Digital Readiness Toolkit

Getting Started with Digital Projects in Small Cultural Heritage Organizations

June 2022

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About the Toolkit

Public history organizations of all types and sizes -- a local public library, a community genealogy group, a tribal language preservation program, an historic house museum, a county historical society -- collect and preserve an incredible range of materials that reveal a multitude of stories from America's past and present. Digital access to these materials has the power to enrich and connect people and communities in new and meaningful ways.

The *Digital Readiness Toolkit* aims to equip public history practitioners -- particularly those doing public history work in small, rural, or underrepresented communities, with few or no paid staff -- with the foundational knowledge needed to support digital readiness in their institutions. We define **digital readiness** as having the skills, tools, and resources to provide online public access to archives and cultural heritage materials.

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Please contact the Recollection Wisconsin project management team at info@recollectionwisconsin.org with any questions or comments regarding this document.

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Building a Statewide Digital Readiness Community of Practice

In 2020-2021, staff and volunteers representing cultural heritage institutions across Wisconsin met regularly to identify priorities, plan events, and provide feedback on content created to support the digital readiness needs of Wisconsin's public history practitioners. This **Digital Readiness Community of Practice Launch Committee** was central to the development of the Digital Readiness Levels and the Digital Readiness Toolkit.

Committee members:

- Chris Allen, Kenosha County Historical Society
- Ben Barbera, Milwaukee County Historical Society
- Bonnie Byrd, Waukesha County Historical Society
- Michelle Gobert, Forest County Historical and Genealogical Society
- Jennifer Gurske, Madison Trust for Historic Preservation
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- Kristen Leffelman, Wisconsin Historical Society
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- Sarah Lundquist, WiLS/Curating Indigenous Digital Collections

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The Digital Readiness Toolkit and related resources build on and borrow from several foundational resources that make digitization and digital preservation best practices accessible to libraries, archives, museums, and historical societies of all sizes.
We are grateful to the following programs and initiatives for their leadership in this area:

- Sustainable Heritage Network, Center for Digital Scholarship and Curation, Washington State University
- National Digital Stewardship Alliance (NDSA) of the Digital Library Federation (DLF) at the Council on Library and Information Resources (CLIR)
- Preserving digital Objects With Restricted Resources (Digital POWRR) Project
- Standards and Excellence Program for History Organizations (STEPS), American Association for State and Local History (AASLH)

This project was made possible by grants to WiLS (Wisconsin Library Services) from the National Historical Publications and Records Commission, the granting arm of the National Archives and Records Administration:

- *Planning a Community of Practice for Digital Readiness in Wisconsin*, NHPRC Archives Collaboratives Planning Grant RJ-102848, 2019
- *Building a Statewide Digital Readiness Community of Practice*, NHPRC Archives Collaboratives Implementation Grant RJ-103067, 2021

About the partners

Recollection Wisconsin

Recollection Wisconsin brings together photos, maps, documents, oral histories, and other digital collections from Wisconsin libraries, archives, museums and historical societies and shares them with the world in partnership with the Digital Public Library of America. The Recollection Wisconsin consortium is administered by WiLS and managed by six governing partners: Marquette University, Milwaukee Public Library, University of Wisconsin-Madison, University of Wisconsin-Milwaukee, Wisconsin Department of Public Instruction, and the Wisconsin Historical Society. For more information, visit https://recollectionwisconsin.org.

WiLS

WiLS (formally Wisconsin Library Services) is a non-profit membership organization that facilitates collaborative projects and services to advance library service, primarily in the state of Wisconsin. WiLS members include public, academic, K12 and special libraries as well as cultural institutions, government agencies, and other non-profits. For more information, see https://wils.org.

Wisconsin Historical Society

The Wisconsin Historical Society, founded in 1846, ranks as one of the largest, most active, and most diversified state historical societies in the nation. As both a state agency and a private membership organization, its mission is to help people connect to the past by collecting, preserving and sharing stories. The Wisconsin Historical Society serves millions of people every year through a wide range of sites, programs and services. For more information, visit https://wisconsinhistory.org

How to use this Toolkit

Digital Readiness Levels

The Toolkit focuses on seven topics at the heart of digital cultural heritage work:

- **Planning and prioritization**: What is your project plan and how will you decide what to digitize?
- **Permissions and copyright**: How will you know if you can share these materials?
- **Digitization**: How will you undertake the actual digitization work?
- **Description**: How will you describe the digitized materials?
- **Sharing and access**: How will you share what you've digitized?
- **Storage and maintenance**: What is the long-term plan for storing digital materials?
- **Evaluation**: How will you know that what you set out to do was achieved?

Each of these focus areas is organized into three levels: Bronze, Silver, and Gold. This tiered structure is a way to break down a large and complex process into smaller achievable steps. Together, these seven focus areas and three levels form a structured roadmap to plan and sustainably grow a digital initiative.

Bronze: Laying a Strong Foundation

In this level, you will get your organization ready for successful digital work. You'll define your goals, shore up your documentation and storage, and understand your options for moving forward.

Silver: Putting it Into Practice

In this level, you will identify, plan, and carry out a small-scale digital project. As you digitize, describe, share, and store a focused group of materials, you'll test-drive the standards and processes you identified in the Bronze level.

Gold: Refining and Sustaining

In this level, you will strengthen your digital program by adopting key policies and enhance your ongoing digital project work with more advanced standards and procedures.

Of course, these tidy categories and incremental steps are much messier in the real world. Chances are, your organization may be further along in one focus area than another; for instance, you might already be following the Gold-level recommendations for digitizing, but at the Silver level for description, and the Bronze level in other areas. Or maybe you're all the way to the Gold

level with your photograph collections, but just getting started at the Bronze level with audio and video collections. You might set a long-range goal to reach the Gold level in all areas, or you might decide that the Bronze level is the best place for your organization to stay. All of these approaches to digital readiness are perfectly valid! We encourage you to take what is useful to you in this Toolkit, mix and match and repurpose in the ways that you know will work best for your organization and your community.

Navigating the Toolkit

Each sub-section of the Toolkit opens with a short checklist of key activities for that focus area and level (you can also find all of those key activities together in one big checklist in **Appendix B**). After that, you'll see a brief description of each activity, plus links to real-world examples, articles, and tools from other sources that we find particularly helpful.

At the end of the Toolkit, you'll find several printable worksheets. We recommend starting with **Appendix A: Digital Project Planning Worksheet**, which will help you plot out the steps needed for any project. The **Documentation** worksheet (**Appendix C**) provides a checklist of the various policies, procedures, and other documents you may create as you work through the Toolkit, plus some tips for creating effective documentation.

Interested in more detail on a topic? Keep an eye out for the Toolkit icon to find links to more in-depth information on the Recollection Wisconsin website.

Boxes throughout the Toolkit feature information specific to current or potential Recollection Wisconsin content partners.

Working with audiovisual materials such as film, videotape, or audio tape? These collections have special challenges for identification, digitization, and preservation. The CAW icon identifies tips and guidance on AV materials from the Community Archiving Workshop, a project of the Association of Moving Image Archivists (AMIA) designed to address the challenge of obsolescence in audiovisual collections.[1]

Want to know how places like yours are approaching this work? Read case studies from Wisconsin local history and historic preservation organizations in **Appendix E**.

[1] Community Archiving Workshop Training of Trainers Toolkit. https://tot.communityarchiving.org

Not sure about the meaning of a term? Take a look at the **Digital Readiness Glossary** (**Appendix D**) for definitions of many of the words and phrases used in the Toolkit.

Looking for a specific topic? Use the **search** function in the pdf version of the Toolkit to find a particular word or phrase, or skim the Table of Contents at the beginning for subject areas.

But Where Do I Start?

One of the most common questions we get at Recollection Wisconsin is "How do I get started on a digital project?" This work can feel overwhelming, even when broken down into manageable steps. We recommend starting small, building partnerships, and connecting with peer organizations as you go.

To that end, we asked Recollection Wisconsin Content Partners to complete the sentence "If I could do it all over again, I would…"

- Tackle a smaller group of materials at first
- Make sure two people started the project at the same time so we could help each other
- Start with a clearer plan
- Take the time to sort and research the physical collection before digitizing
- Have firm deadlines to help me stay on track

Digital Readiness Levels

The Digital Readiness Levels are a structured roadmap for public history organizations to plan and sustainably grow their digital initiatives in order to improve access to collections.

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Focus Area	Bronze	Silver	Gold
Plan and Prioritize	Set goals for digital work that fit the organization's mission and policies. Adopt a digital mission statement or revise existing mission statement to include digital work.	Identify and prioritize potential digital projects. Make a digital project plan that includes roles, activities, required resources, and partners.	Adopt a digital collection development policy or revise existing policy to include digitized and born digital content.
Obtain Permissions	Create and use permission forms and donor agreements that include specific language for the use of digitized and born-digital content or modify existing forms.	Evaluate copyright status of content. Identify items with access restrictions or concerns, including privacy, ethical, or cultural considerations.	Assign standardized rights statements or Creative Commons licenses for collection items. Adopt a takedown policy and, if applicable, a statement on harmful content.
Digitize	Determine standards and procedures to be used to digitize physical materials or process born-digital content.	Using identified standards, undertake digitization or born-digital processing work either in-house or with an appropriate vendor or partner.	Use a quality control checklist to review content and confirm it meets identified standards.
Describe	Adopt a consistent naming convention for digital files. Determine standards to be used to describe digital content.	Using identified standards, create basic descriptive metadata for items.	Develop a data dictionary and use controlled vocabularies to standardize metadata.
Share	Review goals and options for providing access to content. Choose an access platform or system that meets identified needs.	Make items and associated descriptive information available for discovery and repurposing.	Implement techniques to support accessibility of online content, including alt text, transcripts, and other best practices.
Store and Maintain	Create and maintain a collection-level inventory of digital content.	Store at least two, preferably three, copies of each primary file and related metadata, with one copy stored off-site. Check and refresh storage media on a regular schedule.	Plan for future storage needs. Use software tools to check file integrity.
Evaluate	Identify primary users and ways to engage them with digital content.	Collect data and stories about how digital content is used.	Use collected data and stories to inform future collection development, outreach, and programming. Share knowledge with other practitioners to build community around digital work.

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Check As You Go

As you move towards a new level in any of the focus areas, consider the following questions:

Is it documented?

- Are new directions and decisions represented in existing policies, such as a collection development policy or a rights and reproductions policy? Do policies need to be revised or do new policies need to be created?
- Are new procedures or processes written down, such as steps for using a scanner or standards for how to describe content? Is there enough information provided that someone new to the organization would be able to carry out these processes on their own?
- Are partnerships or arrangements with other parties, such as a digitization vendor or a content contributor, documented in some way, like a contract, Memorandum of Understanding, or letter of commitment?

Is it sustainable?

- Is there a plan for how this work will continue to be supported by staff and/or volunteers from year to year?
- What work needs to be done to maintain relationships with partners or collaborators?
- Is funding committed for any recurring costs, such as a cloud storage service?
- Are best practices and widely-adopted standards being used, so that digital work is "future proof"--that is, it's compatible with commonly-used platforms and systems?
- Is there an exit strategy for any tools or partnerships? For instance, can content be removed from a platform if necessary?

Is it appropriate, relevant and/or accessible?

- Are new digital initiatives in line with the organization's mission and values? Do digital initiatives reflect community needs and respect community priorities?
- If information is available publicly, is it violating any privacy, copyright or ethical considerations?
- Can all potential users access the content? What can be done to improve accessibility for people with disabilities?

Is it working?

- Are we doing what we set out to do? What were our goals and have we achieved them, partially or fully?
- What have we learned and what will we do differently next time?
- What lessons learned would be helpful to other organizations?
- Have we communicated our project decisions and progress to stakeholders and partners, including any funders?

ACKNOWLEDGEMENTS

Development of the Digital Readiness Levels was made possible by a grant to WiLS (Wisconsin Library Service), in partnership with Recollection Wisconsin and the Wisconsin Historical Society, from the National Historical Publications and Records Commission (NHPRC). Many thanks to the Digital Readiness Community of Practice Launch Committee and other community members who reviewed and provided feedback on drafts. The structure of the Levels is adapted from the National Digital Stewardship Alliance Levels of Digital Preservation.

Focus Area 1: Plan and Prioritize

Digital work can be more complex and take more time than you may expect. It's helpful to start small, set realistic goals, and define roles and tasks in advance. In other words, **develop a plan to guide your work**.

Plan and Prioritize: Bronze Level

Key Activities

- ☐ Articulate your organization's goals for digital work.
- ☐ Develop a digital mission statement.
- ☐ Assess collections and prioritize potential digital projects.

Why Digitize?

We recommend asking the big question before you start any digital work: Why? What results do you want to see? How will this work advance your organization's mission? How will it serve the needs of your community?

Goals for digitization projects might include:

- Improve internal access and intellectual control, such as by creating an inventory
- Improve public access to frequently-used items
- Improve public access to "hidden" or inaccessible items
- Reduce wear and tear on frequently-used items
- Protect fragile or at-risk items
- Generate revenue, such as by selling reproductions
- Showcase a representative sample of collection items
- Use in exhibits, presentations, or other programming
- Support teaching and research

Define a Digital Mission Statement

An organizational mission statement is a brief statement that communicates your organization's purpose and reason for existing. Likewise, a **digital mission statement** articulates the purpose and goals of your organization's digital work. This statement should be short (no more than a few sentences) and closely tied to your organization's overarching mission. Starting with a strong digital mission statement will help others understand the value of your digitization program and how it fits in with the larger goals of your organization or community.

Digital Mission Statement Examples

- Huna Heritage Foundation: Why We Digitize
  "Huna Heritage Foundation recognizes that the materials held within the Library & Archives represent a collective memory for the Xúna Kaawu and Hoonah community. As stewards of cultural and historical record we find inestimable value in digitizing our collection."
- Appleton Public Library Digital Preservation Policy
  "*By preserving the digital collections at Appleton Public Library, the library enriches its community by safeguarding the material and keeping it in an accessible and authentic format for future generations."*
- University of Wisconsin-Parkside Archives Digital Collection Mission Statement
  "The Digital Collections Center at the University of Wisconsin-Parkside Archives and Area Research Center creates digital collections and makes them available: to increase access to its holdings beyond the constraints of time and distance; to enhance faculty and student scholarship and research; to encourage local history and genealogical research in Wisconsin and beyond; and to preserve and provide access to fragile historical materials of Racine and Kenosha Counties."

Prioritize Content for Digitization

Thoughtfully selecting the materials you'll digitize will help keep your project manageable and help you make the best use of limited resources. Revisit your digital mission statement and make sure you select materials that will support your goals. For example, if your goal is to generate revenue by selling photo reproductions, choose items with broad appeal and without copyright or privacy concerns. If your goal is to create educational resources for local teachers, talk to them to find out what types of materials they need.

	No	Maybe?	Yes	Absolutely!
Value: Is there interest or value in these materials for genealogists, educators, researchers, community members, or other identified audiences?	1	2	3	4
Value: Do the materials contribute new voices or perspectives to the historical record (for example, materials document historically underrepresented groups in our community)?	1	2	3	4
Information context: Is there enough information available to add useful context (we know or can find out names of people, locations, dates)?	1	2	3	4
Availability: Are the materials unique and not already available online?	1	2	3	4
Legal/Ethical issues: Are the materials in the public domain (or we can get permission from the copyright holder) and there are no privacy concerns or other barriers to putting them online?	1	2	3	4
Condition: Are the materials in high-risk, deteriorating formats, particularly audiovisual recordings on media like audiocassettes, VHS tapes, CDs, or DVDs?	1	2	3	4
			TOTAL SCORE	

Scoring:

18 - 24 points: High priority for digitization

12 - 17 points: Medium priority

6 - 11 points: Low priority

Audiovisual Collections Spotlight: Making an Inventory of AV Collections to Prioritize Digitization

By and large, digitizing an original resource does not replace the need for the proper conservation, care, and storage of that original resource. A big exception to that rule is audiovisual materials in outdated formats -- digitization is considered the best way to preserve and play back these deteriorating resources. And the situation is urgent. In 2012, the Library of Congress National Recording Preservation Plan reported that "many endangered analog formats must be digitized within the next 15 or 20 years before further degradation makes preservation efforts all but impossible."[2] **If you have audio cassettes, reel-to-reel tapes, microcassettes, VHS, Betamax and U-Matic videotapes, Mini-DV, Hi8 or Digital8 camcorder tapes in your collections, consider making those your top priority.**[3]

But what if your AV materials are not cataloged or are no longer playable? How can you know what to prioritize if you don't know what you have? **Creating an item-level inventory of your AV collections is crucial to the process of digitizing such collections.** CAW has worked with Recollection Wisconsin and other partners to develop an audiovisual inventory form with accompanying instructions. Refer to Appendix E of the Toolkit for more information.

[2] Library of Congress, "Library of Congress National Recording Preservation Plan", (National Recording Preservation Board of the Library of Congress, Council on Library and Information Resources: December 2012)
[3] Joshua Ranger, "For God's Sake, Stop Digitizing Paper," 2014.
https://blog.weareavp.com/for-gods-sake-stop-digitizing-paper-2

For Recollection Wisconsin Content Partners: Formats in Scope

Recollection Wisconsin welcomes digital collections representing a wide variety of original materials related to state and local history as well as national and international topics. If you're planning to share your collection through Recollection Wisconsin, prioritize these formats:

In scope for Recollection Wisconsin:

- **Visual images:** photographs, slides, glass negatives, postcards, drawings, paintings, maps, blueprints, photo albums, scrapbooks
- **Manuscripts:** hand-written documents, including journals, letters, diaries, ledgers
- **Printed text:** books, yearbooks, city directories, articles, pamphlets, certificates, newsletters, reports
- **Audio, video, and film:** oral histories, speeches, recorded music, film footage
- **Physical objects:** three-dimensional artifacts, including sculptures, textiles, housewares, clothing, tools

Out of scope for Recollection Wisconsin:

- **Data-only records:** cemetery indexes, birth and death indexes
- **Finding aids or EADs**
- **Institutional repository content:** dissertations, research data

Bronze Level: Resources and Tools

- "So You Think You Want to Digitize," Wisconsin Historical Society, 2017.
- Christen, Kim, Jennifer O'Neal, and Lotus Norton-Wisla. "Strategic Digitization Goals Part 1: Digitization Purpose Statement Worksheet." Sustainable Heritage Network, 2020.
- "Selecting Materials for Scanning," North Carolina Digital Heritage Center.

Plan and Prioritize: Silver Level

Key Activities

- ☐ Create a detailed plan for a high-priority digital project.
- ☐ Determine resources needed to support your project plan.
- ☐ Get input from partners as you develop the plan and keep partners informed throughout the process.

Develop a Project Plan

Use the **Digital Project Planning Worksheet** (Appendix A) to outline your project before you get started. You can also use this worksheet to keep a record of decisions and changes made during your project, so others can take up the work if a staff member or volunteer moves on. We're big fans of documentation. Write it down now, you'll thank yourself later!

Determine Needed Resources

What resources are needed to move your priority projects forward? Factor in one-time costs such as equipment purchases as well as ongoing expenses to maintain a digital project, such as storage costs or software upgrades. Many digitization projects are made possible by grants from federal, state, or local sources. At the local level, consider funding opportunities such as your county's arts and humanities board, your Chamber of Commerce, or locally-owned corporations.

Resources needed for a digital project may include:

- Paid staff members to do digitization work
- Paid staff members to train or supervise volunteers or interns
- Intern stipends or honoraria
- Digitization vendor fees
- Travel or shipping costs to transfer materials to and from vendor
- Training opportunities such as webinars or workshops
- Scanner, digital camera, audio or video recording equipment
- Software for processing digital files (image editing, OCR, etc.)
- Software for online access
- Dedicated space for digitization work, including a desk/table and stable Internet connection
- Cloud storage for digital files (Google Drive, Dropbox, Microsoft One Drive, etc.)
- Local storage for digital files (server, external hard drives, RAID devices, etc.)

Keep in mind that the biggest investment needed for digital work is typically not money, it's **time** — the many hours that staff or volunteers spend learning new skills and procedures, creating digital images and metadata, and maintaining the digital content.

Audiovisual Collections Spotlight: Planning a Community Archiving Workshop

After inventorying your audiovisual collections, your organization may want to jump-start your AV digitization and preservation work by planning and hosting a Community Archiving Workshop (CAW).

In a CAW, experienced audiovisual archivists partner with volunteers and staff at a community archives or museum. During a day-long workshop, the professional archivists provide training and equipment while the participants gain hands-on experience assessing and cataloging AV materials.

The aim of a CAW is to learn, have fun, build connections, and do productive work to begin preserving collections that include at-risk audio, video or film. The Community Archiving Workshop model is flexible and can be adapted to meet your organization's needs and resources. The most common result of a day-long CAW is a prioritized inventory for all or part of a collection which can serve as the foundation for future preservation and access planning.

For more information on planning a workshop, see the Community Archiving Workshop Handbook.

Develop a Project Budget

Sample project scenario:

We're a volunteer-run historic house museum with a collection of about 500 black-and-white photographs we'd like to digitize. We have a volunteer interested in doing the scanning, and we're going to hire a summer intern from the local community college to help with researching copyright and creating metadata. We'll partner with our local public library to borrow a digitization kit through our regional library system and work with the library to host our collection in Recollection Wisconsin. We'll store two copies of our primary files on external hard drives, one stored here at the museum and one at the regional library system office.

Sample project budget:

RESOURCE	NOTES	COSTS
Skills and Knowledge (training, guidelines, technical standards)	Need training on digitization procedures and equipment	**RW: $0** Paid training courses vary in price, $50-$250
People (staff, volunteers, interns, vendors)	For interns, estimate $15/hour for 120 total hours	**Volunteers: $0** **Paid work: $1800**
Hardware (scanner, digital camera, computer)	Borrow public library digitization kit	**$0**
Software (for online access, image editing, text recognition)	Online access: hosting through Recollection Wisconsin	**$200 setup fee** **$125/year**
Storage (server, cloud storage, external hard drives)	2 external hard drives (1 TB each)	**$200**

Working with Volunteers

Many local history organizations rely heavily on dedicated volunteers to perform a range of digital collections development work. A successful volunteer program needs a plan for attracting, training, supporting, and recognizing volunteers. Volunteers may come to your organization to donate their time and experience, but it's important to keep in mind that it's not what they can do for you that keeps them coming back, it's what you can do for and with them to foster a positive environment and sense of community.

Recollection Wisconsin has created a Toolkit for Engaging Volunteers with more information.

For Recollection Wisconsin Content Partners: Partnering to Share Resources

Before investing in new hardware or software, consider whether a regional or statewide collaborative option might meet your needs. For example, many public library systems in Wisconsin have digitization kits with a basic flatbed scanner available to loan to their member libraries.[4] Kits for identifying and digitizing audiovisual materials are also available. (See the **Digitize** section of the Toolkit for more information on purchasing or borrowing digitization equipment.)

In general, it's always worth reaching out to your county historical society, local public library, local college archives, Area Research Center, historic preservation office or similar organization to ask about efforts already underway, resources available for projects such as yours, or potential partnerships. Consider checking with us at Recollection Wisconsin too! Our bird's eye view of the statewide landscape means we're able to connect you with others working on similar projects.

Silver Level: Resources and Tools

- Digitization Cost Calculator, Digital Library Federation.
- Salo, Dorothea. "Those Two Boxes of Tapes," [video], Appleton Public Library Digital Readiness Fair, 2021.
- Northeast Document Conservation Center. Fundamentals of AV Preservation, especially Chapter 2, Section 3, "Prioritization for Digitization."
- Community Archiving Workshop, "Community Archiving Workshop Handbook."

[4] "Digitization Kits for Public Libraries." Recollection Wisconsin. https://recollectionwisconsin.org/kits

Plan and Prioritize: Gold Level

Key Activities

- ☐ Gather ideas and examples of digital collection development policies.
- ☐ Draft a digital collection development policy and obtain feedback from stakeholders.
- ☐ Finalize and adopt the policy.

Establish a Digital Collection Development Policy

Think about how digital projects fit into your organization's collection development policy. A collection development policy outlines the types of materials your organization will collect and care for. It typically identifies the subject matter, geographic locations, time periods, type or formats of materials, and other factors that influence collecting decisions. If your organization already has a collection development policy in place, consider revising it to include digital content. If you don't have an overarching collection development policy, the Wisconsin Historical Records Advisory Board (WHRAB) offers detailed guidance aimed at public libraries and local historical societies.[5]

A Digital Collection Development policy typically includes:

- An overview of the organization's mission, values, goals, and/or collecting strengths
- Subject areas, types or formats, geographic areas, and other factors that determine the types of donations you will or won't accept
- How you will select materials to accept digitally or choose analog materials to digitize
- Date the policy is adopted
- Last date the policy is reviewed or approved

Digital Collection Development Policy Examples
• Recollection Wisconsin Service Hub Collection Policy • Wisconsin Digital Archives Collection Development Policy, Wisconsin Document Depository Program • La Crosse Public Library Archives Digital Collections Development Policy

Legacy Projects

Some of us have the luxury of building a digitization project or program from scratch. Others, though, take on digital projects that were started by long-gone staff or volunteers, sometimes years or even decades prior to our own participation, and with scant meaningful documentation to help decipher the project work.

[5] "Best Practices for the Management of Historical Records," 1998. Wisconsin Historical Records Advisory Board. https://wisconsinhistory.org/Records/Article/CS4088

Some advice for wrangling an inherited project (or restarting a stalled one):

- **Gather your documentation.** Look for a mission statement, collection development policy, a grant proposal, a digital preservation policy, a project plan or budget, training manuals, emails or other communications related to the digital project – any documentation that might shed light on the work.
- **Talk to people.** Connect with current and former staff and volunteers. Find out as much information as possible about the project – its origins and history, successes, challenges, cost, staffing, expertise required to continue the work, and more. Document these conversations.
- **Don't delete anything (yet).** Be careful not to delete images, data, or documentation that might be needed as part of the project or to inform your decision-making process. Save project-related materials until you know what they are and whether they should be retained.

Check out Recollection Wisconsin's Toolkit on Inheriting a Digital Project for more information.

Gold Level: Resources and Tools

- Norton-Wisla, Lotus. "Collections Development Policy Worksheet." Sustainable Heritage Network, July 2020.
- State Archives of North Carolina. "Policies." [Video] YouTube, March 2021.

Focus Area 2: Obtain Permissions

Determining the copyright status of the digital materials you will make available online can seem daunting, but there are tools available to help you assess your organization's risks and responsibilities. Before you get started, think about the following:

- Owning a physical item does not necessarily mean you hold the copyright to that item.
- Scanning an item does not change its copyright status or create a new copyright.
- Regardless of copyright status, there may be ethical and privacy considerations about how items are displayed or used.

Obtain Permissions: Bronze Level

Key Activities

- ☐ Adopt a deed of gift form that includes language about online access to digitized and born-digital content, or update existing deed of gift form.
- ☐ If creating new digital content, such as oral history interviews, use a permission form that includes language about online access, or update existing permission form.

Donor Agreements

Does your deed of gift form include specific language about digitizing and sharing donated items online? Be aware that a donor can transfer copyright to you with a donation only if they are the copyright holder.

If you don't already use a deed of gift form, donor agreement, or gift agreement, now is a great time to adopt one. Now is also a good time to dig through your files, physical and digital, to find existing documentation that will shed any light on the status of permissions or agreements in your collections. Did past archivists, volunteers, or donors contribute notes or forms documenting how materials could be used or shared in the future?

Forms and other documentation should be kept with the related collection materials, either physically or digitally. For instance, you could save a signed donor agreement in a "Copyright" subfolder in the collection to which it applies. You can also write out the information you have in a text file and save it with the collection or the digital materials.

"Digital donations," in which cultural heritage organizations scan photos, scrapbooks or other materials for community members and keep the digital files but return the originals to the owner, are becoming more common. So are crowdsourced or community-sourced collections, in which community members contribute their own writings or artwork to a shared digital collection. A signed deed of gift or permission form is needed in these scenarios too.

While we can't give you legal advice on collection donations, below are several examples you can borrow from and customize for your needs.

Deed of Gift Examples
• Deed of Gift, Wisconsin Historical Society • Loan for Digitization Purposes, Rock County Historical Society (Janesville, Wisconsin) • Sample Deed of Gift, Sustainable Heritage Network

Permission Forms

A permission form, also known as a release form or consent form, is needed whenever your organization works with community members to create new content, such as oral history interviews. Any permission forms should clearly state how (or if) the materials may be shared online and how copyright will be retained or transferred, if applicable.

Permission Form Examples
• Oral History Permission Forms, Wisconsin Historical Society, Wisconsin Veterans Museum, and UW-Madison Archives Oral History Program • Registration Form, Palos Verdes Library District Local History Center (California) • Oral History Interview Release Form, Door County Speaks, Door County Library

Bronze Level: Resources and Tools

- "A Guide to Deeds of Gift." Society of American Archivists, 2013.
- "Gift Agreements." Community-Driven Archives, University of North Carolina at Chapel Hill, 2021.
- Norton-Wisla, Lotus. "Donor Form and Deed of Gift Worksheet." Sustainable Heritage Network, 2020.

Obtain Permissions: Silver Level

Key Activities

- ☐ Gather existing documentation that may inform copyright and permissions: deeds of gift, donor permission forms, or correspondence with donors.
- ☐ Identify items not covered by copyright (in the public domain).
- ☐ Identify items potentially covered by copyright and make determinations about appropriate access.
- ☐ Review items to determine whether privacy, ethical, or cultural considerations will determine appropriate access.

Public Domain

Many of the historical materials in your collections may be in the public domain, which means that copyright protections do not apply.[6] Materials in the public domain may be freely used by anyone, for any use, without permission or attribution. In addition, whether the materials are in the public domain or in copyright, any digital resources you make available online can be used by the general public for activities defined as **Fair Use** by Section 107, United States copyright law, including teaching, research, and news reporting.[7]

What's in the Public Domain?

More than you might think! To figure it out, you'll need to know whether an item is considered published or unpublished, and, if possible, the date it was created.

Published works include:

- Books and booklets
- Brochures and pamphlets
- City directories and phone books
- Maps
- Newspapers and newspaper clippings
- Postcards **without** writing on the back
- Yearbooks

[6] "Welcome to the Public Domain." Stanford Libraries. https://fairuse.stanford.edu/overview/public-domain/welcome/

[7] "Fair Use," Stanford Libraries. https://fairuse.stanford.edu/overview/fair-use/

Copyright assessment for published works:

If publication date is . . .	Copyright status is . . .
1978 or after	In copyright
1926-1977 **with** a copyright notice (© or "Copyright")	May be in copyright
1926-1977 **without** a copyright notice	No copyright (public domain)
1926** or before	No copyright (public domain)

***In 2022. This is a rolling date! Each year on January 1, another year of published content passes into the public domain.*

Unpublished works include:

- Architectural drawings
- Diaries
- Ephemera
- Letters
- Manuscripts
- Photographs (unless you are sure they were published)
- Postcards **with** writing on the back

Copyright assessment for unpublished works:

If creator is:	Copyright term is:	In 2022, it's in the public domain if:
Known	70 years after death of creator	Creator died before 1952
Unknown	120 years after date created	Created before 1902

Unpublished items that are simply a collection of facts generally do not need to be assessed and can be considered public domain. These include items such as ledgers and account books, land records, tax records, deeds, invoices, receipts, bills, and permits.[8]

[8] "Rights Statement Review Criteria." North Carolina Digital Heritage Center. https://docs.google.com/document/d/1HBB_BTFrvg8412_2bxu7afp7t5fAmTyw5lhoLxSTR6I/edit?usp=sharing

In Copyright? Get Permission!

If materials are not in the public domain, seek permission from the copyright holder to put them online. Copyright may lie with the original photographer, artist, or author; their heirs (if legally transferred through a will, for instance); or, in the case of works for hire, with the agency that authorized the creation of the original work (for example, the copyright to an image from a staff photographer working for a newspaper or magazine would, in most cases, belong to the newspaper or magazine publisher). Keep a record of when you contacted rights holders and what response (or lack of response) you received.

Orphan Works

What if I can't find the rights holder? Or what if I get no response after multiple attempts to contact them? It may be impossible to identify or locate the rights holder for many historical materials. In that case, the materials are considered **orphan works**.[9] Many libraries and museums choose to make orphan works in their collections available online.

Recollection Wisconsin has created a Toolkit: Can we digitize and put these images online? Should We? to guide decisions about orphan works.

Privacy and Ethics

Even if materials are in the public domain, there may be other reasons not to share them publicly, online or otherwise. Be mindful of privacy issues and other ethical concerns, which are different from copyright issues.

Give special consideration before providing access to:

- Materials created by or depicting Indigenous communities
- Materials created by or depicting protected or vulnerable populations, such as minors, incarcerated individuals, or medical patients
- Materials containing personal or private information (e.g. home address, birth date, medical history)
- Materials depicting emergency response, crime scenes, or disaster relief efforts that may include images of wounded or deceased people

Proceed carefully with any of these types of materials. In the case of Indigenous materials, try to contact representatives of these groups to open a dialogue about the materials to be digitized. The *Protocols for Native American Archival Materials* provide a guide to such dialogues.[10] It may

[9] "Orphan Works," United States Copyright Office. https://www.copyright.gov/orphan/
[10] "Protocols for Native American Archival Materials," Northern Arizona University. https://www2.nau.edu/libnap-p/protocols.html

also be appropriate to discuss digital return of Indigenous materials to their communities. **Digital return** is the transfer of cultural heritage materials back to a community in digital form.[11]

See the Recollection Wisconsin Toolkit on Digitizing Indigenous Materials for more information.

Silver Level: Resources and Tools

- The Copyright Genie. American Library Association, 2012.
- Copyright Term and the Public Domain in the United States. Copyright Information Center, Cornell University, 2022.
- "Sample Written Request for Permission," University of Texas Libraries.
- "Orphan Works: Statement of Best Practices," *Society of American Archivists* 2009.
- "Well-intentioned practice for putting digitized collections of unpublished materials online," OCLC Research, 2010.

[11] Christen, Kim, and Lotus Norton-Wisla. "Digital Return Slides." Sustainable Heritage Network, 2020. https://sustainableheritagenetwork.org/digital-heritage/digital-return-slides

Obtain Permissions: Gold Level

Key Activities

- ☐ Use standardized rights statements or Creative Commons licenses to describe the copyright status of digital items.
- ☐ Develop a takedown policy.
- ☐ Develop a statement or notice about potentially harmful content.

Rights Statements

Each item you make available online should be accompanied by a statement describing the item's copyright status. This **rights statement** helps users understand what they legally can and cannot do with your materials.

For Recollection Wisconsin Content Partners: Standardizing Rights Information

Recollection Wisconsin is adopting the standardized rights statements developed by DPLA and Europeana. The twelve statements, available at RightsStatements.org, are a simple, universal way to communicate the copyright status of digital objects to the public. The appropriate standardized rights statement URI is required in a unique metadata field for each record harvested by Recollection Wisconsin and provided to DPLA.

Copyright status of resource	Rights Statement URI
In copyright	http://rightsstatements.org/vocab/InC/1.0/
Not in copyright *(in the public domain in the United States)*	http://rightsstatements.org/vocab/NoC-US/1.0/
Copyright undetermined *(you've researched the copyright status but are unable to make a definitive determination)*	http://rightsstatements.org/vocab/UND/1.0/

For more information, see Recollection Wisconsin's guide to Implementing Standardized Rights Statements.

Creative Commons Licenses

If you're creating new digital content, you might consider assigning a Creative Commons license to your work. Creative Commons (CC) licenses are a standardized, widely used method for people and organizations to grant copyright permissions for their creative and academic works, ensuring proper attribution and allowing others to make use of those works.[12]

Note that Creative Commons licenses can only be applied by the rights holder. If your organization does not hold the copyright to materials, then you cannot apply a license to those materials, but you can encourage the rights holder to do so. You might even consider including CC license options in your deed of gift or permission forms.

Takedown Policies

After doing the legwork to assess copyright and pursue permissions, you might still have some uncertainty about the rights status of some materials. The Digital Millennium Copyright Act (DMCA) of 1998 established a notice-and-takedown system, which means that if you infringe on copyright by posting copyrighted material online without permission, the rights holder has to follow a specific procedure to notify you and give you the chance to remove the copyrighted item.[13] A good practice is to post a takedown policy on your organization's web page or digital collections site, so that the process for submitting a takedown notice is clear to any rights holders.

A takedown policy includes:

- The procedure a rights holder can use to submit a takedown notice
- A brief outline of what your organization will do if a takedown notice is received
- Your organization's contact information

Takedown Policy Examples
• Notice and Takedown Policy, University of California San Diego Library Digital Collections • Digital Archive Takedown Policy, University of Nevada Reno Libraries

[12] About the Licenses, Creative Commons. https://creativecommons.org/licenses/
[13] What Is The DMCA Notice and Takedown Process? Copyright Alliance. https://copyrightalliance.org/faqs/what-is-dmca-takedown-notice-process/

Harmful Content Statements

A content statement is a message on your digital collection website or within your collection metadata that alerts users to materials they may find offensive, triggering, or harmful. Without mediation or interpretation, this content might be taken out of context or worse, inflict irreparable harm on unsuspecting users. The goal of a content statement is not to deter users, but to prepare them, especially younger learners and their educators, for content they might encounter.

For more information about harmful content statements including example statements and a step-by-step process for crafting one for your own collections, take a look at Recollection Wisconsin's Toolkit on Harmful Content Statements.

Harmful Content Statement Examples
• Digitized Archival And Special Collections: Potentially Offensive Materials, University of Wisconsin-Milwaukee Libraries • DPLA's Statement on Potentially Harmful Content, Digital Public Library of America • Listening to War: Wisconsin's Wartime Oral Histories, Recollection Wisconsin

Gold Level: Resources and Tools

- Rights Review: An approach to applying Rights Statements from RightsStatements.org. Minnesota Digital Library, 2020.
- "Guide to Implementing Rights Statements." Society of American Archivists, 2016.
- License Chooser. Creative Commons. *This tool can help you determine which license is appropriate for your digital materials.*

Focus Area 3: Digitize

Digitization is the process of making a digital copy of a physical object -- for instance, scanning a document, using a digital camera to photograph an artifact, or converting an audiocassette into a WAV file. Another common term for this process is **reformatting**.

Your goal here is to create a digital file that accurately represents the original item, using recognized standards that will keep the file usable for years to come. Keep in mind that this digital file will need ongoing care and storage, just as proper care and storage is still needed for the original physical object (See the **Store and Maintain** section of the Toolkit for more on caring for your digital files).

Digitize: Bronze Level

Key Activities

- ☐ Identify the resolution, color, bit depth, file format, and other standards you will use to digitize materials.
- ☐ Choose equipment for digitization, identify partnerships, or select an appropriate vendor for reformatting.

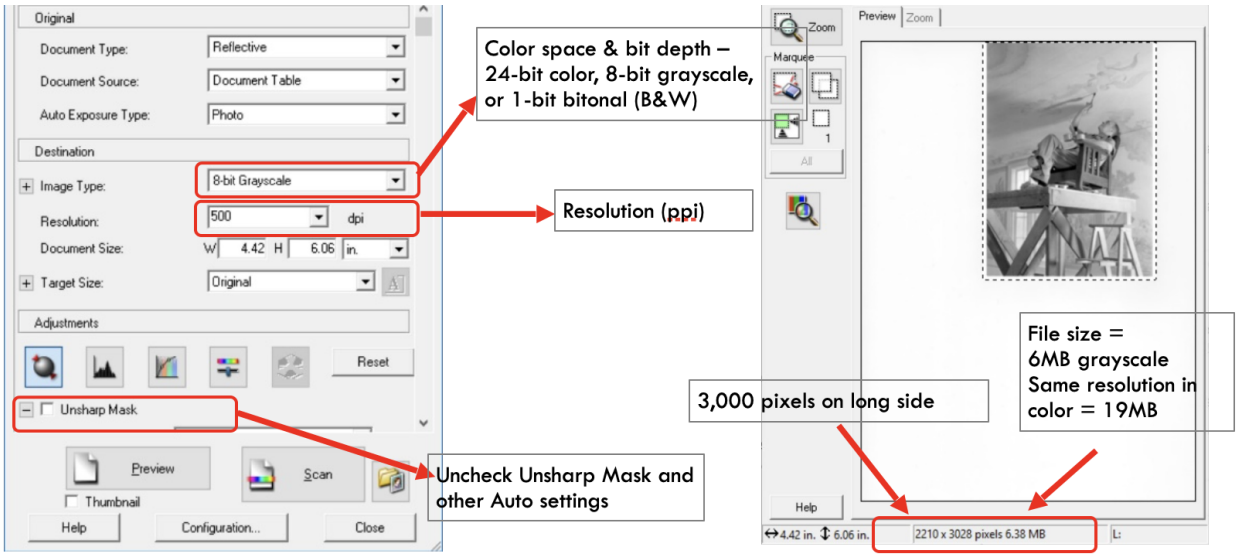
Digitization Standards

When digitizing, aim for a "capture once, use many times" approach. Get the best quality you can the first time around; don't anticipate going back to re-digitize down the road. A high-quality primary file can be copied, edited, or resized as needed for all kinds of future uses.

So what quality do you need? There is no one-size fits all specification -- the standards you'll use will depend on the size and type of the original materials. The table below outlines the generally recommended minimum standards to use for **resolution**, **color**, **bit depth**, and **file format** when digitizing common formats, including documents, images, audio, and video.[14]

[14] Table adapted from "Digitization Standards and Guidelines," University of California Santa Cruz Library. https://guides.library.ucsc.edu/DS/Resources/DigitizationStandards

Content Type	Resolution (PPI)	Color	Bit Depth	File format/ extension	Details
Books or other texts with no images	Min: 300 Ideal: 600	B & W or Grayscale	1 (bitonal) or 8	Min: PDF/A Ideal: TIFF	Optional Character Resolution (OCR) applications work best on documents scanned at 400 DPI or higher. Access files: PDF/A.
Books or other texts with images	Min: 300 Ideal: 400	Min: Grayscale Ideal: Color	Min: 8 Ideal: 24	TIFF	Optional Character Resolution (OCR) applications work best on documents scanned at 400 DPI or higher. Access files: PDF/A.
Manuscripts, letters, diaries	Min: 300 Ideal: 600	Color	Min: 8 Ideal: 24	TIFF	Aim for 3000-4000 pixels on the longest edge of the digital file.
Slides, film and negatives smaller than 4"x5"	Min: 1200 Ideal:3000	Min: Grayscale Ideal: Color	Min: 16 Ideal: 24	TIFF	Aim for 3000-4000 pixels on the longest edge of the digital file.
Photos and prints smaller than 8”x10”	Min: 400 Ideal: 600	Min: Grayscale Ideal: Color	Min: 16 Ideal: 24	TIFF	Aim for 3000-4000 pixels on the longest edge of the digital file.
Photos, posters, and maps larger than 8”x10”	Min: 300 Ideal: 600	Min: Grayscale Ideal: Color	Min: 8 Ideal: 24	TIFF	Aim for 3000-4000 pixels on the longest edge of the digital file.
Audio	96 kHz		24	Broadcast .wav or .aif	Access files: 320 Kbps sampling rate. File format: mp3
Video (transferred from analog source)	720x486		8-10 uncompressed	.mov or .avi	Access files: 1.5 Mbps sampling rate. File format: mp4 h.264
Digital video	Native		Native, or 10-bit uncompressed	Native, .mov or .avi	Access files: 1.5 Mbps sampling rate. File format: mp4 h.264



EPSON Scan in Professional Mode **EPSON Scan Preview Window**

Scanning specifications in Epson scanner software

The large, high resolution files that result from your scans are known as primary files, archival files, or preservation files. You can then save smaller versions of these primary files for access purposes.

	Primary File (also known as an archival file or preservation file)	Access File (also known as a derivative)
Use for	Long-term storage	Sharing on social media
	Selling reproductions	Emailing to researchers
	Printing, i.e. publications, calendars, posters, exhibit panels	Posting on your website
File type	Images and text: TIFF	Images and text: JPEG or PDF
File size	Images and text: BIG! (one scanned postcard = approx. 20MB)	Images and text: Small (probably less than 1MB)
Editing	Unedited or minimal editing i.e. cropping or straightening	May be edited i.e. significant cropping, contrast adjustment, etc.

Choosing Equipment

Many small cultural heritage organizations choose to use a flatbed scanner (a scanner with a flat glass plate and a lid) as the most economical and easy-to-use method to digitize photographs, postcards, documents, and books.

Some things to keep in mind when choosing a scanner:

- Most entry-level flatbed scanners accommodate items up to 8" x 10." If you have oversized items, you may need to invest in a larger scanner, explore a copy stand and camera setup, or work with a partner or vendor to scan larger items.
- If you have a large number of film negatives or 35mm slides to digitize, consider a flatbed scanner with film or slide trays, or a dedicated slide scanner.
- Not all consumer grade scanners can capture TIFF files - be sure yours does.
- Avoid using scanning "wands," "scanner" apps on your smartphone, or similar devices. They're great for researchers who want to get a quick reference image, but they won't give you high-quality results.
- Do not use a sheet-fed scanner for any archival materials, as it can easily damage the originals.

Recollection Wisconsin has created a Toolkit for Buying a Scanner with more information.

Audiovisual Collections Spotlight: Accessing Equipment for AV Digitization

While many cultural heritage organizations have access to scanners for documents and photographs, it is usually less common for a small library, archives, or historical society to own the necessary equipment for digitizing film, video, audio, and other AV materials. In many cases, you might not even know what equipment you need before you complete an inventory of your collection.

Recollection Wisconsin and Community Archiving Workshop have partnered to create portable AV assessment and digitization kits, available for loan to organizations in Wisconsin. The first kits to be made available are a Film Inventory Kit, which will help with inspecting and identifying film, and an AV Digitization Kit, which will help with digitizing VHS and audiocassettes and pulling digital files from CDs and DVDs. Please check the Community Archiving Workshop page for the most up to date information on kits and the loan process.

The Memory Lab Network is a project of the DC Public Library that provides resources for individuals and organizations wanting to digitize audiovisual formats. In particular, you might want to check out the detailed list of equipment used in the DCPL's Memory Lab, and the map of existing digitization labs in the United States.

Should I re-scan?

We've heard from local history organizations who have inherited legacy projects in which images (sometimes many, many images!) have been scanned at lower quality than the organization would prefer – scans that were only saved as jpegs or at 150 dpi, for instance. The decision to rescan materials can be a difficult one. We recommend that your organization make that decision based on the goals of your digitization program. Are your images sufficient for access – can those jpegs be shared sufficiently, and is that "good enough" for what you want to accomplish? If you would like to sell reproductions of images and can't do so with the files you have, then it may be worth taking the time to rescan to obtain a higher resolution image.

Working with a Vendor

Some materials such as large maps, books with fragile bindings, and analog audio or video present a reformatting challenge. If you don't have the equipment, expertise or time to create high-quality digital copies yourself, consider outsourcing the digitization to a vendor.

Recollection Wisconsin has created a Toolkit for Working With Vendors with more information.

Working with Born-Digital Content

Born digital materials have never had a physical, analog form; they were created or "born" on a computer or mobile device.[15] Collections of born-digital materials may come to you on an external hard drive, CD or DVD, or USB thumb drive. They might be delivered to you through a file sharing platform like Google Drive, or they may be copied or downloaded from the Internet. Your organization might create born-digital content such as video or audio oral history interviews, digital photos of local places or events, or newsletters and other publications. For guidance in this area, a good place to start is the book *The No-Nonsense Guide to Born-Digital Content* by Heather Ryan and Walker Sampson (2018).

[15] Erway, Ricky. "Defining 'Born Digital'." OCLC Research, 2010. http://www.oclc.org/research/activities/hiddencollections/bornditgital.pdf

Bronze Level: Resources and Tools

- Grizzard, Eva, and Terrance D'Ambrosio. "Digitizing for Preservation and Access: Best Practices for Every Budget." Sustainable Heritage Network, 2016.
- Minimum Digital Capture Recommendations. Association for Library Collections and Technical Services / American Library Association, 2013.
- "Digitization: Technical Concepts." [video] State Archives of North Carolina, 2021.
- Archiving Born-Digital Materials: Born-Digital Preservation Methods, Emporia University.

Digitize: Silver Level

Key Activities

- ☐ Prepare physical materials for reformatting.
- ☐ Complete a pilot project. Digitize a handful of items to check your settings and make sure the standards you identified will give you the results you want.
- ☐ Document your workflow. Create a step-by-step outline of your digitization procedures.

Prepare Physical Materials for Reformatting

Review the materials to be scanned as a group and prepare them - perhaps in batches, depending on the size of the collection - to be scanned.

- Remove staples, paper clips, binder clips, or rubber bands (Watch out for sharp ends!)
- Remove items from binders or sleeves
- Review items for torn areas; place severely torn items in a plastic sleeve for scanning. Do not use tape or glue to repair items without consulting a professional conservator.[16]
- Remove loose items like sticky notes
- Set aside any duplicate items
- If appropriate, organize the items in the order in which they will be scanned
- Keep separate any materials with mold or mildew; treat them to kill the mold or mildew before scanning.[17]
- If materials, especially photographs or slides, seem dusty, carefully use an air can or microfiber cleaning cloth to remove the dust[18]
- Examine the glass scanner surface for fingerprints or dust, and wipe or dust off with a microfiber cloth as appropriate.

Tips for safe handling of original materials during digitization projects:

- No food or drinks near collection items
- No pens near collection items – pencil only
- Wash hands regularly; gloves are only recommended when handling photographic materials.
- Always have plenty of room in your workspace to accommodate the material you are working with
- Never use collection items as a work surface
- Do not stack different items together such as books and photos

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[16] Rebecca Elder. "Preservation 101: Caring for Paper Based Materials," Sustainable Heritage Network. https://sustainableheritagenetwork.org/digital-heritage/preservation-101-caring-paper-based-materials

[17] "Preparing for and Cleaning Mold on Paper Records," Alabama Department of Archives and History. https://fortherecordalabama.blog/2021/09/17/preparing-for-and-cleaning-mold-on-paper-records/

[18] Roemer, Christian. "Cleaning Tips Before Digitizing Slides And Photos," Aperture. https://kodakdigitizing.com/blogs/news/cleaning-tips-before-digitizing-slides-and-photos

- Return items to their storage area at the end of the day

Develop your Digitization Procedures

Before you dive into any project, take a test drive. Select a few representative items to scan and try multiple settings so you can be sure to get the results you want. For example, if you're digitizing a yearbook collection, scan a couple of volumes from different decades to reflect different layouts, color vs. black and white photos, etc. If you're working with a vendor, they should be able to reformat a handful of sample items so you can see their work before you move forward.

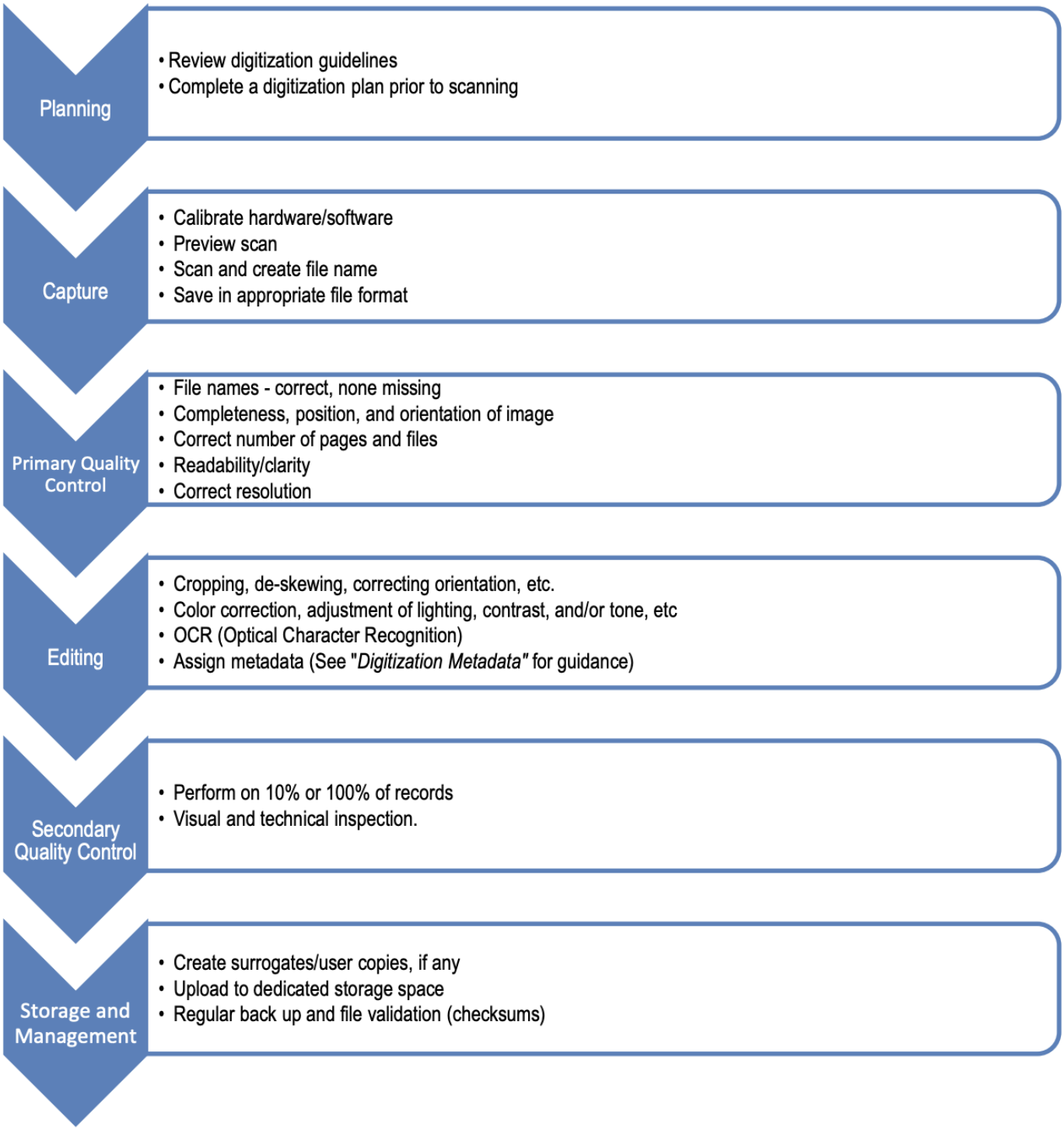
Based on what you learn in this pilot project, create a **digitization workflow** to document your process. A workflow is simply a sequence of connected, repeatable steps that lay out an activity from start to finish.

Key elements of a digitization workflow might include:

- Create primary file (also known as a "preservation file," "archival scan/file," or "raw file")
- Name the file according to your file naming convention (See **Describe** section of this toolkit for more information)
- Conduct quality control review
- Create access copy (sometimes called a derivative file or user copy), if needed
- Move primary file to stable storage (See **Store** section of this toolkit for more information)

Digitization Workflow Examples
• Scanning and Cataloging Workflow, Chippewa Valley Museum • Epson Perfection V600 Photo Color Scanner Workflow, South Central Library System

BASIC WORKFLOW



Digitization Workflow, Wisconsin Historical Society

Tips for Scanning Photos and Documents

- Keep scanner glass clean and free of dust
- Use scanning software in “professional” mode
- Turn off all auto settings
- Scan one item at a time
- Use image editing software to crop after scanning, rather than letting the scanner auto-crop
- If there is writing or other information on the reverse side of a photograph, scan that too

Photographing Museum Objects

Our recommendations in this area are still under development, but here are a few resources to get you started:

- Photography Standards and Instructions, Maine Memory Network, Maine Historical Society
- Basic Object Photography, William J. Hill Texas Artisans and Artists Archive

Silver Level: Resources and Tools

- “Tutorial: Scanning Historic Photos.” [video]. Recollection Wisconsin, 2012.
- “Scanning Photos.” Recollection Wisconsin, 2016.
- “Digital Reformatting and File Management.” [video]. Public Library Partnerships Project, DPLA, 2015.
- Digitizing Entire Collections, Chapter 4. Archives of American Art, Smithsonian Institution.
- Woody, Rachel Christine. “Create a Museum Digital Project Workflow That Works.” Lucidea, 2021.
- Hutton, Emily. “How to Convert Film Negatives to Digital Pictures.” Image Restoration Center, 2022.

Digitize: Gold Level

Key Activities

- ☐ Develop a list of what to check during a quality control review.
- ☐ Determine who is responsible for quality control.
- ☐ Use a log to track digitization work and quality control reviews.

Quality Control

As you digitize, be sure to review the digital files on a regular basis. The goal of regular quality control is to ensure that you are creating faithful digital copies of the original materials and that the digital files are being created according to the standards you determined at the start of your project. This step is especially important when working with volunteers or vendors.

Basic quality control for digitized images and documents includes confirming that:

- The file can be opened
- The file name is correct
- The image is not rotated or backwards
- The image is not skewed, off-center, or unevenly cropped
- There are no unwanted materials (dust, hair) or digital artifacts in the image

The first round of quality control should be done by the digitizer after they complete a batch. The second round of quality control should be performed at least weekly by a separate individual. Consider adding columns to your collection log (described in the Store and Maintain section of this toolkit) to track who is doing the digitization, when scanning was completed, and when quality control was performed (See **Appendix B - Collection-Level Log**).

For more on quality control, see the Sustainable Heritage Network's "Guide to Quality Control and Quality Checklists." This helpful guide gives a fuller picture of quality control needs and procedures, and we suggest you customize the relevant sections for your project.

Scanner Calibration and Color Targets

Calibration refers to aligning a scanner's color profile with its attached computer's color profile using a color target. A **color target** is a small card with a range of colors printed on it that the scanner can scan during the calibration process. Calibrating your scanner using a color target helps you achieve accurate color results in your image scans; this process sets the colors on the target as precise references for colors in your scanned image.

Color target

Gold Level: Resources and Tools

- Norton-Wisla, Lotus. "Guide to Quality Control and Quality Checklists." Sustainable Heritage Network, 2020.
- Wagner, Patrick. Scanner Calibration with IT-8 Targets. Scandig.
- "Digitization Quality Control Workflow." UCLA Library Special Collections.

Focus Area 4: Describe

Descriptive information about your digital content, called **metadata**, helps users find your items, understand their contents and origins, reflect on your community's history and values, and make sense of how they may use the materials.

Describe: Bronze Level

Key Activities

- ☐ Adopt a file naming convention and document it.
- ☐ Determine the metadata standard you will use and how the metadata fields apply to your collections.

File Naming

As you digitize your collection items and save your digital files, you'll need to assign a file name to each one. Using a well-defined and consistent system for organizing and naming digital files will make your life easier, now and in the future. If feasible, develop your file naming system before you begin digitizing.

A few file naming tips to keep in mind:

- **Your file name is not a database record.** Please don't pack a bunch of descriptive information into the name.
- **Your collection may grow!** Your file naming system should accommodate future growth. Use up to five leading zeros with the numbers 0-9 to facilitate proper sorting, for example: smith00001.tif, smith00002.tif, smith00003.tif.
- **Format dates consistently.** When using dates in a file name, always start with YYYY, then MM, then DD so your files sort appropriately. If it's easier to read, add hyphens between the year, month and day, for example: 2012-12-01.tif.
- **Avoid funky characters.** Do not make it "machine-unreadable" by using quotation marks, colons, or slashes. Stick to numbers, letters, hyphens, and underscores only.
- **No spaces, please.** Use underscores (_) and dashes (-) to represent spaces. Spaces are often reserved for operating system functions and might be misread.
- **Keep it short and sweet.** Avoid including too many or overly complex elements within the file name.

File Name Examples
Generic archives file naming convention: [collection]_[box #]_[folder #]_[item #].ext Example: *goggins_box1_folder3_item006.tif*
For a photograph with accession # 2011.32.1: *201132001.tif* –OR– *2011_32_001.tif*
For a series of images by photographer John Smith: *smith001.tif, smith002.tif, smith003.tif*
Not so good: *Glassplate16039 Auto repair in basement 025.tif*

Once you've created a naming scheme, consider batch renaming existing digital files using a free, web-based tool such as AdvancedRenamer. This will save you a ton of time and reduce potential human-created file-naming errors.

Recollection Wisconsin has created a Toolkit for File Naming with more information.

Folder Structure

As you create and name files, organize them into folders in a structure that makes sense for how they will be used. Then document that structure so that others will understand where files are located and where to put new content.

For example, research files for internal use only might be moved to a network drive or a reference desk computer and the files might be organized into broad topic categories:

- RESEARCH FILES
    - LOCAL BUSINESSES
    - LOCAL HOMES
    - COMMUNITY EVENTS

If you'll be loading access files to a Collection Management System, move them to the computer where you'll be doing that work. The folder structure might be as simple as:

- FILES FOR ONLINE ACCESS
    - TO UPLOAD
    - UPLOAD COMPLETED

When creating a folder structure, make sure not to have too many "nested" folders. If you are opening a series of more than four folders to get to a specific file, your folder structure may be too complicated.[19]

Identify and Adopt a Metadata Standard

A metadata standard is a set of rules that helps to ensure that descriptive information is applied consistently. Consistent, standardized metadata is important because it makes your digital content searchable, findable, sortable, and shareable, both locally and as part of the vast ocean of digital content available online across the world.

Before you get started describing your digital content, determine the metadata standard you will use. **Dublin Core** (or DCMI – Dublin Core Metadata Initiative) is a widely adopted metadata standard used by cultural heritage organizations of all types and sizes.[20] Many collection management systems (CMS) are structured around a particular metadata standard, so if you're using a CMS, that decision might already be made for you!

Bronze Level: Resources and Tools

- Best Practices for Naming Electronic Records. Wisconsin Historical Society.
- Best Practices for Organization of Electronic Records. Wisconsin Historical Society.
- File Naming/Organization. South Central Library System.
- Working with Dublin Core. Omeka.

[19] Personal Digital Archiving: Organization, University of Montana. https://libguides.lib.umt.edu/c.php?g=712064&p=5066898

[20] DCMI Metadata Terms. https://www.dublincore.org/specifications/dublin-core/dcmi-terms/

Describe: Silver Level

Key Activities

- ☐ Create metadata for items.

Item-Level Description

Different types of metadata provide different types of information. **Descriptive metadata** for digital cultural heritage items aims to answer some very basic but important questions for you and your users:

- What am I looking at?
- Who created it?
- When was it created?
- Where was it created?
- Who owns it?
- How can I use it?

But where does all of this descriptive information actually go? You can input metadata into a simple spreadsheet, in a content management system or database, or, in some cases, embed it into the digital file.[21] Metadata files should be digitally stored with the collection to which they refer.

General metadata input guidelines:

- **Avoid the use of abbreviations.** Spell out the full names of communities, people and places.
- **Capitalize all proper names.** Capitalize only the first word in titles and subject terms.
- Avoid using special characters such as ampersands (&) or ellipses (. . .) and HTML tags. For example, do not use < br > or < br / > within metadata fields to force a line break.
- **Fields for which there is no available information should be left blank.** Avoid using "unknown," "anonymous," etc.
- **Subject** refers to terms or phrases assigned to an item to facilitate searching and browsing a collection. Consistent use of subject headings helps link related content in your collection and across disparate collections. The subject is intended to describe "aboutness," not the physical item or its location.
- **Description** is a free text field for all extra, relevant information that does not have a "home" in other fields. We recommend that you include the names of people here whenever possible. Provide enough information to add meaning for non-local users. You may include short transcriptions here, like a handwritten note on the back of a photo, but don't include full-text or OCR transcriptions.

[21] Photo Metadata Project, Stock Artists Alliance. http://www.photometadata.org

For Recollection Wisconsin Content Partners: Metadata Elements

The following instructions apply to Recollection Wisconsin Content Partners but they are useful for any organization creating item-level descriptive information. They follow the DCMI metadata standard.

Recollection Wisconsin requires four descriptive metadata elements:

Title	Name or title of the resource
Subject	Topic of the resource - Terms that describe what is depicted in an image or what a text is about
Type	Broad category of the resource type - Still Image, Text, Sound, or Moving Image
Rights	Standardized Rights Statement URI, Creative Commons license or other copyright information
Recollection Wisconsin strongly recommends four additional metadata elements, when known:	
Date	Date the resource was created
Description	Summary or general description of the resource
Creator	Photographer, author, artist, or other creator of the resource
Place	The location described or represented by the resource

Metadata Record Examples

- Sample Metadata: Postcard, Recollection Wisconsin
- Sample Metadata: Oral History Interview, Recollection Wisconsin
- Sample Metadata: Yearbook, Recollection Wisconsin

Silver Level: Resources and Tools

- Metadata Creation Template. Recollection Wisconsin.
- "Metadata Essentials." Recollection Wisconsin, 2020.
- "Tutorial: Creating titles for historic photographs." [video]. Recollection Wisconsin, 2013.

Describe: Gold Level

Key Activities

- ☐ Identify and/or create controlled vocabulary lists to use when creating metadata.
- ☐ Create a data dictionary to document the standards you will use for metadata.

Controlled Vocabularies

A controlled vocabulary is a predetermined list of terms and phrases used to describe resources. Controlled vocabularies help establish consistency and enable discovery by grouping and connecting related content. In other words, using the same subject terms, creator names, place names, etc. as everyone else describing digital materials means that search terms will turn up the same types of items across multiple collections.

Controlled Vocabulary Examples	
Subject	Library of Congress Subject Headings (LCSH)
	Library of Congress Thesaurus for Graphic Materials (LCTGM)
	Getty Art and Architecture Thesaurus (AAT)
	Nomenclature for Museum Cataloging
Type	DCMI Type Vocabulary
Creator	Library of Congress Name Authority File (LCNAF)
Place	Getty Thesaurus of Geographic Names
Language	ISO 639.2 (Codes for the Representation of Names of Languages)
Rights	Rights Statements URIs

Data Dictionary

A **data dictionary** or metadata style guide is a document describing, connecting, contextualizing, and interpreting your metadata fields. It's important to document what kinds of information should be captured in each metadata field, and how, so that others can refer to it as they create new metadata records in a standardized way.

For instance, your community may have a particular content creator whose name is known in more than one way — perhaps a nickname. Your data dictionary could specify that the "Creator" field should include both the given name and nickname of creators, i.e. Paul "The Lumberjack" Bunyan.

Data Dictionary Examples
• Listening to War data dictionary, Recollection Wisconsin • Metadata Style Guide for Digital Maryland Collections • Guidelines for Uploading Exhibit Submissions to Mukurtu, Great Lakes Culture Keepers • Clements Texas Papers, Briscoe Center for American History

If you already have some item-level metadata, Recollection Wisconsin has created a Toolkit with Four Simple Metadata Improvements to enhance your existing descriptive information.

Metadata Considerations

Controlled vocabularies, data dictionaries, subject headings, and other standardized metadata have been created by people: human beings with human perspectives and biases. Additionally, terminology, understanding, and relationships change and evolve over time. This means that subject terms determined by the Library of Congress or another authority may not be accurate or acceptable today, in your geographic region, or for your experiences.

Creating metadata gives the writer a lot of power to decide how materials will be discovered and understood by users in the future. While we can't know how terms might change going forward, we can consciously create metadata that uses community members' preferred terminology. For instance, although there are many place names in Wisconsin that use the outdated word "Winnebago," the citizens of Ho-Chunk Nation prefer "Ho-Chunk" to describe themselves.[22]

We've included several resources in the Resources and Tools list below to get you started on what's called **inclusive metadata**.

Gold Level: Resources and Tools

- Introduction to Conscious Editing Series. Sunshine State Digital Network, 2020.
- A choice to empower. University of North Carolina, 2021.
- It's All In The Details. Iowa State University, 2021.
- Anti-Racist Description Resources. Archives For Black Lives in Philadelphia, 2019.
- Equitable Metadata Practices Related to Race, Gender and Culture. DigitalNC, 2021.

[22] Ho-Chunk Nation, Hochungra - The People With The Big Voice, Wisconsin First Nations. https://wisconsinfirstnations.org/ho-chunk-nation/

Focus Area 5: Share

This section of the Toolkit is all about access. Who will access the digital content you're creating or acquiring? Where and how will they access it, and for what purpose? The appropriate level of access may vary depending on the content. You might share some items openly online with no restrictions. Other materials might be made available to certain researchers on-site only, due to copyright considerations, cultural protocols, or other factors.

Share: Bronze Level

Key Activities

- ☐ Review options for providing access to digital content.
- ☐ Choose access options that meet your needs and goals.

Choosing a Collection Management System

There is an ever-growing number of options for providing online public access to digital collections. Sharing items on Facebook or Instagram, adding them to a blog or webpage, or loading them to the Internet Archive are all ways to get your digital materials in front of more people. But adopting a **Collection Management System (CMS)** -- a software program to organize, manage, and share your digital files and metadata -- will give you the most control, flexibility, and reliability into the future.

Some questions to consider when choosing a CMS:[23]

- How long has the system been around? Is it used by other organizations similar to yours?
- Is there a trial or demo version available for you to try out?
- What infrastructure is needed to install and run the system? For instance, will you need a local server or a cloud hosting provider?
- Will the system work on your computer stations? Some programs don't run well on computers with little working memory.
- Will the system support your chosen metadata standard? Can the metadata fields be customized?
- Can you import existing files and metadata into the system?
- Can you perform batch edits across multiple metadata records?
- Can you export files and metadata if you choose to migrate to a different system?

[23] Adapted from Choosing Content Management System Technologies. Digital Repository of Ireland, 2014 and Ashley Blewer, "The Collection Management System Collection," 2017. https://bits.ashleyblewer.com/blog/2017/08/09/collection-management-system-collection/

- What kind of support is available? Can you ask or pay an organization to fix things for you? Is there a large community using it, and support potentially found there, such as through a user forum or email list?
- What are the costs for the system, both up front and ongoing?

For Recollection Wisconsin Content Partners: Collection Management Systems

This list includes some of the most common collection management systems and other access platforms currently in use by Wisconsin libraries, archives, museums, and historical societies.

Eligible for harvesting by Recollection Wisconsin:

- CONTENTdm
- Omeka
- ResCarta

Not eligible for direct harvesting by Recollection Wisconsin:

- Internet Archive
- Mukurtu
- PastPerfect Online

Bronze Level: Resources and Tools

- The Collection Management System Collection. *Crowd-sourced list of digital repository options; created in 2017 and regularly updated.*
- "Deciding on Digital Tools for Collection Management." Te Papa National Services (New Zealand), 2003.
- Choosing Content Management System Technologies. Digital Repository of Ireland, 2014.
- Spiro, Lisa. Archival Management Software: A Report for the Council on Library and Information Resources, 2009.

Share: Silver Level

Key Activities

- ☐ Add digital collection items and related metadata to your CMS or other identified access option(s).
- ☐ Identify partnership opportunities to make your items more widely discoverable.

For Recollection Wisconsin Content Partners: Sharing on the State and National Levels

Recollection Wisconsin works with the University of Wisconsin-Madison General Library System to harvest metadata (descriptive information) and preview images (thumbnails) from content partners using OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting).[24] This aggregated metadata is then ingested by the Digital Public Library of America (DPLA) and made available for discovery alongside millions of metadata records from libraries, archives, and museums across the country.

All metadata contributed to DPLA is available to developers through an open API, or Application Programming Interface. DPLA maintains this open API to encourage the independent development of new and innovative applications, tools, and resources.[25] For example, Umbra Search African American History makes use of metadata from DPLA and other partners to offer a single search tool for discovering African American history in hundreds of collections nationwide.

DPLA also operates a pipeline for partner institutions to contribute open access digital items to Wikimedia Commons, which makes them available for inclusion in Wikipedia articles, allowing for increased discovery and use.[26]

[24] The Open Archives Initiative Protocol for Metadata Harvesting, Open Archives Initiative. http://www.openarchives.org/OAI/openarchivesprotocol.html
[25] API Codex, Digital Public Library of America. https://pro.dp.la/developers/api-codex
[26] DPLA + Wikimedia, Digital Public Library of America. https://pro.dp.la/projects/dpla-wikimedia

Restricting Use

A common question we field is how to share digital items online in such a way that they can't be downloaded or shared without permission. Ultimately, it is impossible to fully prevent someone from copying or saving your images if they wish to do so.

However, there are several strategies an organization can undertake to mitigate this concern:

- Use a small-sized, lower-quality image (access copy) for public sharing
- Add watermarks to digital images
- Add a code or plugin to your website to disable right-click saving
- Post a Creative Commons license that requires users to credit the source of the material and does not allow for commercial use or making changes[27]

Silver Level: Resources and Tools

- Gregory, Lisa and Stephanie Williams. "On Being a Hub: Some Details behind Providing Metadata for the Digital Public Library of America." D-Lib Magazine, 2014.
- Pfotenhauer, Emily. "Recollection Wisconsin + DPLA." [video]. Recollection Wisconsin, 2021.

[27] Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0), Creative Commons. https://creativecommons.org/licenses/by-nc-nd/4.0/

Share: Gold Level

Key Activities

- ☐ Provide alternative text descriptions for all visual images made available online.
- ☐ Provide searchable full text for all text materials made available online.
- ☐ Provide transcripts or captions for all audio and video recordings shared online.

Web Content Accessibility

Making your digital content **accessible** to all potential users means putting in place tools and features to make web content available to people with disabilities. For instance, a user who is Deaf or hard of hearing may make use of text transcripts of audio or video recordings. A user who is blind or visually impaired may rely on a screen reader to access websites.

Web accessibility is a complex issue. A few core features you can implement to improve the accessibility of digitized archival materials and historical resources are described below.

Photographs, postcards, and other visual images:

- Provide concise and meaningful text descriptions of all visual items. You can put these descriptions in a "Description" field in your metadata. Or, for images included on a web page, put the description in the **alt** attribute (alternative text) within the HTML <img> element.[28]
- If there is text in an image that is important for understanding the meaning of the image, like writing on a storefront or a photographer's handwritten title, transcribe that information and include it in the description.

Book pages, articles, letters, diaries, and other texts:

- Use OCR software to generate a searchable transcript of any **printed text**. OCR may be a feature of your CMS or your scanning software, or you can use a program such as Adobe Acrobat.
- Create a searchable transcript of any **handwritten text** in a text file or pdf.
- When creating new digital documents, such as a handout or meeting agenda, use properly nested headings to create an outline of the content. Add bullets or numbers to any items in a list, and if using tables, make sure row and column headers are clearly labeled.[29]

Oral history interviews, performances, or other recorded sound, video, or film:

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[28] https://www.w3schools.com/tags/att_img_alt.asp

[29] Overview of Accessible Documents, University of Washington. https://www.washington.edu/accessibility/documents/overview/

- Provide transcripts of audio recordings. Transcriptions may be auto-generated using speech-to-text recognition software, created by volunteers, crowdsourced, or outsourced to a vendor.
- Provide captions for video content. Include text-based descriptions of non-audio content as well as captions for spoken words.

Recollection Wisconsin has created a Toolkit for Transcription Tips with more information.

Gold Level: Resources and Tools

- Digital Library Accessibility and Usability Guidelines (DLAUG) to Support Blind and Visually Impaired Users. University of Wisconsin-Milwaukee.
- Web Accessibility Evaluation Tool. WebAIM at Utah State University.
- Verbal Description Training. Art Beyond Sight Museum Education Institute.
- Guidelines for Audio Describers. The Audio Description Project, 2003.
- Accessibility Best Practices. City University of New York.
- Edit or Remove Captions in YouTube. Google, 2022. *Add punctuation and capital letters to the automatic captions to denote sentences and pauses.*
- Transcription Tips. National Archives, 2019.

Focus Area 6: Store and Maintain

The activities in this section of the Toolkit will help put your organization in a position to manage your digital content over time, across generations of technology, so that the files you create or collect today can be opened and used 5, 10, or 50 years from now.

Store and Maintain: Bronze Level

Key Activities

- ☐ Create a collection-level log to document existing and incoming digital collections.

Documenting Digital Collections

Use a **collection-level log** to document your existing digital collections and any new collections you create or acquire. Creating a list and updating it regularly will give you a big-picture view of the digital collections your organization is responsible for storing and maintaining. This log is not the same as the item inventory you may have created in the **Plan and Prioritize** section; instead, it's a way to keep track of what you have digitized or acquired in digital form and where you're storing those files.

This information will be useful for creating item-level metadata, estimating the amount of storage space needed for digital collections, budgeting, and future planning. Collection-level descriptions might also be shared with users in finding aids, as part of a catalog record, or on a website providing context for the collection.

Keep in mind that this log is a collection-level snapshot; don't use it to describe individual items. Oftentimes, digital content doesn't align into neatly defined collections. If that's the case, just think in broad categories. You might determine groups based on format or topic (a map collection, a yearbooks collection, an oral history collection) or the source of the content (materials from a donor, a student intern project, photos scanned for researchers).

Types of digital collections to document in your log might include:

- Scanning projects
- Oral history interview projects
- Born-digital collections donated by a community member
- Born-digital materials created by your organization, such as event photos or newsletters
- Materials digitized for exhibits, outreach, or educational activities
- Materials digitized to fill reference requests

Basic information to record in a collection-level log includes:

- A name for the digital collection

- Total number of files in the collection
- Total size of all files in the collection
- File format(s)
- Storage location(s)
- Date of digitization

You may want to include information in your log indicating the current status of the collection, such as *Digitization Done*, *Metadata Done*, and/or *Ready For Upload.* This can be a helpful way of tracking which steps are completed and what needs to be done next. It is especially useful if different people are responsible for different parts of the project.

A spreadsheet is a simple way to create and maintain a digital collections log. See **Appendix B** for a template.

Bronze Level Resources and Tools

- "Digital Preservation Webinar Series: Identify." Consortium of Academic and Research Libraries in Illinois (CARLI), 2014.

Store and Maintain: Silver Level

Key Activities

- ☐ Determine at least one location within your organization where you will store a copy of each unmodified primary file and its related metadata.
- ☐ Determine at least one location off-site where you will store a copy of each unmodified primary file and its related metadata.
- ☐ Move copies of files to their storage locations.

Digital Storage is Not a Backup

The type of storage we're talking about here is NOT the same as a backup system. A **backup** is a snapshot of your computer at a certain moment in time.[30] Backups enable quick restoration after accidental data loss, system crashes or other errors. Backups are typically saved for 30-90 days. **Digital archival storage** provides an environment where the content you aim to retain over many years -- your primary files and related metadata -- can be kept safe and unchanged.

The 3-2-1 Rule

The 3-2-1 Rule is mentioned frequently in relation to digital storage.[31] It means:

- **3 - Make three copies of your digital files.** That way you always have a copy you can recover if one storage location fails. This is the LOCKSS principle: **Lots of Copies Keeps Stuff Safe.**
- **2 - Use two different storage media.** Don't rely on one form of technology. make at least one of your copies in another storage format.
- **1 - Store one copy in an offsite location.** In case of disaster, like a flood or tornado, keep one copy of your files in a different geographic location, such as with a partner in another county or state, or with a cloud storage provider.

[30] "Digital Preservation," University of California San Diego Library. https://library.ucsd.edu/lpw-staging/research-and-collections/data-curation/digital-preservation/index.html

[31] Adapted from Steve Whitmer, "Digital Archiving," University of Michigan Library. https://guides.lib.umich.edu/c.php?g=992751&p=7183005

Selecting Storage Solutions

Regardless of which storage solutions you choose, consider them "cold storage" for your unmodified primary files and their related metadata. To avoid accidentally deleting, moving, or modifying those primary files (aka archival files or preservation files), keep them stored separately from any access copies. Refer to the **Digitize** section of this Toolkit for more on the difference between primary files and access copies.

Network Attached Storage (local server) is a strong storage option if that is available to you, either on-site in your own building, or with a local partner such as your city or county government. To avoid the chance of files getting accidentally moved or deleted, limit the number of people who have access to your storage on the network drive - don't use a shared or public drive (often labeled as C:, D:, or S:).

Other storage solutions include the many flavors of **cloud storage** (see below) and **external hard drives**. The Digital Preservation Outreach and Education Network (DPOE-N) recommends hard disk drives (HDD) that support RAID, which stands for Redundant Array of Independent Disks. In a RAID system, if one hard drive fails, the second one will keep the data intact.[32] Be aware that external hard drives have short lifespans! Every three to five years, you'll need to copy your files to a new external hard drive and retire the old one. (This is what "refreshing" your storage media means.)

Removable optical media, specifically gold "archival" DVDs or M-discs, may be an appropriate choice for small organizations with limited budgets, as long as these are not the only type of storage you use. Do not use USB flash drives, CDs, or rewritable DVDs for long-term storage. Flash drives (aka thumb drives or memory sticks) can easily be overwritten or damaged, and their small size makes them easy to misplace. Optical drives to read CDs and DVDs are no longer standard in computers; neither are earlier generations of USB ports.[33] If you have files on these types of media that you want to keep, copy those files to a more stable storage location as soon as you can.

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[32] "Emergency Hardware Support," Digital Preservation Outreach and Education Network. https://www.dpoe.network/emergency-hardware-support/

[33] Steve Whitmer, "Digital Archiving," University of Michigan Library. https://guides.lib.umich.edu/c.php?g=992751&p=7183005

How much storage space do I need?

When making decisions about **where** to store your digital content, it helps to know how **much** content you need to store. As you're doing that math, keep in mind the 3-2-1 Rule and be sure to plan for enough storage space for all three of your copies.

A quick formula for getting a rough estimate of how much storage space you need for scanned photographs or other images is:

Total number of files x Average file size, in MB x 3 copies = _____ MB

Then add on another 10% to that number, to account for access copies, metadata, and any other supplementary files you'll need to store. Estimating storage for audio and video files is a little trickier. Not only are they huge, but the file size can vary significantly depending on the total length of the recording and other factors.

Off-Site Storage

Off-site storage refers to a data storage facility that is physically located away from your organization. Using off-site storage can mean placing a hard drive with a community partner across town; it can mean a copy is stored on the county server a few hours away; it can mean cloud storage in a secure location across the country. Your needs and available resources will dictate which option is best for your organization, but the idea is that, in the unlikely event that a flood, tornado, or other disaster hits one storage location, you'll know that you have another copy stored safely far away.

Cloud storage is a widely-available option for off-site storage. Storing data "in the cloud" really just means putting it on someone else's servers. You upload your digital objects to a third-party storage provider, and they maintain their own data storage facilities and conduct their own backups of the data. Cloud storage options such as Google Drive, iCloud, OneDrive, Dropbox, Backblaze and Carbonite generally have limited storage space available in a free tier, with the option to purchase additional space. Recollection Wisconsin does not currently provide storage options for digital objects.

Silver Level Resources and Tools

- Norton-Wisla, Lotus. "Getting Started with Digital Preservation in a Small Institution Webinar." [video] Sustainable Heritage Network, 2021.
- How long will digital storage media last? (Library of Congress)
- Reliable Storage Media for Electronic Records (Illinois Secretary of State).
- Van Malssen, Kara. Cloud Storage Vendor Profiles. AVP, 2017.

Store and Maintain: Gold Level

Gold Level Key Activities

- ☐ Document your storage decisions. Where is it? Who can access it? How?
- ☐ Determine how you will check the integrity of your digital files (fixity).
- ☐ Document procedures used for any file checking tools and perform checks on a regular schedule.

Storage Management

Your work's not done after you've moved your files into storage -- they need active management. Use a **Storage Log** like the example below to document where files are stored, when they were moved to storage, how often you will check the storage (audit schedule), and how often you will need to update the storage (hardware replacement schedule), if applicable.

Storage information to document for ongoing management:

- **Network Attached Storage/local server:** Find out what the backup protocols are for your server. If it is networked, someone is managing it and likely has a schedule of backups they follow. How often? To what media?
- **Cloud storage:** Who in your organization has access? Where are the username, password, or other needed authentication stored? What is the viability of this service provider over the next 1-3 years?
- **External hard drives or other removable media:** When was it purchased? What brand? Where is the physical drive stored? When will it need to be replaced? (external hard drives should be replaced every 3-5 years).

Sample storage log:

	Storage format and location	Date implemented	Audit schedule	Hardware replacement schedule
Location 1	1 TB Western Digital hard drive, in director's office	January 2020	Every six months (Jan. and July each year)	Every three years. Next replacement date: January 2023
Location 2	Carbonite Safe, installed on curator's desktop computer	January 2020	Every six months (Jan. and July each year)	N/A

Location 3	Dedicated folder on the server managed by public library.	June 2020	Annually	Refer to partnership agreement with library.

Regardless of which storage solutions you're using, you'll need to check or **audit** them regularly to make sure they're still working and still meeting your needs. Pull down samples of your files on a regular schedule -- at least once a year -- to make sure that your system can still open and read them. Run a fixity check (see below) on all files. If any files have changed, replace the corrupted file with a version you know is still good from one of your two other copies stored elsewhere.

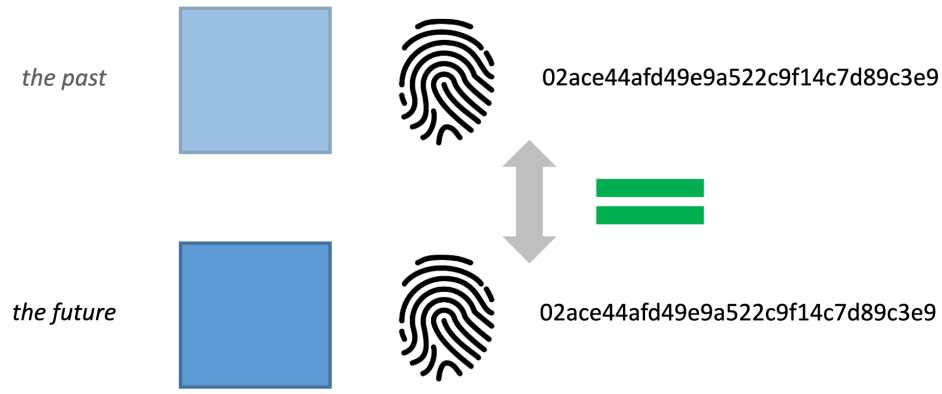
Checking File Integrity (Fixity)

The term **fixity** is used to describe the stability of a digital object. The goal of digital archival storage is that your files remain unchanged over time. The challenge is that digital files can degrade or change, and those changes are often invisible to the human eye. Whenever a digital collection is moved, processed, or altered, things can go wrong. Your network connection drops out while you're moving files, a disk gets full and subsequent data copied there is lost, a software bug or crash leads to unexpected results, or human error leads to unintentional deletions or changes.[34]

A simple way to catch some of these kinds of potential errors is to keep an eye on your total file counts and sizes. For example, if you're copying a folder from an external hard drive to a cloud storage location, check the total number of files and total folder size before and after the move to make sure nothing got dropped along the way.

The most reliable way to tell if your digital files have changed is by using software tools to generate and monitor checksums. A **checksum** is a mathematical algorithm run on a file and its resulting value. You can think of this as a **digital fingerprint**. If a file has remained authentic and stable, with no changes, its fingerprint (checksum) will also stay the same. If a file becomes corrupted, degraded, or is otherwise changed in some way, its fingerprint (checksum) will change.

[34] Technology Fundamentals for Digital Preservation, Digital POWRR. https://powrr-wiki.lib.niu.edu/images/2/20/Tech_Fundamentals_Session.pdf



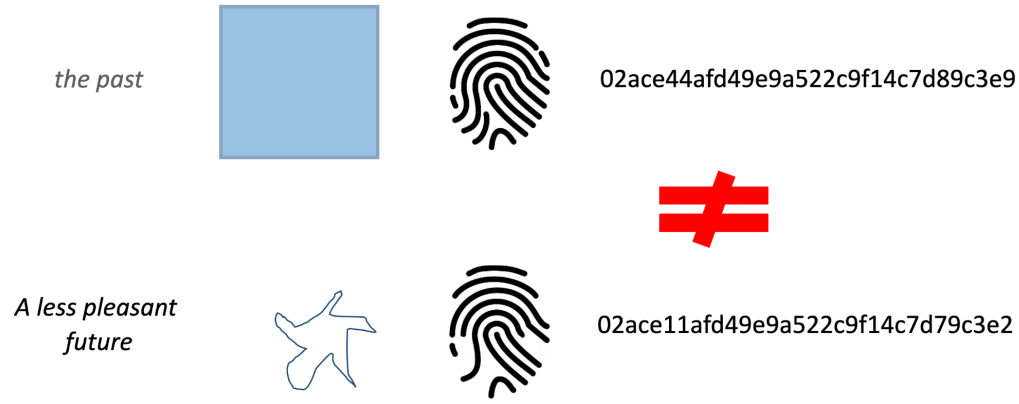


Illustration of unchanged and changed checksums.
Adapted from POWRR Professional Development Institutes for Digital Preservation slides developed in partnership with the Digital Preservation Coalition. [35]

There are software tools available to perform these fixity checks. A checksum-monitoring utility may be built into your collections management system. Or you can use a free or low-cost checksum utility such as Fixity Pro, MD5 Summer, or FastSum.

Checksums do not prevent file corruption or degradation from happening, but they let you know there's a problem so you can address it. If a file is discovered to be altered, you can replace it with an unaltered copy from one of your other storage locations. If lots of files have changed, that's a symptom of a bigger problem - you may need to update your storage media or revisit your file transfer procedures.

[35] "Bit preservation - getting started.". https://powrr-wiki.lib.niu.edu/index.php/File:Bit_preservation_-_getting_started_v05.pptx

When to check file fixity (by comparing file counts, total file size, and/or checksums):

- When files are first created or acquired
- Before files are moved to a new location
- After files are moved to a new location
- On a regular schedule, i.e. every three, six, or twelve months

Digital Preservation

Digital preservation is not only about storing and maintaining multiple copies of digital files. It's the set of ongoing activities, plans, and resource commitments that will help keep your digital content available and usable in the coming months, years, and decades. You do not need to adopt a digital preservation plan or policy in order to successfully store and maintain your content, but as your digital collections grow, undertaking digital preservation planning will help your organization protect past investments and plan for the future.

Digital preservation is often described as a three-legged stool.[36] One leg of the stool is **technology** - that's the hardware and software you use for storing and managing your content. Another leg is **the organization** - this leg includes the policies, procedures, and documentation put in place to make digital preservation a part of your organization's regular operations. The third leg of the stool is **resources** - the budget allocations, staff skills development, and other institutional commitments necessary to sustain digital preservation activities. All three legs of the stool need to be equally strong and stable in order to stand up.

As your digital program matures, consider these foundational resources to get started with digital preservation planning at your organization:

- "Digital Preservation Peer Assessment." Northeast Document Conservation Center, 2019
- "Getting Started," Digital Preservation Handbook, Digital Preservation Coalition
- Digital POWRR webinar series, 2016

Gold Level Resources and Tools

- "How-To Guide: Fixity." Outagamie Waupaca Library System, 2018.
- What is Fixity, and When Should I be Checking It? National Digital Stewardship Alliance, 2014.
- Boyd, Doug. "The Checksum and the Preservation of Digital Oral History." [video]. 2012.

[36] Kenney, Anne and Nancy McGovern, "Digital Preservation Management: Implementing short-term strategies for long-term problems," Cornell University/Inter-university Consortium for Political and Social Research, 2003-2006, https://dpworkshop.org

Focus Area 7: Evaluate

As you move through the Digital Readiness Levels, take time to review and reflect on your work on a regular basis. Evaluation is both outward-looking -- how is our work making a difference for our users and our community? and inward-looking -- what have we learned? How can we improve or evolve our work?

Although this section comes last in the Toolkit, evaluation is best approached as an ongoing mindset. Continually refer back to the core "Check as You Go" questions in the Digital Readiness Levels:

- Is it documented?
- Is it sustainable?
- Is it appropriate, relevant, and/or accessible?
- Is it working?

Evaluate: Bronze Level

Key Activities

- ☐ Define user groups and their information needs.
- ☐ Develop outreach ideas, plans, or strategies.

Identifying Audiences

Who are the people your digitization projects will reach? "Everyone!" is a good umbrella goal, but taking steps to define specific user groups and their needs will help you connect with them more effectively. Start by brainstorming a list of key audiences, or undertake a community mapping exercise to identify potential user groups.[37] Think beyond your go-to groups (genealogists, teachers) to other community members you might not already reach (new arrivals, young families).

For each user group, consider:

- Where are these users? Do they gather regularly, virtually or in person? Where can you find them?
- What is this group's current relationship with your organization or project?
- How does your work benefit this group? Why should they care?
- What do you want community members to do with your organization or project? What is the "call to action"?

[37] Community Mapping, ConnectedLib Toolkit. https://connectedlib.github.io/modules/communitymapping/index.html

- What challenges or barriers to engagement, such as language or Internet access, do they face and how will you address those?
- What else do you need to learn about this group to facilitate new, more or better engagement?
- Consider that your role in the community may evolve over time. What is your plan for reassessing community needs periodically?

User Personas

To gain an even deeper understanding of your audiences and the best ways to connect with them, you might consider outlining some **user personas**. User personas are fictional but realistic representations of core audience segments. They're a good way to keep community members' perspectives and needs at the heart of your project development and outreach efforts.

User Persona Examples
• Digital Personas, National Archives • Digital Readiness Community of Practice - Personas, Recollection Wisconsin

Building Community Connections

Developing and maintaining relationships with community members gives you insight into how your organization's digital work can best support and serve your community.

Remember the following "rules of engagement" when interacting with community members:[38]

- Introduce yourself authentically (not just your title, organization, or degree/credentials)
- Always ask permission to engage with an individual or community group
- Reassure folks that you will protect and honor their legacy
- Share copies of any project outcomes and project updates with community members
- Follow up continually - these are never "one and done" interactions

Recollection Wisconsin has created a Toolkit for Building Community Engagement with more information.

Bronze Level Resources and Tools

- User Personas. Culture Connect.
- Personas. Usability.gov, 2020.

[38] Adapted from presentation by Morris "Dino" Robinson, Shorefront Legacy Center, August 2021

- Steps For Starting A Community-Institutional Partnership. University of North Carolina University Libraries Community Driven Archives, 2021.
- Understanding and Describing the Community. Community Tool Box, University of Kansas.
- Caswell, M.; Douglas, J.; Chow, J.; Bradshaw, R.; Mallick, S.; Karthikeyan, N., et al. "Come Correct or Don't Come at All:" Building More Equitable Relationships Between Archival Studies Scholars and Community Archives. UCLA, 2021.

Evaluate: Silver Level

Key Activities

- ☐ Gather information about how your collections are being used, such as research inquiries or reproduction requests.
- ☐ Consider using tools such as Google Analytics or Facebook Page Insights to gather data about views and searches.

Understanding Use

Do you know how users are searching for, finding, and using your digital content? Gathering data and stories about collection use can help you make the case for allocating funding to digital projects and can inform your decisions about what to digitize next. A solid plan for documenting and evaluating collection use will also strengthen your grant proposals and fundraising efforts.

One way to approach evaluation is simply by paying attention to what your users say and do. What are they searching for in your digital collections? Are they finding what they were looking for? What discoveries have they made? With these kinds of interactions, you might want to follow up to ask for more information, either informally or using some kind of survey tool.

Methods for gathering information about use:

- Evaluation surveys
- Log of patron contacts (for example, keeping track of the number of research inquiries or reproduction requests you receive)
- Attendance numbers at project launch events or other related programming
- Focus groups or individual interviews
- Social listening (for example, observing the comments on photos posted to Facebook or Instagram for recurring themes)
- Web analytics

Evaluation Survey Examples
• Digital Archives Survey 2020, Huna Heritage Foundation (Alaska) • Marshfield Story Project Survey, Jaquith Public Library (Vermont)

Web Analytics

Google and other search engines, and Facebook and other social media platforms, all track lots and lots of information referred to as **web analytics**. Relying only on a single metric, like pageviews, won't give you a full picture of use and engagement, but considering web analytics in combination with user feedback, research requests, and other data can help you understand and

demonstrate the impact of your digital work.

Web analytics might help you answer questions such as:

- What do people search for that brings them to your digital collection? (keywords)
- Where were they before they came to your website? (referrals)
- How long do they stay on your website? (bounce rate)
- Which items in your collection get the most attention? (pageviews)

Silver Level Resources and Tools

- Social Media Analytics: What to Measure and Why. [recorded webinar]. OCLC, 2017.
- Szajewski, Michael. Using Google Analytics Data to Expand Discovery and Use of Digital Archival Content. Practical Technology for Archives, 2013.
- Listen To This! How To Use Social Listening To Gain New Insight and Catch Promotional Opportunities for Your Library. Super Library Marketing: Practical Tips and Ideas for Library Promotion, 2021.
- Google Analytics Usage Reports for CARLI Digital Collections. Consortium of Academic and Research Libraries in Illinois, 2022. *Includes explanation of various fields in Google Analytics reports.*

Evaluate: Gold Level

Key Activities

- ☐ Document lessons learned and ideas for how to apply what you've learned to future projects.
- ☐ Connect with other practitioners engaged in digital work.

Wrapping Up a Digital Project

As you approach the end of a project, think ahead to how you will wrap it up. Tying up loose ends, gathering documentation, and taking time to reflect will help make your next project even more successful!

Steps in wrapping up a digital project:

- **Connect with partners.** Make sure you're on the same page regarding any ongoing commitments. Consider establishing an MoU or other written agreement if you don't already have one in place.
- **Help transition your team members.** If you hired short-term staff, offer to help them with references or a resume and cover letter review, if appropriate.
- **Wrap up the financial and administrative end.** Close out any contracts, confirm all invoices are paid, submit required grant reports, etc.
- **Preserve project documentation.** Assemble any workflows and training materials, meeting minutes, reports, partnership agreements, donor agreements, and logins and passwords for hosting platforms, cloud storage, software tools, or shared workspaces such as Dropbox or Google Suite
- **Evaluate and reflect.** Arrange a project "debrief" with your team shortly after your project ends. Invite project staff, volunteers, leaders, or other key stakeholders to join you. Discuss the successes, challenges, and lessons learned, and invite honest feedback about their experiences.

Recollection Wisconsin has created a Toolkit for Wrapping Up a Digital Project with more information.

Share What You Learned

You don't have to be a large, well-funded organization to share your project findings and outcomes with others in your field. Small and rural libraries, archives, historical societies, and museums are always interested in hearing "how we did it" stories from organizations similar to their own.

Opportunities for sharing what you've learned with other practitioners:

- Present a session or a poster at a regional or state-level conference
- Write a blog post or newsletter article for your state library association, regional archives forum, or other similar organization
- Post any workflows you created to the Library Workflow Exchange
- Host a virtual or in-person brown-bag lunch
- Share on email lists or online communities for local historians, genealogists, or archivists

For Recollection Wisconsin Content Partners: Digital Readiness Community of Practice

The **Digital Readiness Community of Practice** brings together digital practitioners from all over Wisconsin. Beginning in 2019 with a series of community conversations and surveys, Recollection Wisconsin has been asking people engaged in digital cultural heritage work what would be most helpful to them. Practitioners responded that they need simple, straightforward digital projects tools and that they wanted to form networks and relationships with each other to support their digital work.

The Digital Readiness Community of Practice exists in the hundreds of informal and formal conversations, events, emails, phone calls, and listservs practitioners use to keep in touch with each other. We're helping provide opportunities for that community to continue to flourish and expand. Join the Community of Practice to get and give digital projects advice, tools, and resources.

Gold Level Resources and Tools

- Kiesewetter, Kim. "'Should we do (or keep doing) this?' Assessment and evaluation for strategic decision-making." [video] WiLSWorld Shorts, 2021.
- Tillman, Ruth Kitchin and Sandy Rodriguez. "Collective Equity: A Handbook for Designing and Evaluating Grant-Funded Positions." Penn State University Libraries, 2020

Appendix A: Digital Project Planning Worksheet

This worksheet aligns with the seven focus areas of Recollection Wisconsin's Digital Readiness Levels. For detailed guidance on any section, refer to the Recollection Wisconsin Digital Readiness Toolkit at https://recollectionwisconsin.org/toolkit.

Note: *You may not have all of the answers at hand at the start of a project, and that's ok! Treat this worksheet as an outline of the key components you should prepare for as your project evolves, and a space to record decisions as your project progresses.*

Focus Area 1: Plan and Prioritize

Why Digitize?

What are your primary goals for this digital project? *Many of these may fit, but select the 2 or 3 MOST IMPORTANT goals or objectives.*	
☐ Improve internal access and intellectual control (e.g. inventory) ☐ Improve public access to frequently-used items ☐ Improve public access to "hidden" or inaccessible items ☐ Protect fragile or at-risk items	☐ Generate revenue (e.g. sell reproductions) ☐ Use in programs (e.g. exhibits, presentations) ☐ Use by teachers and students ☐ Other: _____ _____

How will this project support your organization's mission or strategic plan? *If your organization doesn't have a mission or strategic plan, how does the project fit with your current services and offerings?*

In one or two sentences, how would you describe the significance of this project to a board member, funder, or community members?

Scope and Scale

What types of materials will be included in this project? *Check all that apply.*

- ☐ Photographs, postcards, or other images
- ☐ Maps, blueprints, or other oversized images
- ☐ Slides, negatives, microfilm
- ☐ Books or other printed texts
- ☐ Other: _____
- ☐ Letters, diaries, or other handwritten manuscripts
- ☐ Three-dimensional objects
- ☐ Analog Media: Film, Video, Audio
- ☐ Digital Media: optical, storage, born-digital

Approximately how many items will be included in this project? _____

Describe the scope of this project. List any subjects, locations, date ranges, etc. that will be included in the project. *(Example: Photographs and postcards from 1870-1970 depicting buildings and people in our county.)*

Describe what is NOT in scope for this project. *(Example: Content from outside our county or where the location is unknown.)*

Resources and Roles

What resources are needed to successfully complete this project? *Specific costs may not yet be known, but keeping these categories in mind will help you build them into your project plan.*

RESOURCE	Is this already in place?	If yes, briefly describe. If no, what do we need to do to move forward?	COSTS
Skills and Knowledge (training, guidelines, technical standards)	Yes No N/A		
People (staff, volunteers, interns, vendors)	Yes No N/A		
Hardware (scanner, digital camera, computer)	Yes No N/A		
Software (for online access, image editing, text recognition)	Yes No N/A		
Storage (server, cloud storage, external hard drives)	Yes No N/A		
Other	Yes No N/A		

Who will contribute to the project? *Consider permanent staff, short-term staff, volunteers, and interns at your organization and at partner organizations. Some or all of these roles may be filled by the same people or may not yet be filled.*

ROLE	ACTIVITY	**Who's responsible?** (individual names or positions)
Project Management	Monitor project plan, budget, and timeline Coordinate project team members Communicate with partners, vendors, and funders	
Digitizing	Organize and prepare materials for digitization Scan materials Perform quality control review on digital files Assign file names	
Cataloging	Review copyright status and assign appropriate rights metadata Determine metadata standards Conduct research or provide context to describe items (subject expert) Create metadata	
File Management	Install, configure, and troubleshoot any hardware or software Move digital files to long-term storage locations Regularly audit and update storage	
Outreach and Evaluation	Promote project to identified audiences Respond to research and permissions requests Collect analytics and user feedback	
Other		

What are the total estimated expenses for this project based on the table above? *Include recurring costs (software license, storage costs) as well as startup costs.*

What sources of funding will you use to carry out and sustain this project?

Focus Area 2: Obtain Permissions

What is the copyright status of the items in this project? *Check all that apply.*

If the copyright status is . . .	Then . . .
☐ **No copyright in the United States** – in the public domain	**PROCEED.** Describe how the public domain status was determined (i.e. publication date).
☐ **In copyright** – our organization is the creator and copyright holder	**PROCEED.**
☐ **In copyright** – copyright holder has granted permission to use	**PROCEED.** Make a note of when this permission was granted and where it is documented.
☐ **In copyright – Rights-holder(s) Unlocatable or Unidentifiable** – need to obtain permission to use	**PAUSE.** Request permission from copyright holder. If the copyright holder is unidentified, unlocatable, or not responding, document your attempts to contact.
☐ **Copyright Not Evaluated** – have not yet reviewed copyright	**PAUSE.** Conduct copyright evaluation before digitizing.

Other than copyright, are there reasons any items in the collection should NOT be made available online?

- ☐ Items depict minors (i.e. junior high or high school yearbooks published in the last 10 years)
- ☐ Items include personally identifiable information (i.e. Social Security numbers home address, birth date)
- ☐ Items depict Native American graves, ceremonies, or other culturally sensitive content
- ☐ Items depict any burial sites (other than cemeteries)
- ☐ Items depict medical patients, incarcerated individuals, or other protected populations
- ☐ Materials depicting emergency response, crime scenes, or disaster relief efforts that may include images of wounded or deceased people
- ☐ Other:

_____

Do any materials in the collection warrant closer consideration before sharing publicly online? Consider adopting a harmful content statement or limiting public access to items with any of the following:

- ☐ Offensive/outdated racial or ethnic terms or depictions
- ☐ Offensive/outdated gender or relationship-related terms, such as those for LGBTQ+ people
- ☐ Items that "out" LGBTQ+ people if they were not publicly out during their lives

Focus Area 3: Digitize

In-House or Outsource?

For some projects, it makes sense to digitize the materials yourself. In other cases, working with a vendor or partner might be the way to go.

Some factors to consider:

Is specialized equipment needed to digitize the materials, such as audiovisual recordings, oversized items, or microfilm?	Y / N
Factoring in equipment purchases and staff or volunteer labor, will we save time and/or money by NOT doing it ourselves?	Y / N
Are we willing to lend the items out for digitization off site?	Y / N
Do we have the resources to adequately box and ship items to a vendor?	Y / N

Mostly Ys? Consider working with a vendor or partner to digitize.
Mostly Ns? This project is probably a good candidate for in-house digitizing.

Standards

What image resolution (ppi) and other standards will you use to create your digital files?
(Example: 800ppi, 24-bit color)

Which file format(s) will you use for your primary files? *Check all that apply.*	
☐ TIFF (images or documents) ☐ JPEG2000 (images or documents) ☐ PDF/A (documents) ☐ AVI (moving images)	☐ MOV (moving images) ☐ WAV (sound) ☐ Other: _____

Focus Area 4: Describe

Metadata

Which metadata elements will you use to describe the items?
To share your digital collection through Recollection Wisconsin and DPLA, four metadata elements are required: ***Title, Subject, Type, and Rights****.*

Additional metadata elements may include (check those you will use):	
☐ Creator (author, photographer, etc.) ☐ Description ☐ Date created ☐ Formats/materials	☐ Dimensions ☐ Location (community, county, state) ☐ Name of collection ☐ Other:_____

File Naming

Consistent file naming is important for organizing your digital files and managing them in the future. *Some file naming tips: use only lowercase letters, numbers, dashes and underscores; don't use special characters such as ^"<>|?\ / : @'* &.(); don't use spaces; use leading zeros (001, 002, 003, not 1, 2, 3).*

Provide some example file names you will use for this project:

Focus Area 5: Share

If you will provide online public access to digital content, what access solutions will you use? *Check all that apply.*

Eligible for harvesting by Recollection Wisconsin and DPLA:	
☐ CONTENTdm (hosted through Recollection Wisconsin) ☐ CONTENTdm (self-hosted) ☐ Omeka	☐ ResCarta ☐ Partnership with your public library system
Not eligible for direct harvesting by Recollection Wisconsin and DPLA:	
☐ PastPerfect Online ☐ Mukurtu ☐ Internet Archive	☐ Our website ☐ No online access - in-house use only ☐ Other: _____

How will you promote this project to your target audiences?	
☐ Social media ☐ In-person or virtual events (presentations, exhibits, etc.) ☐ Press release to local media	☐ Announcement in organization's newsletter or blog ☐ Bookmark, postcard, or other print material ☐ Other:_____

After your project is completed or available, users may contact you with a research question, to share more information about an item, or to request permission to use an item. How will users contact your organization with these requests, and who is responsible for responding?

Focus Area 6: Store and Maintain

Where will you store your primary digital files? *Choose at least two options. Best practice is to save three copies in different locations, including one off-site.*	
☐ Local area network or local server ☐ Server at a partner organization ☐ Cloud storage provider	☐ RAID device ☐ External hard drive ☐ Other: _____

How much storage space will you need?

Image files: _____ x _____ x 3 = _____ MB
(# of files) (avg. file size in MB)

How often will you move digital files into the storage locations selected above?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ When project is completed

Who will be able to access the digital files in long-term storage? *Note any logins or contact information needed for cloud storage providers or other offsite storage.*

Focus Area 7: Evaluate

Are any reports required when this project is completed, such as to a board or funding agency?

Note any reporting requirements and deadlines.

What kinds of information will you collect to understand how the digital project is being used?	
☐ Google Analytics or other web analytics ☐ Social media engagement metrics (likes, shares) ☐ Feedback survey to users	☐ Tracking research inquiries or permission requests ☐ Other: _____

Appendix B: Template Collection-Level Log (with example entries)

GENERAL INFORMATION						DIGITIZATION AND QC		STORAGE		
Collection Name	**Description**	**File Count**	**File Size**	**File Formats**	**Current Status**	**Digitization Notes**	**Quality Control Notes**	**Storage Location 1**	**Storage Location 2**	**Storage Location 3**
Name/title of the digital collection.	*Brief description of collection content.*	*Total # of digital files in collection.*	*Total size of collection, in GB.*	*File format(s) used (e.g. tiff, mp4, pdf).*	*What is the current status of the collection?*	*Date of digitization and who was responsible.*	*Date of QC check and who was responsible.*	*Where is the digital collection stored?*	*Location of second copy of digital collection (if applicable).*	*Location of third copy of digital collection (if applicable).*
A. J. Kingsbury Photographs	Scans of postcards and glass plate negatives created by local photographer A.J. Kingsbury.	450	9	tiff	Digitization and metadata completed; need to load to access portal	Digitized by volunteers Sue Q. and John D., August-Oct. 2019, using Epson V600 scanner.	Museum director, November 2019	1 TB Western Digital hard drive, in director's office	Carbonite Safe, installed on curator's desktop computer	Dedicated folder on the server managed by public library
WWII Oral History Collection	Audio interviews with three WWII veterans.	3	0.15	wav	Need to extract files from dvd and move to long-term storage.	Recorded by students in Don Smith's American History class.		DVD in museum director's office		
High School Commencement Videos	Videos of graduation ceremonies at East High School 1990-2001.	11	6	m4a	Completed	Digitized from VHS tapes by Holder Printworks (vendor), Dec. 2015		1 TB Western Digital hard drive, in director's office	1 TB Western Digital hard drive, in director's office	Dedicated folder on the server managed by public library

Download a fillable copy at https://wp.me/a2UX7L-47R

Appendix C: Creating Documentation

Some tips and a checklist

At various points in the Toolkit, we prompt you to document your organization's policies, procedures and decisions. This **documentation** provides a paper trail for future decision makers and future users to understand past decisions. Good documentation can also help make training for staff, volunteers and interns more efficient and consistent. Write it down now, you'll thank yourself later!

Creating documentation is also an opportunity to engage your stakeholders in goal-setting and future planning. Groups to involve in developing and reviewing documentation might include boards, advisory committees, staff, and volunteers. You might also consider sharing your draft documentation with colleagues at other organizations to gather feedback.

Tips for creating effective documentation:

- Give your documents titles that clearly explain what policy or process is being documented, e.g. *Digital Collection Development Policy*, or *Photo Digitization Workflow.*
- Use clear, concise, specific language. Avoid the use of jargon or technical terms, or include a glossary or term definitions.
- Keep documentation together so that instructions and policies are easy to find. Consider compiling a manual or handbook.
- Test your workflows and processes before publishing or putting into use.
- Save multiple copies of your documentation in multiple locations. Control document changes so that they can't be accidentally edited.
- Create a schedule for reviewing your processes and policies.

Checklist of documentation recommended in the Toolkit	
☐ Digital Mission Statement ☐ Digital Collection Development Policy ☐ Deed of Gift form with digitized/born-digital language ☐ Permission form ☐ Takedown policy ☐ Harmful content statement ☐ Digitization workflow	☐ Quality Control checklist ☐ Digitization log (with QC checks) ☐ File naming convention ☐ Data dictionary ☐ Inventory of digital collections ☐ Schedule for checking digital storage ☐ Digital preservation plan

Appendix D: Checklist of Key Activities

Bronze Level

Plan and Prioritize

- ☐ Articulate your organization's goals for digital projects.
- ☐ Develop a digital mission statement.
- ☐ Assess collections and prioritize potential digital projects.

Obtain Permissions

- ☐ Adopt a deed of gift form that includes language about online access to digitized and born-digital content, or update existing deed of gift form.
- ☐ If creating new digital content, such as oral history interviews, use a permission form that includes language about online access, or update existing permission forms.

Digitize

- ☐ Identify the resolution, color, bit depth, file format, and other standards you will use to digitize materials.
- ☐ Choose equipment for reformatting, identify partnerships, or select an appropriate vendor.

Describe

- ☐ Adopt a file naming convention and document it.
- ☐ Determine the metadata standard you will use and how the metadata fields apply to your collections.

Share

- ☐ Review options for providing access to digital content.
- ☐ Choose access options that meet your needs and goals.

Store and Maintain

- ☐ Create a collection-level log to document existing and incoming digital collections.

Evaluate

- ☐ Define user groups and their information needs.
- ☐ Develop outreach ideas, plans or strategies.

Silver Level

Plan and Prioritize

- ☐ Create a detailed plan for a high-priority digital project.
- ☐ Determine resources needed to support your project plan.
- ☐ Get input from partners as you develop the plan and keep partners informed throughout the process.

Obtain Permissions

- ☐ Gather existing documentation that may inform copyright and permissions: deeds of gift, donor permission forms, or correspondence with donors.
- ☐ Identify items not covered by copyright (in the public domain).
- ☐ Identify items potentially covered by copyright and make determinations about appropriate access.
- ☐ Review items to determine whether privacy, ethical, or cultural considerations will determine appropriate access.

Digitize

- ☐ Prepare physical materials for reformatting.
- ☐ Complete a pilot project. Digitize a handful of items to check your settings and make sure the standards you identified will give you the results you want.
- ☐ Document your workflow. Create a step-by-step outline of your digitization procedures.

Describe

- ☐ Create metadata for items.

Share

- ☐ Add digital collection items and related metadata to your CMS or other identified access option(s).
- ☐ Identify partnership opportunities to make your items more widely discoverable.

Store and Maintain

- ☐ Determine at least one location within your organization where you will store a copy of each unmodified primary file and its related metadata.
- ☐ Determine at least one location off-site where you will store a copy of each unmodified primary file and its related metadata.
- ☐ Move copies of files to their storage locations.

Evaluate

- ☐ Gather information about how your collections are being used, such as research inquiries or reproduction requests.
- ☐ Consider using tools such as Google Analytics or Facebook Page Insights to gather data about views and searches.

Gold Level

Plan and Prioritize

- ☐ Gather ideas and examples of digital collection development policies.
- ☐ Draft a digital collection development policy and obtain feedback from stakeholders.
- ☐ Finalize and adopt the policy.

Obtain Permissions

- ☐ Use standardized rights statements or Creative Commons licenses to describe the copyright status of digital items.
- ☐ Develop a takedown policy.
- ☐ Develop a statement or notice about potentially harmful content.

Digitize

- ☐ Develop a list of what to check during a quality control review.
- ☐ Determine who is responsible for quality control.
- ☐ Use a log to track digitization work and quality control reviews.

Describe

- ☐ Identify and/or create controlled vocabulary lists to use when creating metadata.
- ☐ Create a data dictionary to document the standards you will use for metadata.

Share

- ☐ Provide alternative text descriptions for all visual images made available online.
- ☐ Provide searchable full text for all text materials made available online.
- ☐ Provide transcripts or captions for all audio and video recordings shared online.

Store and Maintain

- ☐ Document your storage decisions. Where is it? Who can access it? How?
- ☐ Determine how you will check the integrity of your digital files (fixity).
- ☐ Document procedures used for any file checking tools and perform checks on a regular schedule.

Evaluate

- ☐ Document lessons learned and ideas for how to apply what you've learned to future projects.
- ☐ Connect with other practitioners engaged in digital workAppendix E: Audiovisual Inventory Template and Instructions

Appendix E: Audiovisual Inventory Template and Instructions

Why Inventory?

Digitization is considered the best way to preserve and play back at-risk audiovisual recordings. **Creating an item-level inventory of your AV collections is a crucial step before digitizing such collections.** An item-level inventory can help you set priorities for digitization in order to preserve and increase access to the content. It can be used to estimate the cost of a digitization project, and can be vital to tracking the progress of digitization work, whether you are reformatting your material in-house or with an outside vendor.

About This Template

The audiovisual inventory template is a downloadable Excel file available on the Recollection Wisconsin website. Recollection Wisconsin and Community Archiving Workshop Midwest have designed this template and instructions for use by small libraries, archives and museums who wish to identify and inventory their audiovisual collections. It can be used during a planned Community Archiving Workshop (see the Plan and Prioritize section of this Toolkit) or in other contexts.

Using this inventory template, you will be documenting metadata about audiovisual items. This information can in most cases be gathered from looking at the objects themselves. For help with identifying the types of materials you have in your collection, consult the Guide to Identifying Audiovisual Formats from California Revealed. This guide includes photos of many different types of audiovisual materials.

Keep in mind that you may not be able to fill out every detail for every object. Your goal for now is to get a baseline amount of information to start making preservation plans and priorities.

You may also wish to attempt to play back audiovisual items in your collection to gather more details. Recollection Wisconsin has loanable kits for inspecting and playing back audio and video formats and can help connect you with other resources. See the Recollection Wisconsin website for the latest details on kits available.

Getting Started On Your Inventory Project

Preparing Your Inventory Sheet and Items

The first step is to decide what you will be inventorying and to get your inventory sheet ready. We suggest saving the provided template as your primary document, and creating a copy and renaming it to match your specific library, museum, or archive and collection. If you are working in Excel, remember to save your work often! If multiple people will be working on the inventory, you can upload the Excel file to Google Drive and share the link to the file with everyone who needs it to enter data. If your items do not already have unique IDs and you plan to add these items during the inventory process, you should gather some paper labels or a marking pen to write the identifiers on your object. Finally, a ruler can be useful when identifying formats.

Example Metadata

In the Excel inventory template, we have entered example metadata for the item pictured above. The example metadata is in the second row. It may be useful to look this sample data over before you start your own inventory.

How to enter metadata in the inventory sheet	
Storage Location	Enter the permanent storage location of the item here. Entering the permanent location, whether a box number, shelf number, or the name of a room, can help you link the item on this inventory back to the item itself. If unknown, leave blank.
Item ID #	Unique ID assigned to and written on the item that will help match the item back to this inventory sheet. Could be a barcode, or could be a temporary number or letter-number combination assigned by the person doing the inventory. For example, if you're assigning unique IDs, you can use the following format: year/period/four digit number (2018.0456). If you assign unique IDs, make sure to label it clearly on the item.
Accession #	Use if applicable. This is a number that would have been assigned to the item or collection prior to the inventory being taken. If unknown, leave blank.
Collection Name	If the item is part of a larger identified collection, please list the name of it here. If unknown, leave blank.
Title on Item	Clearly indicated title on label, or specified by collection stewards. If no title is listed on container or case, and you can't watch or listen to content, leave blank. You can also create a meaningful title based on the content if one doesn't exist.
Date on Item	Transcribe date written on the container. Add as much detail as is available or leave blank if unknown. Format as: YYYY-MM-DD or YYYY-MM or YYYY
Duration of Content	Run time of content, if known. Format as hh:mm:ss (hour:min:sec). If you are not sure of the runtime of the content, but the tape has a listed maximum runtime from the manufacturer, you can enter that to help with estimates. If unknown, leave blank.
Content Description	If information regarding content is available, list it here. This can come from labels or from viewing/listening to material. On audio or video info may be recorded on labels, on photos or films, it may be visible at a glance, recorded on labels. If unknown, leave blank.
Label Information	Any additional relevant info as it is recorded on item label(s). If no additional information is listed on the label or container or object,

	leave blank.
Condition Notes	Enter any information you can determine about the condition from looking at the object or from viewing or listening to the content through playback. For example: dusty, case cracked, case missing, evidence of mold, loose wind, slide cracked, sticky, smelly, footage is fuzzy, audio is unclear, etc.
Medium	What is the medium of the item? Film, video, audio, or a photo print or negative? See the included visual guide if you need help identifying an object. Do not leave blank.
Format	Additional detail about the medium if known. See the included visual guide if you need help with identifying the format of an object. If unknown, leave blank.
Medium Carrier	What is the media stored on? For example, audio & video can be in plastic cassette cases (VHS, audio cassettes, etc) or on open reels. See the included visual guide if you need help identifying the media carrier of an object. If unknown, leave blank.
Brand	Brand of media, if known. If you are having difficulty identifying other aspects of the object, like format or media carrier, noting the brand may be a good clue to help a digitization lab figure this out. This will often be stamped on the case or the object itself. For example, SONY, Fuji, etc. If no brand is visible on the object, leave blank.
Color/B&W	If the item has visual content, is it in color or b&w? Might be listed on tape label or visible while inspecting film or slide. If unknown, leave blank.
Audio Information	If there is audio content, list here. Copy whatever is listed on label, or discovered through playback. If unknown, leave blank.
Access Restrictions	Are there any known restrictions on who can view this item based on the content for legal or ethical reasons? If unknown, leave blank.
Notes	This is a field to include any additional information you think could be useful that did not fit into any of the other fields. If nothing to add, leave blank.
Date Inventoried	Enter the date the item was inventoried. Format as follows: YYYY-MM-DD, 2018-10-09.
Inventoried By	Enter your name here.

Digital Readiness Glossary

Term	Definition
3-2-1 Rule	The 3-2-1 rule informs digital preservation and storage strategies. Maintain three copies of your digital files on two different storage media with at least one copy stored off site. See: Storage Diversification, Digital Storage
Access	In archives, access refers to the ability to locate and retrieve archival information for use within applicable restrictions.
Access Copy	A copy made from a digital object that is intended for use, such as online display or transmission over email
Accessibility	Digital accessibility is the ability of a website, mobile application or electronic document to be easily navigated and understood by a wide range of users, including those users who have visual, auditory, motor or cognitive disabilities.
Administrative Metadata	Administrative metadata is information needed to help manage the digital object, such as copyright and preservation information. See: Metadata.
Analog	Analog refers to information that exists in nondigital format such as printed or manuscript text, audio tapes or films, photographs or other graphics, or 3-D objects. Digitization is the conversion of analog information into digital information. Analog items in the archive might also be known as physical content.
Appraisal	In an archival context, appraisal is the process of determining whether records and other materials have permanent (archival) value.
Archival Copy	An archival copy in digital collections refers to digital content, targeted for preservation, that is considered the archival version of the intellectual content of a digital resource. Archival copies/preservation copies generally do not undergo significant processing or editing, and are often used to make other copies including reproduction and access copies. See: Master Copy, Preservation File.
Audit	An audit is an independent review and examination of records and activities to test for compliance with established policies or standards, often with recommendations for changes in controls or procedures.
Backup	A backup copy is an additional copy of a digital asset made to protect against loss due to unintended destruction or corruption of the primary set of digital assets.
Best Practices	Best practices are procedures and guidelines that are widely accepted because experience and research has demonstrated that they are optimal and efficient means to produce a desired result.
Bit	A bit is the smallest unit of information that a computer can work with. Each bit is either a "1" or a "0".
Bit Preservation	Bit-level preservation is the basic level of preservation of a digital resource (literally, preservation of the bits forming a digital resource). Bit-level preservation may include maintaining onsite and offsite backup copies, virus checking, fixity checking, and periodic refreshment to new storage media.
Bit-depth	Bit depth is determined by the number of bits used to define each pixel. The greater the bit depth, the greater the number of tones (grayscale or color) that can be represented. Digital images may be produced in black and white (bitonal), grayscale, or color.
Born-digital	Born-digital content has never had an analog form. Born-digital materials differ from analog documents, films, sound recordings and photographs that were digitized; that is, scanned or converted to a digital format.
Byte	A byte is a unit of digital information and measure of data volume, normally equivalent to eight bits. Bytes are the smallest operable units of storage in computer technology. Kilobyte (KB) = 1,000 bytes Megabyte (MB) = 1,000 kilobytes Gigabyte (GB) = 1,000 megabytes Terabyte (TB) = 1,000 gigabytes

Calibration (for scanners)	Calibration refers to aligning a scanner's color profile with its attached computer's color profile; a process that uses a color target. Calibration ensures true capture of the original colors in a digital format See: Color Target
Checksum	A checksum is a unique numerical signature derived from a file. Checksums are used in fixity checking in order to compare copies. See: Fixity
Cloud-based storage	Cloud storage is a way to save data securely online so that it can be accessed anytime from any location and easily shared with those who are granted permission. Cloud storage also offers a way to back up data to facilitate recovery off-site. Cloud storage services include Google Drive, Dropbox, Box, etc.
Collection	A general term to describe a body of records, and may include documents, photographs, audio/visual material, maps, etc., in both physical and electronic forms.
Collection Development Policy	Guidelines outlining the scope and selection of materials that support a repository's mission. Generally, a collecting policy defines the scope of existing collections and also describes processes such as deselection, retention, preservation, and storage. It provides guidance for archives staff, organizations and individuals interested in donating, and other collecting repositories.
Collection Inventory	A collection inventory includes, at a minimum, a list of items in a collection or a list of collections maintained by an organization. See: Inventory
Collections Management System (CMS)	A Collections Management System (CMS), sometimes called a Collections Information System, is software used by the collections staff of a collecting institution or by individual private collectors and collecting hobbyists or enthusiasts. Collections Management Systems (CMSs) allow individuals or collecting institutions to organize, control, and manage their collections' objects by "tracking all information related to and about" those objects. May also be referred to as a Discovery Platform. See: CONTENTdm, Mukurtu, Omeka, PastPerfect, Preservica
Color Target	A color target is a type of measuring table that calculates the exact color recognition capability of a scanner and identifies the singularities of that scanner. The color target is a small card with a range of colors printed on it that the scanner can scan during the calibration process. See: Calibration.
Color/bi-tonal/gray scale	A bitonal (bi-tonal, or two bits) image is black and white. A grayscale image represented by multiple bits of information, typically ranging from 2 to 8 bits or more. A color image is typically represented by a bit depth ranging from 8 to 24 or higher.
Community of Practice	A community of practice is a way to learn by working together. As described by Etienne Wenger, Richard McDermott and William M. Snyder in their 2002 book Cultivating Communities of Practice, a Community of Practice (COP) is "a group of people who share a common concern, set of problems, or passion about a topic and deepen their knowledge and expertise in this area by interacting on an ongoing basis."
Compression (compressed/uncompressed)	Compression is a process that reduces the amount of space necessary for data to be stored or transmitted. Compression alters digital image quality.
Content	Content refers to the intellectual substance of a document, including text, data, symbols, numerals, images, and sound. For A/V material, the content is the data encoded in a recording. For a book or other publication, it is the text and accompanying illustrations. For a photograph, it is the image itself, not the medium the image is held on (e.g., paper, glass or plastic.) For a digital photograph, it is the image and embedded metadata. For multimedia, it is the digital files and embedded metadata, not the hard drive or disc it is stored on. See: Digital Content
Content Migration	Content migration is the process of transferring content between storage types, formats, or computer systems.
Content Refreshing	The act of copying digital content to a new physical carrier, typically of the same media type. This is done to prevent the loss of content due to media degradation. See: Content Migration
Content Statement	A content statement might also be known as a harmful content statement. It is a brief introduction to materials that may be traumatic, triggering, hurtful or harmful to an unaware patron.

Controlled Vocabulary	A controlled vocabulary is a standardized, pre-determined list of terms, such as the Library of Congress Subject Headings.
Conversion	Conversion usually refers to some form of analog-to-digital conversion, such as digitizing VHS tapes or film reels, including scanning paper documents to create digital images or rekeying paper text into a computer. Conversion is more than copying files. It involves a change in media internal structure, such as from diskette to tape, from one version of an application to a later version, or from one application to another.
Copyright	Copyright refers to the legal rights protecting the interests of creators or their assignees by granting them control over the reproduction, publication, adaptation, exhibition, or performance of their works in fixed media.
Creative Commons License	A Creative Commons license is a type of license, built on copyright, that provides a standardized way for creators to give others the right to share and use their work.
Crowd-sourced projects	Crowdsourcing uses a large number of people to complete a specific task. Crowdsourcing in archives and special collections can take the form of transcribing handwritten documents, indexing genealogical records, identifying people and places in photos, correcting optical character recognition (OCR) errors in digitized newspaper collections, tagging or captioning historical images, adding pictorial content to maps, transcribing oral histories, and much more.
Cultural Heritage (organization, collection)	Cultural heritage refers to the legacy of physical artifacts and intangible attributes of a group or society that is inherited from past generations. Not all legacies of past generations are "heritage", rather heritage is a product of selection by society. Cultural heritage includes tangible culture (such as buildings, monuments, landscapes, books, works of art, and artifacts), intangible culture (such as folklore, traditions, language, and knowledge), and natural heritage (including culturally significant landscapes, and biodiversity).
Cultural Property Rights	The concept that a society, especially that of indigenous peoples, has the authority to control the use of its traditional heritage. Cultural property rights are roughly analogous to copyright, but the rights are held by a community rather than an individual and the property protected was received by transmission through generations rather than being consciously created. Cultural property rights have not been generally established or codified by statute in the United States, although the Native American Graves Preservation and Repatriation Act (NAGPRA) may be seen as recognizing those rights. Other countries, notably Australia, have begun to codify cultural property rights. See: NAGPRA
Dark Archive	A dark archive is a repository that stores archival resources for future use but is accessible only to its custodian. A dark archive does not grant public access and only preserves the information it contains. The information can be released for viewing depending on its donor and organizational restrictions, at which time it is no longer considered "dark."
Data Dictionary	A data dictionary is a collection of names, definitions, and attributes about data elements that are being used or captured in a database, information system, or part of a research project. It describes the meanings and purposes of data elements within the context of a project, and provides guidance on interpretation, accepted meanings and representation.
Data Integrity	Refers to the trustworthiness of system resources over their entire life cycle
DCMI (Dublin Core)	The Dublin Core, also known as the Dublin Core Metadata Element Set, is a set of core elements for describing resources. DCMI stands for “Dublin Core Metadata Initiative.” Dublin Core is a widely used metadata standard.
De-duplication	De-duplication refers to techniques for eliminating duplicate copies of repeating data.
Deed of gift	The deed of gift is a form that confirms a legal relationship between the donor and repository that is based on a clearly articulated and common understanding.

Description	Description is the process of analyzing, organizing, and recording details about the formal elements of a record or collection of records, such as creator, title, dates, extent, and contents, to facilitate the work's identification, management, and understanding. Description can be done at the collection level or the item level.
Descriptive Metadata	Descriptive metadata is information used to search for and locate an object such as title, author, subjects, keywords, and publisher. Descriptive metadata allows users to locate, distinguish, and select materials on the basis of the material's subjects or 'aboutness.' It is distinguished from information about the form of the material, or its administration. See: Metadata
Digital	Digital records, archives, media, projects, activities, responsibilities, etc. are those involving or making use of computer devices, data, or media.
Digital Asset	A digital asset is a single computer file, or group of computer files, the content of which is valuable to your organization.
Digital Content (Digital Materials)	Digital content refers to any item created, published or distributed in a digital form, including, but not limited to, text, data, sound recordings, photographs and images, motion pictures and software. Born-digital content has never had an analog form, and differs from analog documents, movies and photographs that were digitized - that is, scanned or converted to a digital format. This term is used interchangeably with digital materials. See: Content
Digital Curation	Digital curation is the act of maintaining and adding value to a body of digital information for future and current use; specifically, the active management and appraisal of data over the entire life cycle.
Digital Millennium Copyright Act (DMCA)	The Digital Millennium Copyright Act (DMCA) addresses important parts of the relationship between copyright and the internet. It established a notice-and-takedown system, among other provisions.
Digital Object	A digital object is an item, either born digital or analog, which has been targeted for digital preservation and its accompanying metadata
Digital Obsolescence	Digital obsolescence refers to a situation where a digital resource is no longer readable because of an archaic format: the physical media, the reader (required to read the media), the hardware, or the software that runs on it is no longer available. See: Obsolescence
Digital Preservation	The term digital preservation encompasses all of the activities, policies, strategies and actions required to ensure that the digital content designated for long-term preservation is maintained in usable formats, for as long as access to that content is needed or desired, and can be made available in meaningful ways to current and future users, for as long as necessary regardless of the challenges of media failure and technological change. Digital preservation goals include ensuring enduring usability, authenticity, discoverability, and accessibility of content over the very long term.
Digital Preservation Plan	A Digital Preservation Plan describes actionable steps to be taken to preserve digital resources within an organization (the Action Plan), and documents how this Action Plan was chosen.
Digital Preservation Policy	A digital preservation policy is the mandate for an archive to support the preservation of digital records through a structured and managed digital preservation strategy.
Digital Stewardship	Digital stewardship encompasses all activities related to the care and management of digital objects over time. Proper digital stewardship addresses all phases of the digital object lifecycle: from digital asset conception, creation, appraisal, description, and preservation, to accessibility, reuse, and beyond.
Digital Storage	Digital storage refers to a digital method of keeping data, electronic documents, images, etc. in a digital storage location, usually a hard drive or in cloud-based storage. Archival digital storage is not the same as a backup — archival storage keeps content accessible for future users and computers, while backups keep your computer files working safely and securely. See: 3-2-1 Rule, Redundancy

Digitization	Digitization is the process of creating digital copies or “surrogates” by scanning or otherwise converting analog materials. Digitization is the conversion of analog information into digital information. See: Analog
Disaster Threat (level, area)	Disaster risk zones show the likelihood of various natural disasters affecting a particular geographic area. It is advisable to have digital storage options in various disaster risk zones different from your own; for instance, if your area is prone to earthquakes, choose cloud-based backups in an area not prone to earthquakes (and ideally not prone to natural disasters at all).
Diversity	Diversity refers to: 1) Understanding and valuing characteristics of those who demonstrate a wide range of characteristics. 2) Audiences whose members exhibit a wide variety of characteristics. In both definitions those characteristics include different ethnic and racial backgrounds, age, physical and cognitive abilities, family status, sexual orientation, socioeconomic status, religious and spiritual values, and geographic location.
DPI (dots per inch)	Dots per inch, or DPI, refers to the number of printed dots contained within one inch of an image printed by a printer. It is a measure of the resolution of a printed document or digital scan -- a higher DPI is a sharper image; a lower DPI is a fuzzier image.
Electronic Records	Electronic records are those created digitally in the day-to-day business of an organization, such as word processing documents, emails, databases, or intranet web pages.
FADGI	FADGI stands for the Federal Agencies Digital Guidelines Initiative. Their Technical Guidelines for Digitizing Cultural Heritage Materials are best practices for cultural heritage imaging for still images.
Fair Use	In its most general sense, a fair use is any copying of copyrighted material done for a limited and “transformative” purpose, such as to comment upon, criticize, or parody a copyrighted work. Such uses can be done without permission from the copyright owner. In other words, fair use is a defense against a claim of copyright infringement. If your use qualifies as a fair use, then it would not be considered an infringement.
File Format	Digitally, a file format is a standard way that information is encoded for storage in a computer file. A file format is often indicated by a file name extension e.g. .tif, .pdf, . jpg.
File Naming Convention	A file naming convention is a set of rules used to create consistent names across a set of files.
Fixity	Fixity refers to the “unchangedness” of data, usually evidenced by identical and persistent checksums generated from the same file over time. Fixity refers to the stability of a digital object over time. See: Checksum
Format Migration	Format migration refers to a means of overcoming technological obsolescence by transferring digital resources from one hardware/software generation to the next.
Full (digital) Preservation	Full digital preservation is the use of format migration, emulation, digital forensics, and other strategies to ensure that the content of digital materials, rather than just the original bits and bytes, remain protected and accessible over time despite technology obsolescence and the need for refreshed storage media. See: Format migration, Emulation, Digital forensics
Gap Analysis	Gap analysis is the comparison of actual performance with potential or desired performance. In libraries, archives and museums, this can refer to gaps in collections, procedures, documentation or other work areas.
Hard Disk Drives	Hard disk drives are a form of magnetic media that have magnetic platters read by spinning arms.
Hard Drive (external, portable, SSD)	An external hard drive plugged into a computer port rather than installed inside a computer. Used for storage and backups. SSD=Solid State Drive
Harmful Content Statement	A content statement might also be known as a harmful content statement. It is a brief introduction to materials that may be traumatic, triggering, hurtful or harmful to an unaware patron. See: Content Statement

Inclusion Gaps	In archives, "inclusion gaps" refers to voices or materials that may not be in your collections but perhaps should be. For instance, Native Americans occupied your geographic location long before your current organization began collecting records; are Native American voices respectfully represented anywhere? Likewise, do women, people of color, people with disabilities, etc. have voices in your materials?
Intellectual Property Rights	Intellectual property rights are the rights given to persons over their literary or artistic works. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time. Intellectual property rights are governed by copyright restrictions.
Inventory	In archives, an inventory refers to a lists of holdings: archival items, collections, photographs, or recordings. See: Collection Inventory
Legacy Media	Legacy media are carriers of digital information that are either obsolete or becoming obsolete soon. Files on legacy media should be given higher prioritization in digital preservation to prevent their permanent loss.
Legacy System	A legacy system is software or hardware that was built using methods that are outdated or obsolete.
LOCKSS	Digital preservation principle that Lots Of Copies Keep Stuff Safe.
Lossless format	Lossless formats are file formats that are stable and therefore compatible with long-term preservation efforts. In general, these formats have the following characteristics: openly documented; supported by a range of software platforms; widely adopted; lossless data compression or no compression; non-proprietary; and does not contain embedded files or embedded programs.
Machine-readable	Machine-readable means that the information is in a medium or format that requires a mechanical device to make it intelligible to humans. Machine-readable is commonly used to refer to digital computer data files.
Master Copy	Master copy is a term used to describe an original, unmodified analog or digital file. Due to the negative connotations of the term "master," archival copy or preservation copy are preferred terms. See: Archival Copy, Preservation Copy
Media Deterioration or Degradation	Deterioration or degradation is the breakdown of an analog object that holds digital objects, potentially causing the digital objects on the media to no longer be retrievable.
Metadata	Metadata is a Latin term meaning “information about information.” In the digital realm, metadata is data that describes key information about digital objects (image files, text files, digital audio/video) and, when appropriate, the original objects they represent. Types of metadata include administrative, descriptive, structural, and technical.
Metadata Elements	Metadata elements are defined data points that are used to capture information about a resource. Some of these data points might include a title, an identifier, a creator name, or a date.
Metadata standard	A metadata standard is a system or a set of rules that ensure descriptive information is applied consistently across your items. DublinCore is a commonly-used metadata standard in digital archives.
Monitoring	Monitoring refers to logging or recording various aspects of digital storage configuration, including hardware, activity, and data integrity.
NAGPRA	The Native American Graves Protection and Repatriation Act passed in 1990 requires public and private institutions that have received federal funds to inventory Native American objects in their care, notify the appropriate cultural or tribal representatives, and return the objects if requested. See: Cultural Property Rights
OAI-PMH	The Open Archives Initiative Protocol for Metadata Harvesting is a protocol for harvesting (collecting) descriptive metadata records from a repository so that services can be built using metadata from many sources. Simply put, OAI-PMH is a way for repositories to structure and exchange information in the same formats.
OAIS	OAIS is an acronym that stands for Open Archival Information System. The system gives the digital preservation community a common language and outlook for talking about digital preservation.

Obsolescence	Format or technology obsolescence occurs when a piece of software or hardware is no longer in wide use or available at all. This causes it to be difficult or impossible to use any files that depend on this software or hardware. See: Digital Obsolescence
Open Source Software	Open source software is developed through public collaboration and distributed without charge. Because open source software is free, it is more likely to continue to be usable longer than paid software, which may discontinue supporting the programs at any time.
Optical media	Optical media refers to any data storage device or equipment that uses optical data storage and retrieval techniques to read and write data. It stores data digitally on a media device and uses a laser to read data from it. Optical media is also referred to as optical storage.
Organizational Mission	The organizational mission defines the purpose of the institution, in The organizational mission defines the purpose of the institution, including who it serves, how it provides those services, and what unique assets it uses to provide the service. The mission statement guides all activities of the institution.
Personally Identifiable Information (PII)	Personally Identifiable Information can be used on its own or with other information to identify, contact, or locate a single person, or to identify an individual in context.
Pixel	A pixel is an element in an array that forms an image, a tiny dot. It is a unit of measure used to describe the size or resolution of an image, i.e. pixels per inch.
PPI (Pixels Per Inch)	Image resolution is typically described in PPI, which refers to how many pixels are displayed per inch of an image. Higher resolutions mean that there more pixels per inch (PPI), resulting in more pixel information and creating a high-quality, crisp image. Images with lower resolutions have fewer pixels, and if those few pixels are too large (usually when an image is stretched), they can become visible.
PREMIS	PREMIS is an acronym that stands for Preservation Metadata: Implementation Strategies. PREMIS metadata structures and describes what sort of preservation actions have been done to a digital object.
Preservation File	A preservation copy refers to digital content targeted for preservation that is considered the archival version of the intellectual content of a digital resource. Preservation copies generally do not undergo significant processing or editing. Preservation copies are often used to make other copies including reproduction and distribution copies. See: Archival Copy, Access Copy, Master Copy
Preview	A preview file is a reduced size or length audio and/or visual representation of content, in the form of one or more images, text files, audio files, and/or moving image files.
Provenance	Provenance refers to the origin or source of something. In archives, it is information regarding the origins, custody, and ownership of an item or collection.
Public Domain	The term “public domain” refers to creative materials that are not protected by intellectual property laws such as copyright, trademark, or patent laws. The public owns these works, not an individual author or artist.
Quality Assurance / Quality Control	Quality control (QC) or Quality assurance (QA) is a process used to verify the quality, accuracy, and consistency of digital projects. A regular systematic QC process allows you to check for files that do not meet the standards of your project plan, and identify any problems.
Redundancy	Redundancy refers to the creation and retention of multiple near-identical copies of the same data, stored in different digital locations. See: Digital Storage
Replication	Replication is the automated copying of data from one primary storage location to another or several other storage locations. Replication is distinct from redundancy in that it dynamically updates the secondary storage locations.
Retention Schedule	Also known as "digital asset retention and disposition schedule." A document that identifies digital assets (typically by asset groups) and the date on which their disposal must take place. Often, the date will be recorded as "indefinitely," but this can be revised as an institution's inventory is reviewed.

Rights Management	Rights management refers to a system that identifies intellectual property rights relevant to particular works and that can provide individuals with access to those works on the basis of permissions to the individuals.
Rights Statements	A simple, standardized system of labels that clearly communicate the copyright and re-use status of digital objects to the public, which improves usability and access for users.
Scanner	An image scanner is a device used to scan images, printed text and objects into a digital format.
Storage	See: Digital Storage
Storage Diversification	Storage diversification, also known as the Geographically Dispersed Data Storage Model, keeps more than one copy of the object in more than one geographical region. See: 3-2-1 Rule
Sustainability	In this context, sustainability refers to activities to ensure your project can continue, for example: 1) Creating and documenting policies, procedures and workflows, 2) Creating training materials for future project staff, 3) Developing a digital preservation plan, 4) Building organizational or community support for the project, 5) Pursuing additional grants or more permanent funding to support the project work.
Technical Metadata	Technical metadata refers to information about aspects of the object related to its file format or the software used to create the file. This may include things like the scanning equipment used to create a digital object and the settings used to create or modify it. See: Metadata
Traditional Knowledge (TK) Labels	TK Labels are a tool for Indigenous communities to add existing local protocols for access and use to recorded cultural heritage that is digitally circulating outside community contexts.
Transcription	Transcription is the process of making a written copy of a recording or document. For audio or video recordings, a transcription is a written copy of the spoken material. For handwritten archival artifacts, a transcription is a typed, usually digital, version of the handwriting.
User	A user is an individual who uses the collections and services of a repository; a patron; a reader; a researcher; a searcher.
Virus Scan	A virus scan checks for malicious programs and macros on a computer or electronic device.
Web Archiving	Web archiving is the process of gathering up data that has been recorded on the World Wide Web, storing it, ensuring the data is preserved in an archive, and making the collected data available for future research.
Workflow	A workflow consists of the tasks, procedural steps, organizations or people, information and tools needed for each step in a process.
Working Copy	A working copy is a digital asset derived from an archival copy. Working copies can be modified to suit the needs of the project at hand.
XML	XML stands for eXtensible Markup Language. XML is one of the most common ways to represent metadata.

Definitions provided by or adapted from the following sources:

Cornell Digital Imaging Tutorial	Canada: Digital preservation recommendations for small museums
Digital Preservation Coalition	Curating Community Digital Collections Glossary
Indigitization Toolkit	Developing a Digital Preservation Policy
International Council on Archives	Digital Millennium Copyright Act (DCMA)
Investopedia: Cloud Storage	Digital Preservation Plan Framework for Cultural Heritage Institutions
LOCKSS	Digital Preservation Recommendations for Small Museums
Mukurtu	Digital Preservation Research (POWRR)
Network World	Digital Public Library of America (DPLA)
OAI-PMH	Federal Agencies Digital Guidelines Initiatives (FADGI)
Purdue University LibGuide	How to calibrate your scanner (lifewire.com)
SilverFast	Outagamie Waupaca Library System (OWLS) Digitization Workflow

Sustainable Heritage Network	Society of American Archivists (SAA) Dictionary of Archival Terms
Techopedia	University of California Merced Library, "What is a data dictionary?"
University of Michigan	University of California Santa Cruz Library
What is digital accessibility?	World Trade Organization
Wikipedia	Yale University

Appendix G: Further Reading

Plan and Prioritize

- Preservation and Selection for Digitization, Northeast Document Conservation Center

Obtain Permissions

- Welcome to the Public Domain. Stanford Libraries.
- Orphan Works. Center for the Study of the Public Domain, Duke University Law School
- What is Fair Use? Copyright Alliance.
- Responsible Access Workflows, University of California Berkeley Libraries
- "RightsStatements.org: Why We Need It, What It Is (and Isn't) and What Does It Mean for the DPLA Network and Beyond?" [webinar recordings] Digital Public Library of America, 2016.

Digitize

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