MICHIGAN STATE UNIVERSITY | Usability/Accessibility Research and Consulting

To: Robert Van Rennes, Big Ten Academic Alliance
From: Graham L. Pierce, MSU Usability/Accessibility Research and Consulting
Subject: Taylor & Francis eBooks High-Level Accessibility Evaluation
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MSU Usability/Accessibility Research and Consulting (MSU UARC) conducted a high-level accessibility evaluation of the Taylor & Francis eBooks to evaluate its conformance with WCAG 2.0 AA Criteria. This evaluation did not include all functionality or content of the site or all WCAG 2.0 AA Success Criteria.

During this evaluation, a number of issues were found that will make the site and its content impossible to use for many individuals with disabilities, and difficult to use for some others.

Keyboard users, including screen reader users and users with dexterity impairments, will not be able to use significant site content. Most importantly, a variety of content (including many links, dropdowns, and other interactive elements) cannot be reached or operated via keyboard. Most interactive elements lack a sufficiently visible focus indicator, making it difficult or impossible for many keyboard-only users to effectively use them, as they cannot determine when they have reached the correct element. Focus order is also incorrect in some places, further increasing the difficulty of using the site with a keyboard.

Individuals with visual impairments that rely on screen readers will have additional problems. Structural information (including heading and list structure) is not appropriately conveyed to users, making it difficult to understand content organization. Some content is not read out or is read out in an inappropriate order, and some content that is not visually present is read out. Custom elements throughout the site do not correctly announce themselves or provide appropriate feedback to screen readers, making them difficult or impossible to understand and use. Many images have missing or inappropriate alternative text, significantly impacting users with visual impairments.

While text in PDFs and the Read Online viewer is provided to screen readers, documents have not been tagged for accessibility and no structural information or alternative text is provided to assistive technologies, making them extremely difficult to use for users with disabilities. Additionally, PDFs do not have a title or language set.

Other issues were found that will make it difficult for users with a variety of disabilities to effectively use the system, including insufficient color contrast, missing form labels, and no means to bypass repeated navigation on some pages.

To improve access for users with disabilities, UARC recommends a full WCAG 2.0 AA evaluation and that the problems discovered be remediated.

Note: For the purposes of this high-level review, search results for "climate" were used as an example of a Search Results page, and "Climate Adaptation Policy and Evidence: Understanding the Tensions between Politics and Expertise in Public Policy" was used as an example of a Book page, as well as for the Read Online viewer and PDF.

High-Level Findings

Document Structure

- PDF (and Read Online version of document) is untagged, and provides no structural information to assistive technologies. [WCAG 2.0 SC 1.3.1]
- Headings are not correctly used to organize content. [WCAG 2.0 SC 1.3.1]
  - Visual headings in footer (e.g., "Help & Info", "Journals", etc.) should be tagged as headings
  - On the Home page, "Featured" should be tagged as a heading
  - On the Home page, "MATHnetBASE", "CivilEngineeringnetBASE", and "PHYSICSnetBASE" should be tagged as headings
  - On the Search Results page, book titles should be tagged as headings
  - On the Search Results page, "Filter By", "Subject", "Collection", "Publication Date", "Imprint", and "Authors" should be tagged as headings
  - On the Book page, book title ("Climate Adaptation Policy and Evidence") should be tagged as a heading
  - On the Book page, "About This Book", "Table of Contents", and book chapters should be tagged as headings
  - In the Read Online viewer, book title should be tagged as a heading
  - On the Home page, "Browse By Subjects" and "Featured Collections" should be h2s, not h4s
  - On the Book page, "Get Citation" in the Get Citation lightbox should be an h1, not an h4
  - In the Read Online viewer, "Search", "Table of Contents", and "Print PDF" should be h2s, not h4s
  - On the Home page, "Browse our vast collection of over 90,000..." should not be tagged as a heading
  - On the Search Results page, book subtitles (e.g., "Precautionary Principles, Catastrophes, and Climate Change") should not be tagged as headings
  - On the Book page, book subtitle ("Understanding the Tensions between Politics and Expertise in Public Policy") should not be tagged as a heading
- "Login" button shouldn't be coded into a in one-item list. [WCAG 2.0 SC 1.3.1]
- On the Home page, subjects (e.g., "Area Studies", "Arts", etc.) should be coded into a list. [WCAG 2.0 SC 1.3.1]
- On the Search Results page, individual subjects, collections, etc. (contents of Filter By section) are not read out by screen readers (only the number of results is identified for each). [WCAG 2.0 SC 1.3.1, WCAG 2.0 SC 1.3.2]
- On the Home page, large amounts of text that is not visually present is read out by screen readers for any block of text that ends with "...". [WCAG 2.0 SC 1.3.1, WCAG 2.0 SC 1.3.2]
- On the Home page, "dot dot dot" is read out by screen readers at the beginning of any block of text that ends with "..." (the text does not begin with "..."). [WCAG 2.0 SC 1.3.2]
- In the Read Online viewer, sidebar content is not read out immediately after tabs (when tabs are open). [WCAG 2.0 SC 1.3.2]
- In the Read Online viewer, the page behind the reader is read out. [WCAG 2.0 SC 1.3.2]

- In the Read Online viewer, the reader is not immediately read out when it is opened. [WCAG 2.0 SC 1.3.2]
- The language of the PDF is not defined. [WCAG 2.0 SC 3.1.1]

Keyboard Support

- "Login" button cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Home page, "Browse By Subjects" links, "Featured" arrow buttons, and "Featured" items (other than the currently selected item) cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Search Results and Book pages, "Search all titles" dropdown cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Search Results page, tabs ("Books (504)" and "Chapters (15)") and buttons to remove selected filters cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Search Results page, all "Filter By" links, buttons, and checkboxes (except year text inputs and year "Apply" button) cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Book page, the "Get Citation" link, all "Download" buttons, and the "Read Online" button cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Book page, interactive elements in the Get Citation lightbox cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- In the Read Online viewer, focus goes to page behind Get Citation lightbox. [WCAG 2.0 SC 2.4.3]
- In the Read Online viewer, "Table of Contents" sidebar links and "Print PDF" sidebar sliders cannot be reached via keyboard. [WCAG 2.0 SC 2.1.1]
- On the Book page, book title ("Climate Adaptation Policy and Evidence") incorrectly receives focus, despite not being interactive. [WCAG 2.0 SC 2.4.3]
- In the Read Online viewer, focus goes to 16 invisible links after the "Kortext" button. [WCAG 2.0 SC 2.4.3]
- In the Read Online viewer, focus doesn't go to sidebars when they are opened (e.g., Search sidebar when Search button is activated). [WCAG 2.0 SC 2.4.3]
- In the Read Online viewer, focus goes to page behind the reader. [WCAG 2.0 SC 2.4.3]
- In the Read Online viewer, focus does not go immediately to the reader when it is opened. [WCAG 2.0 SC 2.4.3]
- Throughout the site, focus is not sufficiently visible on nearly all content (text inputs, "Explore" buttons on Home page, and some buttons at the top of the Read Online viewer are the only elements on which focus is visible). [WCAG 2.0 SC 2.4.7]
- The Terms and Conditions bar covers interactive elements that have keyboard focus. [WCAG 2.0 SC 2.4.7]

Navigation

- PDF lacks descriptive title. [WCAG 2.0 SC 2.4.2]
- No means to bypass repeated navigation exists on the Search Results page (no h1 at the start of unique page content and no "Skip to Main" link provided). [WCAG 2.0 SC 2.4.1]

Forms and Data Submission

- In the Search Results page, year inputs are not programmatically labeled. [WCAG 2.0 SC 3.3.2]

Images

- Appropriate alternative text is not provided for visual content. [WCAG 2.0 SC 1.1.1]
  - Social media icons in page footer
  - "Taylor & Francis Group" graphic at top-left of page (missing "an informa business")
  - Logos at bottom of Home page (Routledge, Cogent OA, CRC Press, etc.)
  - Search button on Home page
  - Close and copy buttons in the Get Citation lightbox on the Book page
  - "Product image" should not be the alternative text for all book covers on the site
  - All images in PDF and Read Online document

Color and Visual Characteristics

- Light blue text on white background and white text on light blue (link and button text throughout site), light grey text on white (e.g., "Book", book subtitles, "Edited By", "1st Edition", etc. on Search Results page; Chapter and number of pages on Book page), grey text on light grey ("By", "Edition", "First Published", etc. on Book page), light blue text on light grey (sidebar buttons in Read Online viewer), white tex on orange and orange text on white (text on PDF cover), and light grey text on white ("Series" on PDF cover) have insufficient contrast. [WCAG 2.0 SC 1.4.3]

Custom Elements and Dynamic Content

- On the Search Results and Book pages, role and value (i.e., that it is a dropdown and whether it is expanded or collapsed) are not provided for "Search all titles" dropdown. [WCAG 2.0 SC 4.1.2]
- On the Search Results page, role and value (i.e., that it is a checkbox and whether it is selected) are not provided checkboxes. [WCAG 2.0 SC 4.1.2]
- On the Search Results page, roles and values (i.e., that they are tabs and whether they are selected) are not provided for tabs (Books and Chapters). [WCAG 2.0 SC 4.1.2]
- On the Search Results and Book pages, roles and values (i.e., that they expand and whether they are expanded or collapsed) are not provided for "About this book" and "View abstract" links, and screen readers are not notified when they are opened or closed. [WCAG 2.0 SC 4.1.2]
- In the Read Online viewer, screen reader users are not notified when buttons are activated and change content or display. [WCAG 2.0 SC 4.1.2]