High-level accessibility review – BTAA
(Empire Online - final version)

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March 26th, 2018

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Empire Online

Summary (top 3 problems for Empire Online)

This assessment covers the Empire Online application. The application shows significant issues when it comes to using it in a paradigm that does not include the use of a mouse… sighted keyboard only users, non-sighted screen reader users, mobility impaired users relying on voice recognition software, etc. While most automated issues found with Axe are related to the common components, major functional issues remain with the main content. Beyond this general statement, the top 3 issues found in this application were:

1. **Carousel slide hijack –** The homepage is impossible to use due to how the focus is constantly sent to the carousel slides**.**
2. **Search results table missed –** Entire parts of the search results are not conveyed to screen readers when they are fist displayed, making the whole experience unlikely to succeed for screen reader users.
3. **General incompatibility with screen readers –** Entire sections of content are ultimately unusable by users of screen reader technology: scanned PDF documents, the chronology feature, the search results tables, etc. This makes this application very difficult to use efficiently for someone who relies either on assistive technologies, or one a keyboard.

Accessibility findings

Project wide issues

The issues presented in this section were identified in multiple pages and are recorded here to avoid repetition. These are applicable to each screen. Due to particularities, similar issues are reported on a page per page basis, where applicable.

Automated findings using Axe

- **SC 1.1.1 –** Decorative images for High contrast and large text need empty alt attributes.
- **SC 1.3.1 –** Page does not have a main landmark role assigned to it.
- **SC 1.4.3 –** Elements do not meet contrast ratios between foreground and background colors.
- **SC 2.4.1 –** Skip link and Shortcut links rely on tabindex attributes with positive integer values.
- **SC 2.4.2 –** Main menu link does not have meaningful link text (empty link text string).

Issues found through automated testing come from the Axe plugin, an open source accessibility testing tool that is available for Firefox and Chrome. Details here: https://www.deque.com/products/axe/.

Additional manual findings using NVDA screen reader

- **SC 1.1.1 –** Participating libraries in the footer is a single image with insufficient alt text.
- **SC 1.1.1 –** The Empire Online logo is identified as "collection logo" with the screen reader.
- **SC 1.1.1 –** The alt text provided for the AM Adam Matthew logo is insufficient.
- **SC 1.3.1 –** Bottom footer navigation needs to be structured using list markup.
- **SC 1.3.2 –** Despite being displayed, the main nav submenu only gets focus after the main nav.
- **SC 2.1.1 –** The keyboard focus is not trapped within the keyboard shortcuts modal.
- **SC 2.1.1 –** The Interactive Help link in the main nav can't be triggered with keyboard alone.

- **SC 2.1.1** – The Bookmark & Share link in the main nav doesn't get keyboard focus.
- **SC 2.4.3** – Keyboard focus is not managed once modal windows are dismissed.
- **SC 2.4.3** – Keyboard focus is regularly not managed when new content is displayed.
- **SC 2.4.4** – The Bookmark & Share link is not meaningful and is only announced as clickable.

1. Empire Online landing page

Source: www.empire.amdigital.co.uk

Test case: Test initial interface to ensure menus, search box, images, icons, buttons, etc. are accessible. From initial interface, enter a simple search for: "East India Company" and select "GO".

Automated findings using Axe

- Nothing beyond what has already been identified in the project wide issues section.

Additional manual findings using NVDA screen reader

- **SC 1.3.1** – Carousel slides present content that look like headings but is not marked up as such.
- **SC 2.1.1** – The carousel slides are mouse focusable, but not reachable using only the keyboard.
- **SC 2.4.3** – The carousel grabs keyboard focus and forces the screen reader into reading content.
- **SC 2.2.2** – The carousel doesn't provide a mechanism to stop movement and animations.

2. Empire Online search results page

Source: http://www.empire.amdigital.co.uk/Documents/Search?searchId=1f394173-19f6-4209-bc09-5ef52f334e50&referrer=

Test case: Test search results page, including: Frequency Tab (at top of list), Page advancing button and "Jump to Page" button; Save Search and Email options (upper right); "Back" and "Top" buttons (lower left); etc. Test Filter Options on left-hand side of search results page. Can these various categories be expanded with just a keyboard? Are the menus/items within menus readable by a screen reader?
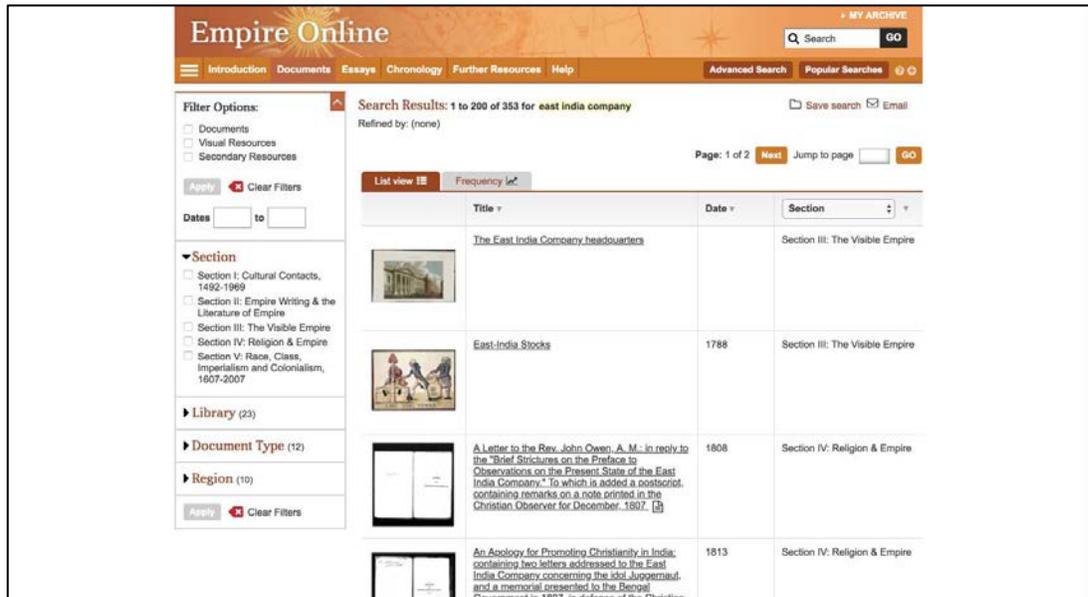
Automated findings using Axe

- **SC 1.1.1** – Filter arrow up image in the left column has no alt attribute value.
- **SC 1.3.1** – Section dropdown in the table header row has no label assigned to it.
- **SC 4.1.1** – ID attribute values used throughout the page are not unique.

Additional manual findings using NVDA screen reader

- **SC 1.1.1** – The SVG Close button for Email results modal is not properly described in text.
- **SC 1.3.1** – Filter Options in the left column is displayed as a heading but not marked up as such.
- **SC 1.3.1** – Filter sections of checkboxes should be structured using unordered list markup.
- **SC 1.3.1** – The Search Results heading is presented as a heading but is not marked up as such.
- **SC 1.3.1** – The Results table rows are not programmatically associated with the top header row.
- **SC 2.1.1** – Filter sections on the left are actionable but can't be triggered using keyboard alone.
- **SC 2.1.1** – The Apply button and Clear filters links, once active, are still not keyboard focusable.
- **SC 2.1.1** – The Clear filters link in the left column, once active, is still not keyboard focusable.
- **SC 2.4.3** – When table is filtered using the column options, focus is lost and sent back to top.
- **SC 4.1.2** – Screen reader users aren't made aware that filter sections can be triggered.
- **SC 4.1.2** – The Apply button and Clear filters link are announced as clickable even if disabled.
- **SC 4.1.2** – The Clear filters link in the left column is announced as clickable even when disabled.
- **SC 4.1.2** – The tablist at the top is not marked up as such and only announced as a list of links.
- **SC 4.1.2** – Screen reader users are not made aware once table content is filtered.
- **SC 4.1.2** – When first loaded, the results table is ignored as a row of 0 rows and 0 columns.

3. Empire Online sample PDF document

Source: AM.EmpireOnlineDocument.pdf

Test case: Test a document for accessibility: PDF attached via email, as trial doesn't include download privileges.
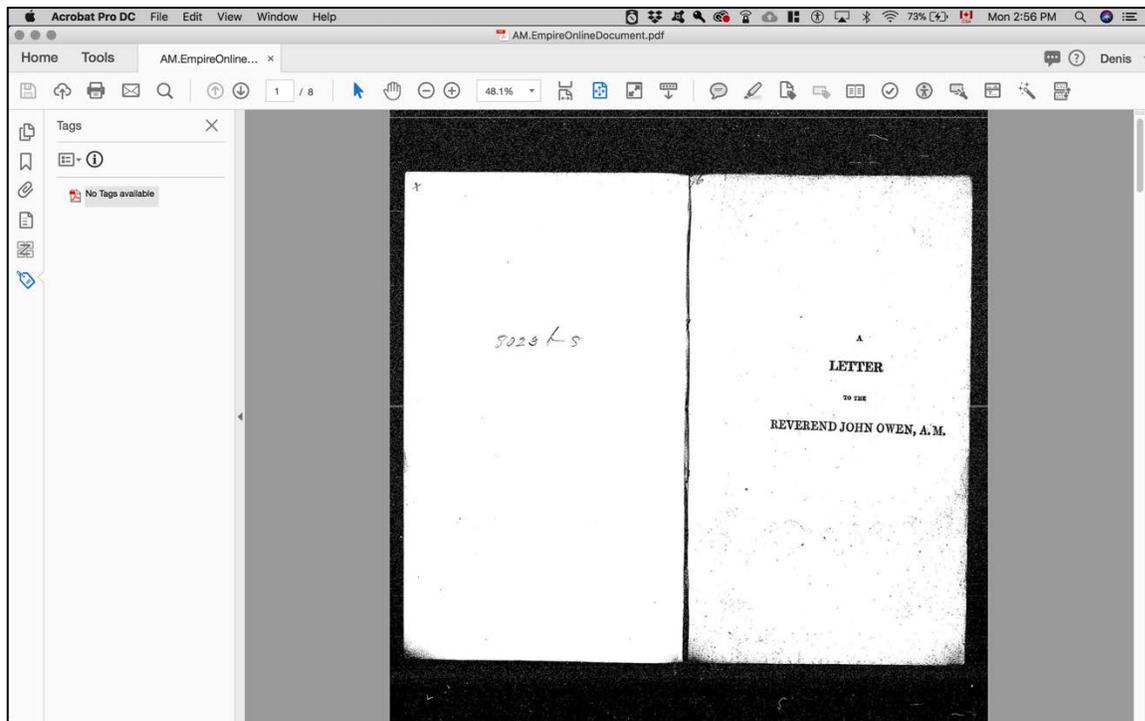
Automated findings using Axe

- Not applicable to a PDF document. However, multiple errors are returned using tools like the accessibility checker in Adobe Acrobat Pro and PAC2.

Additional manual findings using NVDA screen reader

The PDF shared is a scanned document, with only a series of images of text, and is therefore completely unusable to a non-sighted user, relying on screen reader technology. Some of the issues found in the PDF document include:

- The document is only composed of images of text.
- The document is not tagged and contains no tagging structure.
- The document does not have any headings.
- Even when running optical character recognition, the content is only partially readable.
- No semantics are provided to help screen reader users navigate through the PDF
- Images are not marked up and provided with appropriate alt text.
- Inferred reading order alternates through columns of content, one row at a time.
- The document shows its filename instead of the document title by default.
- The primary language of the document is not identified as being English.
- The document is not assigned a meaningful descriptive title.
- Etc.

4. Empire Online advanced search page

Source: http://www.empire.amdigital.co.uk/Documents/AdvancedSearch

Test case: Test "Advanced Search" page for accessibility (link found in upper right of initial search page or results page) - no need to do an actual search/analyze results page since that's covered above.

Automated findings using Axe

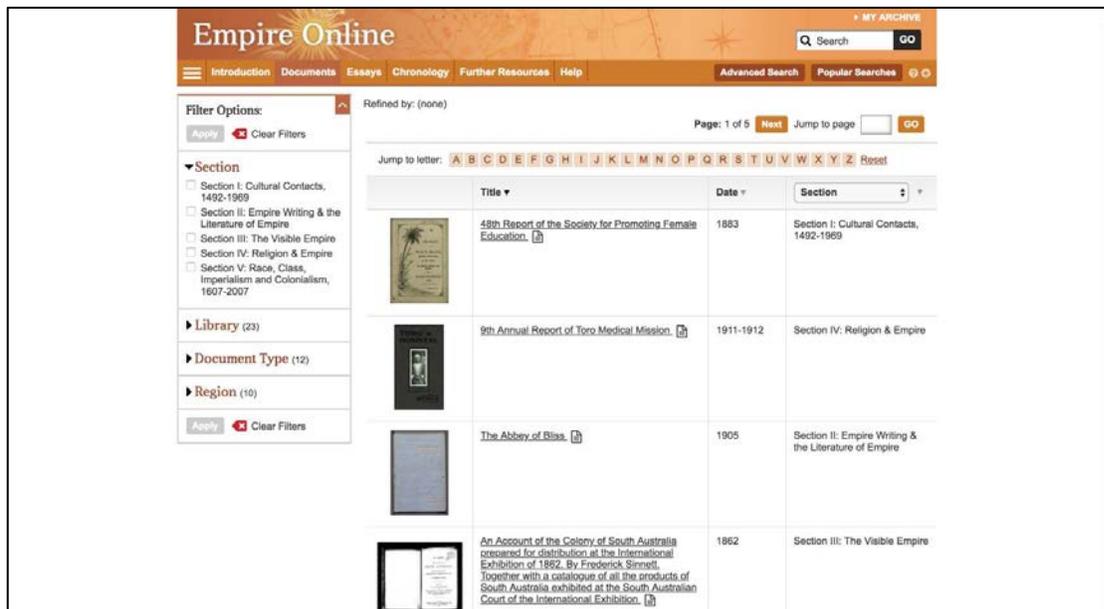- Nothing beyond what has already been identified in the project wide issues section.

Additional manual findings using NVDA screen reader

- **SC 1.3.1 –** Filter sections of checkboxes should be structured using unordered list markup.
- **SC 2.1.1 –** Global Commodities modal window doesn't get keyboard focus when displayed.
- **SC 2.1.1 –** Apply links in filter submenus can be triggered without any selections, to no avail.
- **SC 4.1.2 –** Filters at the bottom are not announcing the submenu (collapsed or expanded).
- **SC 4.1.2 –** Plus button to add new rows of search controls can't be triggered with the keyboard.
- **SC 4.1.2 –** Once added, a new row of search controls is not announced to screen readers.

5. Empire Online documents page

Source: http://www.empire.amdigital.co.uk/Documents

Test case: Test the "Documents" page (button on upper header bar). Test the "Jump to letter" feature at the top of the results section.

Automated findings using Axe

- Nothing beyond what has already been identified in the project wide issues section.

**Additional manual findings using NVDA screen reader**

Refer to search results page for additional information (same issues found over there):

- **SC 1.1.1** – The SVG Close button for Email results modal is not properly described in text.
- **SC 1.3.1** – Filter Options in the left column is displayed as a heading but not marked up as such.
- **SC 1.3.1** – Filter sections of checkboxes should be structured using unordered list markup.
- **SC 1.3.1** – The Search Results heading is presented as a heading but is not marked up as such.
- **SC 1.3.1** – The Results table rows are not programmatically associated with the top header row.
- **SC 2.1.1** – Filter sections on the left are actionable but can't be triggered using keyboard alone.
- **SC 2.1.1** – The Apply button and Clear filters links, once active, are still not keyboard focusable.
- **SC 2.1.1** – The Clear filters link in the left column, once active, is still not keyboard focusable.
- **SC 2.4.3** – When table is filtered using the column options, focus is lost and sent back to top.
- **SC 2.4.4** – Link to go back (left pointing arrow) at the bottom has no meaningful text.
- **SC 4.1.2** – Screen reader users aren't made aware that filter sections can be triggered.
- **SC 4.1.2** – The Apply button and Clear filters link are announced as clickable even if disabled.
- **SC 4.1.2** – The Clear filters link in the left column is announced as clickable even when disabled.
- **SC 4.1.2** – The tablist at the top is not marked up as such and only announced as a list of links.
- **SC 4.1.2** – Screen reader users are not made aware once table content is filtered.
- **SC 4.1.2** – When first loaded, the results table is ignored as a row of 0 rows and 0 columns.

6. Empire Online chronology feature

Source: http://resources.amdigital.co.uk/eo/time/

Test case: Test the "Chronology" feature (button on upper header bar). Test the individual images/pop out boxes within the timeline and the links within; Test the search box and menu/filter options on the left; Note: there appears to be an "Accessible Version" of this feature available via a link in the upper left.
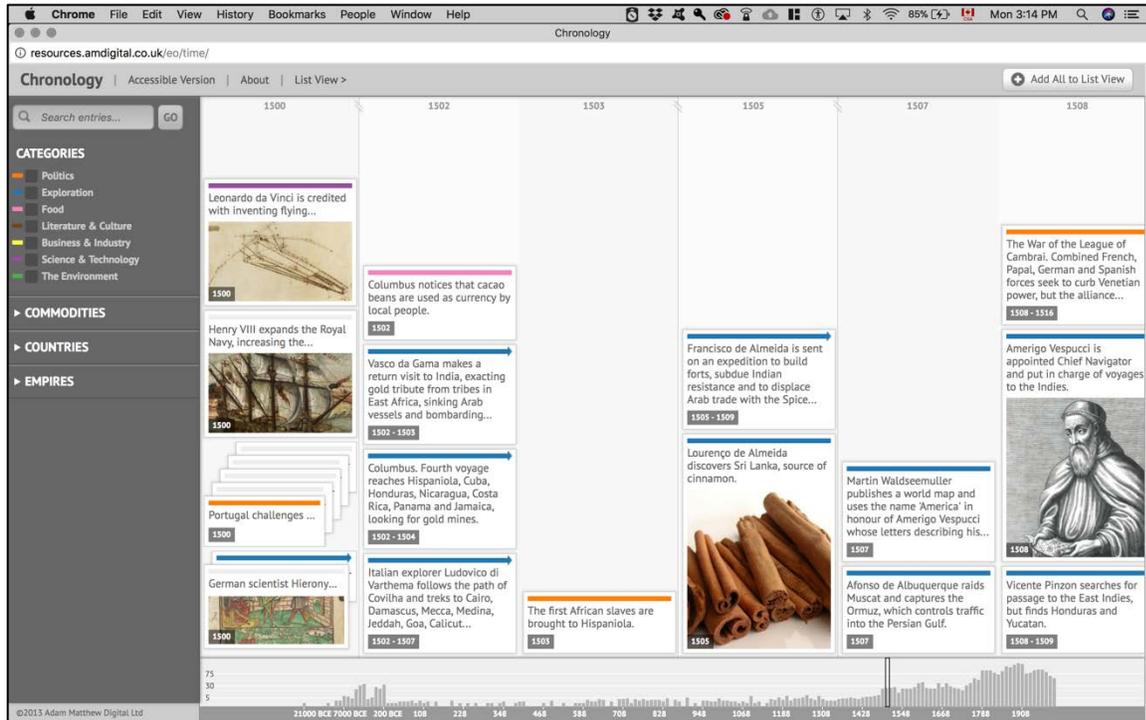
Automated findings using Axe

- **SC 1.1.1** – Break png image must have alt attributes (set to null if needed – 340 occurrences).
- **SC 1.3.1** – Search text field needs a programmatic text label.
- **SC 1.3.1** – Page does not have a main landmark role assigned to it.
- **SC 1.4.3** – Elements do not meet contrast ratios between foreground and background colors.
- **SC 3.1.1** – HTML element must have a "lang" attribute with the proper value set to it (EN).
- **SC 4.1.1** – ID attribute values used throughout the page are not unique.
- **SC 4.1.2** – Go button for the search feature must have discernible text.

Additional manual findings using NVDA screen reader

- **SC 1.3.1** – The Chronology heading is displayed as a heading but not marked up as such.
- **SC 2.1.1** – The entire application is unusable with the keyboard and requires the mouse.
- **SC 4.1.2** – The entire application is incompatible with screen reader technology.
- **SC 4.1.2** – The accessible version of the application displays an empty page with no data (see screenshot below).

Note: Due to time limitations set by BTAA, we have chosen NOT to assess the content and source code of the full chronology version, considering how unusable it is to someone using a screen reader.

Chronology

Full chronology version

Jump to a date range: