

Guidelines are Less than Half of the Story: Accessibility Evaluations in 2025 and Beyond

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Abstract

This paper revisits the influential CHI 2012 work "Guidelines are only half of the story: accessibility problems encountered by blind users on the web." We assess the bibliometric impact of this contribution and examine how the accessibility challenges it identified have persisted, shifted, or been reshaped by technological developments and contemporary evaluation practices.

CCS Concepts

• **Human-centered computing** → **Accessibility design and evaluation methods; HCI design and evaluation methods; Accessibility theory, concepts and paradigms.**

Keywords

Accessibility, Usability, Evaluation methods, Practice

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1 Introduction

Developing accessible artifacts to all people, regardless of their characteristics and capabilities (e.g., physical, cognitive, financial, social, cultural, etc.) [10] requires considering accessibility during the software development process [1, 9]. Ultimately, determining the accessibility level of a specific artifact requires conducting an accessibility audit [1, 10, 12]. To do so, accessibility auditors generally apply two kinds of evaluation methods [12]. First, they rely on automatic checking tools such as Axe or WAVE. Second, they perform a manual verification of criteria listed in a checklist, such as those based on the Web Content Accessibility Guidelines (WCAG). While these methods are expert-based, quantitative, and tend to be objective [12], they do not involve end users and consequently do not allow for identifying all user problems. This is the main criticism,

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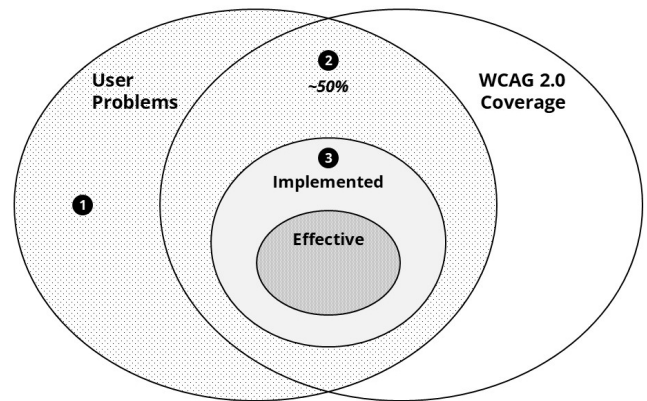


Figure 1: Set of user problems divided into three types (modified from Power et al. [11]).

and unexpected findings, highlighted in the seminal paper entitled "Guidelines are only half of the story: accessibility problems encountered by blind users on the web", written by Power et al. [11] and presented at the ACM Conference on Human Factors in Computing Systems (CHI) in 2012.

After having evaluated 16 conform and non-conform websites on WCAG 1.0 and WCAG 2.0 by 32 blind persons using a screen reader, Power et al. [11] highlight that a website conforms to WCAG 2.0 Level A does not mean that users will encounter fewer problems on it, and it does not necessarily mean that following these guidelines will make content accessible to people with diverse abilities. As illustrated in Figure 1, (1) half of the user problems were not covered by guidelines, (2) half of the user problems were covered by guidelines without being implemented by developers, and (3) implemented guidelines covering user problems were not effective in all cases according to users. Taking inspiration from usability research, the authors recommend focusing on the *proper* use—taking into consideration effectiveness, efficiency, and satisfaction—of digital artifacts by users rather than on problems they encounter.

In this paper, we assess and revisit this seminal paper and offer a holistic view of conducting an accessible audit following state-of-the-art research practices.

2 Assessing the Impact of the Original Contribution based on Bibliometrics

At the time of writing this paper, the study by Power *et al.* has received 509 citations on Google Scholar, 348 on Semantic Scholar (including 45 highly influential citations), and 246 on the ACM

Digital Library¹. Among the 836 CHI and ACM SIGACCESS Conference on Computers and Accessibility (ASSETS) papers devoted to accessibility and HCI research, and published over the period 1994–2019, this work can be qualified as impactful according to a bibliometric approach based on *performance*. CHI accessibility papers and ASSETS papers have a median of 23 (mean=41.9; SD=52.1) and 24 citations (mean=33.8; SD=38.9), respectively. Moreover, the high number of citations positions this seminal work as one of the top 100 most cited papers within blind and low-vision (BLV) in accessibility and HCI research published from 2010 to 2022 (included) [13], and within the theoretical pillar of web accessibility evaluation focusing on this population of users [2].

This success can be partly explained by the empirical evidence that complements other influential and semantically connected papers published during the same period (*e.g.*, [3]) and the significant attention paid to web technology over the last decade [7]. Surprisingly, this work is not cited in other recent systematic literature reviews focused on web accessibility evaluations [1], accessible software development [9], and conceptual aspects encompassing accessibility [12], which means that the impact could have been even more important.

3 Relevance to Today's Research and Practice

Considering that *solely* using guidelines is insufficient to fully evaluate the accessibility of an artifact [11], we covered scientific, normative, and practical literature to describe three extensions jointly supporting that today's "*Guidelines are Less than Half of the Story*".

We start by stressing the importance of *theory* when conducting accessibility audits. Applying two complementary evaluation methods (*i.e.*, expert- and user-based [11]) points to the relationships between accessibility and connected concepts [8, 10, 12, 15]. Recent efforts pursued the work of Power et al. [11], for instance, by describing the boundaries of the concept of accessibility and how it relates to usability [8] as well as by developing a comprehensive higher-level concept named 'interaction experience' encompassing accessibility, usability, and user experience (UX) [12].

This carries implications for the *practical* aspects of accessibility evaluation. As usability engineering [6], accessibility engineering is now supported by a wide arsenal of methods, techniques, and assets that can be applied to accessibility audits [1, 9, 12, 14]. Probably inspired by accessibility and HCI research practices, which invoke usability testing in a mixed-methods research design [7], a more complete evaluation approach is suggested in research [5, 12] and practice [16]. The in-development WCAG 3.0 comprises reformed guidelines addressing documented functional needs of users with diverse abilities and new approaches to testing involving end users [16]. Additionally, accessibility, usability, and UX are strongly recommended to be considered together throughout web project development, rather than only during later evaluation phases [5].

Continuing with practical considerations, accessibility developers and auditors will increasingly be affected by the best and the worst of (semi-)automatic tools based on generative artificial intelligence [4, 16]. Aiming to verify, and sometimes correct, accessibility issues, we expect that these tools will offer a closer connection

between accessibility implementation and evaluation. However, we recall that while accessibility guidelines were considered insufficient [11], automatic checking tools covering fewer criteria than guidelines must be applied with caution and taking into account their practical and theoretical limitations. More broadly, we anticipate intense debate regarding changes in the scope and responsibilities of human versus computer-based evaluations.

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