Certification for Digital Accessibility Professionals and Teachers – A Survey on Existing Options and Considerations for a Way Forward

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Abstract

Certification for digital accessibility professionals and teachers is an important enabler towards a more inclusive society. However, there is currently no widely acknowledged certification scheme and body of knowledge for the field of digital accessibility in various professions including teaching. In its certification roadmap, the MOOC Accessibility Partnership has identified three existing certification options as solutions to be considered for the future. This paper describes them and provides considerations on a way forward towards a common certification scheme in Europe.

1 Introduction

When planning for changing the landscape towards a more inclusive society, it is essential to build capacity for digital accessibility in various professional fields, including education, work, government and services. Capacity-building requires a joint effort of higher education institutions and private entities to enable the current and future generations of professionals to understand the barriers that people with disabilities and older people encounter when using digital technologies, and to harness these technologies to build solutions that are fully accessible for all users.

Whereas there have been well-established bodies of knowledge and certification schemes in existence for many other fields, digital accessibility education is currently diffuse and fragmented in this regard. In the curriculum guidelines for a Computer Science bachelor of the North American Association for Computing Machinery (ACM), the topic of digital accessibility is scattered over three bodies of knowledge (Human-Computer Interaction, Information Management, and Social Issues and Professional Practice), but is not broken down into sub-topics (ACM/IEEE 2013). Similarly, in ACM's curriculum for an Information Technology bachelor, "Assistive technologies and accessibility" is one of eight subdomains of User Experience Design (ACM/IEEE 2017).

In Europe, the EU-funded project IDCNet (Inclusive Design Curriculum Network, 2002-2004) tried to identify core knowledge sets and skills for Design for All that should be included in design curricula for ICT (IDCNet 2005; Strobbe 2004). IDCNet defined a taxonomy of knowledge sets and skills that contained a general category (which also took interpersonal skills into account) and an ICT category. Efforts to define a curriculum were continued through the development of CEN Workshop Agreement (CWA) 16266, "Curriculum for training ICT Professionals in Universal Design", which was published in 2011 (CEN 2011). This document described a modular curriculum that could be adapted for various target groups, such as software developers, testers, designers and managers. Since the maximum lifetime of a CWA is six years, this document is no longer available on CEN's website.

In a report for the European Commission, the Council of European Professional Informatics Societies (CEPIS) has identified four building blocks required to mature the profession of ICT practitioners: Bodies of knowledge (BOKs), Competences, Education and Training (including

certifications), and Professional Ethics (Innovation Value Institute / CEPIS 2012). CEPIS refers to the European Foundational ICT Body of Knowledge, as prepared for the European Commission, which lists “accessibility standards” as a possible topic under Human-Computer Interaction (Capgemini Consulting / Ernst & Young 2015). Furthermore, digital accessibility has only recently been added to engineering design accreditation requirements of globally acting professional societies such as ABET (Shinohara 2018).

The European funded ERASMUS+ project “MOOC Accessibility Partnership” (MOOCAP) (2014-2017) has brought about a series of eleven online courses on various topics of digital accessibility, including four Massive Open Online Courses (MOOCs). The project partners agreed that, in order to build capacity for digital accessibility in Europe, we need a common certification scheme that would allow to educate students and professionals in a harmonized fashion across domains and countries, and to assess the level of expertise of digital accessibility among teachers, designers, programmers and other professions. Skills should be certified by a third party across Europe, or even globally.

We expect that, once there is a clearly specified body of knowledge (BOK) for digital accessibility (or multiple bodies for multiple sub-fields of digital accessibility) and clear requirements for certification, the following will happen: (1) Existing education and vocational training classes and courses will become harmonized in terms of their content; (2) Applicants for job positions can be better assessed with regard to their skills on digital accessibility, and applicants with a certificate will be ranked better than those without a certificate in general; (3) Demand for education and vocational training on digital accessibility will rise, causing an increase in training offerings; and (4) Digital accessibility capacity will increase with professionals and teachers who received training.

This will gradually lead to a more inclusive society. Note that there are different domains (e.g. education, work, government) that each have their own specifics, and development towards inclusion will probably not progress in all domains at the same time and at the same pace. In each domain (and possibly sub-domain), a process for improving inclusion needs to be started by defining bodies of knowledge and certifications that appropriately address the specificities of that domain.

For the educational field, there is currently no widely acknowledged BOK that specifies the knowledge and skills for teachers that are needed to teach in an inclusive manner that respects and accommodates the various needs and preferences of students with disabilities. The most advanced area with regard to established bodies of knowledge and certifications on digital accessibility is computer science, in particular web design. In the following chapter, we look at some existing certification schemes in this area. Then, in the concluding chapter 3, we provide some recommendations as to move forward in general, and for the educational field in particular.

2 Existing Options for Certification

In the process of creating a roadmap for certification (Zimmermann et al. 2017), the MOOC Accessibility Partnership has looked at several existing certification options, including the following.

The **European Computer Driving License (ECDL)** is provided by the ECDL foundation which is part of the Council of European Professional Informatics Societies (CEPIS). ECDL claims to be the world's leading computer skills certification with more than 15 million people having engaged with the ECDL program, in more than 100 countries (ECDL 2018). ECDL offers a wide range of modules and certificates, structured in basic, intermediate and advanced topics. The University of Linz (a partner of MOOCAP) has defined a module on Accessible Web Design, and a related certificate for Web Accessibility Experts. In general, digital accessibility skills would need to be established as new modules, including the definition of syllabi (specifying skills and competences), and test bases with questions for testing.

The **European e-Competence Framework (e-CF)** specifies a certification space as hierarchical structure with four dimensions: Areas, Competencies Levels, Knowledge, Skills. 40 profiles are pre-defined as specific certificates within this space. The e-CF became a European standard (EN 16234-1) in 2016. Since no digital accessibility competencies are defined in e-CF, it is not clear which of the 40 existing profiles should be extended, or whether new profiles should be created to reflect expertise on digital accessibility.

The **International Association of Accessibility Professionals (IAAP)** – which has merged in 2016 with the **Global Initiative for Inclusive ICTs** – is focused on promoting digital accessibility. Currently, it offers two certificates: The Certified Professional in Accessibility Core Competencies (CPACC), and the Web Accessibility Specialist (WAS). Further certificates are planned for the near future (2018/2019): Procurement specialist, Digital content specialist, and Native Mobile Accessibility Specialist. Once a person has acquired a certificate, they need to refresh it every three years by earning credit points (e.g. receiving vocational training, giving presentations on relevant topics). IAAP/G3ict is a membership-based organization, mostly driven by industry, but there is a plan for an IAAP university network of interest. However, it is not clear whether higher education institutes would be required to attain a fee-based corporate membership to become part of this network.

3 Considerations for a Way Forward

When looking at the existing certification options, it becomes clear that there is no silver bullet for moving forward towards a common certification scheme for digital accessibility expertise in Europe. However, we provide the following general recommendations to be followed: (1) There should be **one common certification scheme across Europe or better world-wide**. Most aspects of digital accessibility knowledge are valid globally, except for local or regional regulations. However, these can be accommodated by local variations of bodies of knowledge. (2) A certification scheme for digital accessibility, including its diverse fields, **should be extensible** to allow for growth and diversification in the future. (3) The certification scheme should **build upon an existing certification process and infrastructure**. (4) **Training and certification should not be provided by the same organization.** If an organization that drives the certification (i.e. defining the BOK and exam questions) would also provide education and training, this could run the risk that this organization will take advantage of the situation to gain a competitive edge over competitors in education and training. (5) When designing an infrastructure for a sustainable certification scheme and process, **national and European Computer professionals associations** (such as CEPIS) should be involved.

For the field of teaching with accessible digital media, there needs to be a separate BOK and certification scheme. This would possibly be a part of the BOK series on digital accessibility in other domains. Anyway, specification of the BOK and certification should be harmonized with other BOKs in this area, since there are many overlapping topics.

Acknowledgment

The research leading to these results has received funding from the European Union's ERASMUS+ Programme under grant agreement 2014-1-DE01-KA203-000679 (MOOC Accessibility Partnership). This publication reflects only the authors' views and the European Union is not liable for any use that may be made of the information contained herein.

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