Aspen Pilot Research Summary

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Contents

Aspen Pilot Libraries

- Chicago Ridge Public Library
    - Eva Baggili, Public Services Lead
    - Rhone Talsma, OPAC Admin
- Downers Grove Public Library
    - Cindy Khatri, OPAC Admin
    - Lizzie Matkowski, Public Services Lead
    - Joy Matteson, Public Services Lead
    - Amy Prechel, Cataloging Lead
- Oak Brook Public Library
    - Hubbell Hinkhouse, Public Services Lead
    - Melissa Siddiqui, Cataloging Lead and OPAC Admin
- Oak Park Public Library
    - Martyn Churchouse, Public Services Lead
    - Barbara Fitzgerald, Cataloging Lead
    - Eisa Sweis, OPAC Admin
- Saint Charles Public Library District
    - Jane Piraino, Public Services Lead
    - Sarah Slack, OPAC Admin
    - Julie Tegtmeier, Cataloging Lead
- Villa Park Public Library
    - John Bradford, Cataloging Lead
    - Erin Damm, OPAC Admin
    - Jean Jansen, Public Services Lead
- Tinley Park Public Library
    - Joy Anhalt, Cataloging Lead
    - Graham Dostal, OPAC Admin
    - Valerie Zulevic, Public Services Lead

Pilot libraries and leads were selected through an application process, conducted in November 2020, and selected based on the following criteria:

- **Cataloging libraries**: We aimed to recruit cataloging libraries to participate in testing of cataloging functions.

- **E-resource coverage:** Between participating pilot libraries, we recruited to maximize testing available e-resource connections to the catalog.

- **Diversity in size and location:** We aimed to recruit libraries reflective of the diversity of our membership.

- **Past participation:** Preference was given to libraries and staff that have previously made meaningful contributions to user groups and task forces.

Introduction

SWAN's shared discovery platform – used across all 100 libraries in the SWAN membership – is the central tool for patron access to collections, both physical and digital.

The current discovery platform has been a source of frustration in several areas for library staff. Research into alternative discovery platforms for the SWAN consortium began in 2019, supporting Objective 1 of the SWAN 2019-2023 Strategic Plan.[1] A task force of library staff—named "Clarity" -- was formed to help diagnose user frustration with the catalog and staff client software. Following a comprehensive evaluation of discovery platforms, which surveyed 62 platforms, SWAN began a testing phase with Aspen Discovery in May 2020. Seven libraries were selected to participate in a pilot phase with Aspen from December 2020 through April 2021.

Over the course of the testing and pilot phases, SWAN and participating libraries conducted several research activities designed to:

- Understand how patrons use Aspen and how it compares to the current catalog.
- Determine if Aspen Discovery would address staff dissatisfaction with the current catalog, as found in the work of the Clarity Task Force.[2]
- Identify any major issues to Aspen and improve the platform to meet our needs.

Research priorities

To better understand the patron experience with Aspen, the Pilot Leads identified and voted on several research questions to explore during the pilot period. See Appendix 1 for all research questions identified and the vote counts for each.

The top five patron research priorities identified were:

- **Search relevancy**: Are patrons able to find what they are looking for, and is the search relevancy better?
- **Grouped formats**: Do patrons understand the grouped formats?

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[1] Objective 1 of the SWAN 2019-2023 Strategic Plan: https://support.swanlibraries.net/documentation/66668
[2] Clarity Task Force description and report: https://support.swanlibraries.net/documentation/66668#clarity

- **Holdings:** Can patrons easily see what items are at their library and find holdings for items at other libraries?
- **Availability and statuses:** Do patrons understand the availability of items in the catalog? Are the status messages clear?
- **Mobile functionality:** How easy is it to navigate Aspen on a mobile device?

In 2019, the Clarity Task Force conducted focus groups and journaling activities that identified several issues with discovery amongst library staff. The top issues with discovery amongst library staff were:

- **Search relevancy:** Differences due to editions and formats are not apparent and appear to be duplicate records; E-content appears to rank higher in results than physical material.
- **Holdings:** Search results ranking does not favor patron's library copies.
- **Filters/facets:** Filters are not responsive or persistent.
- **Availability and statuses:** Patrons want to search and sort by what is currently available.
- **Series:** Series searching often requires use of other resources such as NoveList, Amazon, GoodReads, Google to get an ordered list of titles in a series.
- **Search suggestions:** WorkFlows and Enterprise are unforgiving and generally unhelpful with one-word titles, misspellings, and punctuation.
- **E-content:** Lack of help, guidance for patron in accessing e-content – multiple barriers to entry in use of e-content.

Finally, digital accessibility is a priority for SWAN. The current catalog provides a separate interface for users with disabilities. This is a problem for two reasons. One, many users that could benefit from accessibility features do not identify as having a disability. Two, not all features available in the "primary" catalog are available in the accessible version. In evaluating Aspen, we hoped to identify accessibility improvements that would be available to all users.

Research activities

SWAN worked with the Discovery and User Experience Advisory Group (DUX) and the Aspen Pilot Leads to perform a range of research activities to evaluate Aspen.

- Search relevancy analysis (Appendix 2)

- Usability testing with patrons from St. Charles Public Library, Elmwood Park Public Library, Downers Grove Public Library, Tinley Park Public Library, and Villa Park Public Library (Appendices 3 - 7)
- Usability testing with Oak Lawn Public Library staff (Appendix 8)
- Beta launch survey (Appendix 9)
- SUPR-Q survey (Appendix 10)
- Accessibility analysis (Appendix 11)

Findings

Search relevancy

Search relevancy is better in Aspen than Enterprise, and there are several features that address staff frustrations and common patron issues.

The search relevancy analysis conducted in July 2020 showed that Aspen produced results that were both more relevant and more precise than Enterprise. For known item searches analyzed, the item was the first result most of the time in Aspen – less than 40% of results were below the first position in results. In Enterprise, the item was not first most of the time – over 66% of results were below the first position in results. In usability testing, all participants were able to locate an item they previously checked out.

Measure	Enterprise Score	Aspen Score
Times below 1st	66.7%	39.4%
Times below 5th	25%	6.1%
Times below 10th	19.4%	0%

In addition to improved relevancy, Aspen offers search suggestions and spelling corrections, which patrons used frequently in usability testing. These also address staff frustration with unforgiving searches in the current catalog.

Even though overall search relevancy in Aspen is much better, usability testing and survey data identified areas of confusion.

Searching for different forms of a number (e.g., four, 4) in Aspen will usually produce results – but not if the number is after an article (e.g., "The 4 Winds" does not return "The Four Winds"). Likely, this could be addressed with minor updates to Aspen, such as an enhanced synonym list.

Finding a specific edition – using the "Show Editions" button in Aspen – was not intuitive for usability testing participants. For example, finding a specific director's cut of a DVD or the record for People magazine 2020. Grouping records improves many aspects of searching, but it also means that some specific records take an extra click to get to. This also may not be a common use case.

In the beta launch survey, one patron noted that there were "unnecessary" results below the item they were looking for. Even with a keyword search for an exact title, Aspen will return similar results.

Grouped formats

Grouped formats offer the potential to resolve staff frustration with sorting through multiple format and edition results for a work. Different editions and formats of a work are grouped together, so you can see all formats and editions available at once. There was some concern that patrons might find these to be confusing, but the research showed that was not the case.

FIGURE 1 GROUPED BLU-RAY, DVD, AND COMBO PACK FORMATS IN ASPEN

1. True grit

by Bridges, Jeff, 1949-
Edition [blu-ray edition].
Publication Date 2011
  Blu-Ray

Holds: 0   Copies at All Libraries: 1

Place Hold

✓ On Shelf
At Downers Grove Public Library

Call #	Location	Type
BLU-RAY TRUE	Downers Grove Public Library 2nd Floor - Adult	Blu-ray

View all copies →

2. True grit

by Bridges, Jeff, 1949-
Edition Blu-ray + DVD version.
Publication Date 2011
  DVD   Blu-Ray

Holds: 0   Copies at All Libraries: 12

Place Hold

⊖ No Copies
At Downers Grove Public Library
You may be able to get this from another library.

Place a hold →   View copies at all libraries →

3. True grit

by Bridges, Jeff, 1949-
Publication Date 2011
  DVD

Holds: 0   Copies at All Libraries: 75

Place Hold

✓ On Shelf
At Downers Grove Public Library

Call #	Location	Type
DVD TRUE	Downers Grove Public Library 2nd Floor - Adult	DVD

View all copies →

4. True grit

Series John Wayne collection.
by Roberts, Marguerite, 1905-1989.
Edition Widescreen.
Publication Date 2005
  DVD

Holds: 0   Copies at All Libraries: 1

Place Hold

⊖ No Copies
At Downers Grove Public Library
You may be able to get this from another library.

Place a hold →   View copies at all libraries →

FIGURE 2 A SELECTION OF UNGROUPED BLU-RAY, DVD, AND COMBO PACK RESULTS IN ENTERPRISE.

In the beta launch survey, we received 15 separate comments about formats and grouping, and all were positive.

In usability testing, issues with the "FRBR-ized" grouped format display were only seen in testing with library staff participants prior to the pilot. This may be in part because the staff participants used a test instance of Aspen that did not contain SWAN data, so they were also working with different facets and formats that appear now.

Patron usability testing participants were easily able to locate specific formats like large print and Kindle. One participant noted: "It tells you right away how many copies there are and how many holds there are…that to me is a bonus. That way it is all here, I can decide which one [format] to take out. This for me is a real bonus."

However, finding a specific edition in within grouped editions was confusing for participants in all three rounds of testing during the pilot. Further research is needed to identify if this is a common use case.

Holdings

There are two major areas of concern around holdings. First is whether patrons can identify whether their library owns an item or, if not, what other libraries own the item. Second is staff frustration that home library copies do not surface to the top of results. The research showed that patrons were able to identify their library's holdings, but they had difficulty seeing the full consortium holdings. Record grouping and grouped holds in Aspen prioritize the catalog library's records, so patrons will see if the library owns any edition of a title and the status of that title.

In usability testing, none of the patron participants had issues identifying items owned by their library. In one round of testing, participants were asked to locate a DVD owned by their library and all passed. In addition, availability filters were used extensively as well to narrow to items owned by the library.

However, both survey responses and usability testing indicate confusion around locating holdings for other libraries. This confusion may be due in part to expectations set by the current catalog behavior. Survey respondents and usability testing participants were frequent library users.

Three survey respondents indicated they thought the catalog was just searching their library's items – in reality, the catalog searches all items in the consortium. Interestingly, one respondent thought Aspen had a "wider search perimeter." One respondent was confused by the search limit dropdown, which in the current catalog

gives the option to limit to "All Libraries" or the home library. In usability testing, 5 out of 6 participants passed a task to identify the owning library for an item not at their library, but 2 passed with difficulty and one participant never found the holdings. One participant expected to see the copies in the detail view, noting that is what happens in the current catalog.

Minor labeling and interaction design tweaks may help as well. Several usability participants expected to click on the status labels, e.g., "Available at another library", which do not currently link to holdings. In addition, the default search is labeled "Entire Collection" and the link to view holdings is labeled "Quick Copy View". These labels were changed recently to "All Libraries" and "View all copies" to match the current catalog. Additional testing is needed to see if these changes help patrons to access holdings.
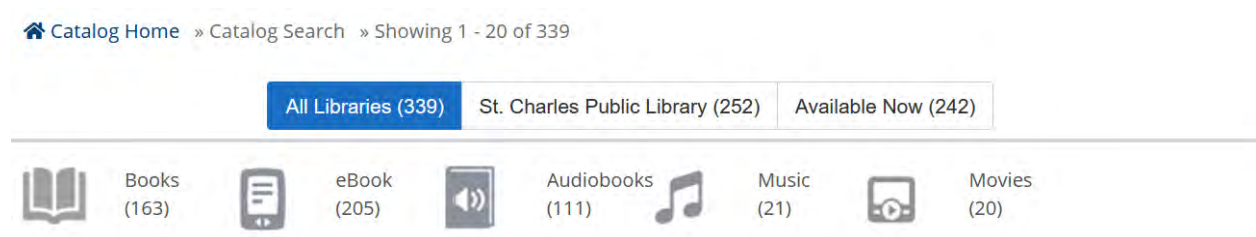
FIGURE 3 CHANGES TO COLLECTION FILTER LABELS
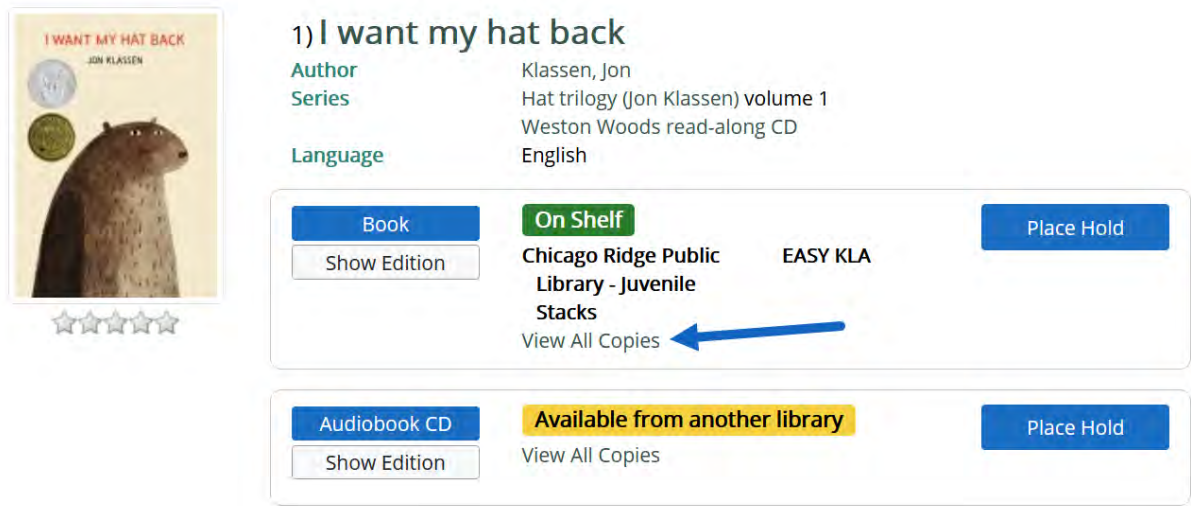
FIGURE 4 CHANGES TO FULL CONSORTIUM HOLDINGS LINK

Availability and statuses

Aspen's availability and status information is clear to patrons, and it offers a key feature that the current catalog does not: the ability to limit by availability. Participants used the "Available now at…" filter extensively during usability testing.

Out of all three rounds of usability testing, just one participant failed a question around locating the status (another was not asked since they couldn't locate the title from the previous task). The participant that failed may be an outlier – they thought because they were not logged in, they weren't seeing the status for their library but for the whole consortium.

Related to availability and statuses, participants were also asked to find call numbers and locations for items and 7 out of 9 succeeded. The two that did not succeed didn't even look for them in the catalog – they "knew" where things were in the library and would just rely on their knowledge of the physical space.

We received 7 survey comments around statuses, and 6 were positive. The single negative comment was tied to locating holdings – the respondent noted they "don't like how difficult it is to see the availability of item at other libraries."

Mobile functionality

Research did not indicate that Aspen is any less usable on a mobile device than a desktop or laptop.

Two-thirds of the usability tests were completed using mobile devices:

- Tablet (e.g., iPad or Surface): 4 participants
- Phone (e.g., iPhone): 2 participants
- Laptop: 3 participants

We did not observe significant differences in task completion rates between participants on laptops and mobile devices. In fact, the average task completion rate for participants on mobile devices was slightly higher than for laptop devices:

- 72.5% for phone users
- 82% for tablet users
- 79.8% for all mobile device users (tablet and phone)
- 72.6% for laptop users

An interesting note: One participant successfully used all available filter options on their phone: dropdown limits to pre-limit a search, checkbox filters, format buttons, and

availability buttons. Filtering searches was expected to be more difficult on phones than on desktop devices.

Series

Finding series in Aspen is easier, especially for book series. In most cases, the volume number of the title in the series is clear and clicking on the series label will return the series in order.

We asked three questions related to book series in usability testing, and 8 out of 9 participants passed. We asked one question related to TV series, and 2 out of 3 participants passed.

Three survey respondents commented on finding series and all comments were positive.

- "I like the ease of getting to other book in a series better with the new one. I also like how it is clearly color coded on whether it is on the shelf, at another library, unavailable, etc."
- "Very easy to find your authors / titles and other series like, other books like it, other authors like it. In 4 screens you can have a lot more reading and listening to add to your wish list."

- "I am really liking the "add to list" feature to make a list of books to read later when I have time. Also, like all the additional links at the bottom of the page, i.e., similar series, similar titles, reviews, etc."

Search suggestions

Aspen offers two ways to improve search terms. Search suggestions appear when you type in keywords, and it also uses a spelling correction feature.
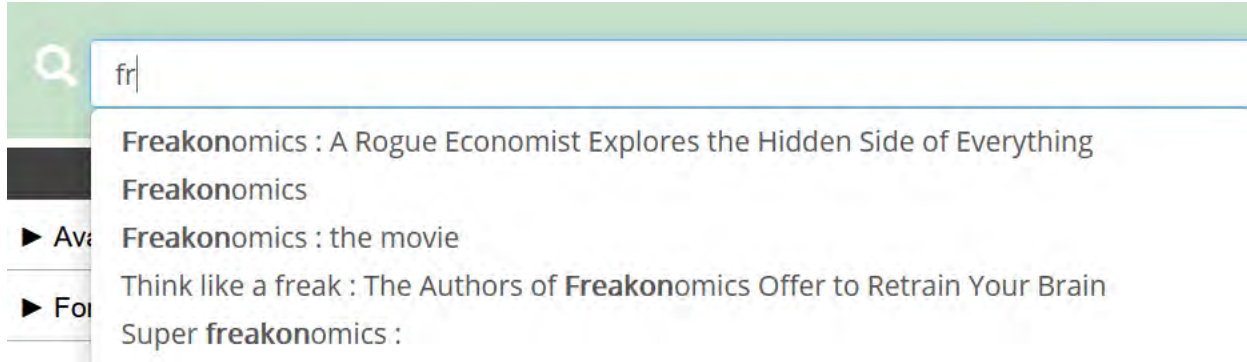
FIGURE 5 SEARCH SUGGESTIONS IN ASPEN.
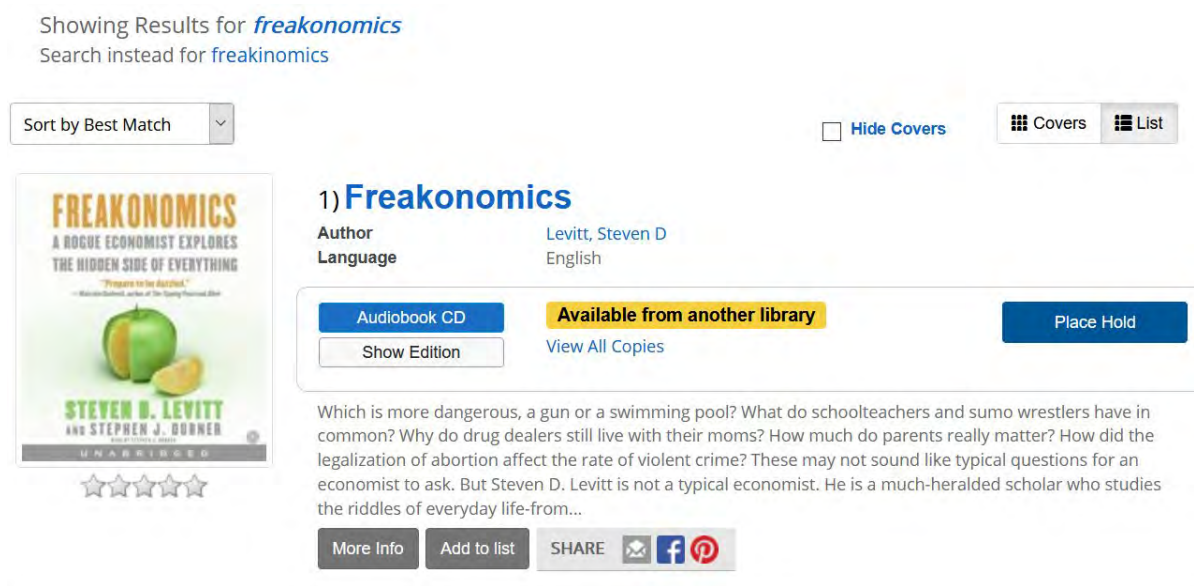
FIGURE 6 SPELLING CORRECTIONS IN ASPEN.

In usability testing, we saw that patrons made use of the search suggestions frequently. However, we also saw in usability testing with staff that the spelling corrections were not always noticed, despite their "Google-like" appearance.

E-content

While Aspen does not solve all barriers to e-content access, it offers significant improvements over the current catalog in handing users off to third-party e-content vendors. Instead of immediately downloading e-content when checked out, often leaving users to wonder what to do next, Aspen clearly puts downloadable e-content

into the user's account and provides clear prompts.
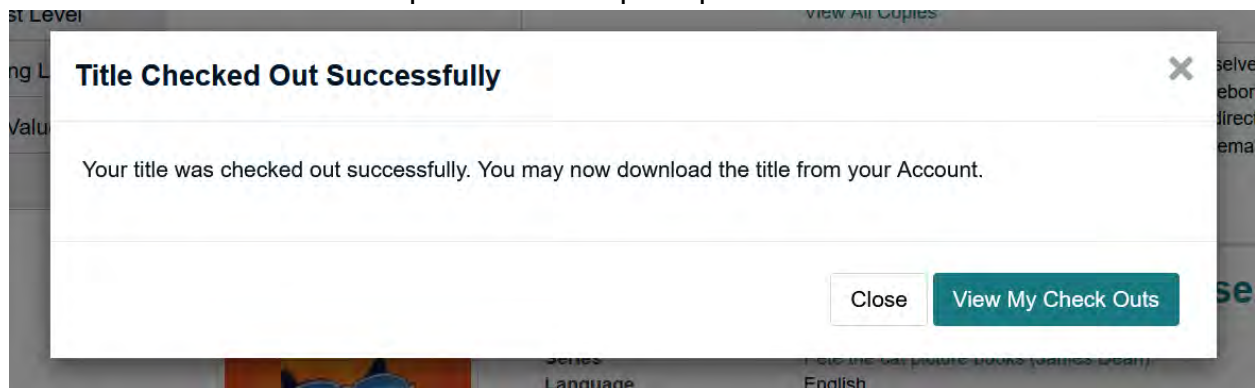
FIGURE 7 DOWNLOADABLE CHECKOUT PROMPT IN ASPEN.

In addition, the placards feature in Enterprise provides a way to return results for commonly searched databases, like Consumer Reports and Ancestry.com.

FIGURE 8 PLACARD IN ASPEN.

In early usability testing, we saw that locating Kindle items was difficult. The addition of a specific Kindle button solved this issue in later testing. We asked two questions around downloading a Kindle item, and all participants passed.

Usability testing around placards showed that design of the placards is key to their success. If they look too much like an "advertisement", participants will not click them. Styling them to look more like search results improved participant's confidence they were seeing a result for the database.

Accessibility

There are further opportunities to improve accessibility in Aspen, but it is much more accessible than our current catalog and provides a single accessible interface for all patrons.

Following SWAN's accessibility analysis, ByWater Solutions made several improvements to landmarks that help with navigation for screen readers, form controls, and color contrast. In addition, they added a new color contrast checking function that helps library staff to choose theme colors that will be at accessible ratios so people with low vision and/or color blindness can use the catalog.

Recommendations

In its current state, Aspen Discovery offers clear advantages over our current catalog and addresses staff frustration in all key areas. Prioritizing staff and patron experience, the SWAN consortium would immediately benefit from using Aspen. Additional work is being done to verify that the platform is stable and scalable to support the full SWAN membership. Once verified, the current catalog could be retired.

In addition to those immediate benefits, over the long-term Aspen offers the ability to affect the development of the platform. About 100 features and bug fixes, requested from SWAN, were added to Aspen over the 12 months of this research.

Key improvements include:

- New format filtering options and labels, including for Kindle.
- Layout improvements for advanced search and grouped formats.
- Accessibility improvements, including a color contrast check for administrators.
- Speed and performance improvements, for both search and account functions

Through continued research and active engagement in the Aspen Discovery community, the consortium could continue to build on this platform and make it even better for staff and patrons.

Appendix 1: Research Priorities Dot Vote January 2021

Methods

Pilot library leads were given the following prompt to independently brainstorm and submit research questions:

- What do you want to know about the patron's experience with Aspen?
    - What do they think, feel, see, say, do
- What are specific tasks we want to be sure that patrons can complete?
    - e.g. place a hold

At the January 18th, 2021 Aspen Pilot Weekly Meeting, the group reviewed each submission and completed a consensus-building dot vote activity.

In a dot vote, each person has a set number of votes, and they can distribute those votes however they wish. For example, they can use all of their votes on one item that is extremely important to them, or they can spread their votes out among multiple items. In this case, each participant had 5 votes and voted using the annotate features in Zoom. Through the dot vote, we can easily see which questions were most important to most people.

Results

Research question	Votes
Search relevancy for known items and topics Are search results more relevant? / Can patrons more easily find a known item? / Can you find what you are looking for easier? / Can patrons more easily find relevant materials on a topic (e.g., starting a new career)?	16
Are the grouped formats confusing?	15
My library's items vs. Other libraries Are patrons able to easily tell if *their* library owns the item, they are looking for? - this often seems less important to librarians, but patrons are often frustrated if they can't make this distinction / Are the locations of items apparent both within your home library and the availability of other libraries?	14

Availability and statuses Can patrons identify what is available and what isn't? / Can patrons understand loan rules and material availability from the information on Aspen? / Can patrons tell what an item status is and translate to appropriate actions?	9
Mobile functionality How easy is it to navigate Aspen on a mobile device? / Are patrons able to access all functions (such as personal information, reading history, e-book checkout etc) as quickly and easily on a mobile device?	9
Are patrons able to manage their holds?	8
Can patrons identify specific editions of items they are looking for?	6
Can you easily identify members of a series?	4
Are patrons of all ages able to understand the language/terminology used on Aspen, is it inclusive and welcoming?	3
Are patrons more successful in finding non-English language items?	2
Are patrons able to easily use and understand the format buttons?	2
Are patrons able to find important account functions, like checkouts?	2
Are library staff able to use Aspen to successfully complete patron support tasks, such as locating items and placing holds?	2
Do patrons that use eBooks have an easier or harder time getting those from the catalog?	1
Are "super users" able to adapt their habits to a new catalog?	1
Do patrons use reader's advisory features (including recommendations and browse categories)?	1
Will speakers of non-English languages be able to translate easily?	1
Is it easier to place a hold on a known title the patron is looking for?	0
What are patrons' attitudes about Aspen vs. Enterprise?	0
Following the pilot period, are staff able to use Aspen as confidently as they use Enterprise (what is the "learnability" or learning curve of Aspen for staff)?	0

Appendix 2: Relevancy Analysis Activity July 2020

Summary

SWAN is currently in an exploratory research phase to identify potential replacements for our discovery platform. SWAN staff working with ByWater Solutions have implemented a test installation of the Aspen Discovery platform to further evaluate this platform. In the July 2020 meeting of the Discovery and User Experience Advisory Group (DUX), participants conducted side-by-side comparisons of keyword searches in both platforms. The results of this activity showed that Aspen offers improved relevancy and search precision over Enterprise.

Methods

Search relevancy activity

Members of the Discovery and User Experience Advisory Group, joined by several members of the Cataloging Advisory Group, completed keyword searches in both the SWAN Aspen test instance and the SWAN Enterprise consortia-wide catalog, acting as an assigned patron persona.

Both catalogs did not include e-resources, so searches were limited to physical items only. To measure relevancy of known item searches, participants recorded the position of the record on the search results screen. To measure the precision of search results, or the number of relevant results for a given search term, participants recorded the number of relevant results on the first page of results.

Results analysis

Scott Brandwein, Bibliographic Services Manager, and Tara Wood, User Experience Manager, compiled the results using the methods and evaluation tool outlined in the article "Testing Search for Relevancy and Precision" (Ferrara, 2009).[3]

 All search terms were analyzed in the precision analysis; only known item searches were analyzed in the relevancy analysis.

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[3] Ferrara, John, et al. "Testing Search for Relevancy and Precision." A List Apart, 2 Apr. 2019, alistapart.com/article/testing-search-for-relevancy-and-precision/.

For the relevancy analysis, the record position noted in the participant worksheets was input into the evaluation tool to produce relevancy scores, including the mean, median, and percentage of results in the top 5 and 10 results.

For the precision analysis, each of the first five results for each keyword received a score using the following scale:

- Relevant: The result is exactly right.
- Near: The result is not a perfect match, but it is clearly reasonable for it to be ranked highly.
- Misplaced: The result is relevant to the keyword, but it clearly should not be ranked highly.
- Irrelevant: The result has no apparent relationship to the user's search.

This scale produced strict, loose, and permissive scores:

- Strict: Accept only the results ranked Relevant, for completely relevant.
- Loose: Accept both Relevant and Near results.
- Permissive: Accept Relevant, Near, and Misplaced results.

Results

Relevancy Test

Measure	Enterprise Score	Aspen Score
Mean	11.5	1.9
Median	2	1
Times below 1st	66.7%	39.4%
Times below 5th	25%	6.1%
Times below 10th	19.4%	0%

In the relevancy test, a lower score is desirable. A low score indicates that results are generally higher in the search results. Aspen significantly outperformed Enterprise in all metrics.

The large gap between the mean and median in Enterprise scores is a result of some scores being extremely low on the search results list – in one search, the item was 101 in the search results list.

Aspen offers two advantages over Enterprise that likely lead to these scores. First, Aspen groups multiple formats into one record, where Enterprise displays one record per format. Second, Aspen uses a relevancy boost in the search algorithm that factors in the number of items attached to the record, checkouts, and holds, surfacing more popular items to the top of results.

Precision Test

Measure	Enterprise Score	Aspen Score
Strict	52%	67%
Loose	62%	74%
Permissive	82%	87%

In the precision test, a higher score is desirable as it indicates a higher percentage of the first five results are related to the search term. Again, Aspen outperformed Enterprise in all metrics.

In this instance, Enterprise may have had an advantage over Aspen. Because Enterprise has more records, the top 5 results were sometimes for the same item in different formats, and all items would have received a designation of Relevant. Aspen might have listed the same item with all formats in the first record, and then several items after that that may have received a score of Near or Misplaced. Even with this in mind, Aspen produced more precise results.

Observations

Author searches

- Aspen was overall much better at author keyword searches. From KM, "Aspen shows the novels right away unlike Enterprise which shows other things related to John Grisham or DVDs/audiobooks."

Format-specific issues

- Searches for "newsweek" in Aspen yielded the expected title as the first result. However, finding the most recent issue was more difficult – it is not currently possible to place a hold on a specific issue, which is one of our priority issues.
- In a search for "new switch games" with the intention of finding games for the Nintendo Switch, Enterprise outperformed Aspen with several results on the first page of results, and no relevant results on the first page of results for Aspen.

Reliance on filters and sorting in Enterprise without need to in Aspen

- From AS on "ladies detective agency" search in Enterprise: "Book 2 was difficult to find. I performed the search, decided to click on the series link which reperformed the search. Then I used the book format facet to narrow further. I found the title at the 29th position in large print."
- From AS on "alexander hamilton biography" in Enterprise: "This search did not get to the Chernow title until #51 which is the audiobook. Limiting by book format facet did not improve the results. I then sorted by publication date newest first and found the book title by Chernow at #54."
- From DT on "pride and prejudice" in Enterprise: "Not on first page and can't seem to limit to graphic novel; used new Genre heading to find it and it came in as 5th and 6th entries."

Grouped records

- From DT on "steven spielberg" in Aspen: "I wish there were more clustering of some of the duplicate records."
- From SB on "paddington movie" in Aspen: "Results 2-5 should be grouped."
- From SB: "Evaluating these may be a little unfair to Aspen. In a couple of instances, where Enterprise may have produced 5 relevant results for a search, Aspen's grouped records meant there were not enough completely relevant results to display, so it transitioned into less-relevant results at an earlier point, lowering its score but actually providing a better experience."

Relevancy vs. "intuitive" relevancy

In evaluating relevancy, there is sometimes a gap between results that are technically relevant to the search terms and results that are relevant to what a human using those terms might expect.

- From DT on "Malcolm Gladwell" in Enterprise: "Polish copy comes up first, then a redundant listing of titles in different formats. First page all relevant but I would consider only 5/12 unique – all others are same title."
- From MK on "Percy Jackson": "In Aspen, it looks like the results are kind of in series order, but book 5 is #3. Have to know the last book is #5. Enterprise is super unhelpful for this with the various DVD and graphic novel versions showing up before the books. Kevin [persona] isn't searching through multiple pages."
- From AR on "Steven King" in Enterprise: "Hanna doesn't understand why there are no books by him on the first page!"
- From AR on "Steven Spielberg" in Enterprise: "All books on the first page of Enterprise! Oh well! Hanna isn't sure if all of these movies are directed by Spielberg but only movies came up on the first page so she's excited."
- From Scott on "Stephen King": On the first page of results, Enterprise returns exclusively results about Stephen King. Aspen returns exclusively results by Stephen King.
- From Scott: "Although both Enterprise and Aspen scored R's across the board on searches like "Percy Jackson" and "Ladies Detective Agency", Aspen tends to open with the first books in these series on the first page. Enterprise, on the other hand, relies heavily on date and presents much later books in the series and books about the series.
- From MK, a search for "gunpower" with the intention of finding kids' books about the invention of gunpowder yielded the expected results in Enterprise. In Aspen, the relevancy boost for popularity put movies and fiction with the word "gunpowder" in the title above the materials the searcher was looking for.

Record-specific

- From GD: "There's some weirdness in Aspen here for the book: *Tentacles: the amazing world of octopus, squid, and their relatives* The availability widget shows checked out, but there's plenty of copies available."
- From AR on "Bardzo glodna gasienica": "Why are there 4 different ones in Enterprise? Hanna [persona] does not know what to request! (Thanks to my co-worker Izabel for quickly giving me this title when I asked!)" From SB in Aspen: "Only 1 of 4 records with this title are returned. Why?"

Synonyms

- From AR on "pride and prejudice comic": "With comic as a search term, the results are muddied. But I (Ang) feel pretty sure that lots of patrons don't know to call them graphic novels."
- From JS, in a search for "Mumford and Sons" limited by Author which appears in the catalog as "Mumford & Sons": "when I slowed my typing, I did like that Aspen suggested "Mumford & Sons (Musical Group)" for my search, whereas Enterprise did not. So, if I was slower, then Aspen would have prevented me from making the mistake. (…) I'm disappointed that Aspen also does not search authority records. The same thing happened for a few other title and author searches. Maybe it doesn't affect or bother many people, but I find it incredibly frustrating the lack of… synonym capability?"

Enterprise quips

- Misspelling Steven Spielberg's name in a search produced more results for his movies than a search using the correct spelling.
- In a topic search for "tax deductions," Aspen included several titles to choose from while the first 4 results in Enterprise were different editions of the exact same title.

Known limitations

This activity only evaluated physical item results. The results of this same analysis comparing both catalogs with e-resources enabled may produce very different results, which would likely skew in favor of Aspen due to record grouping. At the time of this activity, e-resources were not yet enabled in the Aspen test instance, so a search comparison was not possible.

In addition, this activity only looked at keyword searches. While some participants experimented with using filters, these results were not included in the analysis. Ferrara notes in the comments of his article:

> "Functional add-ons (narrower, broader, filters, similar, etc.) are often great additions to a search engine. But not always. They're sometimes implemented as technology crutches without regard to whether they solve any actual problems."

By limiting this analysis to keyword searches only, we were able to evaluate a baseline of relevancy. That said, the functionality of filters and add-ons need additional evaluation.

Conclusions

Relevancy in Enterprise has long been a source of frustration in the SWAN membership. These results show that Aspen may be able to offer an improved search experience that better surfaces the items that patrons and library staff expect to find in the catalog.

That said, this research is by no means conclusive. SWAN staff will continue to configure and improve our test installation of Aspen. In addition, we will conduct an additional relevancy analysis using popular search terms once e-resources have been integrated into our test instance. Research into relevancy in Aspen will also need to be weighed against additional factors and features before the membership decides to enter a pilot phase with Aspen.

Search strings and scores

Relevancy Scores

Search string	Aspen Rank	Enterprise Rank
alexander Hamilton	1	42
alexander hamilton biography	2	51
amoeba school	3	4
assassins creed pirates	1	4
Bardzo głodna gąsienica	1	1
girl dragon	1	8
graphic novel pride and prejudice	2	2
harry potter and the order of the phoenix	1	2
harry potter and the order of the phoenix blu ray	1	1
harry potter order of phoenix	1	2
harry potter phoenix	1	2
Jedi Fallen Order Xbox	1	1
Jennifer L. Holm	4	29
Jurassic World evolution	1	1
kate winslet harvey ketel (misspelled)	1	1

ladies detective agency	2	48
ladies detective agency 2	1	2
ladies detective agency 2 (large type)	1	3
ladies detective series	2	101
Lightning Thief	1	3
missing president grisham	NF	0
Newsweek	1	22
newsweek 2020	1	1
newsweek magazine	1	NF
order of the phoenix	1	3
order of the phoenix blu-ray	2	1
paddington movie	2	NF
Percy Jackson	3	34
Pete the cat school shoes	1	1
pride and prejudice comic	4	3
pride and prejudice graphic novel	9	3
pride and prejudise graphic novel (mispelled)	3	2
pride prejudice comic book	6	2
pride prejudice graphic	2	2
Stardew Valley	1	1
Up	1	9

Aspen – Precision Scores

Search string	Result 1	Result 2	Result 3	Result 4	Result 5	Precision - strict	Precision - loose	Precision - permissive
alexander hamilton	r	i	m	r	r	60%	60%	80%
alexander hamilton biography	r	r	r	r	r	100%	100%	100%
assassins creed pirates	r	m	m	m	m	20%	20%	100%
Bardzo głodna gąsienica	r					100%	100%	100%
catering laws	m	i	i	m	i	0%	0%	40%
cephalopods	r	r	r	r	r	100%	100%	100%
chicago bulls: a juvenile book	r	r	r	r	r	100%	100%	100%
graphic novel pride and prejudice	m	r	r	r	n	60%	80%	100%
Grisham	r	r	r	r	r	100%	100%	100%
Gunpowder	r	r	r	r	m	80%	80%	100%
harry potter and the order of the phoenix	r	r	r	m	m	60%	60%	100%
harry potter and the order of the phoenix blu ray	r	r	m	m	n	40%	60%	100%
harry potter order of phoenix	r	r	m	m	r	60%	60%	100%

harry potter phoenix	r	r	m	m	r	60%	60%	100%
Jedi Fallen Order Xbox	r	r				100%	100%	100%
jet skis	r	n	r	r	r	80%	100%	100%
John Grisham	r	r	r	r	r	100%	100%	100%
jurassic world evolution	r	m	n	m	n	20%	60%	100%
ladies detective agency	r	r	r	r	r	100%	100%	100%
ladies detective agency 2	r	r	i	r	r	80%	80%	80%
ladies detective series	r	r	r	r	r	100%	100%	100%
Lightning Thief	r	r	r	r	r	100%	100%	100%
malcolm gladwell	r	r	r	r	r	100%	100%	100%
missing president grisham	i	i	i	i	i	0%	0%	0%
Mumford and Sons	m	m	m	r	i	20%	20%	80%
new switch games	i	i	i	i	n	0%	20%	20%
Newsweek	r	r	n	n	n	40%	100%	100%
newsweek 2020	r	i	i	i	i	20%	20%	20%
newsweek magazine	r	i	i	i	i	20%	20%	20%
order of the phoenix	r	r	m	m	r	60%	60%	100%
order of the phoenix blu-ray	m	r	n	n	n	20%	80%	100%
paddington movie	r	r	r	r	r	100%	100%	100%
percy jackson	r	r	r	r	r	100%	100%	100%
Pete the cat school shoes	r	r	n	r	r	80%	100%	100%
polish romance	i	r	r	r	r	80%	80%	80%
pride and prejudice	r	r	r	m	r	80%	80%	100%
pride and prejudice comic	m	m	i	r	i	20%	20%	60%
pride and prejudise graphic novel	r	n	m	r	n	40%	80%	100%
pride prejudice comic book	m	m	i	m	m	0%	0%	80%
Spielberg	r	r	r	r	r	100%	100%	100%
Stardew Valley	r	r	n	n		50%	100%	100%
stephen king	r	r	r	r	m	80%	80%	100%
steven king (mispelled)	i	i	i	i	i	0%	0%	0%
Steven Spielberg	r	r	r	r	r	100%	100%	100%
steven spielberg director	r	r	r	r	r	100%	100%	100%
steven Spielberg movies	r	r	r	r	r	100%	100%	100%
tax deductions	r	r	r	r	r	100%	100%	100%
tony shalloub [misspelled]	r	r	r	r	r	100%	100%	100%
tv series doctors	n	i	i	m	i	0%	20%	40%
Wisconsin day trips	r	r	r	r	r	100%	100%	100%
stephen spielberg (mispelled)	r	r	r	r	r	100%	100%	100%
pride prejudice graphic	m	r	r	i	r	60%	60%	80%

	Result 1	2	3	4	5			
girl dragon	r	r	r	r	r	100%	100%	100%
kate winslet harvey ketel	r					100%	100%	100%
Up	r	r	n	n	i	40%	80%	80%
amoeba school	r	r	r	n	i	60%	80%	80%
Jennifer L. Holm	r	r	r	r	i	80%	80%	80%
quick grill	r	r	r	r	r	100%	100%	100%

Enterprise – Precision Scores

Search String	Result 1	Result 2	Result 3	Result 4	Result 5	Precision - strict	Precision - loose	Precision - permissive
alexander hamilton	n	n	n	n	n	0.00%	100.00%	100.00%
alexander hamilton biography	r	i	m	r	r	60.00%	60.00%	80.00%
amoeba school	r	r	m	r		75.00%	75.00%	100.00%
assassins creed pirates	m	m	n	n	r	20.00%	60.00%	100.00%
Bardzo głodna gąsienica	r	r	r	r	i	80.00%	80.00%	80.00%
catering laws	m	i	i	i	i	0.00%	0.00%	20.00%
cephalopods	r	n	m	n	m	20.00%	60.00%	100.00%
chicago bulls: a juvenile book	r	r	r	r	r	100.00%	100.00%	100.00%
girl dragon	r	r	r	r	n	80.00%	100.00%	100.00%
graphic novel pride and prejudice	m	r	n	n	n	20.00%	80.00%	100.00%
Grisham	m	m	m	m	m	0.00%	0.00%	100.00%
Gunpowder	n	r	r	r	n	60.00%	100.00%	100.00%
harry potter and the order of the phoenix	r	r	r	r	r	100.00%	100.00%	100.00%
harry potter and the order of the phoenix blu ray	r	i	i	i	i	20.00%	20.00%	20.00%
harry potter order of phoenix	r	r	r	r	r	100.00%	100.00%	100.00%
harry potter phoenix	r	r	r	r	r	100.00%	100.00%	100.00%
Jedi Fallen Order Xbox	r	i	i			33.33%	33.33%	33.33%
Jennifer L. Holm	m	r	r	r	r	80.00%	80.00%	100.00%
jet skis	r	i	i	i	r	40.00%	40.00%	40.00%
John Grisham	m	m	m	m	m	0.00%	0.00%	100.00%
jurassic world evolution	r	r	m	m	n	40.00%	60.00%	100.00%
kate winslet harvey ketel	r					100.00%	100.00%	100.00%
ladies detective agency	r	r	r	r	r	100.00%	100.00%	100.00%
ladies detective agency 2	r	r	r	i	i	60.00%	60.00%	60.00%
ladies detective series	r	r	r	r	r	100.00%	100.00%	100.00%
Lightning Thief	m	m	r	r	r	60.00%	60.00%	100.00%

malcolm gladwell	r	r	r	r	r	100.00%	100.00%	100.00%
missing president grisham	i	i	i	i	i	0.00%	0.00%	0.00%
Mumford and Sons	m	m	i	r	i	20.00%	20.00%	60.00%
new switch games	r	r	r	i	i	60.00%	60.00%	60.00%
Newsweek	m	m	m	m	m	0.00%	0.00%	100.00%
newsweek 2020	r	n	i	m	m	20.00%	40.00%	80.00%
newsweek magazine	i	i	i	i	i	0.00%	0.00%	0.00%
order of the phoenix	r	r	r	r	r	100.00%	100.00%	100.00%
order of the phoenix blu-ray	r					100.00%	100.00%	100.00%
paddington movie	m	m	m	m	m	0.00%	0.00%	100.00%
percy jackson	r	r	r	r	r	100.00%	100.00%	100.00%
Pete the cat school shoes	r	m	r	r	r	80.00%	80.00%	100.00%
polish romance	r	r	r	r	n	80.00%	100.00%	100.00%
pride and prejudice	r	r	r	n	r	80.00%	100.00%	100.00%
pride and prejudice comic	m	r	r	n	m	40.00%	60.00%	100.00%
pride and prejudise graphic novel (mispelled)	r	m	n	n	i	20.00%	60.00%	80.00%
pride prejudice comic book	r	r	n	r	n	60.00%	100.00%	100.00%
pride prejudice graphic	m	r	n	r	n	40.00%	80.00%	100.00%
quick grill	r	r	r	r	r	100.00%	100.00%	100.00%
Spielberg	m	m	m	m	m	0.00%	0.00%	100.00%
Stardew Valley	r	r	r	i	n	60.00%	80.00%	80.00%
stephen king	r	r	r	r	r	100.00%	100.00%	100.00%
stephen spielberg (mispelled)	r	r	i	r	r	80.00%	80.00%	80.00%
steven king (mispelled)	i	i	i	i	i	0.00%	0.00%	0.00%
Steven Spielberg	m	m	m	m	m	0.00%	0.00%	100.00%
steven spielberg director	r	r	r	r	r	100.00%	100.00%	100.00%
steven Spielberg movies	i	i	i	i	i	0.00%	0.00%	0.00%
tax deductions	r	r	r	r	r	100.00%	100.00%	100.00%
tony shalloub [misspelled]	i	r	i	i	r	40.00%	40.00%	40.00%
tv series doctors	m	i	i	i	i	0.00%	0.00%	20.00%
Up	m	m	m	m	m	0.00%	0.00%	100.00%
Wisconsin day trips	r	r	r	r	r	100.00%	100.00%	100.00%

Relevancy activity worksheet

YOUR NAME:

Instructions

In this activity, you will use your persona to conduct searches in Enterprise and Aspen and compare the relevancy of your results. As you work through the searches, internalize your persona and think about how they would search, what their interests are, and what they might like or dislike about the results they are seeing.

For the purposes of this activity, all searches will be **keyword searches** and they will fall into two categories: known item searches or author/topic searches. In a known item search, your persona is looking for a specific item and format. In an author/topic search, your persona is looking for something slightly broader and a few different items could meet their needs.

You will have prompts for the first few searches, and then you will choose your own adventure! Pick known items, topics, or authors of interest to your persona.

For each search:

1. Based on the item and the persona, select your keywords
2. Search in both Aspen and Enterprise using your keywords – having one in one tab and one in another is helpful
3. If this is a **known item search**
   a. Record the **position** of the record on the search results screen (results are numbered).
   b. For Aspen, record the grouped record position and for Enterprise record the item record position.
4. If this is an **author/topic search**:
   a. Record the **number of relevant results** on the first page of search results.
   b. For Aspen, count grouped records, for Enterprise count item records.
5. Finally, as your persona make any notes on what you liked, didn't like, found frustrating, etc.

Searches & Notes

Search 1 - Known Item, Movie

I'm looking for: Harry Potter and the Order of the Phoenix on BLU-RAY

Keywords:

Position in Results:

Aspen	Enterprise

Notes:

Search 2 – Author

I'm looking for: Books by Stephen King (Author/Topic)

Keywords:

Number of Relevant Results:

Aspen	Enterprise

Notes:

Search 3 – Known Item, Series

I'm looking for: Ladies Detective Agency- 2nd book in the series

Keywords:

Position in Results:

Aspen	Enterprise

Notes: I did find it in Enterprise when I searched for ladies detective agency 2

Search 4 – Known Item, Graphic Novel

I'm looking for: Pride and Prejudice graphic novel version

Keywords:

Position in Results:

Aspen	Enterprise

Notes:

Search 5 – Known Item, Popular and Missing Details

I'm looking for: A biography of Alexander Hamilton – that one that's really popular (you know it is by Ron Chernow but your persona doesn't).

Keywords:

Position in Results:

Aspen	Enterprise

Notes:

Search 6 – Known Item, Serial

I'm looking for: Newsweek most recent editions

Keywords:

Position in Results:

Aspen	Enterprise

Notes:

Search 7 - Author

I'm looking for: Find movies directed by Steven Spielberg using a keyword search (Author/Topic)

Keywords:

Number of Relevant Results

Aspen	Enterprise

Notes:

Now, do 4-5 more searches based on your persona. Be creative!
Embrace your persona and think about what they are looking for and how they would search for it.

Search 8

I'm looking for:

Keywords:

Position in Results OR Number of Relevant Results

Aspen	Enterprise

Notes:

Search 9

I'm looking for:

Keywords:

Position in Results OR Number of Relevant Results

Aspen	Enterprise

Notes:

Search 10

I'm looking for:

Keywords:

Position in Results OR Number of Relevant Results

Aspen	Enterprise

Notes:

Search 11

I'm looking for:

Keywords:

Position in Results OR Number of Relevant Results

Aspen	Enterprise

Notes:

Search 12

I'm looking for:

Keywords:

Position in Results OR Number of Relevant Results

Aspen	Enterprise

Notes:

Appendix 3: Aspen EBSCO Discovery Service (EDS) Integration Usability Testing Report August 2020

Robin Hofstetter, SWAN eResources Consultant, and Tara Wood, User Experience Manager, conducted remote usability testing of the EBSCO Discovery Service (EDS) integration into the Aspen catalog. SWAN is working with ByWater Solutions to test the

Aspen Discovery platform to identify its ability to meet our discovery needs. The EDS integration is a new service in Aspen developed as part of this testing process.

4 people participated in online usability tests, each lasting about 30 minutes. Participants shared their screen and audio while the moderator walked them through a set of 5 tasks.

All participants were able to successfully navigate to the article results in the catalog, and they extensively used the dropdown search limit to "Articles & Databases" more than the researchers expected. Participants struggled with finding recent articles, since publication date does not appear in search results. In addition, "placards" that provide links to databases that are not integrated into EDS do not appear on the EDS results page – only the main catalog results page. As a result, participants that started their search using the "Articles & Databases" limit never saw the placards.

Methods

Remote usability testing

Usability testing is a design research method in which representative users – in this case, patrons who use the catalog – complete typical tasks. The standard number of participants for a usability test is 3-5 participants. The number of

additional usability problems found testing with more than 5 participants drastically decreases. As Jacob Nielsen argues, "Elaborate usability tests are a waste of

resources. The best results come from testing no more than 5 users and running as many small tests as you can afford."

SWAN staff recruited four participants through an online survey posted to the St. Charles Public Library catalog. Through a brief recruitment survey, participants were asked if they used online resources, what online resources they used from the library, and if they would be comfortable using online meeting software for the test. Respondents that were not willing to share their audio and computer screen in an online meeting were excluded from consideration. Selected participants received a $15 gift card.

Participant screening responses

Participant	What online resources do you use from the library?	Have you seen this screen before? [Article Search in Enterprise]
A	e-audiobooks, magazines	Yes
B	Consumer Reports	No
C	Newspaper reading in ProQuest and genealogy research	Yes
D	Hoopla, Overdrive, Online Catalog	No

While we intended to exclude library staff from this round of testing, we realized after testing was complete that one participant is a library employee – Participant A. We decided to include our findings from this participant in the results.

These usability tests were conducted remotely through the GoToMeeting platform. Participants shared their screen and their audio, and optionally video if they were comfortable. Robin Hofstetter, SWAN eResources Consultant moderated the tests, and the Tara Wood, User Experience Manager, took notes. Sarah Slack, St. Charles Public Library Electronic Resources Librarian, observed the first session. Tests were scheduled for 30 to 45 minutes.

Key Findings

1. Placards are an effective way to include resources in the catalog – but design and placement are important

Participant A did not notice the Consumer Reports placard in the "Library Catalog" limited search results. The placard featured a description of the resource, but it did not include a clear heading. For the subsequent tests, the researchers changed the design to include a heading that was similar in size to book and media results in the catalog. Subsequent participants presented with the placards immediately noticed them.
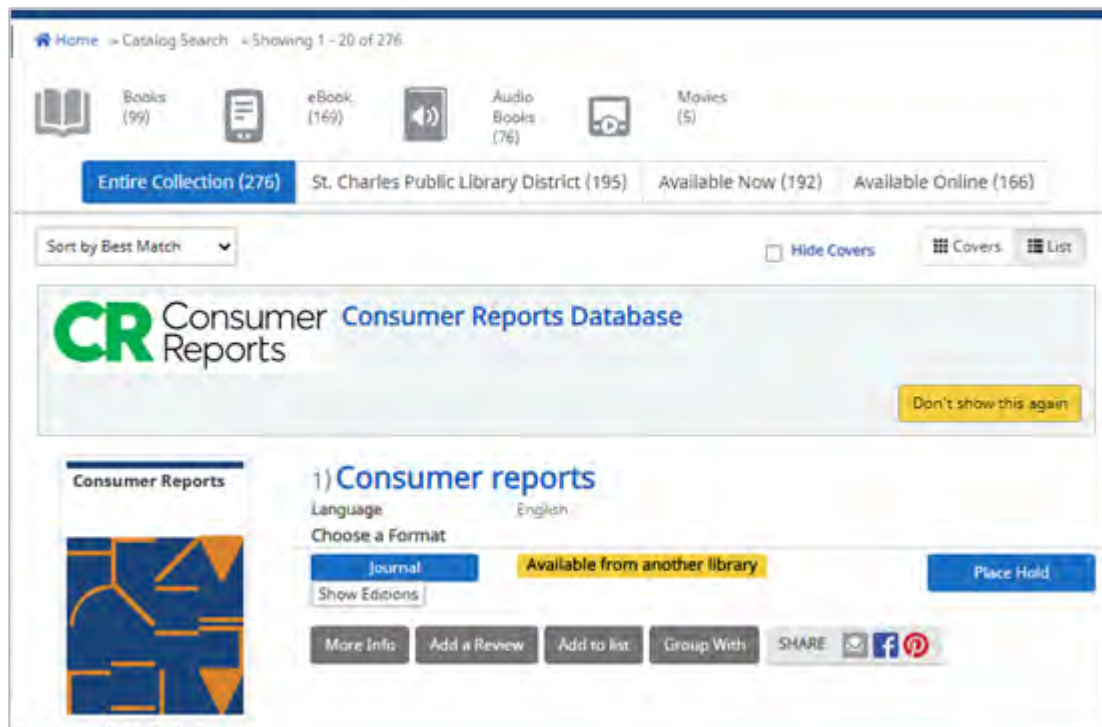
Figure 1 Consumer Reports placard, using a clear heading

Participants B and C immediately limited their searches for Consumer Reports to "Articles & Databases." Therefore, they didn't see the placards until prompted to search in the "Library Catalog" limited search later in the test.

Participant D immediately noticed the placard but thought it was an ad and was extremely hesitant to click on the link, even with the change in the design.

Recommendation 1a: Include placards on the EDS search results page

Ideally, users would see placards no matter what search limits they chose and have the opportunity to course-correct if they choose the wrong limit.

Recommendation 1b: Design placards to closely mimic search results, with a clear heading and brief descriptive information.

In Aspen, providing a heading field that would use the same styles as search results would help to keep the styles between placards and results more consistent in appearance.

2. Publication date and name are key to understanding and using search results

Participants expected to see the date of the article, since they were often looking for the most recent results. In addition, they struggled to find results from newspapers – the publication title wasn't present, only the database name, and they seemed to think the "found in" information was the publication name. While they could use the "Sort by" dropdown, participants either never noticed the dropdown or only noticed it after investigating the rest of the search result facets.

Recommendation 2a: Include publication date and name in the EDS search results display

Including the "Source" field from EDS would include the publication name and date of publication. This information would help users find the most recent articles and identify newspapers and magazines they are familiar with.

Figure 2 EDS result in Aspen with the Source field added

Recommendation 2b: Investigate adding a publication date filter

The native EDS interface includes a publication date. This would help users to locate recent articles, especially if they do not notice the sort dropdown option. We've seen users struggle with the sliding date filters in the past, so starting with a text field for year is preferred.
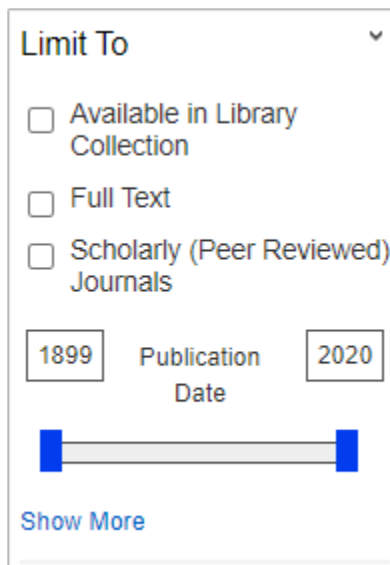

Figure 3 EDS interface, publication date filter

Recommendation 2c: Use the label "Database" instead of "Found In"

Using the label "Databases" ensures users don't mistake the database name for the publication name - this is an easy change configurable in Aspen.

Additionally, linking the database name would help users access similar results and identify specific databases that could be helpful in their research.

3. Dropdown limit menus were used extensively, though not always to the user's benefit

The researchers hypothesized participants would not use the dropdown limits in the search, since this has been the case in usability testing of the Enterprise catalog. However, all participants used the dropdown search limits extensively.
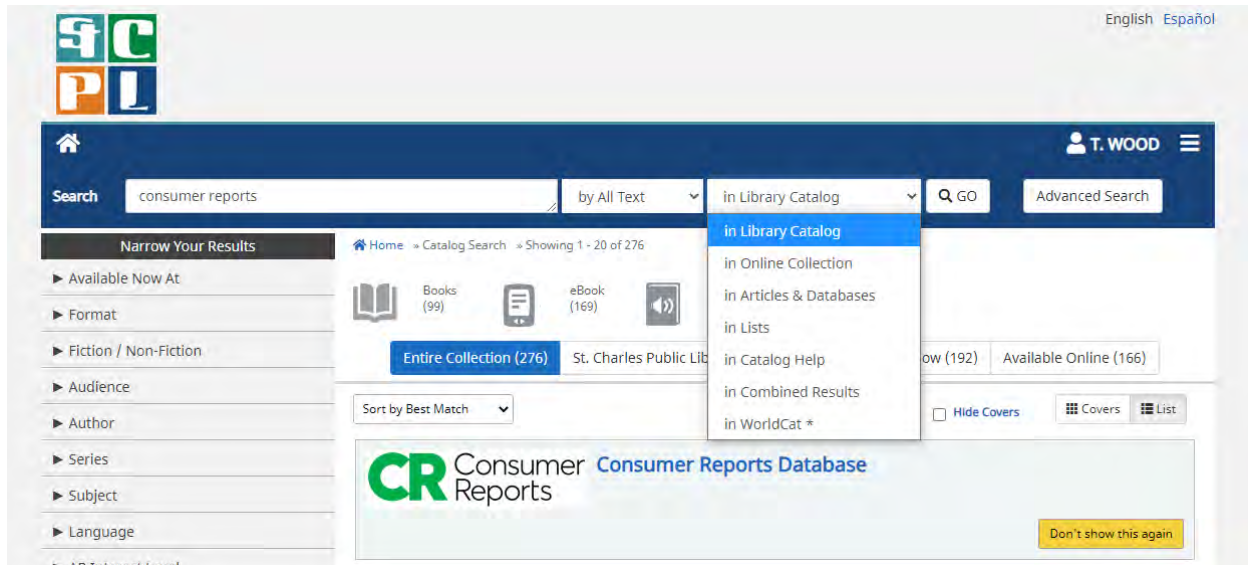
Figure 4 Dropdown limits in Aspen

That said, elements of the dropdown limits were confusing to participants and they sometimes made limit decisions that excluded relevant results.

Two participants used the "Online Collection" limit when searching for articles, even after using the Articles & Databases limit successfully previously in the test. They both expected this limit to include all online items. This limit includes eBooks and download and streaming results.
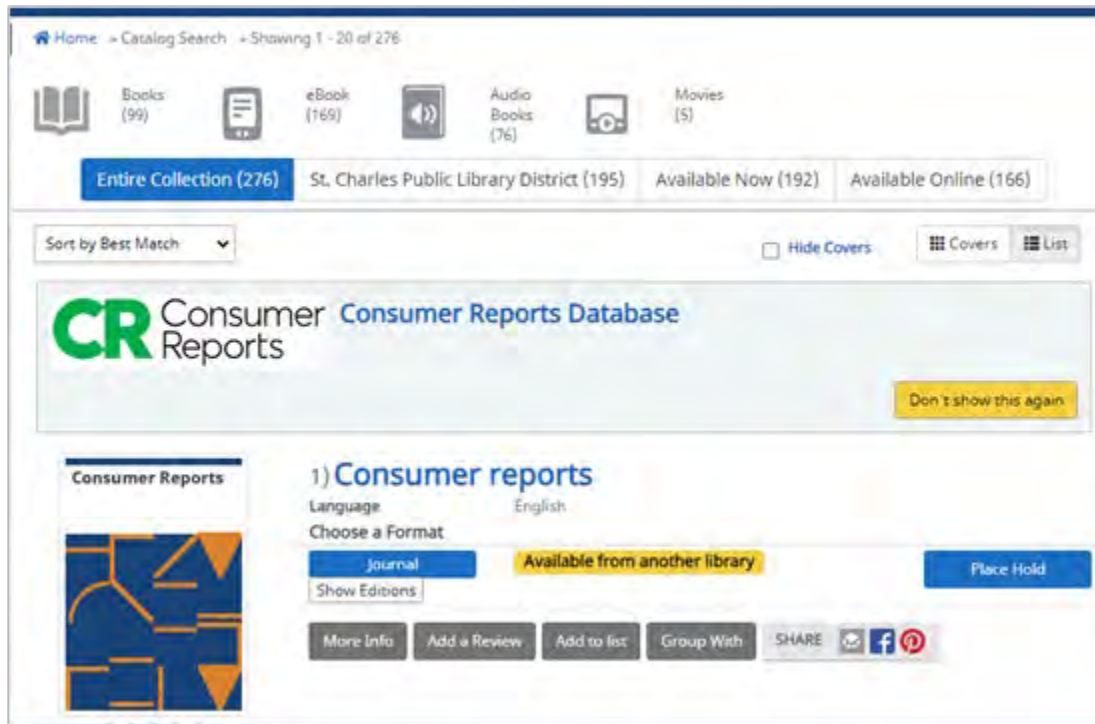
One participant consistently used the "Source" limit for EDS results in Aspen when searching for topics and article titles, even though they said they did not know what "Source" meant. This limit would search the publication title information.

Recommendation 3a: Change the "Source" label in the limit dropdown, or reduce the number of EDS search limit options

The EDS interface uses the label "Journal Title/Source" in the Advanced Search. Updating the Source dropdown label to match could help with some of the confusion – out of context it is hard to tell what "Source" refers to. Including the Source field in the results, as recommended in 2a, may also be all that is needed so that users have a cue that tells them what the Source field included.

Alternately, only Keyword, Author, and Title appear in the basic search in the native EDS interface. The other limits – Source, Subject Term, ISSN, and ISBN – appear only in the advanced search. It's possible these limits in Aspen could confuse more users than they will help, but they may also be important for researchers. Additional research is needed to understand the impact of removing those limit options in Aspen.

Recommendation 3b: Change the "Online Collection" label

With the addition of EDS, there are two online collections. Further research is needed to identify a label that would clearly indicate this limit will show eBooks, eAudio, streaming video, etc.

Making the search limit labels editable could also solve this issue and allow for flexibility in testing out alternate labels. Not all Aspen users include the EDS integration, so this issue would only apply to those libraries using EDS.

Issues & Task Completion Rates

Task 1

Success Criteria: Find and click on the Consumer Reports placard

Pass: 1 out of 4 (one with difficulty)

Participant A searched the "Library Catalog" results, which returned a placard, but they didn't notice it. Instead, they investigated the item results for physical Consumer Reports buying guides. For subsequent tests, the placard design was changed to use a heading that looked similar to the titles in item search results.

Participants B and C both immediately used the "Articles & Databases" limit, so they never saw the placard. Participant B searched for "Consumer Reports refrigerator" and returned article results that they found relevant – these were for online versions of the buying guides available through MasterFile Premier.

Later in the test when prompted to search in the "Library Catalog" results, both participants immediately noticed the placard with the altered design. Interestingly, Participant B preferred the article results over the placard because they were more specific though they noted that the Consumer Reports logo was what they had expected to see when they searched.

Participant D was the only participant to notice the placard, which they noticed immediately but thought that it was an ad and did not want to click on it. After investigating more options on the page and going to the second page of results, they finally decided to give the link a try.

Task 2

Success Criteria: Find news article results on Bryce Canyon through the Explore More section of "Library Catalog" results, or use the "Articles & Databases" dropdown limit

Pass: 2 out of 4 (two with difficulty)

All participants successfully searched in the "Articles & Databases" section and found results, but when they got to the results, they were not sure what was a news article. Participants A and B eventually found news articles scrolling and looking through the format information in the results. Participant C never saw a news article and they gave up and didn't click on any results. Several participants noted the "Found in" information, which listed the database for the result, seeming to think it was the publication information.

Task 3

Success Criteria: Find and open a scholarly full-text article about Jane Addams (optional: use the Scholarly Journal facet)

Pass: 3 out of 4

Participant A began their search using a search for "Jane Addams scholarly articles" and the Online Collection limit, which limits to eBook and streaming collections. They noted, "When my kids bring home an assignment and it has specific words we just start from that." They also noted that they used Online Collection as a limit because that is what is most accessible from home. While this returned "no results found", Academic Journals appeared in the search suggestions on the no results found page. From there, the participant was able to course correct and find articles.

Participant B was not sure how to narrow down to just scholarly articles – they were expecting to find something in the limit dropdown menus. They could clearly describe the keyword, author, title, and subject limits but they did not know what source, abstract, ISSN or ISBN meant. They ultimately decided on source as a limit, which did produce results, but they were confused by the results and a lack of the word "scholarly article" in the results descriptions that they gave up and didn't select an article.

All of the participants struggled with identifying what would be appropriate for a 7th grader. Participant A is a parent and they looked at the database name in the results to evaluate resources. The same participant also used the Sort By dropdown to find most recent articles, thinking that would be important for the assignment. Participant D is a teacher, and they were drawn to the research starters. There is no audience filter in EDS results, unfortunately.

Task 4

Success Criteria: Find the article, "Blue Dye Thinking" in New Scientist, and open the full text

Pass: 3 out of 4 (one with difficulty)

This was a straightforward task for Participants B and C. Participant A was looking for the publication, so they were not sure that they had found the correct article at first.

Participant D did not find the article. They were already on the "Articles & Databases" results. They typed in the search term, selected "Online Collection" from the dropdown limits, but did not submit their search. Then they tried to pre-select the publication name from the facets, but "New Scientist" didn't appear in the facet options, since the facet was listing terms for the previous search. They said they would assume the library didn't have it, since it didn't appear in the Publications facet options.

Task 5

Success Criteria: Find an article on a personal research topic using the Article & Databases dropdown on results from the Explore More section in the "Library Catalog" results

Pass: 4 out of 4 (two with difficulty)

Participant A used the Combined Results option and easily navigated to the article results on their topic, "google classroom".

Participants B and C used the "Articles & Databases" search. They were looking for the most recent articles on their topic, and they struggled to identify dates.

Participant B used the "Sort by Newest" option but did not feel the results were relevant to their search, "Tesla company". They noted that they often are looking for articles in ProQuest after they hit a paywall, and they usually search for the author name and sort by most recent to find the article. They specifically noted they thought dates should be shown in the results, and they also noted that they could not see how many results their search returned. Participant B was also confused by seeing Gale eBooks in the results: "I had articles and databases selected here, why would that be coming up with books?"

Participant D used the Online Collection search on math teaching resources, so they returned results for ebooks. They noticed they were just seeing results for books, scrolled around and found the Explore More bar links for Academic Journals and

Magazines. They chose Magazines since they didn't want academic results, and they successfully returned article results.

Additional comments

Two participants received EBSCO errors during the test and were unable to log in for access to the articles. The researchers counted these tasks as a "pass" because the participants would have been successful without the error.

Participant B used what appeared to be an older version of the Internet Explorer browser. During the test they did not see any of the facets as these did not appear on their screen. In addition, they did not see the Explore More results. However, all other search functions worked as expected for them.

Participant C used an Android mobile phone, but they experienced no difficulties related to using the mobile display of the catalog.

Both Participants B and D expected the library logo in the EBSCO Discovery (EDS) interface to link to the library home page. Instead, it links to the St. Charles EDS home page. Participant B did not realize they were no longer in the catalog or in the library website.

Participant D was confused by search-the-filter functionality. They twice did not complete a search – they entered in a search term and selected dropdown filters, but they did not hit "Go" or the Enter key to complete the search. Instead, they selected a filter on the page and expected that to submit the search. There may not be an interface solution to their issues, but it is interesting behavior to note.

Next Steps

SWAN will provide these recommendations to ByWater Solutions and work to include them in future releases of Aspen.

Additional testing is needed to find the ideal label for "Online Collection." The "Found in" label has already been updated to "Database".

When SWAN libraries receive training in adding placards to their Aspen catalogs, SWAN will incorporate best practices for placard design.

Usability Testing Script

Usability Test Script: Aspen Round 1

Introduction

Hi, _____. My name is _____, and I'm going to be walking you through this session today. This is my colleague _____ and they will be taking notes.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We're here to test out a different version of the library catalog.

The first thing I want to make clear right away is that we're testing the catalog, not you. You can't do anything wrong here. There might be times during the test that something may not work and we will need to reset, and that is just the catalog and not you.

As you use the catalog, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the catalog, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them, and if you need to take a break at any point, just let me know.

If it is okay with you we'd like to record this session – it will just be audio and your screen, no video of you. That will just help us take fewer notes.

Start the screen recording

Pre-Test Questions

Before we start looking at the catalog, I have a few questions for you.

- What online resources do you use? How do you get to them?

- Finally, what is something you were recently trying to learn about?

Tasks

Now we are going to look at the catalog. Click the link in the chat to get to the catalog we're looking at. You will need to share your screen – 3rd button at the bottom of the screen.

1. Your refrigerator is very old and you are looking to replace it. A friend recommended checking the library for Consumer Reports – they said you can search it online. How would you find Consumer Reports from here? [testing: can they find the placards]

2. Your friend also told you that you can search for articles from newspapers in the library catalog. You want to find articles about visiting Bryce Canyon National Park. How would you find those?
   1. Tell me about the results you are seeing?
   2. How would you narrow down to new articles?
   3. Tell me what this is (Explore More)

Paste in chat: Bryce Canyon

3. Pretend you're helping a 7th grader with their homework assignment. They have to research Jane Addams, and they need two full text scholarly articles about her for their assignment. How would you find those? [testing: using filters, searching on a specific topic, response to research starters.

Paste in chat: Jane Addams

   1. Tell me about the results you are seeing?
   2. What would be good for a 7th grader?
   3. Are you able to read the whole article? (log in and go to an article)
   4. Now how would you go back to your search results? (from EBSCO)
   • Is this what you were expecting to see?

4. You found this article online that looked interesting, but you couldn't get the full text without paying for it. You want to see if you can get it for free from the library. How would you find this article? [Blue dye thinking: Blue pigments are so rare that people will go to the depths of the planet to create new ones, says Joshua Howgego. By: Howgego, Joshua, New Scientist, 02624079, 12/23/2017, Vol. 236, Issue 3157/3158]

Paste into chat: Blue Dye Thinking, New Scientist magazine

5. (if time) You said you were recently trying to learn about_____. How would you find information from your library about that? [testing: do they see the Explore More]

1. Tell me about what you are seeing.

2. What does this mean to you ("All EBSCO Results")

Wrap Up

Thanks, that was very helpful. Those are all the questions I have.

Do you have any questions for us?

Do you have any questions for me, now that we're done?

Appendix 4: Aspen Usability Testing Report October 2020

Summary

SWAN and Elmwood Park Public Library staff conducted remote usability testing of search experience in the Aspen catalog. SWAN is working with ByWater Solutions to test the Aspen Discovery platform to identify its ability to meet our discovery needs.

3 people participated in online usability tests, each lasting about 30 minutes. Participants shared their screen and audio while the moderator walked them through a set of 6 tasks.

Methods

Remote usability testing

Usability testing is a design research method in which representative users – in this case, patrons who use the catalog – complete typical tasks. The standard number of participants for a usability test is 3-5 participants. The number of additional usability problems found testing with more than 5 participants drastically decreases. As Jacob Nielsen argues, "Elaborate usability tests are a waste of resources. The best results come from testing no more than 5 users and running as many small tests as you can afford."
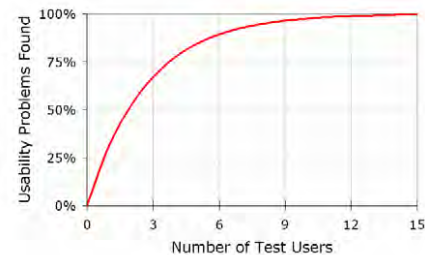
SWAN staff recruited four participants through an online survey posted to the Elmwood Park Public Library catalog. Through a brief recruitment survey, participants were asked how often they use the library catalog, what library resources they use, and if they would be comfortable using online meeting software for the test. Respondents that were not willing to share their audio and computer screen in an online meeting were excluded from consideration. Selected participants received a $15 gift card.

Participant screening responses

Participant	How often do you use the library catalog?	What do you like to use from your library?
A	A few times a week	Y Kids and adult books, movies, video games, beyond the books collection
B	A few times a week	Media and digital books
C	Daily	I use books and ebooks to share with my students. I am the library clerk at [a school].

These usability tests were conducted remotely through the GoToMeeting platform. Participants shared their screen and their audio, and optionally video if they were comfortable. Tara Wood, User Experience Manager, moderated the tests, and Robin Hofstetter, E-Resources Consultant, and Crystal Vela, User Experience Consultant, took notes. Jason Stuhlmann, Assistant Director at the Elmwood Park Public Library, observed. Tests were scheduled for 30 to 45 minutes.

Key Findings

1. FRBRized groupings were clear and easy to navigate

Aspen uses grouped records based on the Functional Requirements for Bibliographic Records (FRBR), which combines multiple formats and editions for a work into a single record.

Figure 1 Grouped record result in Aspen

Though the search results display in Aspen is radically different from the current catalog, participants quickly adapted to the new display with no observable learning curve. Participants successfully identified different formats, their availability, how to place holds, and how to view the detailed information on a format. Two participants noted specifically that they liked the color-coded status labels.

2. Kindle e-books are challenging to locate

Participants were prompted to specifically find Kindle items for two reasons. One, Kindle is by far the most downloaded e-book format from the current catalog. Two, Kindle users can only download the Kindle format, so they can only access a portion of the e-books in the catalog, and previous research confirms that format is especially important for Kindle users.

In this usability test, only one participant easily found an item in a Kindle format; one never located a Kindle item; and the other eventually found a Kindle item after almost giving up. Participants expected the Kindle format to be as obvious as the other

format buttons, and two expected to be able to search "kindle" in the keyword search term to produce Kindle items.

Recommendation 2a: Show Kindle or e-book formats in the search results display

We offer two possible approaches to display Kindle items in search results.

The first solution would likely be the easiest to implement with minimal impact on the current display and functionality in Aspen. Currently in the e-books result display under "Show Edition", there is a "Source" column that lists the vendor.

Check out and hold buttons already include the name of the vendor, so likely the "Source" column could be replaced without removing information for the user. This column could be replaced with download format information.
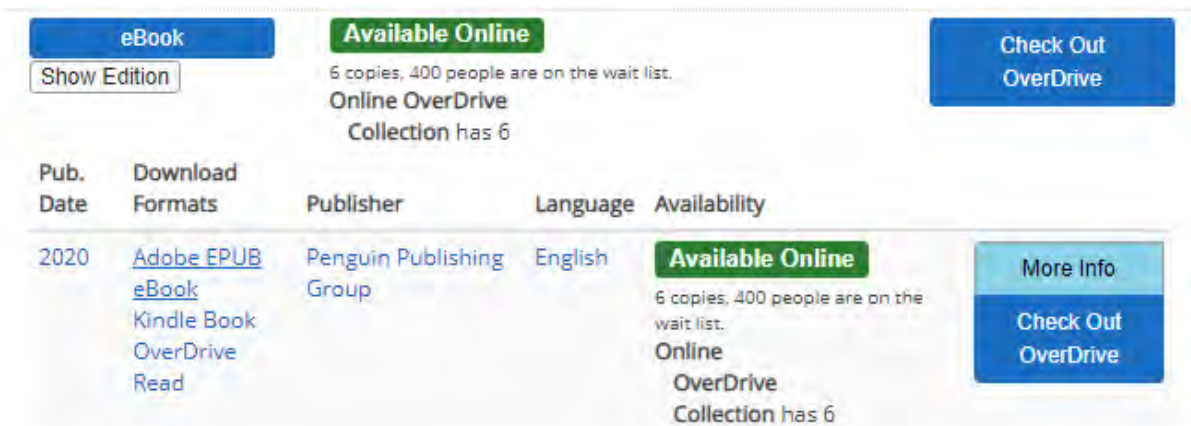
The second solution could be to provide a Kindle format button, as the test participants expected to see.

Figure 3 Kindle button just below the Overdrive results button

However, this solution is likely much more difficult to implement and introduces some awkward information architecture challenges. E-books with Kindle formats would appear multiple times in search results, as would checkout and hold buttons for those items. In a record with many e-book editions grouped together, this could become especially unwieldy.

eBook

	OverDrive Show Editions	**Available Online** 3999997 copies, 2 people are on the wait list. Online OverDrive Collection has unlimited		Check Out OverDrive

Pub. Date	Source	Publisher	Availability	
	OverDrive	Duke Classics	**Available Online** Online OverDrive Collection has unlimited	More Info Check Out OverDrive
	OverDrive	Duke Classics	**Available Online** Online OverDrive Collection has unlimited	More Info Check Out OverDrive
	OverDrive	Project Gutenberg	**Available Online** Online OverDrive Collection has unlimited	More Info Check Out OverDrive
	OverDrive	Duke Classics	**Available Online** Online OverDrive Collection has unlimited	More Info Check Out OverDrive
2003	OverDrive	Random House Publishing Group	**Checked Out** 1 copy, 2 people are on the wait list. Quick Copy View	More Info Place Hold OverDrive

	Kindle Show Editions	**Checked Out** 1 copy, 2 people are on the wait list.		Check Out OverDrive

Pub. Date	Source	Publisher	Availability	
2003	OverDrive	Random House Publishing Group	**Checked Out** 1 copy, 2 people are on the wait list. Quick Copy View	More Info Place Hold OverDrive

	Hoopla Show Editions	**Available Online** Online Hoopla Collection has 8		Check Out Hoopla

Figure 4 Adding a Kindle format button would show duplicate results, hold, and checkout buttons for the same item.

Recommendation 2b: Allow patrons to search by common e-formats

If a patron could reliably search "kindle" in their search term and return results for only e-books with a Kindle copy that would not only return better search results for patrons, but it would also eliminate some of the clicking into the detail record a patron would have to do to check for Kindle copies.

Recommendation 2c: Provide an e-format facet

An e-format or download format facet would allow patrons to construct searches for their preferred format.

In addition, libraries would have more options when creating browse categories on the home page or links for websites and newsletters, for example if they wanted to promote "New Fiction for Kindle."

3. Viewing the detailed record is a last resort

Participants tended to scroll the full length of the search results page before trying the "More Info" button to view the detailed record display, which contains e-book format download options and recommendations for similar titles. Interestingly, participants used the "More Info" button and did not click on titles for items, even though that is how one would view the detailed record display in the current catalog. One participant noted they frequently use the Novelist recommendations in the current catalog, which are available through the detailed display; in Aspen, they seemed to think the search results was the detailed display and didn't think to also click on the title to get the same information. It is possible that because more information is available in the Aspen search results display – such as copy and availability information - library patrons will be less inclined to view the detailed record.

Recommendation: Monitor usage statistics for functionality found only in the detailed record

In the Aspen pilot phase, SWAN staff can monitor usage statistics for Novelist Select and Kindle format usage, both of which are accessible from the detailed record display.

It is worth noting that statistics for page views of detailed records would be difficult to accurately compare between the current catalog and Aspen. Due to record grouping, Aspen may have one grouped record pageview for multiple record pageviews in

Enterprise. In addition, viewing copies information in Enterprise requires clicking into the detailed record while Aspen does not.

4. The "Advanced Search" button was sometimes mistaken for the "Search" button

Participants B and C expected the Advanced Search button to behave differently. They entered search terms, then clicked Advanced Search expecting it to produce results using their most recently typed term. This may be because it is currently styled as a button that is larger than the "Go" button. Advanced Search is currently designed as a second step in the search. It carries over the term used in the previously submitted search, not they keyword most recently typed.
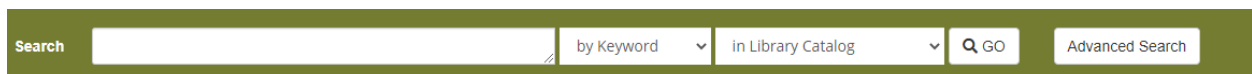

Figure 5 Advanced Search button

Recommendation: Style the "Advanced Search" as a link instead of a button

Changing the button to a link for Advanced Search would visually de-emphasize it, making the "Go" button more prominent.
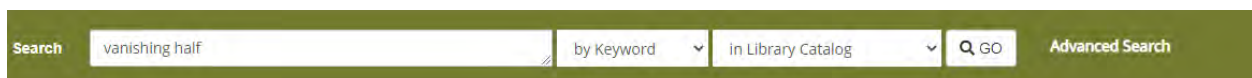
Figure 6 Advanced Search displayed as a link

Recommendation: Carry over the term typed in the search box instead of the previously search term into the Advanced Search page

While changing the style of the Advanced Search link may help to solve the issue of patrons expecting the button to perform a search, using the term in the search box would save patrons a step of re-typing their term if they are confused about functionality.

Issues & Task Completion Rates
Task 1

56

Success Criteria: View the catalog and describe what you are seeing

Pass: N/A

All participants noted the browse categories, scrolled through the topics, and investigated the book covers displayed. Participant C specifically mentioned looking for Bluestem and Monarch winners before the test began, so they noted they were happy to see those displayed and thought that kids would like this feature.
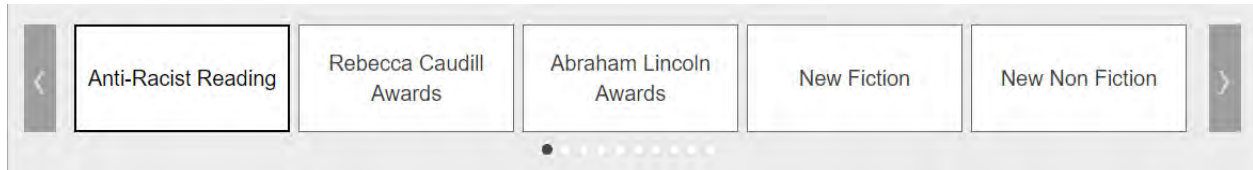

Figure 7 Browse categories on the catalog home page

Task 2a

Success Criteria: Locate a book and accurately describe its availability

Pass: 3 out of 3

All participants easily found the title and successfully identified the availability status of different formats. Two participants noted that they liked the color-coded statuses.

Figure 8 Color-coded statuses

Task 2b & 2c

Success Criteria: Locate a large print version of the book and use the "Quick Copy View" link or detailed record to see if there are any copies on shelf at any library

Pass: 3 out of 3

All participants found the "Quick Copy View" link. None used the detailed record to find available copies. During the test for Participant A, e-book records were not grouping properly, and e-books appeared in search results above the physical item copies. They initially clicked into the detailed record that just contained e-books, but then they realized the physical items were not in that results. They returned to results, then viewed the "Quick Copy" information for the physical items. Participant B said they thought the "quick copy" label was confusing, though they immediately found the link when asked to find copies available at any library.

Task 2d

Success Criteria: Place a hold on the large print copy

Pass: 3 out of 3

All participants immediately found the hold button for the large print copy.

Task 2e

Success Criteria: Find similar books, clicking into the detailed record to see suggested titles

Pass: 2 out of 3, 1 found recommendations later in the test

Participant B did not find the similar title recommendations in this task but located them later in the test. They first scrolled through the search results and clicked on the "suggest a purchase" link, then realizing that wouldn't provide recommendations, they clicked the "More Info" button into the detailed record but did not scroll far enough to see the recommendations. When they used the "More Info" button later in the test on Task 6, they found the recommendations.

The other two participants were initially unsure of where to find recommendations, but after not seeing recommendations in the search results, both clicked the "More Info" button in search results and scrolled to see book covers. Participant A also noticed the link to the lists the title appears in (New York Times Fiction Bestsellers).

Interestingly, none of the participants clicked on the title to view the detailed record and all used the "More Info" button.

Participant C noted that they frequently use the recommendations "on the side" referring to the NoveList Select information that appears in the detailed record in Enterprise. While in both catalogs they would need to click into the detailed record to view recommendations, in Aspen they were looking for them in the search results.

Task 3a

Success Criteria: Find books by Nora Roberts and sort them by publication date

Pass: 2 out 3

Participants A and B successfully found the "Sort by newest" option. Participant C did not notice the sort dropdown and used the Publication Date filter. Since they wanted to see the newest items first, they entered the dates 2020 to 2000. While this produced results for items from the last decade, it did not surface the newest items to the top of results.

Task 3b

Success Criteria: Filter search results to on-shelf titles using the "Available Now" button or the "Available at Elmwood Park Public Library" facet

Pass: 3 out of 3

Participants A and B used the "Available Now" button. When interviewed, they correctly identified that this button would return results for on shelf items at all libraries. Participant C used the "Available at Elmwood Park Public Library" facet, but they noted the were not sure how to filter their results to on shelf items at all libraries. When interviewed, they believed the "Available Now" button would have the same functionality as the "Available at Elmwood Park Public Library" facet.

Task 3c

Success Criteria: Successfully limit search results to audiobooks using either the format facet or the format category buttons above the search results

Pass: 3 out of 3

All participants used the "Audiobooks" format category button that appears above search results, and none used the format facet that appears in the left side of the screen with the other facets.

Figure 9 Format category buttons

Task 4

Success Criteria: Find the book "Soulless" using the misspelling "souless"

Pass: 3 out of 3

All 3 participants noticed that the catalog was changing their search term in the search box. Participant A quickly noticed this, and they used the search suggestions for "Soulless" that appeared when they typed in their term a second time. Participant B

and C also noticed that their search term was changing, but they both tried the same search several times before eventually using the search suggestions.

None of the participants noticed the "Showing Results for.." area of the screen.
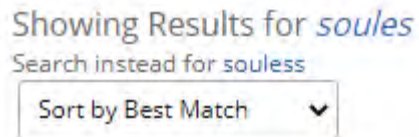
Showing Results for *soules*
Search instead for souless
Sort by Best Match

Figure 10 Spelling correction display

Task 5

Success Criteria: Locate a cookbook that can be downloaded to a Kindle device

Pass: 2 out of 3

Participant A quickly found a Kindle e-book, using a keyword search for "cookbook" limited to "Online Collection." They also used the "eBook" format category button, then clicked into an e-book format for a cookbook and found the Kindle download option.

Participant B unsuccessfully searched for a Kindle facet in the format facets in search results and in the Advanced Search options, and they also tried searching for "cookbook Kindle". They were not able to find a "Kindle" label since they never clicked into an e-book result, and they said they expect to see a "Kindle" format label in the results similar to book, e-book, large print, etc.

Participants A and C searched for "cookbooks" using a limit of "Online Collection."

Participant C eventually found the Kindle format but struggled at first. They started off with a search for "cookbooks" using a limit of "Online Collection," but they clicked "Advanced Search" instead of "Go" which did not preserve their search term. When they reset and searched again, they searched "Cookbooks for Kindle" using a limit of "Library Catalog" which produced only one result for a Kindle Fire HD. On the third try, they searched again for "cookbooks" with a limit of "Online Collection," then clicked "eBook" and located the Kindle download option.

Task 6

Success Criteria: Locate something previously checked out from the library and correctly identify its status (on shelf, available from another library, etc.)

Pass: 2 out of 3, 1 not asked

Participant A wasn't asked this question. Participants B and C both successfully searched for the items they were looking for. Participant B searched for a movie, then found similar movie recommendations. Participant C searched for "Monarch Nominees 2021" and returned two results, though they found the full set of Monarch award winners on the home page browse categories.

Known issues

The test catalog was updated the morning of the first test, and e-records were not grouping properly with the physical items. In addition, the format category button for Audiobooks only display e-audiobooks due to errors in the settings for all three tests. Neither issue significantly affected the ability of participants to complete the tasks and both have since been resolved.

Next Steps

SWAN will provide these recommendations to ByWater Solutions and work to include them in future releases of Aspen.

SWAN will also conduct another round of usability testing that will incorporate tasks to place holds and use account management functionality, which will include additional options for similar titles and recommendations. In addition, we will test style changes for spelling suggestions and the sort-by dropdown menu.

Usability Testing Script
Introduction

Hi, _____. My name is _____, and I'm going to be walking you through this session today. This is my colleague _____ and they will be taking notes.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We're here to test out a different version of the library catalog.

The first thing I want to make clear right away is that we're testing the catalog, not you. You can't do anything wrong here. There might be times during the test that something may not work and we will need to reset, and that is just the catalog and not you.

As you use the catalog, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the catalog, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them, and if you need to take a break at any point, just let me know.

If it is okay with you we'd like to record this session – it will just be audio and your screen, no video of you. That will just help us take fewer notes.

START THE SCREEN RECORDING

Pre-Test Questions

> 1. What do you like to use from your library? (services, types of things to borrow)
>
> 2. Do you use the library catalog on your phone? Or tablet?
>
> 3. What's something/the best thing you checked out recently or downloaded from the library?

Tasks

Now we are going to look at a new version of the catalog.

1. Tell me about what you are seeing: is there anything different than you are used to seeing in the catalog? *(Note what they mention)*
2. Let's say you are looking for this book: "The Vanishing Half", by Brit Bennett.
   a. Would you be able to pick this up today? *(Pass = Notice availability)*
   b. Is there a large print copy? *(Pass = Notice formats)*

c. Is the large print copy on shelf at any library? Which one? *(Pass = Use "Quick Copy View" or check Detail display)*
d. Can you place a hold on the large print copy? (*Pass = Find hold button)*
e. How would you find similar books? *(Pass = View full record, find Novelist recommendations)*

3. Let's say you'd like to search for books by Nora Roberts. How would you search for those?
a. How would you find the newest books by Nora Roberts? *(Pass = Use "sort by", "publication date" or "added in the last"*)
b. Can you just see the titles that are ready to check out today? *(Pass = Use availability facet or button)*
c. would you see just the audiobooks by Nora Roberts? (*Pass = Use an audiobook format facet or button)*

4. If you're looking for the book named in the chat, what do you find? (Souless)
a. Do you see anything with that exact title? *(Pass = Notice spelling correction)*

5. You want to find some cookbooks that you can download to your Kindle e-reader. How would you do that? *(Pass = Locate a Kindle format copy, note if any facets used)*

6. Okay this is our last question. You said the last thing you checked out was_____. How would you find that in this catalog?
a. Would you be able to pick this up today? (*Pass = Locate the item)*

Wrap Up

Thanks, that was very helpful.

- Prompt note taker and observer to ask any questions they have
- Ask their questions, then ask any follow up questions you have

Do you have any questions for me, now that we're done?

Appendix 5: Aspen Pilot Usability Testing Report February 10 & 11, 2021

Prepared by Tara Wood, SWAN User Experience Manager

Summary

SWAN and Downers Grove Public Library staff conducted usability testing of the Downers Grove beta instance of the Aspen Discovery platform. This test focused primarily on identifying usability problems around search relevancy for both known items and topic searches; grouped formats; and recognizing item availability and statuses (e.g., on shelf, checked out, available at another library). In addition, participants were asked to complete tasks around basic account functionality.

Participants were told to use the device they were most comfortable with; all participants used tablets.
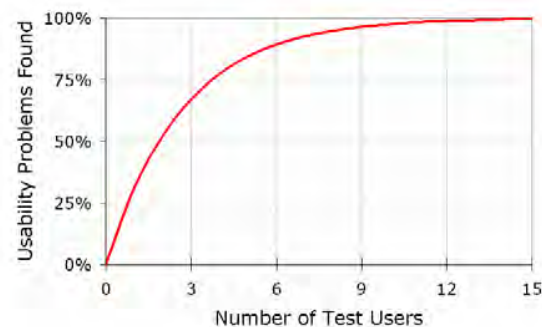
All participants were able to successfully locate formats using the grouped formats and identify item statuses and owning library for an item. Serials and "library of things" items presented challenges for participants; the lack of item covers for these materials seemed to reduce patrons' confidence they had located the result they were looking for. Interestingly, participants in this test extensively used search filters, located in the "Narrow Your Results" area of the screen. This differs from past usability testing in which participants did not make use of these filters. In several cases, participants applied many filters at once and returned few results or irrelevant results stemming from confusion over subject filters.

Based on the researchers observations in this round of testing, we recommend further exploration of search filtering options, including removing or visibly minimizing some filters; adding cover art to records whenever possible; and increasing overall text size in the catalog.

Methods

Remote usability testing

Usability testing is a design research method in which representative users – in this case, patrons who use the catalog – complete typical tasks to identify usability issues and opportunities for interface improvements. It is important to note that the intent of usability testing is to find problems in the specific interface being tested; it is not intended to provide generalizable knowledge about a population or similar websites or software.

The standard number of participants for a usability test is 3-5 participants. The number of additional usability problems found testing with more than 5 participants drastically decreases. As Jacob Nielsen argues, "Elaborate usability tests are a waste of resources. The best results come from testing no more than 5 users and running as many small tests as you can afford."

SWAN staff recruited three participants through an online survey posted to the Downers Grove Public Library catalog, with a goal of recruiting patrons that frequently use the library and the library catalog. Through a brief recruitment survey, potential participants were asked about their library use and their willingness to use online meeting software. Respondents that were not willing to share their audio and computer screen in an online meeting were excluded from consideration. Selected participants received a $15 gift card incentive.

These usability tests were conducted remotely through Zoom. Participants shared their screen and their audio, and optionally video if they were comfortable. Tara Wood, SWAN User Experience Manager, moderated the tests. Crystal Vela, SWAN User Experience Consultant, and Kat Buczek, intern with the SWAN User Experience department, took notes. Cindy Khatri, Public Relations Manager at the Downers Grove Public Library, observed. Tests were scheduled for 30 to 45 minutes.

Participants

Participant	How often do you use the library catalog?	Have you visited the library or done a curbside pickup in the past week?	What do you like to use from your library?	Device used
A	Daily	Yes	Books, ebooks, magazines and dvds, craft bags.	iPad
B	Once a week	Yes	Books, both physical & e-books. Occasionally (not since COVID) I enjoy using it as a space to read, study, utilize it as a quiet place to work/be productive.	Surface tablet with keyboard and track pad
C	Once or twice a month	Yes	Books, e books, CDs and DVDs.	iPad

Key Findings

1. Item covers and descriptions are key to confidently identifying items

Severity: High

When viewing search results for items that lacked cover art, participants were unsure if they had located the item they were looking for.

When instructed to find Newsweek, the lack of cover caused participants to skim past the result and question if it was really the magazine.

When instructed to find "library of things" items – in this case, cake pans – participants successfully displayed results for cake pans but thought they were books, in part because of the lack of cover art.

Recommendation 1a: Manually add covers to "Library of Things" items

Aspen offers the ability to manually upload covers for items. Libraries should consider adding images for their library of things collections to help patrons more confidently identify and request these items.

Recommendation 1b: Investigate options to improve automated cover display

Automated covers are currently provided by Syndetics. Given the importance of cover art to patrons, exploring additional sources for covers could fill in the gaps for some items missing covers.

2. Facets are easy to apply, but difficult to use
Severity: Medium

All participants used the "Narrow Your Results" filters more than the researchers anticipated. In previous tests, the filter accordions were collapsed by default; in this test, availability and format filters were expanded by default, which may account for their increased use in this round of testing.

 One participant was excited that they no longer had to use the "Apply" button and could check and filter and see it automatically applied.

However, in several instances participants applied many filters, using 3 or more filter areas and often producing less relevant results. One participant also didn't expect the "minus" icon to remove filters.
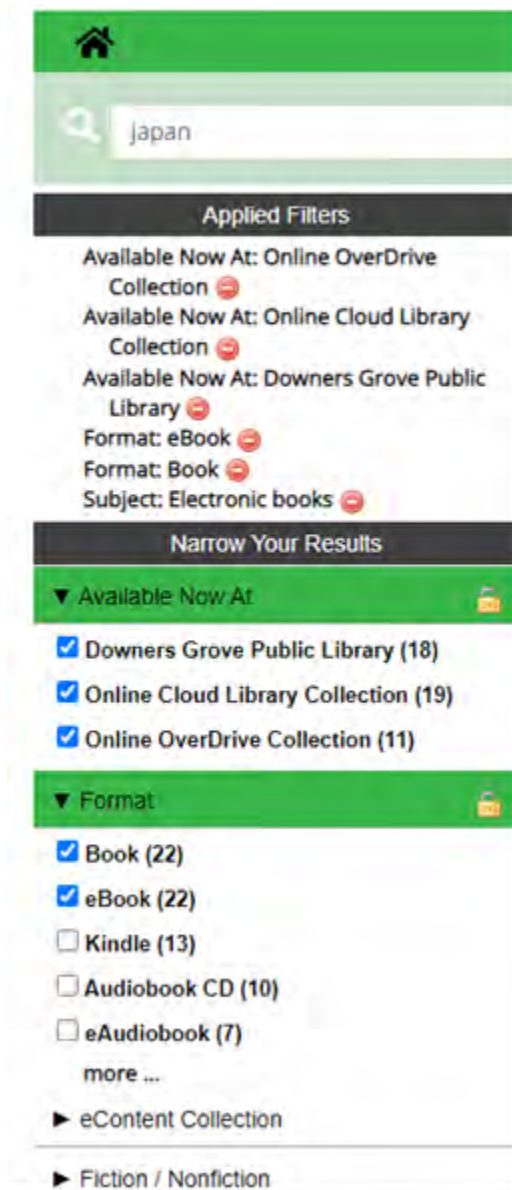
Issues that arose in testing include:

Subject facets exclude relevant results

As in past testing, the Subject filter presented challenges – for example, one participant used the "electronic books" filter in subjects, effectively excluding all relevant results. All participants tried to use subjects would help them find travel books, and only one succeeded in using a "guidebooks" subject.

Too many eBook facet options

The plethora of eBook filtering options especially presented challenges. In one instance, the "Available now at…Online Overdrive Collection," the "Available

now at…Online Cloud Library Collection," and an ebook format filter. Using all of these together does not alter the results.

Formats are an AND search, not an OR

Consistently patrons used multiple format options, both as facets and as the category "buttons" expecting them to perform an OR search – expanding results to both formats. However, these function as an AND search – limiting to books AND eBooks produces results for records that have both, not either, of those formats.

Recommendation 2a: Carefully select available filter options to work together

Currently, Aspen offers a wide array of possible filter options. Carefully selecting a core set of filters that will work well together is key. This will likely mean reducing the number of search filters available.

Recommendation 2b: Investigate the Available Now At… filters.

It is possible the Available Now At… filters aren't necessary as there is also the "Available Now" button. For our next usability test, we could simply set this to be collapsed by default and see if participants are more inclined to use the "Available Now" button and have more success managing their search results.

Recommendation 2c: Set format filters to perform an OR search

Patrons are typically looking for an item available in any of the formats they prefer to use (for example, audiobook or eAudiobook). If they do need an AND search, they could use the advanced search for that less prevalent use case.

Recommendation 2d: Explore alternate icons to remove facets

It is possible a slightly different icon, such as an "X" might be more obvious to patrons to help them remove previous filters.

Recommendation 2e: Investigate Subject filter improvements

Subject filters that match formats are especially confusing; removing these as a facet option could be an easy win for usability.

3. Search suggestions are helpful

All participants used search suggestions at some point in the test. One participant almost exclusively relied on the search suggestions, typing in just a few of the initial letters and looking for the suggestion. They noted at one point in the test they were specifically choosing not to use the suggestion and type out their keyword instead. For

the first task finding a hard-to-spell title, participants were successful only by using the suggestions.
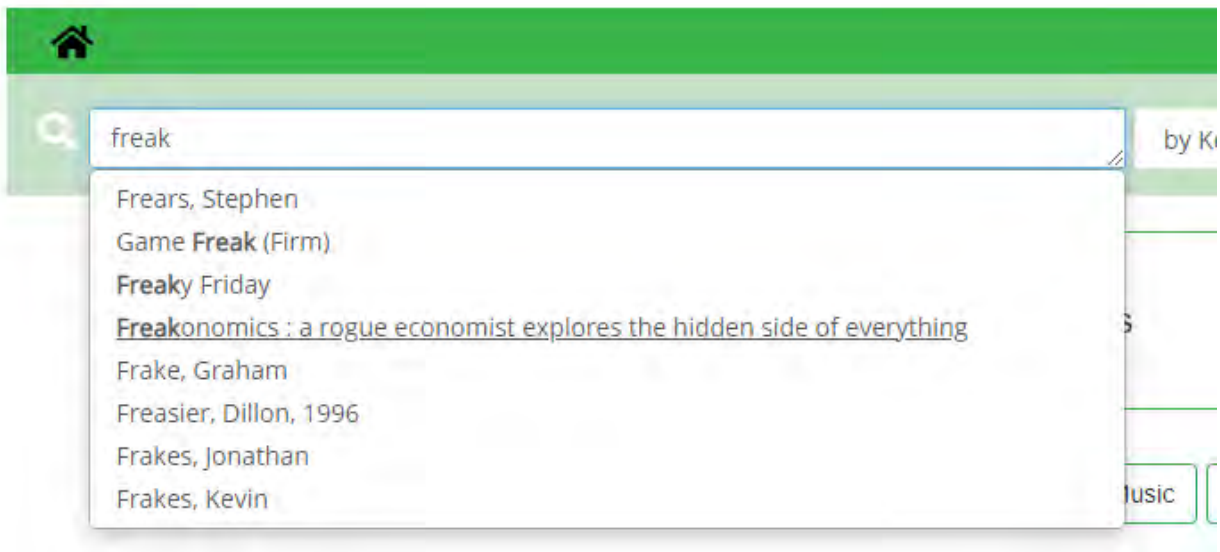
Recommendation 3a: Continue to provide search suggestions

In the past, the consortia chose to disable search suggestions as they often didn't provide helpful recommendations. In Aspen, these appear to be working well, and continuing to monitor them and identify areas of improvement will be beneficial to patrons that rely on them for faster searching and suggested search terms.

4. Serials records are missing key cues

Severity: Medium

One participant noted "I don't even know if I'm looking at the right thing…" and said they expected "a cover, a picture, a year, any sort of date, anywhere. That's what makes me think I'm not on the right thing."

Even participants that located the "show editions" were still uncertain if they were looking at a magazine. Just one participant passed the task of placing a hold on the most recent issue of Newsweek. Adding covers, as mentioned above, may help. But dates could be an even more important indicator. Once participants got to the hold dropdown list of individual issues by date, they could successfully scroll through the long list of dates to find an individual issue – but getting to the year was extremely challenging.

Recommendation 4a: Display dates more prominently and in reverse chronological order.

Assuming many users will not immediately go to the Show Editions button to see dates, having some dates display in search results could be a helpful cue to users.

Investigating language around "Show Editions" for journals and magazines could also be helpful. Currently, the 2021 date for Newsweek is not at the top of the list in "Show Editions" and this is key to usability and holds functionality.

5. Participants didn't expect to find "library of things" items in the catalog

Severity: Low

While one participant was familiar with the Downers Grove "Anything Emporium" and the concept of checking out non-traditional library items, they didn't expect to find these items in the catalog. The other two participants indicated they didn't expect these types of items in the catalog.

All participants used the "physical object" facet, but still seemed unsure they had found the cake pans they were looking for, in part due to the cover image issue described above.

One participant noted the "Beyond Books" in the series statement, and thought they were looking at a book. "Beyond Books" is the name that Oak Lawn Public Library uses for their library of things collection.

The participants that clicked into a record and viewed the Description field were more confident they had found what they were looking for. However, seeing Publisher information confused all participants.

Recommendation 5a: Investigate best practices for library of things records in the catalog

It is possible that simply adding cover art to these items will vastly improve usability. However, it is worth exploring best practices for these records that patrons do not necessarily expect to see and better communicate the array of what the library has to offer. In addition, as patrons will discover these collections from the entire consortia in the catalog, some type of unifying information and display may help reduce confusion.

Issues & Task Completion Rates

Task 1

Pass: 2 out of 3, 1 with difficulty

Success: Locates the title *Freakonomics*, using search suggestions if needed.

Two participants used the search suggestions to successfully locate the title.

For one participant, it appeared that their tablet keyboard blocked the visibility of some of the suggestions on the screen. They couldn't find the correct spelling and couldn't locate the title. They also attempted to search by author, but again did not have the correct spelling for the author so the title never appeared.

Task 1a

Pass: 2 out of 3

Success: Locates the large print format button (or alternate on shelf format).

Participants were able to easily identify formats; one participant did not locate the title initially so could not locate the format.

Tasks 1b

Pass: 2 out of 3

Success: Correctly identifies the status – on shelf.

Participants were able to easily identify statuses; one participant did not locate the title initially so could not identify the on shelf status.

Task 2

Pass: 3 out of 3, 1 with difficulty

 Success: Locates cake pans and makes a choice.

All participants were initially confused about this question, as they didn't expect the library catalog to have "things". Participant A noted that the catalog is only for books. While all participants eventually found an item, the lack of a cover made them uncertain if they were looking at a book or an actual cake pan. In addition, the Publisher information confused Participant A, as well as the series statement for "Beyond Books" (the library's name for their "Library of Things" collection). The participant saw "books" and thought that mean the item was a book.

Two participants used the "physical object" format limit as part of their search.

Task 2

Pass: 3 out of 3

Success: Correctly identifies the library that has this item (no cake pans at this library)

All participants easily located the owning library for the item. One participant expected they could click on "Available from another library" and see the library list; this label is not a link. The participant quickly recovered and found the "Quick Copy View" link in search results. The other two participants viewed the item detail and noticed the library.

Task 3

Pass: 2 out of 3

Success: Can list the first 3 books in title/publication order

Two participants used the Series search limit, which returned the series items in order. One participant was not able to locate the first three items in the series, as they used the Publication Date limit to limit to the past 10 years. They believed they had found all three volumes, but one item was part of a separate graphic novel series, which is a difficult distinction to make.

Task 4

Pass 2 out of 3, 1 with difficulty

Success: Finds 3 seasons of the TV series *Yellowstone*, either through the search or using "more like this" recommendations in the item detail view.

The challenge of this task was finding the TV series amidst many other nonfiction movies about Yellowstone National Park. One participant found all seasons in the

search results, searching by "Yellowstone dvd" and narrowing the format down to DVD. Another found the first season in the series in the search suggestions, then located the other two seasons in "more like this" recommendations in the detail view.

Participant C thought there were only two seasons, based on what they saw in search results. They also clicked into a season and saw the other two recommended, but ultimately decided there were probably just two seasons based on search results. They also thought that clicking "previous" and "next" in the item detail would show them the previous and next seasons. This feature shows the previous and next search results. In addition, they investigated the Series facet in their search, but it was not helpful as the TV Series title was not included for these records.

Task 5

Pass: 3 out of 3, 1 with difficulty

Success: Use the filters to see on shelf items

All participants used the "Available now at" filters (checkboxes, not buttons). One participant was confused that both fiction and nonfiction titles were appearing in results. All participants used the Subject filter to narrow down results, but interestingly none used the Fiction/Nonfiction filter.

Task 5a

Pass: 3 out of 3

Success: Locate the call number and location for an item

All participants quickly and successfully located the call number for a nonfiction title. One did not notice the location in the library (e.g., second floor).

Task 5b

Pass: 1 out of 3

Success: Locate ebooks , resetting previous filters for physical materials

Participants went into this task with many filters set and struggled with removing them to improve ebook search results. One participant didn't expect the "minus" icon to remove a filter.

All expected to click "ebooks" and see all the eBooks added to their "book" limited results; however the format filter currently operates as an "AND" filter instead of an

"OR". This means results were limited to records with both books and ebooks available. In addition, several left the "Available now at" my library filter set, so results were excluded to records with both book and eBook formats, where the book is also on shelf.

Task 6

Pass: 1 out of 3

Success: Can identify the magazine Newsweek correctly and place a hold on the most recent issue.

All participants struggled to identify Newsweek in search results – the lack of an item cover and dates was confusing.

Participant A used the "Show Editions" button to see all dates, but placed a hold on the latest 2020 issue. 2021 was further down the list of editions, and they did not see it. However, they were successfully able to navigate issues using the holds popup.

Participant B was not able to bring up the hold popup screen due to a bug, so they could not complete the task. They also noted they were looking for

Participant C interestingly searched for "current magazines" and by narrowing to a format of Journal and publication dates found Newsweek. They also were the only participant to locate the 2021 issues.

Task 7

Pass: 3 out of 3

Success: Find My Account and view holds

Participants had no difficulties finding My Account.

Task 7a

Pass: 3 out of 3

Success: Notice the position in hold queue

All participants noticed the sort by position function before noticing the position in queue. While all found it eventually, it did not seem to be obvious to any participant.

Task 7b

Pass: 3 out of 3

Success: Freeze Hold in My Account

Task 7c

Pass: 3 out of 3

Success: Cancel hold in My Account

All participants quickly understood they had to unfreeze a hold to cancel it. Two giggled at the message "your hold has been thawed."

Task 8

Pass: 3 out of 3

Success: View Checkouts in My Account

Participant A had trouble seeing the My Account menu and used the pinch-to-zoom feature on their iPad to see the menu.

Participants A and B used the "hamburger" menu instead of the account/login dropdown menu to get to their account information.

Task 9

Pass: 3 out of 3, 1 with difficulty

Success: Find Reading History in My Account

Participant A struggled to find Reading History; it didn't seem to be a feature they had used before. They first looked at Search History.

Task 10

Pass: 3 out of 3

Success: Locate Contact Information in My Account to update email

One participant expected to find this information under Preferences but quickly recovered and found Contact Information.

Task 11

Pass: 3 out of 3, 1 with difficulty

Success: Find Linked Accounts in My Account

One participant was confused by the question, which used adding a neighbor's account as a scenario. They expected Linked Accounts would only be for a spouse or child.

Task 12

Pass: 1 out of 2, 1 not asked

Success: Find website results

Participant B heavily used the search filter dropdown menus throughout the test. They used the Library Website filter to find library search results. Participant A did not scroll far enough in results to see the website results in the Explore More bar. Participant C was not asked this question due to time constraints.

Next Steps

SWAN and Aspen pilot libraries will conduct at least two additional rounds of testing.

In our next round, we will further explore facets and the impacts of cover art versus generated covers.

Finally, we will make the following requests for development:

- Increase font-sizes, based on the zooming behavior observed during testing

- Change format behavior to an "OR" search instead of an "AND"

- Exclude certain subject terms, namely those that reflect formats

One of the goals of this testing was to see if patrons had any difficulties identifying item statuses or locations of items owned by a library other than their home library. Usability testing performed to date has not indicated any issues with identifying item statuses or locations. At this time, further testing in this area is likely not necessary, but monitoring patron help requests during the beta catalog period can confirm if this is an area worth further investigation.

Usability Testing Script
Introduction

Hi, _____. My name is _____, and I'm going to be walking you through this session today. This is my colleague _____ and they will be taking notes.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We're here to test out a different version of the library catalog.

The first thing I want to make clear right away is that we're testing the catalog, not you. You can't do anything wrong here. There might be times during the test that

something may not work and we will need to reset, and that is just the catalog and not you.

As you use the catalog, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the catalog, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them, and if you need to take a break at any point, just let me know.

If it is okay with you we'd like to record this session – it will just be audio and your screen, no video of you. That will just help us take fewer notes.

START THE SCREEN RECORDING

In a little bit we'll go through several tasks to complete in the catalog. But first I'm going to send you the link to the catalog we will be using.

PASTE LINK IN CHAT: https://dgs.swanlibraries.net

Now I'd like you to share your screen - you should see a "Share Screen" button at the bottom of the page.

Pre-Test Question

    A. Tell me about what you are seeing on the screen? Do you notice anything different than what you are used to?

Thanks! Now I'll have a series of tasks for you to complete in the catalog. Here's the first task.

Tasks

    1. Can you find Freakonomics by Levitt? Success: *Locates a record (more than one)*

    a. Can you find it in large print? *Success: Locates the _____10format button*

    b. Is it available at Downers Grove? *Success: Correctly identifies the status*

2. You want to do something special for your niece's birthday and heard the library has specialty cake pans. Can you find a cakepan for your party? *Success: Locates numerous cakepans and makes a choice.*

a. Is this available at Downers Grove? *Success: Correctly identifies the library that has this item (no cake pans at this library)*

3. Pretend your favorite children's book series was the Boxcar Children and you'd like to find it for your friend's daughter. Can you locate that series and recommend the first 3 books in the series? *Success: Can list the first 3 books in title/publication order*

4. You are ready to do some binge watching and heard Yellowstone (TV Series) is pretty good. How many seasons are there? *Success: Finds 3 seasons, either through the search or using "more like this" recommendations*

5. If you were looking for travel books about Japan, how would you find all the books that are available to checkout today at your library? *Success: Use the filters to see on shelf items*

a. Let's pretend you are inside the library and wanted to find this on the shelf, where would it be? *Success: Locate the call number and location*

b. How would you find eBooks available about Japan? *Success: Locate ebooks by scrolling or using filters*

6. You'd like to read the most recent issue of Newsweek Magazine. How would you get the most recent issue? You can use this library card if you don't want to use your own. *Success: Can identify the magazine correctly and place a hold on the most recent issue.*

PROVIDE TEST BARCODE IN CHAT

7. Let's say you want to check your account to see what else you have on hold. How would you do that? *Success: Find My account and view holds*

a. How long will it take to get this? *Success: Notice the position in queue*

b. If you were going to be out of town, how would you make sure this didn't come in while you're gone? *Success: Freeze Hold*

c. How would you cancel this hold? *Success: Cancel hold*

8. How would you view your current checkouts? Success: View Checkouts

9. How would you view what you've checked out in the past? Success: Find Reading History

10. How would you update your email in your account?

11. Let's pretend you often pickup library books for your neighbor. How do you think you could view their account information with yours, so you could see what they have to pick up or return? *Success: Find Linked Accounts*

12. You heard the library has an art collection. How would you find more information about that? *Success: Find Explore More website results*

Wrap Up

Thanks, that was very helpful. Those are all of the tasks we have for you today.

- Prompt note taker and observer to ask any questions they have

- Ask their questions, then ask any follow up questions you have

Do you have any questions for me, now that we're done?

A. Was there anything that surprised you?

B. How would you compare this catalog to others that you've used?

STOP the SCREEN RECORDING

Appendix 6: Aspen Pilot Usability Testing Report February 17, 2021

Prepared by Katarzyna Buczek, SWAN User Experience Intern

Summary

SWAN and Tinley Park Public Library staff conducted usability testing of the Tinley Park beta catalog of the Aspen Discovery platform. This round of testing was primarily centered around participants being able to find recommendations, finding items with the right format, and being able to identify the availability of items.

We found that magazines were causing many issues for users to find, recommendations are not expected to be found within the catalog (especially in so many places), and Library of Things is not expected to be searched in the catalog.

Based on the researchers' findings in this round of testing, we have discovered once again how valuable cover art is and its importance to be included in the records.

Methods

Usability testing is a user-centered research method aimed to gain valuable insights for a website or product design- in our case a website design. Three to five participants are recruited to complete a series of predetermined tasks to help the designers of the website sniff out common issues and bugs to correct or improve.

It is important to note that usability testing is not meant to find all of the problems, nor is it meant to validate or prove design concepts. Steve Krug said it best, "You give them tasks to do, you observe, and you learn. The result is actionable insights, not proof."

For this round of testing, SWAN and Tinley Park Library staff conducted the tests remotely through Zoom. Participants were recruited through an online survey link on the current Tinley Park Library SWAN catalog to find users who visit and use the catalog often.

Participants

Participant	Device used	How often do you use the catalog?	What do you like to use at your library?	Have you used any eBooks or eAudiobooks in the past 3 months?
A	Android phone	Once a week	Audiobooks, movies, OverDrive, mystery books, youth books for homeschooling	Yes
B	Desktop	Daily	Books, magazines, kindle books, magazines, dvd's, cd's, sheet music, children's books, children's programs	Yes
C	Desktop	Daily	OverDrive, Hoopla, audiobooks	Yes

Key Findings

Finding 1: Recommendations are not expected

Participants use outside resources to find recommendations, visit the reference desk, or browse the shelves for their next read. Participants did not expect to have recommendations in the catalog, but seemed pleasantly surprised and excited about the feature.

One participant asked, "Are these [books] related to the book I placed on hold?"- referring to the "While you Wait" books that popped up after they placed a hold.

Blueberry muffin murder /

Your hold was placed successfully.
When ready, your hold will be available at Bensenville Community Public Library District, you can change your default pickup location here.
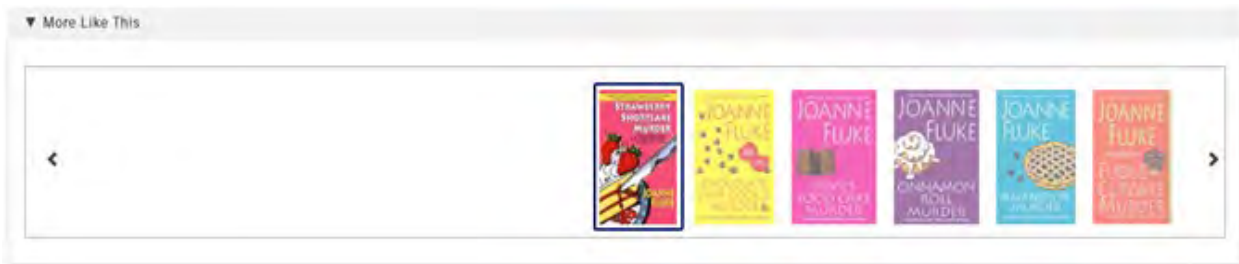
WHILE YOU WAIT

Close

No one found, or mentioned they noticed, all of the recommendation sources available.

1. There is the "While you Wait" source as pictured above.
2. "More Like This" tab when scrolling to the bottom of the record.

▼ More Like This

3. "Similar Titles" and "Similar Series" towards the bottom of the records as well.
4. "Recommended for You" link in My Account
5. "You Might Also Like" button in Checkouts.

84

One participant knew Novelist was "a good place to find stuff" and was a reliable source to find their next read.

Recommendation 1a: Add a color to the "You Might Also Like" button that is located in the checkouts. Adding a color to the button may be more noticeable to users.

Finding 2: Format and audience type are commonly used in the search bar

Filters are not always used to narrow down search results. Searching is "Google-like", meaning the search bar is usually packed with everything the participant wanted.

Recommendation 2a: Configure the search algorithm to handle formats and audience terms.

Finding 3: Library of Things is not expected to be in the catalog.

There's some confusion about the Library of Things being in the catalog. One participant was looking in the Library Website to find them. They said they "did not know they can check out objects". They mentioned they noticed the Library of Things when they visited the library, but they did not register the fact that they were able to be checked out.

We added cover photos this round to test if the participants would find them more easily, and we have found that people were more successful with photos than in the previous test. Cover photos are extremely important to reinforce that the record is in fact a cake pan and not a book.
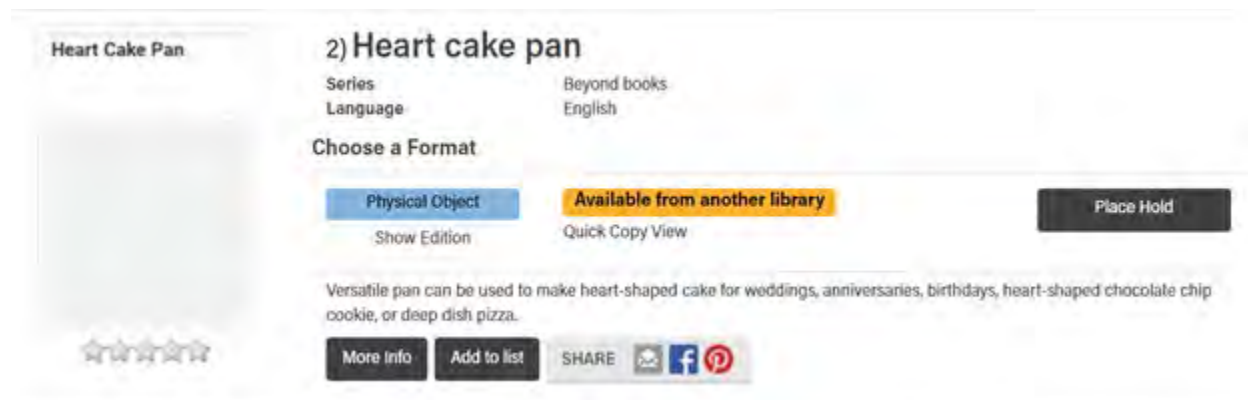
Recommendation 3a: Add cover photos for Library of Things items in the catalog. Adding a photo reduces confusion and affirms users they are looking at the correct record.

Recommendation 3b: Libraries could use browse categories to market cake pans and Library of Things.

Finding 4: Magazines are confusing.

Cover photos are important and expected to be the most current one. The first usability test we ran did not have covers for Newsweek, and we thought participants were having trouble finding magazines because of the lack of a cover photo. We added a cover for Newsweek this round, and found that they helped reassure participants they were on the right record, but they still had problems. Two out of the three participants zoomed into the cover photo to find out which edition they were looking at; the record shown is expected to be the most current. Editions are also expected to be shown from most recent to older as you scroll down with the dates of publication shown.

The journal label is confusing and participants are not sure what the difference is between journal and magazine. This issue has been resolved since this usability test was conducted, as shown in the picture above. "Magazine" and "Journal" are now joined together in one format heading.

One participant was having a difficult time finding the e-magazine version of Newsweek, and in the process of finding it stumbled across the "Explore More" categories and clicked on the Magazines button. This participant misunderstood what the "Explore More" categories are used for, and ended up not finding what they were looking for.

Recommendation 4a: Add cover photos to all magazine records (and any record without one if possible).

Recommendation 4b: Organize the magazine dates from newest to oldest.

Recommendation 4c: Do not make the users click on "Show Editions". Instead, have the editions automatically pop up.

AND/OR

Recommendation 4d: Change the wording of the "Show Editions" button. "Edition" implies something else to users than it does to librarians.

Task Completion Rates & Issues
Task 1

Pass: 0 out of 3 *question may have been misunderstood

Success Criteria: Navigate the browse categories, select a title, and select a format.

Participants failed this task due to not selecting a Caudill book with the 2020 subcategory. It is unclear whether participants did not notice the subcategories, or they had misunderstood what they were looking for.

All participants mentioned the new look of the catalog and commented on the browse categories. One participant noticed the browse categories but did not think to search for Caudill books using the categories, rather used the search box and filters on the side to narrow down results by audience.

Task 2

Pass: 3 out of 3

Success Criteria: Found the book they had mentioned they recently checked out.

One participant noted they do not trust the library catalog to list books in order. They use outside sources to check series order and/or publishing order.

One participant commented: "It's cool that you can preview the audio here instead of through OverDrive".

Task 2a

Pass: 3 out of 3

Success Criteria: Rated books with stars.

All participants found the star rating system, but may not have noticed them if not prompted or understood that ratings may generate recommendations.

One participant was clicking on the stars to submit the rating, but the stars were disappearing after clicking. We may need to take a deeper look.

Task 2b

Pass: 3 out of 3

Success Criteria: Find the call # and availability of their book.

This was not an issue for all participants.

One participant expected to click "Available at another library" to see a list of libraries, but eventually figured out they had to place a hold to choose a library.

Task 2c

Pass: 1 out of 3

Success Criteria: Used recommendations to find a similar book or author.

The successful participant noticed the "More Like This" button and mentioned they also use NoveList for recommendations.

Other two participants did not realize the catalog could give recommendations. One of them had outside sources they liked to check, and would type into the search box the genre they wanted and got (good) results that way. The other participant did not know how to begin finding recommendations, and eventually asked if rating books would generate a list, but did not know how to find that generated recommendation list.

Task 3

Pass: 1 pass w/ difficulty out of 3

Success Criteria: Locate the DVD director's cut edition, using Show editions

Ctrl + F was used by a savvy participant to find the director's cut edition and scrolled through results.

Advanced search was attempted but quickly aborted.

Participants were not expecting to click into the records to find the editions; it was expected to find the editions on the results page.

Task 3a

Pass: 2 out of 2 *1 participant not asked

Success Criteria: Found the availability of the DVD in Tinley Park Library

Availability is consistently found.

Task 4

Pass: 3 out of 3 *1 pass with difficulty

Success Criteria: Locates cake pans and distinguishes it from a book; does cover art help?

All participants were amazed they could search for cake pans in the catalog.

Cover art has helped reassure everyone that they are looking at the right record. Seeing "Beyond Books" in the record threw off a participant into thinking the record was a book, but they recovered. The physical object format also helps reinforce the record is a cake pan and not a book.

Another participant did not think to look inside the library catalog to find the cake pans; they first checked the library website

Task 4a

Pass: 2 out of 3 *1 pass w/ difficulty

Success Criteria: Correctly identifies the library that has this item (no cake pans at this library)

All participants were able to correctly identify the owning libraries of the cake pans.

Something we have observed about the cake pans being in the catalog is If it is seen that a cake pan is available at another library, users place a hold on it. Most participants assumed if it was seen in the record, they were able to place it on hold and get it sent to them. When one participant in particular realized that it was not possible to place a hold, they checked to see if it was available at Tinley Park Library. A discussion about whether to somehow signal to patrons that some items in the record are not available for them to place a hold or check out because of their home library could be beneficial.

Task 5

Pass: 3 out of 3

Success Criteria: Use the filters to see on-shelf items.

All participants searched a little differently, but all were able to find travel books available for checkout then and there at their library.

There was some confusion about whether to use keyword or subject to find Japan travel guides when searching, but they eventually found what they were looking for and applied the filters to see availability.

Task 5a

Pass: 3 out of 3

Success Criteria: Locates the call # and location.

Task 5b

Pass: 3 out of 3

Success Criteria: Locates ebooks by scrolling or using filters.

One participant knew to deselect the book filter they had and select the ebook filter. At the time of this test, it was an AND search not OR search.

Task 5c

Pass: 1 out of 3

Success Criteria: Reset all previous filters and locate DVDs or Blu-rays.

It has been common for participants to add a format when searching in the search box, and this task was no exception. After a failed attempt de-selecting filters to the correct ones, and a failed attempt at advanced search, one participant's next step was to search for the subject followed with "dvd". After clicking the movie button, no relevant results appeared.

One participant successfully found a DVD after swapping out the format options.

Task 6

Pass: 1 pass w/ difficulty out of 3

Success Criteria: Can identify the magazine correctly and place a hold on the most recent issue.

All participants were not sure if they were looking at the most recent copies of Newsweek magazine and whether the magazine was a physical copy or available for e-reading.

Similarly, all participants struggled to find the publication dates; it was expected to see the publication dates from most recent to least when they scrolled down the record.

One participant searched for the magazine and a date in the search box, and surprisingly they got the right result!

This task also uncovered the importance of using cover photos; 2 participants zoomed into the photo to see if they could figure out the publishing date and/or figure out if the record was the most recent, 1 participant looked to the cover for reassurance it was the most recent but it was too small/illegible to distinguish.

One participant never figured out they needed to place a hold to see the editions. Two participants placed a hold only to become confused when the editions were not sorted by date.

Task 7

Pass: 3 out of 3

Success Criteria: Find the title "The Four Winds" for Kindle.

Task 7a

Pass: 3 out of 3

Success Criteria: Place a hold on the Kindle format.

Participants were able to complete the task and a participant understood their position on the waitlist.

Task 8

Pass: 2 out of 3

Success Criteria: Find and checkout an ebook cookbook.

One participant was unfamiliar with OverDrive and not sure the format they were looking for was for Kindle. The same participant pre-applied the ebook format before entering the search but did not realize their search did not apply the format. They weren't asked the rest of question 8 because of their confusion about the formats.

Task 8a

Pass: 2 out of 2

Success Criteria: Picked a title to checkout.

Task 8b

Pass: 2 out of 2

Success Criteria: Go to my account and download the title or get to the Amazon checkout screen.

One participant was not asked because they did not pass Task 8.

The other participants successfully got to the Amazon checkout screen and understood how to download the title. One participant mentioned they would check it out on OverDrive to not count towards their 5-a-month limit with Hoopla.

Task 9

Pass: 1 out of 3

Success Criteria: Found the most recent issue of the magazine Good Housekeeping to download or read online.

Using an ebook filter is thought to include e-magazines.

One participant clicked in the "Explore More" for EBSCO when the magazine button was shown.

Task 9a

Pass: 1 out of 3

Success Criteria: Find Read Online in my Account.

Task 9b

Pass: 1 pass w/ difficulty out of 3

Success Criteria: Were able to close the magazine.

The only participant who was able to find an e-magazine had trouble exiting out. They tried the escape button first. They did not notice they were in another tab. They hit the back button and finally closed the tab.

Task 9c

Pass: N/A

Success Criteria: Find the return button to return a magazine.

Not asked because it was an awkward question.

Task 10

Pass: 3 out of 3 *1 pass w/ difficulty

Success Criteria: View Recommended for you or "You might also like" in Checkouts.

One participant was not expecting the catalog to give her recommendations, and they did not know how to go about finding them. The moderator prompted the participant to go to their checkouts to see if they could find a way from there, and once they saw the "You may also like" button they got it! They commented that they did not notice that button before.

Another participant clicked on the actual title of a book to view the "More Like This" section again and commented they regularly use NoveList recommendations, which was also on the bottom of the record they scrolled down to.

Task 11

Pass: 1 out of 3

Success Criteria: View "While you wait" in Holds.

One participant seemed confused by the question.

The participant that passed was still looking at their holds page, so it may have been easier to answer for them.

Task 12

Pass: 2 out of 2 *1 participant not asked

Success Criteria: Create a list and add titles to it.

One participant was unaware they were able to create a list of books in the catalog, saying they would do it by "pen and paper!".

Both participants who were asked found "My Lists" in Account.

Task 13

Pass: 1 out of 1 *2 participants not asked

Success Criteria: Find "Email the list".

The one participant that got to this point found the button, and they noticed the Citation button while they were there.

Task 14

Pass: 1 out of 1 *2 participants not asked

Success Criteria: You found this list of books to read. How would you add them all at once to a list, so you could check them out over the course of the year?

Task 15

Pass: N/A

Success Criteria: Use Library Website filter or Explore More to go to the library website curbside checkout page.

Pass is not applicable because we found a bug. The results did not come up.

Next Steps

SWAN, in partnership with member libraries, should conduct further research on:

- Re-wording "Show Editions", especially when it relates to searching for specific magazine publication dates.

- How to promote or market the Recommendation features in the catalog

- Find a way to omit results that patrons can't place a hold on. When the item in question is at another library or the library's policy doesn't allow holds on certain items, it can be frustrating to see the item's availability and not be able to place a hold or check it out.

Development requests

- Categorize the magazine publication dates in order from newest to oldest.

- Add magazine covers.

- Add background color to "You Might Also Like" button.

- Configure the search box to accept format and audience types.

Libraries

- Add cover photos for Library of Things.

Usability Testing Script

Introduction

Hi, _____. My name is _____, and I'm going to be walking you through this session today. This is my colleague _____ and they will be taking notes.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We're here to test out a different version of the library catalog.

The first thing I want to make clear right away is that we're testing the catalog, not you. You can't do anything wrong here. There might be times during the test that something may not work and we will need to reset, and that is just the catalog and not you.

As you use the catalog, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our

feelings. We're doing this to improve the catalog, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them, and if you need to take a break at any point, just let me know.

If it is okay with you we'd like to record this session – it will just be audio and your screen, no video of you. That will just help us take fewer notes.

START THE SCREEN RECORDING

In a little bit we'll go through several tasks to complete in the catalog. But first I'm going to send you the link to the catalog we will be using.

PASTE LINK IN CHAT: https://dgs.swanlibraries.net

Now I'd like you to share your screen - you should see a "Share Screen" button at the bottom of the page.

Pre-Test Questions

A. Tell me about what you are seeing on the screen? Do you notice anything different than what you are used to?

B. What's something you checked out recently from the library that you enjoyed?

Thanks! Now I'll have a series of tasks for you to complete in the catalog. Here's the first task.

Tasks

1. You'd like to get one of the 2020 Caudill award winning books for your nephew. How would you browse those and find one to checkout? *Success: Navigate the browse categories, select a title, and select a format*

2. You said you recently checked out _____(Backup: The Sanatorium by Pearse). How would you find that again in the catalog?

a. How would you rate this?

b. Is this on shelf at your library? If so where would you find it in the library?

c. How would you find something similar to read next - similar authors or movies, etc.[Text Wrapping Break]

3. You'd like to find the director's cut of Blade Runner on DVD. How would you find that? *Success: Locate the DVD directors cut edition, using Show editions*

a. Is this available to check out from Tinley Park?

4. You want to do something special for your niece's birthday and heard the library has specialty cake pans. Can you find a cake pan for your party? *Success: Locates cake pans and distinguishes it from a book; does cover art help?*

a. Is this available at Tinley Park? *Success: Correctly identifies the library that has this item (no cake pans at this library)*[Text Wrapping Break]

5. If you were looking for travel books about Japan, how would you find all the books that are available to checkout today at your library? *Success: Use the filters to see on shelf items*

a. Let's pretend you are inside the library and wanted to find this on the shelf, where would it be? *Success: Locate the call number and location*

b. How would you find eBooks on the same topic? *Success: Locate ebooks by scrolling or using filters*

c. How would you find movies about this topic?*Success: Reset all previous filters and locate DVDs or Blu-rays*[Text Wrapping Break]

6. You'd like to read the most recent issue of Newsweek Magazine. How would you get the most recent issue? You can use this library card if you don't want to use your own. *Success: Can identify the magazine correctly and place a hold on the mos*t recent issue. PASTE BARCODE INTO CHAT 21321888888888, 1234

7. Find the title "The Four Winds" for Kindle

a. Can you place a hold on this title?

8. How would you find an eBook cookbook to check out? *Success: Find and checkout an eBook*

a. Can you pick a title to check out?

b. How would you download the title? Success: *Go to my account and download the title or get to the Amazon checkout screen*[Text Wrapping Break]

9. Find the most recent issue of the magazine Good Housekeeping to download or read online.

a. How would you read it? *Success: Find Read Online in my Account*

b. You're all done, how would you close it?

c. How would you return it? *Success: Find Return button*[Text Wrapping Break]

10. Let's pretend you have several eBooks checked out right now that you really enjoyed, and you're about to return them. How would you get recommendations for similar items to what you have checked out? *Success: View Recommended for you or "You might also like" in Checkouts*[Text Wrapping Break]

11. How would you find eBooks that are similar to what you have on hold? That you might now while you're waiting. *Success: View "While you wait" in Holds*[Text Wrapping Break]

12. Let's pretend you are planning to camp with your friend's kids in the summer. You want to find some picture books, but you don't want to request them right now. How would you save a list of books to check out later, closer to the summer? *Success: Create a list and add titles to it*

a. How would you send this list to your friend? *Success: Find Email the list*

Bonus Questions

13. You found this list of books to read. How would you add them all at once to a list, so you could check them out over the course of the year?

PASTE INTO CHAT THESE TITLES:

- A Children's Bible

- Deacon King Kong
- Hamne
- Homeland Elegies
- The Vanishing Half
- Hidden Valley Road
- A Promised Land
- Shakespeare in a Divided America
- Uncanny Valley
- War Margaret MacMillan

14. You'd like to find out more about the curbside checkout process. How would you do that? *Success: Use Library Website filter or Explore More to go to the library website curbside checkout page.*

Wrap Up

Thanks, that was very helpful. Those are all of the tasks we have for you today.

- Prompt note taker and observer to ask any questions they have
- Ask their questions, then ask any follow up questions you have

Do you have any questions for me, now that we're done?

A. Was there anything that surprised you?

B. How would you compare this catalog to others that you've used?

STOP the SCREEN RECORDING

Appendix 7: Aspen Pilot Usability Testing Report February 24, 2021

Prepared by Tara Wood, SWAN User Experience Manager

Summary

SWAN and Villa Park Public Library staff conducted usability testing of the Villa Park Public Library beta instance of the Aspen Discovery platform. Testing focused on search, filtering, finding recommendations, and using key account features across a variety of devices. Participants used desktop and mobile devices, and they were able to successfully complete most tasks.

Key Findings

1. Multiple format selection does not behave as expected

In a recent update, format filters now perform an "OR" search instead of an "AND" search, which better reflects patron expectations (e.g., when you click "ebooks" and "books" you get all the ebook and book options for your search).

However, format category buttons still perform an "AND" search, reducing results the more options you click.

Figure 9 Format category buttons

Participants also tried to select multiple filters all at once. Currently, the catalog will only load the last filter selected, and the page would have to fully load to add each additional filter (unless you go to the "More" screen to apply multiple filters).
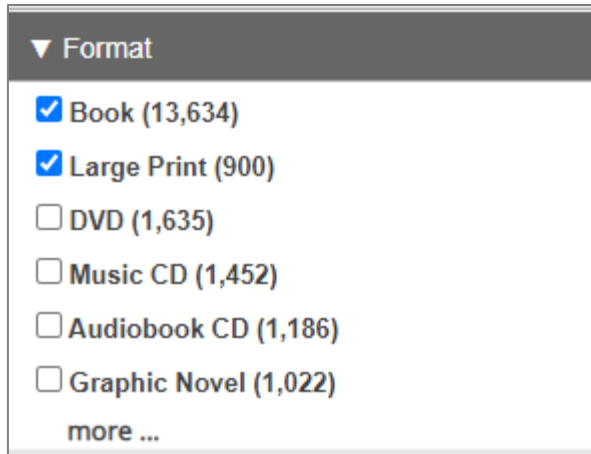
Figure 10 Format filters with multiple selections

Recommendation 1a. Allow multiple filter selection, instead of one at a time

This behavior would match similar commercial website functionality, for example from Amazon.com.

Recommendation 1b. Consider if format categories should be "one at a time" or an OR search

Selecting one category at a time may better match patrons' mental models. Selecting more formats and getting fewer results is not what participants expected. The format categories are broad enough, that with the exception of Books and Audiobooks, most records would not fall into more than one category.

2. Viewing holdings information is awkward

All participants in this test tried to click the "Available at another library", expecting it to show holdings information. This also happened in previous tests.

One participant also expected to see holdings in the detail view of the item; since the particular record they were looking at was a grouped record, they weren't able to see
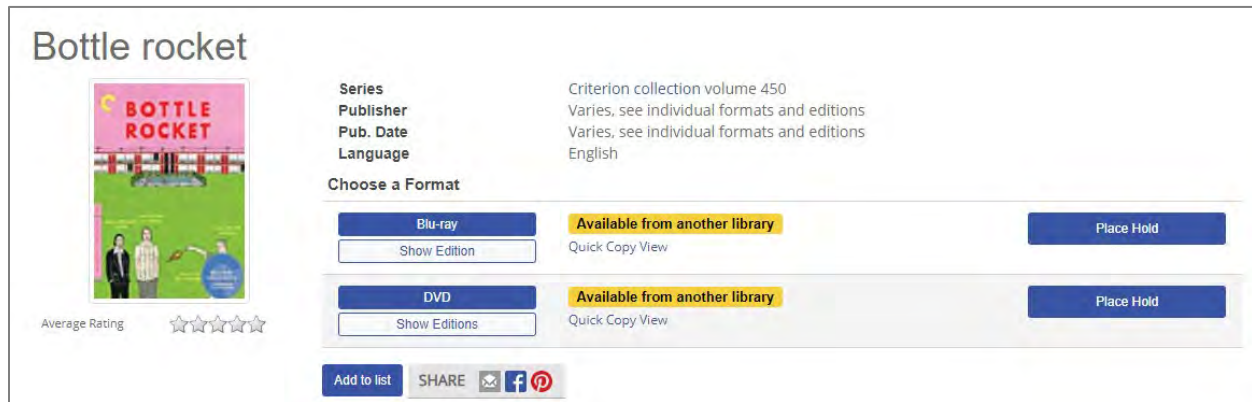
the holdings.

Figure 11 Detail view of a grouped record, showing the Available at another library status. The only way to view copies is to select Quick Copy View.

Recommendation 1a: Test using the status "buttons" as a replacement for the Quick Copy View link

Because the status labels look like buttons, it makes sense users might expect to click those and get more information. What isn't clear is if these could replace the link to the Quick Copy View and careful testing is needed.

Recommendation 1b: Explore a copies listing in grouped records

This may be unnecessary if the Quick Copy View is easier to find. However, patrons may still expect to see a full list of holdings in a detail view. Further testing explicitly on the detail view for grouped records would be helpful.

3. Account options menu isn't clear

One participant using a phone struggled to find the account menu. All participants explored both menus, not sure which one had the account options.

On a desktop, there are two options to find the account menu: a left sidebar menu on the "My Account" page and a dropdown menu under the logged in icon. On a phone,

the only way to access the account menu is using the logged in icon.
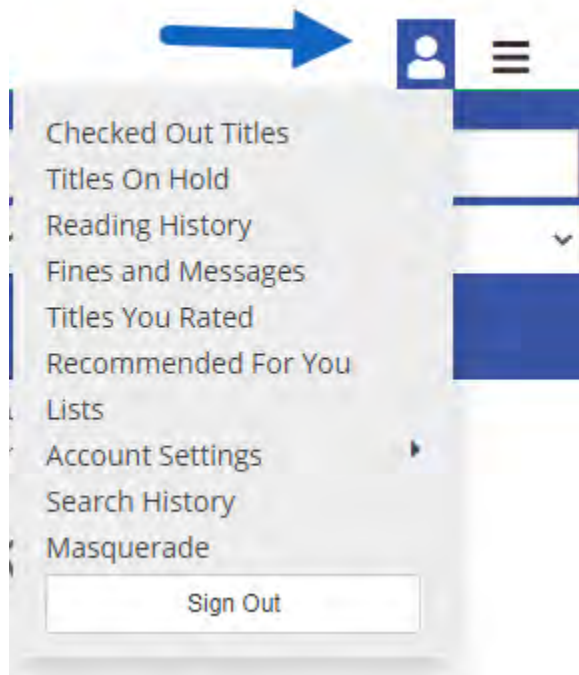

Figure 12 Account menu on a phone

Recommendation 3a: Further investigate account pages information architecture

Multiple menus – one for account options and one for site navigation – are not uncommon in websites.
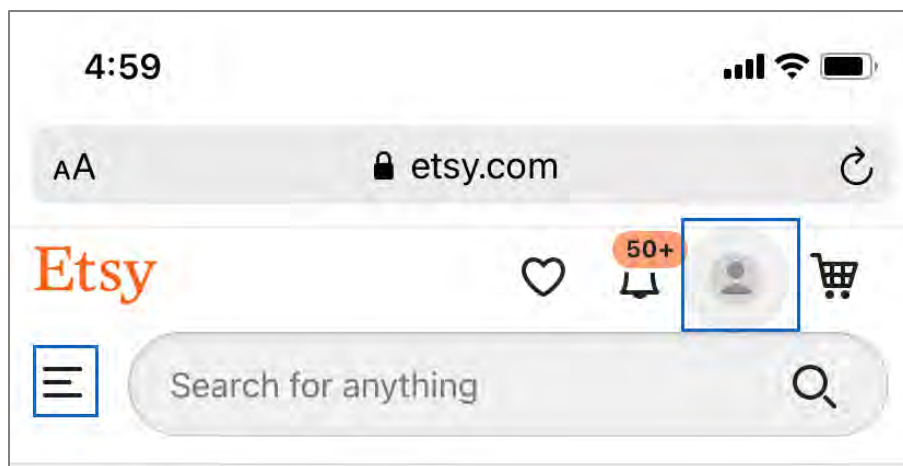

Figure 13 Etsy.com, featuring separate account and site navigation icons

While there may be opportunities to collapse the menus, some content strategists argue that the navigation should be the "fire escape." In other words, the navigation

should be a last resort, and users should be able to navigate content in the content itself.

Prater, Sophia V, "Object-Oriented UX", *A List Apart,* https://alistapart.com/article/object-oriented-ux/.

A careful evaluation of the Account pages could identify subtle-but-helpful in-content navigation paths to guide patrons between account options. For example, a link to Reading History from Checkouts could help patrons find that option, on all devices. Including links in the bottom or footer of the page may be helpful as well, to ensure the menu isn't the only place to get to key features.

4. Availability filters in Advanced Search are confusing

One participant using Advanced Search was confused by the two availability filtering options, asking "didn't I already select this?" "Available?" filters appear as buttons in search results; "Available Now At" appears as filter options and gives more granular availability filtering. In Advanced Search, they appear to be duplicates.
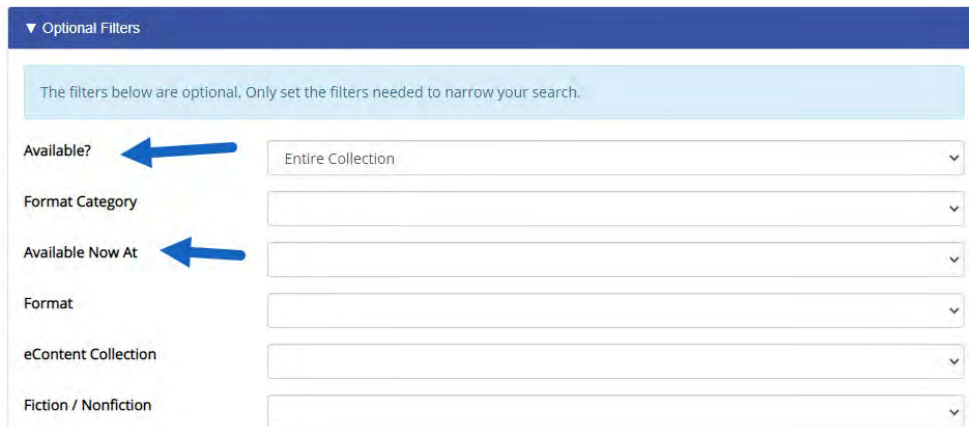

Figure 14 Availability filter options in Advanced Search

Recommendation 4a: Remove the "button" search options from the Advanced Search.

The Available? And Format Category buttons are helpful in search results for patrons that don't tend to use filters; but in an Advanced Search, they're confusing redundancies for other filters. This should be editable in Aspen Administration, but a bug is preventing the changes from being reflected.

Methods

Remote moderated usability testing

SWAN and Villa Park Public Library staff conducted remote usability testing on the Villa Park Beta Catalog, found at vpd.swanlibraries.net. Participants shared their screens and audio through Zoom, and optionally video if they were comfortable. Tests were scheduled for 30 to 45 minutes.

For more information on usability testing, see:

- Moran, Kate. "Usability Testing 101," Nielsen Norman Group, December 1, 2019, https://www.nngroup.com/articles/usability-testing-101/

- Krug, Steve. 2010. *Rocket Surgery Made Easy: The Do-it-yourself Guide to Finding and Fixing Usability Problems.*

Participants

Through a brief recruitment survey, potential participants were asked about their library use and their willingness to use online meeting software. Respondents that were not willing to share their audio and computer screen in an online meeting were excluded from consideration. Selected participants received a $15 gift card incentive.

Participant	How often do you use the library catalog?	What do you like to use from your library?	Device used
A	Once a week	eBooks, eAudiobooks, magazines, scanner	Tablet
B	Once or twice a month	Books, computers, printers, kid toy bags	Phone (iPhone X)
C	Once a week	Books	Laptop (Mac)

Task Completion Rates

Task	Total Pass	Total Skip	Total Fail
Navigate the browse subcategories	2	0	1

Place hold on browse category item	3	0	0
Find a previously checked out item in the catalog	3	0	0
Identify item status	2	0	1
Find similar title, author, or series	2	0	1
Find the 5th book in series	3	0	0
Find author and sort or filter by pub date or most recent	3	0	0
Locate the DVD directors cut edition, using Show editions	0	0	3
Find the series statement	3	0	0
Correctly identify if owned by library	3	0	0
Locates a movie title	3	0	0
Correctly identify item status for item not owned by the library	3	0	0
Find Quick Copy View	2	0	1
Use the filters to see on shelf items	2	0	1
Locate the call number and location	1	0	2

Locate ebooks by scrolling or using filters	3	0	0
Reset all previous filters and locate DVDs or Blu-rays	2	0	1
Locate known title in Kindle format	1	0	2
Place hold on Kindle known title	2	1	0
Find a similar Kindle title	0	0	3
Checkout Kindle title	1	1	1
Download Kindle title in my account, get to the Amazon checkout screen	3	0	0
Find My account and view holds	3	0	0
Find the position in hold queue	3	0	0
Identify physical versus e materials in holds	3	0	0
Freeze Hold	3	0	0
Cancel hold	3	0	0
Find similar titles to what you have on hold?	2	1	0
View Checkouts	3	0	0
Find Reading History	2	0	1

Find email update field	3	0	0
Find reset PIN	3	0	0
Find Linked Accounts	3	0	0
	78	**3**	**18**

Issues & Observations

Usability problems

Top 4 issues

1. **Multiple menus:** Participant B struggled to find the account menu (under the person icon). Since they were on a phone, that was the only way they could access the account menu (desktop and tablet will display the menu on the left). All participants explored both menus, not sure which one had the account options.

2. **Multiple filters:** Participant A expected to be able to select multiple filters all at once. They didn't notice for example, that after clicking both Blu-ray and DVD only the Blu-ray option displayed. Currently there is a lag waiting for the page to load before a user can apply an additional filter.

3. **"Available?" vs. "Available Now At":** Participant C used the advanced search feature and was confused by the "Available" and "Available now at" filters, asking "didn't I already select this?"

4. **Available at another library button:** All participants tried to click the "Available at another library" button, expecting it to show those libraries. Participant C never found the "Quick Copy View" link, while the other two recovered using that link.

Additional issues

- **Publication dates:** Publication dates don't display on grouped records, until you expand "Show Editions"; when sorting by date, this threw participants since there was no date to validate that they were really seeing the newest items first.

- **Preapply filters:** Participant C tried to preapply filters, but quickly realized that didn't work and recovered.

- **Using a format as a search term excludes result:** Participant B tried to use formats as search terms (e.g., kindle, DVD) and excluded results.

- **Holdings on grouped records**: Participant C expected to see a list of holdings in the detail view of a grouped record (which is what would happen in the current catalog). Grouped records do not show holdings until you click into an edition.

- **Reading history label and alert:** Participant C struggled to find reading history. They weren't aware of this feature in the current catalog. Participant A expected to find the reading history under Search History, even though this is a feature they use in the current catalog. Both eventually found it, though Participant C was startled by the reading history alert message.

- **Locating a specific edition:** All participants looked for "director's cut" in the title of results for movies, even though that information was in the editions. There's nothing in the search result display to validate they're on the correct grouped record and just need to dig in further.

- **Call Number & Location:** Participant B could not identify the call number and location of an item in the catalog, relying instead on their knowledge of where things are in the library.

- **Numbers in search results:** Participant B tried a search using a search for "the 4 winds" for the Kindle title "The Four Winds". Aspen was unable to correct the search, even though a search for just "4 winds" does produce the desired result.

- **Reset PIN link:** Participant A struggled to find the Reset Pin link. They mentioned never doing this as they have their PIN saved to their computer.

- **Scope of "Available Now At":** Participant B thought "Available Now at Villa Park" would include e-books.

- **Recommendations by format:** No one could find similar Kindle books. Recommendations don't consider format, and participants in general weren't sure how to find similar titles.

- **No results search help:** Participants didn't use suggestions to do a keyword search instead when the applied limits returned no results.

Positive comments

- "What I'm very excited about is to see the New This Week [Browse Category]." Participant A

- "Cool, if you click on the series name you get the whole series." Participant A

- "It has all the formats! What's nice it makes it very clear which format it is. I can get it on Kindle, I can get it on Overdrive, I can get it on Axis. I like a lot of audiobooks…so I like this format, it makes it very clear." Participant A

- "It tells you right away how many copies there are and how many holds there are…that to me is a bonus. That way it is all here, I can decide which one [format] to take out. This for me is a real bonus." Participant A

- On the "While You Wait" feature - "Oh that's cool. I like that is shows different books. It makes it easy…for kid picture books its hard, you don't know what you're looking for, I like that this gives you ideas. Participant B

- "I see a linked account – that would be great. Today I have to log into two accounts separately." Participant C

- "It seems to be less clicks to get to what you want" Participant C.

Negative comments

- "Maybe reading history? Oh no." Participant B, startled by the privacy alert message that appears in Reading History.

Suggestions

Participant A suggested that Reading History should include e-materials. This is already a feature in Aspen.

Bugs encountered

- Search suggestions were not appearing to participants after the recent server migration.

- Format filters (checkboxes) were updated to use an "OR" Boolean search, but format category buttons were still using an "AND" search.

- One participant on an iPhone 10 experienced modal window issues, needing to scroll and pinch-and-zoom to see the full modal window. This appeared in: Freeze and cancel hold popups; Hold popup window, to select an alternate edition.

- "While you Wait" button does not appear on all holds; this might be because there is not enough data to generate the recommendations.

- Participants experienced some slowness loading pages and format filters; this is likely due to the recent server migration.

Additional Observations

Participant B, who completed the test on a phone, used all available filter options: dropdown limits to pre-limit a search, checkbox filters, format buttons, and availability buttons.

Next Steps

SWAN, in partnership with member libraries, should conduct additional usability tests around:

- Detail view of grouped records, specifically if patrons can find holdings listings.

- Using statuses as a button to view holdings.

- Account content and information architecture

In addition, SWAN will make the following development requests:

- Allow some search facets to be excluded from Advanced Search.

- Update behavior for multiple facet selection

- Change the format category buttons to one selection at a time.

Usability Testing Script

Introduction

Hi, _____. My name is _____, and I'm going to be walking you through this session today. This is my colleague _____ and they will be taking notes.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

We're here to test out a different version of the library catalog.

The first thing I want to make clear right away is that we're testing the catalog, not you. You can't do anything wrong here. There might be times during the test that something may not work, and we will need to reset, and that is just the catalog and not you.

As you use the catalog, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the catalog, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them, and if you need to take a break at any point, just let me know.

If it is okay with you, we'd like to record this session – it will just be audio and your screen, no video of you. That will just help us take fewer notes.

START THE SCREEN RECORDING

In a little bit we'll go through several tasks to complete in the catalog. But first I'm going to send you the link to the catalog we will be using.

READ OUT URL: vpd.swanlibraries.net/

Now I'd like you to share your screen - you should see a "Share Screen" button at the bottom of the page.

Pre-Test Questions

    A. Tell me about what you are seeing on the screen? Do you notice anything different than what you are used to?

    B. What's something you checked out recently from the library that you enjoyed?

Thanks! Now I'll have a series of tasks for you to complete in the catalog. Here's the first task.

Tasks

    1. You'd like to see the new picture books added in February. How would you find those? *Success: Navigate the browse categories, select a title, and place a hold*

        a. Let's go ahead and place a hold using a test card
           GIVE PATRON TEST BARCODE

    2. You said you recently checked out _____ (Backup: The Sanatorium by Pearse). How would you find that again in the catalog?

a. Is this on shelf at your library? If so, where would you find it in the library?

b. How would you find something similar to read next - similar authors or movies, etc.

3. What is the fifth book in Dog Man? *Success: Can find the 5th book in series*

4. What is the most recent book by Mo Willems? *Success: Can sort or filter by pub date or most recent*

5. You'd like to find the director's cut of Blade Runner on DVD. How would you find that? *Success: Locate the DVD directors cut edition, using Show editions*

a. What year did that come out?

b. Is this available to check out from Villa Park?

6. You'd like to see if the movie Bottle Rocket is available to check out at the library today. *Success: Locates the title*

a. Is this available at Villa Park? *Success: Correctly identifies the status (Villa Park doesn't own this)*

b. Is there a library close by you could get this?

7. If you were looking for travel books about Japan, how would you find all the books that are available to checkout today at your library? *Success: Use the filters to see on shelf items*

a. Let's pretend you are inside the library and wanted to find this on the shelf, where would it be? *Success: Locate the call number and location*

b. How would you find eBooks on the same topic? *Success: Locate ebooks by scrolling or using filters*

c. How would you find movies about this topic? *Success: Reset all previous filters and locate DVDs or Blu-rays*

8. Find the title "The Four Winds" for Kindle *Success: Locate the Kindle format*

a. Can you place a hold on this title? *Success: Hold Overdrive title*

9. Since this is checked out, how would you find something similar to check out for Kindle? *Success: Find and checkout an eBook*

a. Can you find one to check out now? *Success: Picks a book available to check out* (If fails the first part of the task: Let's search for books about the great depression and see if there are any for Kindle)

b. How would you download the title? Success: Go to my account and download the title or get to the Amazon checkout screen

10. Let's say you want to check your account to see what else you have on hold. How would you do that? *Success: Find My account and view holds*

   a. How long will it take to get this? *Success: Notice the position in queue*

   b. Are these physical items or downloadable items? *Success: identify physical versus e*

   c. If you were going to be out of town, how would you make sure this didn't come in while you're gone? *Success: Freeze Hold*

   d. How would you cancel this hold? *Success: Cancel hold*

   e. How would you find similar titles to what you have on hold?

11. How would you view your current checkouts? Success: View Checkouts

12. How would you view what you've checked out in the past? Success: Find Reading History

13. How would you update your email in your account?

14. How would you update your password?

15. Let's pretend you often pickup library books for a family member. How do you think you could view their account information with yours, so you could see what they have to pick up or return? *Success: Find Linked Accounts*

Wrap Up

Thanks, that was very helpful. Those are all of the tasks we have for you today.

- Prompt note taker and observer to ask any questions they have.

- Ask their questions, then ask any follow up questions you have.

Do you have any questions for me, now that we're done?

A. Was there anything that surprised you?

B. How would you compare this catalog to others that you've used?

STOP the SCREEN RECORDING

Appendix 8: Enterprise and Aspen Comparative Usability Test Report May-June 2020

Introduction/Summary

SWAN is in the beginning stages of evaluating potential replacements for their discovery platform. A part of this evaluation process is to perform usability testing comparing the current catalog, Enterprise, to one of the proposed layouts, Aspen. This usability testing was initially conducted by testing Oak Lawn Public Library staff members. We found five key findings as a result of this testing which are outlined below.

Methods

Usability Testing

Members of the Oak Lawn Public Library User Experience Working Group, along with Tara Wood from SWAN, created and facilitated usability testing to compare how participants completed the same tasks in two different library catalog layouts – our current SWAN Enterprise Oak Lawn Public Library catalog, and a different version of the catalog through Aspen Discovery platform. Testing was completed using Zoom with the facilitator directing the testing, the tester sharing their screen while they completed the tasks, plus at least one note taker viewing the test.

Test takers were evaluated on their ability to pass or fail a specific task. Test takers were also asked for their initial reactions to the front page of the Aspen Discovery catalog as well as their reactions to initial search results. These reactions were documented to help understand what features participants liked or disliked compared to the Enterprise catalog, which each of them used with some regularity.

Participants

An email was sent to all staff members at the Oak Lawn Public Library to find participants. The email included a link to a form with a few questions. These questions helped us decide who we would select to participate. We wanted to include testers with a variety of familiarity with the Enterprise catalog, as well as ensure that testers

had access to a computer with internet in their homes. We selected 6 participants total.
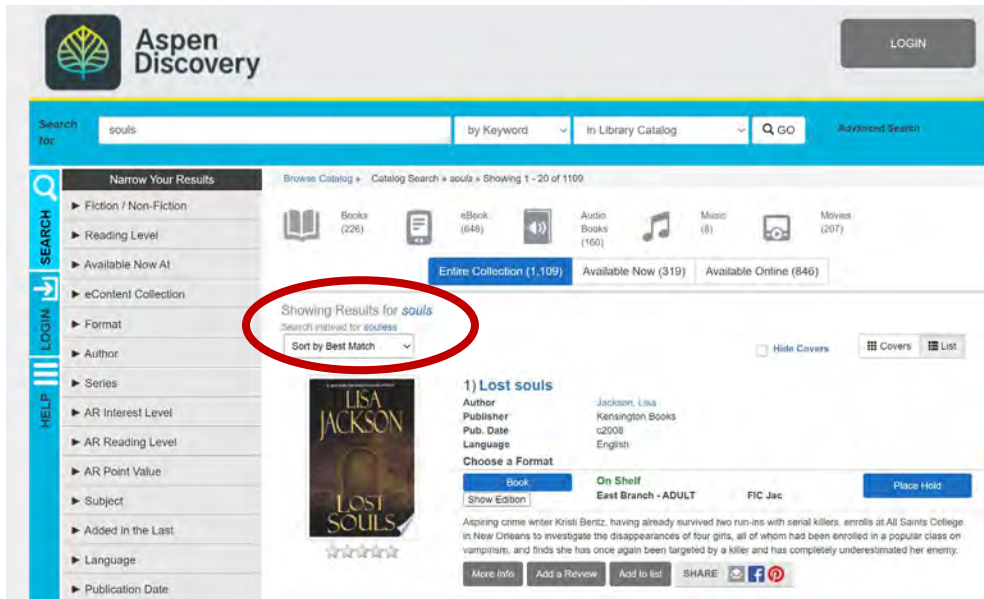
Key Findings

Finding 1: Misspellings in search terms are difficult to overcome in both catalogs

Enterprise does not offer search term corrections. When presented with searching a commonly misspelled word that is also the title of a few items, participants struggled to understand why they were not finding results. As a result of the misspelling, participants had to scroll through results for much longer to successfully find intended titles. Overall, while participants eventually were successful in finding titles they were looking for, many were inhibited by a misspelled term they weren't aware of.

Aspen has two additional features to correct misspelled search terms that Enterprise does not have. First, Aspen attempts to autocorrect misspelled search terms to corrected spellings. This changes the term in the search box from the misspelled term to a correctly spelled term. Second, Aspen has a feature that indicates it has changed the misspelled search term and that the search results shown are for the correctly spelled search term it has changed to. It also gives the option to search instead for the misspelled search term. In Aspen, four out of six participants noticed that the misspelled word was autocorrected to a correctly spelled search term. Only one of the six participants noticed there was a feature that indicated the new search term and offered a way to search the misspelled search term.

Recommendation 1a: In Aspen, move the "Showing Results for" and "Search instead for" features to an area closer to the search bar. We believe this would enhance the visibility of these search suggests and prove as better indicators that the catalog has changed a misspelled term to a correctly spelled one.

Aspen's current layout

Layout Suggestion from Google

Layout Suggestion from Ebsco

Recommendation 1b: In Enterprise, provide a suggested search term feature for misspelled words. Offering suggestions to misspelled search terms would help alert patrons to misspellings and give patrons a better way to effectively search for their intended terms.

Finding 2: Finding the newest books by an author exposed difficulty working with publication dates in general.

The tool (the sort by dropdown menu) that accomplishes this task went unnoticed by many participants in both Enterprise and Aspen. There is also a persistent perception that the catalog automatically sorts in chronological order, with the newest books first. This is incorrect, and led participants to instead try to use a publication date filter to remove older books from the search. This did not produce the desired results. Regardless of the spoken perception of each individual participant, most participants did attempt to use publication date filters to access the newest title by a particular author, and again, this did not produce the desired results. Interestingly, this was true in both Enterprise and Aspen, with very little differentiation between the interfaces.

Recommendation 2: Visually emphasize the sort by dropdown in some way.

Recommendation 2b: Remove publication date from facet sorting, and only provide access to it in advanced search.

Finding 3: Hold wait times are a mystery to catalog users, and the catalog doesn't help.

Participants correctly concluded that there is no way to figure out your wait time in the Enterprise catalog, though they were able to guess that a visit to the holds section

of their account would be the place to do it. Aspen does indicate a person's position in line for an item, but some participants didn't notice that.

(It's worth noting here that the instance of Aspen used in this test wasn't a consortial instance, so the hold line position may not be a feasible data point to offer our patrons.)

Recommendation 3: SWAN should work with Aspen on making sure the position in line data in Aspen can remain for our patrons.
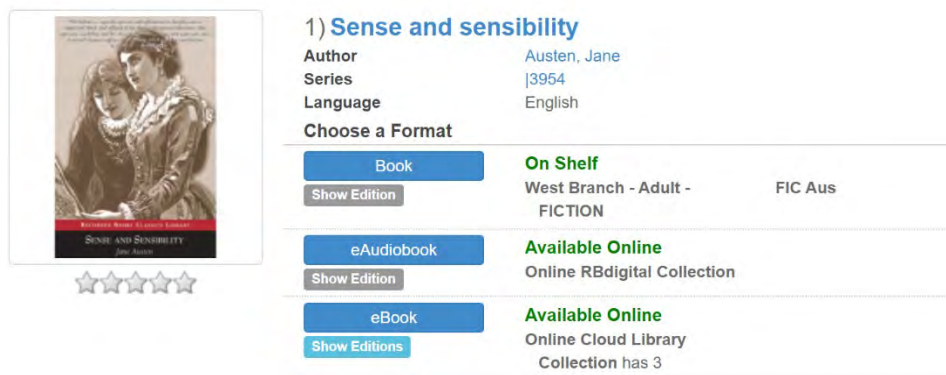
Recommendation 3b: Hold position information should be highlighted somehow by location on page, or color.

Recommendation 3c: Investigate changing the wording in the holds section of user accounts.

Finding 4: Aspen's FRBRized display was novel to participants and reactions to it were all over the place.

A FRBRized display groups all item types under one title entry in a catalog. See picture 1 below.

Enterprise isn't FRBRized. Participants were easily able to use filters to find the desired format. When presented with the Aspen results, participants either didn't notice the FRBRized display, or commented favorably on it. One participant commented that it would be very helpful for classics, as there were so many versions. Often, those that did not notice the results display did not because they went straight to filter the results, behavior that was consistent with their use of Enterprise.
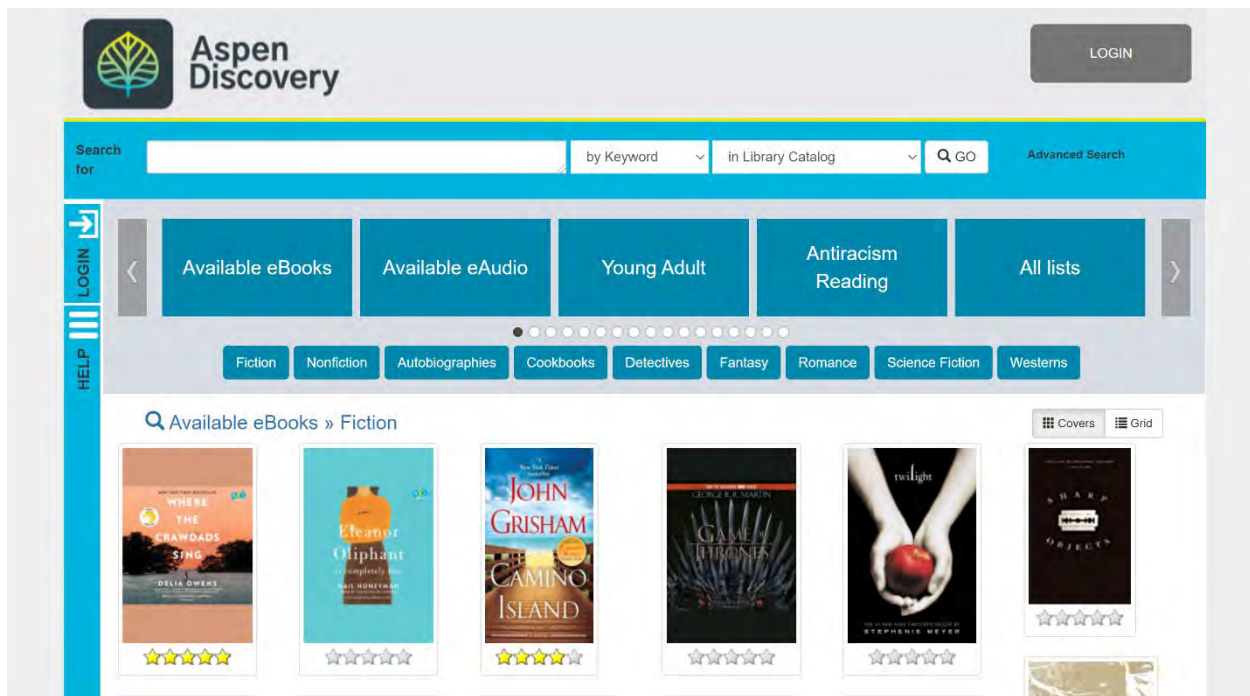

Picture 1

Recommendation 4: It may take time for staff/patrons to become used to a FRBRized display. A small amount of instruction may be required for some users.

Recommendation 4b: Conduct user testing with SWAN patrons, to examine how patrons interact with a FRBRized display.

Finding 5: Aspen's use of large buttons for formats and their Available Now feature were almost universally appreciated.

The home page of Aspen's catalog contains buttons with suggestions for themed reading, but also has features for eBooks, eAudio, and Movies that are currently available. In addition, when a user searches for an item, buttons are available at the top of the search results for popular format types and to show which items are available now. When first introduced to the home page, the majority of users commented that they liked the filter buttons at the top of the page and liked that they could quickly find items available now. When asked to look for specific formats during search tasks in Aspen, users often used the buttons at the top of the search results to narrow to a specified format. They also used this button to find items that were "Available Now."

Filter buttons on homepage in Aspen

Filter Formats within search in Aspen

Recommendation 5a: In Enterprise, add an "Available Now" feature to enhance users' ability to find currently available materials. Enterprise has no feature that allows users to sort a search by items that are "Available Now". Currently, if users want to look for an item that is immediately available, they must scroll through the search results to find if an item is currently listed as "On Shelf". Depending on the search that is performed, this can lead to a lot of scrolling through multiple search results for the user and sometimes requiring the user to go on secondary search pages to find materials. Adding an "Available Now" feature to Enterprise would enhance the ability for the user to find currently available materials during a search session.

Recommendation 5b: In Enterprise, add popular format buttons to narrow results at the top of the results page. While we have this ability through the filters on the left-side of the catalog, we found that searchers often had a difficult time when trying to revise their searches to find different formats. Aspen's format buttons have a "remove" option which users can click on to quickly change between formats.

Issues & Task Completion Rates

Task 1 & Task 11

Success Criteria: Able to find large print copy of Pride and Prejudice

Enterprise Pass: 5 pass, 1 fail

Most participants completed this task quickly. The one fail got stuck on hitting apply when using the check box for limiters and with not scrolling enough to find all the format limiter options.

Aspen Pass: 5 pass, 1 fail

Participants mostly had no trouble with this, a few noticed that all format types were listed under a single heading. One participant successfully used the advanced search format limit instead of searching and then limiting.

Comparison: In both catalogs the majority of participants were successful. The stumbling block on both seemed to be with identifying where the correct facet was located

Task 1a & Task 11b

Success Criteria: Locates the Large Type publication date

Enterprise Pass: 5 pass, 1 fail

Publication date was listed on the results page, the one fail did not find a large type copy and therefore no publication date

Aspen Pass: 3 pass, 3 fails

One participant was unable to find a large type copy so had no record to check for publication date. Another participant struggled with the multiple formats listed and attempted to use the publication date filter instead of checking the record.

Comparison: Overall, participants were more successful in Enterprise. The multiple formats under a single record seemed to cause some confusion for participants in Aspen. In each catalog, at least one user had been unable to locate a large type copy so therefore had nothing to check for a publication date.

Task 2 & Task 18

Success Criteria: Able to find a book about gardening

Enterprise Pass: 6 pass

All participants were able to find a book on gardening through a keyword search. A few narrowed down to just OLPL or just a book format

Aspen Pass: 6 pass

All participants were able to find a book on gardening through a keyword search.

Comparison: All six participants successfully passed this task in both catalogs

Task 3 & Task 12

Success Criteria: Locate a book by Nora Roberts

Enterprise Pass: 6 pass

Participants searched for Nora Roberts using the author limiter and successfully located titles

Aspen Pass: 6 pass

Participants searched for Nora Roberts using the author limiter and successfully located title

Comparison: Participants successfully located titles by Nora Roberts in both catalogs.

Task 3a & Task 12a

Success Criteria: Locates a currently available copy, specifically by using the Available Now option in Aspen

Enterprise Pass: N/A

Participants scrolled through results to locate an on shelf copy. Enterprise does not currently have a filter or sort by option for available now.

Aspen Pass: 3 pass, 3 fail

Participants who failed this task were able to locate an on shelf item by scrolling through results but did not notice or use the Available Now filter.

Comparison: In both catalogs, participants were able to locate an on shelf title by scrolling through the results. The focus of the task was to track the ability of participants to use the Available Now filter in Aspen, which had only some success. Since Enterprise does not include that filter, participants may have just defaulted to scrolling for results in Aspen as they did in Enterprise.

Task 3b & Task 12b

Success Criteria: Locates an audiobook copy using the audiobook facet

Enterprise Pass: 6 pass

Participants used the format limiter for audiobook CD and successfully located an audiobook copy.

Aspen Pass: 5 pass, 1 fail

The one fail on this task located the audiobook version on the record so did not look for or use a filter to achieve the results.

Comparison: Overall, participants were able to complete this task fairly easily. The FRBRized display in Aspen did allow one participant to locate the desired format without using a filter.

Task 3c & Task 12c

Success Criteria: Locates an ebook copy using the ebook facet

Enterprise Pass: 2 pass, 4 fail

Participants struggled with this task in Enterprise. The audiobook filter from the previous task may have contributed to some of these difficulties.

Aspen Pass: 4 pass, 2 fail

One of the fails from this task located the ebook copies in the record without the use of a filter. Another clicked the ebook copy option but did not adjust any other settings when nothing came up. Participants seemed to have the most success once they realized the additional filters needed to be cleared.

Comparison: In both catalogs, filters from the audiobook task seemed to make it more difficult for participants to locate ebooks.

Task 4 & Task 13

Success Criteria: Able to use the "Sort by" dropdown to sort by publication date

Enterprise Pass: 2 pass, 4 fail

Most participants used the publication date filter. One participant mentioned assuming that the items were already in chronological order with most recent first.

Aspen Pass: 1 pass, 5 fail

Majority of participants bypassed the sort by menu and attempted to use the publication date filter or the last added filter. This produced recent releases, but nothing in chronological order

Comparison: In both catalogs, the majority of participants used the publication date filters and did not even attempt the sort by menu.

Task 5 & Task 14

Success Criteria: Able to place a hold on a title.

Enterprise Pass: 6 pass

All participants were able to place a hold.

Aspen Pass: 6 pass

All participants were able to place a hold and navigate to their list of holds

Comparison: In both catalogs, participants were able to easily place a hold.

Task 5a & Task 14a

Success Criteria: Can view the current hold position to estimate a wait time

Enterprise Pass: N/A

There is no ability in Enterprise to see hold position or anticipated wait time, but all participants did navigate to their list of holds successfully.

Aspen Pass: 4 pass, 2 fail

Two did not notice the hold placement and could not determine when the hold might arrive.

Comparison: In both catalogs, participants were able to locate their list of holds. Enterprise does not provide any info on hold position and most participants were able to locate that in Aspen.

Task 6 & Task 15

Success Criteria: Able to suspend a hol

Enterprise Pass: 6 pass

All participants were able to suspend the hold. A couple did not initially check the box next to the title before clicking suspend but corrected after seeing the error message.

Aspen Pass: 6 pass

Participants were able to easily find the freeze hold option. One participant did mention not liking the "Thaw" language for setting the end date.

Comparison: Participants were able to complete this task easily in both catalogs.

Task 7 & Task 16

Success Criteria: Able to cancel a hold

Enterprise Pass: 6 pass

All participants were able to successfully cancel their hold. As with suspending, a couple did not initially check the box next to the title before canceling but corrected after seeing the error message.

Aspen Pass: 6 pass

All participants were able to successfully cancel the hold.

Comparison: In both catalogs, participants were able to easily cancel a hold.

Task 8 & Task 17

Success Criteria: Able to turn on checkout history/reading history

Enterprise Pass: 2 pass, 4 fail

Only two participants were able to locate the "Record/Show Checkout History" option under personal preferences. A number of participants went to their list of current checkouts. There may have been some confusion about what the task was asking them to do.

Aspen Pass: 5 pass, 1 fail

Most participants were able to find the reading history. The failed task checked under My Account and Checked Out Titles but did not seem to notice Reading History.

Comparison: Some difficulties may be due to the wording of the task. Participants in both tests seemed to initially think they were looking for their current checkouts.

Task 9 & Task 19

Success Criteria: Notices the autocorrection and "Searching for X instead" box

Enterprise Pass: N/A

Participants did spot the misspelling after locating a title with the correct spelling in the results. Enterprise does not include an autocorrect function or "Searching for X instead" function

Aspen Pass: 4 pass, 2 fail

Most participants noticed the misspelling and the autocorrection, but did not notice the "Search instead for" box.

Comparison: Participants were able to identify the misspelling fairly easily in both catalogs after viewing the titles that were returned. Since Aspen autocorrects, there seemed to be more confusion about the returned results until participants noticed "Souls" in the search bar.

Conclusion/Next Steps

Based on the findings outlined above, we believe SWAN should send enhancement requests to SirsiDynix to see about the possibility of adding some of the features that testers found useful within the Aspen catalog. SWAN may also want to see if Aspen can make adjustments to the SWAN test installation of Aspen that may be helpful in future testing activities. We absolutely believe that this usability test should also be conducted with patrons. If the same script was used, we may be able to discover useful information about how patrons use our catalog versus how library staff members use the catalog. If Aspen makes some changes based on the initial recommendations, this may help create a more intuitive experience for future users, and may allow us to test some of the pain points that we discovered during this first round of usability testing.

Testing Script
Introduction

Facilitator will have catalog urls ready to send to tester in Zoom chat

Hi, _____. My name is _____, and I'm going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We're asking people to try using different library catalogs. One version will be familiar to you. The other will be new. The session should take about an hour.

The first thing I want to make clear right away is that we're testing the sites, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes. There might be times during the test that something may not work, and we will need to reset, and that is just the site and not you.

As you use the site, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the site, so we need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them to help. But if you still have any questions when we're done, I'll try to answer them then. And if you need to take a break at any point, just let me know.

With your permission, we're going to record what happens on the screen and our conversation. The recording will only be used to help us figure out how to improve the site, and it won't be seen by anyone except the people working on this project. And it helps me, because I don't have to take as many notes. If you would, I'm going to ask you to verbally consent to recording your screen and our conversation.

Pre-Test Questions

Do you have any questions so far? OK. Before we look at the site, I'd like to ask you just a few quick questions.

- A. Where do you work in the library?
- B. Do you use the library's catalog at work?
    - a. What kind of materials do you look for?
    - b. What do you like about the library catalog?
- C. Do you use the library catalog when not at work?
    - a. What kind of materials do you look for?

b. Do you ever use the library catalog to look at information about your library account? What do you look up? Why or why not?

c. What was the last thing you used the catalog for, if you can remember! Or what is something that you'd like to look up in the library catalog but haven't had a chance to yet?

Testing Tasks

Now we are going to look at two different catalogs; one you will be familiar with, the other will be brand new. At this point, could you please share your screen with us? This will allow us to watch while you complete the tasks. Now, I'm going to put a link into the chat box for you to open. This is the first catalog we will look at: https://catalog.swanlibraries.net/client/en_US/ols-in

Open Enterprise (https://catalog.swanlibraries.net/client/en_US/ols-in)

1. Let's say you want to find *Pride and Prejudice* and you are interested in a large type copy. Can you try to find that?
   a. Can you tell me when that large type copy was published?
      Looking for ability to find Large Print copy and either click on "Large Print" button or click on "Show Edition" to find publication year (2003)

2. Now, let's look for a book about gardening.
   a. How would you find a book about that topic?

3. Let's say you'd like to search for books by Nora Roberts. How would you search for those?
   a. Can you find one on shelf at Oak Lawn?
   b. What if you're interested in an audiobook copy?
   c. Can you tell if there are ebook copies available?
      Looking for: Use of facets, book owned by Oak Lawn

4. How would you find the newest books by this author?
   Looking for: Use of the "Sort by" dropdown

5. Let's place a hold on this item (pick an item from the results)
   a. I'm going to put the account number and PIN for you to use in the chat box
      i. Account Number: 21186002176958
         PIN: 4990
   b. How would you check to see how long it will take to get that?

c. (If doesn't go to My Account)

    i. How would you see a list of your holds?

6. If you were going on vacation, how would you make sure your hold didn't come in while you were out of town?

7. How would you cancel that hold?

Looking for: What is confusing about holds? Can they suspend and cancel holds?

8. If you wanted to start tracking your checkouts, how would you turn that feature on?

9. If you're looking for the book named in the chat, what do you find?

a. Facilitator types in *Souless* in the chat

b. Do you see anything with that exact title?

Looking for: Enterprise returning the correct titles for the book Soulless by Gail Carriger. Looking to see if patrons notice the misspelling and how that corrects in the search results, especially the difference between misspellings in Enterprise and Aspen.

Okay, now we're going to test a completely different catalog. We'll do some of the same tasks.

Open Aspen (https://aspen-model.bywatersolutions.com/**)**

10. What's the first thing you notice about this catalog?

11. Let's say you want to find *Pride and Prejudice* and you are interested in a large type copy. Can you try to find that?

a. What's the first thing you notice about the results?

b. Can you tell me when that large type copy was published?

Looking for ability to find Large Print copy and either click on "Large Print" button or click on "Show Edition" to find publication year (2003)

12. Let's say you'd like to search for books by Nora Roberts. How would you search for those?

a. Can you find any titles on shelf?

b. What if you're interested in an audiobook copy?

c. Can you tell if there are ebook copies available?

Looking for: Use of facets

13. How would you find the newest books by this author?
    Looking for: Use of the "Sort by" dropdown

14. Let's place a hold on this item (pick an item from the results)
    a. How would you check to see how long it will take to get that?
    b. (If doesn't go to My Account)
       i. How would you see a list of your holds?

15. If you were going on vacation, how would you make sure your hold didn't come in while you were out of town?

16. How would you cancel that hold?
    Looking for: What is confusing about holds? Can they suspend and cancel holds?

17. If you wanted to start keeping your checkout history, how would you turn that feature on?

18. Now, let's look for a book about gardening.
    a. How would you find a book about that topic?

19. If you're looking for the book named in the chat, what do you find?
    a. Facilitator types in *Souless* in the chat
    b. Do you see anything with that exact title?
       Looking for: Enterprise returning the correct titles for the book Soulless by Gail Carriger. Looking to see if patrons notice the misspelling and how that corrects in the search results, especially the difference between misspellings in Enterprise and Aspen.

Wrap Up

Thanks, that was very helpful.

Prompt note taker and observer to ask any questions they have
Ask their questions, then ask any follow up questions you have

Do you have any questions for me, now that we're done?

STOP the SCREEN RECORDER

Displays

Display A (Enterprise)

https://catalog.swanlibraries.net/client/en_US/ols-in

Display B (Aspen)

      https://aspen-model.bywatersolutions.com/

Appendix 9: Beta Launch Survey Results March 2021

Findings

75% of respondents preferred Aspen over Enterprise.
Comments about formats and statuses were overwhelmingly positive.

All comments specifically about formats (16 out of 16) were all positive – there wasn't a single negative comment regarding the display of formats. Most comments around statuses were also positive (7 out of 8), with one patron noting that they did not like "don't like how difficult it is to see availability of item at other libraries."

Which catalog do you prefer to use?

Beta catalog, 68

Current catalog, 22
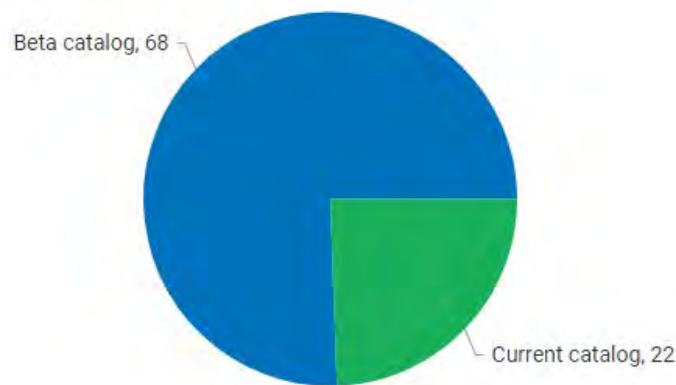
90 responses in 114 results

There are some misconceptions around Aspen, especially when it comes to finding holdings
Patrons noted that they didn't think they were seeing the entire consortium's holdings – only the holdings for their library. One patron noted they were looking to limit by library in the dropdown search limits – which is the current behavior in Enterprise. On participant thought that Aspen offered a "wider search perimeter," which we

interpreted to mean they thought Aspen included more items. One patron was "not sure why I had to put a book on hold when it says it is on the shelf at my library."

Patrons want the ability to filter by age group and weren't sure how to do that.

There were a surprising number of comments around filtering by age group (5 total). One participant noted, "I saw reading level as a filter, but I don't really know the scale of that filter. I'm just looking for an easy way to get to books for young kids."

Most people liked the browse categories, but there were quite a few negative comments about them as well.

We received 14 positive comments about the browse category recommendations on the home page of the catalogs. We also received several negative comments (6 in total) – one participant noted, "don't need to look at all the covers."

Methods

This report analyzes data from a survey conducted between March 4th, 2021 and March 18th, 2021. The survey link was posted to the beta catalogs for the seven SWAN Aspen Pilot libraries and it was not shared through other means. This ensured that respondents had accessed the Aspen catalog at least once. As this was a non-probability sample, meaning the respondents self-selected, the results likely reflect the attitudes of patrons who are especially engaged with their library.

The survey consisted of ten questions, with a mixture of open-ended and closed questions. The length was intentionally short to boost response rates.

Text responses were analyzed by sorting into topics through a group activity with the Discovery and User Experience Advisory group. Groups were combined and sorting was finalized by Tara Wood, SWAN User Experience Manager, and Kat Buczek, SWAN User Experience Intern. Respondents could include several comments in a free-text response question that cover multiple topics and attitudes – for example, a respondent could comment positively on search relevancy and negatively on holdings. The data on text analysis reflects the number of comments and not the number of respondents.

Questions & response rates

Question 1: Overall, finding what I was looking for was:

- 1 – Very Easy (55, 45.83%)
- 2 – Easy (37, 30.83%)
- 3 -Neither easy nor difficult (16, 13.33%)
- 4 – Difficult (11, 9.17%)
- 5 – Very difficult (1, 0.83%)

Question 2: Did you find what you were looking for?

- Yes (111, 91.74%)
- No (10, 8.26%)

Question 3: Was the item you wanted on shelf at your library?

- Yes (49, 44.14%)
- No (48, 43.24%)
- Not sure/I don't know (14, 12.61%)

Question 4: What were you looking for? Your response will help us to improve searching in the catalog.

[Free text response]

Question 1: Have you used a catalog that looks like this before? [image of the Enterprise catalog]

- Yes (93, 77.5%)
- No (27, 22.5%)

Question 5: Which catalog do you prefer to use?

- Beta catalog [Image of the Aspen catalog home page] (68,75.56%)
- Current catalog [Image of the Enterprise catalog home page] (22,24.44%)

Question 6: Can you tell us more about what you like about the catalog you chose? Your answer will help us decide if we should move to a new catalog or keep the current one.

[Free text response]

Question 7: In the past month, how often have you used the library catalog?

- Daily (28, 25%)
- Weekly (42, 37.5%)
- A few times (37, 33.04%)
- Not at all (5, 4.46%)

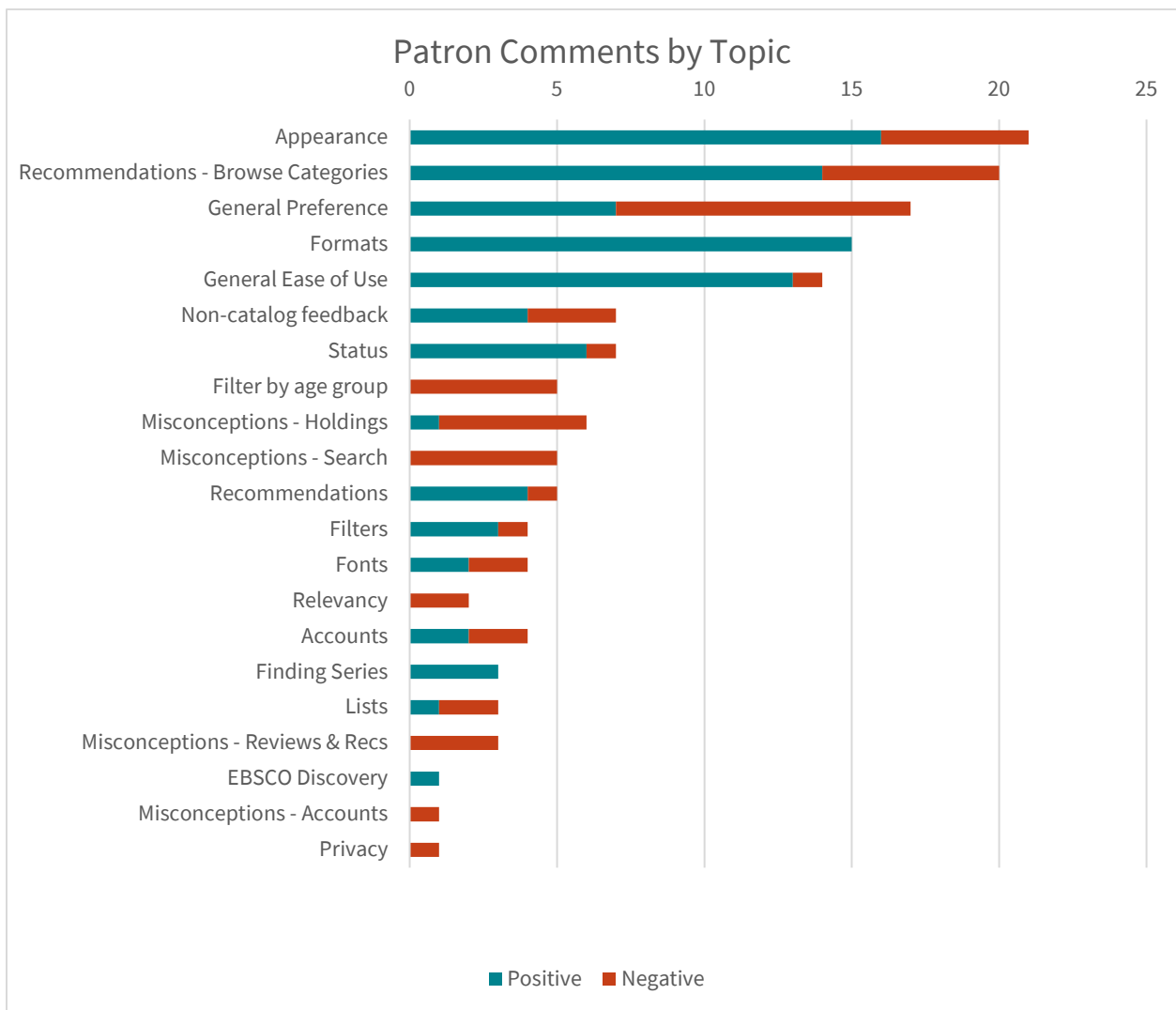Question 8: Are you currently employed at the library?

- Yes (11)

Question 9: Additional comments

[Free text response]

Patron text response analysis

Most comments focused on the appearance of the catalog, recommendations, formats and general preference for one catalog over the other and general ease of use.

Patron Comments by Topic

Catalog preference and frequency of use

The number of daily catalog users that preferred Aspen or Enterprise was split evenly. Respondents that use the catalog weekly, a few times, or not at all preferred Aspen.

Catalog Preference and Frequency of Use
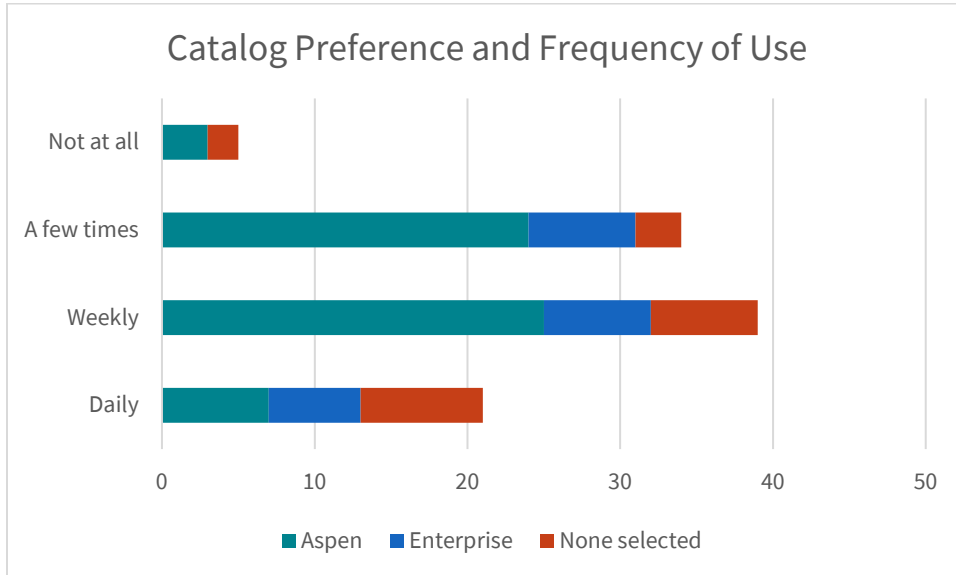
Appendix 10: SUPR-Q Survey January – April 2021

Introduction

The SUPR-Q (Standardized User Experience Percentile Rank Questionnaire) is an 8 item questionnaire for measuring the quality of the website user experience.[4]

It consists of the following questions:

Usability

- This website is easy to use.
- It is easy to navigate within the website.

Credibility (Trust, Value & Comfort)

- The information on the website is credible.
- The information on the website is trustworthy.

Loyalty

- How likely are you to recommend this website to a friend or colleague?
- I will likely visit this website in the future.

Appearance

- I found the website to be attractive.
- The website has a clean and simple presentation.

Methods

SWAN reproduced the 8 survey questions using the Formsite survey platform.

A link to the survey was posted to catalogs for the 7 Aspen Pilot libraries from January 11th-January 19th, 2021. The survey was then posted again to the Aspen catalogs for the same libraries between March 19th and April 10th, 2021.

To calculate the SUPR-Q score, for each catalog:

- Responses to each question were averaged.

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[4] https://measuringu.com/product/suprq/

- The last question, "How likely are you to recommend this website to a friend or colleague" – also known as the Net Promoter score – was averaged and halved, since it is on an 11-point scale.
- All averaged scores were then averaged to produce the final score, which has a maximum value of 5.

Results

Overall, Aspen scored slightly higher than Enterprise in the overall SUPR-Q score. Enterprise scored slightly higher than Aspen on questions around usability and loyalty. This may be reflective of the learning curve that comes with a new platform. Aspen scored higher in credibility and appearance, which may reflect attitudes towards improved relevancy and more recommendation features built into the catalog.

Question	Aspen Average Score	Enterprise Average Score
Overall SUPR-Q Score	4.305	4.204
The catalog is easy to use.	4.085	4.203
It is easy to navigate within the catalog.	4.068	4.083
The information on the catalog is credible.	4.709	4.431
The information on the catalog is trustworthy.	4.727	4.491
I will likely return to the catalog in the future.	4.400	4.720
I find the catalog to be attractive.	4.255	3.709
The catalog has a clean and simple presentation.	4.228	4.003
How likely are you to recommend this catalog to a friend or colleague?	3.971	3.995

Comparison by question category

Category	Aspen Average Score	Enterprise Average Score
Usability	4.076271	4.143205128
Credibility	4.718182	4.460697115
Appearance	4.241308	3.856041959
Loyalty	4.185294	4.357926466

Appendix 11: Accessibility Analysis

Aspen v. 20.11.00

Methods

SWAN conducted automated testing through the Functional Accessibility Evaluator (FAE) 2.1, created by the University of Illinois, and produced a report on a sample of pages in the SWAN Aspen test instance.

[View the report in FAE](#)

In addition, we performed automated and manual evaluations using the [Web Accessibility Evaluation Tool (WAVE) Browser Extension](#) for the Chrome browser and the [AInspector](#) extension for Firefox . These tools allowed us to evaluate pages that require a login, including:

- [My Account](#)
- [Checked Out Titles](#)
- [My Lists](#)
- [Contact Information](#)
- [Linked Accounts](#)
- [Search History](#)
- [Preferences](#)
- [Reading History](#)

Findings & Recommendations

Landmarks

Issue 1

Aspen does not currently contain ARIA landmarks.

Recommendation: Assign ARIA landmarks based on [W3C guidelines](#).

Headings

Issue 2

The following pages are missing an H1 heading for the page title:

- Search results pages
- My Account (starts with an H3)

- My Lists (starts with an H3)
- Search History (starts with an H3)

Recommendation: Assign an H1 heading to every page. For search results, the H1 could be positioned off screen so that the text is not visible but is still accessible to screen readers

Issue 3

The following pages have issues with properly nested sub-headings, usually skipping to an H3 heading instead of starting with an H1 or using an H2.

- My Account
- Fines
- Linked Accounts (div class=lead should be H2 headings)

Recommendation: Update H3 leadings to H2.

Styles/Headings

Issue 4

The default theme includes several violations for Color Contrast Ratios (CCR) of 3.1 for large and/or bolded text and 4.5 for other text sizes and styles. An accessible-by-default theme would make the themeing process easier for libraries to maintain accessible catalogs. Through theme changes we were able to correct many, but not all, of the contrast issues through a combination of the interface theme tools and custom CSS.

Recommendation: Change the following default combinations of background colors, font colors, and font sizes.

A) a (default link colors),

- Change color to #3174AF or similar

B) Body default color

- Change to a darker color that will meet contrast standards on many backgrounds, e.g., #404040

- Changing the body text color through the themeing interface does make a change to the default body text color

C) .btn-primary

- Change background to #3174AF or similar

D) . btn-group-sm (appears under result-tools-horizontal btn-toolbar)

- Change to a style similar to the light button style in Bootstrap (.btn-light) or the outline button style (.btn-outline-primary)

E) #home-page-login

- Change background to #808080, rgba(51, 51, 51, 0.6)

- A slightly darker background color will make the white font at 18px font-size accessible. This color is already used by default for the Log In and My Account buttons.

F) .manifestation-toggle-text .label-info, .manifestation-toggle-text .label-info,.label-default

- Change to a style similar to the light button style in Bootstrap (.btn-light)

G) .formatCategoryLabel

- Change color to #555555

H) Small heading font colors (h1 small, h2 small, h3 small, h4 small, h5 small, h6 small, .h1 small, .h2 small, .h3 small, .h4 small, .h5 small, .h6 small, h1 .small, h2 .small, h3 .small, h4 .small, h5 .small, h6 .small, .h1 .small, .h2 .small, .h3 .small, .h4 .small, .h5 .small, .h6 .small)

- Change to a darker default color, such as #666666

I) .result-index

- Change to a darker default color, such as #666666

J) .badge

- Change to a darker background color, such as #666666

K) dueSoonLabel

- Yellow text on white is generally never accessible – a yellow background on the element with black or dark grey text instead can solve this issue, e.g., background-color:#fff9c4;color:#3b3b3b;

L) .overdueLabel

- This could be treated similarly to the .dueSoonLabel, background-color:#c62828;color:#ffffff;

M) #horizontal-search-box, #vertical-menu-bar, #advancedSearchLink

- A larger or bolder font size would allow more colors to work as background colors in these areas. Likely many libraries might only change these colors, so this would be a quick and easy win.

- Change background to #007faa

- Change font-size to 18px or font-size 14px or larger and font-weight bold

N) #vertical-menu-bar .menu-bar-option.menu-icon-selected:

- Setting the background for the hover state on the menu to transparent black at 75% will ensure that the white text is more likely to meet color contrast standards on the hover state.

O) Replace the use of "color:red"

- This applies to checked out alerts, card expired alerts, .required-input, label-danger, in some cases as an element style that would be hard to override

- Change to an accessible version of red, e.g.,#C62828 - browser default for red (#ff0000) is not accessible on a white background

P) .label-success

- Change to an accessible version of green, e.g., #2e7d32

Issue 5

White icons and white text on the navigation and search backgrounds require libraries to choose a dark colored background. To give libraries more options to select colors that match their branding, they would need the option of setting icons and text to a darker color to maintain accessible color contrast standards.

Recommendation: When possible, use a font such as FontAwesome or SVG icons instead of PNG or GIF icons. This would allow libraries to set a lighter color for the search bar and navigation backgrounds with a darker text that could apply to both text and icons.

Forms

Issue 6

The ID "goButton" is used for multiple elements in the search facets.

Recommendation: Update these elements so the ID is unique, e.g.,"#go_AR_reading_level","#go_AR_point_value".

Issue 7

Form labels are not unique for the "from" and "to" fields in search facets, for AR Reading Level, AR Point Value.

Recommendation: Add labels for these fields, similar to the Publication Date facet.

Issue 8

Advanced Search page is missing form labels for the following fields:

- Repeatable text fields under "Search" (name=lookfor0[])
- Type limit dropdown menus (name=type0[])
- Match dropdown menu(name=bool0[])
- Format Category
- Available
- Fiction/Non-Fiction
- Reading Level
- Format
- Author
- Series
- AR Point Value
- Subject
- Language
- User Rating

Recommendation: Add form labels to these fields.

Issue 9

The tabpabel under My Account>Checked Out Titles and My Account>My Holds are missing labels.

Recommendation: Add a label to these tappabels using the aria-label or aria-labelledby attributes.

Issue 10

Form labels in the Contact Information page do not reference a form control, including the following fields:

- Address
- City
- State
- Zip
- Primary Phone Number
- Email

Recommendation: Some of these fields will be editable (and will be form fields) and others will not be editable. One approach could be to display the values for these fields as form fields that are enabled or disabled for text entry.

Widgets/Scripts

Issue 11

ARIA widget roles are missing from the following:

- browse category buttons (new fiction, new nonfiction, etc.)
- div [class=facettitle panel-title collapsed]
- span[class=ui-rater-starsoff]
- "Sort by" dropdowns in the Holds page/tabs
- "Records Per Page" dropdown on the My Lists pages

Recommendation: Add ARIA widget roles to these buttons to describe the onclick event handler (role=button, with supported properties of aria-expanded, aria-pressed). See W3C Allowed ARIA roles, states, and properties.

Issue 12

The getMoreResults () onclick link is missing a label.

Recommendation: Add a label using the aria-label or aria-labelledby attributes.