Standards for Web accessibility

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Abstract:
Web accessibility means that sites, tools and techniques are designed and developed so that the disabled are able to use them. This entails upholding technical rules that, though solidly established, are still seldom applied. The law is evolving to provide a better legal framework. Rules are being extended to new uses and even expanding beyond the Web. At stake: attention to the public, whether disabled or not, without any discrimination.

Digital accessibility means that websites, tools and techniques are designed and developed so that the disabled can use them — so that they can perceive, understand, browse, interact and contribute.[1] Digital accessibility takes into account all types of handicaps with regard to access to digital technology. It also has benefits for other persons, in particular senior citizens whose capacities might be altered as they age.[2]

Although a "handitech" movement has arisen in support of developing innovative technology for facilitating the lives of persons with handicaps,[3] digital accessibility in the normative sense does not call for creating new forms of technology. Its aim is to see to the application of the technical standards for making websites and electronic tools (including the assisted techniques available now or in the future) digitally accessible to the disabled. Following these rules is the very grounds of the interoperability that is indispensable for an inclusive approach to information and communications technology (ICT). Even though standards exist, they are still not well known and are seldom applied.[4]

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[1] This article has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed a few bibliographical references. All websites have been consulted in April 2019.

[2] Web Accessibility Initiative, "Introduction to Web accessibility" at https://www.w3.org/WAI/fundamentals/accessibility-intro/#what.

[3] The association La HandiTech at https://www.lahanditech.fr/#handitech.

[4] According to BrailleNet studies (2014), less than 4% of public websites have adopted an accessibility-based approach, *cf*: http://www.braillenet.org/accessibilite-numerique/publications-braillenet/#sites%20Web. According to the Fédération des Aveugles de France 66% of the persons who used screen-reading devices in 2017 felt that accessibility had not improved and might even have declined, cf: https://www.aveuglesdefrance.org.

As the "everything digital" trend unfurls, many services are vanishing from the physical world — as has happened in France with public services for vehicle registration or taxes or even with job offers, which now require digital access. The lack of accessibility to the Web is a form of exclusion, a new discrimination.[5] To counter this trend, an act of law in France has reinforced legal obligations by foreseeing yearly fines of up to €25.000.[6] A new European standard is now the benchmark.[7] Although the existence of these rules and standards is positive, only a sensible implementation of them will inculcate a conception of digital technology that does not exclude people.

Regulations and standards about access to the Web and beyond

W3C standards and the European standard EN 301549

The first objective of the W3C consortium, which drafts standards for the Web, is universality: "*The social value of the Web is that it enables human communication, commerce, and opportunities to share knowledge. One of W3C's primary goals is to make these benefits available to all people, whatever their […] physical or mental ability.*"[8] A W3C work group, the Web Accessibility Initiative (WAI), has formulated a set of rules on digital accessibility:[9]

● "User Agent Accessibility Guidelines" (UAAG) for the makers of "user agents" (*i.e.*, browsers, readers, assistive technology, etc.);

● "Authoring Tools Accessibility Guidelines" (ATAG) for the "authors" of web content: developers, designers, software editors, such as content management systems (CMS); and

● "Web Content Accessibility Guidelines" (WCAG) for Web content developers and the authors of interfaces and Web tools. Legally recognized by the European Union, this set of guidelines has been incorporated in European standard EN 301549. WCAG version 2.1 (released on 5 June 2018) is based on four principles, thirteen rules, and 78 success criteria. To meet these criteria, more than 600 techniques are suggested. In France, DINSIC has released for public administrations its version of WCAG called RGAA[10] for verifying compliance with WCAG and, soon, with the European standard EN 301549.

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[5] See the article "Aveugle, il perd son emploi à la MDPH à cause d'un logiciel inadapté" in *Voix du Nord* and the decision of 10 February 2017 on the website of the Défenseur des Droits "Discriminations: accessibilité des logiciels utilisés par les agents publics, des administrations encore en défaut", https://www.defenseurdesdroits.fr/fr/actus/actualites/discriminations-accessibilite-des-logiciels-utilises-par-les-agents-publics-des.

[6] Article 80 of the Act for the "*Freedom to choose one's occupational career*" published on 5 September 2018, available at: https://www.legifrance.gouv.fr/affichLoiPubliee.do?idDocument=JORFDOLE000036847202&type=general&legislature=15. This act, approved on 30 July 2018, transposed EU Directive 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies, available at https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX:32016L2102.

[7] Standard EN 301 549 "Accessibility requirements suitable for public procurement of ICT products and services in Europe" available at http://mandate376.standards.eu/standard.

[8] "W3C mission" at https://www.w3.org/Consortium/mission.

[9] "Making the Web accessible" at https://www.w3.org/WAI/. The guidelines: https://www.w3.org/WAI/standards-guidelines/uaag/, https://www.w3.org/WAI/standards-guidelines/atag/ & https://www.w3.org/WAI/standards-guidelines/wcag/.

[10] DINSIC Direction Interministérielle du Numérique et du Système d'Information et de la Communication. RGAA: Référentiel Général d'Accessibilité pour les Administrations. This acronym might soon have a new meaning as the scope of application is expanded and the RGAA becomes "Référentiel Général d'Audit d'Accessibilité". RGAA version 3 can be consulted at http://references.modernisation.gouv.fr/referentiel/. It was instituted by decree n° 2009-546 of 14 May 2009 available at https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000020616980&fastPos=1&fastReqId=1286775406&categorieLien=cid&oldAction=rechTexte.

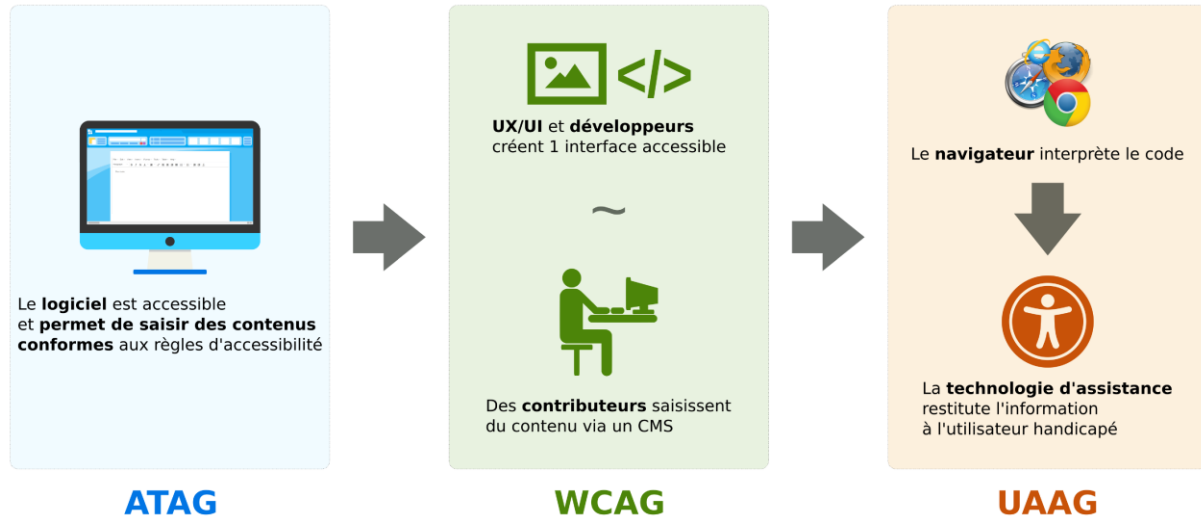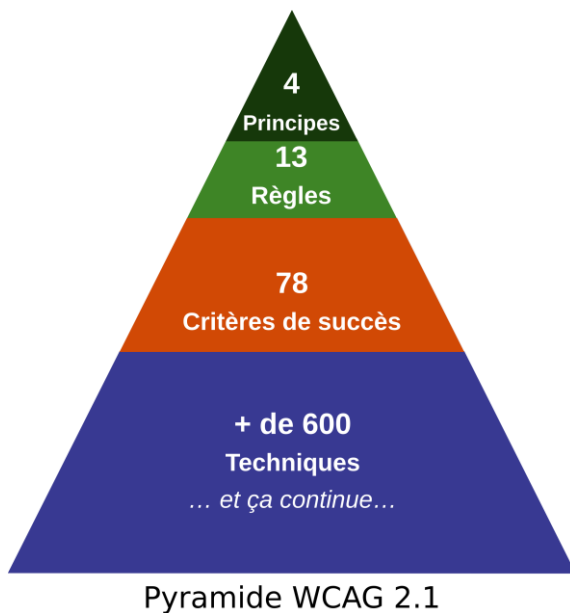**Figure 1**: ATAG, WCAG, UAAG*Source*: Armony Altinier under license CC BY-SA 4.0 via Wikimedia Commons

Figure 2: The WCAG 2.1 pyramid
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Beyond the Web… new needs

The complexity of digital technology and emerging uses calls for new rules about augmented reality, the Internet of things (IoT), artificial intelligence, etc. The law covers, for instance, electronic "street furniture" about which no specific standard yet exists. The accessibility of automated teller machines, another example, is the focus of scrutiny at the EU level.[11] The methodology adopted relies on a global approach (beyond the problem of digital interfaces) that combines accessibility and ergonomics.

WCAG is still the benchmark for adjusting rules to uses. This is possible since these guidelines do not depend on a technology.[12] A W3C document even explains how to apply them to "*non-Web information and communications technologies*".[13]

Nevertheless, Web accessibility is still not well known. The lack of education and training about it leaves the impression that accessibility guidelines are more complicated than they actually are. For concerned citizens, it is, therefore, difficult to discuss this topic.

Respecting standards about the accessibility of the disabled

The dangers of binding standards in an unregulated environment

Given the new legal obligations, the market of digital accessibility is becoming attractive. "Magical" solutions are cropping up for effortlessly making websites and digital tools compliant. Solutions of this sort have an audience, because the temptation is strong to externalize the treatment of this problem. Since professionals in this field are not certified, it is hard to assess the solutions being proposed. A similar situation arose with regard to regulations about making public places accessible to the handicapped: authorities have recently published an article about "scams" in the assessments made of this accessibility, and warned people about the danger of falling victim to them.[14]

Beyond the lack of transparency of these offers and the seeming complexity of standards, the normative approach mainly seeks to address a social and political issue: the same rights and freedoms for the disabled as for the able-bodied.

Regulations about digital accessibility: Besides legal obligations, tools for "inclusion"

The WCAG guidelines on accessibility along with their French version (RGAA) provide for three levels: A, AA and AAA. Each criterion of accessibility is labeled single, double or triple A. These levels are cumulative: to reach A, 100% of the criteria of level A has to be validated; to reach AA, 100% of the criteria of level A must be validated and 100% of those of AA as well. About level AAA, these guidelines clearly state: "*It is not recommended that level AAA conformance be required as a general policy for*

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[11] *E.g.*, the project Pay-Able: http://pay-able.eu/.

[12] See https://www.w3.org/community/accesslearn/ & https://www.fun-mooc.fr/news/projet-eiffela-vers-une-experience-utilisateur-enr/.

[13] Guidance on Applying WCAG 2.0 to Non-Web Information and Communications Technologies (WCAG2ICT) at https://www.w3.org/TR/wcag2ict/.

[14] DIRECTION GÉNÉRALE DE LA CONCURRENCE, DE LA CONSOMMATION ET DE LA RÉPRESSION DES FRAUDES (2018) "Arnaque au diagnostic accessibilité", 27 June, available at https://www.economie.gouv.fr/dgccrf/arnaque-au-diagnostic-accessibilite; & MINISTÈRE DE L'ENVIRONNEMENT & MINISTÈRE DU LOGEMENT "Démarchage abusif, quelle conduite tenir?" available: via http://apf04.blogs.apf.asso.fr/media/01/02/2299325789.pdf.

entire sites because it is not possible to satisfy all level AAA success criteria for some content."[15] As a consequence, lawmakers have logically concluded that the level to reach is AA. If compliance with level AA criteria becomes a legal obligation however, the persons in charge of ICT services will not look at the triple A level, since they will think that they have done enough by meeting levels A and AA. Some needs will thus not be covered. Such is the case for sign language or the transcription of texts for easy reading and understanding by persons with a mental handicap.[16] Nonetheless, the accessibility guidelines foresee triple A criteria for handling use cases that necessitate adaptations.

A purely legal approach runs two risks:

● the risk of a ranking of the types of disabilities covered along with the risk that any handicap not directly covered by the law would be overlooked.

● the risk that self-proclaimed experts confiscate the place of citizens. This would add onto technical complexity an opacity in a debate that is already difficult.

To conclude this overview, digital accessibility is, as shown, based on solidly established standards and guidelines. However the latter must be handled with discernment and taken for what they are worth, namely a practical tool for making digital technology accessible. Education is a key. Interfaces must be designed by taking into account all people — the able-boded and disabled — without discrimination. From this approach, complementary tools such as mediation or ergonomics should also to be brought under consideration.

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[15] https://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html#uc-levels-head

[16] See the website at the origin of the first version of the rules (http://easy-to-read.eu/fr/) and the FALC rules on the website http://www.unapei.org/.