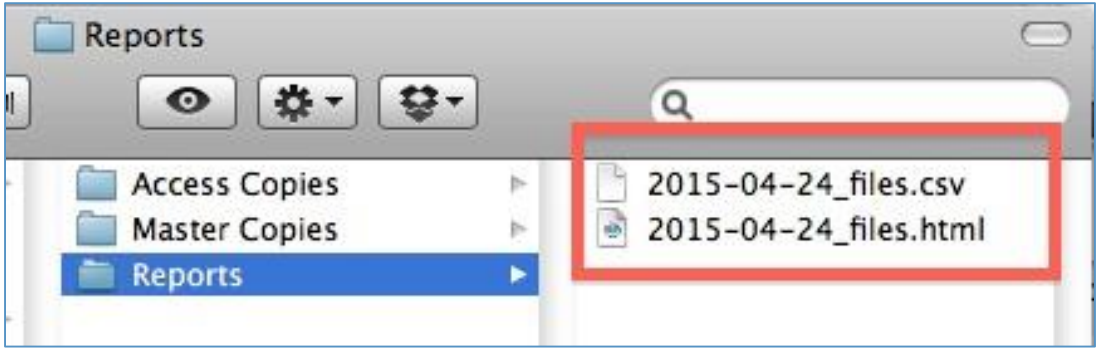


Once the reports have been generated, DA:MT will show the results.

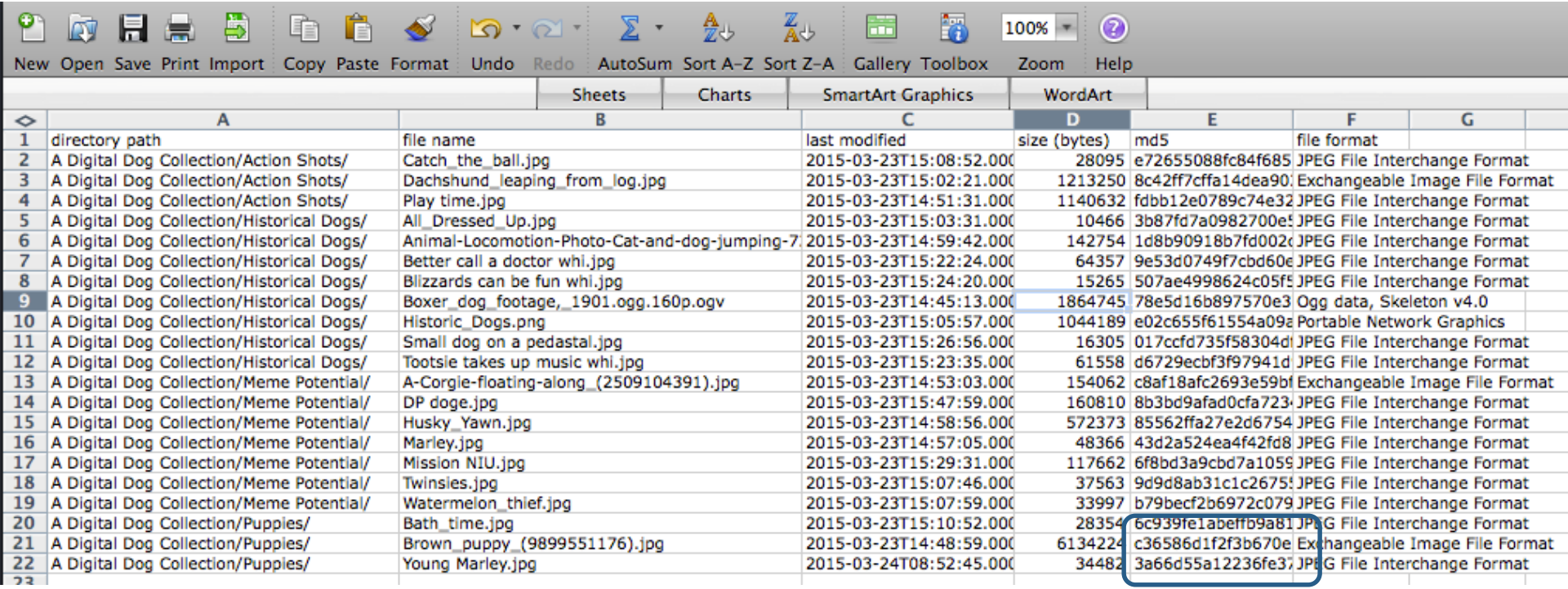
In this case, two files were created: a CSV file and HTML file.



To view the files, navigate back to the "Reports" folder.



CSV FILE



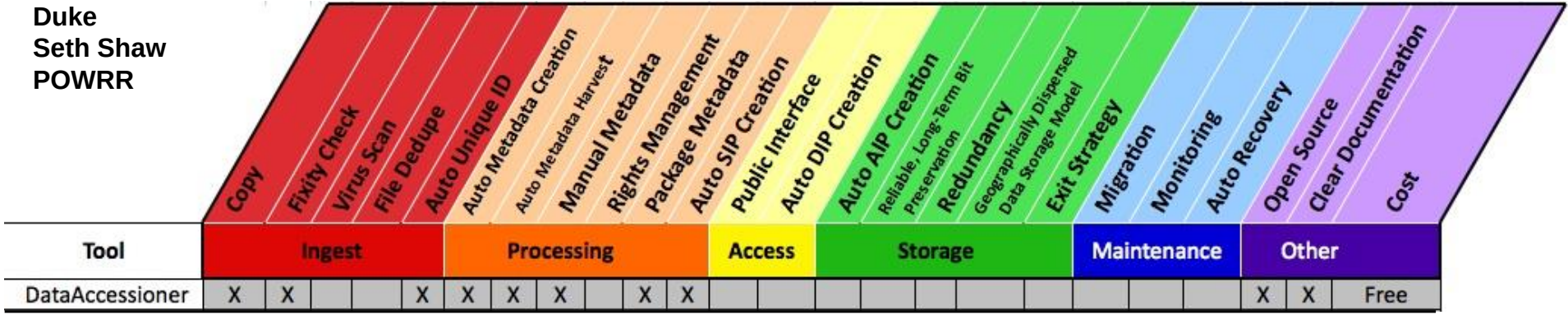
	A	B	C	D	E	F	G
1	directory path	file name	last modified	size (bytes)	md5	file format	
2	A Digital Dog Collection/Action Shots/	Catch_the_ball.jpg	2015-03-23T15:08:52.000	28095	e72655088fc84f685	JPEG File Interchange Format	
3	A Digital Dog Collection/Action Shots/	Dachshund_leaping_from_log.jpg	2015-03-23T15:02:21.000	1213250	8c42ff7cffa14dea90	Exchangeable Image File Format	
4	A Digital Dog Collection/Action Shots/	Play time.jpg	2015-03-23T14:51:31.000	1140632	fdbb12e0789c74e32	JPEG File Interchange Format	
5	A Digital Dog Collection/Historical Dogs/	All_Dressed_Up.jpg	2015-03-23T15:03:31.000	10466	3b87fd7a0982700e5	JPEG File Interchange Format	
6	A Digital Dog Collection/Historical Dogs/	Animal-Locomotion-Photo-Cat-and-dog-jumping-7	2015-03-23T14:59:42.000	142754	1d8b90918b7fd002c	JPEG File Interchange Format	
7	A Digital Dog Collection/Historical Dogs/	Better call a doctor whi.jpg	2015-03-23T15:22:24.000	64357	9e53d0749f7cbd60e	JPEG File Interchange Format	
8	A Digital Dog Collection/Historical Dogs/	Blizzards can be fun whi.jpg	2015-03-23T15:24:20.000	15265	507ae4998624c05f5	JPEG File Interchange Format	
9	A Digital Dog Collection/Historical Dogs/	Boxer_dog_footage,_1901.ogg.160p.ogv	2015-03-23T14:45:13.000	1864745	78e5d16b897570e3	Ogg data, Skeleton v4.0	
10	A Digital Dog Collection/Historical Dogs/	Historic_Dogs.png	2015-03-23T15:05:57.000	1044189	e02c655f61554a09a	Portable Network Graphics	
11	A Digital Dog Collection/Historical Dogs/	Small dog on a pedastal.jpg	2015-03-23T15:26:56.000	16305	017ccfd735f58304d	JPEG File Interchange Format	
12	A Digital Dog Collection/Historical Dogs/	Tootsie takes up music whi.jpg	2015-03-23T15:23:35.000	61558	d6729ecbf3f97941d	JPEG File Interchange Format	
13	A Digital Dog Collection/Meme Potential/	A-Corgie-floating-along_(2509104391).jpg	2015-03-23T14:53:03.000	154062	c8af18afc2693e59bf	Exchangeable Image File Format	
14	A Digital Dog Collection/Meme Potential/	DP doge.jpg	2015-03-23T15:47:59.000	160810	8b3bd9afad0cfa723	JPEG File Interchange Format	
15	A Digital Dog Collection/Meme Potential/	Husky_Yawn.jpg	2015-03-23T14:58:56.000	572373	85562ffa27e2d6754	JPEG File Interchange Format	
16	A Digital Dog Collection/Meme Potential/	Marley.jpg	2015-03-23T14:57:05.000	48366	43d2a524ea4f42fd8	JPEG File Interchange Format	
17	A Digital Dog Collection/Meme Potential/	Mission NIU.jpg	2015-03-23T15:29:31.000	117662	6f8bd3a9cbd7a1059	JPEG File Interchange Format	
18	A Digital Dog Collection/Meme Potential/	Twinsies.jpg	2015-03-23T15:07:46.000	37563	9d9d8ab31c1c2675	JPEG File Interchange Format	
19	A Digital Dog Collection/Meme Potential/	Watermelon_thief.jpg	2015-03-23T15:07:59.000	33997	b79becf2b6972c079	JPEG File Interchange Format	
20	A Digital Dog Collection/Puppies/	Bath_time.jpg	2015-03-23T15:10:52.000	28354	6c939fe1abeffb9a81	JPEG File Interchange Format	
21	A Digital Dog Collection/Puppies/	Brown_puppy_(9899551176).jpg	2015-03-23T14:48:59.000	6134224	c36586d1f2f3b670e	Exchangeable Image File Format	
22	A Digital Dog Collection/Puppies/	Young Marley.jpg	2015-03-24T08:52:45.000	34482	3a66d55a12236fe37	JPEG File Interchange Format	
23							

Tell me more!

Fixity Video & Demo

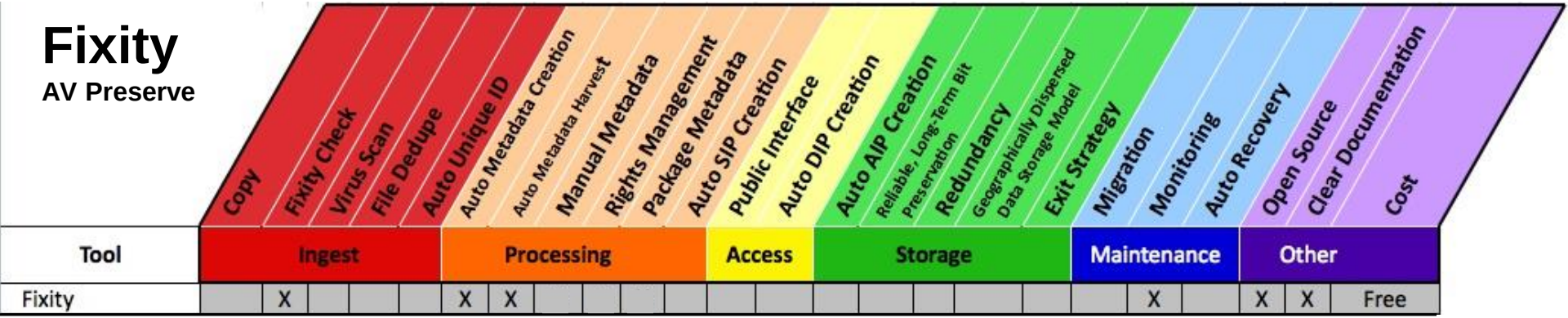
DataAccessioner

Duke
Seth Shaw
POWRR

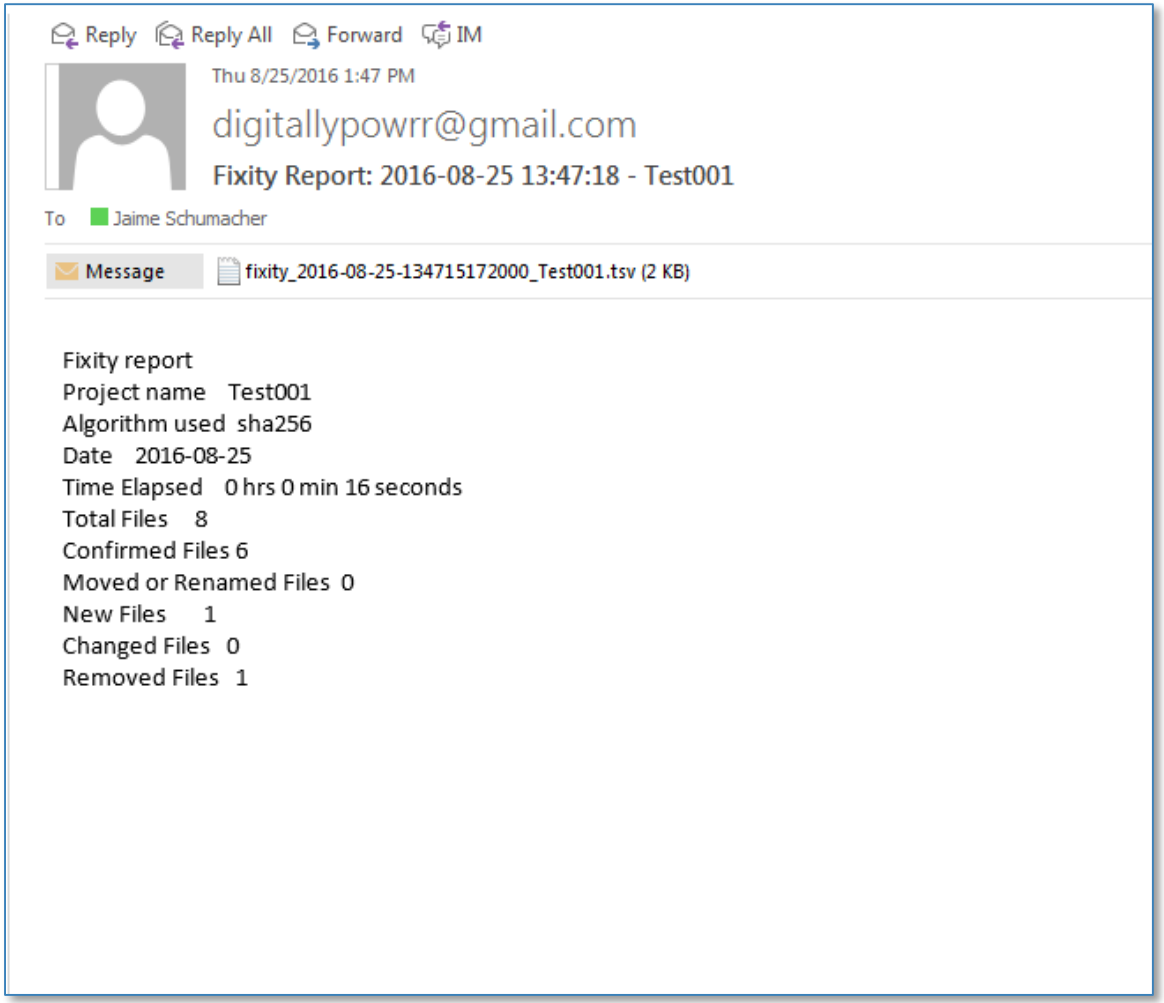


Fixity

AV Preserve



Fixity: Email



Reply Reply All Forward IM

Thu 8/25/2016 1:47 PM

digitallypowrr@gmail.com

Fixity Report: 2016-08-25 13:47:18 - Test001

To Jaime Schumacher

Message fixity_2016-08-25-134715172000_Test001.tsv (2 KB)

Fixity report
Project name Test001
Algorithm used sha256
Date 2016-08-25
Time Elapsed 0 hrs 0 min 16 seconds
Total Files 8
Confirmed Files 6
Moved or Renamed Files 0
New Files 1
Changed Files 0
Removed Files 1

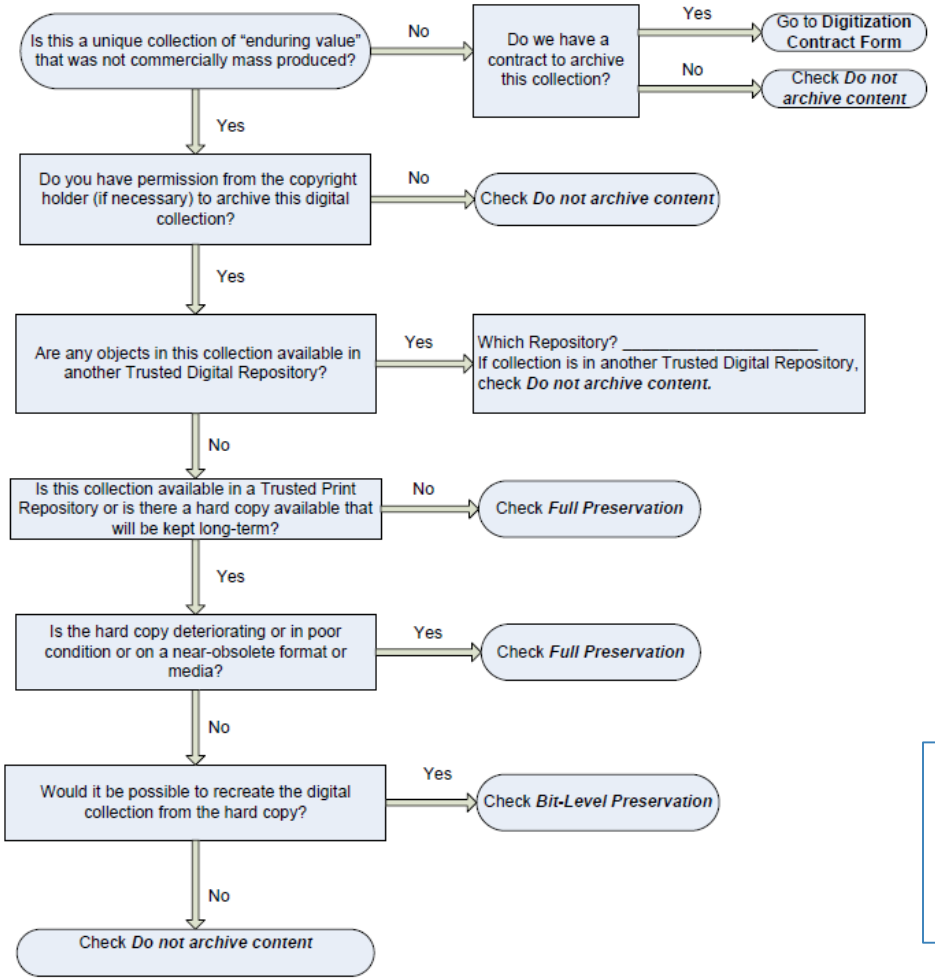
Fixity: Report

	A	B	C	D	E	F	G
1	Fixity report						
2	Project name DigitalPOWRR						
3	Algorithm used sha256						
4	Date 2016-06-10						
5	Time Elapsed 0 hrs 0 min 0 seconds						
6	Total Files 24						
7	Confirmed Files 0						
8	Moved or Renamed Files 0						
9	New Files 24						
10	Changed Files 0						
11	Removed Files 0						
12	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					
13	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					
14	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					
15	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					
16	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					
17	New File:	/Users/libcheckout/Desktop/New Accessions/Master Copies/2016-					

Fixity: Report

	A	B
1	Fixity report	
2	Project name Test001	
3	Algorithm used sha256	
4	Date 2016-08-25	
5	Time Elapsed 0 hrs 0 min 16 seconds	
6	Total Files 8	
7	Confirmed Files 6	
8	Moved or Renamed Files 0	
9	New Files 1	
10	Changed Files 0	
11	Removed Files 1	
12	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\144_599733507167_9851_n.jpg
13	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\14_580471513357_5891_n.jpg
14	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\545427_10101375217984017_2114434523_n.jpg
15	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\546674_10101329420767007_1598457349_n.jpg
16	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\554299_10101390589234907_842586824_n.jpg
17	Confirmed File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\576061_10101496110524397_1115197259_n.jpg
18	New File:	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\Schumacher.tif
19	Removed Files	C:\Users\a1691665\Desktop\New Accessions\Master Copies\Stacey's Kitties\482181_10102041712019627_819487260_n.jpg

DIGITAL PRESERVATION DECISION FLOWCHART



____ DO NOT PRESERVE

____ FULL PRESERVATION

____ BIT-LEVEL PRESERVATION

Courtesy of:
Tawnya Keller, *Digital Preservation Archivist*
University of Utah

PROGRESS!!

- ✓ We can investigate potential tools and services
- ✓ We can triage our data for ingest
- ✓ We can upgrade our metadata and recordkeeping practices for the next steps
- We can build policies and plans
- We can better educate ourselves, our stakeholders, and our funders

BREAK TIME!

Back by 2:45, please

Policy & Advocacy

Your 3-3-3 Action Plan (Activity)

Potential Solution Models

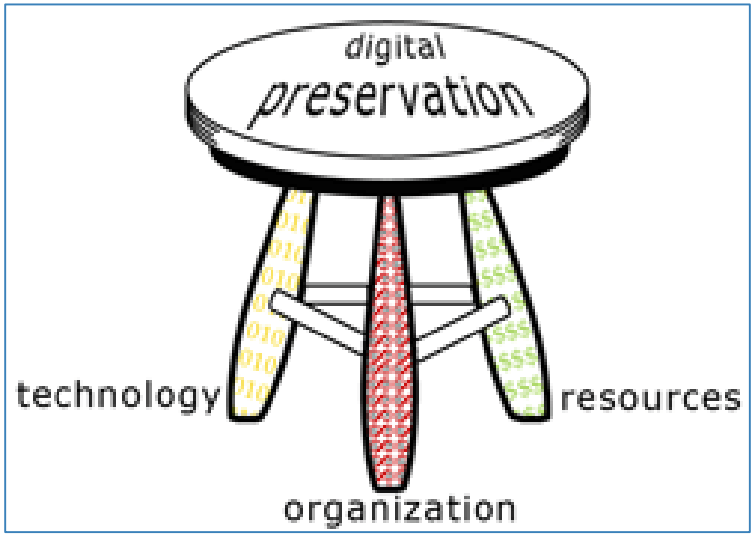
Outside Your Office

Digital Preservation is not sustainable by just using a tool or selecting a service. Sustainability takes funding and people.

You cannot do this alone. **You will need to talk to other people**… because you are not the only boss of this.

Successful Digital Preservation programs take a team of people at multiple administrative levels.

Three-Legged Stool of Digital Preservation



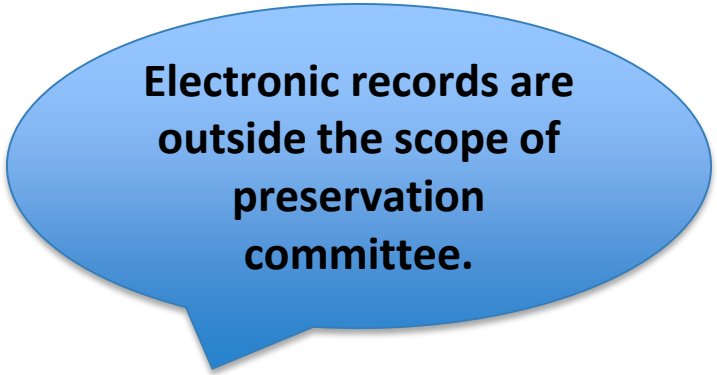
Anne R. Kenney
Nancy McGovern
Digital Preservation Management Workshop
http://www.dpworkshop.org/

Jump In!

What actions can you take today to move forward?

Image: Flickr Commons

Policy


Electronic records are outside the scope of preservation committee.


There isn’t a budget line for that!


I’m the only one here.

What do we do now?

Where would you ideally like to be?

What is keeping your institution from moving in that direction?

What are some interim steps you can take to move in the right direction?

Image: Flickr Commons

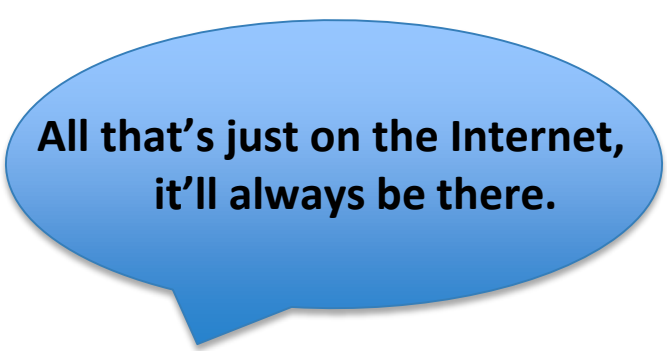
Policy

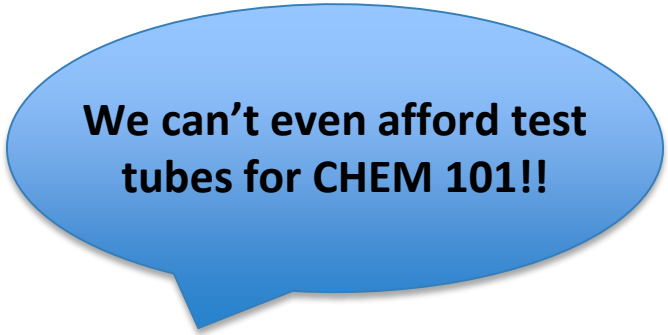
A Gap Analysis

- Be brutally honest. It’s the only way to move forward.
- What is the risk of doing nothing?
- Documenting what you know will tell you what you don’t know.
- Feel free to look at our case studies and see how it worked. Our wiki has the case studies of all 5 of the POWRR partner institutions. http://powrr-wiki.lib.niu.edu/index.php/Main_Page

Advocacy

- Advocacy is valuable because you're educating people about why digital preservation is also THEIR problem.





MORE PROGRESS!!

- ✓ We can investigate potential tools and services
- ✓ We can triage our data for ingest
- ✓ We can upgrade our metadata and recordkeeping practices for the next steps
- ✓ We can build policies and plans
- ✓ We can better educate ourselves, our stakeholders, and our funders

"I'd like to thank the team for a VERY productive session"

Activity Time!

Small Groups: Who should care about DP? Why?

1. List the roles/titles of all those who *should* be involved with, and care about, digital preservation at your organizations.

2. Make a list of potential consequences—what will happen if your colleagues don't take action? What is at risk of loss if no digital preservation program is created?

On Your Own: Your 3-3-3 Action Plan

List ***3 specific people*** at your organization with whom you can make contact …..

…and ***3 digital preservation activities*** to which you and your team can commit….

…. in the next ***3 months!***

Who	What	When
Pat Graham (Dean)	Coffee debrief	2 weeks
Cathleen Debose (Metadata Librarian)	Mapping metadata, functional requirements	3 months
Taylor Gibbs (Museum Executive Director)	Policy review	2 months

Examples of Initial DP Activities

Advocate

- Awareness-raising meetings
- Brownbag presentation

Identify

- Compile a digital content inventory
- Analyze file formats used
- Analyze metadata practices
- Review current policies
- Diagram current workflows

Research

- Investigate tools
- Review other institutions' policies
- Read the POWRR white paper
- Survey staff on existing practices

Update

- Enhance existing metadata
- Add digital content to policies
- Produce digital preservation plan

In 3 Months…

How will you know if your 3 activities succeeded?

- Added people to team?
- Number of people newly educated?
- Number of items added to inventory?
- Number of tools investigated?
- Number of DP policies reviewed?
- Revised standing policies?

From Theory to Action: Solution in Practice is Iterative

- Starting small is good enough! A simple tool may still move you closer to your goals.
- Not all tools and services are created equal.
- Choices of tools are *not* forever. They serve what you need now, selected with an eye to later.
- Knowing what you have is crucial. Documentation more so.
- You already have many of the necessary skills!

How to Decide? Results May Vary…

Things to consider:

- How many staff members will be actively engaged in the digital curation lifecycle? Are they tech-savvy?
- How robust and supportive is your technical/systems group? Do you even have one? How about some developers/programmers…have any of those on staff?
- Does your organization already use archival management software or an Institutional Repository (like ARCHON/ArchivesSpace, BePress, Fedora etc.)? Consider selecting tools/services that work well with what you have.
- Do you have digital collections unique to your institution that are irreplaceable? Consider organizing collections along the lines of those that warrant more robust preservation than others. For example:

1 TB (High Value)	→	MetaArchive (gold standard)
3 TB (Medium Value)	→	Amazon Glacier (cheapest storage with fixity checking)
Rest (Replaceable)	→	Tape Drive Backups

In other words: One tool/service may not be your only solution.

How to Decide? Results May Vary…

Remember: Smaller institutions with less resources may also have unique advantages like….

It doesn't take years to set up an account with something like DuraCloud.

You only need to convince the person one level above you to get what you need.

Want to install a simple open source tool? Go for it!

- Less red tape for getting things done
- Fewer levels to push requests for additional resources through
- Self-administered workstations (aka no IT administrative lock downs)
- Personnel-heavy operating model (usually has smaller cash flow)
- Higher cash flows and less data (like small, private institution)

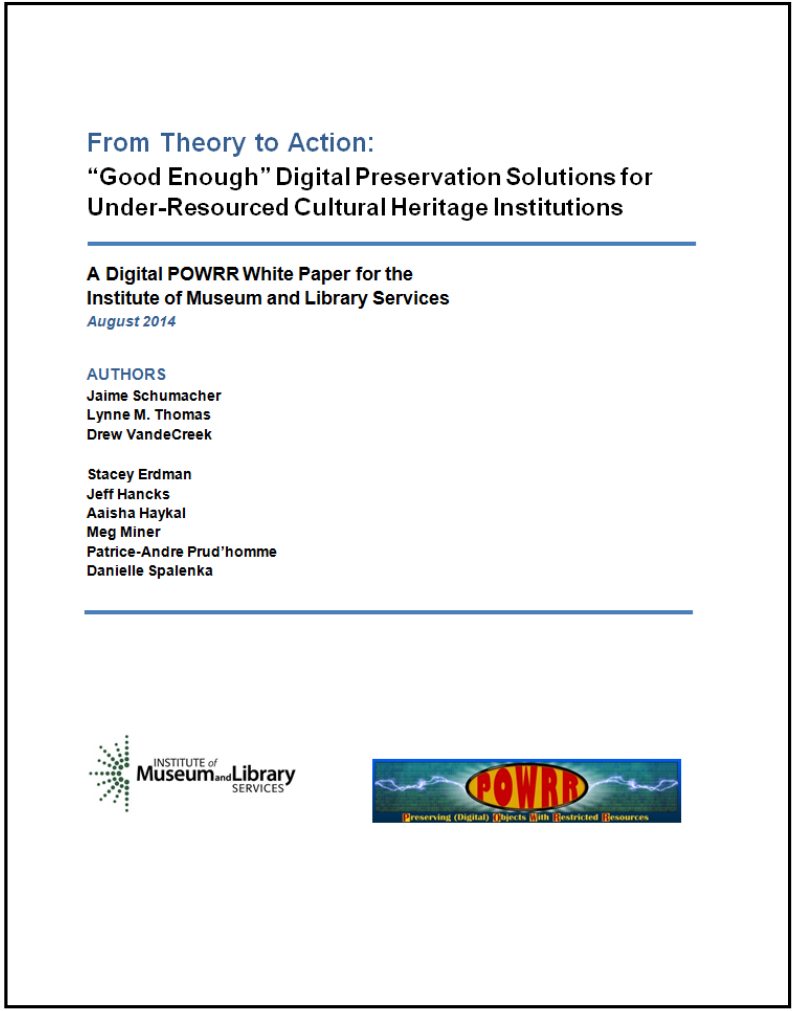
This is ideal for running a *free* robust tool that requires a developer and server administrator like Archivematica.

You can purchase a reasonably-priced, hosted soup-to-nuts solution.

Potential Solution Models

POWRR White Paper available at:

http://commons.lib.niu.edu/handle/10843/13610



From Theory to Action:

"Good Enough" Digital Preservation Solutions for Under-Resourced Cultural Heritage Institutions

A Digital POWRR White Paper for the
Institute of Museum and Library Services
August 2014

AUTHORS

Jaime Schumacher
Lynne M. Thomas
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Patrice-Andre Prud'homme
Danielle Spalenka

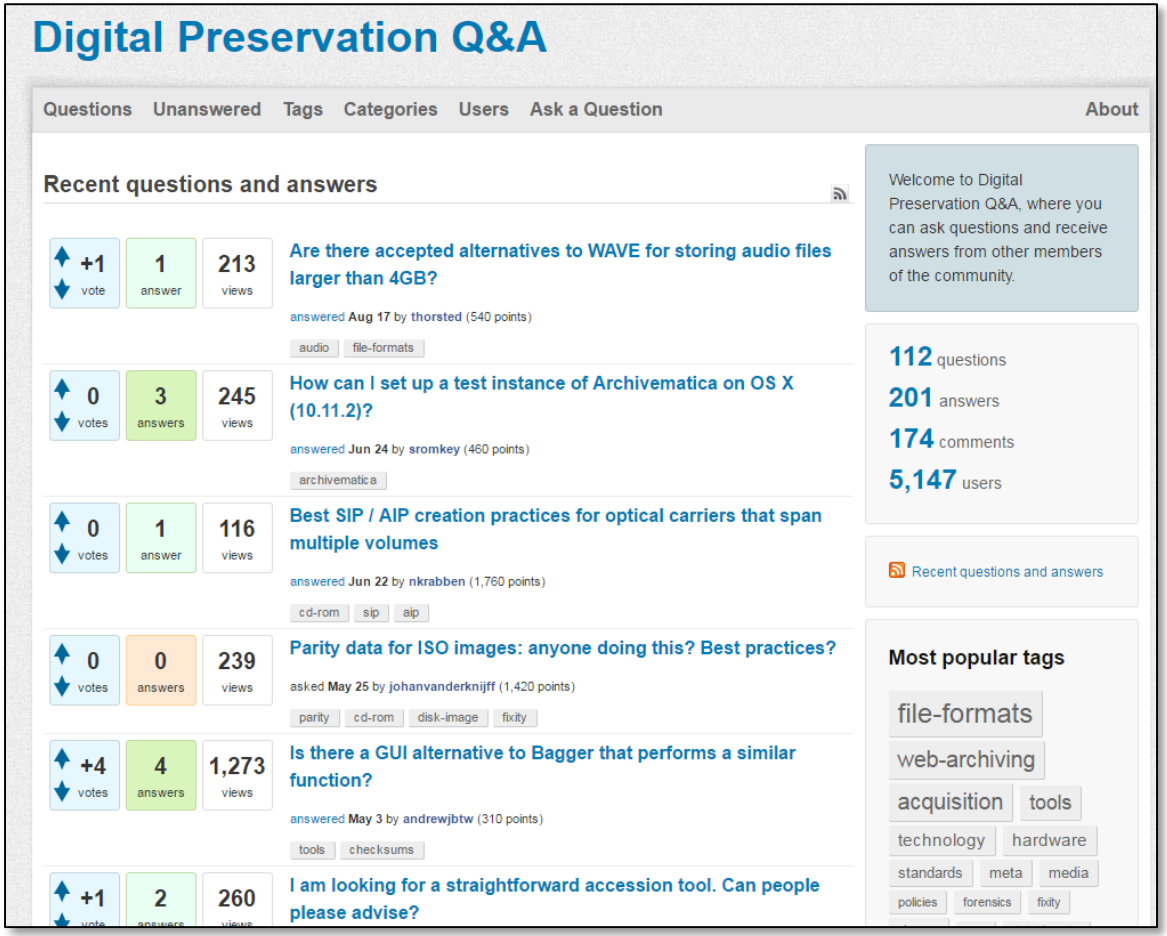
INSTITUTE of Museum and Library SERVICES

POWRR
Preserving (Digital) Objects with Restricted Resources

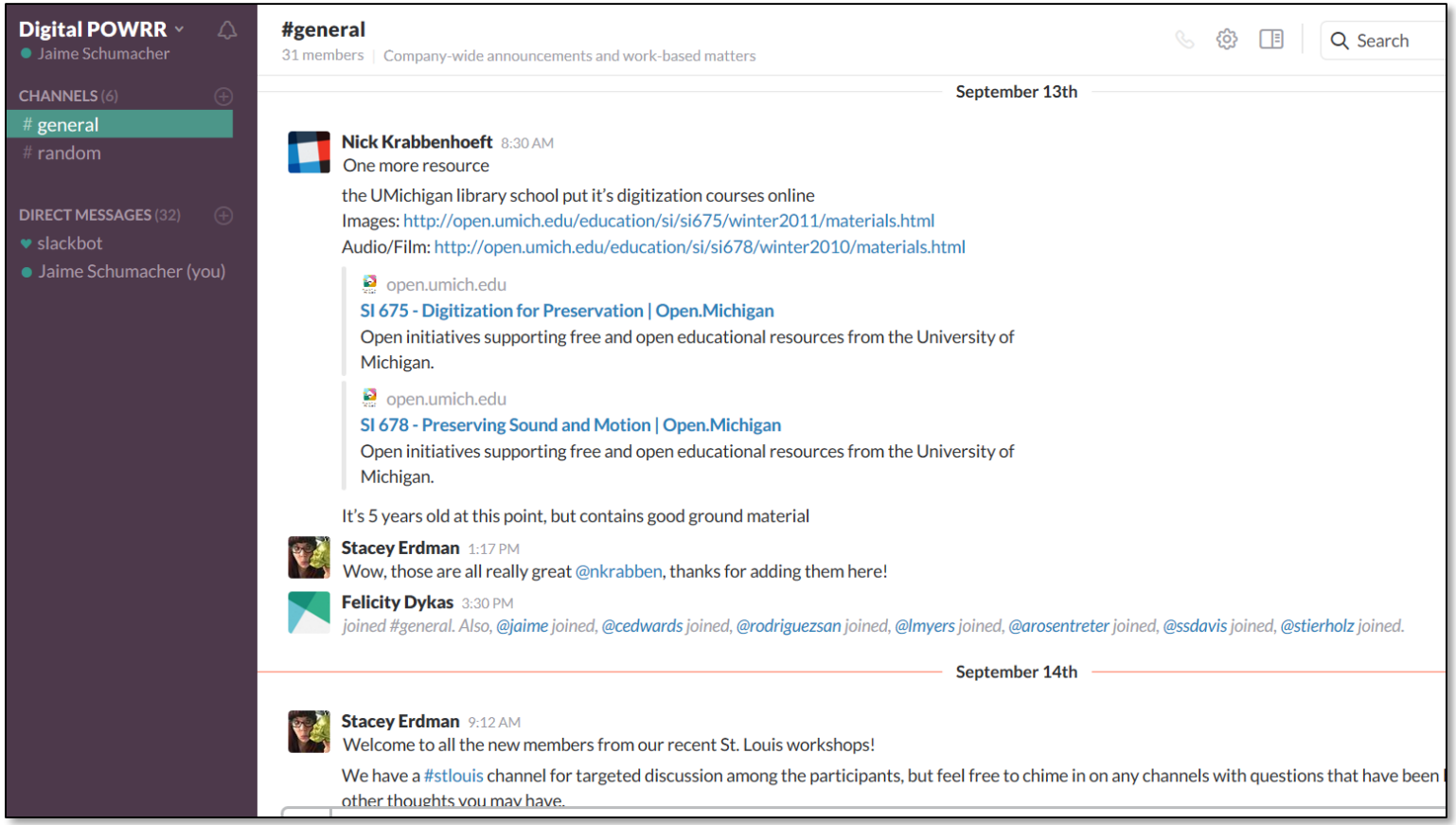
Building Your Community of Practice

Illustration by Jørgen Stamp digitalbevaring.dk

http://qanda.digipres.org/



http://digitalpowrr.niu.edu/slack-off-with-digital-powrr/



The challenges of digital stewardship are greater than any single institution can address.

Membership in the NDSA connects you to partnering organizations and individuals around the country working to address those challenges and devise community solutions.

http://ndsa.org/

Wrapping Up

Our Final Thoughts & Your Questions

I survived the POWRR workshop! Now what?

http://digitalPOWRR.niu.edu/survived-powrr-wkshp/

We're here to help. Seriously.

YOU CAN DO THIS. Really. But not alone. So bring some friends.

"If you want to go fast…go alone. If you want to go far…go together." — African Proverb

Remember: Baby steps still move you forward!

Evaluation Time! (10 minutes)

- Post-Test
- Workshop evaluation…tells us about pace, style of presenting, etc.

In 3 Months…

- Emailing you a brief survey around your 3-3-3 Action Plan
- Google Hangout? Slack?

<u>Please note</u>: The NEH requires us to do these things…and it helps to make sure these workshops are delivering outcomes that bring tangible results to our peers!

Thank You for Coming!

PLEASE RETURN:

- Pre & Post Tests
- Workshop Evaluation

POWRR Project Team Members

Contact us…we are here to help!

Northern Illinois University

***Lynne M. Thomas** Head, Distinctive Collections;
lmthomas@niu.edu

***Drew VandeCreek** Director Digital Scholarship
drew@niu.edu

***Jaime Schumacher** Scholarly Communications
jschumacher@niu.edu Librarian

Danielle Spalenka Digital POWRR Director
powrr@niu.edu

Beloit College

***Stacey Erdman** Digital Archivist
erdmansn@beloit.edu

* Presented today

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Meg Miner University Archivist
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Western Illinois University

Jeff Hancks Director, Archives and
jl-hancks@wiu.edu Special Collections

University of Wisconsin—Madison Fall 2016
SCHOOL OF LIBRARY AND INFORMATION STUDIES
LIS 855: Electronic Records Boot Camp
LOCATION
Tuesday 5:30-8:00

Contact Information

Instructor: Abbie Norderhaug
Contact information: The best way to reach me is via email, I will do my best to reply within 24 hours.
Email: abbie.norderhaug@gmail.com
Phone: 608-334-3933
Office: Shared office space in room off the SLIS office
Office hours: by appointment, please try to give me 24 hours' notice if you'd like to meet, but I can usually accommodate most requests

Course Description

This one credit course will explore the basics of working with electronic records, including discussion of appraisal methods for digital material, exploration of digital preservation/processing tools, and digital preservation strategies.

Course Objectives

Students who successfully complete this course will be able to:

- Discuss various technologies and applications used with electronic records
- Use Archive-It to crawl a web site and assign metadata
- Be familiar with various digital preservation micro-services
- Discuss ways to provide access to digital content

Program Objectives Met by this Course

SLIS Program Level Learning Objective	Course Objectives	Assignments That Provide Evidence	Means of Assessing Evidence
3a. Students organize and describe print and	Be familiar with various digital preservation micro-services	Accession material using D Space and	Students demonstrate an understanding of the strengths and weaknesses

digital information resources		Archives Space sandboxes and write response/analysis of tools.	of both tools, and how they relate to archival arrangement, description, and access.
3d. Students understand and use appropriate information technologies.	Demonstrate an understanding of various microservices and the appropriateness of using various tools.	Response assignments Accessioning assignments	Students are able to accession a collection in the sandbox environments and create an Archive-It crawl
4a. Students evaluate, problem solve and think critically, both individually and in teams.	Think critically about the tools that students use in class and that presenters discuss	Tool evaluation responses In class discussions	Students are able to discuss and compare experiences with tools during in class discussions.
4b. Students demonstrate good oral and written communication skills.	Demonstrate the ability to communicate to peers, researchers, and the general public	Tool evaluation, Archive-It evaluation, and brief class presentation.	Students are able to communicate successfully the contents and results of accessioning exercises and crawls.

Core Readings

All books, including additional readings listed in the course schedule, are also on reserve at the SLIS Library.

All other readings are available on the course's Learn@UWsite or on reserve at SLIS.

Course Requirements

1. Assigned Readings
All assigned readings beyond the assigned texts will be available on the electronic reserve system (see citations for each class).

2. Class Discussions and Participation

3. Archive-It assignment:

In this assignment, you will use the Internet Archive's tool Archive-It to harvest websites and create a small test collection. After receiving training, you will select 3 websites to harvest for your collection. You will need to run test crawls, analyze results, scope your crawl, run a production harvest, and add metadata.

You will need to write a short paper addressing:

- How/why the sites were selected
- How you scoped your collection
- How you analyzed your test crawl
- Issues the anticipated prior to the capture and a discussion of any issues experienced
- Your opinion of the tool, and how it might be used at archival institutions

The paper is due October 4

4. Accession material using Archives Space

Create an accession of the sample digital records collection using the Archives Space Sandbox (http://archivesspace.org/sandbox) add at least two digital objects. You must turn in a printed out version of your work or email screen shots. (LEARN AT UW DROP BOX??)

Accession a portion of the collection using traditional archival methods, and the tools discussed in weeks 1 and 2. Don't work on the entire sample of files, just a folder or two. You must turn in a printed out version of your work or email screen shots. (LEARN AT UW DROP BOX??) Arrange the material, and provide a description, and keywords/subjects that might apply.

Write a brief reflection on this process, including your thoughts on Archives Space, ways accessioning digital material differs from paper material, and what you learned in this exercise.

5. Job Talk presentation (10/4)

You are being interviewed for a digital archivist position at an institution with a newly created digital program, please give a 8 minute talk (questions will comprise 2 minutes) comparing and contrasting tools, your experiences (if applicable) using these tools or the reason you recommend them, and how you can see these tools in the this position. You can also include information on tools you haven't personally used, but believe would be helpful as you begin working on digital collections.

You may use PowerPoint or another presentation medium, but it is not required.

Presentations will be given on 10/4, however, I need 5 volunteers to present on 9/27.

Evaluation

Attendance, participation and preparation: 20%
Archive-It collection and reflection: 30%
Accessioning project and reflection: 30%
Job talk: 20%

Grading Policy

A 94-100
Outstanding achievement. Student performance demonstrates full command of course materials and exhibits a high degree of originality and/or creativity that far surpasses course expectations.

AB 88-93
Very good achievement. Student performance demonstrates thorough knowledge of course materials and exceeds course expectations by completing all course requirements in a superior manner.

B 82-87
Good work. Student performance meets designated course expectations, demonstrates understanding of the course materials, and performs at an acceptable level.

BC 77-81
Marginal work. Student performance demonstrates incomplete understanding of course materials.

C 72-76
Unsatisfactory work and inadequate understanding of course materials. Course work at this level triggers probationary status unless balanced by an A earned in another course during the same semester.

Announcements

Students with Disabilities: Please let me know as soon as possible if you need any special accommodations in the curriculum, instruction, or assessments for this course to enable you to participate fully in class.
To request academic accommodations, please register:
McBurney Disability Resource Center
702 W. Johnson Street, Suite 2104
Phone: (608) 263-2741 Text: (608) 225-7956
Email: mcburney@studentlife.wisc.edu

Website: http://www.mcburney.wisc.edu/

Academic Integrity: The University's academic integrity policy is located at http://students.wisc.edu/doso/acadintegrity.html

The Writing Center: Students are strongly encouraged to avail the services of the Writing Center. If you would like some individual help organizing ideas or some constructive criticisms of a draft of your term paper, you can make an appointment to see a Writing Center instructor. 6171 Helen C. White Hall, http://writing.wisc.edu/

Required Readings

Please follow *bloggERS (*https://saaers.wordpress.com/) the blog of the SAA's Electronic Records Section. The blog is updated weekly and will help you get an idea of what people in the profession are working on. We can discuss anything you read here during class.

Other required readings are listed in each week.

Course Schedule

Tuesday September 6

- Introductions, course objectives, assignments and expectations
- Guest Speaker- Sarah Barsness, Minnesota Historical Society
- Accessioning/processing discussion and a look at some tools

Required readings:

- Selections from Digital Preservation Management Workshop
    - 4b. OAIS Reference Model: http://www.dpworkshop.org/dpm-eng/foundation/oais/index.html
    - 6c. Technical Infrastructure: http://www.dpworkshop.org/dpm-eng/program/techinf.html
    - 2f. Digital Preservation Strategies: http://www.dpworkshop.org/dpm-eng/terminology/strategies.html
- NDSA Levels of Digital Preservation
    - http://www.digitalpreservation.gov/documents/NDSA_Levels_Archiving_2013.pdf
- From Theory to Action: "Good Enough" Digital Preservation Solutions for Under-Resourced Cultural Heritage Institutions, the 'Our Results' section (pp. 8-13)
    - http://commons.lib.niu.edu/handle/10843/13610
- Some Assembly Required - Micro-services and Digital Preservation (from On Digital History Blog)
    - http://drewvandecreek.blogspot.com/2016/03/some-assembly-required-micro-services.html
- *OPTIONAL READING: DigiPres Commons*
    - *http://www.digipres.org/*
    - *Surf the links off the tools section, particularly COPTR (http://www.digipres.org/tools_main.html)*
    - *See what practitioners are working on now on the Q&A (http://qanda.digipres.org/)*

Reading Questions (hint: these will be helpful as you plan your presentation)

- What kinds of considerations do you need to make when choosing digital preservation tools?
- Which kinds of tools are most appropriate for different kinds of preservation strategies (e.g., migration vs. emulation)?
- How can existing standards/models (like OAIS and the Levels of Digital Preservation) help you develop system requirements?
- What are the differences between macroservices and microservices? When might one be better than the other?

Niu, Jinfang. “Original Order in the Digital World.” *Archives and Manuscripts*, Vol. 43:1 (January 2015): p. 61-72.

Chen, Anna. “Disorder: Vocabularies of Hoarding in Personal Digital Archiving Practices.” Archivaria, 78 (Fall 2014): p. 115–134.

Tuesday September 13- Digital preservation

- Guest Speaker- Danielle Spalenka, POWRR Project

Required Readings

From Theory to Action: Good Enough Digital Preservation for Under-Resourced Cultural Heritage Institutions (http://commons.lib.niu.edu/handle/10843/13610)

POWRR tool grid: http://digitalpowrr.niu.edu/tool-grid/

Williams, Joseph A. and Elizabeth M. Berilla. "Minutes, Migration, and Migraines: Establishing a Digital Archives at a Small Institution." *The American Archivist*, 78:1 (Spring/Summer 2015), p. 84–95

You've got to Walk Before You Can Run: First Steps for Managing Born-Digital Content Received on Physical Media

Walk this Way: Detailed Steps for Transferring Born-Digital Content from Media You Can Read In-house

Tuesday September 20- Archive It

- Archive It presentation: We will receive training via WebEx from a member of the Internet Archive's staff on the use of the Archive It web crawler.
  NOTE: There is no way to make up this class, and it is necessary to complete the Archive It assignment.

Required Readings

Look at the Archive-It website, become familiar with the types of collections and institutions that participate https://archive-it.org/

Look at the social media guidance in the Archive It help
https://webarchive.jira.com/wiki/display/AITH/How+to+archive+social+media+sites

Forstrom, M. "Managing electronic records in manuscript collections: A Case study from the Beinecke Rare Book and Manuscript Library." *The American Archivist*, 72 (Fall-Winter 2009): p. 460-477.

Chudnov, Daniel. "Saving the Web." *Computers in* Libraries, 31:10 (December 2011), p. 30-32

Tuesday September 27—Access to Electronic Records

- Guest Speaker- Amy Sloper and Nichole Barnes
- Job talk presentations (5 volunteers)

Readings

State Archives of Texas- Texas Digital Archive

https://tsl.access.preservica.com/ Read the "more about" section and look through the online collections

https://www.tsl.texas.gov/slrm/blog/2015/12/e-records-conference-2015-introducing-the-texas-digital-archive/

Zhang, Jane and Dayne Mauney. "When Archival Description Meets Digital Object Metadata: A Typological Study of Digital Archival Representation." *The American Archivist* 76:1 (Spring/Summer 2013), p. 174–195.

Kahle, Brewster. "Universal Access to All Knowledge." *The American Archivist* 70:1 (Spring - Summer, 2007), pp. 23-31

Tuesday October 4

- Wrap up
- Job Talk Presentations