

Improve accessibility check-list taking into account screen readers' specificities

LudoTIC

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What is Web accessibility?

Web accessibility means that people with disabilities (for example, visually impaired people) can perceive, understand, navigate, and interact with the Web. From a larger point of view, accessibility corresponds to creating a flexible interface.

The most common form of 'access technology' for these people is a **screen reader** software, such as **Jaws** or **Window-Eye**, that works converting the text of a web page into a synthesised speech.

To evaluate the Web sites accessibility several international guide-lines are available, in particular those proposed by the Web Accessibility Initiative (WAI) of W3C consortium and the American Section 508.

Limits of the automatic evaluation

The WAI guide-lines are based only on HTML code validation. Several automatic validators are available: OCAWA, APINC, WDG, Bobby, Cynthia, etc.

However, these tools have some fundamental limits:

Validators check	Validators don't check
<ul style="list-style-type: none">a set of criteria concerning the structure of HTML code sourcepresence and the content of CSS file (if the page has one)	<ul style="list-style-type: none">content coherencecontent structuresemantic pertinence

Aims of this study:

- Identify the limits of the automatic validators and improve the accessibility guidelines;
- Propose complementary tools taking better into account the specific needs and characteristics of visually impaired people, using screen reading software.

User testing for establishing accessibility check-lists' complementary criteria

Experimental set-up and user tasks

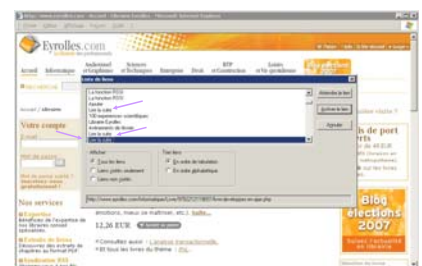
- A version of MDPH06 Web site (French governmental web site) was realized modifying necessary tags to obtain the highest validation level assigned by the international consortium W3C (triple-A level)
- 7 visually impaired users (familiar to Personal Computer and usually using the screen reader JAWS)
- Download task: to localize the file labelled "PDF – 1Mb", then to download and save it
- Filling on-line form task: to localize the link of the form called "applicant identification index form" then opening and filling it on-line

Principal results

One of the most conclusive problems for visually Impaired user was related to links names. JAWS proposes a shortcut allowing extracting the list of all the links of current page (fig. on right side). This function is very useful and fits the needs of visually impaired people allowing them to read only the links on the page, not the plain text. However, very often the text employed in the links is understandable without its semantic content, such as the link "lire la suite" ("read more").

Concerning download task, five users thought they've found the right document concerning the search of "demand of handicap compensation file", but actually only two users downloaded the good file.

A lot of data about the fundamentals needs (or incompatibility between usual web habits and the vocal synthesizer) have been obtained during filling form task.



List of the links of current page

Conclusions

The results of this study let us to better understand visually impaired people needs and the enormous limits of automatic validators, in particular concerning semantic content of web pages. We have been able to create complementary criteria, to be integrated in the available accessibility check-lists, allowing developers to take into account a more extensive list of parameters, user needs, specificities and semantics characteristics of the code for the validation of web accessibility.

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