C-CAP Digital Collections & Digital Exhibitions Environmental Scan

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Digital Collections Policy Scan

This policy scan looked at policy and contributor participation information at the Hub organizations of the Digital Public Library of America as it might pertain to Community-Centered Archives (CCAs). CCAs are defined as archives of community organizations whose mission may or may not be dedicated to cultural heritage preservation, and who represent underserved populations.

There were two methods of review: a traditional reading and coding of the documents and a text analysis of the documents using Voyant Tools.

Research questions:

- What are the most common requirements for participation in DPLA Hubs?
- What are the minimum requirements for participation in DPLA Hubs?
- What are the most common services or support options offered by DPLA Hubs?
    - Is there content aimed specifically at CCAs?
    - Is there digitization support?
    - Is there hosting support?
    - Is there metadata support?
    - Is there support for making digital exhibitions?
    - Is there financial support?
    - Is the support in the form of general resources (tutorials, videos, documentation) or is there customized, tailored support?
- Is this information provided in a way that is easy to find and understand?
    - How easy is it to find on the website?
    - How complex or technical is the language used?
    - How easy is it to contact a person for help?
    - Are there real-time trainings or other orientation sessions available?
    - Is there an avenue to contact a real person?
- How are the benefits/drawbacks of participating in a Hub presented?
    - Are they appealing & welcoming?
    - Is there content aimed specifically at CCAs?
    - What are the reasons to not participate for CCAs?

Which Hubs might accept contributions from CCAs?

There are 48 DPLA Hubs listed on the DPLA website. 33 of these are aggregators that might accept contributions from CCAs and have information available online. After the scan was performed, I discovered that 3 of these had never made or had ceased contributions to DPLA. However, because their participation policies were posted online, they are included in this scan. They are:

- Jewish Heritage Network. Has never contributed to DPLA, despite being listed as a Hub.
- Kentucky Digital Library (ceased contributions in 2017)

- Empire State Digital Network (ceased contributions in 2019)

The remaining 15 are divided as follows:

10 do not accept outside contributions
- David Rumsey
- Digital Library of Tennessee
- Harvard Library
- J. Paul Getty Trust
- Library of Congress
- National Archives and Records Administration
- New York Public Library
- Smithsonian Institution
- United States Government Publishing Office
- University of Washington

2 accept outside contributions only from libraries
- HathiTrust
- Orbis Cascade Alliance (academic libraries only)

As most CCAs are not libraries, these 2 were not included in the scan.

1 accepts outside contributions but is not currently accepting them
- Biodiversity Heritage Library

2 did not have sufficient information available online to determine whether they accept outside contributions
- Michigan Service Hub (received a 404 error)
- New Hampshire Digital Library (only a GitHub repository)

Traditional reading & coding

Methodology

I read the participation policies and requirements posted online and publicly available (without a login) of the 33 Hubs that had posted participation requirements online. In general I looked at the following types of documents:

- General introductory materials: documents with titles like “For Contributors,” “Partners,” “Getting Started,” etc.
- Collection development policies: documents specifying what types and forms of content are accepted
- Participation agreements or MOUs: documents that specify the terms of participation
- FAQs: frequently asked questions about the Hub and/or participation

To a lesser extent, I also examined:

- Metadata guidelines
- Digitization guidelines
- “How-to” documentation for specific tools, systems, or processes
- Application forms

I created a matrix of Requirements and Services to tabulate broad categories (and sometimes specific ones) of requirements for participation and services offered for organizations that participate in each Hub. While this approach creates quantifiable data, it is only an impressionistic picture. Because some Hubs provide lots of information online and others provide little to none, the tabulations should not be taken as an accurate or complete picture of all requirements and services offered. In many cases, I could not ascertain if a Hub required or offered the same thing as other Hubs simply because there wasn’t enough information. For example, just because a Hub is not indicated as “Provides digitization specs” does not mean that it does not, only that its website or publicly available documents did not indicate whether it does or not.

Another factor was that while most Hubs do not charge money for participation, some do require a membership or subscription fee, and those Hubs tended to present their information more as services to be purchased, or benefits to be gained from membership. Their presentations were more “sales-y” and often did not include as much specific information about requirements for participation.

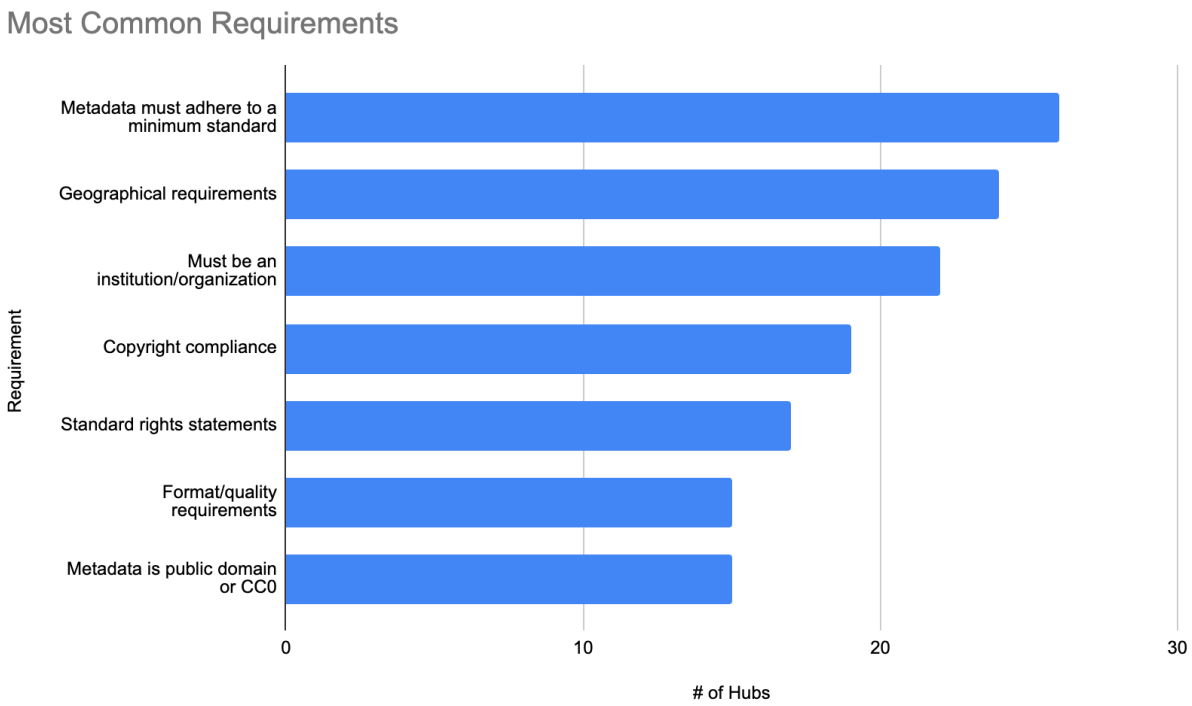
Still, I hope this approach provides a qualified overview of the most salient requirements and services offered by Hubs, and that this picture provides a general sense of the level of expertise, resources, and support that CCAs will require in order to participate.

The tabulation can be viewed here. (The PDF version includes an abridged version of the tabulation at the end.)

Requirements

Just as Hubs vary widely in the information they publish online, they also seem to vary quite a bit in their requirements for participation.

Please note that these numbers are derived from what was expressly stated in a Hub’s online documentation and may not reflect all Hubs’ actual policies or requirements.



This chart includes requirements specified by at least 45% of Hubs. More detailed analysis of each requirement appears below.

The most common requirements have to do with metadata compliance, geographical coverage, and contributor type.

- 26 (79%) require compliance with a minimum standard for metadata
- 24 (73%) require geographical constraints on content or institution (usually state or multi-state)
- 22 (67%) require contributors to be institutions or organizations (not families or individuals)
    - 11 (34%) of these imposed additional requirements on the type of organization (Most often, this was “cultural heritage” and “non-profit,” but could also be more restrictive.)
- 4 (12%) accept contributions from individuals or families

The emphasis on metadata likely reflects the ease of communicating this information online—many Hubs simply link to a PDF of their metadata guidelines. It also suggests that most Hubs have a bias in favor of cultural heritage organizations that have at least one staff member dedicated to archival organization, description, and digitization. There are a 9 Hubs[1] that provide

[1] These Hubs are: Digital Commonwealth (MA), Digital Maryland, Internet Archive Community Webs, Minnesota Digital Library, Mississippi Digital Library, Mountain West Digital Library (Idaho, Nevada, Oregon, Utah), Northwest Digital Heritage (Washington, Oregon), Portal to Texas History, and

both digitization and hosting, but like most Hubs, these generally serve a particular state or region. If an organization is not within the geographic area served by the Hub, these “soup to nuts” solutions aren’t available to them. Additional restrictions around the “type” of organization may rule out the archives of organizations whose main purpose is not preserving cultural heritage, but who may have interesting and valuable archives to share.

The small number of Hubs that accept contributions from families or individuals suggest that participation for less well-resourced organizations may be difficult. It is notable that of the 4 Hubs that accept family and individual contributions, 3 of them offer a paid option. (Only 5 Hubs offer paid options in addition to the services they provide for free.)

Also very common are requirements to do with rights & copyright:

- 19 (58%) require contributors to comply with copyright restrictions
- 17 (52%) require the use of standard Rights Statements
- 15 (45%) require that metadata be in the public domain or licensed CC0
- 12 (36%) require content to be open and public (Sometimes this meant “not behind a firewall;” other times it meant “public domain” or “shared with permission.” There is some overlap with copyright compliance here.)
- 12 (36%) require that the contributor own the originals

Although DPLA requires that all content have standard rights statements and that all metadata be in the public domain, the variance here is reflective, not only of a lack of information from some Hubs, but also the range of activities that a Hub may be involved in. For example, some Hubs, such as Connecticut Digital Archive, provide digital preservation storage for objects that are not necessarily shared with DPLA, so their general requirements do not follow the DPLA standard.

The next most common tier of requirements had mostly to do with logistical and technical concerns:

- 15 (45%) have restrictions on analog formats (newspaper, book, etc.) accepted and/or digitization quality[2]
- 13 (39%) require a “key contact” or point person
- 12 (36%) require contributors to host their own content
- 10 (30%) require notification when changes or updates are made to contributors’ content

Interesting outliers include:

- 3 (9%) require use of contributions for Hub publicity & promotion
- 3 (9%) impose a storage limit (on hosted collections)

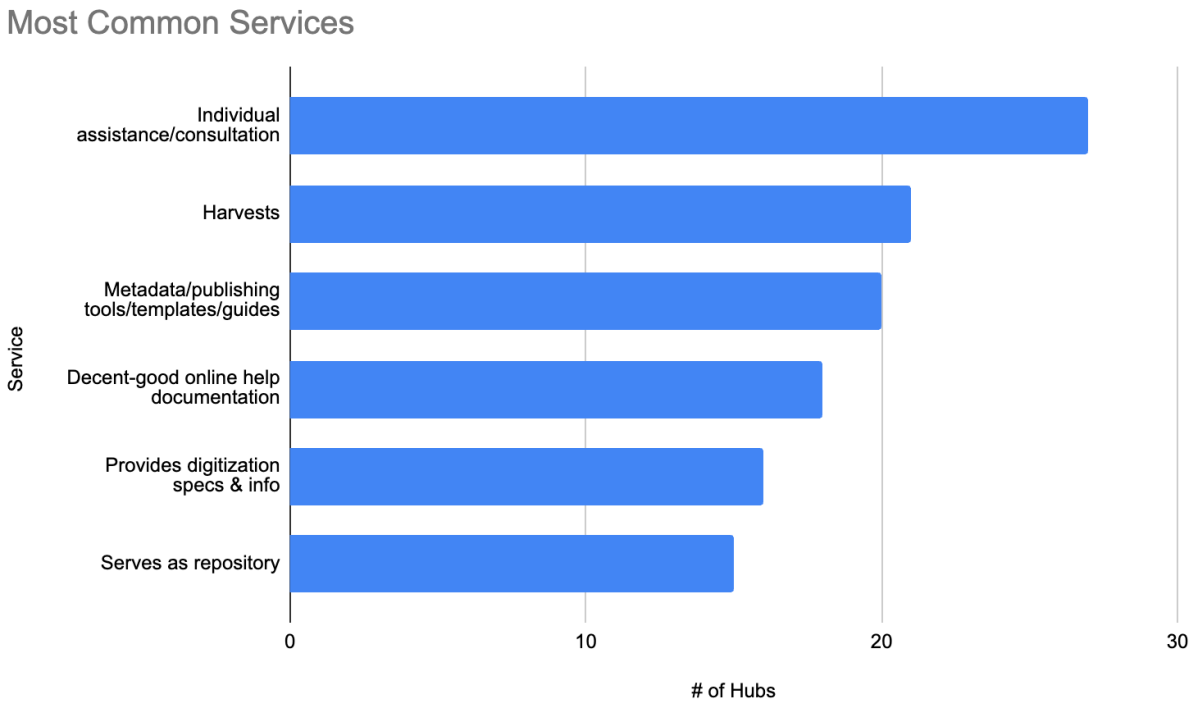
Recollection Wisconsin. Only one of them, Internet Archive Community Webs, is open to any community organization regardless of geography.

[2] I realized belatedly that these factors should probably be separate—an area for improvement.

- 2 (6%) require annual fees
- 2 (6%) require a guarantee to preserve digital masters
- 1 (3%) requires unique filenames
- 1 (3%) requires that there be no liens or other claims on the digital assets

While these requirements are rare, they do speak to the great diversity of standards required by Hubs. They are definitely not one-size-fits-all.

Services



This chart includes services specified by at least 42% of Hubs. More detailed analysis of each service appears below.

The most common services offered across the 33 Hubs are:

- 27 (82%) provide individual consultations and assistance
- 21 (64%) provide harvesting of collections, either through OAI-PMH or API
- 20 (61%) provide metadata guides, tools, or templates
- 18 (55%) provide robust online “how-to” documentation
- 16 (48%) provide digitization guidance and specs

There seems to be a widespread recognition that organizations interested in contributing to Hubs need some degree of guidance and training. However, this training often assumes a familiarity with database and digitization technology and conventions, and the content is most

often written for an audience of information professionals who are already familiar with acronyms like “API,” “OAI-PMH,” “DAMS,” etc. There are a few examples of organizations like California Digital Library and Portal to Texas History that provide more beginner-level content in more accessible language, but these organizations are among the larger ones that provide extensive online information, support, and documentation. Looking for and interpreting documentation on some of the other Hub websites can be a bewildering process for those who aren’t already familiar with the technical infrastructure and terminology that undergirds digital aggregation.

Additional services of interest to CCAs:

- 14 (42%) provide hosting
- 13 (40%) provide copyright and permissions information
- 11 (33%) provide digitization
- 10 (30%) provide a preservation repository

As mentioned in the Requirements section above, digitization and hosting services are location-dependent. CCAs located in states or regions where digitization and hosting are not offered by the local Hub will have to look elsewhere, or host their collections themselves. If they do not offer digitization services, many Hubs provide links to other digitization resources or vendors. At least 4 Hubs provide referrals to digitization programs operated by other entities or provide robust online digitization toolkits or guidance.[3]

One unusual model is Mountain West Digital Library (MWDL), which is itself a network of hosting members. It accepts Partner applications from CCAs and pairs them with a Member Repository who can digitize and host their content. Member Repositories pay fees to belong to MWDL; Partners do not, although if they require digitization they must pay for it through the Member Repository or another service.

Hubs also recognize that copyright concerns are a barrier to participation, and about half provide content or links to resources about copyright and permissions.

I was surprised to learn that 10 Hubs provide preservation repositories. A preservation repository is a long-term storage home for digital objects. These repositories are all located at Hubs that provide hosting solutions, and in at least 3 cases involve fees. Again, these services are dependent on location.

Areas that may be of interest to CCAs that are less common:

- 6 (18%) provide grants/financial support for digitization
    - 3 (9%) offer assistance that can be used in grant-writing:

[3] Hubs with robust digitization “how-to” content or referrals to vendors or digitization services include Digital Library of Georgia, Indiana Memory, Plains to Peak Collective (Colorado, Wyoming), PA Digital (Pennsylvania), Recollection Wisconsin

        - 2 offer workshops for their own digitization grant programs (Big Sky Digital Network,[4] Digital Library of Georgia)
        - 1 provides boilerplate information for grant applications to other sources of funding (Connecticut Digital Archive)
- 5 (16%) provide guidance on inclusive metadata
- 5 (16%) offer regular trainings/orientations
- 3 (9%) provide substantive information on DAMS/CMS
- 2 (6%) host exhibitions
    - 1 (3%) provides guidance on creating exhibitions
- 1 (3%) provides guidance on community engagement
- 1 (3%) provides a gap analysis for inclusivity of their collections

By offering grants or financial support to participating institutions above and beyond hosting or harvesting their collections, Hubs acknowledge there is a need to provide additional support, particularly around digitization.

The other offerings in this category are all educational. Although these materials on inclusive metadata and collections, digital asset/collection management systems, exhibition-making, and community engagement are outliers in the current landscape, they are all offerings that may be of interest to CCAs and may represent the beginnings of more robust “how-to” content provided by Hubs for their contributors.

Traditional reading & coding conclusions

In general, Hubs require that contributors have a dedicated person on staff who can provide consistent access and maintenance of metadata and digital assets. Their policies and support materials are written, for the most part, with a library or archives professional in mind. This situation suggests that CCAs who wish to participate in aggregation will have to have a dedicated person who can fulfill these responsibilities. However, most Hubs offer individual consulting and set-up assistance, so it may be that organizations with less technical and professional know-how may be able to participate.

Hub documentation also anticipates that copyright and digitization are large areas of concern for participants, although this information is not always presented in a coherent or easy-to-understand manner. Digitization services in particular are offered in several different configurations, with some Hubs providing digitization and hosting, and others providing only one or the other, often with referrals or guidance on digitization services.

Most Hubs harvest records and do not provide hosting services. Of the 15 Hubs that host content, only 9 also provide digitization. Of these, 4 also offer grants or financial support[5] for digitization, although this support must usually be applied for and is not provided to everyone.

[4] Offered through a partner foundation, The Foundation for Montana History
[5] Digital Library of Georgia, Mississippi Digital Library, Northwest Digital Heritage, Portal to Texas History

Interestingly, 2 Hubs[6] provide digitization but do not provide hosting. It seems that so-called "end-to-end" services that might be appealing to CCAs are rare, and again, come with geographic limitations.

Text analysis using Voyant Tools

In addition to the traditional "reading" methodology described above, I also analyzed the text of the available websites and documentation using Voyant Tools, "a web-based reading and analysis environment for digital texts."

Text analysis methodology & results

As mentioned in the traditional analysis above, there is a wide variety of documents publicly available online from each Hub. Some Hubs have pages and pages of documentation while others have only a few, or in 2 cases, none. I wanted to try a text analysis across all of the documents but did not want the disparities in volume to skew it in favor of one or more Hubs. In consultation with Madelynn Dickerson, I created a single text (.txt) file for each Hub and cut and pasted the relevant documents into each one. I included the text of the documents linked in the "Contributor Information" and "Policy Documents" columns of the tabulation sheet I used for the traditional analysis. These documents included general introductory information, participation policies, collection policies, and FAQs. Although they informed some of the factors assessed in the traditional analysis, I did not include more detailed training and instructional materials, as these were quite numerous and would skew the text analysis toward technical details that were specific to each Hub and not necessarily indicative of general policies, requirements, or services.

I then uploaded all 33 text files to Voyant Tools to create a "corpus" or collection of texts to analyze together.

Current Voyant Tools Corpus

Voyant Tools' presets in the "Cirrus" tool indicate the number of times each word appears in the corpus. Unsurprisingly, the top 10 words are:

Term	Count
digital	1054
metadata	874
collections	540
content	514
library	453

[6] North Carolina Digital Heritage Center, South Carolina Digital Library

dpla	413
materials	385
collection	381
public	303
institutions	263

Here is the word cloud:

The word counts in the corpus as a whole seem appropriate for their content. The documents are, after all, policies and information about digital collections and metadata. However, there are a few words that could be construed to reflect the interests of CCAs.

I searched for the root “communit*” (where the * represents a wildcard, meaning the search includes “community,” “community’s,” “communities” and “communities’”). These words appear 109 times in the entire corpus of 74,113 words. One must also consider that one of the Hubs, Internet Archive Community Webs, has “community” in its name, which is repeated throughout its materials.

I also searched for the root “accessib*” (for “accessible” and “accessibility”), which appears 67 times.

“inclusi*” for “inclusive,” “inclusion,” “inclusivity” appears 42 times.

The search for words related to CCAs, inclusion, diversity, and accessibility quickly results in very few results. The relative scarcity or absence of these words suggests that Hub content is rarely written about CCAs or with underrepresented or marginalized populations in mind.

I continued searching for terms related to CCAs in the whole corpus, and got raw counts from the “Terms” view of the “Cirrus” window. I then exported this data and pasted it into a Google Sheet, and sorted by count from highest to lowest to see which terms appeared the most.

Here are the terms I searched for, and their counts in the corpus. The terms were informed by terms I encountered during the traditional analysis:

Terms	**Search Term**	**Count**
community, community's, communities, communities’	communit*	109
society, societies	societ*	67
accessible, accessibility	accessib*	67
inclusive, inclusion, inclusivity	inclusi*	42
diversity, diverse, diversify	divers*	24
small, smaller	small*	16
	underrepresented*	8
	black	7
latinx, latina, latino, latin	latin*	6
religious, religion	religio*	5
immigration, immigrant	immig*	4
	native*	4
tribe, tribes, tribal	trib*	3
	marginalized*	3
minority, minorities	minorit*	2
equity, equitable	equit*	2
ethnic, ethnicity	ethnic*	2
sexual, sexually	sexual*	2
	misrepresented	1
	indigenous*	1
	people of color*	1

These terms do not appear very often in the corpus. The word “disab*” (for disabled, disability, disabilities) and acronyms “BIPOC” and “LGBTQ*” did not appear at all.

I then looked for those terms in individual documents in the “Trends” window, which displayed a list of documents where each term appears, ranked from the highest number to the lowest. I exported this “current data” as a tab-delimited clipboard, but for some reason it changed the Document #, decreasing it by one. I pasted this data into Google Sheets and transformed it in another column by adding “1”. Then did a VLOOKUP to get the name of the document associated with that number in the Voyant Corpus. So for each of the top 7 terms we have a ranking of the documents where each term appears the most, both in terms of raw counts and in terms of relative counts, which measure the appearance of the term in relation to the total number of terms in the document. I decided to use the relative count in the summaries below as it mitigates somewhat the differences in the amount of documentation available from each Hub.

Voyant Analysis Google Sheet (The PDF version includes an abridged version of the sheet at the end.)

communit*

Of the selected terms, “communit*” appeared the most across all the Hubs, and it appeared in the documentation of 24 of the 33 Hubs. However, one of the Hubs is called “Internet Archive Community Webs,” so the term “communit*” had a relative count there of 24285.715, nearly three times as high as the next Hub, Jewish Heritage Network (7564.2964). The next highest were:

- Artstor (5942.275)
- Connecticut Digital Archive (4583.921)
- Plains to Peaks Collective (3881.6108)
- Digital Maine (3539.823)

It is interesting that discounting Community Webs, 3 of the top 5 Hubs (Jewish Heritage Network, Artstor, and Digital Maine) had among the smallest amount of documentation, and in the case of Jewish Heritage Network and Artstor, the documentation was more general and promotional rather than instructional. While these Hubs seem more interested in appealing to CCAs, it’s hard to tell from the limited information available whether they are particularly inclusive of CCAs.

societ*

I selected this term to see if Hubs mentioned historical societies as potential partners or contributors. It was almost as widespread as “communit*,” appearing in 23 of 33 Hubs. The top 5 Hubs where this term appeared are:

- Digital Maryland
- Heartland Hub (Missouri)
- Recollection Wisconsin
- Green Mountain Digital Archive (Vermont)
- Mountain West Digital Library (Idaho, Nevada, Oregon, Utah)

However, the counts were very low, ranging from 5305.0396 (raw count of 2) to 273.89758 (raw count of 1). Notably, the term appeared 12 times in Recollection Wisconsin’s documentation, but

only achieved a relative count of 2112.3042, which reflects that Hub's large amount of documentation compared to others.

accessib*

This term was selected to see how common it was for Hubs to talk about accessibility, whether for people with disabilities or for other underserved populations. Like "communit*" and "societ*" it appears in most Hub documents (23 of 33), but its occurrence is even lower than "societ*" ranging from 2609.6033 to 168.20859. The top 5 Hubs where this term appeared are:

- Green Mountain Digital Library
- Indiana Memory
- Sunshine State Digital Network
- Northwest Digital Heritage
- Digital Library of Georgia

inclusi* and divers*

I selected these two terms to see how often Hubs discussed inclusion and diversity in their policies. As it turns out, there is a steep drop off from the first three terms discussed: "inclusi*" appears in 15 of 33 Hubs and "divers*" appears in 13. Inclusion was mentioned much more, however, with counts ranging from 6144.393 to 273.89758, in a similar range to "societ*". Diversity ranges from 2743.4841 to 213.99529, more similar to "accessib*".

The top 5 Hubs for "inclusi*" are:

- Indiana Memory
- Northwest Digital Heritage
- Digital Virginias
- Green Mountain Digital Library
- Minnesota Digital Library

The top 5 Hubs for "diversi*" are:

- District Digital (Washington, DC)
- Digital Library of Georgia
- Indiana Memory
- Northwest Digital Heritage
- Internet Archive-It (not Community Webs)

small*

Although use of this term is less conclusive because of the many different ways it can be used, I selected "small*" as a way to try to measure content aimed at or about smaller organizations. This term appeared in only 10 of the 33 Hubs with counts ranging from 3025.7185 to 168.20859. The top 5 Hubs where this term appears are:

- Jewish Heritage Network
- Internet Archive-It
- Indiana Memory

- Recollection Wisconsin
- California Digital Library

underrepresented

The last term that I selected for individual analysis was “underrepresented.” I was hoping to identify content that accommodates CCAs and/or marginalized populations. Only 4 Hubs used this term in their content, with counts ranging from 801.9246 to 547.79517. They are:

- Digital Virginias
- Internet Archive Community Webs
- Recollection Wisconsin
- North Carolina Digital Heritage Center

Readability

Another dimension of assessment provided by Voyant Tools is the “Summary” tool, which includes a “Readability” index. Voyant uses the Coleman-Liau formula to calculate the grade level at which a given text is readable. A higher “Readability” index indicates that a text is more difficult to read.

The text of Digital Maryland is the most difficult to read, with a score of 19.394, which indicates its readability requires 3 years of post-graduate work! Other high scorers are:

- Northwest Digital Heritage (17.976)
- Digital Commonwealth (Massachusetts) (17.879)
- Indiana Memory (17.658)
- Green Mountain Digital Archive (17.197)

The easiest text to read was found on OKHub with a score of 11.562, which is an 11th grade level. Other more readable Hubs are:

- North Carolina Digital Heritage Center (13.050)
- Portal to Texas History (13.129)
- Ohio Digital Network (13.194)
- Plains to Peaks Collective (13.648)

In general, these documents are aimed at a college-educated audience. While this is to be expected, given that most library and archive positions require a Master’s degree, these documents may be daunting for representatives of CCAs who may not have this specialized education and/or for whom English may be a second language.

Text analysis conclusions

While this text analysis is by no means exhaustive, a few tentative conclusions can be drawn.

First, documentation from most Hubs is focused on the core attributes of their services, represented by terms like “digital,” “metadata,” “collections,” “content,” “library,” and “DPLA.” The

prevalence of these terms suggest that Hubs are doing a good job of representing their main purpose: to aggregate digital collections and feed them to DPLA through the use of metadata.

Second, it is also clear that Hubs are, for the most part, not tailoring their information for CCAs, although some of them gesture toward greater inclusion. In the examination of terms related to CCAs, it is interesting to note that several Hubs pop up more than once:

- Digital Library of Georgia
- Green Mountain Digital Archive
- Indiana Memory
- Northwest Digital Heritage
- Recollection Wisconsin

These Hubs all include more than one of the selected terms in their documentation, suggesting that they are perhaps more aware of the need to appeal to and include a variety of partners who may be smaller organizations, CCAs, or that represent underserved populations.

However, it is also striking that none of these Hubs appear in the lowest readability levels. In fact, 3 of them (Green Mountain Digital Archive, Indiana Memory, Northwest Digital Heritage) have among the highest readability scores. This discrepancy suggests that while these Hubs may be clearer about their intentions to include CCAs, they are communicating and presenting themselves primarily to members of the library and archives profession.

General conclusions

Participation in Hubs requires quite a good deal of familiarity with the technical and metadata infrastructure of digital aggregation as well as an education in library and archives conventions and practices. CCAs that want to contribute records must have a person on staff with a minimum familiarity with metadata and digital archives in order for participation to be sustainable. Policy documents and requirements are written in fairly specialized language, and very few Hubs expressly state a mission to be inclusive and diversify the historical record.

Hubs offer vastly different levels of support, and the resources needed to participate may not be available in the region in which a CCA exists. Further study needs to be done to determine whether the Hubs that offer “end to end” solutions actually help to diversify the Hubs and by extension DPLA.

“End to end” means that the Hub provides services that take an undigitized, analog collection from digitization to inclusion in DPLA. This process includes digitization, metadata creation, and hosting of the digital assets and metadata so that they can be harvested by DPLA. Several Hubs provide pieces of this process, often in collaboration with partners. The California Digital Library includes collections from California Revealed, a state-wide initiative that provides digitization, metadata creation, and hosting. Digital Library of Georgia has a subgranting program to provide funding for digitization and metadata creation and can also host the assets. Digital Commonwealth partners with the Boston Public Library, which provides digitization, although neither service includes metadata creation. Minnesota Digital Library, Mississippi

Digital Library, and Northwest Digital Heritage provide digitization services and hosting, but metadata creation is the responsibility of the contributing organization. Mountain West Digital Library has 13 member organizations that organizations can be matched with to get their collections into a repository.

There are only 2 Hubs that appear to provide “end to end” solutions in-house, but it is unclear how much this may cost:

Digital Maryland

This Hub can provide digitization, metadata creation, and hosting, although it is unclear from their website whether there is a cost associated with any of these services.

Portal to Texas History

This Hub has four different partnership models, of which “Model 1” is an “end to end” solution: “We scan and describe your items (create metadata), and process, upload, and digitally preserve your final content.” There is typically a cost associated with this process, which may be self-funded or grant-funded. The website links to information about “Portal to Texas History Mini-Grants” but it seems the last time these were offered was in 2021.

Digital Exhibitions Literature Scan

I reviewed 114 online resources and websites associated with digital exhibition-making across 4 major subject areas:

- Best practices (36)
- Tools (35)
- Ethics (30)
- Case studies (13)

I also collected a number of resources about collaborations with students, and background information about digital archives & CCAs which might be useful in subsequent phases of this project. However, the environmental scan only includes resources in the above 4 categories.

I also focused primarily on “best practice” literature or “how-to” guides for exhibit-making. There is a decent amount of writing on philosophical and epistemological issues in curating, but I did not delve deeply into these, which are largely existential and highly theoretical. Since this inquiry is focused on providing practical and useful information, these more existential musings were less useful.

I also limited my research to resources published in the past 10 years (back to 2013, with one exception[7]). Because technology and cultural values have changed so quickly, even over the last few years, I decided that resources that were more than 10 years old would be outdated.

Digital Exhibitions Bibliography (The PDF version includes the bibliography at the end.)

Background Context

This study joins and builds upon several other initiatives that seek to better understand and analyze the landscape surrounding CCAs. These include the national studies: “Diversifying the Digital Historical Record,” (2017) from Michelle Caswell and Bergis Jules, and funded by the Institute of Museum and Library Studies, “Small & Diverse Archival Organization Needs Assessment Project” (2020) from Lyrasis, and “Needs Assessment to Identify Hidden Collections Documenting America’s Diverse Culture and History” (2021) from Shift Collective, both funded by National Historic Publications & Records Commission (NHPRC) grants. Shift Collective is currently involved in “Modeling Sustainable Futures: Exploring Decentralized Digital Storage for Community-Based Archives,” a three year collaborative research and development project supported by Filecoin Foundation for the Decentralized Web.

These studies all identified a lack or shortage of technical resources and know-how as a significant barrier for CCAs seeking to share their collections online. They all advocate for funding in support of digitization, digital preservation, storage infrastructure (including server space and software), and related training for CCAs. There is also a need for support for providing access to collections in the form of finding aid and metadata creation and sharing.

[7] Scheinfeldt (2010)

Given these circumstances, creating a digital exhibition may be a stretch for many CCAs.

Methodology

I followed the strategy outlined in the Research Strategy document to search for, identify, and narrow down the resources. I began with searching scholarly databases for relevant resources using keywords selected in collaboration with the C-CAP team. I then proceeded to use these same keywords in general Web searches and on professional listservs to find resources that might be more casual or journalistic in nature. The search process in both cases was cyclical, and required trial and error. As I became more familiar with the available resources, I was able to refine my searching in more productive directions. Scholarly articles and books were the most fruitful sources; Web searches were quite "dirty" in their mix of resources, some of which were of dubious quality or commercially motivated, and listservs were the least productive due to difficulties and inconsistencies in search tools for these email archives.

I began my search identifying many, many case studies that seemed relevant, but upon further investigation turned out not to be very relevant to CCAs. For example, the article titled "Community-led digital exhibits service at the Edmonton Public Library: Research and consultation"[8] initially looked promising but turned out to be about digital exhibits for a touchscreen interface in the library. Although it contained information about how an institution might collaborate with its communities, these insights were focused on positioning the institution as a technical lead in complex, interactive projects inspired by game design. Like much of the museum-related content examined for this study, these gamified or immersive interfaces may be beyond the budget and technical capabilities of many CCAs. Another article, "Keeping up with best practices: Library exhibitions at a university library in a small island developing state"[9] despite being published in 2019, focused only on physical exhibitions.

I then turned my focus to looking specifically for "best practice" content, or articles and books that offered more concrete "how-to" information and guidelines, as these will be more useful for creating a toolkit. From there, I looked specifically at content that suggested or reviewed digital tools used for exhibition-making, and finally searched for articles and resources related to the broad category of "ethics" in exhibition-making, which I further narrowed to looking at guidelines for creating exhibitions that have a social justice component or aim.

I stopped searching once my search strategy started to turn up the same results over and over, which indicated that even if I used synonyms, I had more or less exhausted the available results. At that point, I reviewed the list of citations in each category and identified the ones that seemed most relevant. I then read the abstracts and conclusions of these documents, skimmed

[8] Zvyagintseva, L. (2017). Community-led digital exhibits service at the edmonton public library: Research and consultation. Partnership, 12(2), 1-24. https://doi.org/10.21083/Dartnersh¡D.v12i2.3957
[9] Jones-Edman, G., Lewis, J. C., & Worrell-Johnson, B. (2019). Keeping up with best practices: Library exhibitions at a university library in a small island developing state. Alexandria (Aldershot), 29(1-2), 59-76. https://doi.org/10.1177/0955749019876118

the body copy, and took notes or recorded important quotations. This environmental scan is based on these observations.

Research Questions:

- What are the common types of digital exhibitions?
- What resources and time is required to create a digital exhibition?
- What are current best practices/recommendations for creating digital exhibitions?
    - Do these resources include ethical/social justice considerations? What are they?
    - Do these resources include tool recommendations or matrices & criteria for tool selection? What are they?
- What are current best practices/recommendations for sustaining and preserving digital exhibitions?
- Are there resources targeted at CCAs specifically?
- What low/no cost tools are available?
    - How easy are these tools to use?
    - Are these tools accessible to non-technical audiences?
    - What are the barriers to tool use/adoption?
- What are some case studies of digital exhibitions created by CCAs?
    - Are there common features among these cases?
    - Are there common learnings?
- What are the barriers CCAs experience in creating digital exhibitions?

A gap in the literature

I did not find any literature that addresses how to make a digital exhibition by CCAs. There is plenty of literature about how to make a digital exhibition, but it is largely from the perspective of mainstream institutions (academic & museum) and tends to focus on technology solutions, design, and assessment.[10] There is also a fair amount of literature about CCAs and digital archives that does not address exhibitions.[11] And there are resources about collaborations between CCAs or community members and larger institutions, but only a handful of case studies that involve creating an exhibition or digital humanities project.[12] Finally, there is a large body of literature about exhibition making in general and the ethical considerations around it, but it is largely focused on physical exhibitions in a museum space. I found only 11 resources that addressed ethical issues in digital exhibition making specifically.[13]

My research exposed a gap in resources aimed specifically at providing support for CCAs who want to make digital exhibitions. This gap may simply reflect a lack of resources, but it could also be due to other factors:

[10] See the “Best Practices” section of the Bibliography.
[11] I did not examine much of this literature and only a few examples are cited in the “Background” section of the Bibliography.
[12] See the “Case Studies” section of the Bibliography.
[13] See the “Ethics, Accessibility & Copyright - Digital Exhibitions” section of the Bibliography.

- My search terms were not sufficient. It may be that content about what we are calling “community” archives is not indexed or described using that term. Perhaps content about what we consider “community-based/centered/driven” archives is only classed that way from the perspective of mainstream archival traditions in which I have been educated. Additionally, “exhibitions” or “exhibits” may not be described as such. Many “digital humanities” projects that involve mapping, timelines, and other data visualizations might also be considered “exhibits” but aren’t necessarily described that way.
- Exhibitions created by CCAs are not documented in a way that is legible outside the communities they serve, or they may not have been documented at all. The lack of information about their exhibition practices may continue to reflect the general lack of awareness and support for their missions in the library, archives, and museum worlds.
- Exhibitions created by CCAs are not documented in English. My research is limited to the English language. I did find a few resources that looked relevant in German and Italian, but I wasn’t able to access them in a meaningful way.

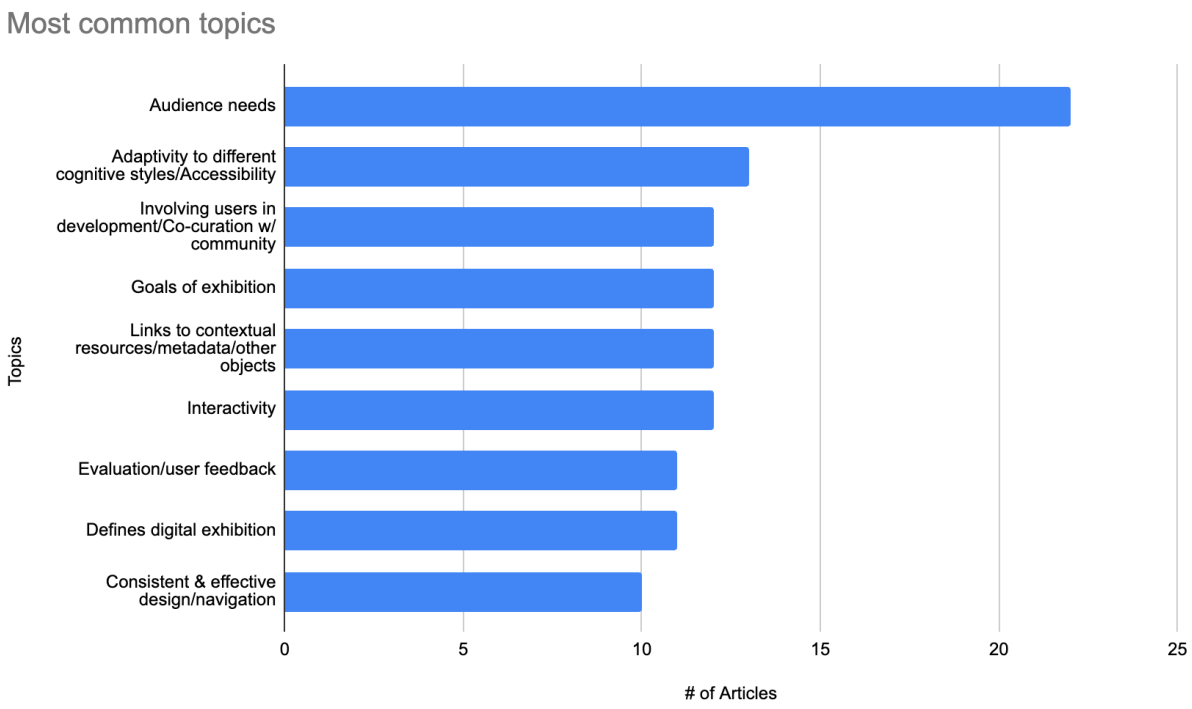
Still, given these caveats, the C-CAP guide to digital exhibit-making for CCAs will likely require consolidating information from three separate domains:

- best practices in the planning, technology, and design of digital exhibitions,
- the ethics & philosophy of museum exhibition-making generally, and
- the specific needs of CCAs

This environmental scan focuses on the first two; I hope to uncover the needs of CCAs in the survey and interview phases of this project.

Best practices

Of the 36 “best practice” resources I found, I was able to survey and take notes on 33 of them. (The remaining 4 are videos that looked useful but were too time consuming to summarize.) Of these, 3 dealt with library exhibitions, 4 dealt with archival exhibitions, 6 did not specify a domain, and 20 were about museum exhibitions. Unsurprisingly, the largest amount of exhibition-related material comes from the museum domain.



This chart includes topics mentioned by 10 or more (30%) best practice articles.

I created a matrix of 35 topics discussed in these resources. The most common aspects of digital exhibitions discussed are:

1. Consideration of audience needs (22, 67%)
   Considering the information and educational needs of the audience you are trying to reach.

2. Adaptivity to different cognitive styles/Accessibility (13, 39%)
   Using technology and communication strategies that accommodate multiple modes of learning, perception, and interaction.

3. Involving users in exhibition development/Co-curation (12, 36%)
   Runs the gamut from letting users customize their experience of an online exhibit to inviting community members to participate in the development of an exhibition.

4. Consideration of exhibition goals (12, 36%)
   Clearly conceiving and stating the desired impact and outcomes of the exhibition.

5. Linking to contextual/related information or objects (12, 36%)
   Using hyperlinks and other forms of digital juxtaposition to provide additional context, metadata, and related information to the objects in the exhibition.

6. Interactivity (12, 36%)

The exhibit has features that encourage engagement, such as zooming and panning across an image, creating personal collections of objects, or customizing one's path through the exhibition.

7. Evaluation/user feedback (11, 33%)
   Exhibitions should have a mechanism to solicit and collect feedback from visitors, as well as technological analytics, such as number of visits and length of stay.

8. Definition of a "digital exhibition" (11, 33%)
   The resource defined the differences between physical and digital exhibitions, and that it is important to design exhibitions differently for each.

9. Consistent and effective design/navigation (10, 30%)
   Exhibitions should have design and navigation that is clear, easy to understand and use.

Because these are "best practice" resources that make recommendations for exhibition-making, these top 9 topics can be seen as a broad consensus around the most important aspects of digital exhibition-making.

See the full tabulation here. (The PDF version includes an abridged version of the tabulation at the end.)

"Types" of digital exhibitions

There is a lot of activity in the museum space around "virtual" exhibitions, meaning exhibitions that attempt to reproduce the experience of walking through a physical museum or gallery space. While a lot of the literature is about these efforts, I did not spend a lot of time with it, as the articles I did review noted that it is quite time intensive and often expensive, and requires a fair amount of technical expertise to implement. As most CCAs probably do not have these resources at their disposal, I did not delve deeply into tools, approaches, or workflows for these types of exhibitions. That does not mean they are inappropriate for community-centered archives. I found a couple of examples[14] of the use of virtual, "3D" technologies that were oriented around community priorities (rather than institutional ones) but these were funded and organized by academic institutions and museums working with communities and it is unclear if the communities themselves would be able to initiate similar projects or sustain them.

Beyond the prohibitive expense of VR/3D exhibitions, there is also a significant body of literature that critiques their effectiveness, noting that they do a poor job of reproducing the experience of visiting a museum and do not take advantage of the non-linear possibilities of digital and online culture.[15]

[14] Gavrilova (2016), Were (2015)
[15] Bertrand (2022), Connor (2020), Copplestone (2017), England (2016), Hoffman (2020), King (2021), Wasielewski (2022)

In general there are two main formats of digital exhibition: ones that attempt to reproduce the experience of navigating a physical space, and those that are designed more like websites, with combinations of text, images, and audiovisual components interlinked in linear and non-linear ways.

ARLIS/NA (2021) further identifies 3 types of digital exhibitions:

1. Standalone: Exhibition does not have a physical counterpart.

2. Supplemental to a physical exhibition: Exhibition provides additional information to what is available in the physical space, whether online or via touchscreen or other interactive technologies, such as VR or AR.

3. Digital surrogate for a physical exhibition: Exhibition is a digital version of the physical exhibition, with the same objects and information.

Although the ARLIS/NA resource is written about library exhibitions, it is telling that these 3 "types" align with the way in which museums typically think of digital exhibitions as supplements or surrogates for physical exhibitions.

Ethics & social justice

Although there was broad consensus about centering the audience and possibly involving them in the development of digital exhibitions, as well as providing equitable access regardless of cognitive or physical disabilities, only 3 of these "best practice" guides included any mention of diversity, equity, and inclusion or social justice concerns, and only 5 mentioned cultural sensitivity and the provision of content alerts for potentially harmful content.[16] The ARLIS/NA (2021) guide includes a section specifically on "DEAI" concerns, as does Piacente (2022) in the museum space. Franks (2021) includes a section on "Decolonization" of the archives, although it is separate from their guidance on digital exhibits. These resources are all recent, and most best practice guides are more concerned with the process and technology of digital exhibitions than they are with the ethical dimensions of exhibit-making.

The "Ethics" section of the bibliography contains resources that address ethical and community issues in digital exhibition-making.

While not a study of digital exhibitions specifically, Liew (2022) surveys select digital projects that "feature participatory cultural heritage practices." Digital exhibitions are just one method of sharing and engaging communities on a spectrum; indeed, they are on the more "didactic" end of a trend that is moving towards more "dialogic" methods. They note that, "The use of digitally-mediated approaches to engage communities in their local heritage can lead to positive outcomes for communities at risk of marginalisation [sic] and exclusion." They conclude,

[16] ARLIS/NA (2021), Bertrand (2022), Denzer (2015), Piacente (2022), Serrell (2015)

however, that for these efforts to be sustainable, more opportunities for professional training and assistance are needed, as is more stable financial support.

Four of the 11 resources in the “Ethics, Accessibility & Copyright - Digital Exhibitions” section of the Bibliography are concerned with accessibility for people with disabilities.[17] They emphasize the need to involve people with disabilities in the creation and design of exhibits (Ikeda, 2022), advocate crowdsourcing of visual descriptions for people with vision impairments (Kwon, 2022), encourage additional education in accessible Web conventions for staff (Massie, 2019), and call for less expensive and more flexible solutions for accessible digital exhibits (Partarakis, 2016).

Several resources from the “Case Studies” section of the bibliography also mention the transformative power of the digital exhibition’s ability to juxtapose and compare disparate content. Aljoe (2015) and Srinivasan (2018) both note that digital exhibitions allow for new contextualization of content and/or the emergence of divergent accounts and remembrances of history that invite marginalized voices into the construction and understanding of history. They both describe exhibition systems that also invite audience or user participation to construct and contribute to these narratives. However, Pauls (2021) notes that digital exhibitions are not inherently democratizing, describing how “virtual war exhibitions, which attempt to create space for marginalized identities, may inadvertently reinforce hegemonic understandings of Canadian identity.” Bertrand (2022) and Kidd (2019) both call attention to the phenomenon of co-curating with “computational processes” where computer programs create “sets” of items based on attributes such as color that may differ from common curatorial categories. While Bertrand celebrates the serendipity of this process, Kidd fears it may foreclose the possibility of other user-generated combinations.

Ramey (2019), in the only non-academic account of a digital humanities exhibition I found, describes how they purposely broke with sanitized academic accounts of lynching in the U.S. to create an “ethical data visualization of historical trauma,” center the voices of people of color leaders, and acknowledge the erasure of women both in the historical record and in its construction. Interestingly, Yeh (2016) relates how the partnership between a community history organization and a university simultaneously gave Filipino American oral history subjects a sense of control over their own narratives and lent legitimacy to their stories.

Although several museum resources dealt only with physical exhibitions, they still offered some useful guidance. Goff (2019) provides a detailed guide on the ethics and cultural sensitivities of working with Native communities in the U.S. These echo the exhortations above to center marginalized voices, and encourage establishing lasting mutual relationships, respect and compensation for Native experts, and incorporating different cultural values and communication styles. They also note the need to respect the fact that some knowledge isn’t meant to be shared outside of certain communities. In the same vein, Benetua (2018) and Osorio Sunnucks (2022) offer guides for collaborative exhibition development, the former on exhibitions that address a “community issue,” and the latter in response to a summit on the problematic representation of the Amazon in a European exhibition. Both emphasize the importance of

[17] Ikeda (2022), Kwon (2022), Massie (2019), Partarakis (2016)

relationship-building, consensus, and sharing authority/authorship, acknowledging that such projects require substantial time, flexibility, and resources.

Sustainability & preservation

Long-term sustainability and preservation of digital exhibitions was not a common theme in the best practice literature. Only 4 resources suggest regular review of exhibitions to assess currency and updating[18], and only 5 mention long-term preservation[19] as part of the lifecycle of exhibitions. It seems not much thought has been given to the longevity of digital exhibitions, which have the potential to remain available much longer than physical exhibitions typically remain open. The lack of emphasis on preservation may have to do with the exhibition cycle at museums, where digital exhibitions are often supplements or surrogates for physical ones that are only on view for a short time.

Exhibitions vs. collections

The lack of literature supporting CCAs in digital exhibition making could be a sign of a need, or it could be a sign that CCAs as a group aren't visible enough in the digital collections landscape. It is likely that community organizations need help simply getting things digitized and online, or with basic physical storage and organization, and haven't had the time to think about creating exhibitions. But it is also no doubt true that the people who have the bandwidth and motivation to publish content about digital exhibition-making (academics and museum folks) work for larger institutions and address their content to audiences who are like them.

One salient aspect of this research project is in defining the difference between an exhibition and a collection. Although they may appear in very similar interfaces and formats, the literature is very clear that an exhibition is a proposition and makes an argument, whereas a digital collection is an accounting of the things in the collection. What is collected is of course never neutral, but a collection is not explicitly setting out to make a specific argument or elicit a response. Further, exhibitions, especially those with a social justice agenda, are designed to elicit empathy and inspire action. This is a very different aim from simply sharing the contents of one's archive online.[20]

However, some resources suggest that exhibition-making can be a way to showcase holdings in a more "lightweight" way that is more immediate, gratifying, and public-facing than the potentially long, arduous and expensive process of digitizing large amounts of material, creating metadata, and setting up a collection management or digital asset management system. Massie (2019) cites DPLA's "primary source sets" as one way to introduce user curation. (Yeo, 2014) advocates the use of blogging software to create an exhibition, and several others included WordPress and other no-coding-required website-creation tools as potential exhibition

[18] ARLIS/NA (2021), Denzer (2015), Dumitrescu (2014), Kahn (2014)
[19] Carreras (2014), Dekker (2019), Denzer (2015), Marsh (2023), Piacente (2022)
[20] Benetua (2018), Narlock (2022), Newton Gresham (undated)

platforms.[21] None of the resources I examined provided guidance for creating exhibitions from existing collections, like Calisphere, that were not owned or controlled by the organizing institution. This is an area for future research.

Operational & financial support

Six resources acknowledge that good financial management is required to create virtual and online exhibits.[22] A few suggest "low-budget" solutions in the form of free, or open source software and hosting.[23] Koslow (2019) and Zvyagintseva (2017) note that museum and library staff are generally not trained to develop and maintain online exhibitions, and Huang (2022) notes that post-pandemic, museum staff are not technologically skilled enough to make effective online exhibitions (referring mainly to VR solutions), and are further limited by pandemic-induced financial constraints and lack of support for technology at the institutional level. If well-funded museums cannot "skill up" to create effective online exhibitions, under-resourced CCAs will likely struggle even more to do so.

There also seems to be a gap between the desires of cultural heritage and academic professionals to support CCAs with technological solutions, and the infrastructure to support those solutions once/if they are transferred to community control. There are several case studies in which academic institutions and/or museums have partnered with community-based organizations to create digital exhibitions and/or artifacts. Tellingly, the articles about these collaborations do not relate how the exhibitions fare once they are no longer supported by the larger institution or funding.[24]

None of the resources specified exactly how long it takes to plan and create a digital exhibition, as it depends on numerous factors, such as staff time allocated, technological solutions employed, budget, and availability of objects and research materials. ARLIS/NA (2021) stressed the importance of planning and establishing a timeline, including time for proper documentation in the form of writing labels and a catalog essay. Chee Koon (2014) noted that digital exhibitions have a shorter time frame than physical ones, which can take years to plan and assemble. Braun (2017) advises to set clear time limits early on for research and other tasks and to not be overly ambitious. They also note that spending time to properly document exhibitions makes the process go more smoothly. In general, at a minimum, several months should be allocated to plan and create an online exhibition.

Tools

Under-resourced community organizations not affiliated with an academic research institution or museum remain dependent on tools that are freely available, easy to use, and do not require

[21] Boczar (2021), Digital Library Federation (undated), Iowa State University (undated), Tricollege Libraries (undated), University at Buffalo (undated)
[22] ARLIS/NA (2021), Hoffman (2020), Howgill (2015), Huang (2022), Jordan Schnitzer Museum of Art (undated), Piacente (2022).
[23] Almurbati (2021), Open Education Database (undated), Rath (2016), Yeo (2014)
[24] Gavrilova (2016), Kong (2021), Were (2015)

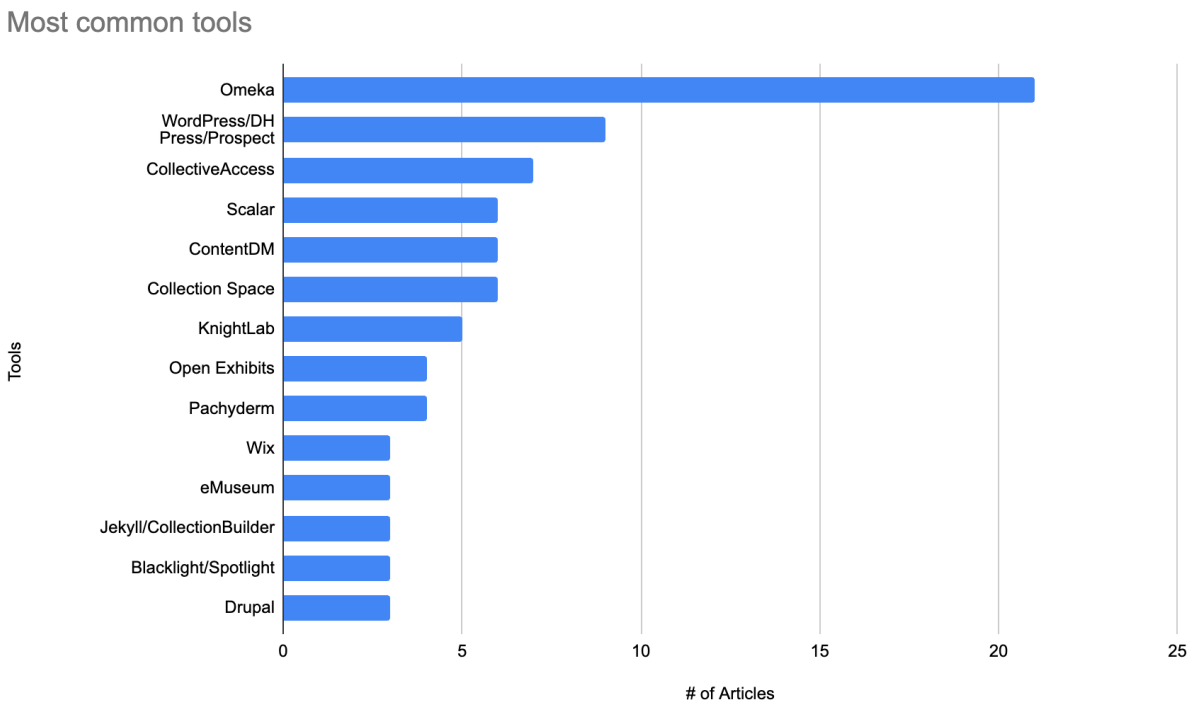
much technical expertise or support. This relationship to technology is not sustainable. In addition to the “best practice” resources described above, I surveyed 35 resources about digital exhibition tools, and counted 62 different tools in use over a 10-year period. This is a large number of tools that were at some point written about or recommended, many of which are no longer available or supported. Because technology trends and support for various tools changes so quickly, using only free or easy-to-use technologies of the moment could leave CCAs vulnerable to obsolescence.

That said, there is current agreement on the primacy of the open-source Omeka for creating online exhibitions. 21 (60%) of the 35 resources surveyed mentioned Omeka, and there are 6 resources dedicated solely to discussing its use for exhibitions.[25] As a popular, open source solution, Omeka seems like a good option for CCAs, although Rath (2016) notes that it may be “too robust for laypersons or non-information professionals to administer.”

Other tools that received more than 1 or 2 mentions are:

- WordPress/DH Press/Prospect (9, 26%) - free/paid
- CollectiveAccess (7, 20%) - free
- Scalar (6, 17%) - free
- ContentDM (6, 17%) - paid
- CollectionSpace (6, 17%) - free
- KnightLab products (5, 14%) - free
- OpenExhibits (4, 11%) - free/paid
- Pachyderm (4, 11%) - paid
- Drupal (3, 9%) - free
- Jekyll/CollectionBuilder (3, 9%) - free
- Blacklight/Spotlight (3, 9%) - free
- Wix (3, 9%) - free/paid
- eMuseum (3, 9%) - paid

[25] Chia (2022), Comunita (2021), Dartmouth Library (undated), Hardesty (2014), Ioannides (2018), Marsh (2017), Norton (2019), Posner (2016), Rath (2016), Scheinfeldt (2010)



This chart includes tools with 3 or more mentions (9%) in the 35 articles reviewed.

Ease of use/barriers

In general, “ease of use” among digital exhibition tools is relative. Most resources point to blogging and website creation tools such as WordPress as the easiest to use with the lowest barriers to entry. Mullins (2020) notes that the easiest tools to use have a “drag and drop” graphic user interface, accessible and pleasing design features, and provide clear and extensive documentation, such as tutorials and templates. Yet, even with these features, they admit that the current tool landscape favors professional researchers and digital curators who already have some expertise in using digital tools.

While Mullins reviewed software intended for archival collections, Yeo (2014) champions blogging software, which they characterize as good for beginners and as an excellent solution for online exhibition. As long as assets are already digitized, they estimate it takes only 2-3 hours to create a professional-looking online gallery. Almurbati (2021) and Kotis (2020) go a step further advocating the use of social media as an exhibition platform, mentioning its ease of use, cost-effectiveness, and built-in potential for interactivity. These solutions are free or low-cost and readily available to CCAs, but raise questions about integration with collection databases and sustainability as different blogging platforms and social media come in and out of vogue.

Case Studies

Although I have woven research from the case studies I found throughout this document, it is notable that I found no case studies that focused on a CCA making a digital exhibition without partnering with an academic or museum institution.

I found 1 case study (Ashton, 2021) about a collaboration between an artist and a community group, the Tiananmen Mothers, to create an exhibition commemorating the 30th anniversary of the Tiananmen Square Massacre and advocating for justice for the victims and survivors. However, the exhibition was a physical exhibition, not a digital one. There are likely other case studies of this type, but I did not pursue them unless they addressed digital exhibitions specifically.

I found 1 case study (Ramey, 2019) about a digital exhibition/data visualization created by a non-academic individual using archival records from the Tuskegee University Libraries and their own research. That individual operates a digital design studio and was already conversant with digital tools and technologies, but learned (and questioned) archival and historical conventions in the process.

I found several case studies of exhibitions created by academic institutions or museums collaborating with CCAs.[26] These were all written from the perspective of the institutions and while they provide useful lessons learned, the experiences of the CCAs are largely provided as second-hand accounts.

This dearth of resources probably reflects the fact that those incentivized to write about these exhibitions are academics and curators. Yeh (2016) states that one of the hurdles to collaborating with CCAs is uncertainty as to whether the work will count toward tenure.

Conclusions

In general, CCAs who want to participate in digital aggregation and create digital exhibitions face a patchwork of resources and best practices that are geared largely toward information professionals and technologists. A CCA must know where to look across multiple domains (libraries, archives, museums) to find information relevant to them. There is no one resource or group of resources that provides solutions for digitizing, describing, hosting, sharing, curating, contextualizing, and exhibiting cultural heritage artifacts generated and stewarded by CCAs.

When it comes to digital aggregation, there are no easy solutions—the inner workings of digital asset systems and metadata are complex and require some professional know-how to navigate. While some Hubs are more transparent about this process than others, it's unclear whether more information leads to greater participation, or if it just makes the whole thing seem too complicated and daunting. Although language about and aimed at CCAs is starting to find its

[26] Ayson Plank (2022), Goff (2019), Kong (2021), Yeh (2016)

way into Hub documentation, it is not widespread. Also unclear is the extent of individualized consulting that each Hub provides, and whether these consultations mitigate the technical hurdles necessary to participate. This is an area that the interview and survey portions of this study will address.

As for digital exhibitions, this scan suggests at a minimum two paths for CCAs: collaboration with a larger institution to take advantage of their technological, staff, and financial resources, or low-cost, do-it-yourself Web publishing solutions that offer quicker results but may not be sustainable for the long-term. The former offers a greater range of tools and reach, but requires more time, compromise, and shared control/authorship. The latter offers ease-of-use and control, but may not create a lasting product. However, as Michele Caswell has written, "communities can decide for themselves the desirability of preservation of interventions based on their own needs, uses, and conception of records. Not every record is meant to be kept, nor kept indefinitely."[27] Although they offer the possibility of living in perpetuity online, digital exhibitions may more closely resemble physical ones and disappear, as long as that aligns with the needs and interests of the CCAs who create them.

This flexibility around the preservation of digital exhibits has also been echoed on the institutional side. In a recent post on the Project Managers listserv of the Digital Library Federation, Megan A. Oliver, Head of Digital Projects, University of Missouri Kansas City Libraries, wrote: "I'm crafting language around sunsetting and digitally archiving exhibits, as they are frequently (mis)thought of as permanent, when no physical exhibit is. I find this fallacy to be most prevalent in the minds of humanities faculty, administrators and directors, none of whom are doing the actual work of maintenance when a site breaks or gets hacked and are not truly aware (or sometimes even remotely interested) in the cost of staff time and expertise involved in creating this type of digital learning space."[28]

The inclusion of ethical and community-oriented concerns in more recent best practice guides, suggests a growing awareness of and respect for the needs of marginalized communities in this space. It also seems that this move toward greater openness and flexibility may provide benefits to institutions. If the goal is to diversify and even the playing field of digital collections and exhibitions by providing access and control to currently marginalized communities, it's clear that Hubs, academic institutions and museums can do more to facilitate collaboration with and access for CCAs, and that they must have the leeway and resources to do so. Determining what they should do and how they should do it is the intent of the next portion of this study.

[27] Caswell, M. (2021). *Urgent Archives: Enacting liberatory memory work.* London and New York: Routledge. p. 96

[28] Oliver, M. A. (2023, January 24). Re: Digital Exhibits question. Retrieved June 26, 2023 from the listserv: DLF-PM-GROUP@LISTS.CLIR.ORG.

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	3	1	22	4	12	3	13	10	2	11	4	24	9
		Requirements for CCAs												
Hubs *Member Hub	**Accepts CCA contributions?**	**Non-exclusive**	**Must provide content summary**	**Must be an institution/organization**	**Can be an individual**	**Must host content**	**Must respond to inquiries**	**Must maintain a key contact/staff**	**Must notify about changes/updates**	**Must maintain secure logins**	**Org type requirements**	**Subject area requirements**	**Geographical requirements**	**Historical/cultural/artistic/educational worth**
ARTstor	Y	x	x		x									
Big Sky Country Digital Network (Montana, North Dakota)	Y			x								x		x
Biodiversity Heritage Library	N													
California Digital Library	Y			x		x	x	x	x	x			x	
Connecticut Digital Archive*	Y	x			x			x	x				x	
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y			x									x	x
Digital Library of Georgia*	Y												x	x
Digital Library of Tennessee	N													
Digital Maine*	Y												x	
Digital Maryland	Y												x	x
Digital Virginias* (Virginia/West Virginia)	Y			x		x					x		x	x
District Digital* (Washington, DC)	Y													
Empire State Digital Network	Y					x		x						
Green Mountain Digital Archive (Vermont)*	Y			x		x			x				x	
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y			x		x		x	x				x	
Indiana Memory*	Y			x									x	
Internet Archive* (Archive-It)	Y			x										
Internet Archive Community Webs*	Y			x							x			
Jewish Heritage Network Hub*	Y				x									
J. Paul Getty Trust	N													
Kentucky Digital Library	Y			x				x		x			x	
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y			x							x	x	x	x
Mississippi Digital Library	Y			x							x		x	
Heartland Hub* (formerly MissouriHub)	Y					x								
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y			x					x				x	x
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y			x		x		x			x		x	
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y	x		x		x	x	x	x		x		x	
Northwest Digital Heritage * (Washington, Oregon)	Y			x				x	x			x	x	
Ohio Digital Network*	Y			x				x			x		x	
OKHub*	Y					x		x						
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y			x		x		x					x	
Plains to Peaks Collective* (Colorado/Wyoming)	Y			x		x		x	x		x	x	x	
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y				x						x		x	
Recollection Wisconsin*	Y			x			x		x		x		x	x
Smithsonian Institution*	N													
South Carolina Digital Library	Y			x							x		x	x
Sunshine State Digital Network* (Florida)	Y			x		x		x	x				x	
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	5	15	3	1	1	0	4	9	26	15	1	19	17
Hubs *Member Hub	**Accepts CCA contributions?**	**Not duplicated elsewhere**	**Format/quality requirements**	**Storage limit (free)**	**Minimum number of items**	**Maximum number of items**	**Unwatermarked**	**Current/valid file formats**	**Must have thumbnail URL**	**Metadata must adhere to a minimum standard**	**Metadata is public domain or CC0**	**Transcript required**	**Copyright compliance**	**Standard rights statements**
ARTstor	Y		x											
Big Sky Country Digital Network (Montana, North Dakota)	Y				x			x		x			x	x
Biodiversity Heritage Library	N													
California Digital Library	Y							x		x	x		x	x
Connecticut Digital Archive*	Y			x						x			x	x
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y					x		x		x			x	
Digital Library of Georgia*	Y	x		x						x			x	
Digital Library of Tennessee	N													
Digital Maine*	Y													
Digital Maryland	Y	x											x	
Digital Virginias* (Virginia/West Virginia)	Y		x							x				x
District Digital* (Washington, DC)	Y									x	x			
Empire State Digital Network	Y									x	x			x
Green Mountain Digital Archive (Vermont)*	Y		x						x	x	x		x	x
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y		x						x	x				x
Indiana Memory*	Y	x	x							x				x
Internet Archive* (Archive-It)	Y													
Internet Archive Community Webs*	Y													
Jewish Heritage Network Hub*	Y													
J. Paul Getty Trust	N													
Kentucky Digital Library	Y			x						x			x	
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y	x	x							x		x	x	
Mississippi Digital Library	Y							x		x			x	x
Heartland Hub* (formerly MissouriHub)	Y								x	x	x		x	x
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y									x			x	
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y		x						x	x	x		x	x
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y		x							x	x			
Northwest Digital Heritage * (Washington, Oregon)	Y		x						x	x	x		x	x
Ohio Digital Network*	Y		x							x	x			x
OKHub*	Y								x	x				x
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y								x	x	x			x
Plains to Peaks Collective* (Colorado/Wyoming)	Y		x						x	x	x		x	x
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y		x							x	x		x	
Recollection Wisconsin*	Y		x							x	x		x	x
Smithsonian Institution*	N													
South Carolina Digital Library	Y	x	x								x		x	
Sunshine State Digital Network* (Florida)	Y		x						x	x	x		x	
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	12	1	12	4	3	1	1	2	1	2	2	15	21
													Services provided by Hub	
Hubs *Member Hub	**Accepts CCA contributions?**	**Open & public content**	**No liens or claims on assets**	**Must own originals**	**Must be item level records**	**Must allow use of items for publicity**	**Institution must be currently operating**	**Has a plan for sustainability**	**Must guarantee preservation of digital masters**	**Must use unique filenames**	**Must upload metadata to GitHub or other location**	**Must pay annual fees**	**Serves as repository**	**Harvests**
ARTstor	Y												x	
Big Sky Country Digital Network (Montana, North Dakota)	Y						x		x	x				
Biodiversity Heritage Library	N													
California Digital Library	Y	x												x
Connecticut Digital Archive*	Y		x	x									x	
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y	x		x									x	x
Digital Library of Georgia*	Y			x				x					x	x
Digital Library of Tennessee	N													
Digital Maine*	Y													
Digital Maryland	Y												x	
Digital Virginias* (Virginia/West Virginia)	Y										x			x
District Digital* (Washington, DC)	Y													
Empire State Digital Network	Y										x			x
Green Mountain Digital Archive (Vermont)*	Y													x
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y													x
Indiana Memory*	Y			x										
Internet Archive* (Archive-It)	Y											x	x	
Internet Archive Community Webs*	Y												x	
Jewish Heritage Network Hub*	Y												x	x
J. Paul Getty Trust	N													
Kentucky Digital Library	Y	x		x									x	
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y												x	
Mississippi Digital Library	Y	x		x									x	x
Heartland Hub* (formerly MissouriHub)	Y			x										x
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y			x									x	x
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y													x
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y	x		x										x
Northwest Digital Heritage * (Washington, Oregon)	Y	x			x								x	x
Ohio Digital Network*	Y	x				x								x
OKHub*	Y													x
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y	x												x
Plains to Peaks Collective* (Colorado/Wyoming)	Y	x			x	x								x
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y	x		x		x							x	
Recollection Wisconsin*	Y	x		x					x			x	x	x
Smithsonian Institution*	N													
South Carolina Digital Library	Y			x	x									x
Sunshine State Digital Network* (Florida)	Y	x			x									x
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	10	9	16	1	0	11	16	2	9	5	5	20	2
Hubs *Member Hub	**Accepts CCA contributions?**	**Bulk ingest**	**Provides usage stats**	**Links back to contributor site**	**Performs legal review**	**Provides rights management**	**Provides digitization**	**Provides digitization specs & info**	**Creates derivative images**	**Reviews submissions for requirements**	**Enhances/adds/adapts metadata**	**Creates metadata**	**Metadata/publishing tools/templates/guides**	**Provides OCR**
ARTstor	Y		x	x	x			x		x	x			
Big Sky Country Digital Network (Montana, North Dakota)	Y							x		x				
Biodiversity Heritage Library	N													
California Digital Library	Y		x	x						x	x		x	
Connecticut Digital Archive*	Y	x	x	x									x	
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y			x			x	x					x	
Digital Library of Georgia*	Y						x	x					x	
Digital Library of Tennessee	N													
Digital Maine*	Y													
Digital Maryland	Y						x		x			x	x	
Digital Virginias* (Virginia/West Virginia)	Y			x						x			x	
District Digital* (Washington, DC)	Y													
Empire State Digital Network	Y			x									x	
Green Mountain Digital Archive (Vermont)*	Y			x										
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y	x	x	x									x	
Indiana Memory*	Y							x				x	x	
Internet Archive* (Archive-It)	Y													
Internet Archive Community Webs*	Y						x							
Jewish Heritage Network Hub*	Y	x								x			x	
J. Paul Getty Trust	N													
Kentucky Digital Library	Y	x						x					x	x
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y						x	x						
Mississippi Digital Library	Y						x	x					x	
Heartland Hub* (formerly MissouriHub)	Y	x		x										
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y						x							
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y	x		x										
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y		x				x	x		x		x	x	
Northwest Digital Heritage * (Washington, Oregon)	Y	x	x	x			x	x					x	
Ohio Digital Network*	Y		x	x				x		x	x			
OKHub*	Y													
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y	x		x				x					x	
Plains to Peaks Collective* (Colorado/Wyoming)	Y	x		x				x					x	
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y		x				x	x	x			x	x	
Recollection Wisconsin*	Y	x	x					x		x	x		x	
Smithsonian Institution*	N													
South Carolina Digital Library	Y			x			x	x				x	x	x
Sunshine State Digital Network* (Florida)	Y			x						x	x		x	
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	2	2	3	3	1	1	27	4	10	1	1	3	9
Hubs *Member Hub	**Accepts CCA contributions?**	**Can restrict access to authorized users**	**Allows custom/branded collection pages**	**Offers search widget**	**Provides media kit/publicity/branding**	**Clusters duplicate images**	**Identifies associated images**	**Email/phone contact for questions**	**Testing environment/Sandbox**	**Provides preservation repository**	**Provides migration**	**Can assume custody**	**Can have more than one collection per org**	**Minimal online help documentation (few pages or incomplete info)**
ARTstor	Y					x	x	x						
Big Sky Country Digital Network (Montana, North Dakota)	Y									x			x	x
Biodiversity Heritage Library	N													
California Digital Library	Y							x	x				x	
Connecticut Digital Archive*	Y	x						x		x	x	x		
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y									x				x
Digital Library of Georgia*	Y									x				
Digital Library of Tennessee	N													
Digital Maine*	Y							x						x
Digital Maryland	Y							x		x				
Digital Virginias* (Virginia/West Virginia)	Y							x						
District Digital* (Washington, DC)	Y							x						
Empire State Digital Network	Y													x
Green Mountain Digital Archive (Vermont)*	Y							x						x
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y							x	x					
Indiana Memory*	Y							x						x
Internet Archive* (Archive-It)	Y	x						x		x				
Internet Archive Community Webs*	Y							x		x				
Jewish Heritage Network Hub*	Y							x		x				
J. Paul Getty Trust	N													
Kentucky Digital Library	Y		x					x	x	x			x	
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y							x						
Mississippi Digital Library	Y							x						
Heartland Hub* (formerly MissouriHub)	Y							x						x
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y													x
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y							x						
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y			x				x						
Northwest Digital Heritage * (Washington, Oregon)	Y							x						
Ohio Digital Network*	Y				x			x						
OKHub*	Y							x						x
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y							x	x					
Plains to Peaks Collective* (Colorado/Wyoming)	Y			x				x						
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y									x				
Recollection Wisconsin*	Y		x		x			x						
Smithsonian Institution*	N													
South Carolina Digital Library	Y			x	x			x						
Sunshine State Digital Network* (Florida)	Y							x						
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions														
Hubs highlighted in yellow did not have contribution information available online														
48	**33**	18	13	1	2	1	5	4	27	3	5	1	1	2
Hubs *Member Hub	**Accepts CCA contributions?**	**Decent-good online help documentation**	**Copyright/permissions information**	**Member council/shared governance**	**Additional benefits (not related to participation requirements)**	**Support ticketing**	**Regular training/introduction sessions**	**Occasional training sessions**	**Individual assistance/consultation**	**CMS/DAMS information**	**Inclusive metadata resources**	**Community engagement training content**	**Gap analysis for underrepresented groups/diversity initiative**	**Hosts exhibitions**
ARTstor	Y													
Big Sky Country Digital Network (Montana, North Dakota)	Y													
Biodiversity Heritage Library	N													
California Digital Library	Y	x				x	x		x		x			x
Connecticut Digital Archive*	Y	x						x	x					
David Rumsey	N													
Digital Commonwealth* (Massachusetts)	Y								x					
Digital Library of Georgia*	Y	x	x								x			
Digital Library of Tennessee	N													
Digital Maine*	Y								x					
Digital Maryland	Y								x					
Digital Virginias* (Virginia/West Virginia)	Y	x	x				x		x					
District Digital* (Washington, DC)	Y													
Empire State Digital Network	Y								x					
Green Mountain Digital Archive (Vermont)*	Y		x						x					
Harvard Library*	N													
HathiTrust	N													
Illinois Digital Heritage Hub*	Y	x	x						x					
Indiana Memory*	Y		x						x					
Internet Archive* (Archive-It)	Y	x					x		x					
Internet Archive Community Webs*	Y	x			x		x		x					
Jewish Heritage Network Hub*	Y	x							x					x
J. Paul Getty Trust	N													
Kentucky Digital Library	Y	x	x	x					x					
Library of Congress	N													
Michigan Service Hub*														
Minnesota Digital Library*	Y								x					
Mississippi Digital Library	Y	x	x						x					
Heartland Hub* (formerly MissouriHub)	Y													
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y													
National Archives and Records Administration*	N													
New Hampshire Digital Library*														
NJ/DE Digital Collective*	Y							x	x					
The New York Public Library*	N													
North Carolina Digital Heritage Center*	Y	x	x						x	x	x			
Northwest Digital Heritage * (Washington, Oregon)	Y	x			x				x					
Ohio Digital Network*	Y	x	x				x		x					
OKHub*	Y								x					
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N													
PA Digital* (Pennsylvania)	Y	x	x					x	x					
Plains to Peaks Collective* (Colorado/Wyoming)	Y	x	x						x	x				
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y	x							x					
Recollection Wisconsin*	Y	x	x						x	x	x	x	x	
Smithsonian Institution*	N													
South Carolina Digital Library	Y								x					
Sunshine State Digital Network* (Florida)	Y	x	x					x	x		x			
United States Government Publishing Office (GPO)	N													
University of Washington	N													

Hubs highlighted in gray do not accept CCA contributions								
Hubs highlighted in yellow did not have contribution information available online								
48	**33**	1	1	2	6	3	13	5
Hubs *Member Hub	**Accepts CCA contributions?**	**Exhibition guidelines**	**Oral history guidelines**	**Equipment loans**	**Offers grants/awards**	**Offers grantwriting language**	**Offers external resources (links)**	**Offers paid option**
ARTstor	Y							
Big Sky Country Digital Network (Montana, North Dakota)	Y		x	x	x	x		
Biodiversity Heritage Library	N							
California Digital Library	Y	x						
Connecticut Digital Archive*	Y					x		x
David Rumsey	N							
Digital Commonwealth* (Massachusetts)	Y							
Digital Library of Georgia*	Y				x	x		
Digital Library of Tennessee	N							
Digital Maine*	Y			x				
Digital Maryland	Y							
Digital Virginias* (Virginia/West Virginia)	Y						x	
District Digital* (Washington, DC)	Y							
Empire State Digital Network	Y						x	
Green Mountain Digital Archive (Vermont)*	Y							
Harvard Library*	N							
HathiTrust	N							
Illinois Digital Heritage Hub*	Y						x	
Indiana Memory*	Y				x		x	
Internet Archive* (Archive-It)	Y							
Internet Archive Community Webs*	Y							
Jewish Heritage Network Hub*	Y							x
J. Paul Getty Trust	N							
Kentucky Digital Library	Y						x	x
Library of Congress	N							
Michigan Service Hub*								
Minnesota Digital Library*	Y							
Mississippi Digital Library	Y				x		x	
Heartland Hub* (formerly MissouriHub)	Y							
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y							x
National Archives and Records Administration*	N							
New Hampshire Digital Library*								
NJ/DE Digital Collective*	Y						x	
The New York Public Library*	N							
North Carolina Digital Heritage Center*	Y							
Northwest Digital Heritage * (Washington, Oregon)	Y				x			
Ohio Digital Network*	Y						x	
OKHub*	Y						x	
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N							
PA Digital* (Pennsylvania)	Y						x	
Plains to Peaks Collective* (Colorado/Wyoming)	Y						x	
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y				x			x
Recollection Wisconsin*	Y							
Smithsonian Institution*	N							
South Carolina Digital Library	Y						x	
Sunshine State Digital Network* (Florida)	Y						x	
United States Government Publishing Office (GPO)	N							
University of Washington	N							

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions			
Hubs highlighted in yellow did not have contribution information available online			
48	33		
		Basic information	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Contributor Information (for Voyant)**	**Policy documents (for Voyant)**
ARTstor	Y	https://www.artstor.org/contribute/	https://www.artstor.org/contribute/guidelines-for-contributing/
Big Sky Country Digital Network (Montana, North Dakota)	Y	https://msl.mt.gov/libraries/statewide_projects/montana_history_portal/	https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-collection-policy https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/for-first-time-contributors-contributing-institution-agreement-form https://montanastatelibrary.zohodesk.com/portal/api/kbArticles/32902900000842441/locale/en/attachments/q8uqb7b99bdcdcadc46d0be702dd5f4512abc/content?portalId=edbsn7a51c93cff8f3e5a84ac5c0bb8db3c953cb294b2262f68320863037be07d0c57&inline=true
Biodiversity Heritage Library	N	https://about.biodiversitylibrary.org/ufaqs/can-i-contribute-content-to-the-bhl-collection/	
California Digital Library	Y	https://cdlib.org/resources/contributors/	https://help.oac.cdlib.org/support/solutions/articles/9000049975-become-a-contributor https://help.oac.cdlib.org/support/solutions/articles/9000208283 https://help.oac.cdlib.org/support/solutions/articles/9000212557 https://help.oac.cdlib.org/support/solutions/articles/9000083069-quick-start-guide https://help.oac.cdlib.org/support/solutions/articles/9000093511-introduction-to-the-oac https://help.oac.cdlib.org/support/solutions/articles/9000046260-introduction-to-calisphere https://help.oac.cdlib.org/support/solutions/articles/9000081695-supported-harvest-sources-and-formats https://help.oac.cdlib.org/support/solutions/articles/9000081696-how-to-contribute-collections https://help.oac.cdlib.org/support/solutions/articles/9000081702-calisphere-metadata-and-digital-content-re-use
Connecticut Digital Archive*	Y	https://uconn.atlassian.net/wiki/spaces/CTDA/pages/5384504075/Join+the+CTDA	https://uconn.atlassian.net/wiki/spaces/CTDA/pages/5503516811/Membership+Models https://uconn.atlassian.net/wiki/download/attachments/5384504075/CTDA_MOU_20170616.pdf?version=1&modificationDate=1529508728000&cacheVersion=1&api=v2 https://uconn.atlassian.net/wiki/spaces/CTDA/pages/5404524959/Policies https://uconn.atlassian.net/wiki/spaces/CTDA/pages/5549457503/CTDA+Service+Catalog#User-Support-Services
David Rumsey	N		
Digital Commonwealth* (Massachusetts)	Y	https://membership.digitalcommonwealth.org/collections	https://www.bpl.org/digitization/ https://membership.digitalcommonwealth.org/hosted-collections/ https://membership.digitalcommonwealth.org/harvested-collections/ https://membership.digitalcommonwealth.org/resources/Documents/DigitalCommonwealth_CollectionDevelopmentPolicy_FINAL.pdf https://membership.digitalcommonwealth.org/digitization-services/ https://membership.digitalcommonwealth.org/metadata-requirements/
Digital Library of Georgia*	Y	https://dlg.usg.edu/participate/contribute	https://sites.google.com/view/dlg-docs/resources/programs-and-projects/subgranting-program?pli=1 https://dlg.usg.edu/about/policy
Digital Library of Tennessee	N		
Digital Maine*	Y	https://digitalmaine.com/about.html	https://digitalmaine.com/faq.html
Digital Maryland	Y	https://www.digitalmaryland.org/get-involved/	
Digital Virginias* (Virginia/West Virginia)	Y	https://www.digitalvirginias.org/join-us/	https://www.digitalvirginias.org/for-contributors/collection-guidelines/ https://www.digitalvirginias.org/join-us/intro-digital-collections/ https://www.digitalvirginias.org/for-contributors/rights/
District Digital* (Washington, DC)	Y	http://www.districtdigital.org/home	http://www.districtdigital.org/documents https://docs.google.com/document/d/1JwPE3h5rMCb98ZPsMFZTp4tQg6HRuuuKOx1a6o3FRck/edit
Empire State Digital Network	Y	https://empirestate.digital/contributors/	https://empirestate.digital/get-involved-2/ https://empirestate.digital/contributors/metadata-requirements/ https://docs.google.com/document/d/1APOEP-pPHclhkKJx99XkQR8UzsTV-UC27w1Jz5H2YZ4/edit
Green Mountain Digital Archive (Vermont)*	Y	https://libraries.vermont.gov/GMDA	https://docs.google.com/document/d/1MuQULggZTjHQa-ujX7dNE5cWC6UbY72z2atArgqvtgY/edit https://docs.google.com/document/d/1O-uN9_sLp8Ux5FOMI2KiyfqQ7w71WvxOcljs-xDeZnM/edit#heading=h.ft1kkr49fbz7
Harvard Library*	N		

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	33	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Supporting documents**
ARTstor	Y	https://www.artstor.org/contribute/metadata-policy/
Big Sky Country Digital Network (Montana, North Dakota)	Y	https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-digital-preservation-policy https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-montana-state-library-copyright-statement-for-the-mmp https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-descriptive-metadata-best-practices https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-metadata-guidelines-mmp-and-bscdn https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/oral-history-getting-started https://docs.msl.mt.gov/mmpweb/Oralhistory/ZoomH5manual.pdf https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/file-naming-conventions-for-collections https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-vendors-list https://www.mthistory.org/grants/ https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/article-22-3-2019 https://montanastatelibrary.zohodesk.com/portal/en/kb/articles/mmp-21-10-2019
Biodiversity Heritage Library	N	
California Digital Library	Y	https://help.oac.cdlib.org/support/solutions/articles/9000140524-checking-on-the-status-of-collections-you-re-contributing https://help.oac.cdlib.org/support/solutions/articles/9000101639-calisphere-apis https://help.oac.cdlib.org/support/solutions/articles/9000088362-calisphere-metadata-requirements-and-scheme https://help.oac.cdlib.org/support/solutions/articles/9000081700-getting-calisphere-stats https://help.oac.cdlib.org/support/solutions/articles/9000166386-getting-dpla-stats https://help.oac.cdlib.org/support/solutions/articles/9000095247-creating-exhibitions
Connecticut Digital Archive*	Y	https://uconn.atlassian.net/wiki/spaces/CTDA/pages/5384503560/Quick+Start+Guide
David Rumsey	N	
Digital Commonwealth* (Massachusetts)	Y	
Digital Library of Georgia*	Y	https://docs.google.com/document/d/1LtCncs-uMcE4HRQzPuvXHcr9Is3Md223zmWz0shmB0w/edit https://sites.google.com/view/dlg-docs/resources/presentations-and-workshops/digitization?pli=1 https://dlg.usg.edu/participate/nominate https://docs.google.com/document/d/1p3TQDlYHlUKyUJR2zMPck23KzL5q8qpzupW1mMBXiuQ/edit https://docs.google.com/document/d/1OZjEg_IzSRjRq6Js7-UmaEPxHn58ZbfGMvCJ0BS4TMA/edit https://docs.google.com/document/d/150b37OGTMJ3H--e4Jwa0sTaaGx8Qt0u8I-Q9bHtSn8A/edit
Digital Library of Tennessee	N	
Digital Maine*	Y	https://digitalmaine.com/submit_research.html
Digital Maryland	Y	https://www.digitalmaryland.org/wp-content/uploads/2021/05/digital-maryland-metadata-style-guide.2021.pdf
Digital Virginias* (Virginia/West Virginia)	Y	https://www.digitalvirginias.org/for-contributors/metadata/ https://docs.google.com/document/d/1r2r9FtD4paZy8f2y2XGCC6kgE-XjsPy6lcJCWnQVRy0/edit
District Digital* (Washington, DC)	Y	
Empire State Digital Network	Y	https://docs.google.com/document/d/1f905PGHJtPs27prvjGhtDP0SXHSe9tPFpojgpizCDQ8/edit https://empirestate.digital/wp-content/uploads/bsk-pdf-manager/6_DATAEXCHANGEAGREEMENTSUMMARY.PDF
Green Mountain Digital Archive (Vermont)*	Y	https://docs.google.com/document/d/1q-TcMDrLiSDxn58JFc1eBn0NGO6OEI7fggncOKnBMac/edit#heading=h.nj23sjpj5u97
Harvard Library*	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Submission form**
ARTstor	Y	https://docs.google.com/forms/d/e/1FAIpQLSdxZtziuzq9Z1eXN1rrTyQ-vlzBEepO12ei9wy5q8bJbuAeBQ/viewform
Big Sky Country Digital Network (Montana, North Dakota)	Y	https://forms.office.com/Pages/ResponsePage.aspx?id=mEypBw_zu0q9ftY_hyDcApkJHo6cOBpOtkvWUrWUyB1URVpYR0c1RDVXVDQ3N1VRM0dKNDhEVDdIRC4u
Biodiversity Heritage Library	N	
California Digital Library	Y	https://help.oac.cdlib.org/support/solutions/articles/9000212556
Connecticut Digital Archive*	Y	
David Rumsey	N	
Digital Commonwealth* (Massachusetts)	Y	https://docs.google.com/forms/d/e/1FAIpQLSfDmqaJlM5kNP05031pxRk516_VnovLkY9ag7jJ550wuTTgMQ/viewform
Digital Library of Georgia*	Y	https://forms.office.com/pages/responsepage.aspx?id=HmwhqGNNUkOMO1D6HxR1sTJyMeTNLSBMpTe4KUqGFANUNlU3OFJlVjdZSkZVN1M4M1c4SlYyTThPSSQlQCN0PWcu https://dlg.usg.edu/participate/nominate
Digital Library of Tennessee	N	
Digital Maine*	Y	
Digital Maryland	Y	
Digital Virginias* (Virginia/West Virginia)	Y	https://docs.google.com/forms/d/e/1FAIpQLSdzyE7kVsFSCe-ElgdC32i49QFK2nvhrlxy72x81lDe3mov8A/viewform
District Digital* (Washington, DC)	Y	
Empire State Digital Network	Y	
Green Mountain Digital Archive (Vermont)*	Y	
Harvard Library*	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions			
Hubs highlighted in yellow did not have contribution information available online			
48	33		
		Basic information	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Contributor Information (for Voyant)**	**Policy documents (for Voyant)**
HathiTrust	N	https://www.hathitrust.org/how-to-join	https://www.hathitrust.org/features_benefits https://www.hathitrust.org/print_holdings https://drive.google.com/file/d/1BaNdZCu0ZfTakIq77jmEUEXCfVFQNidb/view https://www.hathitrust.org/Cost https://www.hathitrust.org/eligibility_agreements https://www.hathitrust.org/authentication https://docs.google.com/spreadsheets/d/1C74IUynslWOSCAkdlcLO8jgRDvuXq-JcQUsyapD9JEI/edit?usp=sharing
Illinois Digital Heritage Hub*	Y	https://idhh.dp.la/for-contributors	https://idhh.dp.la/for-contributors/readiness https://idhh.dp.la/for-contributors/metadata https://idhh.dp.la/for-contributors/copyright https://idhh.dp.la/for-contributors/analytics
Indiana Memory*	Y	https://digital.library.in.gov/Web/About	https://digital.library.in.gov/Web/ContributorResources https://www.in.gov/library/files/Collection-Development-Policy-2021.pdf
Internet Archive* (Archive-It)	Y	https://ait.blog.archive.org/products-and-services/	https://ait.blog.archive.org/files/2022/05/Archive-It_pro.pdf https://ait.blog.archive.org/files/2022/05/Archive-It_Basic.pdf https://ait.blog.archive.org/files/2022/05/Archive_It_redirection_V3.pdf https://ait.blog.archive.org/files/2022/05/Archive_It_waybackfill_V3.pdf https://ait.blog.archive.org/files/2022/05/Archive-It_web-snapshot_V4.pdf https://ait.blog.archive.org/files/2023/05/Vault-One-Sheet.pdf https://ait.blog.archive.org/learn-more/ https://ait.blog.archive.org/archive-it-sponsored/ https://ait.blog.archive.org/covid-19/ https://ait.blog.archive.org/spontaneous-events/
Internet Archive Community Webs*	Y	https://communitywebs.archive-it.org/about/#:~:text=Community%20Webs%20began%20in%202017,materials%20documenting%20their%20local%20communities.	https://communitywebs.archive-it.org/cfa/ https://communitywebs.archive-it.org/faqs/
Jewish Heritage Network Hub*	Y	https://jhn.ngo/solutions/jhhh	https://jhn.ngo/solutions/j-ark https://jhn.ngo/solutions/j-story https://j-story.org/home https://j-ark.org/home
J. Paul Getty Trust	N		
Kentucky Digital Library	Y	https://kyvl.org/kdl#s-lg-box-25764731	https://kyvl.libwizard.com/f/get-started-kdl https://kyvl.org/ld.php?content_id=42168956
Library of Congress	N		
Michigan Service Hub*		http://michiganservicehub.org/	
Minnesota Digital Library*	Y	https://mndigital.org/get-involved/contribute-minnesota-digital-library	https://mndigital.org/about/minnesota-digital-library-policies https://docs.google.com/document/d/1aeZimu-Mbdp32170lVZFITUFKCVz80zWDfV9SitYpaA/edit https://docs.google.com/document/d/1Hvv9Gz_uflg7B9KZBneekJ8BL71DYnz3xpwefZHdbjk/edit
Mississippi Digital Library	Y	https://msdiglib.org/apply	https://static1.squarespace.com/static/5bfdb2ce372b9657614df466/t/5c82d4c7ee6eb01513cd1a0d/1552078023986/MDL_Collection_Development_Policy_2019-03.pdf https://static1.squarespace.com/static/5bfdb2ce372b9657614df466/t/5c6336011905f493a81a08e2/1550005761356/Using_the_Mississippi_Digital_Library.pdf https://static1.squarespace.com/static/5bfdb2ce372b9657614df466/t/5eb5d246e98fc60676ed34dc/1588974152117/Checklist_MississippiDigitalLibraryPartnerApplication.pdf https://msdiglib.org/
Heartland Hub* (formerly MissouriHub)	Y	https://heartland-hub.org/participate/	https://heartland-hub.org/wp-content/uploads/2023/03/MouUpdate2022_rev.pdf
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y	https://mwdl.org/getinvolved.php	https://mwdl.org/getinvolved/becomePartner.php https://mwdl.org/docs/MWDL_Partnership_Agreement_ver12_2008-03-14.pdf
National Archives and Records Administration*	N		
New Hampshire Digital Library*		No public website, only this github: https://github.com/NewHampshireDigitalLibrary	
NJ/DE Digital Collective*	Y	https://www.njdedigitalcollective.org/home/how-to-start/	https://www.njdedigitalcollective.org/home/about/faq/ https://www.njdedigitalcollective.org/wp-content/uploads/2020/05/NJDE-Digital-Collective-Contributor-Agreement.pdf
The New York Public Library*	N		

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Supporting documents**
HathiTrust	N	https://www.hathitrust.org/authentication https://www.hathitrust.org/ETAS-Description https://www.hathitrust.org/shared_print_program https://www.hathitrust.org/collection-principles https://www.hathitrust.org/sites/www.hathitrust.org/files/Jan%202023%20Specifications%20for%20submitting%20print%20holdings%20updates%20to%20HathiTrust.pdf
Illinois Digital Heritage Hub*	Y	https://idhh.dp.la/for-contributors/harvest-workflow https://idhh.dp.la/for-contributors/provider-metadata-guide https://idhh.dp.la/for-contributors/subject-metadata-guide https://idhh.dp.la/for-contributors/type-metadata-guide https://idhh.dp.la/for-contributors/rights-statements-guide https://docs.google.com/document/d/1q1AORHoa0ey0fUGOTYMHLvZNCm6Wq1Qe9DDvFZSRPT0/edit
Indiana Memory*	Y	https://digital.library.in.gov/Web/CopyrightBasics https://tools.dpla.library.in.gov/ https://www.in.gov/library/files/IndianaMemoryMetadata2020.pdf https://www.in.gov/library/files/Indiana-Memory-and-Hoosier-State-Chronicles-Digital-Imaging-Standards-2021.pdf https://www.in.gov/library/files/IndianaMemoryMetadata2021.pdf
Internet Archive* (Archive-It)	Y	https://ait.blog.archive.org/products-and-services/archive-it-faqs/
Internet Archive Community Webs*	Y	
Jewish Heritage Network Hub*	Y	https://jhn.ngo/solutions/judaica-europeana
J. Paul Getty Trust	N	
Kentucky Digital Library	Y	https://kyvl.org/kdl/training https://kyvl.org/membership/portal https://kyvl.libwizard.com/f/join-community https://kyvl.libwizard.com/f/metadata_standards https://kyvl.libwizard.com/f/rights https://kyvl.libwizard.com/f/kdl-customize-website https://kyvl.libwizard.com/f/kdl-collection-title https://kyvl.libwizard.com/f/kdl-custom-page https://kyvl.libwizard.com/f/cdm-new-project https://kyvl.libwizard.com/f/add-items-tab-delim https://kyvl.libwizard.com/f/cdm-add-items https://kyvl.libwizard.com/f/edit-project-client https://kyvl.libwizard.com/f/edit-items-cdm-admin
Library of Congress	N	
Michigan Service Hub*		
Minnesota Digital Library*	Y	
Mississippi Digital Library	Y	https://static1.squarespace.com/static/5bfdb2ce372b9657614df466/t/646bbdf041b67a3a1dbcf1011684782577639/MDL_metadata_guidelines_2023.pdf
Heartland Hub* (formerly MissouriHub)	Y	https://heartland-hub.org/wp-content/uploads/2017/01/MOHub_Requirements_Jun_2014.pdf
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y	
National Archives and Records Administration*	N	
New Hampshire Digital Library*		
NJ/DE Digital Collective*	Y	https://docs.google.com/document/d/1psyrZozd1_HGK9ikw4N86Oe6P_NH6ImbD8lgNIixjkY/edit?usp=sharing
The New York Public Library*	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Submission form**
HathiTrust	N	https://docs.google.com/forms/d/e/1FAIpQLSfZrGWRWs6PIvYwcD_5r0kJuUYQhKDlx3BoMMrPO8w9OtRB0A/viewform
Illinois Digital Heritage Hub*	Y	https://docs.google.com/document/d/1moX_IVbjwd0twLPUD7Pan5SMlW3f695K-r4udlgNd1c/edit
Indiana Memory*	Y	
Internet Archive* (Archive-It)	Y	https://archive-it.org/contact-us https://form.jotform.com/212063696586162 https://form.jotform.com/212145017949153
Internet Archive Community Webs*	Y	https://form.jotform.com/220865326547158
Jewish Heritage Network Hub*	Y	https://j-ark.org/onboarding
J. Paul Getty Trust	N	
Kentucky Digital Library	Y	https://kyvl.memberclicks.net/index.php?option=com_mcform&view=ngforms&id=25427#!/https://kyvl.memberclicks.net/index.php?option=com_mcform&view=ngforms&id=31649#!/
Library of Congress	N	
Michigan Service Hub*		
Minnesota Digital Library*	Y	
Mississippi Digital Library	Y	
Heartland Hub* (formerly MissouriHub)	Y	
Mountain West Digital Library* (Idaho, Nevada, Oregon, Utah)	Y	
National Archives and Records Administration*	N	
New Hampshire Digital Library*		
NJ/DE Digital Collective*	Y	https://forms.gle/rBYmYjrEhFbeX44e9
The New York Public Library*	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions			
Hubs highlighted in yellow did not have contribution information available online			
48	**33**		
		Basic information	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Contributor Information (for Voyant)**	**Policy documents (for Voyant)**
North Carolina Digital Heritage Center*	Y	https://www.digitalnc.org/about/services/participate/	https://www.digitalnc.org/resources/digitization/selecting-materials-for-scanning/ https://www.digitalnc.org/about/policies/copyright/ https://www.digitalnc.org/resources/partners/dpla-participation/ https://www.digitalnc.org/about/services/dpla/ https://www.digitalnc.org/wp-content/uploads/2023/02/steps_to_take_before_sending_materials.pdf
Northwest Digital Heritage * (Washington, Oregon)	Y	https://www.northwestdigitalheritage.org/	https://drive.google.com/file/d/13Dd0fJeYWSbXSGdfSPz6Y4k_Hdqn9_iB/view
Ohio Digital Network*	Y	https://ohiodigitalnetwork.org/contributors/getting-started/	https://ohiodigitalnetwork.org/contributors/getting-started/harvesting-process-timeline/ https://ohiodigitalnetwork.org/wp-content/uploads/ODN-Contributor-Agreement.pdf https://ohiodigitalnetwork.org/about/frequently-asked-questions/
OKHub*	Y	https://dpla-okhub.library.okstate.edu/participate-2/participate/	
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N	https://www.orbiscascade.org/about/council/council-resources-list/membership/	
PA Digital* (Pennsylvania)	Y	https://padigital.org/for-contributors/	https://padigital.org/pa-digital-readiness/ https://padigital.org/more-resources-for-digitization-projects/ https://padigital.org/metadata-resources/ https://padigital.org/rights-resources/ https://padigital.org/orientation-for-new-contributors/ https://padigital.org/pa-digital-institutional-onboarding-workflow/
Plains to Peaks Collective* (Colorado/Wyoming)	Y	https://ppc.cvlsites.org/for-contributors/	https://ppc.cvlsites.org/ready-to-participate/ https://ppc.cvlsites.org/wp-content/uploads/PPC-Service-Hub-Participation-Agreement-TEMPLATE.docx-2.pdf https://ppc.cvlsites.org/about/faqs/ https://ppc.cvlsites.org/about/ppc-hub/
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y	https://library.unt.edu/digital-projects-unit/partners/portal/?utm_source=digital-projects-unit/portal-partners&utm_medium=301	https://library.unt.edu/digital-projects-unit/partners/about-partnering/ https://library.unt.edu/assets/documents/departments/digital-libraries/digital-projects-unit/partners/agreement/pth-standard-agreement.pdf https://library.unt.edu/digital-projects-unit/partners/steps-complete-your-project/ https://library.unt.edu/digital-projects-unit/partners/determining-feasibility-costs/ https://library.unt.edu/digital-projects-unit/partners/funding-opportunities/ https://library.unt.edu/digital-projects-unit/partners/call-submissions-portal-texas-history/ https://library.unt.edu/digital-projects-unit/partners/agreements-portal-texas-history/ https://library.unt.edu/digital-projects-unit/partners/faq/
Recollection Wisconsin*	Y	https://recollectionwisconsin.org/organizations	https://recollectionwisconsin.org/organizations/hosting https://recollectionwisconsin.org/wp-content/uploads/2017/08/CollectionHostingMoUTEMPLATE.pdf https://recollectionwisconsin.org/wp-content/uploads/2016/07/Recollection-Wisconsin-Collection-Policy.pdf https://recollectionwisconsin.org/wp-content/uploads/2016/07/Recollection-Wisconsin-Copyright-Policy.pdf https://recollectionwisconsin.org/wp-content/uploads/2016/07/Recollection-Wisconsin-Participation-Agreement.pdf https://recollectionwisconsin.org/organizations/resources https://recollectionwisconsin.org/wp-content/uploads/2020/12/Gap-Analysis-Phase-1-Report.pdf https://recollectionwisconsin.org/organizations/contributor-faq
Smithsonian Institution*	N		
South Carolina Digital Library	Y	https://scmemory.org/for-contributors/#page-content	https://scmemory.org/for-contributors/4489-2/#page-content https://scmemory.org/for-contributors/guidelines-resources/#page-content
Sunshine State Digital Network* (Florida)	Y	https://sunshinestatedigitalnetwork.wordpress.com/how-to-participate/	https://drive.google.com/file/d/1jX--n86U7N4gUenfy3njzRrOIk1-g2AB/view https://drive.google.com/file/d/1ePSACtkie97WHju6WiZllrHr-wqujgcq/view
United States Government Publishing Office (GPO)	N		

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Supporting documents**
North Carolina Digital Heritage Center*	Y	https://goo.gl/mvrw12 https://www.digitalnc.org/resources/description/metadata-guidelines/ https://www.digitalnc.org/resources/description/equitable-metadata/ https://www.digitalnc.org/wp-content/uploads/2023/05/steps_to_take_before_sending_pdf_newspapers.pdf https://www.digitalnc.org/resources/digital-publishing/ https://www.digitalnc.org/blog/what-should-you-do-with-your-scanned-photos-what-we-suggest-for-libraries-archives-and-museums/ https://www.digitalnc.org/blog/scanners-and-content-management-systems-in-nc/ https://www.digitalnc.org/resources/digital-publishing/search-widget/ https://tools.digitalnc.org/analytics/ https://www.digitalnc.org/about/statistics/ https://www.digitalnc.org/resources/digitization/file-formats/
Northwest Digital Heritage * (Washington, Oregon)	Y	https://docs.google.com/document/d/1kiJGttioM7c4o7rvtIZhs_1Wns9Z24dBAlyYTrg74b0/edit https://www.washingtonruralheritage.org/digital/collection/wrh/id/266 https://docs.google.com/document/d/1csDTCR20Efb5HC7XAALz_sD-9g7ZQFjlreMjOvkgWUs/edit https://docs.google.com/spreadsheets/d/1HsiokBZctcBDxk4Xv-jbMIxoIQxuAw6YPqAxjBIvrGY/edit?usp=sharing
Ohio Digital Network*	Y	https://ohiodigitalnetwork.org/elements/collection/ https://ohiodigitalnetwork.org/contributors/getting-started/map/ https://ohiodigitalnetwork.org/wp-content/uploads/ODN-Metadata-Manual.pdf https://ohiodigitalnetwork.org/contributors/getting-started/required-fields/ https://ohiodigitalnetwork.org/contributors/getting-started/recommended-fields/ https://ohiodigitalnetwork.org/contributors/getting-started/oai-pmh-settings/ https://ohiodigitalnetwork.org/contributors/resources/ https://ohiodigitalnetwork.org/contributors/odn-glossary/ https://ohiodigitalnetwork.org/contributors/analytics-dashboard/ https://ohiodigitalnetwork.org/contributors/media-guide/ https://ohiodigitalnetwork.org/wp-content/uploads/metadata-application-profile-v1-6.pdf
OKHub*	Y	https://dpla-okhub.library.okstate.edu/participate-2/participate/rights-statements/ https://dpla-okhub.library.okstate.edu/participate-2/participate/metadata/ https://dpla-okhub.library.okstate.edu/about/ingest-and-workflow/
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N	
PA Digital* (Pennsylvania)	Y	https://drive.google.com/file/d/1lYRQgIn7GbLJ5pTQ-TEEoMu4_9tKxkCr/view https://drive.google.com/file/d/1LpX6O0Y8ovoImetdV4l2ewI5Kc4ErVd4/view https://padigital.org/2017/10/31/metadata-cleanup-made-easy-with-openrefine/ https://drive.google.com/file/d/1EbprG3ja1RT88_eOnp8mzblsqCLSAkhM/view https://temple.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=a94e8d02-f794-41db-9b89-aeae01721309 https://docs.google.com/document/d/1CT7ItaPMjlESj3v4iyduTCy5Nr3nVkUM7sZwNY5186I/edit#
Plains to Peaks Collective* (Colorado/Wyoming)	Y	https://drive.google.com/file/d/1Jc_w4J75O7d4gWSa7_L-pjzk9LFerw63/view https://drive.google.com/file/d/1VdqnKZepCx538rlQZT2CNJ9wG9w2KoMO/view https://ppc.cvlsites.org/for-contributors/sharing-via-oai-pmh/ https://ppc.cvlsites.org/resources-for-everyone/ https://ppc.cvlsites.org/wp-content/uploads/PPC-Metadata-Guidelines.10-2021-1.pdf https://ppc.cvlsites.org/technology/ https://ppc.cvlsites.org/for-contributors/search-widget/ https://combine.readthedocs.io/en/master/quickstart.html
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y	https://library.unt.edu/assets/documents/departments/digital-libraries/digital-projects-unit/partners/rights/agreement-digital-rights.pdf https://library.unt.edu/digital-projects-unit/partners/portal-model-1-project-steps/ https://library.unt.edu/digital-projects-unit/partners/unique-identifiers/ https://library.unt.edu/assets/documents/departments/digital-libraries/digital-projects-unit/partners/display-forms/portal-partner-collection-display.pdf https://library.unt.edu/digital-projects-unit/partners/help-creating-partner-description/ https://library.unt.edu/digital-projects-unit/partners/help-creating-collection-description/ https://library.unt.edu/digital-projects-unit/partners/packing-shipping-instructions/ https://library.unt.edu/digital-projects-unit/partners/portal-model-2-project-steps/ https://library.unt.edu/digital-projects-unit/partners/portal-model-3-project-steps/ https://library.unt.edu/digital-projects-unit/partners/portal-model-4-project-steps/ https://library.unt.edu/digital-projects-unit/standards/ https://library.unt.edu/digital-projects-unit/metadata/ https://library.unt.edu/digital-projects-unit/metadata/quick-start-guide/ https://library.unt.edu/digital-projects-unit/metadata/input-guidelines-descriptive/ https://library.unt.edu/digital-projects-unit/partners/about-metadata/ https://library.unt.edu/digital-projects-unit/partners/scanning/ https://texashistory.unt.edu/stats/#partners-listing
Recollection Wisconsin*	Y	https://recollectionwisconsin.org/wp-content/uploads/2016/12/RecollectionWisconsinMetadataEssentials.pdf https://docs.google.com/spreadsheets/d/1yvU8byN7LtC8hCUwPq33X-ZwCsaiKtYJzK0EuN0vcWc/edit#gid=474365239 https://recollectionwisconsin.org/digital-readiness-toolkit https://recollectionwisconsin.org/wp-content/uploads/2021/08/Digital-Readiness-Levels.pdf https://recollectionwisconsin.org/the-toolkit-building-community-engagement https://recollectionwisconsin.org/category/toolkit https://recollectionwisconsin.org/digital-projects-case-studies
Smithsonian Institution*	N	
South Carolina Digital Library	Y	https://scmemory.org/for-contributors/scanning-equipment-digitization-expertise-in-the-state/#page-content https://scmemory.org/wp-content/uploads/2015/10/SCDL-Digitization-2015.pdf https://scmemory.org/wp-content/uploads/2015/10/SCDL-Digital-File-Tips.pdf https://scmemory.org/wp-content/uploads/2018/05/SCDLMetadataSchema_2018.pdf https://scmemory.org/about/scdl-staff/#page-content https://scmemory.org/for-contributors/scdl-press-kit/#page-content
Sunshine State Digital Network* (Florida)	Y	https://docs.google.com/document/d/1gNFYVThDAKyn54h_AyAk3-KwkcTk0skqtvKjNYSsO9U/edit https://docs.google.com/document/d/1APavAd1p1f9y1vBUudQIuIsYnq56ypzNYJYgDA9RNbU/edit https://docs.google.com/presentation/d/1wPnOkv5EvNT8j-EJq059eA7Ma8nYGXddln3U240QeTM/edit#slide=id.p1
United States Government Publishing Office (GPO)	N	

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Submission form**
North Carolina Digital Heritage Center*	Y	
Northwest Digital Heritage * (Washington, Oregon)	Y	
Ohio Digital Network*	Y	https://library.ohio.gov/odn-new-collection-form/
OKHub*	Y	
Orbis Cascade Alliance* (Oregon, Washington, Idaho)	N	
PA Digital* (Pennsylvania)	Y	
Plains to Peaks Collective* (Colorado/Wyoming)	Y	
TX Hub (The Portal to Texas History and Texas Digital Library)*	Y	
Recollection Wisconsin*	Y	https://docs.google.com/forms/d/e/1FAIpQLScxVbOv9a5JP23NsTrGY8vRK-iShIBqja2widZSBLLEPCT0ug/viewform#start=openform
Smithsonian Institution*	N	
South Carolina Digital Library	Y	https://scmemory.org/for-contributors/#page-content
Sunshine State Digital Network* (Florida)	Y	https://sunshinestatedigitalnetwork.wordpress.com/how-to-participate/
United States Government Publishing Office (GPO)	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions			
Hubs highlighted in yellow did not have contribution information available online			
48	**33**		
		Basic information	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Contributor Information (for Voyant)**	**Policy documents (for Voyant)**
University of Washington	N		

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Supporting documents**
University of Washington	N	

Hubs Policies Sources for Tabulation

Hubs highlighted in gray do not accept CCA contributions		
Hubs highlighted in yellow did not have contribution information available online		
48	**33**	
Hubs *Member Hub	**Accepts CCA contributions ?**	**Submission form**
University of Washington	N	

C-CAP Digital Collections & Exhibitions Research Strategy - Environmental Scan

Prepared by Sharon Mizota
May 1, 2023

Defining Terms

What are CCAs?

How are we defining CCAs? From the SCA presentation:
Community-centered archives are – collaborative partnerships between mainstream archival institutions and community-based organizations serving communities that are often underrepresented or misrepresented in the historical record. The goal is to empower communities in the process of telling and preserving their own histories, benefiting libraries and those who use them by facilitating access and highlighting existing knowledge within or outside the institutional setting.

We acknowledge that because we are from UCI, an institution with a certain level of power, what we engage in is the support of community archives. This is why we chose the term community-centered archives.

In essence, what we do: we co-design and implement student-supported archival documentation and preservation projects that serve the mission of community-based organizations in our region.

Community-centered archives are the archives of community organizations that serve or represent underrepresented, marginalized, or disenfranchised communities and whose primary function may not be archival. The C-CAP initiative works with these organizations to better preserve and facilitate representation of their histories. For the purposes of this study, our definition of CCA does not include community organizations that represent the dominant or majority culture, such as some historical societies and family foundations, etc.

What are Digital Exhibitions?

A digital exhibition is a selection of digital representations of items from your collection, brought together and interpreted "to transform some aspect of the visitor's interests, attitudes or values affectively" (Lord, 2002) – that is to say in a way that makes visitors care and find them meaningful.
https://www.nationalarchives.gov.uk/archives-sector/projects-and-programmes/plugged-in-powered-up/digital-engagement-toolkit/platform-guides/digital-exhibitions/

Not simply a digital collection, an online exhibition is a collection of interrelated archival resources focused around a theme. An online exhibition may accompany a physical exhibition. However, an online exhibition does not necessarily present every item of the physical exhibition or try to duplicate its appearance.
https://dictionary.archivists.org/entry/online-exhibition.html

An online exhibition, also referred to as a virtual exhibition, online gallery, cyber-exhibition, is an exhibition whose venue is cyberspace.
Wikipedia: https://en.wikipedia.org/wiki/Online_exhibition

Difference between a digital exhibition and digital archives

There is quite a bit of information in scholarly literature about VR and digital 3D exhibitions. As these projects are often quite expensive, time-consuming, and require advanced technical know-how, we decided they are beyond the scope of this project, as information about how to create, present, and sustain a VR exhibition, or use 3D scans of objects in a digital exhibition would likely be beyond the reach of most CCAs. However, it is interesting to consider how digitized cultural heritage assets might be employed in VR environments/experiences and also to note that in creating a digital exhibition toolkit, it is impossible to predict/anticipate

technological advances that may impact digital exhibition creation more widely in the future. (Email exchange with project team, 5/4/2023)

Distinctions also had to be made between digital interactive features of physical exhibitions (touchscreens, AR, etc.) and stand-alone online exhibitions. Among the latter, there are online exhibitions that are independent and those that are an online version of a physical exhibition. Both of these types are within the scope of this project, as long as they are meant to be experienced in their entirety online and are not dependent on a physical space. There might also be some flexibility in what is considered a "digital exhibition" including social media & webcomics, or other forms of digital humanities, such as digital storytelling. (SM, 5/4/23)

There are not a lot of resources about or for community archives and exhibitions. I wonder if exhibitions have not been a preferred form for disseminating information among CCAs, possibly because of their elitist association with art museums and World's Fairs (as in the exhibition of people)? It also seems that literature about CCAs focuses more on digitization and getting things online/organized/accessible. Perhaps the exhibition piece is ahead of the curve. (SM, 5/10/23)

Digital Aggregation Scan

Review documents published online by each of 46 DPLA Hubs that establish policies, requirements, and support for potential content contributors. Review will include both manual reading & coding of the documents and a machine-driven textual analysis.

Research Questions:

- What are the most common requirements for participation in DPLA Hubs?
- What are the minimum requirements for participation in DPLA Hubs?
- What are the most common services or support options offered by DPLA Hubs?
    - Is there content aimed specifically at CCAs?
    - Is there digitization support?
    - Is there hosting support?
    - Is there metadata support?
    - Is there support for making digital exhibitions?
    - Is there financial support?
    - Is the support in the form of general resources (tutorials, videos, documentation) or is there customized, tailored support?
- Is this information provided in a way that is easy to find and understand?
    - How easy is it to find on the website?
    - How complex or technical is the language used?
    - How easy is it to contact a person for help?
    - Are there real-time trainings or other orientation sessions available?
    - Is there an avenue to contact a real person?
- How are the benefits/drawbacks of participating in a Hub presented?
    - Are they appealing & welcoming?

    - Is there content aimed specifically at CCAs?
    - What are the reasons to not participate for CCAs?

Manual Assessment

- Read and code documents according to broad categories of requirements and support offered. Examples of categories might be:
    - Requirements:
        - CCA must respond to public inquiries
        - CCA must have a key contact
        - CCA must maintain persistent URLs
    - Support:
        - Hub offers free consultations
        - Hub offers hosting (free or paid)
        - Hub offers digitization service (free or paid)
- Record stats and trends reflecting commonalities and gaps among requirements & offerings.

Automated Text Analysis

- Run contributor policy documents through Voyant Tools or other text analysis software to identify trends and common/most prevalent terms.
- Search for specific terms or phrases across documents, i.e., “digitization service,” “hosting,” etc.
- **Known challenges:**
    - Identifying the best documents to include; each Hub has many documents with information for potential contributors
    - How to keep Hubs with many documents from skewing the results over those with fewer
    - Need training on tool & understanding what is possible

End Result

The end result of this environmental scan will be a summary document that records trends and observations that will eventually be incorporated into the initial findings report and will be used to shape the questions in the surveys of DPLA Hubs and CCAs, as well as the interviews of CCA representatives.

Digital Exhibitions Scan

Perform an environmental scan of existing digital tools and best practice literature for making and sustaining digital exhibitions that tell marginalized histories with respect and accuracy in the United States. Limit content to “recent” articles, i.e., the past 10 years (2013 and forward).

Research Questions:

- What are the common types of digital exhibitions?
- What resources and time is required to create a digital exhibition?
- What are current best practices/recommendations for creating digital exhibitions?
    - Do these resources include ethical/social justice considerations? What are they?
    - Do these resources include tool recommendations or matrices & criteria for tool selection? What are they?
- What are current best practices/recommendations for sustaining and preserving digital exhibitions?
- Are there resources targeted at CCAs specifically?
- What low/no cost tools are available?
    - How easy are these tools to use?
    - Are these tools accessible to non-technical audiences?
    - What are the barriers to tool use/adoption?
- What are some case studies of digital exhibitions created by CCAs?
    - Are there common features among these cases?
    - Are there common learnings?
- What are the barriers CCAs experience in creating digital exhibitions?

Searches

Search scholarly literature and the Web for combinations of the following terms:

Digital exhibition(s) Online exhibition(s) Web exhibition(s) Internet exhibition(s) Virtual exhibition(s) Digital curation (?) Exhibit(s)	Best practice(s) Recommendation(s) ~~Consideration(s)~~ Guideline(s) Toolkit(s) Ethical/Ethics Responsible Social Justice Inclusive Diverse Accessibility Socially engaged Historically underrepresented Historically excluded	Tool(s) Software Platform(s) Service(s)	Community archive(s) Community-centered archive(s) Community-based archive(s) Community-driven archive(s) Community collection(s) Historical society/ies Small archive(s) Family collection(s) Family archive(s) Tribal archive(s) Tribal collection(s)

“Exhibits” revealed a lot of collaborations with students and library & archives exhibits.
“Exhibitions” leaned more towards museums.

Some Preliminary Results:

Designing Digital Discovery and Access Systems for Archival Description
https://journal.code4lib.org/articles/16963

An Overview of Digital Collections and Exhibitions Platforms in 2022
https://blog.mused.org/an-overview-of-digital-collections-and-exhibitions-platforms-in-2021/

10 Resources for Community Digital Archives
https://blogs.loc.gov/thesignal/2013/06/10-resources-for-community-digital-archives/

Creating a Digital Community Archive
https://www.ala.org/alcts/preservationweek/resources/commarchive

Getting Your Collections Online
https://www.communityarchives.org.uk/content/resource/getting-your-collections-online

Platforms, Community Archives and Remembering the Pandemic
https://globalmedia.mit.edu/2020/06/09/platforms-community-archives-and-remembering-the-pandemic/

Toolkit: Community Archives
https://lslibrarians.wordpress.com/2021/04/08/toolkit-community-archives/

Community Archives Center, Tacoma Public Library
https://www.tacomalibrary.org/communityarchives/

Inclusive Digital Collection Infrastructure and Community Archives
https://www.imls.gov/news-events/upnext-blog/2016/10/inclusive-digital-collection-infrastructure-and-community-archives

Maine Contemporary Archives
https://ourmainearchives.omeka.net/projects

Assessing the Affective Impact of Community Archives: A Toolkit
https://communityarchiveslab.ucla.edu/wp-content/uploads/2018/11/InitialToolkit-compressed.pdf

Community Archives Collaborative
https://communityarchivescollab.org/

Situating Community Archives Along the Continuum of Community-Engaged Archival Praxis: Autonomy, Independence, and the Archival Impulse
https://www.iastatedigitalpress.com/archivalissues/article/id/16294/

Itza A. Carbajal, Michelle Caswell, Critical Digital Archives: A Review from Archival Studies, *The American Historical Review*, Volume 126, Issue 3, September 2021, Pages 1102–1120, https://doi.org/10.1093/ahr/rhab359 (Downloaded)

Manual of Museum Exhibitions
https://rowman.com/ISBN/9781538152812/Manual-of-Museum-Exhibitions-Third-Edition

New Digital Resources for L.A. Community Histories
https://libraries.usc.edu/article/new-digital-resources-la-community-histories
https://libraries.usc.edu/article/sharing-la-community-histories

Archives Listservs & Websites

Search archives of archives listservs and websites for recommendations and best practices content, in particular around tools and platforms used for digital exhibitions. Potential organizations include:

- Society of American Archivists
- Western Archives/SCA
- Los Angeles Archivists Collective
- Digital Library Federation
- Art Libraries Society of North America
- Museum Computer Network
- MARAC
- New England Archivists
- Northwest Archivists
- Society of Southwest Archivists
- Sixty Inches From Center
- Code4Lib
- Archival Education & Research Institute
- California Museum Association?
- AAM
- American Association of State & Local History (AASLH)

End Result

The end result of this research will be a summary document that records trends and observations that will eventually be incorporated into the initial findings report and will be used to shape the questions to be asked in the survey of CCAs, as well as the interviews of CCA representatives.

Publishing Options

Research potential hosting options for publishing and sharing the final guide.

Research Questions:

- Where do community-centered archives go for information about digital archives?

Searches

Search the Web for resources and organizations that support CCAs.

Note: This question may be better answered during the survey and interview portions of the project.

Possibilities:

- EScholarship
- C-CAP website
- Community Archives Collaborative
- Sustainable Heritage Network (for Indigenous communities)
- SAA's Resources & Toolkits page
- Litwin (books)

End Result

The end result of this scan will be a list of potential websites or organizations that can host and disseminate the final guide.

Community-centered Archives

Research will also result in a list of CCAs encountered during the environmental scan. These will be kept in a separate document as possible respondents for surveys and interviews.

Examples:

EastSide Arts Alliance
https://www.eastsideartsalliance.org/community-archival-resource-project

Interference Archive
https://interferencearchive.org/

Willi Smith Community Archive (Cooper Hewitt - community contributions, not CCA)
https://willismitharchive.cargo.site/

East Palo Alto Community Archive
https://catalog.epacommunityarchive.org/

Digital Exhibitions Bibliography

Prepared by Sharon Mizota
September 12, 2023
Updated October 6, 2023

This bibliography represents the resources I reviewed in conducting an environmental scan of literature about creating digital or online exhibitions, with an emphasis on practical “how-to” guidance that might be helpful to community-centered archives (CCAs) that wish to create such exhibitions.

General Scope Notes

Throughout the notes in this document I use the term “digital exhibition” as a synonym for online, web exhibitions, or exhibits.

There were not a lot of resources written specifically for CCAs, so much of this bibliography includes resources that were written with traditional libraries, archives, and museums in mind.

There is a large body of research on best practices for exhibition-making in general, and I tried to include only those resources that pertain specifically to digital exhibitions, or contain a section on digital exhibitions.

There are also a lot of resources related to virtual reality and computer-generated, 3D exhibitions, particularly in a museum context, which simulate the experience of walking through a physical space. As such exhibitions are often time-consuming and expensive to produce, and much of this literature is written with the assumption that the exhibition-makers are museums with an existing physical exhibition space, I concluded that community-centered archives (CCAs) would most likely not be interested or able to create such exhibitions. Consequently, I did not include many resources that were specific to these kinds of exhibitions.

Best Practices

I tried to limit this section to published best practice articles and guides that are not tied to a particular institution. There are many guides that provide guidance on tools and capabilities specific to an individual institution. These were included only when they contained content that was broadly applicable.

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Ethics - General

There is a lot of content about how to do ethical, collaborative exhibitions with communities but it is written largely from the point of view of mainstream institutions: how to integrate community

voices and perspectives into your exhibitions, how to co-create/curate exhibitions, etc. There are not a lot of resources for community orgs wanting to create their own exhibitions with ethical and social justice dimensions. It seems representing their perspectives would be considered a contribution to diversity. The question is who is the audience for this report? It is both community orgs and aggregators, but the aggregators won't necessarily be creating exhibitions. The exhibition-related content is for the CCAs.

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Case Studies

There are many, many case studies that provide insight into digital exhibition-making. I chose to focus on those that involve CCAs or content related to marginalized communities.

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Collaborations with students

These articles have yet to be reviewed but were added to provide background for the piloting of the toolkit with a UCI class.

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Background

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Digital Exhibition Factors

33		1	11	8	22	7	1	7	13	12	3
Resource	**Domain**	**Type of institution & expectations thereof**	**Defines digital exhibition**	**Goals of institution**	**Audience needs**	**Audience technical literacy/capacity**	**Learning theories**	**Educational level/lifecycle/ purpose**	**Adaptivity to different cognitive styles/Accessibility**	**Involving users in development/Co-curation w/ community**	**Stakeholder buy-in**
Antoniou	Museums	x			x		x	x	x	x	
ARLIS	Libraries			x	x			x	x	x	
Barth	Archives			x	x				x		
Bertrand	Museums				x				x	x	
Braun	Archives										
Carreras	Museums		x	x	x						
Chee Koon	Museums				x	x			x	x	
Ciaccheri	Museums				x	x			x		
Connor	Museums		x		x						
Copplestone	Museums				x					x	
Dekker	Museums									x	
Denzer	General				x	x					
Dumitrescu	General		x		x				x		
England	Museums		x		x						
Foo	General		x	x	x			x	x		
Franks	Archives		x		x	x			x		x
Goldblum	Museums				x			x			
Hoffman	Museums										
Howgill	Archives										
Huang	Museums										x
Jordan Schnitzer Mu	Museums			x	x						
Kahn	Museums		x	x	x				x	x	
King	Museums				x				x	x	
Marsh	General		x	x	x	x		x		x	x
Meng	Museums				x	x			x		
Narlock	General		x								
Newton Gresham	Libraries		x								
Novara	Libraries										
Piacente	Museums		x	x	x	x		x	x	x	
Proctor	Museums									x	
Serrell	Museums				x			x			
Thornhill	General										
Xiao	Museums									x	

Digital Exhibition Factors

33		2	4	4	3	12	7	5	3	8	11
Resource	**Domain**	**Copyright/permissions**	**Capacity/interest of staff**	**Roles**	**DEI/reparative/ social justice**	**Goals of exhibition**	**Collection strengths**	**Current events**	**Other activities of institution**	**Documentation/Metadata**	**Evaluation/user feedback**
Antoniou	Museums										
ARLIS	Libraries		x		x	x	x	x	x	x	x
Barth	Archives					x	x	x	x	x	x
Bertrand	Museums										
Braun	Archives						x			x	
Carreras	Museums		x								
Chee Koon	Museums					x					x
Ciaccheri	Museums					x		x			x
Connor	Museums										
Copplestone	Museums					x					
Dekker	Museums										
Denzer	General	x									
Dumitrescu	General			x							
England	Museums										
Foo	General			x			x			x	
Franks	Archives				x	x					
Goldblum	Museums										
Hoffman	Museums										x
Howgill	Archives										x
Huang	Museums		x								
Jordan Schnitzer Mu	Museums					x	x		x	x	x
Kahn	Museums		x			x					
King	Museums					x					x
Marsh	General	x				x	x	x		x	x
Meng	Museums										
Narlock	General										
Newton Gresham	Libraries										
Novara	Libraries									x	x
Piacente	Museums			x	x	x	x	x			x
Proctor	Museums			x							
Serrell	Museums					x				x	
Thornhill	General										
Xiao	Museums										

Digital Exhibition Factors

33		6	10	1	4	3	12	12	6	5	3
Resource	**Domain**	**Marketing & outreach**	**Consistent & effective design/navigation**	**Help information**	**Widely supported file formats/Digitization**	**Tool recommendations**	**Links to contextual resources/metadata/other objects**	**Interactivity**	**Technical infrastructure**	**Cultural sensitivity/alerts**	**User testing**
Antoniou	Museums										
ARLIS	Libraries	x	x		x		x			x	x
Barth	Archives	x	x								
Bertrand	Museums						x			x	
Braun	Archives										
Carreras	Museums	x					x	x	x		
Chee Koon	Museums		x	x	x		x				x
Ciaccheri	Museums		x					x			x
Connor	Museums						x	x			
Copplestone	Museums							x			
Dekker	Museums						x				
Denzer	General				x	x				x	
Dumitrescu	General					x	x	x			
England	Museums		x					x			
Foo	General				x		x		x		
Franks	Archives										
Goldblum	Museums						x	x			
Hoffman	Museums		x					x	x		
Howgill	Archives										
Huang	Museums										
Jordan Schnitzer Mu	Museums	x									
Kahn	Museums		x								
King	Museums		x					x			
Marsh	General	x	x			x	x		x		
Meng	Museums						x	x			
Narlock	General										
Newton Gresham	Libraries										
Novara	Libraries										
Piacente	Museums	x	x					x	x	x	
Proctor	Museums										
Serrell	Museums									x	
Thornhill	General								x		
Xiao	Museums						x	x			

Digital Exhibition Factors

33		4	6	5	6	2
Resource	**Domain**	**Regular review for currency/updates**	**Financial management**	**Preservation/Lifecycle**	**Surprise/unpredictability/discovery**	**Interrogating the "platform"**
Antoniou	Museums					
ARLIS	Libraries	x	x			
Barth	Archives					
Bertrand	Museums				x	
Braun	Archives					
Carreras	Museums			x	x	
Chee Koon	Museums					
Ciaccheri	Museums				x	
Connor	Museums					x
Copplestone	Museums				x	
Dekker	Museums			x	x	x
Denzer	General	x		x		
Dumitrescu	General	x				
England	Museums					
Foo	General				x	
Franks	Archives					
Goldblum	Museums					
Hoffman	Museums		x			
Howgill	Archives		x			
Huang	Museums		x			
Jordan Schnitzer Mu	Museums		x			
Kahn	Museums	x				
King	Museums					
Marsh	General			x		
Meng	Museums					
Narlock	General					
Newton Gresham	Libraries					
Novara	Libraries					
Piacente	Museums		x	x		
Proctor	Museums					
Serrell	Museums					
Thornhill	General					
Xiao	Museums					

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