

CEN WORKSHOP AGREEMENT

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Curriculum for training ICT Professionals in Universal Design

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The production of this CWA (CEN Workshop Agreement) specifying Curriculum for Training ICT professionals in Universal Design was formally accepted at the Workshop's kick-off meeting on 2009-05-27.

The document has been developed through the collaboration of a number of contributing partners in this Workshop, representing the interest of persons with disabilities, training organizations and public authorities .

- Fraunhofer Institute for Applied Information Technology FIT
- Centre for Excellence in Universal Design, NDA
- National Disability Authority, Ireland
- European Disability Forum
- SIEMENS AG
- NCBI Centre for Inclusive Technology (CFIT)
- EC/DG Employment
- Wandsoft.com
- FeelTheBenefIT
- EXIN Iberia
- UPM, Universidad Politécnica de Madrid
- Inclusive Design Research Centre, Canada
- Irish Computer society
- Haptimap
- Universidad Politécnica de Madrid
- Wandsoft
- University College Dublin
- Dublin Institute of Technology
- Dublin City University
- Trinity College Dublin
- National Institute for Intellectual Disability, Trinity College Dublin
- Institute for Technology Blanchardstown
- Dun Laoghaire Institute of Art, Design & Technology
- Cavan County Council

- Wicklow County Council
- Engineers Ireland

Registered participants of this CEN/ISSS Workshop are listed in Annex A.

The present Workshop has been proposed by the Centre for Excellence in Universal Design (CEUD) at the National Disability Authority. Mr. Dónal Rice, Senior ICT Design Advisor with CEUD, chaired the Workshop and Ms. Barbara Schmidt-Belz with the Fraunhofer Institute for Applied Information Technology FIT acted as Vice-Chair. Funding for the Workshop Secretariat was provided by the CEUD. The Workshop Secretariat was provided by the National Standards Authority of Ireland (NSAI).

This project is the result of the review and elaboration of the deliverable D5.2 “Exemplary Training Modules on eAccessibility for industry training” that was elaborated by the DfA@eInclusion¹ project.

The formal process followed by the Workshop in the development of the CEN Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN-CENELEC Management Centre can be held accountable for the technical content of the CEN Workshop Agreement or possible conflict with standards or legislation. This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its members.

The final review/endorsement round for this CWA was started on 2010-06-30 and was successfully closed on 2010-07-23. The final text of this CWA was submitted to CEN for publication on 2010-11-11.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN-CENELEC Management Centre.

¹ The Design for All for eInclusion (DfA@eInclusion) project was funded by the EC in the FP6 framework (IST CA 0033838). More information from the project web site at <http://www.dfaei.org/>. Deliverable 5.2 is available for download at <http://www.dfaei.org/deliverables/D5.2.pdf>.

Introduction

This document describes curriculum guidelines on Universal Design that are suitable for training ICT professionals. These guidelines, referred to as curricula or syllabi, aim at ensuring a high-quality, comprehensive training plan that meets industry needs. The guidelines may be also used in universities or for other professional education, training of procurers and relevant persons in public authorities.

The guidelines follow general recommendations in the European Qualifications Framework for Lifelong Learning (EQF)², the European credit system for Vocational Education and Training (ECVET)³ and related recommendations by the Directorate-General for Education and Culture of the European Commission.

In order for ICT industry to adopt Universal Design principles, methods and solutions, the professionals involved will need to acquire the necessary knowledge and skills. This is a crucial condition for an effective, as well as economic, change in management, services and production process in the ICT industry.

The Universal Design curriculum to be specified by this CEN workshop agreement identifies the knowledge and skills that are necessary to successfully implement the Universal Design approach in an ICT development process. The training guidelines reflect the special training needs of ICT professionals, the conditions and context of training for professionals, and the different needs of different professional roles in the ICT industry.

This document is based on deliverable D5.2 “Exemplary Training Modules on eAccessibility for industry training” that was elaborated by the DfA@eInclusion⁴ project.

² See http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm

³ See http://ec.europa.eu/education/lifelong-learning-policy/doc50_en.htm

⁴ The Design for All for eInclusion (DfA@eInclusion) project was funded by the EC in the FP6 framework (IST CA 0033838). More information from the project web site at <http://www.dfaei.org/>. Deliverable D5.2 is meanwhile replaced by D5.4 “White paper: Recommendations for the development of eAccessibility training materials for the ICT industry”. Both deliverables are available at <http://www.dfaei.org/deliverables.htm>

1 Scope

The goal of this CEN workshop agreement is to describe and recommend a curriculum for training ICT professionals in the Universal Design approach.

Universal Design aims to design ICT products and services so that, to the widest extent possible, they can be used by *everyone* without the need for specialised solutions or adaptations and regardless of a person's age, ability or disability or physical environment.

Accessible Design (AD) is closely related to Universal Design. It emphasises adaptive design and interoperability with assistive devices. These training guidelines are for use for anyone in industry developing continuous professional development training materials to educate ICT professionals in the Universal Design approach. These ICT professionals, as set out in 4.2 include:

- executive manager;
- middle manager;
- software and hardware developer;
- designer;
- reviewer and tester;
- marketing and communication personnel;
- human resources personnel.

The training guidelines are designed for use by ICT professionals.

Those who benefit from improved design of ICT systems are listed in 5.1 and include people experiencing some form of performance limitation due to age, size, physical environment, ability or disability.

The curriculum guidelines cover ten essential topics that were identified as relevant for Universal Design. Each topic can be taught at one of three levels of granularity, *Introduction*, *Major Aspects* and *Details*. The curriculum is modular, each units deal with are a certain topic at a certain level of detail. A concrete course can be composed from these units, to accommodate the needs of the target audience.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply

2.1

Universal Design

design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. "Universal design" shall not exclude assistive devices for particular groups of persons with disabilities where this is needed

NOTE This is the definition contained in the UN Convention on the Rights of Persons with Disabilities.

2.2

accessible design

design focused on principles of extending standard design to people with some type of performance limitation to maximize the number of potential customers who can readily use a product, building or service which may be achieved by:

- designing products, services and environments that are readily usable by most users without any modifications,
- by making products or services adaptable to different users (adapting user interfaces), and
- by having standardized interfaces to be compatible with special products for persons and disabilities

NOTE 1 Terms such as design for all, barrier free design, inclusive design and transgenerational design are used similarly but in different contexts.

NOTE 2 Accessible design is a subset of Universal Design where products and environments are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

[CEN/CENELEC Guide 6]

2.3

assistive technology (AT)

assistive device

piece of equipment, product system, hardware, software or service that is used to increase, maintain or improve functional capabilities of individuals with disabilities

NOTE This can be acquired commercially off-the-shelf, modified or customized. The term includes technical aids for persons with disabilities. Assistive devices do not eliminate impairment but may lessen the difficulty an individual has in carrying out a task or activity in specific environments.

[CEN/CENELEC Guide 6]

2.4

e-Inclusion

use of ICT to maximise the participation of all individuals and communities in all aspects of the information society

NOTE 1 For further information see: "http://ec.europa.eu/information_society/activities/einclusion/index_en.htm"

NOTE 2 Not all e-Inclusion goals are covered by the curricula guidelines in this document."