Final Assessment Report

Unifying the DFC Photo Archive | SI 581 2026

Sudnya Atre, Erika Hubbard, Lucas Rosendall, Brianna Wyatt

Word Count: 4,561

Due Date: April 15th, 2026

Team Members: Erika Hubbard (erikahub@umich.edu), Sudnya Atre (sudnya@umich.edu), Brianna Wyatt (briwyatt@umich.edu), Lucas Rosendall (lukerose@umich.edu)

Client: Detroit Future City (DFC)

Primary Contact: Janet Reyes (jreyes@detroitfuturecity.com)

Secondary Contact: Ashley Clark **(**aclark@detroitfuturecity.com)

Table of Contents:

Executive Summary
Section 1 - Introduction
    1.1 Overview
    1.2 Context
Section 2 - Assessment Process & Methodology
    2.1 Assessment Approach
    2.2 Assessment Frameworks
Section 3 – Key Findings
    3.1 Institutional and Organizational Context
    3.2 NDSA and DPC RAM Results
        3.2.1 National Digital Stewardship Association (NDSA)
        3.2.2 Digital Preservation Coalition Rapid Assessment Model (DPC RAM)
    3.3 Metadata Conditions
    3.4 Duplication
Section 4 – Short-Term Recommendations
    4.1 Establish Off-Platform Backups
        4.1.2 Cloud-Based/Digital Off-Platform Backups
    4.2 Deduplication with AllDup
    4.3 Microsoft Power Automate
    4.4 Minimum Metadata Schema for New Ingests
Section 5 – DAM Platform Recommendations
    5.0 Overview and Evaluation Criteria
    5.1 Google Photos + AllDup
    5.1.1 Google Photos
    5.1.2 AllDup
    5.2 Pics.io
    5.3 ResourceSpace
Section 6 – Metadata: Descriptive Strategy and Intellectual Control
    6.1 The Role of Metadata in the DFC Archive
    6.2 Controlled Vocabulary and Taxonomy
Section 7 – Long-Term Preservation Considerations
    7.1 Monitoring and Environmental Condition
    7.2 Risk Management
    7.3 Collections Maintenance
Conclusion
References
Appendices
    Appendix A – Other DAM systems to Consider
    Appendix B – Risk Assessment Matrix
    Appendix D – Proposed Metadata Schema Controlled Vocabulary
    Appendix E – Annotated Resource List for Further Preservation Measures
    Appendix F – Contact Recommendation: AVP | Digital Asset Management Consulting
    Appendix G – Power Automate Guide and Workflow

Executive Summary

This report finalizes short term and long term preservation considerations and DAM tool recommendations for Detroit Future City (DFC) – a nonprofit organization specializing in land and economic development, neighborhood planning, and economic inclusion. Currently consisting of over 70,000 images dispersed across platforms such as SharePoint and Pixieset, the collection lacks consistent metadata and standardized workflows, making information retrieval a time-consuming and burdensome effort for staff. Through a structured evaluation using frameworks such as the National Digital Stewardship Alliance (NDSA) Levels of Digital Preservation and the Digital Preservation Coalition Rapid Assessment Model (DPC RAM), our team identified key risks related to insufficient metadata, duplication, and the absence of off-platform backups. To address these challenges, this report outlines multi-faceted approaches and digital resources that provide clear pathways for migrating the DFC Sharepoint into an efficient, sustainable Digital Asset Management platform that would enhance the organization and findability of their collection.

Section 1 – Introduction

1.1 Overview

Detroit Future City (DFC) is a nonprofit organization established in 2015. It is an institutional body responsible for the implementation of the Detroit Strategic Framework – a 2012 plan that provides the blueprints for a 50-year vision for Detroit along the axis of “Inclusive growth” (Trujillo-Pagán, 2026). DFC is looking for a digital platform to organize and provide access to a large archive of photographs that document their work in land planning and urban development, as well as “public assets” in the Detroit area. At the moment, about 70,000 digital images

scattered across SharePoint and Pixieset need to be centralized into one coherent searchable system. Currently, The DFC “photo archive” is difficult to access and use because of the lack of clear standards and organization. According to DFC’s Vice President and Manager of Office Operations – key participants in this project – these photos would be more valuable to them if they could find a platform, a Digital Asset Manager (DAM), that allows for object recognition search on the photos. Machine-powered search and image recognition leverage Artificial Intelligence (AI) and Machine Learning (ML) algorithms to extract meaningful information and characteristics from images. Overall, the DAM put in place should serve as a vehicle for easy access and speed of retrieval; The DFC team should be able to search "house" or "community meeting" and get relevant results without manual tagging or holistic metadata standardization. Therefore, the principal aim of our work towards a solution for DFC is to choose a DAM platform that is affordable, easy to use, easy to search, and easy to maintain.

1.2 Context

The images in DFC’s sharepoint folders are used in published reports, policy reports, newsletters, social media communications, and internal documentation. During our recurring meetings with DFC, we learned several key pieces of contextual information that shape our final assessment report. The most significant of these concerned the scale and location of the materials within their collection. DFC informed us that their collection currently consists of over 70,000 digital photos from multiple- and sometimes unknown-sources. These materials range from photographs taken to commemorate institutional gatherings and others that were captured and preserved in order to further DFC’s land development efforts. While they have a third party photographer who captures and uploads many of these photographs to their company’s server, they also consistently receive photographs from both staff members and community alike. Like many digital

collections that expand under the assumption of unlimited digital storage, DFC's growing collection of images has now outpaced the organizational capacities necessary to manage it. As digital storage technology has developed, it has become increasingly difficult to visualize the relationship between physical size and storage capacity (Ash, 2022). Subsequently, DFC struggles with knowing what their collection holds and where a particular image might be. The greatest challenges to the collection lie in the absence of search capabilities and, corollary, unorganized materials with inconsistent metadata. As a result, the DFC staff often spends hours manually looking through sharepoint to find relevant photographs. Overall, our assessment report aims to chart a course of action that meets the needs of the digital collection over time while also meeting the needs of the DFC user community.

Section 2 – Assessment Process & Methodology

2.1 Assessment Approach

Our team could not readily access Detroit Future City's photo archive ourselves, our assessment was informed by a virtual walkthrough of the collection conducted by our project's contacts- DFC's Vice President Ashley Clark and Manager of Office Operations, Janet Reyes. This walkthrough allowed us to view and make targeted inquiries about the Sharepoint Server where DFC hosts their collection. The walkthrough allowed our team to evaluate how DFC organizes their photographs – the types and volume of content across different folders and what metadata was already embedded/included in their photographs. We were able to observe their folder architecture and probe their current workflow for managing the ingestion and storage of photos. The folder structure itself gave us additional ideas about how search is being performed across the file system, and helped to inform our recommendations regarding searchability features.

2.2 Assessment Frameworks

In our initial assessment, our team leveraged the NSDA Levels of Digital Preservation Assessment to provide not only an outside viewpoint for collection to give us an understanding of the holdings but also to help DFC figure out where their collection and current practices stand. The NSDA framework proved to be particularly useful in gaining insight into the organizational structure and identifying the most pressing areas of concern for the project and where DFC's priorities and needs sit as well. This framework helped us to guide our recommendations, focusing more on the physical and digital control and stability of the photograph collection and not focusing as much on the storage environment for the time being, based on our initial and ongoing assessments throughout the course of the project. To better understand our findings, the DPC RAM model was also used to guide our recommendations. For this assessment, DFC operated closest to a Level One in most categories. This means "Awareness", where DFC is for the most part aware of the capabilities and support needed for digital preservation activities, but has not breached the "Basic" category of implementation.

Section 3 — Key Findings

3.1 Institutional and Organizational Context

Currently there is no expected designated staff member responsible for managing or preserving the born-digital collection. To the best of our understanding every employee interacts with the photographs in their day-to-today endeavors, but collection management – or the responsibility of adding and locating images – is informal and distributed. The processes necessary to preserve the meaning, usability, and functionality of the digital content over time are currently absent. A lack of organizational structure around the archive informs preservation risk more generally. Of

course, the DFC is not an archive or a library repository. And, with respect to most of the collection, occupies a postcustodial position – they manage “records” stored in infrastructure they do not control; Simultaneously, this infrastructure is indifferent to born-digital stewardship or strategic preservation planning over time.

3.2 NDSA and DPC RAM Results

3.2.1 National Digital Stewardship Association (NDSA)

After an NDSA (Appendix E) initial assessment, our team determined that the DFC operates around Level 1 (*Know your Content*) as it pertains to storage capacity. There is dedicated physical storage but content is not stored in two separate locations. All other areas (Integrity, Control, Metadata, and Content) are difficult to assess, but the foundational principles in these areas have not been implemented. Although DFC is primarily concerned with searchability, we implemented this assessment tool to gain insight on the current structure and existing parameters around the collection. The DFC is not expected to implement a full archival stewardship program according to the NDSA levels of digital preservation. This project wants to identify rather realistic targets for them to accomplish, or to at least keep in mind and to have as a reference when it comes time to migrate to a DAM system. That said, a good start is to “know [their] content” – to bring it under some physical or intellectual control (level 1 Control). Secondly, they need to “protect [their] content” with off-platforms backups, either inscribed into another form of media (a hard/flash drive → clearly labeled with date → "DFC Archive Backup: [YYYY-MM-DD]") or pushed to another cloud service provider. Further, descriptive metadata (Level 2 Metadata) “protect(s) [their] content” via appropriate standardization, enhancing and improving organizational processes. The other areas, Integrity and Content characteristics, are less important to the DFC’s objectives with an archive.

3.2.2 Digital Preservation Coalition Rapid Assessment Model (DPC RAM)

There is often an awareness of many of the considerations within the DPC RAM model (Appendix E), such as service capabilities category “J” (metadata management) or “K” (discovery and access) without the necessary organizational structure or standards that need to be in place to carry out these functions. The DPC RAM's (2024) Level 2 criterion for metadata calls for minimum descriptive metadata to aid in the discovery and identification of materials. Without proper organization and governance, the collection remains difficult to systematically manage and assess. One option is to participate in information management earlier on in the information lifecycle, which we propose through Microsoft Power Automate.

3.3 Metadata Conditions

Our findings from our initial assessment indicated that one of the more high-priority needs within the DFC collection was to implement a consistent metadata structure that is topically relevant to the content within the collection. Since our initial, guided walkthrough of DFC’s collection demonstrated that administrative metadata such as file type, size, and creation date were already captured, we primarily chose to focus on analyzing the existing state of the collection’s descriptive metadata. With a collection of DFC’s size, incorporating standardized conventions for descriptive metadata is essential for efficient workplace retrieval as “The findability of items in a large collection is directly proportional to the level of description for each digital object”(Woodward, 2014). As it stands, descriptive metadata within the DFC collection is widely variable and mostly informed by folder naming. While we learned that some of the collection’s photos were geotagged to include location, this field is overall absent from the vast majority of the media within the Sharepoint. In consultation with DFC, we flagged this field as one of the most significant properties that should be recorded upon capture and remediated for

older photographs within the collection. Due to DFC's institutional focus on land initiatives and neighborhood planning, consistently capturing these fields would be vital to both the organization's long-term and short-term goals as they would enhance findability, accuracy, and help with removing duplicate and/or redundant photographs of the same location to maximize the server's storage capacity.

3.4 Duplication

While we did not gain exact figures on how many duplicate photographs are currently housed in the DFC SharePoint, our contacts estimated that an exceedingly significant amount of duplicates are likely present. If widespread efforts towards de-duplicating the collection are not prioritized, even a DAM platform with highly accurate machine-learning powered image searching capabilities would be deemed inefficient. This would likely result in queries returning an extremely high output of photographs, ultimately hindering DFC's aims at achieving swift searchability within the collection-making this a high-priority challenge for the collection.

Section 4 — Short-Term Recommendations

4.1 Establish Off-Platform Backups

For backing up the images in the DFC SharePoint, we propose a cloud-based backup system for file security and ease of use. Choosing to back up files with off-platform cloud-based platforms provides a comprehensive solution to ensure that files and photos are safe and secure in case of the loss of data through SharePoint. This recommendation is beneficial for both the short and long term preservation of DFC's materials as well, and does not prevent any other system of backing up photos, such as a physical hard drive, from being implemented instead of or alongside in the future.

4.1.2 Cloud-Based/Digital Off-Platform Backups

Utilizing a service like Google Photos, for example, allows for a cloud-based storage that also acts as a SharePoint backup (known as cloud-to-cloud backups). Storing the files in two different locations increases the security of DFC's holdings and helps to achieve lower risk of file loss due to accidental deletion or system failures. Cloud-based storage allows for support in data coverage beyond photographs and does not rely on physical storage that could end up becoming monetarily cumbersome as DFC generates more images and files (Backups).

4.2 Deduplication with AllDup

For the purposes of maximizing storage capacity and minimizing bulk while searching for photos, using an outside tool such as AllDup can take the burden of time and energy while providing exemplary services to keep the DFC collection free of redundant photographs. AllDup is a free service, compatible with Windows, that assists in managing files in a variety of ways. AllDup has the ability to scan folders and hard drives alike for duplicate photographs and other files, and is able to do this through finding duplicates based on file properties, similar images, and offers customizable search options. For installation and download information, go here. To find more information about this service, go here.

4.3 Microsoft Power Automate

Power Automate is a Power Apps product which is included with DFC's Microsoft suite. Being built-in and very integrated with SharePoint, this option can help to create custom, searchable metadata fields within SharePoint itself. This recommendation allows for the searching capabilities needed for DFC to compile reports and other important documents. A guide to Power Automate and another similar option are provided in **Appendix G**. This guide contains a

guided video and blog post about Power Automate image capabilities, a sample workflow, and another SharePoint based example for further searching and tagging capabilities.

4.4 Minimum Metadata Schema for New Ingests

Retroactively adding metadata to 70,000+ existing photographs is not a practical objective. Further, it was not a priority explicitly stated or expressed by the DFC staff. Nevertheless, establishing a minimum metadata standard for all new ingests going forward is both feasible and essential if search capabilities are going to improve. The following schema is proposed in light of this:

Field	**Description**	**Required / Recommended**
Date Captured	Date photograph was taken (YYYY-MM-DD)	Required
Creator	Staff member, photographer, or 'Community Submission'	Required
Location	Detroit neighborhood or project site name	Required
Project/Initiative	DFC program or initiative related to the image	Required
Subject Tags	2–5 descriptive keywords (drawn from controlled vocabulary) **(Appendix D)**	Recommended
Rights/Usage	Usage rights statement; default to 'DFC Internal Use'	Recommended (but should be Required)

File Format	JPEG, PNG, etc. (often auto-embedded)	Required
Description	Brief narrative description of image content (think of it as alt text!)	Recommended

Section 5 — DAM Platform Recommendations

5.0 Overview and Evaluation Criteria

Given the needs of DFC for a DAM platform recommendation that enhances searchability, cleans up the photo library, and is easy to use and cost friendly, we have compiled three main DAM platform recommendations, fleshed out below. Each recommendation highlights costs, search features, migration information, and other operating information.

See **Appendix A** for other alternatives to the recommended list, complete with the features and capabilities of each service.

5.1 Google Photos + AllDup

5.1.1 Google Photos

Function: Google photos can offer a streamlined, user-friendly approach to organizing and finding photos. Its core functionality would include AI-powered image recognition which will allow DFC to search images by objects, date or location. This will help in the short term to improve the ability to retrieve photos for internal use without needing extensive manual tagging.

Features such as albums and basic editing tools might also align with DFC's needs to group and manage certain photos together.

Migration Process: Relative ease of migration with Google Data Migration Service.This Google Workspace tool uses the native service in the Google Admin console to move files for up to 100 SharePoint sites.

Pricing: Google Photos with AI capabilities range from 19.99(5TB storage capacity) monthly to 249.99 monthly(30 TB storage capacity.

5.1.2 AllDup

AllDup's high capacity for interoperability with Google Photos largely relies on the fact that it is not a cloud-native tool. By scanning local files that have been downloaded or synced from Google Photos, AllDup would manage local Google Photos backups by detecting exact matches or similar images (above 80-85% similarity) using the built-in "pHash" function demonstrated in this YouTube Video. When using the "similar pictures" feature through pHash, it would be best practice for DFC to set the similarity threshold above 80-85% to avoid identifying different photos taken in quick succession as duplicates. Additionally, AllDup's compatibility with Google Photos even allows it to identify resized or slightly edited images that Google Photos might treat as separate files.

How to Use AllDup with Google Photos

1. Sync/Download: Use Google Drive or the desktop application to sync your Google Photos library to a local folder on a Windows PC.

2. Scan: Point AllDup to the local folder by opening the application and adding your downloaded Google Photos folders to the source list.
3. Configure Search Method:
    a. **Exact Duplicates:** Select "File Content" and "Byte by Byte" in the Search Method tab for exact matches.
    b. **Similar Photos:** "Similar Pictures" options to identify duplicates, as recommended in this YouTube video.
4. Delete & Sync: Delete the duplicates locally; the changes will sync back to Google Photos, removing them from the cloud.

Migration Process: No efforts towards migration needed. Fast, uncomplicated installation guides links for downloading AllDup can be found here.

Pricing: AllDup is entirely free with no hidden costs. AllDup is also widely regarded as a protected data management tool that is used by trusted non-profit organizations and government agencies including the Department of Veterans Affairs. The integrity of DFC's collection would be kept secure and confidential with no costs or subscriptions involved.

5.2 Pics.io

Pics.io is an all-in-one integrated DAM tool, which specifically centers on affordability and ease of use. This tool is a "centralized hub" that has the capacity to store, organize, and create a searchable space to find images (pics.io blog) . Pics.io is very clear about the fact that they will work with nonprofits to provide more support and/or discounts for their product, and also provide user stories that showcase the benefits of this tool for non-profit organizations. Learn more about non-profit organization experiences here.

Cost: In terms of the pricing for this service, the cost depends on the type of plan chosen and features that are wanted and/or needed by DFC. For one administrative role/user profile, the solo plan sits at $100 per month and offers storage housed off premise (such as SharePoint or Google Photos), and the option to pay for storage. However, the plan that seems to be the most conducive to DFC's needs, is the micro plan. Offering 10 included users for $225 per month and 1 TB of storage provided for free, this plan also gives custom fields and an AI toolkit that is not available with the solo plan. There are two other plans as well (small and enterprise), but seem to be for bigger organizations and would be unnecessarily costly. A full chart of all pricing information can be found here. Also, be sure to contact sales@pics.io for tailored pricing, discounts, and advice for non-profit organizations.

Search Process: This platform has the most photograph searching capabilities of any of our recommended solutions. With the help of AI searching capabilities, pics.io has the ability to deeply search DFC photographs through automatic tagging and metadata, and customizable metadata fields offered for even greater classification and searchability. Plus, there are built in filters, sort, and view modes that facilitate quick access to the photographs that DFC is looking for.

Migration Process: Pics.io seems to be a very flexible service in terms of migration and storage capabilities. Pics.io handles all of the migration activities for the organization, highlighting minimal business and file disruption during the migration process, as well as the security of data as some of the major reasons to use pics.io. Contact sales.pics.io for more details, and go here to learn more about the basic data migration process.

Best For: This option shines in a few key ways; flexible and transparent pricing for this platform, in-depth AI capabilities and easier tagging, metadata capabilities beyond many other options, and allows for outside storage to be used or has storage options available on the site as well. The only question and possible issue with this option is that compatibility with Microsoft and SharePoint will need to be addressed. This information was not very clear on the website or from our searching, but emailing with the sales team email provided above (or found on the website) would be the best way to figure this out.

5.3 ResourceSpace

ResourceSpace is an Open-source, self-hosted or cloud-hosted DAM platform. It is used widely by nonprofits and cultural institutions. The platform supports custom metadata schemas, advanced search, controlled vocabulary, and role-based access. No per-seat licensing fees either.

Cost: The service is free if you self-host, or around~$500–1,500 per year for managed hosting. An on-premise solution is when the DAM is hosted on servers that you own. It needs a reliable network, as well as an in-house team to maintain it, which can significantly increase the costs of managing and maintaining the system. Obviously for DFC there is no compelling reason to choose this solution over a cloud system. Cloud software is hosted on servers owned and maintained by a software vendor, and accessed via the internet.

ML + AL Search: Machine Search capabilities are available Via plugin integration (Google Vision, AWS Rekognition). A recent ResourceSpace release includes two significant developments: CLIP AI Smart Search and AI Faces (InsightFace). Learn more about that here.

Migration Process: Manual migration; we believe there is no native connector between Sharepoint and ResourceSpace. However you can book a consultation here. Moderate IT support is necessary for initial setup. Setup Instructions are Available here.

Best For: ResourceSpace is an open-source Digital Asset Management (DAM) software, distinguishing it from platforms like Google Photos, which are proprietary services. There are no licensing fees and you are free to host the software elsewhere at a future date if you should choose to. The core principle of ResourceSpace being open-source means that its underlying code is freely available for anyone to view, use, and modify. This allows for flexibility and customization without vendor lock-in. While the software itself is free, services like hosting, installation, and support are offered by companies like Montala.

Section 6 — Metadata: Descriptive Strategy and Intellectual Control

6.1 The Role of Metadata in the DFC Archive

Metadata will be a key part of organizing DFC's photo collection moving forward so that the photos added from now on will be easier to access and more usable for their institutional needs. With over 70,000 images, it will continue to be challenging to locate and reuse the photos without a consistent metadata scheme. The scheme proposed in Section 4.4 outlines the proposed minimum metadata schema aimed at improving organization by adding consistency. It takes into account all the priorities and needs discussed during the course of our assessment of the collection, and emphasizes the fields that are most essential to how the photos are used.

However, in the future DFC may consider aligning its metadata practices with established standards for image metadata for interoperability and to prepare for a situation where the purpose of the archive expands beyond institutional needs. One good option to consider is the IPTC Metadata Standard, which is compatible with various DAMs as well as specific platforms and tools we have recommended, such as Google Photos and Power Automate. IPTC is intended to "allow users to add precise and reliable data about people, locations, and products shown in an image" (IPTC). This makes IPTC a good option regardless of what platform hosts the DFC photo archive. The standard also includes many of the metadata fields that we have suggested in the custom metadata scheme in Section 4.4, making it easy to crosswalk to when DFC decides to allot resources and effort toward this.

6.2 Controlled Vocabulary and Taxonomy

The proposed metadata schema only works if people use it consistently. In a collection as large as Detroit Future City's, even small differences in wording, like using slightly different names for the same neighborhood or project, can make images harder to find and organize.

To avoid this, the archive should use a controlled vocabulary for key fields such as subject tags, project or initiative names, and location. Instead of typing anything freely, users would choose from a set list of approved terms. This keeps the language consistent across the archive and makes search results more reliable.

A simple taxonomy can also help make the system easier to use. For example, organizing location from city to neighborhood to site allows users to either search directly or browse more generally if they are not sure what they are looking for. Overall, controlled vocabulary and taxonomy support the metadata schema introduced in Section 4.4 by making sure the information being added is clear and consistent. This not only improves searchability now, but also makes it

easier to maintain the archive over time. It would also make it easier to align with established standards such as those developed by the IPTC if needed in the future.

Section 7 — Long-Term Preservation Considerations

7.1 Monitoring and Environmental Condition

Monitoring the condition of the collections means that there should be regular inspections of the digital holdings (annual of bi-annual at the very least) overtime. This could mean running fixity verification checks on backup holdings from time to time. This helps to protect against silent bit rot or corruption. “Fixity” or stability is synonymous with bit level integrity– is the digital file object fixed or unchanged? The NDSA has an infrastructure and standards working groups that has developed guidelines to monitor born-digital collections over time (Appendix E). Format obsolescence monitoring (tracking whether JPEG or other formats DFC uses remain widely supported and renderable) should be conducted over the long term. For more guidance, The Library of Congress's Sustainability of Digital Formats resource is an authoritative reference for format viability assessment (Appendix E).

7.2 Risk Management

Frank (2024) identifies that digital information is fundamentally an exercise in risk management. If digital content is going to be secured for the long-term, it depends upon stakeholders engaging in a coordinated effort to respond to potential risks. Our Risk Assessment Matrix (Appendix B) diagnoses current potential risk to the DFC archive over the long term. Restoring a repository or a digital collection can require substantial effort and time, so the Risk Assessment Matrix is an exercise in remediation, or staving off the severity of the crisis. Therefore, magnitudes of severity should be addressed according to their time horizon. The more critical the risk, the more immediate the time horizon. In the long-term, documenting preservation techniques and approaches will prevent tacit or specialized knowledge buildup in the event of staff turnover.

7.3 Collections Maintenance

Models for DFC's continued collections maintenance could include a combination of annual audits, standardized file-naming conventions, and further advising with a DAM consultation service. Annual collection audits would play a critical role in supporting the long term preservation of DFC's born digital photograph collections by introducing a structured, recurring review of both files and their associated metadata. Drawing on established digital preservation practices, audits enable organizations to verify file integrity through fixity checks, identify missing or corrupted assets, and assess risks related to storage or format obsolescence. Additionally, annual audits would provide DFC with an opportunity to evaluate metadata completeness and consistency, ensuring that key descriptive, administrative, and rights information is present and standardized across the collection.

7.3.1 Standardized File Naming Conventions at Ingest

Concise, reusable documentation for DFC such as a one page guide outlining required metadata fields and file naming conventions for new submissions could also significantly improve both long term information retrieval and preservation outcomes. By setting expectations at the point of ingest, DFC could reduce inconsistencies and gaps that would otherwise require time-consuming remediation later. As Woodward(2014) highlights, common, easily adaptable structures for this typically include basic fields like Date, Usage/Department, Location, Subject. This proactive approach also lessens the burden on automated tools such as machine learning workflows in platforms like Power Automate, which can struggle with inconsistent inputs.

7.3. 2 Metadata Remediation through Further Consultation

Although machine-learning tools such as Powerautomate's AI Lens can provide swift results for metadata remediation within the DFC collection, we strongly advise DFC to consider pursuing further consultation with a DAM service within the long-term. A potential partnership model for this could be AVP- a platform-neutral, digital management consulting service that helps nonprofit organizations build effective digital asset management programs by focusing on strategy, system selection, and sustainable implementation. Rather than promoting a single platform, AVP provides vendor neutral guidance to help organizations choose tools that align with their budgets, staff capacity, and long term goals. Non-profit organizations like DFC are amongst AVP's most common clientele, and their consulting services primarily consist of solving common challenges like disorganized files, duplication of work, and difficulty locating important media. In addition to implementation, AVP helps establish metadata standards, taxonomy structures, and governance policies that improve discoverability and ensure responsible use of materials. Given that these are some of DFC's most high-priority concerns, we strongly recommend that DFC consider pursuing a consultation with this DAM service in addition to our aforementioned short-term recommendations in order to best ensure the continued health of the collection.

Conclusion

This assessment report considers short-term recommendations, long-term considerations, and suggested DAM platforms for the DFC archive. These recommendations are deliberately tiered but can be operationalized as a step-by-step guidance for managing and preserving Detroit Future City's photographic Archive. DFC staff is encouraged to secure the collection before anything else – create off-platform backup copies and store the collection through another cloud provider. From there it is important to gain an understanding of the collections scope, to bring the

collection under some amount of control. From there, deduplication and metadata standardization delivers freedom from large volumes of duplicated images while supporting consistent file naming. It is our hope that, with some assistance from IT, a Microsoft Power Automate setup will standardize file naming for new uploads. Admittedly, platform selection & collection migration for a new digital asset management system requires expertise that falls out of the scope of our digital preservation coursework. That said, we have tried our best to cover platforms that match DFC's core objectives. In the long term, DFC should consider whether partnership with a digital preservation organization – such as Urban Archive, Detroit's local historical society, or a university partner — could provide institutional infrastructure and expertise that the organization cannot sustainably maintain independently. Ultimately, this report carries out various functions that hopefully contribute to the achievement of a system that meets your organization's objectives and future aspirations.

References

AllDup. (n.d.). https://alldup.de/en/alldup/description.php

Alldup download. MTSD Professional Software Solutions for Windows. (2025). https://alldup.de/en/alldup/download.php

Ash, H. (2022). *Should data expire? Entropy and permanence in digital landscapes*. Solar Protocol.https://solarprotocol.net/sunthinking/ash.html

Baucom, E., Kussmann, C., Rudersdorf, A., Saglik, O., Sampson, W., & Underdown, D. (2019). *Using the levels of digital preservation as an assessment tool*. National Digital Stewardship Alliance.

Digital Preservation Coalition. (2024). *Digital Preservation Coalition rapid assessment model (DPC RAM)*. https://doi.org/10.7207/dpcram21-02

IPTC Standard. (n.d.). IPTC. https://iptc.org/standards/photo-metadata/iptc-standard

Lavoie, B., & Dempsey, L. (2004). Thirteen ways of looking at… digital preservation. *D-Lib Magazine, 10*(7/8). https://doi.org/10.1045/july2004-lavoie

Kriesberg, A. (2024). Storage. Digital Preservation: A Critical Vocabulary. https://digital-preservation-a-critical-vocabulary.pubpub.org/pub/fg7u9mwo

Pics.io. (n.d.). *Affordable Digital Asset Management Pricing*. Affordable Digital Asset Management Pricing – Pics.io. https://pics.io/pricing#plan-micro

Pics.io. (n.d.). Effortless and Secure Data Migration with Pics.io. https://pics.io/data-migration-services#:~:text=Pics.io%20is%20a%20digital%20asset%20management%20%28DAM%29,system%20*%20Managing%20file%20transfers%20across%20platforms

Pics.io Team. (2024). *Pics.io customer stories: Child's hope foundation*. Pics.io. https://blog.pics.io/pics-io-customer-stories-childs-hope-foundation/?_gl=1%2A3qmo9t%2A_gcl_au%2AMTA0NzEwODUxNi4xNzc1NTc4MzI0

Pics.io Team. (2026). *A better alternative to SharePoint that you'll actually love*. Pics.io. https://blog.pics.io/a-better-alternative-to-sharepoint-that-youll-actually-love/

Trujillo-Pagán, N. (2026). *Detroit Never Left: Black Space, White Borders, Latino Crossings*. New York University Press. https://doi.org/10.18574/nyu/9781479826841

Vadim.Z. (2025). *How to backup Microsoft SharePoint: MSP360 Resources*. MSP360 Blog. https://www.msp360.com/resources/blog/how-to-backup-sharepoint/#:~:text=Manual%20&%20Local%20SharePoint%20Backups,that%20are%20prone%20to%20errors

Woodward, Eddie. (2014) *Metadata for Image Collections*. American Libraries, vol. 45, no. 6,, pp. 42–44. *JSTOR*, http://www.jstor.org/stable/24603511.

Appendices

Appendix A — Other DAM systems to Consider

Platform	Core DAM Features	AI + ML Capabilities	Governance & Permissions
Frontify	• Central cloud-based asset library • Organize images, videos, and files • Custom metadata and tagging • Advanced search and filters	• Native AI built into the platform • Auto-tagging • Duplicate detection • Smart search • AI Brand Assistant	• Built-in governance • Version history • Approval workflows • Granular user permissions • Secure sharing options
Bynder	• Centralized asset library • Organize images, media, and files • Custom metadata • Search and filters	• AI-powered auto-tagging • Asset enrichment • Smart search • AI-enhanced content governance	• Version control • Approval workflows • Customizable AI agents for governance
Aprimo	• Centralized asset library • Organize images, media, and files • AI-driven metadata and search	• AI-powered metadata and tagging • Duplicate detection • Asset creation	• Version control • Approval workflows • User permissions • AI-driven compliance reviews

Storyteq	• Centralized asset library • Organize images, media, and files • Advanced search and filters	• AI-powered auto-tagging • Smart search • Image editing • AI brand chatbot	• Version control • Approval workflows • Detailed changelogs
Air	• Centralized asset library • Custom metadata • Search and filters • Organize images, videos, and creative files	• AI-powered auto-tagging • Facial recognition • Transcription • Description generation	• Basic governance features • Version stacking • Tracked changes • Content review and approvals
MediaValet	• Centralized asset library • Custom metadata • Search and filters • Organize images, videos, and creative files	• AI-powered auto-tagging • Metadata creation • Color recognition • Search-in-text • Facial recognition	• Version control • Proofing • Approval workflows • Granular user permissions
Cloudinary	• API-first DAM • Centralized asset library • Organize and transcode images/videos at scale	• AI-powered asset creation • Automated visual repurposing • Generative background editing	• Granular user roles • Permissions and asset management • Version tracking • Approval workflows
Acquia DAM	• Centralized asset library • Custom metadata • Search and filters	• AI-enriched auto-tagging • Metadata generation • Smart search	• Version control • Workflows • User roles and permissions

	• Organize images, videos, and creative files		• Full lifecycle management
Brandfolder	• Centralized asset library • Organize images, media, and files • Custom metadata • Search and filters	• AI-powered search • Asset recommendations • Duplicate detection • Description generation (Brand Intelligence)	• Version control • User permissions • Collaboration workflows • Content review and approvals
Filecamp	• Centralized asset library • Metadata • Search and filters • Organize images, videos, and creative files	• Basic auto-tagging • Limited AI functionality	• Basic governance • Versioning • User permissions • Simple asset sharing

Appendix B — Risk Assessment Matrix

Risk	Severity	Time Horizon	Recommended Action
No off-platform backup	Critical	Immediate	Create backup before any migration
Duplicate files (~unknown %)	High	Immediate	Deploy AnyDupeCleaner
Inconsistent/absent metadata	High	Short-term	Adopt minimum schema; Power Automate
No rights tracking	High	Short-term	Add rights field to schema; audit known images
SharePoint as sole DAM	Medium	Medium-term	Evaluate and migrate to DAM platform

Format obsolescence (JPEG)	Low	Long-term	Annual format viability review
Staff turnover / knowledge loss	Low-medium	Ongoing	Document collection; designate steward
Privacy / biometric exposure	High	Before AI or ML adoption	Balance innovation (AI + ML) with safeguards that prevent these tools from misusing or exposing sensitive data

Appendix D — Proposed Metadata Schema Controlled Vocabulary

Section 4.5 above contains the core metadata schema. Here is the mentioned Controlled vocabulary seed list for Subject Tags. Whenever you are working with a metadata field it is important to standardize a subset of identifiers that are returned to over and over again. Without naming conventions metadata can travel all over the place, as we all have different ways of referring to the same thing! With that said, here is the controlled vocabulary for subject terms. Please add to it as you see fit:

Vacant Land | Green Space | Housing or House | Community Engagement | Staff Events | Report Photography | Land Development | Neighborhood Planning | Economic Development | 2030 Plan | Detroit Strategic Framework | Partnerships | Environmental Sustainability | Youth Programming | Aerial/Drone | Buildings | Civic Engagement | City Systems.

Appendix E — Annotated Resource List for Further Preservation Measures

- NDSA Levels of Digital Preservation: https://ndsa.org/publications/levels-of-digital-preservation/ — Free, practical self-assessment framework.
- Library of Congress Sustainability of Digital Formats: https://www.loc.gov/preservation/digital/formats/ — An semi- authoritative reference for format viability.
- NDSA Infrastructure &Standards Working Groups: Checking Your Digital Content: How, What and When to Check Fixity? - https://blogs.loc.gov/thesignal/files/2014/02/NDSA-Checking-your-digital-content-Draft-2-5-14.pdf?loclr=blogsig

- Digital Preservation Coalition Rapid Assessment Model (DPC RAM): https://www.dpconline.org/docs/digital-preservation/ram/3123-digital-preservation-coalition-rapid-assessment-model-v3/file — digital preservation guidance for organizations of all sizes.
- AllDup: https://alldup.de/en/alldup/description.php — Desktop tool for identifying and removing duplicate files.

Appendix F — Contact Recommendation: AVP | Digital Asset Management Consulting

A digital asset management (DAM) system requires understanding your users, your data, your organization's challenges and future needs, and clearly communicating this information to prospective vendors so that they can match their products to your needs. Learn more about the right DAM system here, or reach out to AVP for more information about DAM consulting!
→ Choosing the Right DAM System Comprehensive Checklists for Effective RFP Planning, Drafting, and Management

Appendix G — Power Automate Guide and Workflow

Introduction Guide/References for Images in PowerAutomate

While our goal was to provide a demo from our team directly, this was not possible for us to do ourselves. Instead, we have compiled a brief introductory guide that touches on key parts of the PowerAutomate workflow and searchability capabilities, and the integration into the SharePoint system. We have created this resource, accompanied with videos and further information, to provide a roadmap/demo of the product since we couldn't demo the PowerAutomate tool ourselves. Within this document, we also provide a sample workflow and a recommendation for a non-workflow required option for enhanced tagging and searchability features.

A little more complicated, but fully walked-through and explained system: AI Vision
YouTube Video from Christine Payton: How to use AI Vision on IMAGES in SharePoint with Power Automate

- Link to video here, URL here: https://www.youtube.com/watch?v=SZ5WOFYHVu4
- Link to accompanying article here, URL here: https://christine-payton.com/ai-vision-for-images-in-power-automate/

Using AI Vision (using OpenAI, Claude recommended - Azure is not recommended) is one option for creating the searchability and custom metadata fields that are needed. The video and accompanying article provide step by step instructions to setting this environment up. In short, using AI Vision harnesses PowerAutomate to parse through all images in the document library to create searchable metadata fields.

Workflow Example (from video/blog post):

- Create/choose SharePoint library
    - Add custom columns for searching (see __ document with recommendations)
- Get API key
    - Depending on what service you prefer to use, API keys can be obtained with free trails/accounts for AI services such as Claude, for example, if the organization does not already have one
- Create PowerAutomate workflow
    - Create automated or instant process (automated most likely preferred)
    - Select flow trigger (such as the creation of a file) that makes the workflow begin
- Create workflow steps
    - Get file extension
        - Separates file extensions for images only
        - see minute 6:39 within the linked video for more information.
    - API Key
        - add in Azure Key Vault, or select “Compose key”, and then click “Secure outputs” to add the API key if Azure Key Vault is not available (see minute 8:00 of the linked video for more in-depth instructions)
    - If image (file type) conditional->
        - Under “True”
            - Add a switch, get file extension/image type
        - Get file content
        - Put the image prompt in a compose action; see here for a sample prompt
        - Insert HTTP
            - Reference the blog post and youtube video for more in-depth steps, but this is completely walked through in those spots
        - Parse JSON response
        - Add update file properties action
    - Test manually the first time

Pros and Cons

Pros:

- Many online resources for image searchability and creating workflows on YouTube and within Microsoft community discussion boards and forums
- The fields are able to be visualized and seen within SharePoint
- Takes care of retroactive tagging and metadata concerns

Cons:

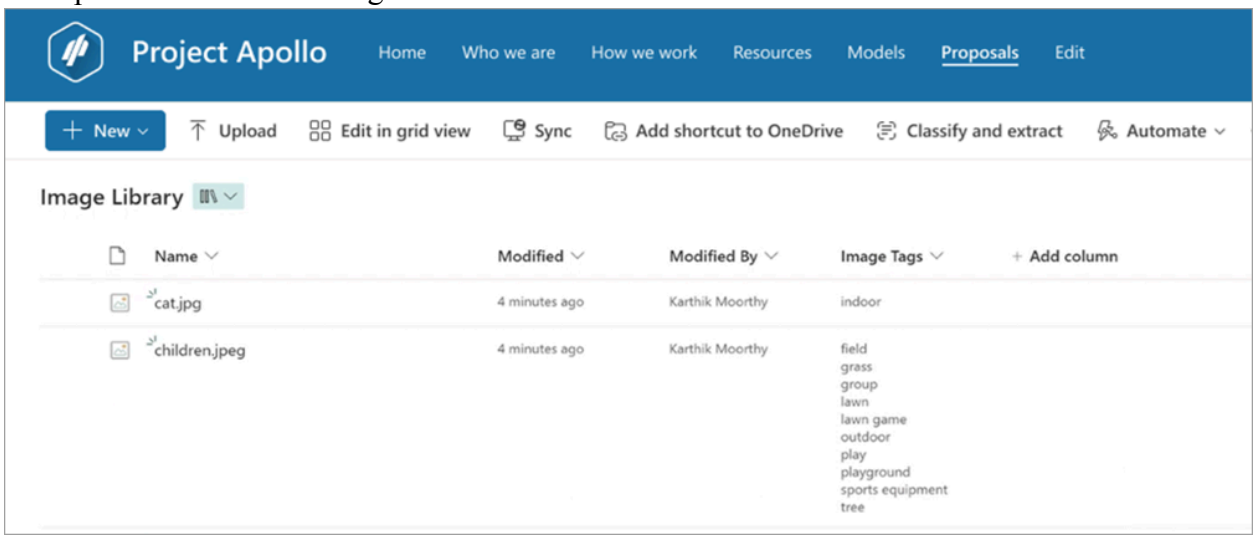
- Some coding is needed
- API keys are needed
- Can be more in-depth, time consuming, and more difficult to troubleshoot since it’s more do-it-yourself

OR: Automatic AI Image Tagging in SharePoint (Pay-as-you-go)

Find more information about this option here.

This option requires no outside AI use or needs, and is pay-as-you-go in terms of pricing (find more information about this pricing here). Instead of using PowerAutomate to create a workflow to create the metadata fields and enhance searchability, automatic image tagging within this feature creates their own tags, effectively making searching easier without any coding, workflows, or outside tools needed.

Example of the automated tags:



This option automatically creates tags that can be searched and browsed to return the items and search queries that you are specifically looking for, within SharePoint directly.

Pros and Cons

Pros:

- Similarly, there are many different videos, creator, and forums to follow that can help with troubleshooting and/or ideas from others who use the service for similar needs
- Requires less manual input and is no-code, unlike PowerAutomate

Cons:

- Only new uploads are subject to image tagging, this is not retroactive