THE UNIVERSITY OF TENNESSEE KNOXVILLE

UXL USER-EXPERIENCE LAB

High-Level Accessibility Evaluation (WCAG 2.1)
Sociometrics

May 5, 2024

Prepared for:

BTAA-Library Accessibility Alliance

Prepared by:

Emily Mason, UX Researcher

User-Experience Lab

CCI Research & Innovation Center (RIC)

University of Tennessee

uxlab@utk.edu

Primary Point of Contact:

Amy Forrester, RIC Assistant Director

aforres4@utk.edu

Sociometrics

TABLE OF CONTENTS

UXL

THE UNIVERSITY OF TENNESSEE KNOXVILLE

SUMMARY

This report reflects the findings of a high-level assessment of the Sociometrics Platform for its conformance with the W3C Web Content Accessibility Guidelines version 2.1 (WCAG 2.1).

There are several WCAG 2.1 AA compliance issues with the Sociometrics platform and some of them are major issues that will significantly impact users with accessibility needs. For remediation it will be important to carefully review the WCAG 2.1 AA web standards. Below are the most critical issues to address to improve system compliance.

Top Findings

1. **Color Contrast:** There are several different contrast violations across the site including static color contrast issues, as well as for links, and the different states of elements on the site. Please review the [WCAG 2.1 AA Standards for Color Contrast](#) on the web.

2. **Zooming and Scaling:** Zooming and Scaling, a major accessibility necessity for visually impaired users to navigate the site, needs to be enabled across the platform.

3. **HTML Language:** Several of the pages do not have a language defined for them. This can cause issues for screen readers and make it more difficult for non-sighted users to navigate the site.

4. **Keyboard Focus:** Keyboard focus across the site is inconsistent. Some elements have some indication of focus, but most of them do not. This makes it extremely difficult for someone that requires keyboard navigation to interact with the site.

Best Practices

♦ Ensure landmarks are unique.
♦ Document should have one main landmark.
♦ All page content should be contained by landmarks.
♦ Heading levels should only increase by 1.

UXL

THE UNIVERSITY OF
TENNESSEE
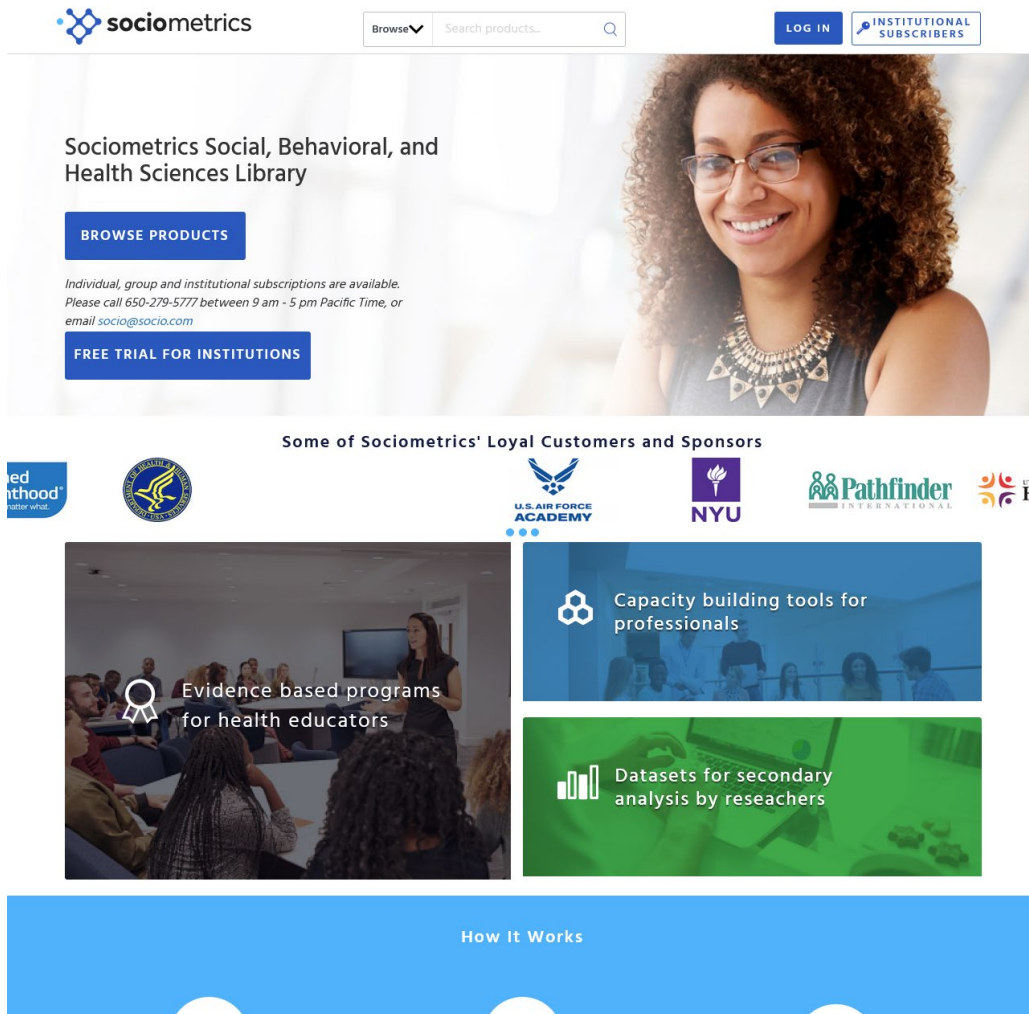KNOXVILLE

ACCESSIBILITY FINDINGS

This report was conducted against the Sociometrics Platform and covers a selection of pages and features that were to be tested as a representative sample of the database's conformance to the WCAG 2.1 AA standards.

The resource was reviewed using a combination of manual and automatic review tools and assistive technologies, including the WAVE Accessibility Assessment tool, Axe Accessibility Assessment tool, WCAG Color Contrast Checker, and NVDA screen reader. PDF content was tested against Section 508 requirements using Adobe Acrobat's accessibility tools and manual analysis. All problems identified by automatic tools were verified manually. This evaluation was performed using Firefox on Windows 11.

Below are the errors revealed during the accessibility evaluation of the Sociometric Platform. Each result shows a summary of accessibility issues and the reason it was flagged. Screenshots are included.

1. Initial Interface

Test Case: Test initial interface/landing page to ensure menus, sub-menus, search box, images, icons, etc. are accessible. URL: https://www-socio-com.utk.idm.oclc.org/

SC 1.4.1: Links must be distinguishable without relying on color.
> **Location(s):**
> - newsletters

> **Reason flagged:**
> - The link has insufficient color contrast of 2.77:1 with the surrounding text. (Minimum contrast is 3:1, link text: #337ab7, surrounding text: #333333)
> - The link has no styling (such as underline) to distinguish it from the surrounding text

SC 1.4.1: Color must not be the only means of conveying focus or change of state.
> **Location(s):** *There are multiple instances of this across the page.*

Reason flagged:
- Focus on buttons is indicated by a change in color without any other indication of the change of state.

SC 1.4.3: Elements must meet minimum color contrast ratio thresholds.
Location(s):
- <div class="text-center howItWorks-title">How It Works</div>
- <div class="howItWorks-itemTitle">Browse</div>
- <div class="howItWorks-detail">Browse hundreds of programs, datasets, and tools.</div>
- <div class="howItWorks-itemTitle">Subscribe</div>
- <div class="howItWorks-detail">Subscribe to the plan that's right for you.</div>
- <div class="howItWorks-itemTitle">Empower</div>
- <div class="howItWorks-detail">Go teach, learn, and empower!</div>
- Learn more
- newsletters
- <input type="submit" value="Subscribe" name="subscribe" id="mc-embedded-subscribe" class="button">

Reason flagged:
- Element has insufficient color contrast of 2.3 (foreground color: #ffffff, background color: #4fb2fc, font size: 16.5pt (22px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.15 (foreground color: #f7f7f7, background color: #4fb2fc, font size: 12.0pt (16px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.3 (foreground color: #ffffff, background color: #4fb2fc, font size: 15.0pt (20px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.3 (foreground color: #ffffff, background color: #4fb2fc, font size: 10.5pt (14px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 4.17 (foreground color: #337ab7, background color: #f5f5f5, font size: 10.5pt (14px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.32 (foreground color: #ffffff, background color: #aaaaaa, font size: 9.8pt (13px), font weight: normal). Expected contrast ratio of 4.5:1

SC 1.4.4: Zooming and scaling must not be disabled.
  Location(s):
  – <meta content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=0" name="viewport">

  Reason flagged:
  • user-scalable on <meta> tag disables zooming on mobile devices

SC 2.4.7: Any keyboard operable user interface must have a mode of operation where the keyboard focus indicator is visible.
  Location(s): *There are multiple instances of this issue on this page.*

  Reason flagged:
  • Keyboard focus is not visible or readily apparent while navigating through the page.

2. Search Results

Test Case: From the initial landing page, conduct a search for: contraception. Test search results page, including filters/refine search (example: target population > adolescents) and sort by options.

SC 1.4.1: Color must not be the only means of conveying focus or change of state.
    Location(s): *There are multiple instances of this across the page.*

    Reason flagged:
- Focus on buttons is indicated by a change in color without any other indication of the change of state.

SC 1.4.3: Elements must meet minimum color contrast ratio thresholds.
    Location(s): *There are multiple instances of this issue across the page.*

    Reason flagged:
- Element has insufficient color contrast of 2.3 (foreground color: #ffffff, background color: #4fb2fc, font size: 11.3pt (15px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 3.68 (foreground color: #fb3640, background color: #ffffff, font size: 9.8pt (13px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.3 (foreground color: #4fb2fc, background color: #ffffff, font size: 10.5pt (14px), font weight: normal). Expected contrast ratio of 4.5:1

SC 1.4.4: Zooming and scaling must not be disabled.
    Location(s):
- <meta content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=0" name="viewport">

    Reason flagged:
- user-scalable on <meta> tag disables zooming on mobile devices

SC 2.4.4: Links must have discernible text.
    Location(s):
-

    Reason flagged:
- Element does not have text that is visible to screen readers
- aria-label attribute does not exist or is empty
- aria-labelledby attribute does not exist, references elements that do not exist or references elements that are empty
- Element has no title attribute

SC 2.4.7: Any keyboard operable user interface must have a mode of operation where the keyboard focus indicator is visible.
    Location(s): *There are multiple instances of this issue on this page.*

Reason flagged:
- Keyboard focus is not visible or readily apparent while navigating through the page.

SC 3.1.1: <html> elements must have a lang attribute.
Location(s):
- <html>

Reason flagged:
- The <html> element does not have a lang attribute

SC 4.1.2: Form elements must have labels.
Location(s):
- <input class="cus-input check-box rsc-checkbox" type="checkbox" id="resource_type||" name="search[resource_type][]" value="1">
- <input class="cus-input check-box rsc-checkbox" type="checkbox" id="resource_type||" name="search[resource_type][]" value="2">
- <input class="cus-input check-box rsc-checkbox" type="checkbox" id="resource_type||" name="search[resource_type][]" value="3">

Reason flagged:
- Form element does not have an implicit (wrapped) <label>
- Form element does not have an explicit <label>
- aria-label attribute does not exist or is empty
- aria-labelledby attribute does not exist, references elements that do not exist or references elements that are empty
- Element has no title attribute
- Element has no placeholder attribute
- Element's default semantics were not overridden with role="none" or role="presentation"

3. Individual Results

Test Case: Test individual search result landing page & test actual document (PDF, video, etc.).

SC 1.4.1: Color must not be the only means of conveying focus or change of state.
   Location(s): *There are multiple instances of this across the page.*

   Reason flagged:
   - Focus on buttons is indicated by a change in color without any other indication of the change of state.

SC 1.4.3: Elements must meet minimum color contrast ratio thresholds.
   Location(s):
   - <p class="search-text">Browse All Products</p>
   - Back To Results
   - <div class="product-heading">Overview</div>
   - Read More ...
   - <div class="product-heading">User's Guide and Instructions</div>
   - <div class="product-heading">dapm5m6</div>

- <div class="product-heading">Other Documentation</div>
- Overview

Reason flagged:
- Element has insufficient color contrast of 2.3 (foreground color: #ffffff, background color: #4fb2fc, font size: 11.3pt (15px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.3 (foreground color: #4fb2fc, background color: #ffffff, font size: 12.0pt (16px), font weight: bold). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 2.3 (foreground color: #4fb2fc, background color: #ffffff, font size: 10.5pt (14px), font weight: normal). Expected contrast ratio of 4.5:1
- Element has insufficient color contrast of 3.68 (foreground color: #fb3640, background color: #ffffff, font size: 11.3pt (15px), font weight: bold). Expected contrast ratio of 4.5:1

SC 1.4.4: Zooming and scaling must not be disabled.
  Location(s):
- <meta content="width=device-width, initial-scale=1.0, maximum-scale=1.0, user-scalable=0" name="viewport">

Reason flagged:
- user-scalable on <meta> tag disables zooming on mobile devices

SC 2.4.4: Links must have discernible text.
  Location(s):
-
-
-
-
-
-
-
-

-
-

Reason flagged:
- Element does not have text that is visible to screen readers
- aria-label attribute does not exist or is empty
- aria-labelledby attribute does not exist, references elements that do not exist or references elements that are empty
- Element has no title attribute

SC 2.4.7: Any keyboard operable user interface must have a mode of operation where the keyboard focus indicator is visible.
    Location(s): *There are multiple instances of this issue on this page.*

    Reason flagged:
- Keyboard focus is not visible or readily apparent while navigating through the page.

SC 3.1.1: <html> elements must have a lang attribute.
    Location(s):
       – <html>

    Reason flagged:
- The <html> element does not have a lang attribute

    PDF Document Analysis:
       ➢ None of the available data files have a specific accessibility standard.

4. Advance Search
Test Case: Test advanced search page.

➢ Advanced search feature not available

UXL

THE UNIVERSITY OF
TENNESSEE **T**
KNOXVILLE