

# NNELS



## Accessibility Report for NovelList

September 2022

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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 eBooks for Canadians with print disabilities, and an advocate for an accessible and equitable reading ecosystem for Canadians with print disabilities.<sup>1</sup> 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.

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

## Introduction

The NoveList Plus and NoveList K-8 Plus websites are book discovery services that help users and librarians find books based on reading interests. The website offers multiple browsing and searching options for this purpose, and users can find books by genre, author, tone, storyline, and much more. These websites are not book-reading platforms, and there is no functionality for reading the books you have selected.

Our testers used screen-reading and magnification software to assess the usability of the NoveList website across supported platforms. Readers can find a complete list of all the software and operating systems used in this assessment in this report's *Systems and Assistive Technology* section.

This assessment aims to determine the usability experience of readers with print disabilities and to what extent they can access content through their local public library effectively and efficiently. While this report aims to provide an overview of the accessibility performance across supported platforms, this is not an in-depth review of NoveList Plus and NoveList K-8 Plus. As a result, some functionality may not be discussed at all or in-depth.

## Introduction to Assistive Technology

All mainstream operating systems include built-in screen readers (Narrator on Windows, VoiceOver on Apple devices, and TalkBack on Android) that read the contents of the screen out loud, allowing users with visual disabilities to browse apps and websites, send and receive texts and emails, and accomplish many other tasks with ease. Keyboard commands and custom touch gestures provide a flexible way for a user to find and interact with the controls on-screen. Windows also has alternative screen-reading software available, most notably a commercial option called Job Access with Speech (JAWS) and a free and open-source option called Non-Visual Desktop Access (NVDA). The text spoken by a screen reader can be sent to a refreshable braille device. Mainstream operating systems are also equipped with user interface magnification, large text options, and high-contrast viewing mode to assist people with low vision.

To ensure the 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](#)). It should be possible for users to read the content of the document by:

- Reading the text with screen readers or self-voicing text to speech (TTS) applications.
- Adjusting the display, including font size, alignment, and colour contrast, or a combination of some or all these options
- Reading the text with a refreshable braille display
- Reading with assistive technologies designed for persons with dyslexia or other disabilities
- Reading with the app's built-in read-aloud functions

## Accessibility Summary

The NoveList Plus and NoveList K-8 Plus websites provide users with multiple options for searching and browsing the site. Items are organized by categories such as age group, genre, tone, character type, and much more.

The websites contain accessibility barriers that prevent users with print disabilities from accessing all areas of the website. The main navigation menu options have submenus completely inaccessible for screen reader users, making browsing content difficult. Many images and graphics lack alt-text or have alt-text that doesn't adequately describe the image. Additionally, the labels across the site vary in detail. Some are too verbose, some are confusing, and some are blank.

Low-vision testers suggested improvements to the website's font attributes, icons, and visual settings.

The mobile NoveList Plus website mirrors the desktop version, so the layout is small and not in scroll view like typical mobile sites. It requires a lot of swiping to move through the website on mobile devices.

Fixing these issues will help make NoveList Plus and NoveList K-8 Plus more accessible websites, and they will be valuable resources to help users discover their next book.

## Accessibility Performance and Recommendations

This section details the specific accessibility issues testers encountered when testing the NoveList Plus and NoveList K-8 Plus websites. Below you will find the testing results and their related recommendations as they pertain to:

- Registering and Signing In
- Layout and Navigation
- Finding Books

- Book Details
- Getting Help
- Visual Adjustment

Finally, the *Development Recommendations* section contains suggestions for how to improve the website. These suggestions will be relevant to any issues or observations noted in the areas above.

## **NoveList Website**

The accessibility issues in this report apply across platforms unless otherwise stated. For the full list of operating systems, browsers, and assistive technologies, please refer to the *Systems and Assistive Technologies* section at the end of the document.

### **Registering and Signing In**

Testers accessed NoveList Plus and NoveList K-8 Plus directly through their library. There is no separate sign-in or account linking process, and each library has a link for signing in.

The login page is simple, with an image (logo) of the library you are logging in with, the label "Library Account Login," fields for entering a library card barcode and PIN, and a "Login" button to submit the form. The edit fields and buttons are well-labelled and recognized by screen readers.

The library image does not have alt text, which in most cases should not prevent a screen reader user from being able to sign in but could pose a problem if somebody is sent the wrong library's login link. On iOS, VoiceOver has an image recognition feature that can read the text in the image. However, developers should not rely on this feature for accessibility as the success of this may depend on the image shown for each library.

A few testers noted that the sign-in page seems to have a time-out parameter or crash issue. They experienced this at both their library, using the public internet, and at home with their personal internet. When signing in, the website brought them to a page with links to "EBSCO Host" information (options to go to EBSCOHost and other apps). Screen readers could not activate the links on this page. Testers had to close the page and start the sign-in process again to resolve this issue. This error was also experienced using the EBSCO "My Folder" feature.

Visually, the sign-in edit fields have clear outlines and a dark blue "Sign-In" button with white text. The contrast is done well on this page.

Overall, testers found that it was accessible to sign into the NoveList Plus and NoveList K-8 Plus websites.

## Layout and Navigation

After logging in, users are brought to the NoveList Plus (or NoveList K-8 Plus) homepage. The homepage consists of menus (main, utility, and footer), a basic search, and in-page browsing options (e.g., "Browse Genres").

At the top of the homepage, there are several menus to choose from – "Home," "Browse By," "Quick Links," and "How Do I?". The screen reader informed testers that these menus have submenus, but the accessibility stops there. Screen readers cannot access those links or the submenus using common screen reader commands. Nothing happens when you press enter/space on a submenu to open it. You cannot tab to expand the submenus; the tab key skips over them entirely, and focus jumps to the list of items containing "Sign In," "Help," and "Exit."

To access the main menu sub-menus, the only method that worked for screen reader users was routing the mouse onto the menu. The menu should expand when enter/space is pressed, and the user should be able to arrow down through the options without disabling the screen reader's browse mode.

Some experimentation by testers using JAWS reveals that the submenus will expand when the JAWS cursor focuses on them. However, the submenu items continue to be impossible to activate with a keyboard and trying to focus on them using the JAWS cursor ended up removing its focus from the control the submenu belongs to. As this was the only thing holding the submenu open, the submenu items would vanish.

The inconsistent behaviour of the main menu items is a significant accessibility barrier and needs to be fixed so that all users have the same experience.

The tab order for the main menu is broken as well. Tabbing lands on the "Home" link, followed by "Sign In" or "Update Account" (depending on if the user is logged in or not) and even radio buttons further down the page, skipping over the other three main menu options. Adding a navigation landmark for screen readers to the main menu would be helpful. Some sites provide this as an invisible navigation option.

The website's use of headings could be improved. A few current headings should be repositioned for improved hierarchy and navigation, and some text, such as "Search Results," would benefit from being turned into a heading. The report notes when the website heading hierarchy is broken and when text should be reformatted into a heading. Overall, small

improvements to the headings will make navigating NoveList better and more efficient.

The other menu options, including the "Sign-In," "Exit," "Help," and "Feedback," are well-labelled. The "Exit" link does not end your session or log you out, and you will still be logged in if you return to NoveList.

The main menu labels are verbose and differ depending on the screen reader and platform testers used. For example, NVDA reads the "Home" link: *"List with 4 items, Home menu, item, submenu available. Link New Search menu item."* And VoiceOver announces the "Home" link as: *"link, Home menu Item. Sub Menu Available., definition list 4 items."* These labels are verbose and state that the "Home" menu has sub-menus (which it does not). Clarifying the labels will create a more accessible screen reader experience.

The footer contains two lists of links, the first to NoveList's Twitter and Facebook pages and the second to general information and news about NoveList. The labels of links in the first list are inaccessible. Screen readers read either the URL (iOS) or unhelpful and misleading gibberish (JAWS/PC).

The mobile NoveList Plus site mimics the desktop version, which is not typical. The website's mobile layout is small and not in scroll view like typical mobile sites. Due to this, items were difficult to swipe through, and testers often needed to guess where things were on the screen. The fact that the text is small and enlarging gestures conflict with TalkBack settings did not help. The mobile site would be more useful if the content was enlarged, and items were positioned beneath each other in one column so that users do not need to swipe both down and across the screen to access the content. The broad structure of the site makes navigation with a screen reader a challenge.

A tester using an Android device had difficulties with the NoveList "Cookie Policy" link. The cookie policy kept popping up, even after they selected the button to "Accept Cookies."

The NoveList website honours the tester's dark mode settings, but it does not have high contrast settings, and the page details are tiny. The page has white text on a black background, and the links are in yellow. The top menu is blue, but the buttons are not discernable. Due to the poor contrast and small text used on the website, readers that use magnification must constantly magnify, shrink, scroll, and visually scan the site. Some testers with low vision needed to rely on a screen reader to navigate the NoveList website.

## Finding Books

NoveList provides a basic and advanced search and multiple curated lists organized around different themes and genres for users to find books.

### *Basic Search*

The "Basic Search" function contains an edit field, search options, a submit button, and the links "Search Other Databases," "Search Help," "Advanced Search," and "Search History." The controls are well-labelled, and most work as expected with screen readers.

"Search" is a Heading level 1 landmark, which is helpful for navigating to this feature.

When you start typing in a search query, the search field provides auto-complete suggestions. Screen readers informed testers how many options were available; they could then press the up or down arrow to cycle through the options. The "Search Options" button (visually a dropdown menu) reveals a series of radio buttons such as "Keywords," "Title," and "Author" that lets users define their search terms and refine their search. If you are on NoveList Plus, there will also be an option to search by narrator, which is not present on NoveList K-8 Plus. All these functions make the page complex and more cluttered than expected. It is far from a basic search page and more like an "Advanced Search" due to all the extra radio buttons.

The "Search Other Databases" link allows you to switch between NoveList Plus and NoveList K-8 Plus, among other services, if your library offers them. However, this link isn't always recognized by screen readers.

The "Basic Search" function is complex, and testers found it helpful to have the help "(?)" button beside the "Search" button. It opens a pop-up with search help documentation. Users can minimize it and go back to searching easily.

"Search History" is beneath the search edit field, which opens a blank page. Testers tried opening this page on different platforms, and it did not show any results. The "My Folder" page may have the search history, but an EBSCOHost account is required. Testers only had their public library account for user testing.

The "Search" edit field button was easy to distinguish for low-vision testers. The other buttons and links, along with the "Search Other Databases" option, were difficult to see, and testers had to rely on their screen reader to read them.

## ***Advanced Search***

Advanced search allows for far more detailed queries. Three edit fields are identified as editable combo boxes but work similarly to the basic search edit field (with autosuggestions). The "Select a Field" button accompanies each one and can be expanded to reveal seventeen radio buttons to select where in the book details the search term should appear. There are buttons (or dropdown menus) between each of the search fields that expand to reveal the radio buttons for "AND," "OR," and "NOT" Boolean operators. The "add Row" and "Remove Row" buttons allow users to add more fields or remove any that have been added.

The "Advanced Search" provides checkboxes users can apply to narrow the results down into multiple categories (located beneath the "Browse" heading). Examples include, but are not limited to, the earliest and latest publish date, age group, fiction/nonfiction, and the number of pages. The number of options here can be intimidating, but on iOS and PC, they can be set using accessible form controls. On Android devices, the checkboxes are read as "tick" by TalkBack, which does not adequately describe them.

The "Advanced Search" layout is visually overwhelming for low-vision readers and presents navigation challenges. However, these options are helpful for searching. There is a large gap between the right and left columns of the page, which may cause a person using screen magnification not to be aware that there is another column on the right side. This problem is even more pronounced on smaller screens (e.g., tablets).

## ***Search Results***

After users submit a search, the search results page(s) are loaded. The results are busy and have many menus and buttons in the lists, requiring heading-level commands to move through the results. Testers across all platforms and devices found that this page required too many keystrokes/swipes to navigate.

The results are image-based, so it is impossible to see book titles. The graphics are unlabeled, so the screen readers do not describe them, and thus screen reader users cannot access the full search results. The summary is text-based, but being able to read the book title is necessary for full access.

There are options to refine search results by age group, fiction/nonfiction, publish date, and more. Some of these are collapsed by default and must be expanded by pressing enter/space on the "Expand Limiters" graphic. This is not properly recognized as a link or button but responds to keyboard input.



You can also set different displays for the search results. There are four search results presentation options: "Grid," "Compact," "Brief," or "Detailed." Each option displays varying amounts of information. "Detailed" is the most verbose, while "Compact" and "Brief" show fewer extra details. "Compact" and "Brief" are the most accessible display modes.

The search results in the "Detailed," "Compact," and "Brief" views do not have a heading, which would significantly help screen reader users navigate the results. Additionally, the icon alt-text duplicates the link text beside it. For example, "Title Read-alikes" is the alt-text for the book icon and the label for the link beside it, resulting in the screen reader announcing, "Title Read-alikes" "Title Read-alikes" for each result.

The "Detail" view contains the most information and includes multiple images without alt-text. The "Details" view also has an unlabeled link at the start of each search result. It takes users to a records page. Below this is a poorly labelled link/image containing the ISBN of the title. Activating this link opens the Goodreads page for the item.

The "Grid" view includes links with the label "Citation Only Available" in place of the text that describes what the links do. Additionally, the graphics at the start of each result, before the "Citation Only Available" text, do not have alt-text.

Users can choose the number of search results shown per page. When changing this option, the links are labelled with the current selection (e.g., "30"). Unfortunately, they do not have labels that explicitly state what users are changing (e.g., "Results per page"), but you can use the keyboard to expand and choose an option.

Users can also sort the search results. Unlike the display and results per page options, a label accompanies this link. The link text identifies the currently selected sort criteria. Activating the link expands a list of options from which you can select how you want results sorted – relevance, author, title, and more. The organization and refined search controls should indicate their current state and ideally be buttons rather than links.

If the user searches for an author and selects a suggestion in the field, there will be a "Citation section" at the top of the results. The "Citation" section has an unlabeled link below the "Print This View Help (opens in new window)" link. Activating the link does not appear to do anything.

### ***Browsing***

The NoveList website provides multiple ways to browse content on the homepage and throughout the site. You can browse lists of books based on age groups, genres, themes, or a combination thereof.

### Recommended Reads List

The "Recommended Reads List" has links and radio buttons users can select to find books based on audience, theme, and genre. The radio buttons on this page do not reliably report which option is selected; otherwise, everything is labelled correctly. When navigating through this section on the mobile site (iOS and Android), the screen reader's focus indicator jumps around the list, making it impossible for users to know where they are.

The submenus, available when you select an item button (e.g., Fiction or Nonfiction), are visually challenging to navigate. Pop-up pages with back buttons, like the "Help" pages, would make navigation easier.

### I'm in the mood for books that are...

The "I'm in the mood for books that are..." homepage section displays book cover thumbnails in a carousel list of image links. The "I'm in the mood for books that are..." section heading is a level 3, which breaks the heading hierarchy of the page. Ideally, this should be a level 2 heading. The alt-text of the thumbnails is the book title.

Users can select the audience and attribute categories (e.g., thought-provoking or action-packed) using tabs above the book thumbnails. The different tabs options cannot be expanded with a single screen reader keystroke or gesture. To select the tabs, JAWS users needed to press enter twice, while VoiceOver users had to interact with the tab before pressing VO-Space to activate it. Ensuring screen reader users can activate these tabs without requiring extra keypresses would make browsing the site more accessible.

After selecting an audience and/or attribute tab, the recommendations appear below. It may be helpful to provide an alert to encourage the user to scroll past the tabs to find the recommendations.

The "<" and ">" navigation links are poorly labelled and are read as "less" and "greater" by screen readers. Ideally, the website should use "next" and "previous" labels. If the screen reader punctuation level is set to none, links will appear to be unlabeled. Even if the punctuation level is set correctly, the links have the labels "less" and "greater," which might confuse users regarding their purpose.

### Explore Pages

The "Explore Pages" section on the homepage links to curated resource pages (e.g., "Diversity Resources"). Navigating this section, users noticed that the heading is below the list of items but above the previous and next links, which is confusing. The heading should be above the list. The book thumbnails are read as "graphic images," with their titles read as a link below each image. The pages in this section, "Explore Authors," "Books in

the Media," "Book Club Resources," and "Diversity Resources," are difficult to access using screen readers, particularly in the mobile version.

Some of the "Explore Page" options on the mobile site are hidden due to the screen size. To find these options, the tester needed to swipe right multiple times, past the heading, navigation icons, and then the other "Explore Page" options. Swiping uncovers one resource at a time. Users must repeat the process to find the rest of the options. It requires a lot of work to navigate the "Explore Pages" on mobile screens.

### Browse By

Accessing the "Browse By" main menu options ("Genre," "Appeal," "Themes," "Award Winners," and "Audiobooks") is difficult, as discussed in the *Layout and Navigation* section above. Not all testers were able to access these pages.

The "Browse By" pages do not contain a level 1 heading and main landmark (indicating the beginning of the main content). Ideally, the headings would be called "Genres," "Appeal," "Themes," or "Award Winners," depending on the page, and would be located before the tabs.

The "Browse By" pages with audience/age group tabs do not activate when clicked on using enter/space, like what occurs in the "I'm in the mood for books that are..." section. Users need to perform an extra keypress, such as turning off browse mode, to select the tab options.

### Browse Genre

The *Browse Genres* subsection above is also accessed from the NoveList homepage.

The "Browse Genre" section on the homepage lets users browse genres by audience/age group. Each age group is represented by an image link containing appropriate alt-text. For example, the "For Teens" image link has the alt-text "Teen." The image links are easy to visually distinguish, with a white text box around the thick bold black text in the center.

The "Browse Genre" carousel uses the "<" and ">" signs with the labels "less" and "greater," these should be labelled as next/previous buttons. What is odd about these links in the "Browse Genre" section is that selecting them moves the screen reader's focus to the previous section and changes the carousel of book titles. This may indicate that the sequence of controls is out of order for screen reader users.

Inconsistent screen reader navigation in the "Browse Genre" section also occurs on mobile devices. When swiping through the "Browse Genres" (on the homepage) section on an Android device, TalkBack reads the list in a

different order than the visual presentation. The order begins with the book thumbnails, then the heading, then the "<" and ">" navigation buttons, then the text explaining the list, and finally, the genre link.

When testers select a "Browse Genre" option (e.g., "For Adults"), the first two items (heading and combo box) on the new page have long and confusing labels. The heading label is: *"New and Popular in, 3 full stop, heading 2"* and the combo box label is: *"Collapsed All Genres, menu pop up button."* These labels are verbose and should be shortened.

### [Browse Themes](#)

The "Themes" page has a few issues as well. Sub-sections like "Featured theme" and "More tips and resources" should have semantic headings. "Browse themes by genre or topic" should not be in a table. The table is more for visual presentation and can work just as well as a list. The page also has unnecessary headings ("HTML Full Text" and "Full Text") located at the beginning of the main content. That is where the "Explore Themes" heading should be located.

Not all combo boxes are labelled on the "Themes" page. Only the dropdowns to select a category are labelled. The sub-category combo boxes that populate after the main category is selected are unlabeled.

### [Browse Appeals](#)

The "Make Your own Appeal Mix" page has instructions on how to use this feature. NoveList suggests that users "Pick some items to get started" from a list of categories, followed by the button "Find Titles." The "Appeals Mixer" has three category menus users can select from and include - category, illustration, pace, storyline, tone, and writing style. Tapping the "Find Titles" button opens a page with items that contain the selected categories.

Below the category menus are curated book lists, with headings, informative text, the "<" and ">" buttons, and rows of thumbnail book covers. These are read out of order the same way as the curated lists in the "Browse by Genre" section of the site and are navigated in the same manner when using screen readers.

### [Browse Awards](#)

The "Awards" page organizes books under different literary awards. The links to the different awards are accessible. When selecting a genre (juvenile nonfiction, for example), the awards organized under the selected genre are in a numbered list. However, in this list, the book titles are presented in a graphic format without appropriate alt text, which is not accessible to screen reader users.

The "Awards" page has some of the same structural issues as the other pages (mentioned above). The text "Awards by Type," "Featuring," and "Recent Award Winners" should be headings. The "Browse All Award Winners and Notable Books" link text at the bottom of the page is duplicated in the award icon title, so screen readers read out "Browse All Award Winners and Notable Books" "Browse All Award Winners and Notable Books."

Users who select an award are taken to a standard search results page, which leads to a typical record page. The only difference is that these record pages do not have the "Reviews," "Audiobooks," and "More about this book" links.

### [Browse Audiobooks](#)

The "Browse Audiobooks" page has a significant accessibility issue. Rather than reading the audiobook's title, many of the links will read "Citation Only Available," which makes it impossible for a screen reader user to determine which audiobooks are listed without activating each one, an unnecessarily inconvenient process.

The audiobook page is separated into many categories. None of the categories or sub-categories have headings. For example, "Featured Audiobooks," "New and Forthcoming Audiobooks," and "Recommended Reads Lists" should have headings. Likewise, "Adult Lists," "Children & Teen Lists," and "Browse Audiobooks" should also have headings to indicate sub-categories. The accessibility issues discussed in those sections are applicable here.

### [Quick Links](#)

The "Quick Links" options are in a submenu that is difficult to access from the main menu, as mentioned in the *Layout and Navigation* section of the report.

The "Explore Pages" content is also accessed beneath this main menu option.

The "Quick Links" menu has several pages that use layouts that have been/will be discussed. The "Articles" and "Genre guide" pages all use the standard search results layout. The "Book Club Resources" and "Page to Screen" pages look like record/book details pages (discussed below). The latter pages also have the unnecessary "HTML Full Text" and "Full Text" headings at the beginning. The NoveList website should move the level 1 headings on those pages to the start of the main content.

The "Working with Youth" page title is a level 2 heading, but it should be a level 1 heading. The "Programming," "Diverse Books," and "Canadian Youth Content" labels are duplicated in the graphic button and the link below. For

example, screen readers read aloud "Programming" (the graphic button) "Programming" (the link text).

The "Book Club Resources" page is inaccessible. Only one tester could access this menu using a mouse on PC/Chrome. The images in this resource don't have alt-text. Most book thumbnails only have the text "graphic image," though some have a linked author name beneath them.

#### How Do I?

The "How Do I?" submenu options are difficult to access, as mentioned in the *Layout and Navigation* section of the report. The information found in the submenu is duplicated in the "Help" section. This is confusing for screen reader users who might first think that the "How Do I?" section is not accessible but discover that the content can be located elsewhere.

The pages under the "How do I?" menu have the same layout with minor variations. For example, the "Help" pages and "Tutorials" sections, except for "Learn how to use NoveList," which only has a "Tutorials" section and "See only books available in my library?" which only has a "Help" pages section. Pages with a "Tutorials" section contain an unlabeled link to the YouTube video on that topic. All pages have sub-sections; currently, none use semantic headings, which would improve screen reader navigation.

#### Visual Layout

Low-vision testers encountered icons and labels with poor resolution across the site when browsing content (using magnification). For example, the "Explore Page" graphic links are brightly-covered buttons with white text. However, the text in the linked graphics is fuzzy and unclear (e.g., "For Adults"). The folder and help icons are difficult to see.

The slide button used to choose a range of publication dates was difficult to distinguish. The buttons on either side of the slide are hard to see and may not be detected by low-vision readers. This slide button occurs in many other locations, including the "Search Results" pages.

#### Book Details

Regardless of how you locate a book you are interested in on NoveList, activating the item will open the "Book Details" page. This page contains the book's title, author, description, genres, recommended age group, other information such as tone and theme, and whether the book is available at your library.

As NoveList is a book discovery service and not a book reading platform, there is no functionality for reading selected books. Users need to go to their library's website or a reading app their library has integrated and access the

book there. The accessibility of that process will vary based on the website or app used for that purpose and is unrelated to NoveList.

The level 1 heading on the "Book Details" pages is always located before the search box. This means that the user has to arrow-pass the "Basic Search" section to get to the main content. The level 1 heading should be located just before the "Read-alikes" or "Citation" sections. A heading should be added to "Description" for easy navigation.

Below the description are links to more information. The options and number depend on the content selected. They include "Reviews," "Audiobooks," "More About This Book," and "Lists and Articles." Activating each link will change the content underneath. Currently, no heading or landmark indicates the start of that section. Ideally, headings or separators should indicate the beginning/end of each review if "Reviews" is selected. The entire page also loads again when you select one of the options, so the position of the screen reader focus refreshes and moves back to the top of the page, and users must navigate down to this section again.

If "Audiobooks" is selected, the same view used for search results is shown. Thus, all the accessibility issues mentioned for the search results page would apply here.

The "Read-alikes" section on the right side of the page responds differently to screen readers, depending on the platform they are using. Screen readers in Chrome browsers on PC and Android devices state they are images, whereas iOS announces them as links.

The links in the "Read-alikes" list all have the label "Citation Only Available," which prevents screen readers from reading something useful, such as the book's title. This makes it difficult to determine what books are on the list without activating each link and seeing what comes up.

A "View All" link opens the list of read-alikes on a separate page. The books' titles are read here, but links to each book are not provided. There appears to be no way to browse "Read-alikes" so that they both report book titles to screen readers and allow them to select them. The main content on the "View All" page is denoted by a level 2 heading when it should be a level 1 heading. The book titles do not have headings.

"Read-alikes" for authors and series are also provided. Unlike "Read-alikes" for individual books, when using a PC, JAWS can read the text labels associated with each one. Thus, you will be able to determine which recommendations are available.

In Android, a tester with low vision found that the book thumbnails along the right side of the page were visually confusing. They suggested mimicking other library sites with similar recommendations below the book information at the bottom of the screen. This would make the "Read-alikes" easier to see and better for screen reader navigation.

At the bottom of the "Book Details" pages, checkboxes help users search for books/items with similar genres, storylines, tones, writing styles, and subjects. However, the checkboxes are read by many screen readers as "tick/checked" or "not ticked/unchecked." The large number of options combined with the "tick/check" or "not ticked/unchecked" labels are cumbersome to navigate.

On smaller screens, testers found it helpful to have reflowable text, especially on pages with many lines to read. Reading these descriptions is difficult when constantly dragging and scrolling the text from side to side and up and down.

## Help Pages

EBSCO offers help documentation for NoveList, which users can access by selecting the "Help" link in the navigation menu. Links to the help pages about specific site features are also present across the site. They are presented as icon links "(?)" with alt text informing the user that the help page for that feature will open in a new window. For example, there is a help icon beside the "Basic Search" button, with the alt-text "Search Help (opens in a new window).

The "Help" pages have consistent structure and navigation for screen readers. The left side of the page has a table of contents with links, and the right side has instructions with a heading and bulleted text (with links to further subtopics). Each bulleted item in the table of contents reads "bullet," followed by the item. Lists of help articles, search results, and the text of the articles are screen reader accessible.

All the "Help" pages have sub-sections. Currently, none of them use semantic headings.

The "Help" pages acted differently, depending on the platform used to access them. When testers used the NVDA screen reader, they had to use special commands to navigate through the help pages - list commands or by headings (instead of tabbing and arrowing). On Android devices, the help menu is easy to access, but swiping through is cumbersome. Sometimes, when trying to find content, the tester had to tap the right side of the help page (in the table of contents) and hope it landed somewhere helpful. This is not intuitive and, in mobile, challenging.



On the "Help" pages, users can search or browse for articles. The search results can be tricky to find once a search has been performed, as there is no heading to mark the beginning.

On iOS devices, when searching the "Help" pages, it is best to type the query and then press enter. The text entered in the search field disappears when the focus is removed (e.g., when locating the search button).

The content of the "Help" articles can be geared toward either users browsing for books or librarians managing their library's access. It is not always clear for whom an article is written before it is opened. Some might struggle to find relevant help information because the target audience is not specified.

The images on the "Help" pages do not have alt-text. Instead, some of the visual graphics are read as "Visited link, graphic" (if the tester already visited this page) or "Uploaded" if they had not visited it yet.

The video tutorials on the "Help" pages contain an unlabelled link below the video that leads to the YouTube video for that topic. Once testers activated that link, they could only use the browser's back button to return to the NoveList help pages.

The use of images and videos, and submenus to explore topics are helpful for visual learners.

The "Help" pages had significant font and image accessibility issues. The font type has poor kerning. The letter "t" is hard to distinguish, and when it follows the letter "r," as in the word "articles," there is no space between these two letters. This makes reading the "Help" pages difficult for low-vision readers and some readers with learning disabilities. A bold typeface is used in the table of contents. This is a bigger problem on Windows than on iOS devices. Using a sans serif font that has increased character and word spacing would make the "Help" pages easier to read.

## **Visual Adjustments**

Overall, the NoveList Plus and NoveList K-8 Plus websites were quite accessible for testers with low vision. Adding visual adjustment settings that users can adjust to their preferences, such as high contrast and the ability to increase the font face and size, would make the site more accessible.

## **Developer Recommendations**

- Extend the website's time-out parameter for users who may need more time.

- Fix the main navigation menu so that screen readers can open and select the submenu options.
- Change the heading level or add a heading level to the text noted in the report. When applicable, move the heading to the appropriate area on the site.
- Ensure all pages have a level 1 heading at the start of the main content, and consider adding a main landmark for navigation.
- Simplify the NoveList Plus mobile layout to work better on smaller screens.
- Ensure that the button and link labels on the NoveList Plus and NoveList K-8 Plus websites adequately describe what they do or where they will take users.
- Ensure all images/graphics on the websites have descriptive and meaningful alt-text.
- Do not use the same text for the alt-text of an image and the link label when they are beside each other. Instead, set the alt text to an empty string so that screen readers will ignore it entirely.
- Ensure that the checkboxes on the site are labelled and read correctly by screen readers.
- Ensure that all views available in the search results, specifically the "Detailed" and "Grid" views, are accessible for screen readers.
- Fix the tab order of browsing options so screen readers read items in the order they visually appear.
- Fix the audience and attribute tabs across the site so they can be selected using screen reader commands.
- Edit the navigation labels so that they read "previous" and "next" instead of "less" and "greater."
- Improve the "Read-alikes" section so that screen readers can both identify the books in the list and select them.
- Ensure the publication date range feature is distinguishable by adjusting the contrast ratio of the tool.
- Increase the font size on the website (where possible).
- In the "Help" pages use a sans serif font that has increased character and word spacing.
- Fix the resolution of images and icons on the website, so they are clear.
- Add visual adjustment settings for the NoveList Plus and NoveList K-8 Plus websites.

## Conclusion

The NoveList Plus and NoveList K-8 Plus websites contain accessibility barriers that, if fixed, would significantly improve the experience for users with print disabilities.

Some sections of the websites are incompatible with assistive technologies, such as the submenus in the main navigation menu and the age group/attribute tabs in the browsing sections, which should respond to common screen reader commands but currently do not.

Low-vision testers suggested that the website's font (type and size) be enlarged and the low-resolution icons fixed. Additionally, providing high-contrast settings would make the website more accessible.

The mobile version of the NoveList Plus website mirrors the desktop version, so simplifying the layout to ensure it works better on smaller screens would significantly help users who use this website on their tablet or phone.

Fixing these accessibility issues identified in this report will ensure that the websites are accessible and will continue to be great resources for discovering new books.

## Systems and Assistive Technology

- Operating Systems
  - Windows 10
  - macOS 12.3
  - iOS 15.3 and 15.4
  - Android 11
- Browsers
  - Chrome versions 99 and 100 (Windows, macOS, and Android)
  - Safari versions 15.3 and 15.4 (iOS and macOS)
  - Firefox version 98 (Windows)
- Screen-readers
  - NVDA version 2020.1 and 2021.3 (Windows)
  - JAWS version 2020, 2021, and 2022 (Windows)
  - VoiceOver versions 15.3 and 15.4 (iOS and macOS)
  - TalkBack version 12.5 (Android)
- Magnification
  - Zoom (MacOS)
  - ZoomText version 2022 (Windows)
  - Windows Magnifier (Windows)

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