

Collaboration as an Effective Way to Achieve Accessibility: A Consortium's Work with the EBSCO Library Research Database

Abstract

The accessibility of library resources at universities is a persistent problem for students, staff, and faculty. Often, people with disabilities and support staff are unsure who to contact with web accessibility issues related to third-party, commercial library resources.

The panel session will discuss the development of a consortium model used to create a community of users and service providers to evaluate and address the accessibility of one of the most widely used electronic information providers, EBSCO Publishing. Panel members will share perspectives on the effectiveness of the model and how it may be used to improve the accessibility of information technologies.

Introduction: A Problem with Third-Party Library Resources

The library is a fundamental resource for students, staff, and faculty at any educational institution. Since the rise of the internet, a greater number of articles, books, and journals are offered online only. In addition, many paper-based resources have converted to electronic format. Online search and availability of resources gives people opportunities to conduct research more productively, as the information is available any place and any time.

In itself, this increases the quality and productivity of research significantly. Unfortunately, many library online resources are not accessible to people with disabilities, and, as a consequence, these users often cannot take full advantage of electronic resources. People with disabilities often struggle to complete assignments, papers, and projects independently or within specified time limits, thereby reducing their ability to compete with peers on an even footing.

Web accessibility of third-party library applications is a major problem facing higher education institutions. Many of these applications have multiple accessibility problems, but usually the companies who develop them have no organized means to identify, prioritize, and correct accessibility problems. By and large, technical support and sales staff lack accessibility expertise or know who in their company (if anyone) is responsible. Persons with disabilities and disability support staff are often frustrated in their attempts to find an appropriate contact within a company and are unsure whether the issues they report in regard to accessibility will receive any attention.

Some companies do test their products for accessibility. However, they often use accessibility consultants or internal quality assurance (QA) staffers rather than actual users with disabilities to verify product accessibility. Outside consultants likely have little first-hand experience with the product and may only perform accessibility reviews as one aspect of their business. Internal QA may be too intimate with the product to be objective, and it is the case in most companies that QA have little accessibility experience.

Nevertheless, consultants or QA “expert reviews” can provide information on major accessibility problems. Often, however, non-obvious details are overlooked—and these details can be critical for making a product usable by people with disabilities. Conversely, expert reviews can sometimes identify “false positives,” issues that when “corrected” are detrimental to accessibility.

The limitations of expert reviews are especially pronounced when reviewers overly rely on automated tools to identify issues or when reviewers have a rudimentary understanding of the technologies people with disabilities use to access computers. And in almost all cases, an expert review does not result in the quality and specificity of feedback gained through iterative user testing with people with disabilities.

These problems have been exacerbated by lack of clear understanding within companies of what it takes to achieve functional accessibility. The assumption for many vendors has been that they have an accessible web resource if they conform to the text of section 508 of the U.S. Federal Rehabilitation Act (§ 1194.22, on web-based information and applications).

Five years ago, to satisfy 508, EBSCO released a text-only version of its EBSCO*host* web interface. At that time, it was assumed that an interface without images and JavaScript sufficed. After all, item (k) of the 508 standard states that a text-only version satisfies the requirement. Emerging technologies and changing attitudes regarding the importance of usability, however, have led EBSCO and many vendors to believe that text-only interfaces are no longer a suitable alternative for users. EBSCO thus began efforts to make its main interfaces user friendly for all. In large part through the work of consortium collaboration, EBSCO has grown to understand that it needs to make its applications more functionally accessible for everyone, including users with disabilities.

A Solution: The EBSCO Accessibility Interest Group Consortium

To address the problems outline above, staff at the University of Illinois at Urbana-Champaign (UIUC), along with staff from the University of Illinois at Chicago, and The Ohio State University (OSU), began to focus attention on one of the most frequently used web resources at their schools: the EBSCO library research database. The EBSCO Accessibility Interest Group consortium [1] was formed, consisting of students, disability support and library staff, and members of campus educational technologies units. The goal of this collaboration is to make the EBSCO*host* web interface user friendly for all, including users with disabilities.

At UIUC, IT accessibility experts (Hadi Bargi Rangin and Jon Gunderson, with the help of Christy Blew) conducted reviews and videotaped users interacting with the EBSCO interfaces [2]. In these video clips, accessibility problems that screen reader users have been facing were made plain. At OSU, accessibility experts and library staff (Ken Petri and Penny Pearson) conducted a series of informal, task-based usability studies with screen reader-reliant users. Results were distilled into a joint issues list and recommendations for possible solutions were proposed.

In reviews, the consortium tried to identify accessibility problems for all groups of disabled users by benchmarking against HTML/XHTML Best Practices [4], which organize the accessibility problems in the following categories:

1. Navigation and Orientation

2. Text Equivalence
3. Styling and Preference
4. Scripting and Automation
5. Standards

Wendy Shelburne, UIUC's Electronic Resources Librarian, shared the findings with EBSCO's Customer Satisfaction contact, Diane Moodie. Soon afterwards, Ron Burns, Director of Software Product Management at EBSCO, was identified as the consortium's main contact to assist in resolving the issues. Ron then introduced other EBSCO employees to the team—Kimie Kester (UI designer), Yuriy Voznyuk (Application Development manager), and Khalilah Gambrell (EBSCOhost Product Manager)—to expedite correcting the issues.

The EBSCO Accessibility Interest Group holds teleconferences regularly with EBSCO representatives to identify concerns and potential solutions. In addition, the group maintains a prioritized issues list [\[3\]](#) that is reviewed regularly. EBSCO provides updates on each issue and the group strategizes solutions. Internally, EBSCO prioritizes issues into two main groups: "quick wins" and multiple phase projects.

From a vendor's perspective, EBSCO has found this approach extremely effective because it is able to make steady progress in the goal of improving usability of resources, while tackling multiple phase projects that will require large time, development, and testing investments. Improving the accessibility of a web application like EBSCOhost cannot be done quickly due to the immense amount of information and complexity of technologies involved. Improvements are paced and incremental. EBSCO consistently updates the consortium with the timeline for planned phase-in of accessibility improvements.

Some of the critical functions of the consortium are to identify accessibility problems, track the resolution of the problems, test new features, and determine if the problems have been resolved. To facilitate, EBSCO has set up for the group a "test server" that several consortium members use to test the usability of new enhancements and upcoming fixes. This helps the consortium track resolved issues and identify fixes. EBSCO provided the "test server" several weeks prior to a recent release for the consortium to review and provide feedback. This helps EBSCO as it educates them on modifications that may need to be made before or after the release. The group has found that this is one of the most effective means for identifying and resolving accessibility issues before products reach the market.

Panel Discussion

The Accessing Higher Ground panel discussion brings together EBSCO representatives and the members of the original EBSCO Accessibility Interest Group that developed the consortium to provide feedback to EBSCO. The participants will provide perspectives on how the consortium is improving the accessibility of EBSCO resources and how a consortium model might be effective in improving the accessibility of other third-party applications.

During the panel discussion we hope to address the following:

1. How did the group develop?
2. How does each panel member define accessibility? Is it more than being 508 compliant?
3. What were the methods used to measure the accessibility of the EBSCO web interface?

4. How did the consortium collect the observations made in its findings?
5. How does each panel member perceive the current state of the consortium?
6. What are the short-term/long-term goals of the consortium? What are the primary accessibility issues the consortium sees for the future?
7. How can other information professionals become involved with the consortium?
8. What is EBSCO's view of the relationship? What impact has the consortium had on enhancements and introducing new features into EBSCOhost?
9. What can one do to begin similar efforts focused on other products?

EBSCO's View of the Consortium and Future Plans

EBSCO is working diligently to offer users with visual, hearing, and physical disabilities with successful, compelling experiences using EBSCO Publishing products. EBSCO values its relationship with the Accessibility Interest Group, as it has permitted positive dialogue about the needs of all users. The benefit of the feedback has been immeasurable, and EBSCO has begun to send the group demonstration links to review accessibility of soon to be released features, such as the multi-database searching enhancement available for its Literary Reference Center and Business Source interface customers. This is in addition to the demonstration links it has provided the consortium to review the updates based on the prioritized issues list.

As a result of the consortium's detailed reports and usability tests EBSCO has begun a multi-phased effort to make all EBSCO Publishing web interfaces more accessible. In the future, EBSCO will rely on the Accessibility Interest Group to provide feedback so that it can resolve issues prior to release. Lastly, as a result of collaboration, web developers and interface designers have formed an understanding of the need to provide a user friendly interface and have begun to design with it as a "must-do" guideline.

The following gives a broad outline of the accomplishments of the collaboration.

- Elimination of most tables, to improve searching with screen readers or keyboard controls.
- Descriptive page titles, section header tags, and selected link labels.
- Redesigned form controls for easier tab navigation.
- Streamlined code for simpler page structures.
- Access keys, which support international keyboard functionality across multiple browsers.
- Detailed alternative text image descriptions and use of null alternative text, where appropriate.
- Improved and streamlined coding decreased page sizes, meaning shorter download times for all users.

A more detailed calendar of updates is an appendix at the end of the paper, and [5] in the References section is EBSCO's page outlining product web accessibility.

Conclusion: The Effectiveness of Consortium Collaborations

EBSCO has been continually improving its products through an intimate and regular participation in the consortium. And EBSCO has been forthcoming in providing the consortium access to products, even before release. The participation has enriched the understanding of university disability support staff,

users, and collaborators on all sides, and lessons we have learned will inform other efforts both within the consortiums and in our work at our individual institutions. These are welcome developments.

We hope it is obvious that the goals of the consortium are greater than just reporting accessibility problems. Accessibility of third-party products can be improved if communication channels can be opened and established with the right people in a company. But it is essential that accessibility problems are introduced and illustrated in such a way that company personnel at many levels—product managers, marketers, designers, and developers—can fully understand them and have a clear sense of their importance. Educating developers and designers about accessibility is a main factor in improving accessibility of third-party products. Consortium interaction helps facilitate this. Through iterative involvement in the production of web interfaces, the consortium model offers the possibility of changing the culture of development and deployment of web resources, while deepening the understanding of university and other non-corporate participating personnel.

References

- [1] EBSCO Accessibility Interest Group (<http://cita.uiuc.edu/collaborate/libraryEBSCO/>).
- [2] Video clips illustrating accessibility problems with EBSCO Academic Search Premier (<http://cita.uiuc.edu/collaborate/libraryEBSCO/scenarios.php>).
- [3] Accessibility issue list of EBSCO Academic Search Premier (<http://cita.uiuc.edu/collaborate/libraryEBSCO/issues.php>).
- [4] HTML/XHTML Best Practices (<http://html.cita.uiuc.edu/>).
- [5] EBSCO Accessibility page (<http://www.ebscohost.com/webaccessibility>).

Appendix: Calendar of EBSCOhost Updates

April 2007 Updates

1. Add page title to Basic Search, Advanced Search, and Result Lists web pages.
2. Highlighted navigation tabs on Basic Search, Advanced Search, and Result Lists pages will be tagged <h2> and highlighted sub-toolbar links will be tagged <h3>. The designations are in accordance with WAI guidelines.
3. Subjects listed under “Narrow Results by Subject” will be tagged with on the EBSCOhost Results List page.
4. Eliminate JavaScript link between Clear and Folder buttons on Basic and Advanced Search screens with Guided Search Style, Results List, Article, and Article Details pages.
5. On Results List page, label the number results out of total number of results with the following:
[Results]

July 2007 Updates

1. Remove the image tags completely from the HTML markup and use CSS to assign the images as backgrounds for the text links for all hyperlink images adjacent to text links:

Following are hyperlink images (pages):

- Source Types
- Add to Folder
- Add Article
- Display link to search
- Add search to folder
- Print
- Save
- E-mail
- Export
- PDF Full Text
- HTML Full Text

2. Add multiple articles on one result page.
3. Ensure all fields on a form contain descriptive labels for each field.
4. The Results List will be assign headings tags (<h1><h2><h3>) to help users navigate interfaces. Headings should be hidden to the visual user:
 - Main Toolbar (h2)
 - Site Menu (h2)
 - Sub-Toolbar Links (h2)
 - Search Terms (h2)
 - Limit Your Results(h3)
 - Expand your search to: (h3)
 - Results (h2)
 - Result List (h3)
 - Narrow Results By Subject (h3)
 - Source Types (h3)
5. Decrease number of tables used - when removing tables is not possible assign <th> or id/header/scope/axis attributes.
6. Eliminate onchange functionality for the Language and Sort by dropdowns across all interfaces.
7. Ensure all images have <alt> and for graphs/charts provide <caption> or <longdesc> attributes across all interfaces.
8. Revise Accesskeys to:
 - Accesskey 1 – Skip Navigation to Result lists (position on first result)
 - Accesskey 0 – To accessibility help page
 - Accesskey 2 – Search (insert cursor in Find box)
 - Accesskey 3 – Main Navigation bar (position within the following code - <h2 title="Main Toolbar" class="hidden">Main Toolbar</h2>
9. FAQs added to Support page

http://support.epnet.com/knowledge_base/search.php?keyword=&language_id=&document_type=&topic=993&interface_id=&ebSCO_database_id=&browser_id=&operating_system_id=&page_function=search&x=64&y=19

10. Creation of EBSCO Accessibility page to promote the need for accessible website and the collaboration.

September 2007 Updates

1. Choose Database Selection Page has a descriptive page title and includes a heading level 1 to help with navigation.