

Team B.O.B.

Anthony Palileo, Elizabeth Costa, John Ma



Our goal was to offer accessibility recommendations for ArtCenter's digital archive that enhanced both perceptibility and usability.

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Participatory Sessions Design & Planning

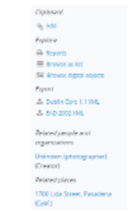
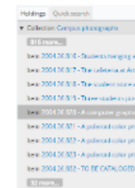
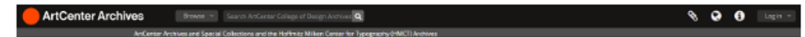
Key inquiries:

- Participants' **experience** with **assistive technologies** (positive and negative)
- Any existing **shortcuts and DIY** workarounds
- Current and **preferred arrangements** of information and content



Participant activities:

- Card sort
- Interface “rearrange” exercise



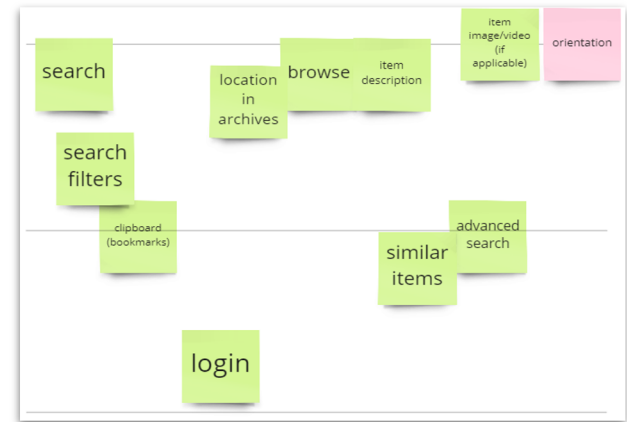
Pre-interview assumptions:

- **Simple gestural interface** could provide accessible means of user input
- Users would benefit from a **'block' system** that would break the interface into predefined sections
- **Excess diminishes** access

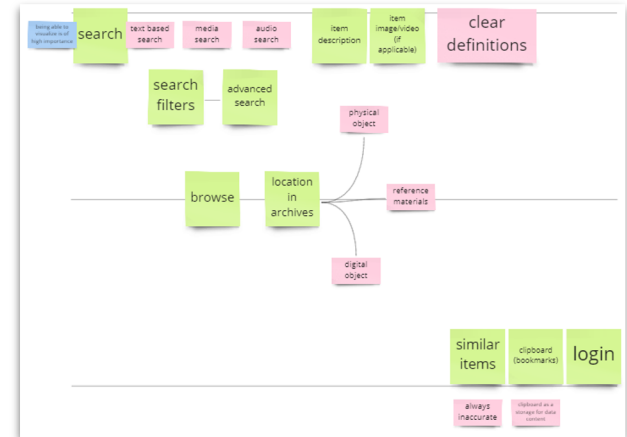
Participatory Sessions Review & Insights

Card sorting insights:

- **Search** is of high importance in libraries and archives
- Orientation within a **library or archives** is especially important for assistive tech
- Items and their descriptions must be **relevant and clear**



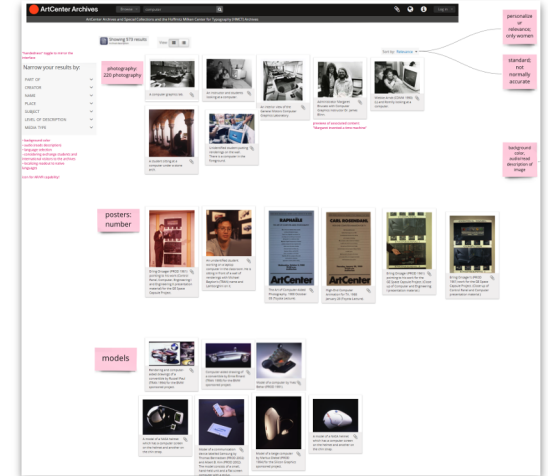
Participant with blindness



Participant with Autism

Interface “rearrange” insights:

- Assistive technology **conveys interface** content in a linear fashion
- **Lists** are more effective than grids
- **“Chunking”** large quantities of **information** allows for greater ease of navigation and perception



Excerpts of our research coding spreadsheets

Research coding insights:

- **Overlap** found in both that we found relating to overall organization of the website and its content
- Both find themselves needing to use additional assistive technology to successfully navigate
- One of our participants heavily emphasized a need for pre-categorization within archival content

Timestamp	Quotes	Codes	Category: Meanings	Patterns
Participant 1 04/06/2021 5:00 PM				
Background				
04:28	"What I like about Kurzweil is that it enables me to read a lot of stuff that might not be available from sources like the National Library Service for the Blind or booklinking.org"	enabling, inclusive	assistive technology provides a access to information designed for sighted users	has lots of experience with assistive technology, appreciates clear and simple interactions
06:07	"I don't have a lot of patience for sitting down and just fiddling around with technology"	patience, fiddling	concerned with time, prefers clear interaction	
06:14	"I do like that I'm able to do a list of the things with the iPhone that sighted people could do"	able, sighted people	assistive technology gives a sense of 'inclusivity'	
06:36	"I believe WindowsEyes was more user friendly, more intuitive, and I think it was, even though it worked just as well, probably better, it was simpler"	user friendly, more intuitive	seeks ease of use and appreciates simplicity	
Orientation				
11:36	"I find there are usually not very many functional navigational links"	lack of functional links	struggles with navigation	accessible navigation should always be included but also properly maintained
12:02	"It also find that I have to click a wide variety of buttons just to get to the text I'm searching for"	excess interactions	navigation requires effort	
Precedents				
15:29	"I'm so used to using a standard keyboard that I'm a little bit afraid of making a change"	adapt, change	finds familiarity to be an important factor in technology use	leverage inputs and interactions that are available to users
Card Sort				
19:51	"I often haven't had any issue logging onto anything"	no issue, login	finds login easy overall	maintain clarity for login, but include breadcrumbs and navigational history for orientation
22:58	"It's really helpful if I could get back to where I was before I hit a link or hit a button"	helpful, previous state	seeks clearer wayfinding in interfaces	
Rearrange Exercise				
30:31	"You want to be able to narrow it down, right off the bat"	narrow, off the bat	seeks to manage high quantities of information	clear organization and proper labeling of interface content
34:09	"For me personally I would rather have a list than a grid"	list over grid	preference based on screen reader	
42:13	"Maybe the actual result should be under the navigation block"	under, block	places blocks in a vertical stack	
42:54	"I would put that at the bottom"	bottom	stacks items in a vertical/linear fashion	

Timestamp	Quotes	Codes	Category: Meanings	Patterns
Participant 2 04/06/2021 4:00 PM				
Background				
2:08	"Or sometimes I'll cut and paste big blocks of text and split them out if it's too close together"	big, blocks, split, close, together	adjusting the way she looks at information in a manner that works best for her	additional device screens, organizing information the way she prefers
2:18	"Usually I'll have 2 monitors, because sometimes information can get overwhelming"	two, information, overwhelming	using a second device screen to divide the amount of information	
2:21	"I have my main laptop and then I have 2 monitors so I guess that's like 3 screens? So I can have a sort and a category screen and big buckets of information"	sort, categorize, screens, big, buckets, information	adding a second and third device screen to better organize and categorize information	
Orientation				
4:58	"I think they don't do a really good job with, like, crossreferencing and mapping information"	don't, crossreferencing, mapping information	overall problem with the way information is organized in most digital archives	issues with organization, additional cross referencing
5:19	"Also, I think for the entertainment industry they haven't quite embraced information architecture the way that archives and special collections have"	haven't, information architecture	overall lack of IA presence found within special collections in the entertainment industry	
5:32	"They don't organize information in a way that's really, um, supports, like, discovery, and so you find that you have to use a lot of... cross referencing..."	don't, organize, information, discovery, crossreferencing of the site	she feels the need to do additional work to make her discovery due to the organization of the site	
Precedents				
8:22	"Like the tablets, using my fingers for things... and, uh, when I use my ocular, I'll use gesturing for that"	tablets, fingers, ocular, gesturing	she considers gestures to be valid and/or interactions	enjoys using gestures she currently uses
9:29	"Um, but for me, just being able to like, touch in a certain degree, like touch and swipe... other than that it's just my hands, there's not a lot of haptic feedback"	touch, swipe, hands, haptic, feedback	she enjoys the minimal amount of gestures she uses now; potential for more	
10:42	"I really don't use Siri, or Alexa, or anything like that, I feel like they're really limited in that way"	don't, limited	she doesn't want to feel the need to work with and train the thing she is using to search	
Card Sort				
14:47	"Whatever part of the spectrum I am for autism, being able to visualize things is really important"	visualize, important	visualizing information is extremely important to her due to her autism	

Post-interview discoveries:

- **Gesture** cannot solve the core problem
- **Organization and structuring** of content can make up for the volume
- **Proper labeling and descriptions** are key to provide clarity and understanding of the interface
- Assistive technology directly influences the way that **users perceive** the interface

Design Concepts

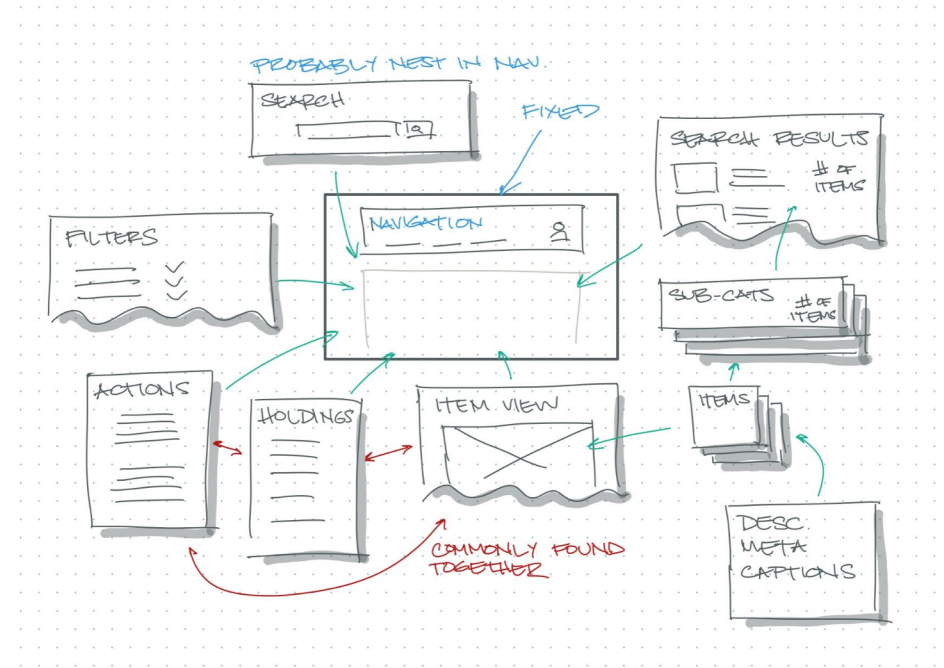
Opportunity 1

Creating an information system that introduces each page with a “table of contents” for navigating in a top-down hierarchical methodology

*"They [Online Archives] don't organize information
in a way that really supports discovery, and so you
find that you have to use a lot of cross referencing"*
— Interview Participant

Modular 'block' system

- Page overview with **"table of contents"** of blocks introduces the overall structure
- Concise and detailed **"introduction"** within each **block indicating** its contents, with option to skip or engage, provides
- **Hierarchy of 'blocks' and 'sub-blocks'** improve navigation with assistive technology



Opportunity 2

Reorganize UI elements in such a way that sighted and non-sighted visitors have a more consistent experience.

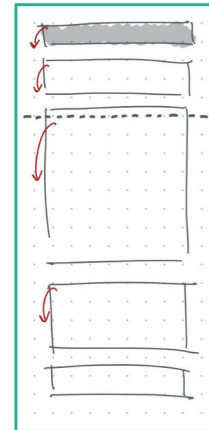
"One challenge is that I find there are usually not very many functional navigational links."

"Typically screen readers read from top to bottom, and left to right."

— Interview Participant

Single column arrangement proposal

- A **single column** creates a familiar scrolling pattern to mobile devices and presents information similarly in visual and screen read formats
- **"Hidden links"** throughout the interface to permit efficient navigation throughout the content



PAGE INTRO. w/
"TABLE OF CONTENTS"

STACK OF "BLOCKS"

SINGLE COLUMN
STRUCTURE

"SKIP" LINK IN EACH
BLOCK FOR QUICK
NAVIGATION THROUGH
CONTENT

BLOCKS STACKED BY
HIERARCHY OF
IMPORTANCE

← NAVIGABLE
BY KEYSTROKE,
VOICE COMMAND,
OR GESTURE

Opportunity 3

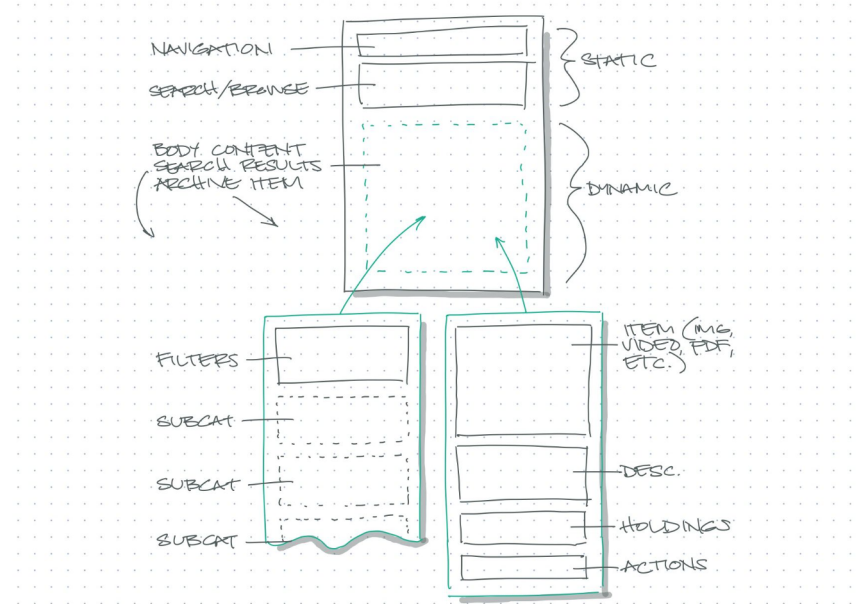
Potentially "pre-categorizing" large volumes of content to break numbers into more digestible chunks

"I have my main laptop and then I have 2 monitors so i guess that's like 3 screens? So I can kind of sort and categorize screens and big buckets of information"

— Interview Participant

Predefined categories with content dependency

- **Base categorization system** with evolving interconnection based on user trends analysis creates greater refinement and more categorical specificity
- **Rich alt-text, metadata, captions, transcripts, and item descriptions** provide greater perception



Prototype

System Requirements

- WCAG 2.1 Level AA compliance for accessibility and use with assistive technologies
- Make sure coding (HTML, CSS, etc.) is properly placing content into our block system
- Ensure that content is programmed for assistive technologies, enabling a frictionless frontend experience (ARIA markup language).

Considering alternative input devices

- Speech input software
- Head pointers
- Motion or eye tracking
- Single switch entry devices

Reflection

Greater awareness of the need for accessibility in digital interfaces and other products

Heightened sensitivity to various accessibility needs and their **potential intersectionality**

Strengthened belief that **accessibility should be a tenet of all design** rather than an afterthought

Thank you.

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