

Summary of Accessibility Testing of Libby apps for OverDrive (iOS version 1.8.1 and Android version 1.7.0)

Conducted by the National Network for Equitable Library Service (NNELS)

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The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada.

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About NNELS:

The National Network for Equitable Library Service (NNELS) is a digital public library of books for Canadians with print disabilities, and an advocate for an accessible and equitable reading ecosystem for their users. NNELS supports principles of openness, inclusion, and choice. NNELS is hosted by the BC Libraries Cooperative, a community service not-for-profit cooperative and a national leader in information and technology services.

Our team of Accessibility Testers has expert knowledge in the areas of accessibility testing, analysis, software development, and leadership. The team works to educate and advise publishers, technology vendors, and public libraries on best practices for accessibility. Our testers have lived experience with a range of print disabilities, including blindness, low vision, and learning disabilities.

Introduction

This is a short summary of the accessibility report for the Libby mobile apps in iOS and Android devices. It contains highlights of the most relevant findings. The full version of the report presents detailed information about the different sections of the app; including examples, detailed findings, and recommendations for fixing the barriers that our testers identified. Please refer to the [full report](#) for information on the testing of the Libby website on Windows, Safari, and Chrome OS, as well as the Windows app.

For this report, our team of testers evaluated the accessibility of the Libby apps for people with print disabilities¹ and found that the versions tested, presented several barriers for users of assistive technologies. The Libby app has a range of accessibility issues in the platforms tested; something that is acknowledged by the developer. When users relying on screen readers launched this app, a "secret message" for screen readers comes up most of the time, indicating that the Libby app is not very accessible, and recommending using the OverDrive app instead.

The objective of testing was to assess the usability experience of readers with print disabilities, and determine to what extent they can access audiobooks and ebooks through their local public library effectively and efficiently. People with print disabilities use [screen readers](#), [refreshable Braille displays](#) and other assistive technologies in their computers and devices to access information.

To ensure usability and accessibility of an application by people with print disabilities, all functions and controls must be accessible using assistive technologies. The DAISY Consortium explains that the basic assumption of accessibility evaluations is that reading systems "should support reading with eyes, ears, and fingers." ([DAISY Consortium, 2017](#))

Testing approach

NNELS developed a list of criteria for testers to perform a structured review of the accessibility of mainstream library reading applications. We drew on the [guidelines](#) that the DAISY Consortium developed for the systematic assessment of the accessibility of hardware and software-based reading systems. This methodology allows us to determine the accessibility of the functions and features of each reading application from the user perspective.

All testers performed several tasks, corresponding to the different functions of the application, and answered questions systematically. The questions for all functions are grouped into various categories, including:

- Library access – Creating an account, login, searches, results and downloads
- Reading (including listening to audiobooks, and reading ebooks) – resuming reading at the same position; pausing before different sections; text to speech indicating emphasis
- Navigation – Moving through different elements in an ebook such as headings, paragraphs; moving to different sections in an audiobook
- Visual adjustments – adjusting colour contrast, font sizes and types, or margins

¹ Print disabilities are defined by Canada's Copyright Act and include visual, mobility, or comprehension impairments such as dyslexia.

Summary of Accessibility Priorities

The most important priorities across iOS and Android are:

- Label all buttons, controls, and links to convey information of what they are to users relying on a screen reader.
- Improve functionality of the audiobook player and ebook reader, which are mostly inaccessible for screen reader users.

iOS with VoiceOver

Searching

The testers using iOS with VoiceOver (Apple's built-in screen reader) noted that the search field is properly labeled, however, it is difficult to determine where it is located since the flick order does not match the positional elements on the screen. Overall, there were different results from different testers, with some being able to find it at the bottom of the screen, while others could not find it at all. In these cases it appeared to be hidden, even as these testers explored the same area of the app.

The "Refine List" element was noted to be cumbersome and time consuming to use. Testers noted they were able to filter criteria on the list, but they had to go in and add one item at a time, and then click on "refine refine list", as they could not choose all the options they wanted at once. They also noted that each category has the word "chevronright" at the end of each category title, such as "language 1 of 1 chevronright".

Testers noted that it was time consuming to navigate through the search results, as they were not clearly separated. One way of separating information, which is compatible with screen readers, is to add headings. By creating a clear and navigable separation of sections, users will have the ability to quickly move focus to different elements by using shortcuts to buttons, headings, landmarks, and more.

Reading/Navigation

Audiobooks

None of the testers could successfully play an audiobook. When they press the "Open" button from the Library, the screen that comes up has many controls with confusing labels. Even with troubleshooting, testers could not determine the functions of most of these controls. Testers also discovered many controls that were visible as they swiped right, but proved to not be functional when they attempted to select them. Testers were able to find controls for time for the audiobook (e.g. "7 hours, 15 minutes, and 0 seconds"), but when they tried to interact with this controls nothing seemed to change.

One tester was able to locate the "Now Playing," "Library," and "Shelf" tabs across the bottom of the main screen, but noted that these buttons need enough padding to fill the

entire bottom strip of the screen to avoid users relying on gestures from accidentally touching content that surrounds the tabs. The way they are set up at the time of this report, it is easy to accidentally touch the space between them, which will usually just announce the control above, but could still lead to user confusion.

Ebooks

The section of the app to read ebooks contained some unlabeled buttons as well. Testers also noted that the internal links did not work when selected, and they were therefore unable to navigate the content. Although they could view a single page of an ebook at a time, they were not able to successfully turn pages. Chapters themselves do not appear in VoiceOver's navigation order, and there is no indication that the chapters screen is open.

Backfield interference (when a screenreader reads information from an old dialog or page, which is not the focus at that moment) was also an issue in this section of the app. When going from the Loans menu to an ebook, VoiceOver would read the previous screen instead of the actual ebook. This made it impossible for testers to read any content.

Android with TalkBack

Searching

Testers using TalkBack (Android's built-in screen reader) found that they could search for titles and navigate through the list of search results. Nevertheless, they did report a similar issue to what VoiceOver users found with the location of the options at the bottom of the screen being hard to locate and navigate to. If a user relying on TalkBack chooses either the "List Preferences" or "Refine Refine Search," they have to explore by touch to find where the options appear on the screen. Testers noted that if they swiped to locate these options, it would be time consuming due to issues with scrolling using gestures. For instance, while users can flick to the right from the top field, when they try to swipe to the left from the bottom, the focus gets stuck at the top boundary web view element containing the content. This makes it difficult to go to an element near the bottom of the screen.

Reading/Navigation

Audiobooks

Testers were able to read the book description when an audiobook was opened, but the controls were almost completely inaccessible. It was noted that the "Play" button is a graphic, which is found between "Library" and "Shelf." This button is too small to find by tapping around the screen, and even more difficult to click to activate once it is located. Once it is activated, the "Pause" and other navigational buttons are also just read as graphical buttons.

One tester noted that when he closed the app, the audiobook continued to play. Since he was no longer in the app, it was frustrating and difficult to get back into the app to select the "Pause" button because the audiobook was talking over TalkBack.

Ebooks

Testers found that when an ebook is opened, that visually only small parts of the text were rendered, and it was also not possible to scroll through the content. Through trial and error, one tester located two unlabeled buttons that were found to skip forward and back. It was also discovered that there are many other unlabeled controls on the ebook page that TalkBack does not recognize, and seemed to not activate when clicked.

Backfield interference was again reported; with one tester noting that when they navigated away from the ebook to another section of the app, the screen reader continued reading the ebook screen. This made it impossible to navigate to any other section since the screen reader failed to read any content or elements in the new section.

Conclusion

In this summary we highlighted the main barriers of the Libby platform for readers with print disabilities. For details and specific examples, please see the [full report](#).

By amending the development process and interface of this app, readers with print disabilities will be able to fully experience what Libby has to offer them.