Accessiblü

Managed Digital Accessibility Ops

Accessibility Evaluation Report:

CRL Digital Collection

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Conducted by: Accessiblü, LLC

For: Library Accessibility Alliance (LAA)

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Table of Contents

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

Summary of Accessibility Findings

Accessiblü conducted a **high-level accessibility evaluation** of the CRL Digital Collections platform to assess its usability for individuals with disabilities. The review was conducted using the JAWS screen reader on Windows 11 with Google Chrome, keyboard-only navigation, and manual inspection for conformance to select WCAG 2.2 AA success criteria.

Key Findings

The CRL Digital Collections platform presents significant accessibility challenges that create substantial barriers for users with disabilities. During our testing, we encountered numerous critical issues that prevented users from effectively navigating the site, conducting searches, filtering results, and accessing digital resources. These issues severely impact the ability of screen reader users and keyboard-only users to use the platform effectively.

The evaluation revealed issues including missing skip navigation links, improper semantic structure, unlabeled interactive elements, missing ARIA states and properties, inaccessible dynamic content updates, poor focus management, and completely inaccessible document viewer functionality. Many core interface elements—including navigation menus, search filters, and the document viewing system—are either difficult or impossible for users with disabilities to operate independently.

Addressing these concerns would significantly improve the experience for persons with disabilities and users of assistive technology, allowing them to access the valuable research materials that CRL Digital Collections provides to the academic community.

Top 5 Issues Identified

1. **Missing ARIA States and Inaccessible Form Controls**
    - Interactive components like checkboxes, toggle switches, and expandable menus do not properly communicate their states (checked/unchecked, expanded/collapsed) to screen readers. Many filter options are announced as static text or incorrectly identified as toggle buttons.
    - **Impact:** Screen reader users cannot determine the current state of interface elements, making it impossible to understand filter selections or know if their actions produced the expected results.
    - **WCAG Success Criteria:** 4.1.2 Name, Role, Value (A), 1.3.1 Info and Relationships (A)

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2. **Inaccessible Document Viewer and Page Navigation**
    - The embedded document viewer contains unlabeled graphics for page images, non-functional page navigation links, and lacks alternative text for scanned content. Users cannot navigate between pages or access document content.
    - **Impact:** Screen reader users are completely unable to view or navigate the digitized materials, which represents the primary purpose of the platform.
    - **WCAG Success Criteria:** 1.1.1 Non-text Content (A), 2.4.4 Link Purpose (A), 4.1.2 Name, Role, Value (A)

3. **Missing Live Regions and Dynamic Content Announcements**
    - When search filters are applied, year ranges are changed, or content updates dynamically, no announcements are made to screen readers. Focus often returns to the top of the page without notification.
    - **Impact:** Users with disabilities have no way to know that content has changed, leading to confusion and making it nearly impossible to effectively use search and filtering functions.
    - **WCAG Success Criteria:** 4.1.3 Status Messages (AA), 3.2.2 On Input (A)

4. **Tables Used for Layout**
    - Multiple tables are used throughout the interface purely for visual layout purposes rather than for presenting tabular data. These tables lack proper headers, scope attributes, and semantic structure.
    - **Impact:** Screen reader users receive confusing announcements about table structures that don't actually exist, making page navigation and comprehension extremely difficult.
    - **WCAG Success Criteria:** 1.3.1 Info and Relationships (A), 1.3.2 Meaningful Sequence (A)

5. **Missing Landmarks and Document Structure**
    - The platform lacks a main landmark region and has inconsistent heading hierarchy. Navigation elements are not properly identified, and skip navigation links are absent.
    - **Impact:** Screen reader users cannot quickly navigate to main content or understand the page structure, requiring excessive time and effort to accomplish basic tasks.
    - **WCAG Success Criteria:** 2.4.1 Bypass Blocks (A), 1.3.1 Info and Relationships (A), 2.4.6 Headings and Labels (AA)

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Disabilities Impacted

Blind and Low-Vision Users

- **Issues:** Missing alternative text for images, unlabeled form controls and interactive elements, missing ARIA states and properties, inaccessible navigation patterns, no skip links, tables used for layout, missing live region announcements, completely inaccessible document viewer, and unlabeled page thumbnails.

- **Impact:** Screen reader users cannot effectively search, filter results, or access the digitized content. The platform fails to communicate dynamic changes, filter states, or document content, making the primary functionality of the digital collections completely inaccessible.

Users with Motor Disabilities

- **Issues:** No skip navigation to bypass repetitive content, unpredictable focus management that returns focus to the page top, non-functional keyboard controls in the document viewer, and lack of keyboard access to certain interactive elements.

- **Impact:** Keyboard-only users must tab through extensive content repeatedly and cannot effectively navigate documents. Focus loss after filter activation requires users to navigate back to their previous location, creating significant barriers to efficient use.

Neurodiverse Users

- **Issues:** Inconsistent interface patterns, unpredictable behavior when activating controls, lack of feedback when actions are taken, confusing table announcements for layout elements, and missing status updates for search results.

- **Impact:** Users with cognitive disabilities struggle to develop a mental model of how the interface works due to inconsistent patterns and behavior. The lack of clear feedback and status updates creates additional cognitive load, making the platform difficult or impossible to use independently.

882 Pompton Ave. STE A-2
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Page-Specific Findings and Impact Analysis

CRL Digital Collections Homepage

Issue	WCAG Success Criteria	Description	Example
Missing Skip Links	**2.4.1 Bypass Blocks (A)**	No skip navigation links are provided to bypass repetitive navigation content.	Screen reader users must tab through the entire navigation menu on every page load to reach main content.
Missing Main Landmark	**1.3.1 Info and Relationships (A)**	The page lacks a main landmark region to identify the primary content area.	Screen reader users cannot quickly navigate to main content using landmark navigation.
Navigation Items as Static Text	**4.1.2 Name, Role, Value (A)**	Navigation menu items (Search, Collections, Contact) are announced as static text rather than interactive elements.	The menu reads "Search Menu Collections Menu Contact Menu" as plain text instead of announcing these as interactive buttons or links.
Table Used for Layout	**1.3.1 Info and Relationships (A)**	A table structure is used for page layout rather than for tabular data, with no semantic table elements.	Screen reader announces "Table with 2 columns and 2 rows" when no visual table exists, causing confusion.
Unlabeled Navigation Region	**2.4.1 Bypass Blocks (A), 4.1.2 Name, Role, Value (A)**	The navigation region lacks an accessible name or label.	When navigating by regions, the menu bar is announced without any identifying label.

Impact Summary:

The homepage presents immediate barriers to effective navigation for screen reader users. The lack of skip links forces users to navigate through all navigation elements repeatedly. Menu items appearing as static text prevent users from understanding these are interactive elements, and the unlabeled navigation region makes orientation difficult. The table used for layout creates false announcements about page structure. These issues combine to make the initial user experience confusing and inefficient for users with disabilities.

Homepage Screenshot:

Alt text: "CRL Digital Collections homepage showing the CRL logo, Digital Collections heading, search bar with placeholder text 'Search CRL's Digital Resources,' blue Search button, and links for Search Tips, Advanced Search, and Browse Records below."

Caption: Figure 1. The CRL Digital Collections homepage features a clean search interface with the institutional branding and primary search functionality.

Search Results Page

Issue	WCAG Success Criteria	Description	Example
Missing Live Region Announcements	**4.1.3 Status Messages (AA)**	No announcements when search results load or filters are applied.	After searching for "castle" and filtering by language, the page updates but screen readers receive no notification of new results.
Filter Checkboxes Announced as Toggle Buttons	**4.1.2 Name, Role, Value (A)**	Collection and title filter options are incorrectly announced as toggle buttons rather than checkboxes.	"Toggle button not pressed Almanac lemur'd left paren 1844-1889 right paren left 41" is announced instead of "Checkbox not checked Almanac LemuГ© (1844-1889) 41 results."
Missing Checkbox States	**4.1.2 Name, Role, Value (A)**	Title filter options are read as static text with no indication they are selectable.	List of publication titles announced as plain text without any indication these are interactive checkbox labels.
Focus Returns to Top After Filter Selection	**3.2.2 On Input (A), 2.4.3 Focus Order (A)**	When a filter is selected, focus unexpectedly returns to the top of the page.	After selecting "English" language filter, user must navigate back down through all content to see filtered results.
Expandable "Show More" Buttons with Poor Focus Management	**1.3.2 Meaningful Sequence (A)**	Expanding filter lists with "Show More" requires users to navigate backwards to see newly revealed content.	After activating "Show More" under Collections, focus remains at the button location rather than moving to the newly displayed items.

Impact Summary:

The search results page creates significant barriers for users trying to refine and filter search results. The absence of live region announcements means users with disabilities have no way to know when content has changed. Misidentified form controls make it impossible to understand what type of interaction is expected or whether selections have been made. The focus management issues require excessive navigation effort, as users must repeatedly return to the top of the page and navigate back down after each filter selection. These problems make the core functionality of narrowing search results largely inaccessible.

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Cedar Grove NJ, 07009

Search Results Page Screenshot:

Alt text: "Search results page showing 'castle' search with 55,869 results. Left sidebar contains filter options including Full-text Search toggle, Collection checkboxes, Title options, Type, Year slider, Imprint, Language, and Subject. Main content area displays result cards with document previews."

Caption: Figure 2. The search results page for the term "castle" displays filtering options in the left sidebar and result cards in the main content area.

Document Viewer Page (Example: "The Castle of Otranto")

Issue	WCAG Success Criteria	Description	Example
Unlabeled Page Images	**1.1.1 Non-text Content (A)**	Scanned page images have no alternative text, announced only by page numbers.	"001 unlabeled graphic" followed by "002 unlabeled graphic" with no description of the page content.
Non-Functional Page Navigation Links	**2.4.4 Link Purpose (A)**	Page number links do not navigate to the corresponding page when activated.	Activating "Link 10" or "Link 13" causes no visible change and returns focus to top of page.
All Page Links Incorrectly Marked as Visited	**3.2.4 Consistent Identification (AA)**	All page navigation links announced as "Visited link" even when not previously accessed.	After clicking only page 10, all pages announced as "Visited link 1, Visited link 2, Visited link 3" etc.
Inaccessible Table/Grid for File Downloads	**1.3.1 Info and Relationships (A), 4.1.2 Name, Role, Value (A)**	Download files grid cannot be navigated properly with table navigation commands.	"Grid with 6 columns and 61 rows" announced but JAWS table navigation mode does not work to move between cells.
Links with URL Paths Instead of Descriptive Text	**2.4.4 Link Purpose (A)**	Related item links display full URL paths rather than descriptive labels.	"Link https://catalog.cr..." announced instead of descriptive link text.

Impact Summary:

The document viewer represents a complete breakdown of accessibility for the platform's core functionality. Screen reader users cannot access the scanned page content, cannot navigate between pages, and cannot determine what content is available. The unlabeled page images provide no information about their content, and the page navigation system is entirely

non-functional. This means the primary purpose of the digital collections—providing access to digitized materials—is completely inaccessible to users with disabilities. The additional issues with the download grid and URL-based links compound the problems, making it impossible to download or share resources.

Document Viewer Page Screenshot:

Alt text: "Document viewer showing 'The Castle of Otranto' with embedded TIND viewer interface. Top navigation shows 'Result 2 of 25' with Previous and Next buttons. The viewer displays page thumbnails in left sidebar numbered 001, 002, 003, and main viewing area shows page 1 with an illustrated frontispiece. Navigation controls include first, previous, page number input, next, and last buttons, plus single page, two-page, gallery, and settings view options."

Caption: Figure 3. The document viewer for "The Castle of Otranto" displays an embedded viewing interface with page thumbnails, navigation controls, and the scanned document content.

Advanced Search Page

Issue	WCAG Success Criteria	Description	Example
Field Labels Not Associated with Controls	**1.3.1 Info and Relationships (A), 3.3.2 Labels or Instructions (A)**	Text labels for search fields read separately from their corresponding combo boxes.	"Search in" read as static text, then separately "Field contains combo box collapsed all fields" without clear association.
Radio Buttons Implemented as Links	**4.1.2 Name, Role, Value (A)**	Sort options (Relevance, Latest first, Title, Year) are coded as links but function as radio buttons.	"Link Relevance Link Latest first Link Title Link Year" announced when these should be radio buttons with only one selectable at a time.
Disabled Date Fields Not Clearly Indicated	**3.3.2 Labels or Instructions (A)**	Date range fields appear grayed out but their unavailable state is unclear.	"YYYY-MM-DD edit unavailable" provides minimal context about why fields cannot be edited.
Redundant Static Text Labels	**1.3.1 Info and Relationships (A)**	Field labels appear as both standalone text and within combo box labels, creating redundancy.	"Contains" read as static text, then combo box reads "Field contains combo box collapsed all words."
Boolean Operators with Unclear Purpose	**3.3.2 Labels or Instructions (A)**	AND/OR/NOT radio buttons lack context about their function in search logic.	"And radio button not checked 1 of 3 Or radio button not checked Not radio button" announced without explanation of how these affect search behavior.

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

Impact Summary:

The advanced search page presents multiple accessibility barriers that prevent effective use of sophisticated search features. The disconnection between field labels and their controls makes it difficult for screen reader users to understand which fields they're interacting with. Radio buttons disguised as links create confusion about the type of interaction required and whether selections are persistent. The unclear state of disabled fields and inadequate instructions for boolean operators mean that users with disabilities cannot fully understand or utilize the advanced search capabilities. These issues effectively limit users with disabilities to basic searches only.

Advanced Search Page Screenshot:

Alt text: "Advanced search page displaying search query builder with 'Search In' dropdown, 'Contains' dropdown, and search term input fields. Two rows of search fields are shown with AND/OR/NOT radio buttons between them. Below are Date Type, Time Period, From Date, and To Date filters with dropdown menus and date pickers. Reset and Search buttons appear at bottom."

Caption: Figure 4. The advanced search interface provides multiple search field combinations, boolean operators, and date range filtering options.

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Cedar Grove NJ, 07009

Code Snippets

Issue 1: Missing ARIA States on Checkboxes (4.1.2)

Current problematic implementation:

```
html
<div class="facet-item">
  <span onclick="applyFilter('collection', 'almanac')">
    Almanac LemuГ© (1844-1889) (41)
  </span>
</div>
```

Recommended fix:

```
html
<div class="facet-item">
  <input
    type="checkbox"
    id="collection-almanac"
    name="collection"
    value="almanac"
    aria-describedby="almanac-count"
  >
  <label for="collection-almanac">
    Almanac LemuГ© (1844-1889)
    <span id="almanac-count">(41 results)</span>
  </label>
</div>
```

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

Issue 2: Missing Alternative Text for Page Images (1.1.1)

Current problematic implementation:

html

```
<img src="page001.jpg" class="page-thumbnail">
```

Recommended fix:

html

```
<img
  src="page001.jpg"
  alt="Page 1: Title page of The Castle of Otranto showing decorative frontispiece illustration"
  class="page-thumbnail"
>
```

Note: For scanned historical documents, alt text should describe the page type and any significant visual elements. Full text content should be provided via OCR in a separate accessible format.

Issue 3: Missing Live Region for Search Results (4.1.3)

Current problematic implementation:

html

```
<div id="search-results">
  <!-- Results update here via JavaScript -->
</div>
```

Recommended fix:

html

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

```
<div
  id="search-results"
  role="region"
  aria-live="polite"
  aria-label="Search results"
>
  <!-- JavaScript should also update status -->
</div>

<script>
// After loading results
document.getElementById('search-results').innerHTML =
  '<p role="status">Showing 55,869 results for "castle"</p>' + resultsHTML;
</script>
```

Issue 4: Table Used for Layout (1.3.1)

Current problematic implementation:

```
html
<table>
  <tr>
    <td>
      <!-- Navigation content -->
    </td>
  </tr>
  <tr>
    <td colspan="2">
```

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

```
    <!-- Main content -->
   </td>
  </tr>
</table>
```

Recommended fix:

html

```
<div class="page-container">
  <nav aria-label="Main navigation">
    <!-- Navigation content -->
  </nav>
  <main>
    <!-- Main content -->
  </main>
</div>

<!-- Use CSS Grid or Flexbox for layout -->
<style>
.page-container {
  display: grid;
  grid-template-columns: 1fr 3fr;
  gap: 20px;
}
</style>
```

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

Issue 5: Sort Options as Links Instead of Radio Buttons (4.1.2)

Current problematic implementation:

html

```
<div class="sort-options">
  <a href="?sort=relevance">Relevance</a>
  <a href="?sort=date">Latest first</a>
  <a href="?sort=title">Title</a>
  <a href="?sort=year">Year</a>
</div>
```

Recommended fix:

html

```
<fieldset class="sort-options">
  <legend>Sort results by</legend>
  <div>
    <input
      type="radio"
      id="sort-relevance"
      name="sort"
      value="relevance"
      checked
      aria-describedby="sort-desc"
    >
    <label for="sort-relevance">Relevance</label>
  </div>
```

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

```
<div>
  <input
    type="radio"
    id="sort-date"
    name="sort"
    value="date"
  >
  <label for="sort-date">Latest first</label>
</div>
<div>
  <input
    type="radio"
    id="sort-title"
    name="sort"
    value="title"
  >
  <label for="sort-title">Title</label>
</div>
<div>
  <input
    type="radio"
    id="sort-year"
    name="sort"
    value="year"
  >
  <label for="sort-year">Year</label>
</div>
```

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

```
  <span id="sort-desc" class="sr-only">
    Changing sort order will update the results display
  </span>
</fieldset>
```

Final Thoughts and Recommendations

The CRL Digital Collections platform in its current state presents significant accessibility barriers that make core functionality largely or completely inaccessible to people with disabilities, particularly screen reader users and keyboard-only users. The most critical issue is the complete inaccessibility of the document viewer, which prevents users with disabilities from accessing the digitized materials that represent the platform's primary purpose.

Multiple critical accessibility issues were encountered throughout the testing, including missing skip navigation links, improper semantic structure, missing ARIA states and properties, form controls that don't communicate their purpose or state, inaccessible dynamic content updates, and poor focus management. These issues collectively create an experience that is frustrating at best and completely unusable at worst for users with disabilities.

It's worth noting that the platform does have some accessible elements—the search button functions correctly, some navigation is keyboard-accessible, and the overall page structure has potential for good accessibility with appropriate remediation. However, the severity and breadth of the identified issues require comprehensive accessibility remediation to bring the platform into WCAG 2.2 AA conformance.

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

Recommended Fixes

Critical Priority (Required for Basic Functionality):

- **Implement proper semantic HTML** for all interactive elements, ensuring checkboxes are coded as checkboxes, radio buttons as radio buttons, and buttons as buttons
- **Add alternative text to all images**, including page thumbnails and scanned document content
- **Fix the document viewer** to make page navigation functional and provide accessible methods for viewing content
- **Implement ARIA live regions** to announce search results, filter applications, and other dynamic content changes
- **Repair focus management** so focus moves logically after user actions rather than returning to page top

High Priority (Required for Effective Use):

- **Add skip navigation links** to bypass repetitive content
- **Implement proper landmark regions** including a main landmark and properly labeled navigation
- **Remove layout tables** and replace with CSS-based layouts using semantic HTML
- **Associate all form labels** with their corresponding controls using proper HTML or ARIA techniques
- **Provide clear instructions** for complex controls like boolean operators and date ranges

Medium Priority (Required for Full WCAG Conformance):

- **Add proper heading structure** ensuring single H1 and logical heading hierarchy
- **Ensure consistent keyboard interaction patterns** throughout the interface
- **Provide visible focus indicators** for all interactive elements
- **Implement proper error identification and suggestions** for form validation
- **Ensure all functionality is available via keyboard** without requiring mouse interaction

Additional Recommendations:

- **Conduct user testing** with individuals who use assistive technologies to validate fixes
- **Provide accessible alternatives** for complex document viewing (such as downloadable text-only versions)
- **Implement an accessibility statement** informing users of current accessibility status and reporting mechanisms
- **Establish ongoing accessibility monitoring** to maintain compliance as the platform evolves

882 Pompton Ave. STE A-2
Cedar Grove NJ, 07009

The significant number and severity of issues suggest that a comprehensive accessibility remediation effort is required, potentially involving substantial redesign of the document viewing interface and re-implementation of the search and filtering components to ensure they meet accessibility standards. We recommend working with accessibility specialists throughout the remediation process to ensure fixes are implemented correctly and don't introduce new barriers.

Disclaimer

Accessiblü prepared this report as a high-level accessibility evaluation of the CRL Digital Collections platform. The evaluation utilized industry-standard testing methodologies, including screen reader testing (JAWS 2025), keyboard-only navigation, and manual inspection for select WCAG 2.2 AA success criteria.

This report does not represent a comprehensive WCAG compliance audit and should not be seen as a certification of accessibility compliance. While we have identified significant accessibility concerns and usability barriers, this evaluation was limited in scope and may not encompass all accessibility issues on the platform.

No Legal Liability:

Accessiblü offers this report for informational purposes only. It assumes no legal responsibility for accessibility violations or compliance failures resulting from its use. Organizations seeking formal certification should conduct a comprehensive audit and user testing with individuals with disabilities.

Limitations of Testing:

This evaluation was conducted at a specific time, and platform updates may have occurred after testing was completed. Additionally, while automated tools and expert reviews were utilized, real-world users with disabilities determine the true measure of accessibility.