Jun 23rd, 9:00 AM - Jun 28th, 5:00 PM

W3C web accessibility initiative under the microscope: Identifying assumptions of users and their involvement in digital accessibility design

Pia Karasjärvi
University of Vaasa, Finland

Juho-Pekka Mäkipää
University of Vaasa, Finland

Rebekah Rousi
University of Vaasa, Finland

Citation

Karasjärvi, P., Mäkipää, J., and Rousi, R. (2024) W3C web accessibility initiative under the microscope: Identifying assumptions of users and their involvement in digital accessibility design, in Gray, C., Ciliotta Chehade, E., Hekkert, P., Forlano, L., Ciuccarelli, P., Lloyd, P. (eds.), *DRS2024: Boston*, 23–28 June, Boston, USA. https://doi.org/10.21606/drs.2024.547

W3C web accessibility initiative under the microscope: Identifying assumptions of users and their participation in digital accessibility design

Pia Karasjärvi[a,*], Juho-Pekka Mäkipää[b], Rebekah Rousi[a]

[a]School of Marketing and Communication, University of Vaasa, Finland
[b]School of Technology and Innovations, University of Vaasa, Finland

*Corresponding e-mail: pia.karasjarvi@student.uwasa.fi

doi.org/10.21606/drs.2024.547

Abstract: In addition to the well-known Web Content Accessibility Guidelines, Web Accessibility Initiative (WAI) also provides additional information and best practices for web practitioners on involving users with disabilities in their projects. Given the central role that the WAI possesses in the case of web accessibility, how they perceive and what they say about user participation is regarded as significant. This paper examines how users with disabilities are represented, and more importantly, how they are discussed in the recommendations. Critical close reading was performed on text produced by the WAI regarding user involvement of people with disabilities. We found a reduction in the nature of how people with disabilities are established as human equals in the design process. Based on our analysis we identified nine themes underlying the view of users with disabilities and their participation. The themes illuminate ethical issues and hidden assumptions that need close attention in the future.

Keywords: disability justice; design justice; digital accessibility; user participation

1. Introduction

The world of digital design is at a cross-road. Increasingly, discussions are taking place on the need to address issues of inequality and access to all areas of society. These are particularly connected to depictions of the United Nations (UN) Sustainable Development Goals (SDGs) (United Nations, 2023). Most areas of society these days are embodied within the digital domain of cyberspace. Yet, as in other societal domains, there is a constant conflict of interest between what are understood as *good* and *virtuous* values such as social and environmental responsibility, and the values that drive modern day business forward – *fast to market, maximum profits, large margins*. Sadly, this does not leave much room for including diverse user groups in the design process and what is more, when included it is often at a tokenistic level (Cameron et al., 2019). This particularly applies for user groups with disabilities.

It is no secret that efforts made to 'equalize' the digital terrain have constantly failed. 'Design for all' has only at best been 'design for some' as certain supposed critical target groups are identified already during conceptualization and ideation phases of design processes, to the exclusion of others. What is more, the European Accessibility Act (EAA) (EU Directive 2019/882) was enforced by all EU Member States by June 28th, 2022, and accessibility requirements must be met by 2025 (Ministry of Social Affairs and Health, 2023). The intention behind the Act has been to promote accessibility to increase opportunities to participate across all sectors of society. The basic function of the EAA is to ensure that all citizens have guaranteed access to particular services and products by public and private sector organizations.

The ISO standard ISO 9241-11:2018, also referred to by European Union legislation (Directive 2016/2102, 2016) defines accessibility as the "extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use" (ISO, 2018). In contrast, usability is concerned with the overall improvement of interaction between humans and systems, whereas accessibility focuses specifically on people with disabilities (W3C, 2016; Mäkipää, 2023).

The Web Content Accessibility Guidelines (WCAG) developed by the Web Accessibility Initiative (WAI) via the collaborative World Wide Web Consortium (W3C) process, serve as instructions for developing more accessible web content for people with disabilities, and serves as an international standard (W3C, 2023a). In addition to the WCAG, the WAI also provides additional information and best practices for practitioners on how to get started with web accessibility, and how to involve users with disabilities in their projects. Given the timeline posed by the EAA and the central role that the WAI possesses, understanding what they say about user involvement and how they encourage practitioners to implement it is pertinent. Aside from technical solutions, one aspect to further consider is the cultural dimensions of people for whom accessibility design is aimed. By this, we mean the understanding of cognitive-sensory diversity as cultural variations (i.e., Deaf culture).

The current paper takes on a cultural and ethical lens towards analyzing how the organization and their material lead designers and other stakeholders, understand users with disabilities and how they are positioned in relation to the design process. We adopt a critical approach to analyzing the material to gauge notions of ableism and explore other salient constructs and properties that emerge from the data. Our aim is to examine how one of the world's leading websites on web design accessibility and its recommendations represent users with disabilities, with emphasis on how they present their participation in the design process.

While WAI's digital strategy seems ideal, fundamental challenges emerge when considering access by diverse groups of individuals. These challenges stem from failure to encompass users as holistic individuals who, through involvement in the design process, can serve not simply as informants, but qualified expert co-designers. For this reason, the current paper

presents a study that examines how user involvement by people with disabilities is represented and framed in the WAI. We employed inductive critical close reading (Brummett, 2019) to ascertain how the WAI, an international authority on web design accessibility - also used as the standard recommendation baseline for international regulations - posits users in relation to the design process. Moreover, special focus is placed on how users, in this case people with disabilities, are described, how participation is explained (methods, stages of development and modes of involvement), and how people with disabilities are positioned in relation to design and development (designers or consultants). These focus areas are described in light of theoretical points-of-departure that derive from previous research in design and disability justice.

2. Background

There are many facets to account for when examining user participation of people with disabilities in digital service design processes. Here, we give an overview of key concepts that then lead into issues relating to user participation, its modes and related ethical issues.

2.1 Disability, ableism and disablism

With respect to the difference and acceptance of persons with disabilities as part of human diversity and humanity, the United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines persons with disabilities as “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” (United Nations, 2006). However, disability is a complex phenomenon that reflects a person's ability to interact with their environment, including in a social context. In particular, the CRPD promotes the design and development of accessible information and communication to ensure equal access for all.

Equal participation of people with disabilities is hindered by their interaction with ”attitudinal and environmental barriers” (United Nations, 2006), resulting in the violation of their human rights. Participation therefore does not apply equally to everyone, and it is essential to ensure that people with disabilities are provided the means to participate, particularly in areas and stages that they deem important. In fact, the *Nothing about us without us* movement is all about ensuring that people with disabilities not only are involved in issues that affect them directly, but that they can exercise control in a world that defines disability through dependency (Charlton, 1998).

Amongst the attitudinal barriers that hinder participation are ableism and aversive disablism. Ableism refers to “a network of beliefs, processes and practices that produce a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human. Disability, then, is cast as a diminished state of being human” (Campbell, 2001, p. 44). Deal (2007), instead, talks about aversive disablism, which refers to subtle forms of socially acceptable prejudice that lead to oppressive

behavior towards people with disabilities. Moreover, aversive disablism, as it stands in relation to one predecessor 'aversive racism' (Deal, 2007), refers to an internal conflict within individuals that sees them hold negative feelings towards members of a population (or populations) while at the same time striving towards an ideal of themselves as non-prejudice. Thus, comments such as 'I'm sorry….', 'What happened?', 'It's amazing how far you've come…' are indeed subtle forms of aversive disablism. Put differently, ableism refers to discriminating attitudes of a society as a whole, while disablism refers to individual behaviors and prejudices (Bogart & Dunn, 2019). Both give rise to a phenomenon called othering, which refers to people with disabilities being given a different level of attention compared to that received by people without disabilities (Mik-Meyer, 2016), and which can take the form of both protection and exclusion (Cherney, 2019).

2.2 Participation in design

Different design methods approach user participation in various ways. In User-Centered Design (UCD), users are put at the center of the design process, but the design itself is owned by the designer, and users are involved only when it is convenient for the design process, usually in the planning phase and evaluation phase if at all (Carroll, 1996; Damodoran, 1996). In Participatory Design (PD) users are more actively involved in the design process compared to UCD. PD holds that people who are most affected by the design should be involved in the design process (Segalowitz & Brereton, 2009). However, they still do not have any decision-making power regarding the design. Even if user participation is more active and the designer's role is more that of a facilitator (Spinuzzi, 2005), the constraints and goals that feed into the design have already been established by the designer and users do not have any influence on them.

Moving on step further, design justice states that people who are most affected by the design not only should be involved in the design process, but should also be in a leadership and decision-making position (Costanza-Chock, 2020), thus addressing the demand for control that is advocated by *Nothing about us without us*. According to Costanza-Chock (2020), PD does not fulfil these requirements and instead promotes the use of community-led participatory design (CLPD). In recent years there has been a growing interest in design methods such as PD and CLPD that promote broader user participation (Sanders & Stappers, 2008; Smith et al., 2017; Costanza-Chock, 2020).

2.3 Participation and its ethical challenge

Contemporary discourse across societal sectors, and none-the-least design, promote the importance of including users and various stakeholder groups in processes - from the early stages onwards (Lee, 2006). As accessibility specifically involves people with disabilities, it is imperative that they be involved in accessibility-related projects. Not only does participation enable opportunities for key user groups to inform the design process with needs and desires, but designers and other parties in system development have the opportunity to get to

know *who* they are designing for (Margolin, 1997). The first challenge is however, *how* participation is considered within the design processes (Kujala, 2003).

There are at least two basic levels of difficulty regarding user involvement in the design of digital services that are *accessible* and/or relevant to all. Firstly, the task of involving any user and/or group is often challenging in any case (Kujala, 2003; Zowghi, da Rimini & Bano, 2015; Tritter & McCallum, 2006). Not only are user groups diverse in general, but obstacles arise from both sides of the process in terms of eliciting required information from users (van Velsen, Ludden & Grünloh, 2022) as well as developing a sense of influence and ownership of the process from the user's perspective (Amoako-Gyampah & White, 1993; Beresford, 2002). The next level is the encompassing of vocabulary and interaction with the target end users. Communication is noted as one of the main challenges (Joss et al., 2016), and in the case of cognitive disabilities, there are additionally obstacles from the perspectives of research literacy (users understanding what is expected of them when participating in the design process, see e.g., Henry et al., 2002), confidence and self-esteem, power imbalance, interpersonal relationships between the user and designer, and the level of involvement (i.e., tokenism versus genuine participation, see, Bourke, 2012).

Arnstein's (1969) Ladder of Citizen Participation has been referred to in processes and studies related to citizen participation, design involvement, as well as ethics and action research (Brydon-Miller, 2008). In the case of ethics and action research, the ladder was applied to understand citizen-authority power relations and how these influence factors of respect (interpersonal and for the system), beneficence (kindness, mercy, generosity) and a sense of justice. Arnstein's (1969) Ladder of Participation sees participants as being broadly divided into three categories: nonparticipation, tokenism and citizen power.

Citizen power comprises citizen control, delegated power and partnership. According to Botchwey et al.'s (2019) revision of the model, the information flow of these top three rungs is that of sharing - bi and multi-directional interaction between parties. They also add that at the rung of partnership there are protocols for reciprocity, or social contract, that involve the seeking and granting of incorporation (traceable influence), advocacy (support and voice) and consent (agreement). Tokenism involves processes that exist in the forms of placation (appeasement or calming), consultation and informing. Botchwey and colleagues (2019) categorize these as giving relations in which users adopt the roles of giving. Finally, the last category of nonparticipation is characterized by modes of interacting that embody therapy (ableist approaches by designers to cure and educate people with disabilities) and manipulation (serving the interests of the designers/commissioners rather than the users). Figure 1 shows an adapted version of Arnstein's (1969) Ladder of Citizen Participation with Botchwey et al.'s (2019) revision.

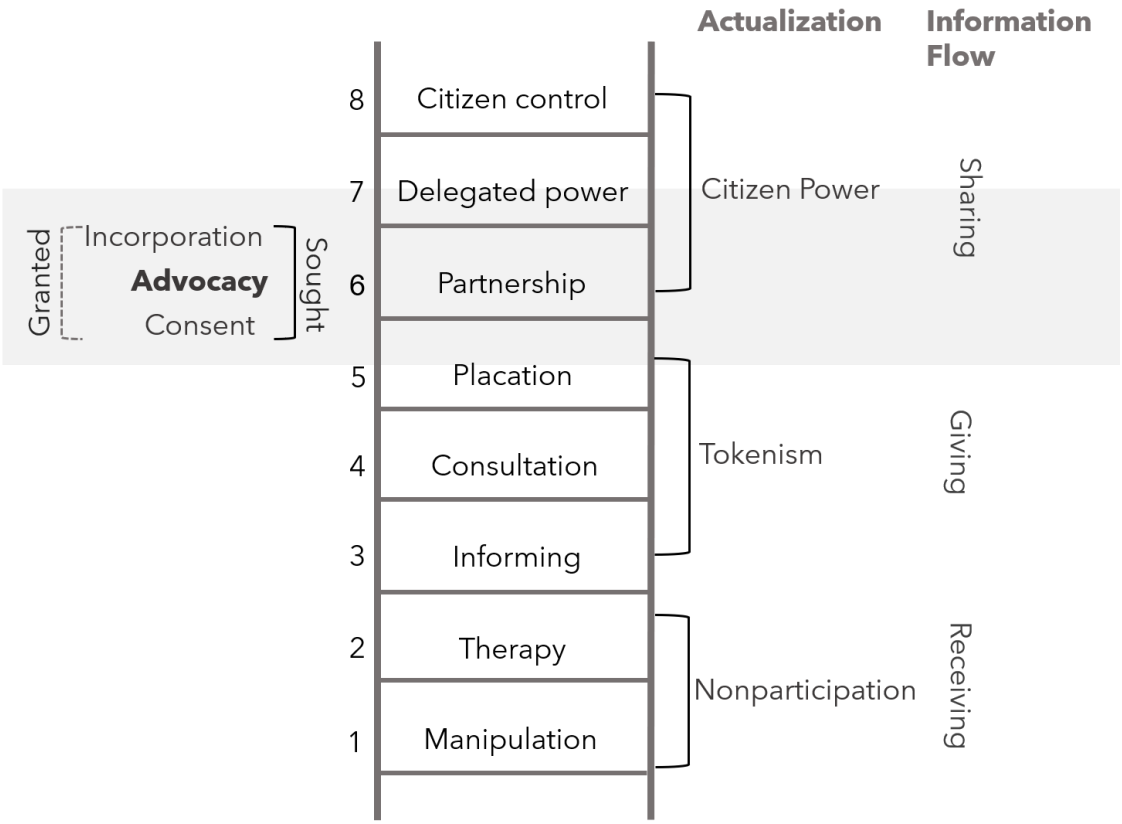

Figure 1 Adapted Ladder of Citizen Participation according to Arnstein (1969, p. 217) and Botchwey et al. (2019).

The ideal level of participation would be situated on the Partnership level that promotes citizen power through advocacy. This entails a mutual relationship of understanding in which consent is sought and granted.

3. Method

We applied inductive critical close reading to the text in the website produced by the WAI, *Making the Web Accessible* (W3C, n. d.). Specifically, we looked at the representation of people with disabilities and user participation. According to Brummett (2019), close reading is a thoughtful, scholarly reading of text that aims to generate deeper understandings of semantic relations between elements inherent in and surrounding the text. It is therefore suitable for developing advanced interpretations pertaining to the ethical implications of the examined text. Critical close reading offers a way of looking at a text in a different light and can provide an ethical interpretation that would otherwise not be accessible. An inductive approach provides the opportunity to freely explore the text and to make generalizations that emerge based on the findings that can eventually lead to the formation of a theory (Brummett, 2019). Figure 2 shows the research process from the data selection phase to the coding phase to the analysis phase.

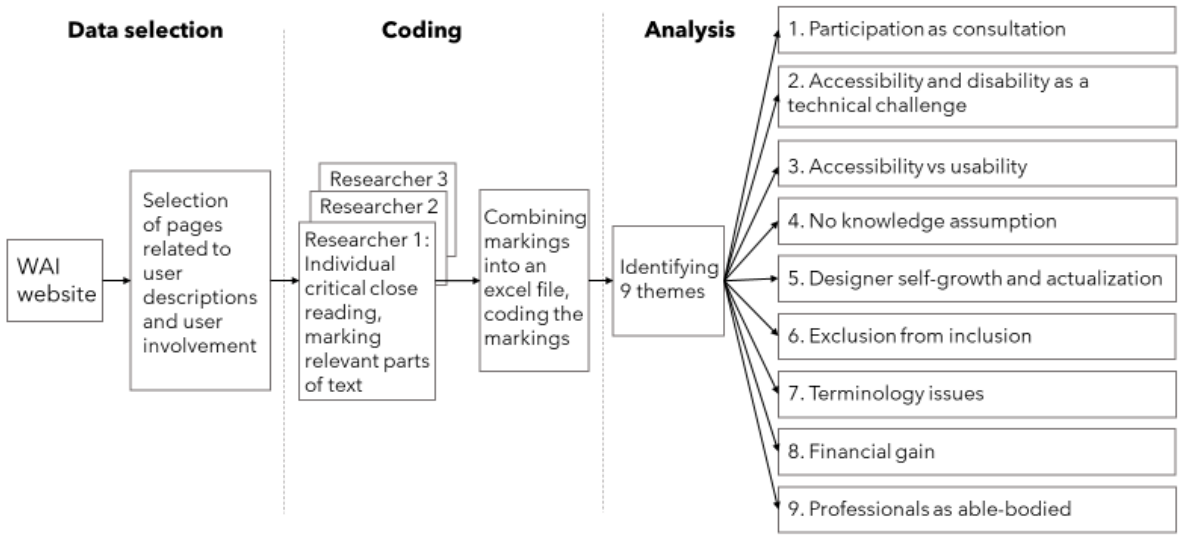

Figure 2 Research design.

While we acknowledge that close reading includes several techniques such as analyzing the form, ideology, argument, and transformations (Brummett, 2019), we decided instead to focus on WAI's role in providing guidance to the WCAG. We consider this role to be the main lens through which we anchor our analysis.

The website *Making the Web Accessible* (W3C, n. d.) is written by several WAI accessibility experts and on the home page it states that it is aimed at Web Practitioners (such as Content Writers, Designers, Developers and Evaluators) Managers, Policy Makers, Trainers and Educators, as well as Web Users, People with Disabilities and Advocates. The website provides an overview of what web accessibility is about, including useful resources beyond accessibility standards. The navigation menu contains six sections: Accessibility Fundamentals, Planning & Policies, Design & Develop, Test & Evaluate, Teach & Advocate, Standards/Guidelines. The website also provides WCAG news and openly lists all WAI sponsor organizations.

To ensure that our analysis focused on user participation and on how users are understood, we selected the web pages from the WAI website that specifically discuss those topics. Based on the WAI sitemap, we selected seven pages for our close reading analysis. Table 1 shows the website section and the name of the selected web page within that section.

All three authors analyzed the seven pages individually, marking parts of the text that we found of relevance and adding comments where applicable. We then compared our markings and discussed the themes that we agreed had emerged from them.

Table 1 WAI content that was selected for analysis.

Nr.	WAI section	WAI web page
1	Accessibility Fundamentals	It's About People (W3C, 2023b)
2	Accessibility Fundamentals	Web Accessibility Perspectives Videos: Explore the Impact and Benefits for Everyone (W3C, 2023c)
3	Accessibility Fundamentals	How People with Disabilities Use the Web (W3C, 2017a)
4	Accessibility Fundamentals -> How People with Disabilities Use the Web	Stories of Web Users (W3C, 2017b)
5	Accessibility Fundamentals -> How People with Disabilities Use the Web	Diverse Abilities and Barriers (W3C, 2017c)
6	Planning & Policies	Involving Users in Web Projects for Better, Easier Accessibility (W3C, 2020)
7	Test & Evaluate	Involving Users in Evaluating Web Accessibility (W3C, 2021)

4. Findings

We analyzed a total of 147 markings, 116 of which we were able to categorize into emerging themes. We identified nine themes as follows: *Participation as Consultation*, *Accessibility and Disability as a Technical Challenge*, *Accessibility vs Usability*, *No-Knowledge Assumption*, *Designer Self-Growth and Actualization*, *Exclusion from Inclusion*, *Terminology Issues, Financial Gain*, and *Professionals as Able-bodied*. Table 2 shows the identified themes and respective number of markings from most to least prevalent.

Table 2 Identified themes.

Identified theme	Nr. of markings
Participation as consultation	28
Accessibility and disability as technical challenge	26
Accessibility vs usability	14
No knowledge assumption	13
Designer self-growth and actualization	11
Exclusion from inclusion	10

Identified theme	Nr. of markings
Terminology issues	10
Financial gain	3
Professionals as able-bodied	1

The following sections describe each theme in more detail.

4.1 Participation as consultation

Based on our analysis, the most prominent theme was *Participation as Consultation*, all in pages 6 and 7 (see page numbers in Table 1). When participating in design projects, people with disabilities are described as passive. They are consulted during the planning and evaluation phases, but their involvement does not extend beyond that. Projects belong to designers, who are advised to include "real people" in their projects. Designers are encouraged to ask users with disabilities about their needs, or have them show what works and what does not. Examples of these observations can be seen in the following quotations:

> "include users in your project" (Table 1, Nr. 6)

> "Ask people to show you related products that work well for them. Then, ask them to show you problems in products that do not work well. Ask lots of questions to help you understand the accessibility issues." (Table 1, Nr. 6)

Designers are encouraged to include users "in use cases, user analysis, personas, scenarios, workflows, design walkthroughs, etc." (Table 1. Nr. 6), however none of these methods require direct participation or an active role from users with disabilities. Thus, the text is formed in a way that emphasizes the projects as being designers' projects, rather than a larger community's.

4.2 Accessibility and disability as a technical challenge

Accessibility, as well as disability, are seen as a technical challenge. The focus is strongly on accessibility as a set of tools that are used to remove barriers that people with disabilities encounter. Disabilities are discussed through descriptions of their impairments and challenges when using websites. Cultural aspects are not mentioned at all in these texts. For example, auditory disabilities are described in terms of their limitations, but Deaf culture is not considered, as shown in the following finding:

> "Some people with auditory disabilities can hear sounds but sometimes not sufficiently to understand all speech, especially when there is background noise." (Table 1, Nr. 5)

Thus, there is a failure to not only understand that users may not see their diversity as a limitation, but also, there is negligence in recognizing that Deaf is a cultural way of being.

4.3 Confusing accessibility with usability

We noticed terminological inconsistencies related to accessibility and usability. Accessibility appears to be for users with disabilities, but at the same time it improves the usability for all users, as shown in the following findings:

> "usable by people with disabilities" (Table 1, Nr. 1)
>
> "useful for all" (Table 1, Nr. 1; Nr. 3)

Accessibility is seen as essential for people with disabilities and useful for all (Table 1, Nr. 1; Nr. 2; Nr. 3). There is some inconsistency in "usable by people with disabilities", in which case accessibility leads to usability not for all, but for people with disabilities. The terminological inconsistency as observed here, is representative of more fundamentally complex issues regarding confusion between the concepts (Author, 2023; Petrie & Kheir, 2007), nonethe-least the unethical social engagement in aversive disablism (Deal, 2009).

4.4 No-knowledge assumption

The target audience of the WAI website is web developers and other professionals in the field. We identified that WAI assumes its target audience to be without any previous knowledge about people with disabilities. WAI reminds the target audience that people with disabilities, just as anyone else, should be treated with respect. The target audience should consider that people with disabilities are as diverse as any other group, meaning that input from one person may not apply to all people with disabilities, and one person may not be able to provide guidance for accessibility issues that are not relevant to them.

> "Treat people with disabilities and older users with the respect you would any other users." (Table 1, Nr. 6)
>
> "People with disabilities are as diverse as any people." (Table 1, Nr. 6)
>
> "Caution: Carefully consider all input. Avoid assuming that input from one person with a disability applies to all people with disabilities. A person with a disability does not necessarily know how other people with the same disability interact with the web. They might not know enough about other disabilities to provide valid guidance on other accessibility issues. Getting input from a range of users is best." (Table 1, Nr. 6)

Addressing stereotypes related to people with disabilities, but also assumes that it is necessary. Considering the global outreach of WAI, it actually might be necessary.

4.5 Designer self-growth and actualization

We noticed that a strong motivation for involving users with disabilities is the opportunity for the designers to improve themselves. Designers become more efficient. They gain a better understanding and a broader perspective of accessibility, and they are better at implementing and discovering accessibility solutions.

> "Including users in the development process helps you more efficiently develop" (Table 1, Nr. 6)
>
> "Including users with disabilities and older users with accessibility needs is key to making your accessibility efforts more effective and more efficient." (Table 1, Nr. 6)

> "Involving users with disabilities is also seen as a means to motivate designers in considering accessibility in their work." (Table 1, Nr. 6)

> "When designers and developers see people with disabilities use products like theirs, most are highly motivated by a new understanding of accessibility." (Table 1, Nr. 6)

According to these findings, people with disabilities are considered to be teaching designers valuable lessons in efficiency and understanding accessibility. Designers become better at accessibility when users are involved in the process. Referring to the ladder of participation, we can see placation going on, although it refers more to the placation of designers and their feeling better for involving users. Instead of actively working on a design that affects them directly, the role of people with disabilities is to motivate designers to prioritize accessibility. Involvement therefore stops at the tokenism level of the participation ladder and benefits the designers more than it does the people with disabilities, making it an exploitative activity.

4.6 Exclusion from inclusion

We had a closer look on how people with disabilities were talked about in the text. While WAI authors are the people who have written the text and designers are its target audience who are spoken to directly, people with disabilities are the topic that is talked about, without being part of the conversation. They are exclusively referred to in the third person. Page 4, *Stories of Web Users*, presents a series of user stories involving different personas. The personas are not real people and their stories are told in the third person, making their role in the storytelling a passive one. Another alternative would have been showing stories told first hand by people with disabilities using the first person, making them effectively part of the conversation.

> "Note: The following scenarios are not real people. They do not address every kind of disability." (Table 1, Nr.4)

It also is not clear from the text alone if and how people with disabilities were involved in the development of these scenarios, and if they represent actual lived experiences. This exclusion can be seen as a form of othering (Cherney, 2019).

4.7 Terminology issues

We noted considerable inconsistencies in the way that people with disabilities were addressed throughout the pages that we investigated (10 instances in total). While "people with disabilities" and "users with disabilities" were the most used terms, occasionally terms such as "disabled people", "differently abled" and "diversity of people and abilities" were used.

> "yet sometimes they get the focus instead of the fundamental goal of accessibility: meeting the needs of disabled people in the real world." (Table 1, Nr. 1)

> "This page introduces considerations for usability testing and other evaluation with disabled people ("users with disabilities")." (Table 1, Nr. 7)

Oddly, the latter example includes both disability first language, followed by person first language in parentheses. This example is from the top of the page, suggesting that from that point onwards, the author will refer to “disabled people” as “users with disabilities”. It is not clear why declaring this choice was necessary in the first place.

Using both people first and disability first language seems to suggest that there was not a clear decision made between the two options.

In the next examples person first or disability first language is not used, instead the focus is on the abilities and how diverse they are, regardless of an individual’s status of disability.

> “diversity of people and abilities” (Table 1, Nr. 3)
>
> “diverse abilities” and “people and abilities” (Table 1, Nr. 5)

In the next example, the focus is instead on the disabilities.

> “disabilities and barriers” (Table 1, Nr. 5)

The contrast between these three examples is interesting, as first two clearly focus on the variety of abilities, and the third one focuses on barriers and disabilities.

The overall effect of careless use of words and inconsistent terminology is that of a superficial attitude towards people with disabilities.

4.8 Financial gain

Even though this theme is strongly related to *Participation as Consultation*, we wanted to keep this theme separate to highlight the fact that involving users with disabilities in design work is justified and motivated through financial gain. According to WAI, people with disabilities should be consulted for improving the product’s accessibility, with the goal of increasing efficiency and financial gain. Involving users with disabilities in a design project guarantees ROI and benefits stakeholders. The WAI does not encourage hiring people with disabilities, instead, involving them in the project means getting usability testing for free:

> “You could say that involving users with disabilities in your development project gives you improved usability for free.” (Table 1, Nr. 6)

The findings suggest that the role of people with disabilities is to consult when required by the designers, and to get very little or no compensation for it.

4.9 Professionals as able-bodied

The target audience of the WAI website is designers and other web professionals. When reading the text, it is clear that the target audience is also assumed to be able-bodied, knowing nothing about people with disabilities (see section 4.4). Therefore, the text suggests that web professionals are considered to be able-bodied. This is interesting, considering that the WAI website is also aimed at people with disabilities and their advocates, but they are not considered part of the web professionals.

5. Discussion and conclusion

This paper examined how users with disabilities are represented, and more importantly, how they are discussed in WAI's recommendations involving users with disabilities in web design projects. Given the central role that the WAI possesses in the case of web accessibility, what they say about user participation is regarded as significant among web practitioners, since the WAI has developed also the well-established WCAG. We conducted a critical close reading of the text produced by the WAI regarding user participation of people with disabilities. We focused on how involvement methods, stages of development, and modes of involvement are explained, and how people with disabilities are positioned in relation to design and development from tokenism to genuine participation (Bourke, 2012).

This paper contributes as follows. We identified nine themes underlying the view of users with disabilities and their participation. (1) Participation as consultation; (2) Accessibility and disability as technical challenge; (3) Accessibility vs usability; (4) No knowledge assumption; (5) Designer self-growth and actualization; (6) Exclusion from inclusion; (7) Terminology issues; (8) Financial gain; and (9) Professionals as able-bodied. The themes illuminate ethical issues and hidden assumptions that need close attention in the future. We found a reduction in the nature of how people with disabilities are established as human equals in the design process. Based on the findings the expectations of participation of people with disabilities are seen as consultative and, thus do not reach the upper level of participation remaining on the tokenism level in Arnstein's (1969) Ladder of Citizen Participation nor does it fulfill decision-making requirements as advocated by design justice (Costanza-Chock, 2020). Disability is seen as a technical challenge ignoring the cultural aspects of different target populations. The inconsistent discussion between the concepts of accessibility and usability makes the aim of the participation vague, as often the development of accessibility of a certain target population is justified to enhance usability for all people. Yet, this type of design stance is not effective when aiming to improve accessibility.

Similarly, the inconsistency in the terminology of people with disabilities may reveal a superficial approach toward people with disabilities. Thus, an "us vs. them" impression emerged from the texts. The stories of people with disabilities are told in the third person, making their role in the storytelling a passive one, thus enacting ableism (Bogart & Dunn, 2019).

This paper opens up the discussion on how people should be treated in user participation in general, so that they are not simply tokenistic consultants or informants but work as partners towards a common goal. This goal is to make digital services more accessible for equality and social wellbeing, not just to gain business profits (see Iivari, 2006) via a free workforce or to boost a professional developer's competence. Both from the WAI text and from the sources cited in it, we can see that the promoted design methodology is UCD, with only limited user participation during the planning and testing phases.

Our study has its limitations. Our interpretative framework is a limitation, understanding the bigger context in which the website was developed is not included in this study. We have not interviewed any people who were involved in the making of the website, which would be a

logical next step. We also propose for future research to inspect the ethicality of the nuances and phrasing of different disability groups and participation.

Acknowledgements: We would like to acknowledge the University of Vaasa, Schools of Marketing and Communication, and Technology and Innovations, for supporting this research. In addition, we would like to thank the Research Council of Finland for their funding of the "Emotional experience of privacy and ethics in everyday pervasive systems [BUGGED] project" (decision 348391).

6. References

Amoako-Gyampah, K., & White, K. B. (1993). User involvement and user satisfaction: An exploratory contingency model. *Information & Management*, 25(1), pp. 1-10. https://doi.org/10.1016/0378-7206(93)90021-K

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners*, 35(4), pp. 216-224. https://doi.org/10.1080/01944366908977225

Beresford, P. (2002). User involvement in research and evaluation: liberation or regulation? Social policy and society, 1(2), pp. 95-105. https://doi.org/10.1017/S1474746402000222

Bogart, K. R., & Dunn, D. S. (2019). Ableism Special Issue Introduction. *Journal of social issues*, 75(3), pp. 650-664. https://doi.org/10.1111/josi.12354

Botchwey, N. D., Johnson, N., O'Connell, L. K., & Kim, A. J. (2019). Including Youth in the Ladder of Citizen Participation. *Journal of the American Planning Association*, 85(3), pp. 255-270. https://doi.org/10.1080/01944363.2019.1616319

Bourke J. A., Snell D. L., Sinnot A., & Cassidy B. (2012). A user-led consultation model: making inclusion of service users in research a reality. *Ethnicity and Inequalities in Health and Social Care*, 5(2), pp. 61-69. https://doi.org/10.1108/17570981211286804

Brummett, B. (2019). *Techniques of Close Reading*. SAGE Publications, Inc. https://doi.org/10.4135/9781071802595

Brydon-Miller, M. (2008). Ethics and action research: Deepening our commitment to principles of social justice and redefining systems of democratic practice. In P. Reason & H. Bradbury (Eds.), *The SAGE Handbook of Action Research: Participative inquiry and practice*, (pp. 199-210). SAGE Publications Ltd. https://doi.org/10.4135/9781848607934

Cameron, C., Moore, M., Nutt, A., & Chambers, E. (2019). Improving understanding of service-user involvement and identity: collaborative research traversing disability, activism and the academy. *Disability & Society*, 34(7-8), pp. 1312-1331. https://doi.org/10.1080/09687599.2019.1632693

Campbell, F. (2001). Inciting Legal Fictions: 'Disability's' Date with Ontology and the Ableist Body of the Law. *Griffith law review,* 10, pp. 42-62. http://hdl.handle.net/10072/3714

Carroll, J. M. (1996). Encountering others: Reciprocal openings in participatory design and user-centered design. *Human-Computer Interaction*, 11(3), pp. 285-290. https://doi.org/10.1207/s15327051hci1103_5

Charlton, J. (1998). *Nothing About Us Without Us: Disability Oppression and Empowerment*. University of California Press.

Cherney, J. (2019). *Ableist Rhetoric. How We Know, Value, and See Disability*. The Pennsylvania State University Press.

Costanza-Chock, S. (2020). *Design Justice. Community-Led Practices to Build the Worlds We Need*. MIT Press. https://doi.org/10.7551/mitpress/12255.001.0001

Damodaran, L. (1996). User involvement in the systems designs process—A practical guide for users. *Behaviour & Information Technology*, 15(16), pp. 363-377. https://doi.org/10.1080/014492996120049

Deal, M. (2007). Aversive disablism: subtle prejudice toward disabled people. *Disability & Society*, 22 (1), pp. 93-107. https://doi.org/10.1080/09687590601056667

Henry A., Nicholson, J., Clayfield, J., Phillips, S., & Stier, L. (2002). Creating job opportunities for people with psychiatric disabilities in a university-based research center. *Psychiatric Rehabilitation Journal*, 26(2), pp. 181-190. https://doi.org/10.2975/26.2002.181.190

Iivari, N. (2006). Exploring the Rhetoric on Representing the User: Discourses on User Involvement in Academia and the IT Artifact Product Development Industry. *International journal of technology and human interaction*, 2(4), pp. 54-83. https://doi.org/10.4018/jthi.2006100104

ISO (2018). ISO 9241-11:2018, *Ergonomics of human-system interaction - Part 11: Usability: Definitions and concepts*. https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:ed-2:v1:en

Joss, N., Cooklin, A., & Oldenburg, B. (2016). A scoping review of end user involvement in disability research. *Disability and Health Journal*, 9(2), pp. 189-196. https://doi.org/10.1016/j.dhjo.2015.10.001

Kujala, S. (2003). User involvement: a review of the benefits and challenges. *Behaviour & information technology*, 22(1), pp. 1-16. https://doi.org/10.1080/01449290301782

Lee, Y. (2006) Design Participation Tactics: Redefining User Participation in Design. In K. Friedman, T. Love, E. Côrte-Real, & C. Rust (Eds.), Wonderground - DRS International Conference 2006, pp. 1-15. 1-4 November, Lisbon, Portugal. https://dl.designresearchsociety.org/drs-conference-papers/drs2006/researchpapers/60/

Margolin, V. (1997). Getting to know the user. *Design studies*, 18(3), pp. 227-236. https://doi.org/10.1016/S0142-694X(97)00001-X

Mik-Meyer, N. (2016). Othering, ableism and disability: A discursive analysis of co-workers' construction of colleagues with visible impairments. *Human relations*, 69(6), pp. 1341-1363. https://doi.org/10.1177/0018726715618454

Ministry of Social Affairs and Health (2023). The European Accessibility Act. Accessed on 31.10.2023 at https://stm.fi/en/the-european-accessibility-act

Mäkipää, J.-P. (2023). "Explaining Accessibility: Possible Variables in Users' Abilities, Tasks, and Contexts in IT Artefact Use." AIS Transactions on Human-Computer Interaction 15(4):414–41. https://doi.org/10.17705/1thci.00096.

Petrie, H. & Kheir, O. (2007). The relationship between accessibility and usability of websites. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '07)*. pp. 397–406. https://doi.org/10.1145/1240624.1240688

Sanders, E. B.-N., & Stappers, P. J. (2008). Co-Creation and the New Landscapes of Design. *CoDesign*, 4(1), pp. 5–18. https://doi.org/10.1080/15710880701875068

Segalowitz, M., & Brereton, M. (2009). An Examination of the Knowledge Barriers in Participatory Design and the Prospects for Embedded Research. In *Proceedings of the 21st Annual Conference of the Australian Computer-Human Interaction Special Interest Group: Design; Open 24/7*, pp. 337–340. https://doi.org/10.1145/1738826.1738890

Smith, R. C., Bossen, C., & Kanstrup, A. M. (2017) Participatory design in an era of participation. *CoDesign*, 13(2), pp. 65-69. https://doi.org/10.1080.15710882.2017.1310466

Spinuzzi, C. (2005). The Methodology of Participatory Design. Technical Communication, 52(2), pp. 163-174.

Tritter, J. Q., & McCallum, A. (2006). The snakes and ladders of user involvement: moving beyond Arnstein. Health policy, 76(2), pp. 156-168. https://doi.org/10.1016/j.healthpol.2005.05.008

United Nations (2023). The 17 goals. Accessed on 30.10.2023 at https://sdgs.un.org/goals

United Nations (2006). Convention on the Rights of Persons with Disabilities and Optional Protocol. https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf

van Velsen, L., Ludden, G., & Grünloh, C. (2022). The limitations of user-and human-centered design in an eHealth context and how to move beyond them. *Journal of Medical Internet Research*, 24(10), e37341.

W3C (2016). Accessibility, Usability, and Inclusion. https://www.w3.org/WAI/fundamentals/accessibility-usability-inclusion/

W3C (2023a). WCAG 2 Overview. https://www.w3.org/WAI/standards-guidelines/wcag/

W3C (2023b). Accessibility: It's About People. https://www.w3.org/WAI/people/

W3C (2023c). Web Accessibility Perspectives Videos: Explore the Impact and Benefits for Everyone. https://www.w3.org/WAI/perspective-videos/

W3C (2017a). How People with Disabilities Use the Web. https://www.w3.org/WAI/people-use-web/

W3C (2017b). Stories of Web Users. https://www.w3.org/WAI/people-use-web/user-stories/

W3C (2017c). Diverse Abilities and Barriers. https://www.w3.org/WAI/people-use-web/abilities-barriers/

W3C (2020). Involving Users in Web Projects for Better, Easier Accessibility. https://www.w3.org/WAI/planning/involving-users/

W3C (2021). Involving Users in Evaluating Web Accessibility. https://www.w3.org/WAI/test-evaluate/involving-users/

Zowghi, D., da Rimini, F., & Bano, M. (2015). Problems and challenges of user involvement in software development: an empirical study. *Proceedings of the 19th International Conference on Evaluation and Assessment in Software Engineering*. (EASE, 2015). https://doi.org/10.1145/2745802.2745810

About the Authors:

Pia Karasjärvi is a Doctoral Researcher at the School of Marketing and Communication of the University of Vaasa. Her research interests include technical communication, accessibility, design justice, and critical disability studies.

Juho-Pekka Mäkipää, PhD is a University Lecturer in Information Systems at the School of Technology and Innovations at the University of Vaasa. His research interest is in human factors in socio-technical human-computer interaction and information systems/ human-computer interact artefact design. He is keenly interested in multi-disciplinary research in the research areas of accessibility, user experience, co-creative innovation, and digital artefact design.

Rebekah Rousi is an Associate Professor of Communication and Digital Economy at the University of Vaasa, Finland. Rousi holds a PhD in Cognitive Science, specialising in user experience. Her research interests include technology ethics, embodied emotions, privacy, trust, post-colonial theory and human-robot interaction.