The World Digital Library: Website Review

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An international digital library partnership initiative, the World Digital Library (WDL) is a cooperative project of the Library of Congress, the United Nations Education Scientific and Cultural Organization (UNESCO), and libraries, archives, and educational and cultural institutions from the United States and around the world. Launched in April 2009, today the WDL brings together, and makes available in open access through its online interface, 12,214 national treasures telling the story of the world’s cultures from 193 countries, covering the time period between 8000 BC and 2000 AD. The WDL collection includes rare books and manuscripts, prints, maps, musical scores, recordings, photographs, films, and many other valuable and unique items.

Mission and User Base

Targeting a broad user base, the WDL initiative pursues four principal objectives:

• Promote international and intercultural understanding
• Expand the volume and variety of cultural content on the Internet
• Provide resources for educators, scholars, and general audiences
• Build capacity in partner institutions to narrow the digital divide within and between countries.

Millions of users visit the WDL site annually. “On its first day, the WDL received over 600,000 visitors from every country in the world. Since then, more than 21 million people have visited the site,” Oudenaren, the WDL Director reports. “Total users averaged about 420,000 per month in 2011, with the highest numbers by country from Spain, Mexico, Brazil, the United States, Argentina, Chile, Colombia, Portugal, the United Kingdom, Russia, and France” (Oudenaren, 2012, p.7). Assessing the usability of the site of such educational, cultural, and historical significance is of paramount importance, to ensure that all users across the globe can enjoy its offerings, and while
accessing the world’s treasures from a single shared space, grow together as a vibrant learning community.

Usability, according to Jakob Nielsen, is “a quality attribute that assesses how easy user interfaces are to use. The word “usability” also refers to methods for improving ease-of-use during the design process” (2012). Based on the Nielsen’s usability definition, this paper presents three strong points in the WDL website interface design, and then discusses another three points—that need improvement. The usability principles developed by Purdue University (Lehman & Nikkel, 2008, pp. 10-11) are used in the heuristic evaluation of the WDL website interface, presented in this paper:

- Clarity of communication
- Accessibility
- Consistency
- Navigation
- Flexibility and minimalist design
- Visual presentation
- Recognition rather than recall.

**Technology Support for the WDL Website**

Rather than being a distributed system that would simply aggregate metadata or provide a federated search, the WDL was designed to first centrally gather the content, and then distribute it “worldwide through a content delivery system, to maximize speed and performance,” the WDL Director explains (Oudenaren, 2012, p.5). All metadata and images were ingested from partners using the standard schemas such as MARC, Dublin Core, MODS, TEI, and UniMARC. “This approach was intended to ensure a uniform user experience for all content, regardless of the
institution providing the content and the manner in which that content was displayed on the institution’s own website,” the author points out (ibid.).

**Strong Elements of Interface Design**

Due to my personal interest in digital libraries in general, and international digital partnerships in particular, it was not an easy task, at first, to distinguish only three strong points in the site’s design—I love everything about the site, the overall look and feel, and can spend hours exploring it. Through the heuristic evaluation, I have eventually narrowed my selection of strong points of the WDL interface design and functionality down to the three elements: multilingualism, navigation, and visual presentation.

**Multilingualism**

The WDL website interface is available in seven languages, including the six official languages of the United Nations: Arabic, Chinese, English, French, Russian, and Spanish, and the seventh, additional language—Portuguese. The language selection is available in a dropdown language menu, located on the top right of the page:

![Dropdown language menu](image)

All navigation tools, bibliographic information (metadata), and content descriptions on the site are provided in the seven WDL languages. Consequently, the site visitors can perform searches in these languages, and while viewing an item, can switch the page translation from one language to another. Furthermore, as an additional accessibility feature, the metadata and descriptions can be listened to on a text-to-voice conversion option that is available for every item, in all seven interface
languages. Finally, every item-level page provides a paragraph-long description of the item, also available in translation. “This information, written by curators and other experts, provides context for users and is designed to spark the curiosity of students and the general public to learn more about the cultural heritage of all countries,” Abid notes (2009, p. 5).

Providing multilingual support to the global audience is vital to the site’s usability, in particular as far as the *clarity of communication* and *accessibility* heuristic interface design elements are concerned. Multilingualism ensures the site’s clarity of communication by using the language in a way that is familiar to, and comfortable for, its readers. The text-to-voice conversion option for every item provides for the ease of learning, as well as additional accessibility for disadvantaged readers, such as vision-impaired and others. Additional accessibility features related to the site’s multilingualism include the understandability of information and easy discovery through the multilingual search option (Lehman & Nikkel, 2008, pp. 10-11).

**Navigation**

The site has been designed to afford various ways in which users can browse through pages, as well as search for materials. To facilitate cross-cultural and cross-temporal exploration of the library, the site includes two sets of navigation menus, one on top (Explore, Timelines, Interactive Maps, and Themes), and another one—on the bottom (Home, About, Help, Contact, Legal, Donate, and Social Following). It offers two easy ways to return to the site’s homepage: through the WDL logo on top left and the Home link on the bottom menu, both of which are persistent across all pages.

From the Explore navigation option, items can be browsed by place, time period, topic, type of item, language, and institution. In the Timelines section, four timelines are available:

- Chinese Books, Manuscripts, Maps, and Prints
- Illuminated Manuscripts from Europe
- United States History
• World History

The Interactive Maps navigation offers all of the browsing options featured in the Timelines, and one additional option, “Imperial Russia.” Special features here include interactive geographic clusters. Finally, the Themes navigation offers to browse items by one theme: “Arabic and Islamic Science and Its Influence on the Western Scientific Tradition.”

The interface expresses its dialogue in a clear fashion, doing so not only via text, but also the graphic images, as well as a quick search feature that is prominently displayed on the top of the homepage, immediately under the top navigation menu. As mentioned in the Multilingualism section above, users can search the WDL collection by typing in the search terms in any of the seven WDL languages.

Finally, search results can be displayed in three different views: List, Gallery, and Map.

Visual Presentation

The website truly speaks the user’s language through the beautifully designed interface, featuring aesthetically pleasing color scheme, uncluttered pages, and minimalist font selection. The items are grouped into logical zones, and zones are separated by spaces and color—the usability feature that, in addition to providing effective visual presentation, facilitates another usability element, recognition rather than recall. The text areas have “breathing space” around them (Lehman & Nikkel, 2008, p. 12). The simple white background serves well against the contemporary grey-colored font, blue color of links, and the collection images of various color schemes, including black-and-white, sepia, and full-color.

When tested for color contrast with Web Accessibility Evaluation Tool1 (WAVE), no contrast issues were detected. According to the test results image below, the interface color scheme meets not only the WCAG AA2, but also the WCAG AAA web accessibility standards.

1 http://wave.webaim.org/
Interface Design Elements That Need Improvement

In addition to the strong points of the WDL interface design and functionality, I have identified the three points that, in my opinion, could be improved: limited search functionality, lack of link states functionality, and ambiguous Institution link in the item-level metadata.

Limited Search Functionality

While offering the Exact Match option and several filters in the search results page, the WDL site does not provide an option for advanced search. This is especially surprising given the WDL’s

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2 **WCAG 2.0** level AA requires a contrast ratio of 4.5:1 for normal text and 3:1 for large text (14 point and bold or larger, or 18 point or larger). Level AAA requires a contrast ratio of 7:1 for normal text and 4.5:1 for large text.
significant investment of time and effort to ensure the item-level metadata consistency across
collections. In particular, each item contains the following metadata tags: creator(s), date created,
publication information, language, title in original language, place, time, topic, additional subjects,
type of item, physical description, collection, institution, and external resource. “Consistent metadata
provides the foundation for a site that is easy and interesting to explore, and that helps to reveal
connections between items. The metadata also improves exposure to external search engines,” Abid
points out (2009, p. 5).

The lacking advanced search seems to present an underutilized opportunity that would have
otherwise enhanced the user experience when users visit the library site with an advanced research
methodology in mind. It prevents the site from fully passing the navigation, accessibility, and clarity
of communication usability check, in particular the “is the site searchable?”, “does it accommodate a
range of diverse user goals?” and “is the user interface efficient, allowing fast orientation and good
results by experienced users?” tests (Lehman & Nikkel, 2008, pp.10-11).

**Lack of Link States Functionality**

For improved user experience, it is helpful to provide different colors for various link states
(hover/focus, visited, active). For example, in the visited link state, the text color of the link changes
once the link has been visited. The WDL hyperlinks, however, do not change color regardless of the
link state. This might present a navigation issue, especially for the users who visit the site to do
research—they might forget the pages that they have already visited and the items that they have
already viewed. I would recommend implementing the link state functionality, to improve user
experience and facilitate better browsing through the site.

**Ambiguous Institution Metadata Link**

When the Institution metadata link is clicked on the item-level page, it displays all items from
that institution’s collection. In addition, the item-level page includes the “Other items from this
partner” link, redirecting to the same page – with all items from that institution’s collection. This
might be confusing to a novice user, e.g. I first thought that the link in the Institution field will take me to the institution’s own website. Supplementing the link text with the title attribute, in order to provide additional text describing a link in a tooltip when the link is hovered-over—might help avoid user confusion and improve the clarity of communication usability principle.

**Conclusion**

The heuristic evaluation of the WDL website user interface presented in this paper demonstrates the effective characteristics of the site usability, in particular Multilingualism, Navigation, Accessibility, Visual presentation, and Recognition rather than recall. Several points that might need improvement notwithstanding, the site has already demonstrated its unique value to global community and received excellent feedback from many users. One of them stands out for me, personally, echoing my own thoughts of gratitude towards the site founders: “Thank you very much for this library. By far this project could be one of the most interesting and innovative cultural projects of our society. I hope that we can expand this library involving libraries from all over the world including universities, religions (Vatican) and governments […] Congratulations and thank you very much for sharing the knowledge that at the end of the day belongs to everyone and not just a few” (Abid, 2009, p.7).
References


