High–level accessibility review – LAA

(Engineering Village platform)

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Engineering Village platform

Summary

Top 3 problems for the Engineering Village platform

This high-level assessment covers limited portions and functionality of the Engineering Village platform. The assessment revealed issues with assistive technology compatibility, resulting in some users missing information required to understand content, states and operate functions. It is important to keep in mind that the findings represent a high-level assessment, and do not reflect the results of a Deque Comprehensive Web Assessment.

1. **Info and Relationships –**A variety of content is setup with invalid aria roles and attributes as well as using the unreliable "Title" attribute to provide additional information.
2. **Keyboard –** There are several elements in the main navigation that cannot be accessed with the keyboard alone.
3. **Label in Name –** The main search fields on both basic and expert search as well as several other form inputs don't provide the visible label in the accessible name.

Review of Top Accessibility issues from previous evaluation

Similar issues still appear to exist from the previous evaluation specifically the top 2 problems. The unreliable title attribute is still being used to give additional informationn on many interactive elements. In addition many interactive elements have additional content for screen reader users that does not match what visual users receive. There are also similar issues that occur throughout the pages that were not listed in the top three issues. These include incorrect use of ARIA attributes, missing child roles, missing focus indicators and several more.

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 still reported on a page per page basis, where applicable.

Automated findings using Axe

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

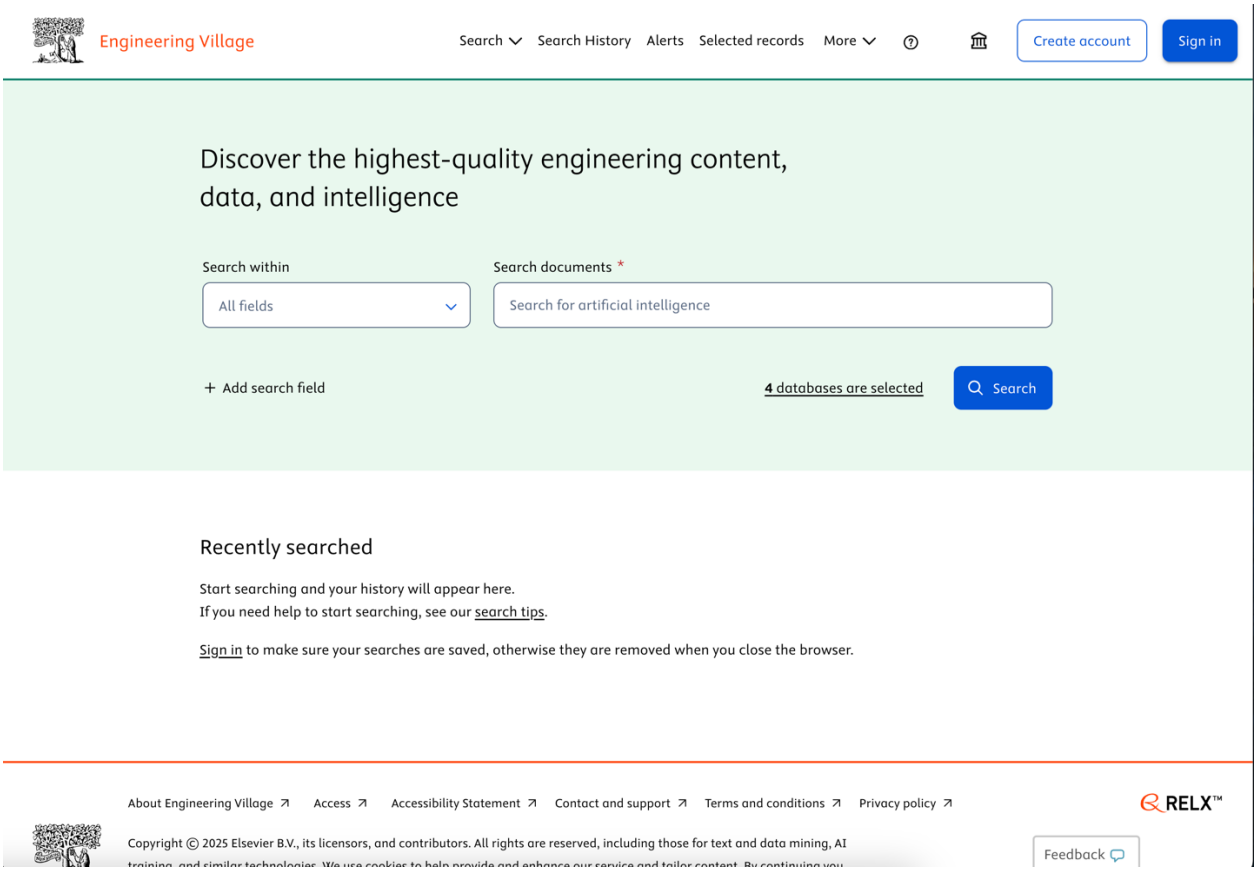
No sitewide automated issues were found.

Additional manual findings using NVDA screen reader

1. **SC 3.2.3 AA** – Consistent Navigation – The main menu does not function consistently on all pages. The landing page and individual search results landing page have the same navigation code, but the search results and expert search have different code.
2. **SC 3.2.3 AA** – Consistent Navigation – The footer does not function consistently on all pages. The landing page and individual search results landing page have the same footer code, but the search results and expert search have different code.

1. Landing Page

Source: https://proxy.lib.umich.edu/login?user=deque-contractor&pass=SPzz9T96MHtYSvTv&url=https://ddm.dnd.lib.umich.edu/database/link/49468?utm_source=library-search
Test case: Test initial interface/landing page to ensure menus, sub-menus, search box, images, icons, etc. are accessible.



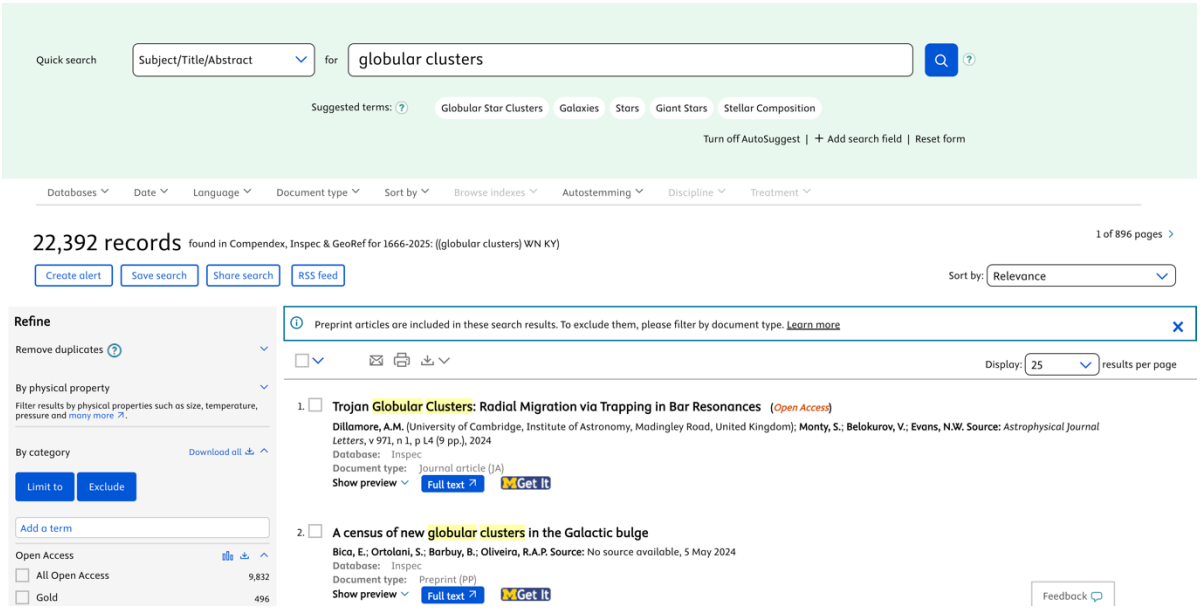
Automated findings using Axe
No issues found that are specific to this page.

Additional manual findings using NVDA screen reader

1. **SC 2.1.1 A** – Keyboard – In the main menu "More, Help, and Institution menus cannot be opened with keyboard alone.
2. **SC 2.4.7 AA** – Focus Visible – The logo links (Elsevier, Relx) in the footer do not have a visible focus indicator.
3. **SC 2.5.3 A** – Label in Name – The "Search Documents" visible label is not in the accessible name for the field.
4. **SC 4.1.2 A** – Name, Role, Value – Main menu items with dropdowns are missing the expand/collapse attribute.

2. Search Results – Global Clusters

Source: https://www-engineeringvillage-com.proxy.lib.umich.edu/search/quick.url?SEARCHID=c95ece4e593941a994aa7092236e19c5&COUNT=1&usageOrigin=searchForm&usageZone=quick
Test case: From the initial landing page, conduct a search for: globular clusters in all subject/title/abstract. Test search results page, including filters/refine search (ex: limit to = controlled vocabulary = globular star clusters) and sort by options (ex: date: newest).



Automated findings using Axe

1. **SC 1.3.1 A** – Info and Relationships – The tabs (Databases, date, sort by, etc.) are not wrapped by an element with the role=”tablist”.
2. **SC 1.3.1 A** – Info and Relationships – The tabs (Databases, date, sort by, etc.) are inside of a <ul> which does not have required children of <li> as each <li> in the list is set as role=”presentation” thus removing the list item role.
3. **SC 2.4.4 A** – Link Purpose (In context) – The anchor the skip link is pointing to should not have an href value. Placing the href value in the anchor makes the system think it is a link and thus requires discernable text.
4. **SC 4.1.2 A** – Name, Role, Value – Each item (5 occurrences) in the top menu with a dropdown is wrapped with a tag and the tag has an aria-expanded attribute assigned. Aria-expanded attribute is not allowed on a div with no role.
5. **SC 4.1.2 A** – Name, Role, Value – Each filter option (19 occurrences) that is expandable in the Refine section is wrapped with a tag and the tag has an aria-expanded attribute assigned. Aria-expanded attribute is not allowed on a div with no role.
6. **SC 4.1.2 A** – Name, Role, Value – Each result has a “Show Preview” button (25 occurrences) that is wrapped with a tag and the tag has an aria-expanded attribute assigned. Aria-expanded attribute is not allowed on a div with no role.
7. **SC 4.1.2 A** – Name, Role, Value – The tabs (Date, Sort by, Autostemming, etc.) use aria-controls but the ID the attribute is pointing to does not exist.
8. **SC 4.1.2 A** – Name, Role, Value – The close (X) button is set as hidden. Focusable content needs to be properly disabled or be removed from the DOM.
9. **SC 4.1.2 A** – Name, Role, Value – The “for” field is set as role=”combobox” but is missing the required

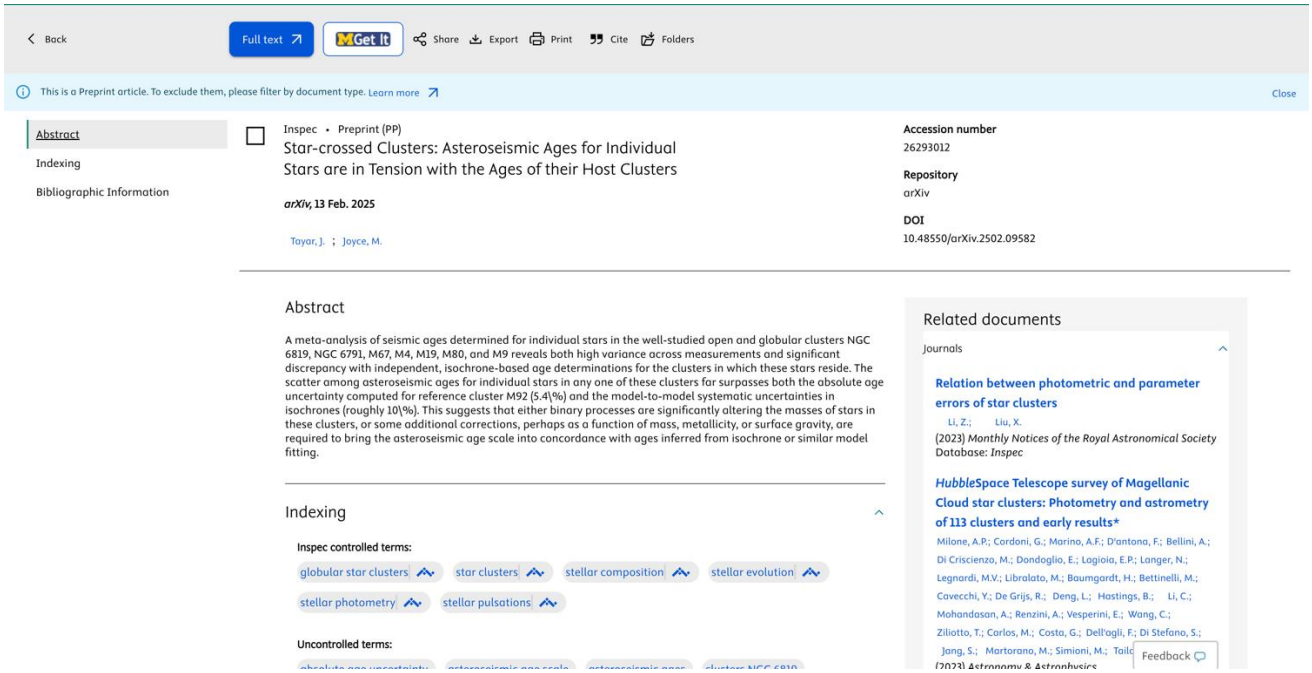
aria-expanded attribute. The combobox role should probably be removed as the field functions as a text box rather than a combobox.

Additional manual findings using NVDA screen reader

1. **SC 1.4.3 A** – Contrast (Minimum) – The white text (#ffffff) on the suggested term buttons on focus/hover do not have at least 4.5:1 contrast with the orange (#E8711B) background.
2. **SC 2.4.4 A** – Link Purpose (In Context) – show preview, full text and get it links are repeated on each search result, but they all have the same accessible name. They do not contain information about which specific article they are for.
3. **SC 2.4.6 A** – Headings and Labels – Each filter option (Document type, open access, database, etc.) have repeated buttons (view chart and download) that have the same accessible name. Missing additional information about which filter they apply to.
4. **SC 2.5.3 A** – Label in Name – The “Sort by” combobox visible label is not in the accessible name.
5. **SC 2.5.3 A** – Label in Name – The “Search Documents” visible label is not in the accessible name for the field.
6. **SC 4.1.2 A** – Name, Role, Value – The buttons underneath the green quick search section (Databases, Date, Language, etc.) function like tabs but are not marked up as such.
7. **SC 4.1.2 A** – Name, Role, Value – The buttons underneath the green quick search section (Databases, Date, Language, etc.) expand but do not have the expand/collapse attribute.

3. Search Results Landing Page

Source: https://www-engineeringvillage-com.proxy.lib.umich.edu/app/doc/?docid=inspec_M11402c311956489fba774181017816345&pageSize=25&index=5&searchId=b1431c8ae1ae440396d119fdc2754872&resultsCount=11154&usageZone=resultslist&usageOrigin=searchresults&searchType=Expert
Test case: Test individual search result landing page (Star-crossed Clusters: Asteroseismic Ages for Individual Stars are in Tension with the Ages of their Host Clusters) & test actual document (Full text).



Automated findings using Axe

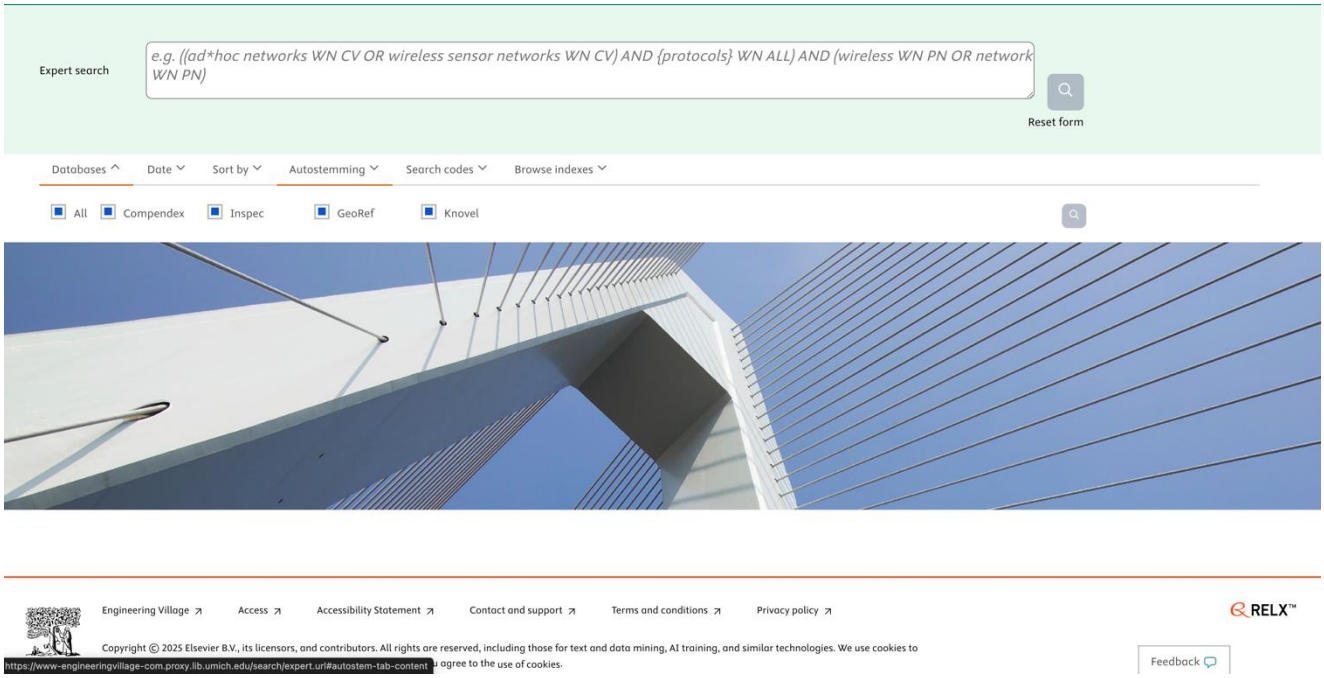
1. **SC 1.4.1 A** – Use of Color – The blue “learn more” link is identified only by color and the blue color (#0056d6) does not have at least 3:1 contrast with the surrounding text (#014361).
2. **SC 4.1.2 A** – Name, Role, Value – There is a graphic button at the end of each link (13 occurrences) in “Inspec controlled terms” and “Inspec classification codes” that does not have an accessible name.
3. **SC 4.1.2 A** – Name, Role, Value – “Search”, “Search history”, “More”, “Submenu“, “Share”, “Export”, “Cite”, and “Journals” have an aria-controls attribute that references ID’s that do not exist.
4. **SC 4.1.2 A** – Name, Role, Value – Below the abstract the “Indexing” and “Bibliographic Information” buttons contain nested interactive controls.

Additional manual findings using NVDA screen reader

1. **SC 1.3.1 A** – Info and Relationships – The Title of the article appears to be a heading but is not marked up as such.
2. **SC 1.3.1 A** – Info and Relationships – The additional information content at the bottom of the page appears to be a table but is not marked up as such.
3. **SC 2.4.7 AA** – Focus Visible – The checkbox at the top of the page receives focus but does not have a visible focus indicator.

4. Expert Search

Source: https://www-engineeringvillage-com.proxy.lib.umich.edu/search/expert.url
Test case: Test expert search page (ex: "wearable technology" wn TI and video*)



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