



Creative Prompts

for

Designers, Archivists, and Educators



Thanks to a grant from the Institute of Museum and Library Services (IMLS), the Designmatters Studio co-hosted with Interaction Design, in the Spring and Summer of 2021, challenged ArtCenter students to incorporate human-centered design processes into innovative experiences accessing archival digital collections in ArtCenter's Archives and Special Collections.

This guide gives designers, educators, and archivists specific discussion prompts and practical exercises gleaned from our Reimagining Access project at ArtCenter. It is meant to complement Human Interface Guidelines for Accessibility from major operating systems, not replace them. We offer questions and discussion to build and enrich access as a practice.

Through participation in an ArtCenter two-day symposium on accessibility, along with hands-on research, participatory interviews with those in the disability communities, working with archival professionals, and prototype creation, students began to deeply understand how designers are effectively shaping the digital accessibility landscape with creativity and imagination.

Our perspective as educators and designers leads us to focus on practice; how we learn in the classroom through discussion and critique, and how we work iteratively to craft digital experiences in the archives.



Practice includes working with participants from the disability community. We designed and carried out our research with the Institutional Review Board at Michigan State University (STUDY00004334). The purpose of IRB review is to assure, both in advance and by periodic review, that appropriate steps are taken to protect the rights and welfare of people participating in the design and development process. We recommend that anyone engaged in disability design use the IRB group process to review research protocols and related materials (e.g., informed consent documents and investigator brochures) to ensure protection of the rights and welfare of human subjects of research.

Throughout the program we relied on the National Center on Disability and Journalism <https://ncdj.org/style-guide/> for inclusive language. Terms such as “user” tend to be technology centric, distancing the individual from a community of archivists, visitors, researchers and participants. We employ the term “visitor” to reflect the people served and welcomed by the archive. Visitors can be visitors to digital or physical archives.



These discussion and practice prompts are divided into four overlapping areas.

Multiple pathways

Empower visitors to access information freely through their preferred style of exploration.

Provide consistency and predictability in tools and content formatting for further discovery and learnability.

Design Systems

Enable interface structures to be compatible with all assistive technologies.

Manipulate information architecture to cater to personal preferences.

Use human interface guidelines for accessibility, color and compatibility with assistive technologies.



Workflows

Allow visitors the ability to map their exploration within the archives and relationships between different items and collections.

Allow visitors to organize their research and saved items.


Community and Connection

Develop holistic perspectives and stories of items and collections by capturing input from authors, donors, archivists, and community members.

Provide 24/7 support and an easy means to contact and interact with archivists and the community.



Multiple Pathways



Designers can leverage existing assistive technologies and users' own workflows in an ethos of "Bring your own devices". They can consider APIs, integration points and interoperability to build on existing systems rather than trying to create exhaustive broad solutions. Many people use keyboard hot keys and screen readers to navigate websites and online materials. A clear layout supports optimal access to information using these tools.

Discussion - How do visitors navigate your digital archive?

- ❓ How many different workflows are available to the user?
- ❓ Since Blind and low-vision users use visual and spatial orientation on screen layouts, how does the existing layout hinder and/or enhance navigation?
- ❓ Many people with disabilities use keyboards to surf the web. Is information easily displayed for the simple use of a keyboard or screen reader?
- ❓ How might a user use hotkeys to move around the archives?
- ❓ How might the interface provide the right affordances that can easily train users memory of hot key combinations?


Practice

1

Enable keyboard navigation or use and search a digital archive for a keyword of your choice. What is the experience like to navigate through the search results and find a relevant collection and item?

2

Use a screen reader or a screen magnification application and browse for items of a specific topic. How many steps does it take to access the content you want to find?



People have multiple ways of finding, filtering, and sorting. Presenting items and collections in an archive in a visually friendly format and consistent information architecture allows visitors to easily collect and organize research. Clear and consistent navigation and information architecture helps establish a sense of place and the potential steps, options, and exits provided for users, as well as their current location within the system.

***Discussion - Are there multiple ways to interface with the archives?
For example using Search, Menus and Browsing?***

- ❓ Is a visitor easily able to make visual connections between categories through a consistent design system i.e. font style, weight, and color that allows a visitor to easily gather information?
- ❓ Are there ways besides visual connections (font, weight, color) that meaning and information is conveyed?
- ❓ Does the structure of the site and content allow for different personal search strategies, e.g. using keywords, natural language search, taxonomies.
- ❓ How do people know where they are in the application, in their workflow and in the archives?
- ❓ How could type ahead and whisper text support search and what are the “rules” for automated autofill?

Multiple Pathways : High-level Overviews

Practice

1

How might different font weights and styles shift the user's attention? What happens when you bold the first couple letters of a word at the beginning of each paragraph? How does that disrupt or enhance the readability of the text? Try this exercise with and without a screen reader.

2

Do a keyword search in a digital archive. Analyze how the results are displayed. Document your experience using filters and sort options. If individual items are displayed, does the database make it clear what institutions and/or collections the items came from?



Offering multiple ways to access images, audio, and video fosters equitable knowledge and makes archival media accessible to everyone.

Discussion - How do visitors access different types of media? Is there more than one way?

- ❓ What are the pros and cons of authoring versus automating closed captions for video and audio? How might accuracy be ensured?
- ❓ Is it clear to visitors when there are multiple ways to access content (for example, both transcriptions and audio of an item)? How is it conveyed?
- ❓ Do you run Optical Character Recognition (OCR) on your PDFs in order to enhance the accessibility?
- ❓ How might alt-text and descriptions be generated throughout multiple frames of a video?

Practice

1


Create transcriptions to your audio and video holdings. How will you link transcriptions to audio and video in your digital collections to make it clear and accessible?

2

Upload a video to your digital archives. Is there an option for automatically adding closed captioning? Review the auto-generated captions. How accurate are they?



Design Systems



All great visual design pays attention to design systems. Making those systems interactive and accessible allows screen readers to leverage grid systems, color coding, metadata, captions, keywords, tags, groupings, and order/flow. Paying attention to the page layout reduces screen reader confusion as they read in a linear sequence from left to right.

Discussion - How do the design systems help or hinder a visitor?

- ❓ Is there more than font style, weight, and color that allow a visitor to easily gather information and make connections?
Are visitors able to select their font, size and color of choice a font that is Sans-serif, non-oblique or specifically designed e.g Dyslexie or OpenDyslexic font?
- ❓ Has a consistent hierarchy been established in labeling? How is a visitor encouraged to discover connections between items without getting lost?

Practice

1

What does your site, page or material look like in a specifically designed font? Try e.g Dyslexie or OpenDyslexic font.

2

Open a finding aid on archives site and read through it, with and without a screen reader. Is the arrangement of the collection clear when using the screen reader?

Visual characteristics of content, such as color, shape, and placement cannot be the only means of understanding or interpreting content. In addition, text must always have sufficient visual contrast against the background, and text must be resizable without impacting page content or functionality. Every visitor works at their own pace, do not have short time limitations or time-outs.

Discussion

- Are the links/buttons large enough to allow users with low vision to easily activate them?
- For menus that expand by hovering, do they appear long enough to review the content?
- How does the interface design impact the visitor experience?
- How much cognitive load does the visitor experience? Can you consider interfaces without animated and auto-updating content?
- How much white space is present on the site? Users with low vision using screen magnifiers often struggle with it because they lose their focus and bearings on the page.


Practice

1

Resize the text with different sizes. Is the content easy to navigate and understand?

2

Photosensitive Epilepsy Analysis Tool: Use this tool to help you detect and eliminate problematic flashing.
<https://www.accessibility.com/glossary/peat-photosensitive-epilepsy-analysis-tool>



Everyone sees color a little differently. The National Eye Institute explains that people diagnosed with color blindness find it hard to tell the difference between certain colors, may have difficulty seeing how bright colors are, or the difference between different shades of color.

Discussion

- ❓ Are you relying on color alone to indicate navigation or meaning? How might you use various icons or shapes in addition to color?
- ❓ Are you using enough color contrast between the foreground and background so that people who are color blind can distinguish the two?

Practice

- 1 What do your materials look like in black and white or grayscale? Is the visual hierarchy, call to action, and content groupings clear?
- 2 Look at your website or tool in a color blindness simulator and your graphics or print-ready materials in a color blindness simulator to see how people with different types of color blindness see your work. <https://toptal.com/designers/colorfilter>
- 3 Use a color contrast tool to check the contrast on your website. What changes did you make? <https://accessibilitychecker.org/color-contrast-checker/>

Many people who are Deaf or hard of hearing have some level of hearing. The amount of hearing a Deaf or hard of hearing person has is called 'residual hearing.' Technology does not "cure" hearing loss, but may help an individual with hearing loss to make the most of their residual hearing. Options include hearing aids, cochlear or brainstem implants, bone-anchored hearing aids, and other assistive devices.

Consider too that many people in shared spaces turn the sound off when they use an application. Paying attention to sound design supports many contexts of use.

**Note: Voice User Interfaces are quite different from Graphical User Interfaces. In our project we focused on GUIs for web applications.*

Discussion

- Does your application depend on audio? If so, how and what might be an alternative?
- Are the sounds you use harmonically complex or overly long?

Think about the flow of your sounds as you move through the experience of your website or application.
- Design your sounds so they work together as a system, just as you would in visual design. Do they create a palette of sounds with distinct yet coherent tones?
- People have varied tolerance levels for repetition. How will you gauge people's tolerance for sound repetition?

Practice

1


Play your page or app through subtitles only. How easy is it to use, understand and complete?

2

Watch The Importance of Captions (1:48 mins)
https://www.youtube.com/embed/33krnU_juFE



Workflows



Websites must provide a straightforward means for visitors to understand all inputs and forms. This includes making sure that the relationship between form elements and their labels is interpretable by assistive technologies, identifying errors and providing suggestions for correction, and, in the case of legal and financial transactions and data storage, allowing users to modify or review information before it is submitted.

Discussion

- ❓ Do your forms work well with screen readers? Forms that do not provide error feedback to screen readers make it difficult or impossible to fill out forms for many users.
- ❓ How can a time-out feature hinder visitors? When forms incorporate a short time-out feature for security purposes, users navigating by keyboard or using screen readers may have insufficient time to complete the form before it times out.
- ❓ Is there consistency to your forms?
Consistency: The same action has to cause the same reaction, every time.

Practice

1

Try your form with a screen reader.

2

Make some errors on purpose. Errors should be prevented before they occur to the extent possible by providing easily available instructions and help documentation and supporting learning. If an error does occur, the system should help users recognize, understand, and recover from it. Try the following:

Pop-ups:

Center the pop-up and have a black page overlay, which is a universal signal to users to let them know that there is something there?

Feedback:

What are the different options for feedback that you could use? Try a sound, a moving dial, a spinning rainbow wheel, to let the visitor know that their action caused something.

Discovery through description helps visitors locate materials whilst easy categorization and output supports using their research in meaningful ways. Accurate description of materials allows visitors to easily make connections and discover new material.

Discussion

- ? Image descriptions often reflect their author. Who writes alt-text and descriptions in your digital archive? Are they reviewed for usability or readability?
- ? Is there a difference between alt-text and descriptions?
- ? Are alt-text and descriptions free of bias and harmful language? In what ways do you make your descriptions and subject headings inclusive?
- ? How do you generate alt-text in a photo, video, or audio recording?
- ? Is the description of your work easily digestible by everyone? What keywords would be useful for discovering your work in an archive?
- ? How might we leverage machine learning to generate alt-text?
- ? How do archives staff balance creating thorough item-level descriptions, which can make the items more accessible, with increasing backlog of materials?


Practice

1

Describe a piece of artwork through the lens of a single role. Consider insights and inputs of author, domain experts, community members, archivists. How might each role fill in knowledge gaps?

2

Ask 2-3 staff members in your archives to write descriptions for 5 images. Compare what was written and discuss the differences.



Each visitor has their own mental models of how archives work, personal organization strategies and research goals. How might we organize saved items and records to easily access for future use?

Discussion

- ① Once a visitor has gathered materials, is there a system to organize the research items?
- ② Can a visitor create categories and/or folders with metadata specific to their research?
- ③ How does a visitor easily navigate with hot keys and screen readers for easy access to the saved records and items?

Practice

1

Find a digital archives with a clipboard or similar saving tool and save several catalog records and items to it. Write down the experience of using it and the features available. How would you improve it?

2

Do the first exercise again, but this time using a screen reader. Describe any obstacles you faced saving and accessing items.

Efficiently exporting research findings from a digital archive to various platforms in a streamlined process saves time. How might we reduce the steps it takes to export single or multiple information in different media formats (image, video, text, links, PDF) with citation from one platform to another?

Consider having assistive tools as the final destination.

Discussion

- ❓ How does a visitor export information? Is it the same process for documents, videos, audio recordings, links, etc.?
- ❓ Once information is exported, how is it efficiently processed for further research?
- ❓ Is the export process compatible with a visitor's existing tools and platforms?

Practice

1


Go to a digital archive website and select a minimum of 5 items to export to your computer. Based on its relevancy of the metadata, how would you organize them to be processed for further research? Are there other categories or tagging systems in the metadata that you would add to help you organize better?

2

For the same items as above, export the catalog records and item links into a reference application like Zotero. Do they all export correctly?



Community + Connection



Visitors should be able to conveniently connect with an archivist. How might archivists create a process for self-directed and self-paced path to problem solving, for example through FAQs, tutorials, as well as direct contacts to archivists so that visitors have 24/7 service?

Discussion

- ① How does a visitor ask for help and contact an archivist?
- ② Is an email address, phone number, and chat box clearly displayed on the archive site?
- ③ How does a visitor know that an item is not yet digitized, and how do they request it?

Practice

- 1 Think of new ways for researchers and donors to contact your archives, including directly from your digital archives. How can this exchange happen in an accessible way?
- 2 How could your design include Q+A, communication and connection between visitors?
- 3 Visit a digital archive and find a digital image. Is there a clear way to contact that archive if you have additional information about that image? Similarly, find a description for an item not digitized, is there a clear procedure to request digitization?



Resources

Web Accessibility: Free web accessibility test will determine whether your website complies with the Web Content Accessibility Guidelines (WCAG) 2.0 standards.

Accessible Colors: allows you to input the HEX code, size and weight of your text color, HEX code of your background color and the standard your website is required to comply with.

WAVE Chrome extension: Evaluate your website accessibility standing right from your browser.

Image Alt Test: Check if images on your webpage are using alt attributes. If an image cannot be displayed (e.g., due to broken image source, slow internet connection, etc.), the alt attribute provides alternative information.

Dead Link Checker: Are broken links damaging your website's rankings and usability? There's no getting around it – error 404 pages are bad for business. Dead Link Checker crawls through your website, identifying broken links for you to correct.

Resources

Amara: Amara.org makes it easy to add your subtitles in multiple languages.

Closed Caption Creator an easy user interface and shortcuts allow you to add captions in a short amount of time.

NVDA: NVDA is a free, open-source, international, high-quality screen reader developed by the not-for-profit organization NV Access.

ChromeVox: This Chrome browser extension is easy to install and allows you to try screen reading out on your site quickly and easily.

Photosensitive Epilepsy Analysis Tool: This tool will help you detect and eliminate problematic flashing.

<https://ncdj.org/style-guide/> Inclusive language from the National Center on Disability and Journalism



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To learn more about the research process, please scan the QR code