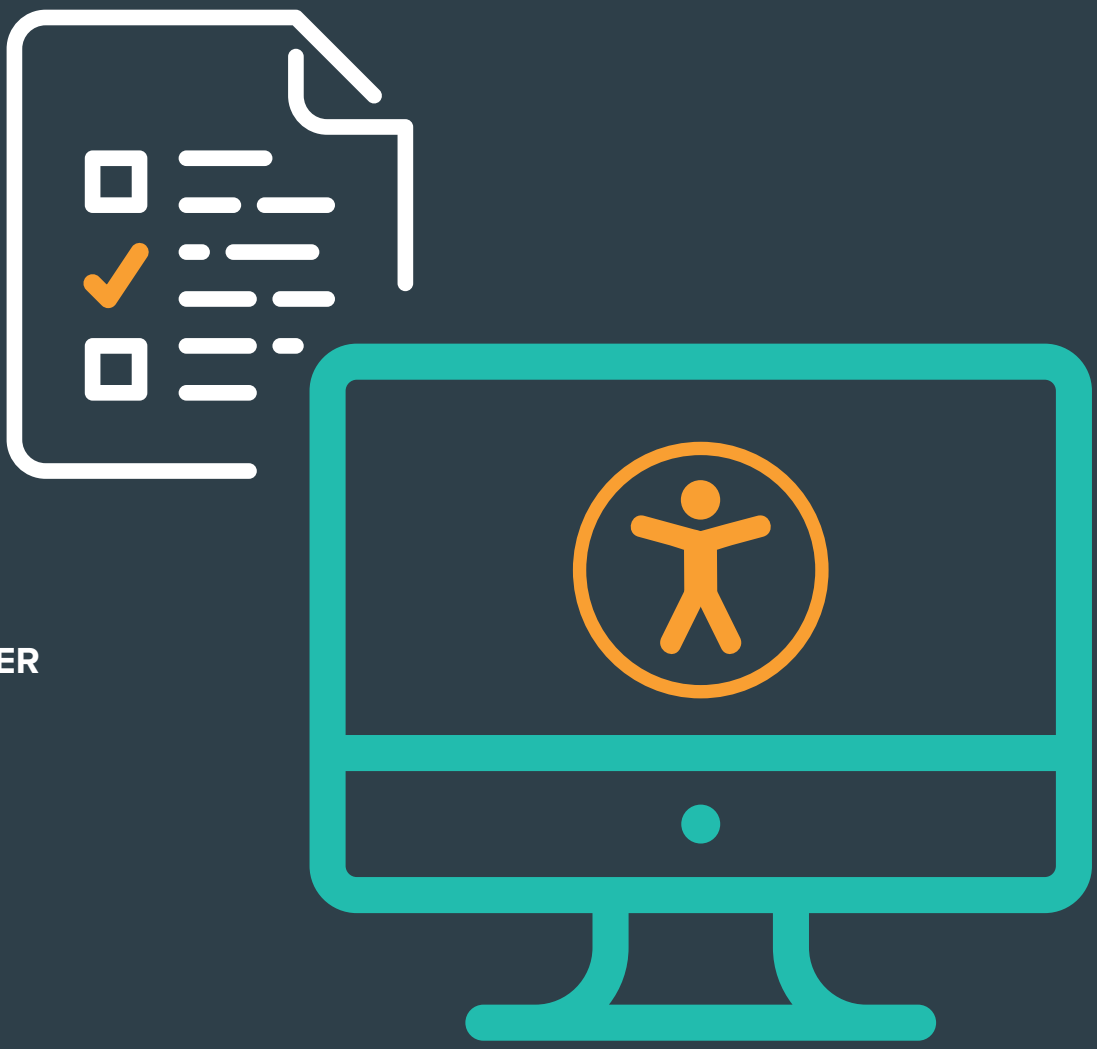


WHITE PAPER

WEB ACCESSIBILITY

DID YOU PASS THE TEST?

CTG

The World Health Organization (WHO) indicates "that more than one billion people are living with a disability in some form or another, representing 15% of the global population."

15%

of the world's population has a disability

Among this population, nearly 1 in 5 — between 110 and 190 million — have significant functional difficulties or suffer from a "severe" disability. In the future, this problem "will become an even greater concern because of the increase in its prevalence, which is explained by the aging population and the higher risk of disability among the elderly."

Consequently, the question of access to digital services that today determine a very large part of our daily actions is being directed towards this segment of the population.

What is digital accessibility?

The Web Accessibility Initiative (WAI), created by the World Wide Web Consortium (W3C) defines digital accessibility as the following:

"Web accessibility means that people in disability situations can use the Web. More precisely, they can perceive, understand, browse, and interact with the Web, and contribute to the Web. The accessibility of the Web also benefits others, notably the elderly population whose abilities change with age.

Web accessibility includes all disabilities that affect access to the Web including visual, audio, physical, speech, cognitive and neurological disabilities.

Accessibility equally includes users who face challenges with computer hardware (e.g., very slow speed, old computer, lack of knowledge of the use of computer tools, etc).

Why worry about digital accessibility?

1. Social Responsibility

Based on evidence, a digital service publisher can contemplate the role he wishes to play in society. Just like the accessibility of businesses, cafes, hotels, and restaurants, the accessibility to a digital service has become a must in society in regards to demographic issues and the needs expressed by people with disabilities.

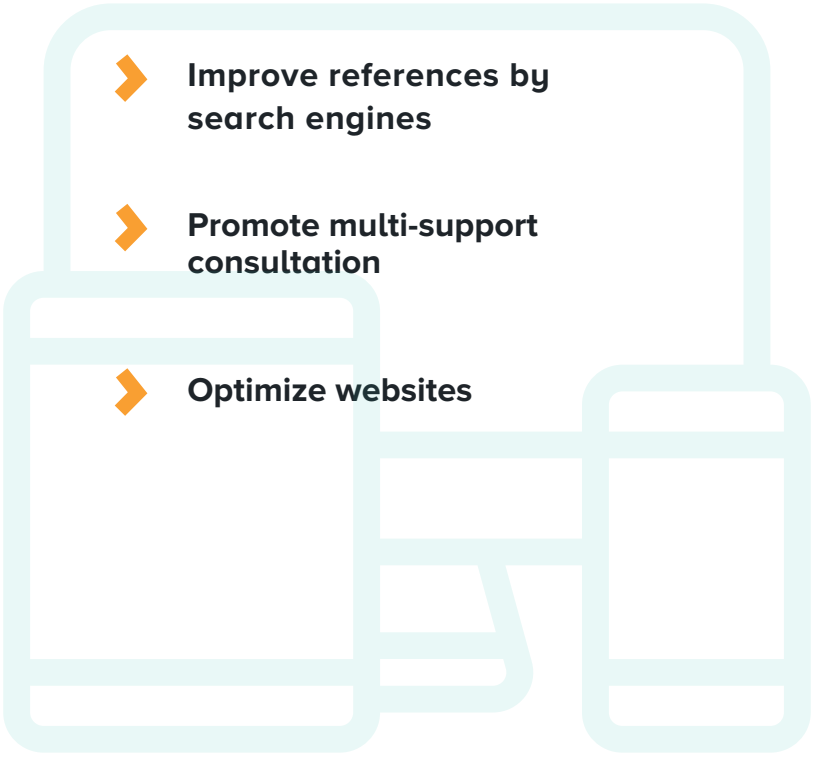
2. Commercial Advantages

Of course, respecting the norms of the WAI may be beneficial for businesses. Favoring access to the Web for people with disabilities or the elderly makes it possible to reach new clientele. This makes it possible to use a standard Web programming language and **to favor an indexing of pages by search engines**. This indexing is going to have an impact by improving the position of websites in the results listed by search engines. 55% of major e-commerce websites have a non-functional purchasing tunnel and lose sales opportunities (Source : Ipedis, October 2016).

Accessibility is not only an investment in favor of the disabled community.

It is an investment that comes with a number of advantages. In summary, a publisher has every interest in investing in accessibility to:

- **Increase the number of users**
- **Be in accordance with the law**
- **Convey a better image thanks to a civic approach**
- **Improve references by search engines**
- **Promote multi-support consultation**
- **Optimize websites**



Norms and Standards

The norms framing Web accessibility are determined by the WCAG 2.0 (Web Content Accessibility Guidelines).

The WCAG 2.0 touches on four big principles framing the content:

1/ Perceivable

The information and components of the user interface must be presented to the user so that he or she can perceive them. It's there where we find notably the textual equivalents.

3/ Understandable

The information and the use of the user interface must be understandable. For example, pronunciation and autocomplete/ predictive text.

2/ Operable

The components and the use of the user interface must be usable. It's there where we rediscover accessibility via the keyboard.

4/ Robust

The content must be sufficiently robust to be interpreted reliably by a large variety of users, including assistive technology.

The WCAG 2.0 are measured according to 3 levels.

Level A

In general, Level A achieves accessibility through compatibility with computer adaptation technology while posing as few limitations as possible regarding the presentation of information. Thus, individuals with a wide range of functional limitations and using a wide variety of computer adaptation technologies (from voice recognition and eye tracking based tracking systems to screen readers and magnification software) are able to access the content in different ways. In other words, Level A's criteria for success is compatible with both standard browsers and browsers specialized in their ability to adapt content in formats that meet the users' needs.

Level AA

Level AA provides additional support for computer adaptation technologies, while also supporting direct access to content by users of common browsers without the aid of computer adaptation technologies. In general, Level AA poses more limitations to the visual presentation and other aspects of the content than Level A.

Level AAA

Level AAA increases both the possibility of direct access and those of computer adaption technologies.

Source : W3C

Level	Objective	Feasability	Example
A	**Achieve a minimal level of accessibility**	Essential success criteria being applicable to all Web resources	The color is not the only visual way of conveying information
AA	**Improve the level of accessibility**	Additional success criteria that can reasonably be applied to all web resources	Small texts have a contrast ratio of at least 4.5
AAA	**Achieve a higher level of accessibility**	Success criteria is not applicable to all Web resources	Small texts have a contrast ratio of at least 7

WCAG 2.0 endorses the choice of the Level AA as the objective of the global accessibility policy, with Level AAA only being relevant for certain projects, depending on the specific content that is concerned **W3C**.

PDF/UA (PDF/Universal Accessibility)

Beyond the pure web standard, there are also standards governing electronic exchanges. For example, PDF / UA (PDF / Universal Accessibility) is the informal name for ISO 14289, the international standard for accessible PDF technology.

Conformity with PDF/UA guarantees accessibility for people with disabilities who use assistive technology such as screen readers, screen magnifiers, joysticks and others to browse and read digital content.

How does the website accessibility actually work?

The first step to fully understanding the issue of accessibility, is by realizing that navigation must be changed towards strongly implementing the keyboard as the main means of interaction.

Some initial definitions and practices:

Tables

Three different categories:

a) A complex data table: any data table that includes more than one row or header column, or a table that has data cells that refer to more than two header cells.

b) A data table: a mode of data organization in the form of columns and rows, where each data cell gets its meaning from its relation to one or more other cells in the row or column header.

c) A presentation table: a table used for formatting web content, with no link between the content of the cells

Decoration Image

An image that plays no particular role in conveying or displaying content information.

Examples :

- An image to regulate the page layout
- A round corner image to dress up a block of information
- An illustration that does not provide any information needed to understand the associated text

Informative image

An image that conveys information necessary to understand the content with which it is associated.

Keyboard navigation

Navigation is performed using the keyboard. Therefore, it is necessary to take the keyboard shortcuts into account. These are the most common:

Shortcut	Function
CTRL + A	A for All, so you can select everything
CTRL + C	C to copy
CTRL + V	To paste content
CTRL + X	To delete and copy the selected content
CTRL + F	F for “Find,” to do a quick search in page conten

In the world of web accessibility, there are some other keyboard control keys that are important to know. Here are the basics:

Shortcut	Function
Tab ↹	To navigate from item to item
Shift + Tab	To return to the preceding item
Espace	- To make a selection (To select a check box for example) - To pause an animation or video
Entrer ↳	To validate a selection
Arrow Keys ←↑↓→	- To navigate from left to right or from top to bottom when navigating through choices - For multimedia, the left arrows allow you to go back a few seconds and the right, forward a few seconds
Escape	To close an item or go to a higher level
Alt + “0 à 9”	Some websites offer these shortcuts to quickly navigate through the menus

How do you test the accessibility of a website or mobile application?

Ideally, accessibility should be considered as soon as the website is created.
However, it is possible to conduct an analysis to measure the current level and to put corrective actions into place.

Steps of an accessibility project:

1. Choosing the reference framework

As a part of the analysis, the first step is to choose the reference framework and the level to be achieved. To conduct these tests, we developed our own test grid at CTG, based on the success criteria of WCAG 2.0. It enriches the accessibility assessment guide of a website and accessibility standards of the Province of Quebec. The W3C recommendation is an AA level.

2. Targeting

Like any test project, it is crucial to know how to target the pages that will be analyzed. In the context of a dense site, such as administration sites, testing every aspect can be complex. A preliminary study is, thus, essential to control the test load.

In France, for example, the list of pages to be audited is described in chapter 5.4 of the “RGAA Support Guide.”

Home

Contact

Legal Notice

Help

Sitemap

Search and Results

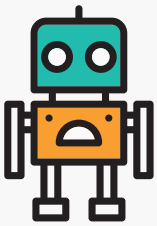
Pages that contain a process

Access pages to the main content or features

Pages that represent the content available

High traffic pages

Accessibility policy page



3. Automated testing

When it comes to functional testing, it could be beneficial to consider automated testing. For example, it is possible to automatically check whether all the images have the required “alt” characteristic. It is also possible to use several tools to validate certain prerequisites.

4. Manual testing

The heart of an accessibility analysis lies in manual testing. As such, a tester will follow an evaluation grid and report any nonconformity and anomaly. It will then be documented and described so that the appropriate corrective action can be put in place.

5. Report

At CTG, we provide a detailed report at the end of campaigns. We also give access to our online bug-tracker: BugTrapp. This makes it possible to record and document the observed anomalies.

Conclusion

To summarize, accessibility efforts exceed the disability audience. It is to broadcast your content on the web to the maximum amount of internet users. Digital services publishers have much more than a legislative incentive alone to invest in accessibility.

WAI (W3C) and WCAG 2.0, in particularly, are the recommendations to follow. All the other references rely on these two main references. The AA level is the target to reach for.

Product Owners can, therefore, ensure to include these concepts in the development of their product. Of course, this upstream effort will have to be maintained in downstream.

Accessibility is a basic requirement in terms of quality. Therefore, it must be tested rigorously and professionally.

Feel free to contact us to learn more about our experiences and methods.

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