

Accessibility Issues @ Wikipedia

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One of the project's goals is to contribute to the improvement of the user experience of online community platforms; the special focus here is on improvement of MediaWiki¹, and specifically on accessibility issues for the Wikipedia.de platform. The accessibility experts of the Swiss based "Access for All" foundation² have completed a report about accessibility issues based on the WCAG 2.0³ guidelines from the W3C consortium. The report contains test results which have been recorded by a group of blind and multiply handicapped accessibility experts. Moreover, recommendations are given for improving accessibility for the Wikipedia platform.

Besides the classical test areas, which are partly covered by test tools and script code analyzers, specific deficiencies of Rich Internet Applications (RIAs) are discussed, based on the Web Accessibility initiative and the WAI-ARIA documents⁴ of the World Wide Web Consortium W3C. Moreover, suggestions are given for semantic structuring using WAI-ARIA and HTML 5 landmarks. Although several websites exist with Wikipedia accessibility issues^{5, 6}, to the authors' knowledge this is the first time a systematic test based on acknowledged WCAG 2.0 guidelines along the POUR principles⁷ has been carried out.

The tests have shown that the German version of the Wikipedia encyclopaedia is to a certain degree accessible for handicapped users based on the different quality levels defined in the WCAG 2.0 guidelines. However, there remain many restrictions and barriers for handicapped end users and authors. Consequently, there is a lot of optimization capability for authoring tools concerning aspects such as the usage of semantic structuring, systematic usage of shortcuts, correct usage of lists, usage of alternative representations and the avoidance of layout tables. The complete report is accessible on the website of the TAO project which this accessibility study is part of.⁸

Methods

The project's roadmap consists of three steps: first, to assess the accessibility of the website resulting in a report; second, the implementation of selected accessibility aspects within the MediaWiki which is the underlying php-based wiki system for the Wikipedia platform; third, a comparative pre-/post assessment is planned based on the implementations of the preceding step.

The first step was accomplished by July 2011. The accessibility of the Wikipedia.de website has been assessed by a group of test persons with and without visual impairment and other handicaps. The test results are documented in a report which also contains recommendations for further improvement. The report has been handed over to the German chapter of the Wikimedia Foundation, which is currently evaluating it with respect to possibilities for launching appropriate implementation projects on the MediaWiki system.

¹ <http://www.mediawiki.org>

² <http://www.access-for-all.ch>

³ <http://www.w3.org/TR/WCAG>

⁴ <http://www.w3.org/WAI/intro/aria>

⁵ The meta wiki: <http://meta.wikimedia.org/wiki/Accessibility>

⁶ The blind wiki: http://blind.wikia.com/wiki/Mediawiki_and_Accessibility

⁷ Perceivable, Operatable, Understandable, Robust

⁸ <http://www.thirdageonline.eu>

The WCAG guidelines define three conformance levels: A (basic), AA (recommended) and AAA (advanced), a website can be certified against these levels. Wikipedia.de does not completely conform to one of these levels, but fulfils several criteria on all levels.

Each test criterion has defined test steps which are carried out by accessibility experts supported by a series of specialized testing tools, by users of assistive technologies, and through script code analysis. Technologies used are the screen reader JAWS⁹, the zoom tool ZoomText¹⁰, the colour contrast analyser CCA 2.0, and the browser plug-ins JuicyStudio¹¹, WAVE, Web Developer and the Accessibility Toolbar as well as the HTML validator of the W3C, and a pdf accessibility checker PAC¹².

Results

Besides the detailed test protocol, the report summarizes the top ten suggestions for accessibility improvement:

- accessible CAPTCHAS
- semantic structuring (structural headings, WAI-ARIA landmarks, HTML 5)
- linked images (all images) must inform the reader about their contents (and the fact that they link to the media file page)
- keyboard operability (focus visibility, dropdown menus, focus sequence)
- correct markup of data tables
- no usage of layout tables
- correct use of lists
- implementation of skip links and access keys
- accessible error messages and error detection in forms
- accessibility skin with reduced complexity of user interface

In order that a screen reader can read a link to the user, it must be annotated with an explanatory text. There are many guidelines available for formulating good text alternatives for images¹³. It is recommended that authoring tools remind or even force authors and editors to fill the *alt* attribute.

Conclusions

Many of the recommendations can also be found in the list of techniques for WCAG 2.0¹⁴. Our report emphasizes the traceability of the requirements in mapping appropriate techniques to accessibility criteria, and is complete with respect to the WCAG 2.0 criteria.

As often, open source projects suffer from missing developer resources. As an example, one recommendation of the report is the usage of audio CAPTCHAs as alternative representations, and there is already an implementation for the MediaWiki system by a team from Carnegie Mellon University (see: the *blind wiki* URL). Until now, however, it has not been integrated in a release version because “nobody's put the work into implementing it yet”¹⁵.

The report also gives specific hints to modern web techniques such as HTML 5 and Rich Internet Applications (e.g. based on Ajax and push technology), which are not covered by the WCAG 2.0 guidelines, but are widespread in many online community platforms nowadays.

⁹ <http://www.freedomsci.de/prod01.htm>

¹⁰ <http://www.aisquared.com/zoomtext>

¹¹ <http://juicystudio.com>

¹² <http://www.access-for-all.ch/ch/pdf-werkstatt/pac-pdf-accessibility-checker.html>

¹³ <http://www.cs.tut.fi/~jkorpela/html/alt.html>

¹⁴ <http://www.w3.org/TR/WCAG20-TECHS>

¹⁵ <http://lists.wikimedia.org/pipermail/wikitech-l/2008-April/037351.html>