IO2 – A3 Digital Accessibility:
Recommendations for VET Providers and VET Policy Makers

Certified Digital Accessibility Training Project

(Project reference number: **KA2-VET-16/18**)

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Certified Digital Accessibility Training - project
Erasmus+ Key Action 2: Cooperation for innovation

Publication date: 22 February 2021

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1 Content

2   Introduction

The internet has become an inevitable part of our everyday lives, and it is highly integrated in our working and home environment. This has created opportunities for the majority, but a huge obstacle for people with disabilities, who cannot properly access all parts of the web (e.g. Brophy & Craven, 2007; European Parliament, 2014; European Commission, 2017). Digital accessibility has therefore become necessary. Accordingly, the WCAG standard was developed and European legislation, Directive (EU) 2016/2102 (which is about making websites and mobile apps of public sector bodies more accessible) was passed in 2016. This means that the websites and mobile apps of public sector will need to be accessible to all by the year 2020. The question is, how do we accomplish that?

For meeting the requirements of European legislation (Directive (EU (2016/2102)) and ensuring equal access to digital information for all in general, it is crucial to offer adequate training for all those who co-create the web. In the ERASMUS + project "Certified Digital Accessibility Training", we analyzed the needs of the labor market and identified 4 main job roles involved in the creation of online content. Also, based on the analysis of market needs, the online survey and the analysis of needs arising from the WCAG standard for content accessibility, we created a framework of knowledge and skills from digital accessibility for individual work applications. Based on this data, we then designed curricula and developed non-formal trainings to train employees in the identified 4 job roles involved in creating the web.

The non-formal education we have developed allows us to immediately fill the gap between the needs of the labor market and the supply of qualified staff in the field of digital accessibility, which arose as a result of the requirements of European Directive (EU) 2016/2102). However, as the field of digital accessibility is very complex, as a number of different professions and individuals participate in the creation of digital content, such a solution is not satisfactory in the long run, but the newly created gap in the competence of digital accessibility professionals needs to be addressed systematically. In the consortium, we are of the opinion that a long-term solution requires the adaptation of both initial VET curricula and primary education curricula.

The purpose of this document is to make recommendations for the integration of knowledge and skills in the field of digital accessibility at different levels and disciplines of regular education. The recommendations are based on the experience gained in the "Certified digital Accessibility Training" project.

3 About Digital Accessibility

Digital accessibility is the ability of a website, mobile application or electronic document to be easily navigated and understood by a wide range of users, including those users who have visual, auditory, motor or cognitive disabilities.

Ensuring digital accessibility is especially important today, as on the one hand the number of people with various disabilities (disabled people, the elderly, etc.) is increasing, and on the other hand there is an intensive digitalisation of society that moves important activities online.

Digital accessibility is affected by a number of components. It's not just that we have a well-designed website, but that the content itself is accessible, that web browsers are also accessible, that the use of assistive technology is enabled, that developers are aware of accessibility, that authoring tools allow creating accessibility already in the code itself and the like, making digital accessibility a rather complex process involving a large number of different professions and individuals.

Digital accessibility is not a new concept, as the first version of the WCAG 1.0 standard (a set of specific standards designed to make the web more accessible to people with disabilities) was created in 1999, and the second version of WCAG 2.0 in 2008. The current WCAG standard 2.1. was confirmed in 2018. Nevertheless, until recently, the concept of digital or. web accessibility is quite unknown. This has only changed with the European Directive ((EU (2016/2102)), which obliges public institutions to provide accessible websites and mobile applications.

4   Digital Accessibility knowledge in EU

Digital Accessibility Survey for Stakeholders was developed in the first stage of the project in order to investigate the current state of awareness and knowledge of key stakeholders in the project partner countries (Slovenia, Poland, Spain, Greece). The results showed that participants were quite familiar with the concept of digital accessibility and understood the importance of providing accessibility of the web. However, the majority of participants were not familiar with the Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies, as well as with any other national or international legislation related to digital accessibility. Approximately half of the participants had never heard of WCAG (Web Content Accessibility Guidelines) 2.1, the main standard for assuring digital accessibility.

The survey indicated that the digital accessibility field is growing, and some organizations have already been actively working on the implementation of digital accessibility, creating digitally accessible websites, hiring or planning to hire employees with digital accessibility skills, or digital accessibility experts.

The survey also indicated the stakeholders' awareness about the importance of acquiring additional digital accessibility knowledge for their work and their interest in taking part in such a course. Participants acknowledged themselves as somewhat proficient in digital accessibility and claimed to have some basic knowledge related to the field. A flaw in the translation of the WCAG digital accessibility standard into practice in Europe was also indicated.

The survey confirmed the gap between the emerging needs for knowledge in the field of digital accessibility and the qualification of professionals in professional fields involved in creating online and mobile content.

5 Digital Accessibility education in EU

The analysis of existing training that we have done during the project showed that the number of web accessibility training and courses has been increasing. But the majority of existing training in the field of Digital Accessibility is offered in the USA, whereas in Europe, the training offer is much smaller.

Education of web accessibility is carried out both by universities and by private organizations. However, web accessibility is still considered to be a niche set of skills that most often is not part of the standard curriculum of ICT, web design and other related programs at the vocational and higher education level. At the moment there are very few university courses that include web accessibility in teaching. Most of them are in the field of ICT and are organized as stand-alone courses.

However, there is a need for the integration of Digital Accessibility Skills in different VET and Higher education programs/curricula (e.g. ICT, web design, marketing and communication disciplines etc.).

6 Digital Accessibility knowledge and skills

Within the project we have developed Digital Accessibility Skills framework for 4 different job roles, that co-create the web. These are:

- Digital Accessibility Managers

Digital Accessibility Manager is a specialist who is able to manage and implement digital accessibility standards in its organization, or in the organization, he/she works for.

- Digital Accessibility Tester

Digital Accessibility Tester is a specialist for testing and evaluating websites according to Web accessibility standards and according to different accessibility needs of people with disabilities.

- Web Developer with expertise in Digital Accessibility

Web Developer with expertise in Digital Accessibility is a specialist who is able to develop web pages that are digitally accessible according to the WCAG standards.

- <u>Web Designer with expertise in Digital Accessibility</u>

Web Designer with expertise in Digital Accessibility is a specialist who is able to design web pages that are digitally accessible according to the WCAG standards.

Identified Digital Accessibility knowledge and skills for different job roles are classified into three different categories as shown below:

- essential digital accessibility knowledge and skills,
- professional digital accessibility knowledge and skills, and
- specialized digital accessibility knowledge and skills.

6.1   Essential Digital Accessibility Knowledge and Skills

Essential digital accessibility knowledge, skills and competencies are those that are necessary to understand the need for digital accessibility and those that are necessary to create accessible digital content. As in the digital era, everyone is a creator of digital content, we believe that essential digital accessibility knowledge and skills should be included in basic school education (in subject such as Media Literacy, Ethics, Computer science, and interdisciplinary in all subjects where digital content is produced).

The consortium of the project believes that essential digital accessibility knowledge, skills and competencies should also be part of The European Digital Competence Framework for Citizens (DigComp 2.0). DigComp 2.0 identifies the key components of digital competence in 5 areas, among which is also Digital content creation.

Essential Digital Accessibility Knowledge, Skills and Competencies are:

- Understanding the need for digital accessibility,
- Understanding different digital barriers of people with disabilities and
- Ability to create and write accessible digital content.

6.2 Professional Digital Accessibility Knowledge and Skills

Professional digital accessibility knowledge, skills and competencies are those that are needed when working in a particular profession. They are related especially to the profession of web developers and web designers. As digital accessibility is becoming a must for all web pages, acquiring the knowledge, skills and competencies for these professions should be mandatory and should be integrated into regular VET and higher education programs.

Professional Digital Accessibility Knowledge, Skills and Competencies are:

- Knowledge and understanding of Web Content Accessibility Guidelines (WCAG), and its principles (perceivable, operable, understandable, robust),
- Knowledge of Web Accessibility Initiative Accessible Rich Internet Applications (WAI-ARIA),
- Knowledge of User Agent Accessibility Guidelines (UAAG),
- Knowledge of Authoring Tool Accessibility Guidelines (ATAG),
- Knowledge of accessible visual web design (and CSS),
- Ability to develop accessible websites and mobile applications and
- Ability to design accessible websites and mobile applications.

6.3 Specialized Digital Accessibility Knowledge and Skills

Specialized digital accessibility knowledge, skills and competencies are those that were needed only by people working on specialized jobs, related to Digital accessibility, e.g. people working as Digital Accessibility Managers or as Digital Accessibility Tester. Those employees can be of different educational background, but they need to upskill themselves with specialized knowledge from the field of digital accessibility. This can be done through stand-alone specialized courses on different topics. Furthermore, these specialized professions should be regulated by national vocational qualifications in order to ensure equal competencies of people working on these newly developed job positions.

Specialized Digital Accessibility Knowledge, Skills and Competencies are:

- Knowledge and understanding of Web Content Accessibility Guidelines (WCAG) and its principles (perceivable, operable, understandable, robust),
- Basic knowledge of assisting technology and the ways of its use,

- Ability to develop a digital accessibility implementation plan and organizational policies on digital accessibility,

- Ability to undertake and document preliminary checks for digital accessibility,

- Knowledge of current legislation and policies on digital accessibility,

- Ability to select and use different evaluation tools for checking digital accessibility,

- Knowledge of accessibility conformance evaluation.

7   Conclusion

In order to support the realization of the European Directive on web accessibility, it is important to equip knowledgeable professionals with the needed skills and competencies from the field of digital accessibility. Offering non-formal stand-alone courses/training for different professionals that need this knowledge by their work is not sufficient. As the topic of digital accessibility is very broad, different solutions are needed for acquiring different skills related to digital accessibility.

Based on the experience from the project, the project partners believe that the solution is in integrating different topics of digital accessibility at different levels of national education, from basic education to VET and higher education. Informal stand-alone courses are appropriate only for acquiring specialized knowledge on digital accessibility for professionals working in specialized digital accessibility jobs. However, these specialized professions should be regulated by national vocational qualifications in order to ensure equal competencies of people working on these newly developed job positions.

For the integration of the digital accessibility knowledge and skills in the regular education curricula (basic, VET and higher education) the following steps are needed:

- Identifying different Digital Accessibility skills,

- Identifying the level of education for each skill where it should be taught,

- Identifying relevant educational program and subject for each skill where it should be taught,

- Developing curricula,

- Developing Learning plans,

- Developing learning materials,

- Testing learning plans and learning materials,

- Testing results assessment and improvement of the learning plans and materials and

- Integration of curricula in regular education programs,

For transparency and recognition of informal stand-alone courses in the field of digital accessibility, the following additional steps are still needed:

- Developing standards for validating learning outcomes in informal education - in the field of digital accessibility,

- Designation of entities authorized to issue certificates confirming obtaining qualifications in the field of digital accessibility.

8   References

Brophy, P. & Craven, J. (2007). Web Accessibility. *Library Trends, 55*, 950-972.

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. (2016*). Official Journal of the European Union, 59*, 1. Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.327.01.0001.01.ENG&toc=OJ:L:2016:327:TOC

European Commission. (2017, December 2). Commission proposes to make products and services more accessible to the disabled persons [Press release]. Retrieved from: http://europa.eu/rapid/press-release_IP-15-6147_en.htm

European Parliament. (2014, September 14). Disabled persons to have better access to products and services in the EU [Press Release]. Retrieved from http://www.europarl.europa.eu/news/en/press-room/20170911IPR83596/disabled-persons-to-have-better-access-to-products-and-services-in-the-eu