Demystifying Digital Accessibility and fostering inclusive mindsets. Compliance with the European Standard for Digital Accessibility EN 301 549

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Abstract. Accessibility, the right to equal opportunities for all citizens, is defined in Article 9 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD). Furthermore, Article 21 of the same convention details how the accessibility of information and communications should be ensured in practice. As a result of the convention, international, European and national policies, standards and law have been established, creating a legal and binding framework for compliance. On this basis, this paper considers the goals of the IMPACT (Inclusive Method based on the Perception of Accessibility and Compliance Testing) project. This project aims to define the skills and competencies that Information and Communications Technology (ICT) accessibility educators and mediators should hold for compliance. The paper looks to discuss how to demystify accessibility compliance and, in doing so, how to foster inclusive mindsets through training practices and the European Certification and Qualification Association (ECQA) certification, while noting challenges for audiences and stakeholders. The experience of Koena, a French social enterprise specializing in Digital Accessibility, forms the basis for the paper's observations.

Keywords: Digital accessibility, Web Accessibility, EN301549, inclusive mindset.

1 The European Standard for Digital Accessibility EN 301 549A Subsection Sample

1.1. Background, European and International Dimension

The adoption of policies and laws at international, European, and national levels has placed accessibility at the forefront, requiring countries of the European Union to ensure that any user can access and interact with software, web content, documents and hardware, regardless of their capabilities. Accessibility is a right to equal opportunities for all citizens. Article 9 of the United Nations Convention on the

Rights of Persons with Disabilities[1] (CRPD 2006) deals with accessibility and states that

"To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas."

In addition, Article 21 provides a detailed description of how the accessibility of information and communications should be ensured in practice. It sets out several measures for States Parties to ensure that persons with disabilities can exercise the right to freedom of expression and opinion on an equal basis with others and through all forms of communication of their choice.

In 2010, this document was ratified by the European Union and EU Member States, consequently, a solid legislative framework for improving the situation of people with disabilities was created. Two key documents laid the foundation for enhancing digital accessibility in Europe. On the one hand, the Digital Single Market Strategy for Europe (2015)[2] served as a model for introducing general political strategies while incorporating specific actions to guarantee access to ICT for people with disabilities. On the other hand, the reviewed European Disability Strategy (2021-2023)[3], is a specific instrument for implementing policies for disability. The main objective is to bring together different initiatives to guarantee the full participation and improvement of the rights of people with disabilities. It also reinforces the need to guarantee fundamental rights, equal opportunities and freedom of movement for people with disabilities irrespective of their sex, racial or ethnic origin, religion or belief, age or sexual orientation.

At the legislative level, three key directives regulate accessibility in the European Union: The Web Accessibility Directive (2016), the updated Audiovisual Communication Services Directive (2018) and the European Accessibility Act (2019). The standardisation agencies of each Member State must adapt their laws to transpose this legislative framework in their countries to ensure access to media and digital content for all citizens.

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[1] See *Article 9 – Accessibility (CRPD)*. Retrieved from: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-9-accessibility.html

[2] See *Digital Single Market Strategy for Europe* (2015). Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52015DC0192

[3] See *Union of Equality: Strategy for the Rights of Persons with Disabilities 2021-2030*. Retrieved from: https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8376&furtherPubs=yes

1.2. The legal binding requirements

The Web Accessibility Directive (2016)[4] imposes three requirements:
1. an accessibility statement for each website and mobile application
2. a feedback mechanism for users to flag accessibility problems or request information published in a non-accessible content
3. regular monitoring of public sector websites and applications by the Member States, and reporting on the results.

The first and third requirements focus on an accessibility score which has to be published. The European Commission has established a model accessibility statement[5] for this purpose. The challenge of this requirement is to evaluate the compliance of each web service with the European Standard and make it possible to compare the level between each member state. The limit of this requirement is the technical approach of web accessibility: the focus is on compliance with the EN 301 549 Standard. The compliance status can be:

- fully compliant
- partially compliant
- not compliant.

The compliance score becomes crucial for calculating the status for display on the web service. In that perspective, the challenge for the organisation is to publish an accessibility statement with a minimum status of "partially compliant" and to display a good score, even if the strategy could be to declare some exemptions.

The second requirement, is the proposal of a feedback mechanism to facilitate users to flag accessibility problems encountered. The organisations must also have people in place who are responsible for communicating with users who encounter accessibility issues. Taking the users' needs into account in one's Digital Strategy is probably the core of this challenge.

1.2.1. The case of France: the Koena experience.

Koena is a French social enterprise specialising in Digital Accessibility founded by Armony Altinier in September 2016. Koena offers services to organisations that want to comply with legal requirements in France and Europe, such as audits and training. The founder of Koena has been working in the Digital Accessibility field since 2007 and contributed to the French version of the Web Accessibility Standard in 2015 (RGAA version 3). Koena was part of the Digital Accessibility Working Group led by the French government Agency – DINUM, to update the French Web Accessibility Standard in compliance with the EN 301 549.

The originality of the French approach relies on a long history dating back to 2003 when the French government first asked an association – BrailleNet, to create a Web Accessibility Standard based on the international one: the Web Content Accessibility

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[4] See *Directive (EU) 2016/2102*. Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32016L2102&from=FR02.

[5] See *Commission Implementing Decision (EU) 2018/1523*. Retrieved from: https://eur-lex.europa.eu/eli/dec_impl/2018/1523/oj

Guidelines (WCAG)[6] by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C). The first French Accessibility Guidelines name was AccessiWeb. It was the BrailleNet association property, and it was collaboratively created, with volunteers trained by BrailleNet. BrailleNet created a methodology to make compliance with the WCAG easier to understand and evaluate. All the Success Criteria of the WCAG were thematically split into 13 concrete and technical topics:

1. images
2. frames
3. colours
4. multimedia
5. tables
6. links
7. scripts
8. required elements
9. structuration
10. appearance
11. forms
12. navigation
13. consultation

For each AccessiWeb criterion, a correspondence with one or several WCAG Success Criterion and associated Techniques was present. Each AccessiWeb Criterion had to comply with these three simple rules:

- it must be written as a yes/no question
- when the answer is yes: the criteria status is passed
- when the answer is no: the criteria status is failed.

BrailleNet developed training based on this AccessiWeb methodology. Training conducted using this methodology resulted in the development of a professional community composed of more than 500 people who share a mutual understanding of the international Web Accessibility Guidelines (WCAG).

In 2009, the French administration decided to create a brand-new standard called RGAA for "Référentiel général d'accessibilité pour les administrations". However, the French community of Web Accessibility Professionals maintained the AccessiWeb Guidelines. Consequently in 2015, the French administration decided to drop the previous version of the RGAA standard and adopt the AccessiWeb Methodology establishing it, now RGAA 3.0, as the official methodology for France. In 2019, the new European Digital Accessibility Standard EN 301 549, evolved the RGAA and the acronym became "Référentiel général d'amélioration de l'accessibilité". Correspondence is now based on WCAG and also on the European Standard. The French administration maintained the AccessiWeb Methodology to facilitate professionals already aware of this method to comply with the new requirements.

The consequence of these updates in France is an established and relatively mature professional community for technical aspects of accessibility however, this has been

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[6] See *Web Content Accessibility Guidelines (WCAG) 2.1*. Retrieved from: https://www.w3.org/TR/WCAG21/

detrimental in some respects to the social goal of accessibility and the inclusion of people with a disability. A gap is observed between some professionals who are very aware of the technical aspects of Digital Accessibility and the vast majority of web service owners and professionals who still need to update their skills (OPIIEC, 2019)[7]. This remains evident in a scenario where a web service manager discovers Digital Accessibility and questions 'how to approach the subject'?

In France, Digital Accessibility is often perceived as a technical issue, more than a political one. This situation results from the disengagement of the different governments, which resulted in two significant events in 2021. On October 4th, 2021, the Committee on the Rights of Persons with Disabilities published its concluding observations of their initial report for France. The role of this Committee is to promote inclusion, advocate for the human rights of all persons with disabilities and provide recommendations to support the implementation of the provisions enshrined in the CRPD. The Committee held a series of meeting with the French government between August 23 and September 7, 2021. Concerning Accessibility, 19 (e) "The Committee notes with concern: […] Barriers in the digital work environment preventing access for persons with disabilities to information and communication, including on government websites and in relation to software."[8] The Committer then "recommends that the State party: […]

- (b) Adopt accessibility strategies and raise awareness about the concept of universal design for persons with disabilities; […]
- (e) Ensure universal access to digital technology for all persons with disabilities, including business software, and revise Decree No. 2019-768 on accessibility to information for blind persons at government, public and private websites;
- (f) Apply European Union Directive 2016/2102 of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies, and Web Content Accessibility Guideline 2.0 to all public websites;"

However, even though the Web Accessibility Directive requires the Member States to report on the results of their monitoring activities every three years, France was part of the three countries (with Cyprus and Portugal) that didn't publish their report before the due date: December 23, 2021. In March 2022, the report of France remained outstanding on the Official Webpage of the Web Accessibility Directive Monitoring Reports[9]. In the context of the relatively mature professional (small) community with essential technical skills, and the lack of political support and perspective, we will base our observations on Koena's experience, especially where some public administrations face difficulties in improving accessibility using the technical approach.

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[7] See Observatoire des métiers du numérique, de l'ingénierie, du conseil et de l'évènement (OPIIEC). Retrieved from: https://www.opiiec.fr/

[8] See *Concluding observations on the initial report of France*. Retrieved from: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/TBSearch.aspx?Lang=en&Treaty ID=4&DocTypeID=5

[9] See *Web Accessibility Directive - Monitoring reports. Shaping Europe's digital future*. Retrieved from: https://digital-strategy.ec.europa.eu/en/library/web-accessibility-directive-monitoring-reports

1.2.2. How to comply with the Standard?

The European Standard for Digital Accessibility EN 301 549[10] is mainly based on the international Web Content Accessibility Guidelines, around four principles:

1. Perceivable
2. Operable
3. Understandable
4. Robust.

Those principles are divided into 13 guidelines that are not testable. These guidelines provide the primary goals that digital professionals should work toward to make content more accessible to users with different disabilities. Each guideline is divided into Success Criteria that are testable. To comply with the WCAG (especially the "Section 9 - Web" of the European Standard EN 301 549), it is necessary to test for and meet the Success Criteria. To meet these Success Criteria, there are hundreds of techniques documented to rely upon. Non-technical people can potentially find it challenging to work with the WCAG however, Digital Accessibility is not only about coding; it is also about designing, writing texts, and the provision of accessible images and multimedia etc.. All persons involved in the Digital Production line need to take Digital Accessibility into account, even if they are not web developers.

The classical way of implementing the Web Accessibility Directive

The Web Accessibility Directive requires publishing an Accessibility Statement with a score. To calculate this score, website owners will have to order an audit of their website. A compilation of the different scores is supposed to be used to create the monitoring report that must be forwarded to the European Commission by each Member State.

In July 2014, the W3C published the "Website Accessibility Conformance Evaluation Methodology", also known as WCAG-EM 1.0[11]. This methodology relies on five steps:

1. Step 1: Define the Evaluation Scope
2. Step 2: Explore the Target Website
3. Step 3: Select a Representative Sample
4. Step 4: Audit the Selected Sample
5. Step 5: Report the Evaluation Findings.

On conclusion of an audit, a website owner is issued with a list of failures to the EN301 549 Standard and a compliance score. The next step should be to publish an Accessibility Statement and evaluate the budget and time to improve the score. At this point, an assessment of a training requirement can become evident to facilitate the website owners to both fix the failures and, to improve their ability to take Digital

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[10] See *ETSI EN 301 549 – V3.2.1 - Accessibility requirements for ICT products and services*. Retrieved from: https://www.etsi.org/deliver/etsi_en/301500_301599/301549/03.02.01_60/en_301549v030201p.pdf

[11] See *Web Accessibility Conformance Evaluation Methodology (WCAG-EM) 1.0*. Retrieved from: https://www.w3.org/TR/WCAG-EM/

Accessibility into account at design level, preventing issues at the later development and implementation phases. In a best-case scenario, the management team will fix the maximum failures to reach a score previously set, and conduct an audit to check if they achieved the target goal. In the French Administration, this goal is set to 75%[12]. If a score of 75% is reached, the digital service is considered to have taken disability into account. The limit of this approach lies with the disappearance of persons with disabilities. Reaching a score by fixing some technical issues is sufficient to consider that disability has been taken into account for the French Administration; this doesn't comply with the international legal framework.

Changing perspective: toward an inclusive method based on the perception of accessibility and compliance testing.

The Web Accessibility Directive aims to implement the Convention of the Rights of Persons with Disability (CRPD). The purpose of the CRPD is defined in Article 1: "promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity." In article 9, the CRPD defines Accessibility requirements: "States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications". These measures shall "include the identification and elimination of obstacles and barriers to accessibility".

In response to a public consultation of the European Commission on the Web Accessibility Directive, the European Disability Forum highlighted: "While there may be pockets of good practice in this area, there is still a very long way to go to ensure actual involvement of persons with disabilities in developing websites and apps. Our motto is "Nothing about us without us", yet many examples of poor practice in this paper highlight poor communication from public sector bodies and a failure to engage with organisations of persons with disabilities. Connecting with groups impacted by poor web accessibility is essential to ensure successful implementation of the Directive. It is also a legal requirement set out in the UN Convention on the Rights of Persons with Disabilities that all Member States, as well as the European Union have ratified."

The European Standard EN301 549 is a checklist which includes technical requirements aimed to help all organisations who buy, develop or manufacture ICT products or services to comply with the Web Accessibility Directive. Compliance to a standard implies that audits are conducted to check the compliance, and the establishment of the new and specialised role, Digital Accessibility Auditor, to make the assessment. Auditors need to have technical skills and a solid knowledge of assistive technologies and skills for making a Web compatible with accessibility. This work is essential but, without a significant political engagement, it can be insufficient to ensure that people with disabilities have full access to information and communication. In the case of France, the Accessibility Statement can be deceptive and non-reflective of the actual level of accessibility, as highlighted by some

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[12] See *En savoir plus sur nos critères d'évaluation – L'Observatoire de la qualité des démarches en ligne*. Retrieved from: https://observatoire.numerique.gouv.fr/Aide/Observatoire

associations and press articles[13]. To address this problem, accessibility must include the end-users point of view and that of the people with disabilities. As stated in the Web Accessibility Initiative portal, in the section 'Involving Users in Web Projects for Better, Easier Accessibility'[14]: "Unfortunately, many approach accessibility just as a checklist. This risks missing the real purpose of accessibility - the user experience."

It can be observed that there is a will by the W3C to give a methodology that evaluates not only compliance, but also accessibility by the introduction of a new definition for the next generation of the WCAG (version 3): the notion of critical error. A critical error is defined as "An accessibility problem that will stop a user from being able to complete a process." The draft version of WCAG 3 can widely evolve in the future before reaching stability. Still, this notion of "critical error" addresses what article 9 of the CRPD calls "obstacles and barriers to accessibility". A draft version of "scoring outcomes"[15] in WCAG 3, clearly states that any critical error, regardless of the compliance score, shall be qualified as a "very poor" result in terms of accessibility. The Digital Accessibility Mediator's mission is to identify such critical errors by hearing those with disabilities' voices and relaying their message to the professionals in charge of a web service.

1.3. What is the challenge for audiences and stakeholders?

In assessing the accessibility challenges for stakeholders, including the audience, we can look at existing barriers encountered. Kulkarni (2019) highlights limitations posed by both institutional and technological contexts as two key factors which disrupt efforts at accessibility standard compliance. At the institutional level, the presence of various actors whose' unawareness of the needs and constraints of their fellow stakeholders may inadvertently and adversely affect the implementation of accessibility. This can result in a stop-start effort at standard and implementation (Oswal, 2013). A resulting effort at compliance can be hampered by the consideration of accessibility as an addition when considered as part of the overall design implementation. According to Neufeldt et al. (2007), this results from a perception of market restriction and potentially reduced profitability where assistive technologies are facilitated. Also, the enforcement of global and European standard implementation can be lacking by regional Governments can be inadequate through the issue of unmonitored compliance guidelines (Lazar et al., 2015). Kulkarni (2017) highlights that an overall dominant institutional attitude towards accessibility may inhibit the implementation of inclusion. For example, multiple stakeholders who do not share objectives and agendas can result in dualisms such as "profit versus human rights, market share versus accessibility, competition versus inclusion" (Stienstra et al., 2007: 149).

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[13]   See Lejard Laurent, "Accessibilité, autopsie d'un mensonge" (18 March, 2022), Yanous; Moynat Julie, "L'Observatoire de la qualité des démarches en ligne : les objectifs d'accessibilité des sites web publics revus à la baisse" (4 January, 2022), Beaview; Volle Christian, "Petits et gros arrangements avec le RGAA – des audits de conformité difficiles à obtenir et bien peu conformes" (9 July, 2021).

[14]   See *Involving Users in Web Projects for Better, Easier Accessibility | Web Accessibility Initiative (WAI) | W3C*. Retrieved from: https://www.w3.org/WAI/planning/involving-users/

[15]   See *Section "Scoring outcomes" in the WCAG 3.0 working draft version of 07 December 2021*. Retrieved from: https://www.w3.org/TR/wcag-3.0/

At a technological level, technology itself also acts as a barrier to the achievement of compliance. This is most evident where technology fails to cover a diverse range of disabilities coupled with a perception of complicated guideline fulfilment (Kelly et al. 2010). The 'reactive process' affecting the rate of change and cost results in excluding accessibility needs in product or service design (Dobransky & Hargittai, 2006).

1.4. The goals of the IMPACT project

The IMPACT project (Inclusive Method based on the Perception of Accessibility and Compliance Testing) aims to define the skills and competencies that an educator or mediator in ICT accessibility should acquire and master for the correct implementation of the harmonised European accessibility standard digital EN 301 549. The recent adoption and entry into force of the Directive on Web Accessibility have highlighted the scarce training in digital accessibility outside of the technological field (Oncins et al. 2020), so the development of this initiative for the training of new professionals.

2   Accessibility myths and bias

We can observe three main barriers to accessibility that rely on myth and bias.

2.1. Bias 1: Ableism.

When organisations realise the that there is a requirement for Web Accessibility there is a temptation to avoid this legal constraint. In this regard, the Web Accessibility Directive is clear: "Lack of priority, time or knowledge should not be considered as legitimate reasons."

However, this is probably the first reason why there remains a lack of consideration of accessibility at design phase. To better understand the problem, let's consider, for example, a form on a website. If the form doesn't work for example when a button is clicked on with a mouse and only works when Enter is pressed on the keyboard, the bug will usually be reported as a priority and fixed immediately. On the other hand, if it is possible to validate the form with the mouse but not with the keyboard, we often observe that the issue will not be tagged as a priority but as a nice to have feature. The difference between these two situations is how we consider the users. A user able to use a mouse is given priority over a user who is only able to use the keyboard or an assistive technology such as voice recognition or screen reader. To quote the United Nations:

In a similar manner to racism, sexism or ageism, ableism is commonly described as the belief system that underlies the negative attitudes, stereotypes and stigma that devalue persons with disabilities on the basis on their actual or perceived impairments. Ableism considers persons with disabilities as being less worthy of respect and consideration, less able to contribute and participate, and of less inherent value than others. Whereas other discriminatory discourse is increasingly challenged by public opinion, ableism continues to legitimize the rhetoric behind different forms of discrimination. Ableism may be conscious or unconscious, and may be entrenched in institutions, systems and the broader culture of society. It limits the opportunities of persons with disabilities and reduces their inclusion in community life.

As long as people, administrations, companies and professionals do not consider people with disabilities as equal to those without disabilities, the problem is likely to remain.

2.2. Bias 2: Accessibility as a feature "to help" persons with disabilities

The second bias relies on the medical model of disability instead of the social model currently recognised by the Convention on the Rights of Persons with Disabilities. During an Expert Group Meeting of the United Nations on International Norms and Standards in 1998[16], experts related the evolution of thinking about disability issues, from a medical model of disability to a social model of disability.

"Disability tends to be couched within a medical and welfare framework, identifying people with disabilities as ill, different from their non-disabled peers, and in need of care. Because the emphasis is on the medical needs of people with disabilities, there is a corresponding neglect of their wider social needs. This has resulted in severe isolation for people with disabilities and their families".

On the contrary, article 1 of the CRPD states: "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others."

While Digital Accessibility, according to the social model of disability, is defined as a way of designing and developing digital services for use by people with disabilities, several companies develop browser extensions to "help" persons with disabilities. In response to a Web Accessibility Directive Consultation, the European Disability Forum (EDF) published a Position Paper[17]. EDF expresses concerns stating that, another issue is the increased use of accessibility overlays by some public sector bodies. These can be plugins, toolbars or widgets often sold by companies with the promise that they will make a website accessible. These tools will not make a website magically comply with web accessibility standards because they do not alter the source code of a website. These tools may be useful for some users but can also very negatively impact a website's accessibility for people with other disabilities, as highlighted by many web accessibility experts and persons with disabilities using assistive technology. There is a concern about the fact that these tools may be seen as an 'easy way' to comply with the Directive by some public authorities in a range of countries. Accessibility overlays are not going to fix known accessibility issues on an inaccessible website, yet some public sector bodies may be purchasing these products, thinking that they will 'solve' the accessibility problems on their website. We have even seen these products promoted by government websites and other public authorities, which further highlights the skills shortage mentioned above. We would like the European Commission to provide clear guidance for public sector bodies in

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[16] See *Report of the United Nations Consultative Expert Group Meeting on International Norms and Standards Relating to Disability*. Retrieved from: https://www.un.org/esa/socdev/enable/disberk0.htm

[17] See *Web Directive: public consultation response European Disability Forum Position Paper*. Retrieved from: https://www.edf-feph.org/publications/position-paper-on-the-web-directive-public-consultation-response/

this area." Definitely, adding "accessibility features" is not a way of making accessibility.

2.3. Bias 3: Mistake compliance for Accessibility.

The third bias we can observe is the confusion between the goal of inclusion and the means of technical compliance. This confusion is not a problem specific to accessibility. Goodhart's law is an adage describing this issue in the economic field. It is often stated as "When a measure becomes a target, it ceases to be a good measure" (Goodhart 1975). In France, the Association Valentin Haüy (AVH) wrote several blog posts to report excessive use of derogation to increase the compliance score artificially. The European Disability Forum (EDF) also noted the "extensive use of the 'disproportionate burden' clause". The report concludes: "Use of the 'disproportionate burden' clause appears to be a delaying tactic, effectively a way to kick the decision-making down the road instead of developing a strategy to deal with the accessibility issues identified." While chasing after the perfect compliance score, the goal of including persons with disabilities seems to fade.

3. Fostering inclusive mindsets

3.1. What is an inclusive mindset?

Accessibility is a right to equal opportunities for all citizens. The impact of digital accessibility is more than just ensuring that people can access and interact with an ICT tool, product and service. It also implies a shift in mindset, methods, and behaviours (Taylor, 2017). The concept of accessibility has undergone three main changes in research studies in this area, the shift towards a universal concept instead of the exclusive one, which is user-centred and proactive (Greco, 2018: 211). Therefore, creating environments and accessible tools must allow all people, regardless of their abilities, to have access to media and digital content for their personal development and independence.

Essential aspects to take into consideration when designing with accessibility in mind are: an explicit understanding of users, tasks, and environments, involvement of users throughout the design and development, a design-driven and refined by user-centric evaluations, an iterative approach, a multidisciplinary team with different skills and perspectives and a clear but at the same time flexible approach to user testing (Oncins and Orero, 2021). In reality, many software developers still do not take digital accessibility into account, and software process improvement and innovation communities still talk about quality standards and usability without involving users with all kinds of abilities and disabilities.

Why is this the case? Because to open one's mind and get closer to an inclusive mindset is quite a complex process. It requires intrinsic motivation. It is a good emotional reason to "go the extra mile" and learn about the topics elaborated in this article and how to apply them in practice. It would need a software developer who gets angry because his blind brother cannot find a job or cannot register for his Covid-19 vaccination. It would require a programmer who is fed up with all the various barriers that hold back her grandparents from using the web and digital services as they would like to. It would need more diversity and inclusion managers within software companies to come up with solutions, such as Microsoft Accessibility. In addition, positive leadership is crucial to authentically communicate

and enable inclusive mindsets within teams and organisations (Sauberer 2021). It is not sufficient to rationally understand that diversity is a key success factor for solving various complex problems (Syed 2019), we need to experience the power of diverse thinking to emotionally understand the difference that it makes in our own lives and in the lives of those we like and love.

3.2. How to teach and train accessibility?

One of the main problems in the accessibility field is the lack of professionals trained from a universal design and user-centric perspective. On many occasions, the emphasis in digital and media digital accessibility training is placed on technical aspects essential to reach the end-user (Matamala and Orero, 2019; Oncins, 2021) without considering fundamental competencies, such as: understanding accessibility, needs and preferences of the different users, service competence to be able to mediate and deliver accessibility properly, or promoting promotion to be able to raise awareness and involve stakeholders.

Most digital accessibility training is included in academic IT studies related to the development of technological systems, services and products. It aims to comply with standards without providing a deep understanding of the users' needs (Oncins et al., 2020). On many occasions, a web developer enables a web page to be compatible with screen readers without having received training on how users of this service navigate the internet. On the other hand, the growing convergence of digital and media content towards the web results in an increasing demand for professionals with training in digital accessibility.

In addition, percentages of digital accessibility are increasing, but the importance of quality and the need for training professionals in this field should be highlighted. In this sense, the IMPACT project (2019 - 2022) aims to train the figure of the educator/mediator in digital accessibility to be able to provide advice and guidance to the different agents involved in the design of digital systems, services, and products.

3.3. From deficit-thinking to valuing experience and competences

In the past, people who were "different" and did not fit in, were considered a problem. The explicit or implicit norms people should adapt varied from case to case. In any case, many people were too young or too old, not from the right background (ethnical, social, educational), not having the right gender or the right sexual orientation or religious belief. Physical or intellectual disabilities were treated as a significant deficit, a "handicap" in all areas of life. A blind software developer? Impossible. A deaf hairdresser? Unthinkable.

Times are changing. One-klick digital accessibility checks when using standard software? An autistic software evaluator at SAP? The reality for years. A government reflecting a highly diverse and heterogeneous society? Look at Canada. The norms in society are becoming fragile and more diverse. There is a window of opportunity for all people, with and without disabilities, to appreciate the talents and strengths of people. People who do not (want to) comply with outdated norms but are individuals who share with others more similarities than differences. Resource and strengths-oriented approaches and diversity management at the workplace are key requirements when it comes to innovation and the extraordinary performance of teams and organisations (Sauberer, 2021).

Accessibility professionals are a growing global community. They work for broadcasters, media, governments, enterprises, and all kinds of organisations that take compliance and social responsibility seriously. Accessibility standards and requirements become national and international norms, such as in the case of web accessibility and participation in increasingly digital societies. Using plain language or communicating with users, clients and stakeholders in easy-to-read language have many advantages: We are getting older, more diverse, also linguistically. Newcomers in society benefit from easy-to-read language as much as young and older people, and all people: Imagine legal texts not written by lawyers for lawyers, but for citizens who can easily understand what the legal text is all about.

In the EU project Train2Validate, Easy to Read experts are being qualified and certified by the European Certification and Qualification Association (ECQA), as Easy to Read Validators and Facilitators. The validators are the people concerned, those with disabilities and reading difficulties. It is obvious that they are the best validators of easy or difficult to read texts.

For the first time, people with disabilities are considered as accessibility and inclusion *experts* who can be hired for assessments and consultancy. For the first time, there are European Certificates to confirm that people with disabilities, and all those who work in the field of accessibility and inclusion, are competent and qualified to do their jobs and job roles at the European level.

No more deficit thinking, but appreciation for qualified jobs and recognition of professionals in the field of accessibility and inclusion in needed. The same principle applies to all accessibility professionals who hold an ECQA certificate. They are recognised experts in different areas of accessibility, diversity, and inclusion.

3.4 ECQA Certificates for new and emerging job roles and jobs in accessibility

ECQA Certificates meet the need for new and emerging professions and job roles, where no or only very heterogeneous training is available. Accessibility professionals, for example, usually do not have a diploma or any official recognition. But they do a great job as Digital Accessibility Educators, as Life Text Subtitlers, as Diversity Managers, as Easy to Read Validators, etc.

At ECQA, these professionals can obtain international, European certificates for the first time, confirming that they are experts in the field they are working in. This increases awareness for and visibility of their professions and gives value to their important work. Currently, the following certifications for accessibility are available or under development within international and EU funded projects:

- ECQA Certified Digital Accessibility Educator
- ECQA Certified Easy to Read Validator
- ECQA Certified Easy to Read Facilitator
- ECQA Certified Intralingual Real-Time Subtitler (Respeaker and Velotypist)
- ECQA Certified Trainer in Inclusive Distance Learning
- ECQA Certified Accessibility Manager, and
- ECQA Certified Accessibility Coordinator (Venue based)

The ECQA also supports the industry need for skilled workers. The need for fast-changing knowledge and skills must be constantly supported and monitored and requires new training and certifications. This can only be achieved by experts of the

field working together with the industry to fulfil the needs and demands here. Because of this, the ECQA supports these communities as Focus groups for different pillars of expertise. ECQA Focus groups invite recognised experts from industry and academia, including certificate holders, to discuss and shape the future in their fields. Certificates for professionals, jointly developed by industry, academia and the ECQA, are issued by ECQA GmbH. Currently, the ECQA Certificates, certified training programs and Focus Groups can be clustered around three main topics:

1. Accessibility,
2. Innovation, and
3. Sustainability.

Accessibility Professionals, Blockchain and DLT Experts, Cultural Heritage Practitioners, Eco-Designers and Green Solution Providers, Sustainability Professionals, Terminology Managers, as well as Virtual Reality and Augmented Reality Experts are currently supported by Focus Groups and communities. The ECQA Focus groups are often wide enough for several specialised topics to be included, as many of these topics have contact points or overlap, enhancing the discussions and decisions. Some of these topics, such as Accessibility Professionals, Terminology Managers in Engineering Environments, or Blockchain Experts, also are addressed in Automotive disciplines. Training programs that focus on automotive disciplines and certifications for these are handled by the EuroSPI GmbH and are fully supported by the ECQA and the ECQA GmbH.

4. Conclusions

This article has presented the importance of moving teaching practices in the accessibility field from compliance with current standards, towards fostering a more inclusive mindset, which not only considers the diverse range needs of people with disabilities, but also involve them in the conception, design, development and validation processes of any digital product, service and tool. This inclusive approach is currently being applied in the development of the materials as part of the IMPACT project. The main aim is not only the creation, but also the certification of a new job role "Digital Accessibility Mediator". More importantly, this certification can be held by a person with or without disability, which guarantees that the question of digital accessibility is not only approached as a technical question. It will also ensure that the dialogue between professionals and end-users is possible, and can lead to better accessibility *based on the perception of accessibility by the end-user*, regardless compliance to the standard.

Acknowledgements

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