

Phase 1 Report

To conclude phase 1 reporting, the UC Palace Project Team shared this final report with the Direction and Oversight Committee (DOC) on September 19, 2023 for their review and endorsement. This final report covers work completed during phase 1 from November 2022 to June 2023. DOC endorsed the recommendations in this report at their December 5, 2023 meeting.

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Table of Contents:

Executive Summary and Recommendations	1
Content findings	3
Integration findings	5
Usability and Accessibility Findings	6
Benefits/Constraints summary	7
Appendix A: Usability and Accessibility Assessment	9
Appendix B: Questions for user interviews	15
Charge	17

Executive Summary and Recommendations

The project team was [charged](#) in November 2022 to investigate the feasibility, risks, benefits and cost of implementing Palace for the UC Libraries and report their findings to DOC. In doing this work, we leveraged the experience of the two academic institutions who have implemented Palace, Columbia and NYU.

Key findings

1. [Palace](#) is at an early stage in development for academic libraries. Lyrasis, the non-profit organization that develops and operates Palace in strategic partnership with the Digital Public Library of America (DPLA) is committed to working with academic libraries to build the functionality academic users need. An advisory committee of academic libraries has been formed and meets monthly with Lyrasis. This group is looking at the complete ecosystem needed to make it easy for library users to work with digital materials.
2. Lyrasis, Columbia University and New York University (NYU) are working with all major commercial and open access academic publishers to provide access to their content. Proquest, EBSCO and Springer are currently making some of their catalog available on Palace as are a number of open access academic ebook providers. Clearly, a good start has been made but there is much work left to be done.
3. Currently, Palace's [Voluntary Product Accessibility Template \(VPAT\)](#) indicates that the Palace application does not fully comply with UC accessibility policy. Further research and work with our partners on academic Palace is needed to make sure Palace can become fully compliant.
4. Our usability research found that a majority of users still prefer computers/laptops for academic ebook reading; Palace currently does not have desktop or browser application development in their immediate roadmap. While users in general appreciated the user-friendly interface and layout of Palace, they noted that many of the features they require are inconsistently offered or do not exist at all in the Palace application. In response to this situation, the Academic Palace Committee (Lyrasis, Columbia, UC and NYU) have compiled a prioritized list of features and functions to support academic users. They are seeking grant funding to develop this functionality.
5. Barriers to ebook usage in general include usability issues such as format variability, ability to download or read-only, loan periods, annotation features, and ability to interact with text (keyword searching, text-sizing, brightness, bookmarks, etc.), among other challenges, many of which are not currently addressed by the Palace application or other ebook reading applications.
6. The yearly cost of Palace per campus is less than \$11,000 annually with a reduced cost for small campuses (UCSF and UC Merced). A test implementation (pilot) would be the same cost.

Recommendations for DOC endorsement

1. **We recommend continuing to explore Palace by:**
 - Implementing a prototype version of Palace at a campus to allow for further testing.
 - Doing further usability, accessibility and backend testing and research not only of the Palace user interface, but also of UC ebook content within the Palace environment.
 - Doing Palace demonstrations via Zoom for our campus colleagues to get their feedback on the system.
2. **The University of California Libraries should continue its participation in the Palace community process.** Palace is one of the most likely underpinnings for a UC-wide digital book lending and access solution, and the pursuit of a better understanding of its strengths and weaknesses serves as a useful adjunct to the explorations of the [Project LEND](#) effort. The adoption of Palace by other R1 academic institutions lends greater impetus for the University to evaluate its benefits and costs across the system.

Currently, academic Palace users (NYU, Columbia, UC) and Lyris are meeting monthly to work on these strategies for making Palace and the digital ecosystem more useful to academic library users:

- Encouraging open access ebook providers to make their ebooks available on Palace
 - Encouraging academic publishers to make their ebooks available on Palace
 - Exploring grants to pay for improvements to the Palace app and to the backend processes needed to make the growing Palace catalog easily available in library catalogs
 - Investigating better ways to make ebooks available through a web browser ebook reader, a major wish list item for academic users
 - Working on a roadmap with Lyris for software development that meets the needs of academic libraries including full compliance with UC accessibility policies and standards, and usability needs.
3. **We recommend more formal accessibility testing and research be conducted** across the Palace reading environment, not only of the Palace user interface, but also of UC ebook content within the Palace environment, to understand compliance requirements. In addition, **we recommend coordinating with collection development and acquisitions** to ensure licensed and open access ebooks meet accessibility standards.
 4. From a usability standpoint, **we recommend that further research be done to determine the functionality required for a minimum viable product** and which

functionality could be added later. In addition, we recommend continuing to advocate for this functionality within the academic Palace community process.

5. **Empower the UC Palace Project Team to proceed with a prototype.** The initial deliverable will be a project charge, which will be shared with DOC for endorsement.

Content findings

Open access content available on Palace

There are a number of open access collections currently available on Palace. DPLA and NYU have curated an academic [Palace Bookshelf](#) with open access academic titles. [Open Research Library](#) (Knowledge Unlatched) has made their open access books available on Palace. In addition, [OAPEN](#), a non-profit dedicated to facilitating the publication of open access academic ebooks, offers 20,000 titles and regularly adds to its bookshelf.

Organizations like the University of California can make their own open access content available for any Palace library to use. Columbia is currently using this feature to make many of their special collections available to everyone.

Open access content NYU and Columbia have made available on Palace

Columbia has made available OAPEN.org and Casalini Libri's Torrossa open access collection. NYU will include these soon. In addition, Columbia has added its digitized special collections to Palace. NYU will roll out the University of Michigan Press open access ebooks in Fall 2023.

The process of adding open access content

Open access providers must take a number of steps to make their content available. First they must create or convert their content to one of two formats, ePub or PDF. Much open access material is already in this format and machine conversion to these formats is also available.

Once the material is properly formatted, it must be made available via an [Open Publication Distribution System \(OPDS\)](#) feed. Since OPDS is an open standard, this is not a difficult thing to accomplish. However, an open access provider can enlist Lyris to do this for them. It is worth noting that an OPDS feed need only be set up once and can then be used by all libraries that want to access this provider's materials.

Once a library has notified Lyrasis that it would like the materials in an open access provider's OPDS feed, Lyrasis turns on the feed. The library can then upload MARC records for this material to its library management system so that the material appears in its catalog. Currently performing this for UC's Alma/Primo system takes considerable manual effort. However, NYU has already found a number of ways to automate this process.

Ongoing efforts to increase the availability of open access content on Palace

There are a number of ongoing efforts to increase open access title availability on Palace. Open access providers like OAPEN, Casalini Libre and Fulcrum that are already on Palace continue to work to add open access titles. In addition, Lyrasis is reaching out to OA repositories to provide OPDS feeds of their material.

Licensed content for academic users on Palace

Proquest (Ebook Central), Springer and Casalini Libri (Torrossa) are currently making licensed content available on the Palace platform.

Ongoing efforts to increase the availability of licensed academic materials on the Palace platform

There are a number of ongoing efforts to increase licensed academic materials on Palace. Rob Cartolano of Columbia Libraries and James English of Lyrasis are in ongoing discussions with all major academic publishers (Taylor and Francis, Elsevier, university presses, EBSCO, etc.) to make their content available on Palace. DPLA's Micah May is reaching out to university presses to make more of their material available in the DPLA Palace Marketplace. In addition, Lyrasis, through its Biblioboard platform, is working with many publishers to host and distribute their content. Commercial publishers involved in this effort include Springer Nature and Wiley. University presses involved in this effort include Oxford, Cambridge and a dozen other small university presses.

The process of adding licensed content

The technical process for making licensed content available in Palace is very similar to the one for open access titles. However, there are two additional steps that must be taken. First, the University must license the materials from the publisher. Second, the publisher must work with Lyrasis to allow access to their materials through the participating libraries' single sign-on systems. It is worth noting that this authentication setup only has to be put in place one time.

Once it is available it can be used by all libraries.

We recommend a list of content use cases should be developed and tested in the prototype phase. This should include both open access and licensed content and be tested in conjunction with accessibility compliance testing.

Integration findings

Integration with campus Single Sign On

To access ebooks in Palace, library users must log in using their campus single sign-on (SSO) account. All UC campus SSO systems can integrate with Palace via Shibboleth. However, because there must be a different Palace instance for each campus, campus SSO integration with Palace would have to be done on a campus by campus basis.

According to UCOP IT Identity Management staff, Eric Goodman and Mark Boyce, setting up Palace authentication is a reasonably straightforward implementation. If we proceed to implementation, they offered to help with notifying campus authentication contacts and to answer questions.

We recommend implementing authentication for at least one campus and at least one ebook provider as a test in a prototype phase.

Integration with campus Primo VE

NYU is in the process of implementing Primo VE with a go live date in January 2024. We will learn more about their experience after their implementation. Once their implementation is in place, we can begin understanding the best ways to work with Ex Libris, NYU and Lyris to create the optimal user experience and backend workflows.

There are a number of areas that look like they would be worth exploring at that time. We would like to have a UC prototype complete with single sign-on so we can test the user experience that starts at UC Library Search and goes to both the Palace app and a Web-based content display. We would also like to understand the workflow for getting Palace information into Primo using UC's systems.

Based on these explorations, we would like to talk to Ex Libris about how it might work with Palace's systems including consortial integration. Here it is worth noting that no academic institutions have yet done a consortial integration of Palace, but in theory it shouldn't be a problem. Several state libraries, including California's, have supported member collection

inclusion and each regional or local library is thus able to represent any superset of state managed plus local managed materials in Palace.

We recommend consulting with NYU and Ex Libris after NYU completes their implementation of Primo VE in January 2024.

Usability and Accessibility Findings

The Project Team reviewed accessibility compliance for Palace, obtained usability testing results from NYU and Columbia, conducted an online survey with UC Davis and UC Berkeley respondents, and completed a small usability study with UC Berkeley users. For a complete usability and accessibility assessment, see Appendix A.

Accessibility

According to Palace's [Voluntary Product Accessibility Template \(VPAT\)](#), their product does not fully comply with [UC Policy](#) which indicates that all electronic information must meet the Web Content Accessibility Guidelines (WCAG) 2.0 at level AA Success Criteria. The issues are not unique to Palace and affect other aggregators. The product team shared with us that the majority of the compliance issues have to do with the licensed content that is available on the platform. They indicate that they do not have control over this content. However, some initial accessibility testing conducted found issues and inconsistencies within the navigability of the user interface and the ebook content. More investigation and formal accessibility testing is recommended before we move further with any subsequent production level release of this product to UC faculty and students. Also, due to accessibility issues inherent in variable ebook content, there is a need for any future Palace pilot efforts to synchronize with collection development and the acquisition of ebook packages or open access collections that are accessible within the Palace environment.

Usability

We conducted an online survey with respondents from UC Davis and UC Berkeley and usability testing with UC Berkeley undergraduate and graduate students and one faculty, to explore users' academic ebook reading behavior, preferences and challenges. Based on the survey findings, our usability testing further studied their usage of ebooks for academic purposes (course work, teaching, research and personal study). Participants indicated that they primarily use UC Library Search or Google Scholar to search for ebooks. During testing, they did not encounter any barriers navigating to Palace ebooks from UC Library Search, and were able to switch to the Palace application on their mobile device when required; we were not able to explore Google Scholar as a discovery path in our testing. We found that our community strongly preferred to read ebooks on a laptop rather than a mobile device (phone or tablet); reading on a laptop allowed them to multitask and take notes on a separate device and/or window at the same time. Barriers to ebook usage include usability issues such as format variability, ability to download or read-only, loan periods, annotation features, and ability to interact with text (keyword searching,

text-sizing, brightness, bookmarks, etc.). These findings confirmed what we learnt from the survey study.

While our testing participants appreciated the user-friendly interface and layout of Palace, they noted that many of the features they require are inconsistently offered or do not exist at all in the Palace application. We found that essential features such as text-sizing and a table of contents were only available for certain types of files within Palace; more importantly, keyword search - a key functionality noted by many of our participants - was non-existent. These findings were consistent with issues raised by NYU and Columbia in their usability studies.

For these reasons, from the usability perspective our Project Team concludes that the Palace application requires substantial development in order to address functionality required for academic ebook usage and accessibility compliance before we can adopt it for UC-wide use. As the application currently stands, it does not meet the academic needs of our community or adhere to UC accessibility policy.

However, Palace still provides a better mobile reading experience for users than its competitors on the market. As Palace is still in its development phase, a UC partnership with Palace at this point in time can shape the roadmap to prioritize the functionality we desire for academic users and accessibility.

Benefits/Constraints summary

What is the problem we are trying to solve?

As we stated in the charge for this report, the UC Libraries face a number issues around ebooks:

- Reading UC Library ebooks is no easy task.
- Readers, including academic readers, are losing their voice in the digital marketplace.

Why is Palace a good solution? What's the business case?

To reap the promise of the University of California Libraries' growing commitment to ebooks, we need to offer users an ever improving ebook reading experience. The Palace Project Team's work is undergirded by two key aspirations:

1. **A single app where all ebooks can be viewed is essential to the ebook reading experience.**

In the same way that every web site should be able to be read with any browser, every ebook should be readable with any ebook reader. As anyone who has tried to read ebooks from UC libraries knows, currently that is not the situation. Instead, each time a user switches from one publisher to another, they may be required to read instructions,

download an app and learn a new user interface before reading the book. This clearly is not the kind of experience we want for our users.

2. A competitive market for academic ebooks is crucial to libraries and their users.

In an age when electronic materials are coming to dominate scholarship, a competitive market in academic ebooks allows libraries and their users access to the largest array of materials at the lowest cost. This is particularly true because the alternative, a market dominated by one commercial platform (as has happened with audiobooks, trade ebooks and public library ebooks) produces a market where the commercial platform becomes the ultimate arbiter of what ebooks are readily available and raises costs by adding a hefty fee (typically, 40 to 75% of the total cost) to each ebook purchased.

All the research we have done in creating this report has reaffirmed the truth of these two propositions. The question then is what is the best way to create an open ebook market and how do we provide a single app ebook reading experience?

We are fortunate that the library community has given this question a great deal of thought and effort. Work on creating open ebook markets and a single ebook app goes back many years. What the Palace Project represents is the combined wisdom and hard won experience of the community on how to do this. We may disagree with this or that particular element but this kind of community process whether on NISO standards, cataloging standards or projects such as FOLIO has proven to serve libraries well.

Because this process around the Palace Project is so robust and the alternative is the arduous process of building this community and software from scratch, we recommend that the University of California join with the library community in using the Palace Project to reach these goals.

Why now?

By getting in at the beginning of the academic Palace Project, we have a chance to influence what is likely to become a key piece of academic library infrastructure. Our work can ensure that Palace meets the needs of library consortia typical of large public university systems. It can also ensure that libraries can afford ebooks by promoting the development of open academic ebook collections and by creating a competitive academic ebook marketplace.

Appendix A: Usability and Accessibility Assessment

Executive Summary

The Project Team reviewed accessibility compliance for Palace, obtained usability testing results from NYU and Columbia, conducted an online survey with UC Davis and UC Berkeley respondents, and completed a small usability study with UC Berkeley users.

Accessibility

According to Palace's [Voluntary Product Accessibility Template \(VPAT\)](#), their product does not fully comply with [UC Policy](#) which indicates that all electronic information must meet the Web Content Accessibility Guidelines (WCAG) 2.0 at level AA Success Criteria. The product team shared with us that the majority of the compliance issues have to do with the licensed content that is available on the platform. They indicate that they do not have control over this content. More follow up and formal accessibility testing is recommended before we move further with any subsequent production level release of this product to UC faculty and students.

Usability

We conducted an online survey with respondents from UC Davis and UC Berkeley and usability testing with UC Berkeley undergraduate and graduate students and one faculty, to explore users academic ebook reading behavior, preferences and challenges. Based on the survey findings, our usability testing further studied their usage of ebooks for academic purposes (course work, teaching, research and personal study). Participants indicated that they primarily use UC Library Search or Google Scholar to search for ebooks. During testing, they did not encounter any barriers navigating to Palace ebooks from UC Library Search, and were able to switch to the Palace application on their mobile device when required; we were not able to explore Google Scholar as a discovery path in our testing. We found that our community strongly preferred to read ebooks on a laptop rather than a mobile device (phone or tablet); reading on a laptop allowed them to multitask and take notes on a separate device and/or window at the same time. Barriers to ebook usage include usability issues such as format variability, ability to download or read-only, loan periods, annotation features, and ability to interact with text (keyword searching, text-sizing, brightness, bookmarks, etc.). These findings confirmed what we learnt from the survey study.

While our testing participants appreciated the user-friendly interface and layout of Palace, they noted that many of the features they require are inconsistently offered or do not exist at all in the Palace application. We found that essential features such as text-sizing and a table of contents were only available for certain types of files within Palace; more importantly, keyword search - a key functionality noted by many of our participants - was non-existent. These findings were consistent with issues raised by NYU and Columbia in their usability studies.

For these reasons, from the usability perspective our Project Team concludes that the Palace application requires substantial development in order to address functionality required for academic ebook usage and accessibility compliance before we can adopt it for UC-wide use. As the application currently stands, it does not meet the academic needs of our community or adhere to UC accessibility policy. However, we do see value in a UC partnership with Palace if there is a roadmap for the application that prioritizes functionality for academic users and accessibility, *and* if there is capacity within UC for pursuing a partnership.

Usability and Accessibility Assessment

Results of Columbia and NYU usability and accessibility testing

The Palace Project team obtained preliminary usability testing reports from NYU and Columbia in order to gather information on how academic institutions were implementing the ebook reader and how their users were responding to the product. NYU and Columbia were early adopters of SimplyE before the migration to Palace; the testing summarized below reflects the SimplyE experience.

Columbia partnered with SimplyE to complete an online survey in 2021 with the goal to measure the users' experience with SimplyE for Columbia and to identify areas for improvement. Responses were collected from undergraduate and graduate students, faculty, staff, and alumni. While users were generally satisfied with the product, they reported issues with search, system response time and other technical issues. Suggested improvements included better search functionality with filtering options and keyword search, improved navigation within the app, and requests for more content to be included. Columbia's team recommended conducting more in-depth usability studies.

NYU completed a beta user test (online survey) of SimplyE in 2021 with plans to expand testing after the transition from SimplyE to Palace. Their survey focused on functionality of the app and gathered six responses. Though the majority of users were successful in completing the tasks in the survey, there were some issues with relevancy of results when keyword searching, navigation to features like table of contents within the app, and other technical issues (freezing, response times) consistent with Columbia's findings.

Results of UC e-book survey

We conducted an online survey with 155 respondents from UC Berkeley and UC Davis. Among all the respondents, 45% of the respondents are graduate students, 40% of respondents are undergraduate students and the rest are instructors and staff. Half of the respondents preferred reading ebooks for their academic use, while a third of the respondents preferred print books. When asked where to start exploring academic ebooks, over 77% of the respondents listed library website while less than half mentioned Google/Google Scholar. In terms of reading devices, laptops are still the preferred device compared to mobile devices or tablets. 64% of the respondents preferred laptops, 24% preferred tablets and 3% preferred using phones. When

asked about the ebook reading challenges, the respondents listed a wide range of usability issues, such as limited downloading options, lack of ebook availability, login issue, confusing platforms, access issues on tablets/mobile devices, inability of offline reading, limitations with Adobe Reading Editions, short loan period, cost barrier and others. In terms of the desired features, the respondents listed basic features, such as downloading, copying and pasting, searching, annotation, bookmarking, easy navigation, sizing options, PDF options, and others.

Results of UC Berkeley usability testing

In order to further understand the findings from the survey study, five users were interviewed separately for conducting a 30-minute usability testing, one instructor, one undergraduate student and three graduate students. Their research, teaching and learning focuses cover a wide range of disciplines, architecture, business, computer science, engineering, physical sciences and higher education. One interview was conducted in person and the rest were online. For the first half of the interview, they were asked a few questions related to their ebook discovery, usage, devices and reading experiences. For the second half, they were asked to check out the Palace app and provide feedback on the reading experience within the Palace app. (See Appendix B: Questions for user interviews)

The users were asked to answer questions related to their behavior and preferences around ebook discovery, library ebook use, reading experiences, preferred ebook features, ebook reading devices, ebook app. In the end, they provided the feedback around their use of the Palace app.

Discovery

When asked about the discovery channels for academic work, the users indicated that Google Scholar and UC Library Search were the top options as their starting point. Users might refer to UC Library Search as the library catalog or library website. Subject-based bibliography tools are also mentioned as an efficient way to discover content. The users didn't note any special ways to discover ebooks compared to other academic content, e.g. print books or journals.

Many useful features of UC Library Search are mentioned by users. Limiting the search to a special library on UC Library Search is considered as an efficient way to focus on a particular subject area. Limiting the search results to ebooks only is very helpful. The "Available online" is a nice feature on the UC Library Search to focus on ebooks. Overall, UC Library Search is considered to be a frequently used and efficient channel for exploring scholarly materials, including ebooks.

Library ebook use

The interviewees all read library ebooks for a variety of purposes, such as class reading, writing research papers, preparing for final exam or thesis, instruction, literature review and others. The ebook use frequency varies depending on the classes and research requirement. Some users read a few times per week and some users only read a few times per semester. All the users prefer borrowing ebooks from the Library rather than purchasing the ebooks, not only because of the cost, but also because of the wide variety of ebook resources available at UC Berkeley Library.

Ebooks reading experiences

Many usability issues of reading ebooks are mentioned, including format, downloading options, annotation availability.

Some ebooks are only available as scanned copies. The copy and paste feature doesn't work on scanned copies. The users can't merge the text or make comparisons between texts. Some workarounds are mentioned, such as taking screenshots and converting the text. However, the text conversion is not always accurate.

Users prefer to download the ebooks compared to reading the books online. Users generally don't read the ebooks from the beginning to the end. It is not convenient for users if reading ebooks requires constant login. However, some books cannot be downloaded and can only be read online. Users also noted that there are limitations on how long the loan period is. One user mentioned that the whole ebook cannot be downloaded after the 30 day loan period expires. Once expired, the user can only download one chapter at a time.

Users often cannot make notes directly on ebooks. Some users make notes on their PDF file within Adobe reader. Some users have to use another annotation tool, such as Notability, or on some other separate documents.

Desirable ebook reading features

Related to current reading experiences, the users mentioned a list of desirable ebook features, such as downloading, text searching, easy navigation, hyperlinks, easy citation, copying and pasting, highlighting and annotation. For annotation, users further described that it would be desirable not only easier to take notes, but also to display the notes next the text and to be able to centralize the notes as well.

The users also mentioned a few other tools/apps/features that have enhanced their reading experiences. For example, Zetero, the reference management tool, is highlighted by a user. The audiobooks offered by Libby are recommended. Notability, an annotation tool is mentioned as well.

Ebook reading devices

Users prefer to read ebooks on a laptop for the following reasons. First of all, the screen is bigger than mobile devices, especially if users are reading textbooks. Second, for academic use, users often need to multitask, reading and writing at the same time. A few users mentioned that they often read on one computer screen, and write or make notes on another screen. Also, users reported that it is easier to store and organize the research reading materials on their computer. Last but not least, laptops are reported to be easier with downloading PDF files, which are users' preferred reading format. Users also mentioned using Ipad for ebooks, but when it is only involved with just reading or making notes.

Ebook app

When asked about ebook app downloading and user accounts, the opinions shared are almost the same among our users. Generally, our users don't mind downloading an app in order to read ebooks, although some recognize the fact that it might increase workload and cause extra stress. For creating a user account, users don't mind if it is only involved with Berkeley Calnet authentication. However, if it requires creating a separate user account, it is not acceptable to our users.

Palace App

The users are asked to test the following features of Palace ebooks: bookmarks, table of contents, text sizing, brightness and search. However, the features offered by Palace are so different depending on the format, epub vs. PDF. Palace offers very limited functionality for PDF format. Many basic features are almost non-existent for PDF format within the Palace app.

For ePub format ebooks, our users were able to test certain features. They had straightforward experiences with finding the table of content, navigating the text, bookmarking, changing the text size and brightness. However, search functionality doesn't exist. For text sizing, one user noted a glitch where the whole text cannot be displayed after the text size is enlarged. Also, the user had to move around the page to read it. One user had some difficulty hiding and unhiding the table of content. One user didn't know how to change the brightness.

Overall, the users appreciated the Palace app's user-friendly interface and layout. They also acknowledge the value of having a centralized platform of the ebooks rather than reading from multiple different platforms, the offline reading opportunity, and the flexibility of reading on a mobile device anytime and anywhere. However, they still prefer reading ebooks on a computer rather than on mobile devices, especially for academic reading experiences. The users often need to read and write at the same time, which is much easier to accomplish on a computer. Also, some users noted that the text sizing is too small on mobile devices. Computers are also considered essential for organizing their research files.

Review of accessibility compliance for Palace

The Palace team provided a link to the application's [Voluntary Product Accessibility Template \(VPAT\)](#). The VPAT is a document provided by vendors that discloses the product's compliance with Web Content Accessibility Guidelines (WCAG 2.0). These guidelines are established by the Web Accessibility Initiative of the World Wide Web Consortium. Palace's VPAT does not indicate when it was last updated or when their assessment was conducted on the product. Upon inquiry with their product team, they indicate the VPAT was last updated 6 months prior to the submission of this report, which would be approximately January, 2023. [UC Policy](#) indicates that all electronic information must meet the Web Content Accessibility Guidelines (WCAG) 2.0 at level AA Success Criteria. The document indicates that the Palace application has one level A issue that is partially supported and three level AA issues that are also partially supported within the Palace application. Level A is the most basic level of conformance and most organizations strive to meet level AA level of conformance. At the time of this report, the Palace application may not fully meet UC accessibility policy.

The main issue facing these compliance areas have to do with the book covers provided by publishers. Color contrast issues, book title and author information and description information, and text resizing are issues mentioned. Upon inquiry with the product team, they assert that their interface is compliant with level AA but the variability of the book content is what is preventing them from being able to declare themselves fully compliant at Level A and Level AA in the VPAT documentation. There is book title and author information on search result pages so some of this metadata could possibly be passed through to the browse pages that rely solely on book covers as the browse mechanism. Further testing and investigation may be needed to assess this issue more fully.

A limited test of the screen reading and touch navigation features for PDF and ePub formats available during the pilot phase was conducted. Some of the PDF reader page navigation and ePub navigation while it may be technically accessible was difficult to use. It is also inconclusive whether or not the Palace team has developmental control over the navigation in the reader area or if the reader navigation is part of the device's default handling of PDF and ePub formats.

Some of the issues, such as the "Book cover not described," did not present themselves during the pilot phase testing on the collections available so some formats do seem to provide this information to screen readers on the initial Catalog browse page. While it is true that the product team cannot ensure the compliance of licensed ebook content that UC negotiates with publishers, if some of this content is not compliant in this environment this would be a major barrier to adoption of this application and the overall user experience for UC faculty and students. Thus, if this pilot is approved to move forward with production, UC's shared content group would need to ensure that all ebook content licensed that could be used in the Palace environment would need to meet accessibility standards.

This VPAT information is available upon request but not available directly from their application or website. There is also no way for librarians or users to contact the Palace support team in order to address any accessibility issues on the application itself. While availability of the VPAT and a way to contact the product team are not part of accessibility compliance it is a best practice that UC Legal has in the past expressed that products and tools give to users in case accessibility information needs to be disclosed or remediation paths established.

Recommendations and Next Steps

Accessibility

At this point, we do not recommend that Palace be moved forward to a production release since it may not fully comply with UC accessibility policy.

- Formal accessibility testing needs to be conducted to more fully understand where the partial support issues are manifesting and what the impact is on overall accessibility compliance.

- Explore with the Palace product team if they are able to address accessibility issues identified in the VPAT.
- Additional testing across a sampling of different content types and mobile device types would also be informative in understanding how different ebook formats and published content work within the application.
- Need to synchronize efforts with collection development and the purchasing of ebook packages that are accessible and would work from an accessibility standpoint within the Palace environment.

Usability

From the usability perspective our Project Team concludes that the Palace application requires substantial development in order to address functionality required for academic ebook usage and accessibility compliance before we can adopt it for UC-wide use.

We recommend the following for future roadmap development in Palace:

- For text interactions, users require a consistent experience across different file formats. This includes text-sizing, keyword searching, and brightness controls.
- Ability to read in the browser on a web-based version of the application is strongly preferred.
- Deep linking from a title found on the web (in library catalog or other discovery path, such as Google Scholar) to the mobile application.
- Ability to read offline.

If UC moves ahead with a partnership with Palace, we recommend the following:

- Consult with NYU and Ex Libris after NYU completes their implementation of Primo VE in January 2024.
- Enable SSO for licensed materials and conduct further user testing of discovery paths with SSO enabled.
- Further user testing of the reading experience with different file formats.

Appendix B: Questions for user interviews

Introduction and greeting

Consent forms

Remember to record session

Exploratory questions:

Where do you start your discovery for your academic work, like books, articles, and so forth?
What about ebooks - if you were looking for an ebook, would you start somewhere different?
(asked in pre-survey, but can dig deeper)

Have you read (or borrowed) ebooks from the UC libraries or other libraries before for your academic work?

- How often did you use ebooks for your academic work in the last semester? What information or goals were you trying to achieve in using them?
 - Follow up: what was your experience like?
- Do you prefer to purchase your ebooks or borrow them?
 - Follow up: why?

Preferred method of reading ebooks for academic/class use?

- Device: laptop, tablet/iPad, mobile phone
 - Follow up: For those who prefer reading on laptops/desktops (~70%) - do they prefer to read ebooks on laptops/desktops because there are no good options on mobile apps, or do they prefer reading on laptops/desktops for other reasons?
 - If you were asked to download an app in order to read an ebook, would that be a barrier in getting that ebook? Would you be resistant to downloading and setting up a separate app?
 - If you were asked to create a user account in order to read an ebook, would that be a barrier in getting that ebook? Would you be resistant to creating an account? What about authentication with your Calnet?
- Possible followup if user mentions format: do they prefer PDF or via app
- What features were most useful for you? Were there any features that you wished were available to you?

Task based:

Have them walk through a discovery to Palace path; earmark any potential discovery path challenges specific to UC discovery paths. (with an eye towards creating some kind of flow chart or diagram deliverable at the end). Explain to users to talk through what they're thinking as they navigate through the pages/links.

Scenarios:

1. Look in UC Library Search to select a book
 - a. Start in UC Library Search (go to Palace books at OR they can search "UC Palace Test Records" as a keyword search
 - i. once they've opened the link, instruction participant to start sharing screen at this point
 - b. Click through to Patron Web Page
2. Find and navigate through a book in Palace App (in this scenario user will download Palace app before they attend session)

- a. Open Palace app and find the same book you were looking at previously in UC Library Search
- b. Open the title and take a look at the ebook in the Palace UI (Ask them for impressions.)
 - i. Have user go through existing Palace features and reflect on usefulness of features and also what other features they would require in order to be able to use an ebook in an academic scenario.
Depending on which device they are on and whether they are looking at an ePub or a PDF, they may or may not see:
 1. Bookmarks
 2. Table of Contents
 3. Text sizing
 4. Brightness
 5. Search
 - ii. Does user notice the format of the books? (ie ePub vs PDF) Do they just go to the “Get” button and “Read” button or do they take the time to open the book info box?

Final questions:

How valuable is the Palace experience?

For those who preferred reading ebooks on laptops, if Palace was a viable alternative option, would they then read or use an ebook on mobile devices rather than laptops?

Pre-Interview instructions:

- Download Palace app on your device
- Download Zoom app on your device (Note: if we want them to hold up their device to show us anything over Zoom, make sure they are not blurring their background.)

Charge

UC Palace Project Team charge (November 2022) ([link](#))