

Digital Inclusion in the European Union: Best Practice of Preparing Digital Accessible Documents in Microsoft Word

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Abstract - There are many digital publications and documents on the internet and intranet that are not or not very well accessible for person with disabilities. Recognising this problem, the EU Directive 2016/2102 also obliges all public institutions in the EU member states to make their websites, documents and mobile applications accessible. In order to comply with these legal requirements and give an equal access to documents. This workshop will explain the principles on how to create accessible documents in MS Word. The main objectives of this workshop are (i) to give participants an understanding of how blind and visually impaired people work on computers and (ii) to provide them an overview of the various access barriers experienced by disabled people when reading electronic documents. Using best practice examples, they will learn how these barriers can be eliminated. Appropriate practical exercises are designed to deepen their knowledge and consolidate their understanding of the topic. The prerequisite for the workshop is a laptop with Microsoft Office installed, ideally the 2019 version. Basic knowledge of Microsoft Word is a requirement for the participants.

Keywords-Digital accessibility (DA); Directive (EU) 2019/882; Directive (EU) 2016/2102; Microsoft Word.

I. INTRODUCTION

Digital accessibility refers to the extent to which digital products, resources, and services are available for people with disabilities [1][2][3]. Article 1 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) states that ‘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’ [4]. Even though everyone benefits from barrier-free digital products, digital barriers mainly affect people with auditory, cognitive, physical, speech, and visual disabilities [5]. According to the World Wide Web Consortium (W3C), software, websites and mobile applications must be Perceivable, Operable, Understandable, and Robust (POUR) to be accessible for this target groups [6][7]. Technical criteria for accessible, digital content are provided within the Web Content Accessibility Guidelines (WCAG) [7]. After ratifying the UNCRPD [4], the European Union (EU) has performed a lot of activities regarding digital accessibility [8]. The Directive (EU) 2016/2102 obliges all member states of the EU, to incorporate the accessibility of the websites and mobile applications of their public sector bodies within their national legal systems. These new legislative changes have created a growing market for accessible digital products and services for public bodies, which may be an opportunity or a risk for market participants, depending on their ability to design their products and services accessible [9]. Due to the entry into force of Directive (EU) 2019/882 (‘European Accessibility Act’ (EAA)) and the resulting national legislative changes, digital products that are seen as important by the EU, have to be designed in a way that they are usable by all people [10]. Therefore, companies that manufacture such physical products and services, will also have to face increasing accessibility requirements within the next years. This workshop addresses these legal frameworks and demonstrates how to fulfil these regulations by using documents in Microsoft (MS) Word as an example of how documents can be adapted to make them accessible. Section II describes the content of this workshop. Section III explains the requirements for the workshop and Section IV refers to the speakers. Finally, Section V gives a concluding summary of this workshop.

II. WORKSHOP CONTENT

As part of the Special Track ‘DA: Digital Accessibility’ at the ‘Ninth International Conference on Universal Accessibility in the Internet of Things and Smart Environments’ in the year 2024 [11], this workshop will focus on the following aspects:

- legal framework and relevant standards [7][9][10]
- live demonstration: electronic documents from the perspective of blind and visually impaired computer users
- practical exercise: create and review accessible MS Word documents and converting the document to Portable Document Format (PDF). Various testing and validation tools demonstrate how this process can be simplified and validated [12][13][14].

III. WORKSHOP REQUIREMENTS

For this workshop participants need to bring their own laptop with MS Office 2010 or higher, or 365 installed. The content of this workshop is based on MS Word 365. Basic knowledge of MS Word is required. This workshop only covers aspects of accessibility for documents created in MS Word.

IV. SPEAKERS

The workshop will be moderated by the following two speakers:

- Andreas Deitmer, M.Sc.: the deputy director of the study Center for Blind and Visually Impaired Students (BliZ) at THM - University of Applied Sciences (Germany), researcher at Instituto Universitário de Lisboa (ISCTE-IUL) (Portugal) and lecturer for digital accessibility, and
- Dipl. Med. Inform. (FH) David Smida: Consultant for BliZ students with health problems at the THM - University of Applied Sciences and lecturer for digital accessibility.

V. CONCLUSION

Ever since the ratification of Directive 2016/2102 (Web Accessibility Directive) and EU Directive 2019/882 (European Accessibility Act), digital accessibility has been gaining in importance for public administration and business within the European Union. This workshop demonstrates how stakeholders from companies and public sector in the EU to fulfill EU regulations, based on the perspective of the target group of digital accessibility and using best practices, based on the example of accessible documents. Various testing tools and techniques to simplify and validate this process will be demonstrated during the workshop and discussed with participants at the IARIA 2024 conference.

REFERENCES

- [1] A. Deitmer, M. M. Möhring, and J. Vilas-Boas da Silva, 'Digital accessibility in multinational enterprises: A meta study'. In M. M. Möhring (Ed.), SMART ACCESSIBILITY 2023. IARIA. [Online]. Available from: <http://hdl.handle.net/10071/28927> 2024.05.08
- [2] J. E. Hellbusch and K. Probiesch, *Barrierefreiheit verstehen und umsetzen: Webstandards für ein zugängliches und nutzbares Internet*. Translation in English: Understanding and implementing accessibility: Web Standards for an Accessible and Usable Internet, 1st ed., dpunkt.verlag, Heidelberg, 2011.
- [3] M. Kulkarni, 'Digital accessibility: Challenges and opportunities', *IIMB Management Review*, vol. 31, no. 1, pp. 91-98, Mar. 2019, doi:10.1016/j.iimb.2018.05.009.
- [4] United Nations. *Convention on the Rights of Persons with Disabilities: CRPD*. United Nations. [Online]. Available from: <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html> 2024.05.08
- [5] W3C. (2017). *Diverse Abilities and Barriers*. [Online]. Available from: <https://www.w3.org/WAI/people-use-web/abilities-barriers> 2024.05.08
- [6] Information Resources Management Association (Ed.), *Accessibility and Diversity in Education: Breakthroughs in research and practice*, IGI Global, Hershey, Pennsylvania, 2020.
- [7] W3C. (2023). *Web Content Accessibility Guidelines (WCAG) 2.2*. [Online]. Available from: <https://www.w3.org/TR/WCAG22> 2024.05.08
- [8] Ferri, D., & Favalli, S. (2018). Web Accessibility for People with Disabilities in the European Union: Paving the Road to Social Inclusion. *Societies*, 8(2), 40. <https://doi.org/10.3390/soc8020040>
- [9] Directive (2016, October 26). *Directive (EU) 2016/2102 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies: Directive (EU) 2016/2102*. Available from: <https://eur-lex.europa.eu/eli/dir/2016/2102/oj>
- [10] Directive (2019, April 17). *Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services (Text with EEA relevance): Directive (EU) 2019/882*. [Online]. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0882> 2024.05.08
- [11] IARIA. The Ninth International Conference on Universal Accessibility in the Internet of Things and Smart Environments. [Online]. Available from: <https://www.iaria.org/conferences2024/SMARTACCESSIBILITY24.html> 2024.05.08
- [12] axes4 GmbH. (2024a). *PDF Accessibility Checker 2024*. [Online]. Available from: <https://pac.pdf-accessibility.org/en> 2024.05.08
- [13] axes4 GmbH. (2024b). *axesWord*. [Online]. Available from: <https://www.axes4.com/en/software-services/axesword> 2024.05.08
- [14] TPGi. (2024). *Colour Contrast Analyzer (CCA)*. [Online]. Available from: <https://www.tpgi.com/color-contrast-checker> 2024.05.08