2016-08-01

Report
on the
Workshop: "Strategic Standardization Issues Concerning eAccessibility & eInclusion"
Date: Thursday - 14th July 2016
Time: 14:00 – 17:30
Venue: Room K 034D - University of Linz, Austria

Aim and purpose of the ICCHP workshop – discuss and find solutions for:

- Information on the state of the art of standardization with respect to eAccessibility&eInclusion
- Improvement of the situation with respect to access to information on pertinent standards
- Enhancing the quality of eAccessibility&eInclusion related standards through improved access to information on standards
  - Less, but more comprehensive and better standards
  - Identify benefits, drawbacks and gaps in standardization
- Importance of standards-based certification schemes
- Information about the EU project "IN LIFE"

AGENDA:

14:00 C. Galinski (Infoterm): Opening and welcome
14:10 P. Cudd (AAATE): Overview of the **INdependent LIving support Functions for the Elderly (IN LIFE) project**
14:30 C. Galinski (Infoterm): **Strategic Standardization Issues Concerning eAccessibility & eInclusion Introduction**
15:10 K. Hoeckner (Accessible Media): **Web Accessibility Expert Certification (WAEC)**
15:30 Coffee break
16:00 S. Giraldo (Infoterm): **IN LIFE database of information on standards related to eAccessibility&eInclusion**
16:20 General discussion for collecting recommendations
17:30 Wrap-up and closure

Participants:

S. Abou-Zahra (W3C)
D. Archambault (AAATE)
P. Cudd (AAATE)
E. A. Draffan (BSI) University of Southampton
E. Eggert (W3C)
C. Galinski (Infoterm)
S. Giraldo (Infoterm)
K. Hoeckner (Accessible Media)
H. Holken (Holken Consultants & Partners - NEM New European Media Technology Platform)
S. Puhl (Uni Gießen)

Report
on the
Workshop: "Strategic Standardization Issues Concerning eAccessibility & eInclusion"

1 Opening and welcome:
Mr. Galinski opened the Workshop and explained the main aim of the workshop, namely to discuss the importance of enhancing the quality of eAccessibility&eInclusion related standards through improved access to information on standards.

2 Overview of the IN LIFE project (See annex 1)
Mr. Cudd introduced the main aspects of the IN LIFE (INdependent LIving support Functions for the Elderly) project by describing the following items:

- Overview of aims
- Project
- Operational Overview
- Some of the challenges addressed
- Status
- What is due to happen

3 Strategic Standardization Issues Concerning eAccessibility & eInclusion
Introduction (See annex 2)
Mr. Galinski provided the background for the workshop and referred to the Convention of the Right of Persons with Disabilities (CRPD) which has become through the EU Directive a law to be implemented in all EU member states by 2016. However, some countries are not yet really prepared for its implementation – often because the full implications have not yet been realized. He mentioned that UNESCO as one of the main stakeholders of the CRPD, also considers societal and economic factors thus extending eAccessibility&eInclusion to people that are disadvantaged in general.

The recent WSIS Forum (2-6 May 2016) of the World Summit of the Information Society assessed among others the impact and success of the CRPD in different countries, regions and application fields. It was found that in spite of mandatory legislation there are still barriers – sometimes neglected or even enforced by legislation. There are cases where new barriers for PwD (persons with disabilities) are created. The EU still is on the way to further harmonize national legislations – there are already several directives in place for this purpose.

However, it was also pointed out that legislation alone cannot solve all the problems with respect to eAccessibility&eInclusion. In the field of standardization there is a proliferation of standards which makes it hard for industry and service providers to be able to respond to government policies. It needs a clearly specified set of standards that describes objectively what ICT accessibility and eAccessibility&eInclusion are. Such a clearly specified set of standards would also facilitate testing methods, development of pertinent personal skills and competences, certification schemes of all sorts, etc.

Mr. Galinski referred to a number of EU standardization mandates that have had an impact, especially in public procurement, such as:

<u>Mandates:</u>

- M/273 (1998) Mandate to the European Standards Bodies for Standardization in the field of information and communications technologies (ICT) for disabled and elderly people
- M/283 (1999) Mandate to the European Standards Bodies for a guidance document in the field of safety and usability of products by people with special needs (e.g. elderly and disabled)
- M/376 (2005) Standardisation Mandate to CEN, CENELEC and ETSI in Support of European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain
  → EN 301 549:2014 Accessibility requirements for public procurement of ICT products and services in Europe
- M/473 (2010) Standardisation mandate to CEN, CENELEC and ETSI to include "Design for All" in relevant standardisation initiatives

<u>Directives:</u>

- 76/207/EEC (1976) on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions
  + Proposal for a Directive of the European Parliament and of the Council amending Council Directive 76/207/EEC on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions (2000/C 337 E/33)
- 2014/23/EU on the award of concession contracts http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.094.01.0001.01.ENG
- 2014/24/EU on public procurement and repealing Directive 2004/18/EC http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0024:
- 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32014L0025

(Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 18 April 2016. They shall forthwith communicate to the Commission the text of those measures.)

Mr. Abou-Zahra pointed to a planned new "Directive on the accessibility of public sector bodies' websites": http://www.eud.eu/news/accessibility-public-sector-bodies-websites/ and http://www.edf.org.uk/blog/european-agreement-on-web-accessibility-directive/; See also the press release: http://europa.eu/rapid/press-release_IP-16-1654_en.htm

Participants were well aware of the fact that 'technical standards' (i.e. technical regulations) are in principle secondary to law (i.e. legal regulations), however, when referred to in a law, they acquire the authority of a law. Mr. Galinski then referred to IN LIFE deliverable 9.3 "Dissemination and standardisation plan", where in part 3 "IN LIFE Standardisation Plan" the role of standards/standardization in relation to law is explained. In addition, different types of standards and standards documents were explained, whose subjects cover a range from pure technical to all kinds of other subjects, such as methodology, management, data, etc. In any case, a basic knowledge of standards and standardization frameworks is absolutely necessary for experts of and certain levels of people involved in eAccessibility&eInclusion.

The organizational system of official (de jure) standardization covers international standardization bodies (e.g. ISO, IEC, ITU, etc.), regional standardization bodies (e.g. the European standards organizations, ESOs, CEN, CENELC and ETSI) and many national member bodies of the above. Beyond that there are hundreds of other standards developing organizations (SDO) – mostly industry consortia – that develop industry (or de facto) standards. The fact that the increasing number of industry standards may lead – and indeed often leads – to interoperability issues in the development of assistive technologies as well as in related activities, such as the development of pertinent content, methodologies, training etc. On the other hand, it is a positive that renowned organizations like W3C and others collaborate with international standards organizations to arrive at harmonized international standards (e.g. the WCAG 2.0 standard of W3C becoming international standard ISO/IEC 40500).

The following standards were mentioned in this connection:
(from the standards development point of view:)
- ISO/IEC Guide 71:2014 Guidelines for standards developers to address the needs of older persons and persons with disabilities www.iso.org/guide71

(focusing on eProcurement from a EU perspective)
- EN 301 549:2014 Accessibility requirements for public procurement of ICT products and services in Europe
- ETSI TR 102 612 V1.1.1 (2009-03) Human Factors (HF); European accessibility requirements for public procurement of products and services in the ICT domain

(focusing on ICT products and services:)
- EG 202 116:2009-03 ETSI Guide. Human Factors (HF); Guidelines for ICT products and services; "Design for All"

(focusing on software accessibility:)

- ISO 9241-171:2008 Ergonomics of human-system interaction – Part 171: Guidance on software accessibility

(from the content point of view:)

- ISO/IEC 40500:2012 Information technology – W3C Web Content Accessibility Guidelines (WCAG) 2.0 (also freely available under http://www.w3.org/TR/WCAG20/)

In Europe (and most probably also in other parts of the world)

- the new CEN/TC 440 "Electronic Public Procurement",
- EN 301 549 'Accessibility requirements suitable for public procurement of ICT products and services,
- CEN-CENELEC JWG 5 „Design for All" established to implement EU-Mandate M/473 Deliverable 4.1 „Accessibility following a Design for All approach in products, goods and services – Extending the range of users"

are focused on the technical aspects of eAccessibility&eInclusion. IN LIFE investigations came to the conclusion that most standardizing efforts neglect 'human communication' with respect to H-H communication, H-M communication and M-M communication. Human communication comprises linguistic and non-linguistic means of communication. It definitely comprises "semantics" – not just data. Under this perspective there is a totally underestimated need for standardization with respect to eAccessibility and eInclusion.

One participant raised the aspect of open standards in connection with open source software, and mentioned that in reality there is an overflow of information on standards on the one hand, and the need to develop new standards fast, on the other hand. This led to the discussion of recommendations passed in past workshops and possibly be formulated at this workshop.

At the ICCHP 2010 the Recommendation on software and content development principles 2010 stated (extract):

> "*decision makers in public as well as private frameworks, software developers, the content industry and developers of pertinent standards /should be/ aware that multilinguality, multimodality, eInclusion and eAccessibility need to be considered from the outset in software and content development. These considerations are required in order to avoid the need for additional or remedial engineering or redesign at the time of adaptation, which tend to be very costly and often prove to be impossible*". (full document see Annex 3)

It was adopted by several committees in ISO – incl. the Management Group (MoU/MG) of the UN/ECE-ITU-ISO-IEC Memorandum of Understanding concerning eCommerce/ eBusiness standards – and served as input to the Workshop on "Accessibility" of the ITU, ISO and IEC World Standards Cooperation (WSC) in Geneva, 3-5 November 2010

WSC 2010 Workshop "Accessibility" of the ITU, ISO and IEC World Standards Cooperation (WSC) in Geneva, 3-5 November 2010 came up with 6 high-priority recommendations: (See annex 4)

1 Strategic Advisory Group "Accessibility" (SAGA)
2 Common accessibility policy between the WSC-organizations
3 National members of the WSC-organizations promote the implementation of accessibility standards
4 WSC-organizations strengthen their relationship with the UN CRPD
5 Revision of ISO/IEC Guide 71
6 Identify accessibility-related content in New Work Item Proposals

What happened with these 6 High-priority recommendations:

1 Strategic Advisory Group "Accessibility" *(SAGA)*

- Internal proposal for follow up was developed, but decision postponed
- Proposal "SAGA" presented September 2011 by JTC 1/SWG-A http://www.jtc1access.org/documents/swga_482_Presentation_Nov2011_JTC1_Plenary.pdf, but JTC 1/SWG-A dissolved
- Implementation of other SAGAs:
  - **CEN/BT/WG 213 Strategic Advisory Group Accessibility (SAGA)** to be responsible for the execution of EU Mandate M473 (Design for All)

- New Zealand

2 Common accessibility policy between the WSC-organizations

- Common policy has been developed in the form of IEC/ISO/ITU Policy on Standardization and accessibility 2014 http://www.iso.org/iso/iec_iso_itu_joint_policy_statement.pdf
- Policy statement: Standards contribute to accessibility:
  1 Apply the principles of Accessible or Universal Design
  2 Engage older persons and persons with disabilities in standards development
  3 Train standards developers on the importance of accessibility
  4 Improve accessibility of standardization secretariat support

3 National members of the WSC-organizations promote the implementation of accessibility standards

- First communication distributed to all ISO members (circular by ISO Secretary General 2011-04-19)
- Further action postponed until publication of revised edition of ISO/IEC Guide 71

3 WSC-organizations strengthen their relationship with the UN CRPD

- WSC decided that ITU as UN agency and permanent member of the Inter-Agency Support Group of the UN-CRPD should take the lead on the implementation of Recommendation 4

4 Revision of ISO/IEC Guide 71:2001

- Revision by ISO, IEC and ITU of ISO/IEC Guide 71:2001 Guidelines for standards developers to address the needs of older persons and persons with disabilities
- Taking into account ISO/TR 22411, ISO 21542, IEC/TR 62678 etc.
- New ISO/IEC GUIDE 71:2014 Guidelines for addressing accessibility in standards freely available http://isotc.iso.org/livelink/livelink/fetch/2000/2122/4230450/8389141/ISO_IEC_Guide_71_2014%28E%29_Guide_for_addressing_accessibility_in_standards.pdf?nodeid=8387461&vernum=-2
- Adopted by all WSC-organizations

6 Identify accessibility-related content in New Work Item Proposals

- Proposal within ISO
  - For all NWIP indicate whether accessibility is addressed or impacted
  - Help-desk for accessibility issues (similar to IT help-desk)
  - Foresee a slot for “accessibility” in the ICS (International classification of standards
- (generic) Implementation in regular procedures from start to end of a standardizing activity
- Possibility to search for items indexed by “accessibility”

The aim of this ICCHP Workshop also is to review the progress made on the six "high priority" recommendations formulated at the WSC workshop in 2010 in light of developments in the meantime, in order

- to see what has been achieved in the field of standardization
- to identify new aspects and needs to be addressed in standardization

Acknowledging the progress achieved since 2010, the workshop could come up with a statement addressing decision makers in standardization as well as in public institutions.

4 Web accessibility expert certification

Mr. Hoeckner provided the panorama about web accessibility and expert certification: the process, users, preconditions, training courses and useful links, covered this topic. (see annex 5)

Some of the participants intervened in relation to the aspects required to make a website accessible, some of the issues addressed can be summarized as follows

- Some guidelines for web accessibility exist but they do not guarantee accessibility
- It is suggested that the best is to start a web page from the scratch so that it can be then tested whether they follow the W3C recommendations
- Use templates to make the content accessible, then it can be tested.

Selling accessibility is a more common practice in America. More public entities buy ‘accessible’ because of the law and requirements, in Europe, we need to catch up. A

more legal content can be made accessible by the requirements or law. In Austria, the law has been in force for more than ten years but nothing has changed, at least not at the pace which would be required.

The discussion at this point centered in the way accessibility experts are certified, e.g. on:

- Models: experts for testing accessible websites which have passed the W3C Certification.
- experts for evaluating the websites.
- Cost of the service
- Requirements to be certified as expert
- Period of reexamination /reevaluation of experts to renew certification (two years)
- Training/certification courses
- The refreshment of certification

It was considered that not all experts can be asked for projects, as web accessibility is part of their regular daily work. Website developers could start by making the elements that make the different parts accessible. One of the participants stated that you have to educate yourself and in a period of two years the acquired competences should be demonstrated.

Given the fact that each country is doing different efforts to reach similar objectives, it would make sense if efforts were joined toward common goals – e.g. in the framework of ECQA, the European Certification and Qualification Association, which is operating already at a world-wide scale.

5 IN_LIFE database of information on standards related to eAccessibility&eInclusion

Ms. Giraldo referred to the out dated standards inventories: (See annex 6)

- ISO/IEC TR 29138-2:2009 Information technology – Accessibility considerations for people with disabilities – Part 2: Standards inventory
- ETSI SR 001 996 V6.1.1 (2013-08) Human Factors (HF); An annotated bibliography of documents dealing with Human Factors and disability

Hereafter, she mentioned a number of investigations done and inventories collected in the framework of several EU projects. Then she presented the IN LIFE Database by describing the methodology to collect, update and develop the database. Up to now, only standards coming from international standardizing bodies (and European standards organizations being recognized as international standardizing bodies) have been considered. National, industrial or other standards developing organizations (SDO) will be included according to the needs and pertinence to the project.

One of the main drawbacks of the existing collections of information on standards lies in the fact that the main sources classified or categorized the standards from different perspectives depending on different goals. For IN LIFE a more appropriate – if possible generic – categorization should be found, while the existing categories can be used as indexing terms to facilitate information retrieval etc. Furthermore, any inventory of this kind is soon outdated, if not regularly updated. Standards have defined life-cycles. In ISO each standard latest after 5 years has to be reviewed for confirmation, withdrawal or revision. This results in changes in the inventory of more than 10% each year, which means that 50% of the information of the inventory is outdated after about 4 years.

The first gaps identified in standardisation in the field covered by IN LIFE were related to the lack of standards concerning inter-human communication. Therefore, a standardisation strategy was formulated (IN LIFE deliverable D9.3) and initiatives for concrete standardisation activities launched.

Given the tremendous effort to collect data from several sources and updating them on the one hand and the great benefit e.g. for the IN LIFE project drawn from the information on the other hand, it would be useful for many other activities or projects in the field to continue updating the database.
Several participants to the ICCHP Track 2 confirmed that in conjunction with any new contract or new project pertinent standards have to be investigated and that this investigation is always difficult and time-consuming.

In order to make this database public available and maintained in a cooperative way, it is necessary

- to find a proper design as well as solutions to make the database more dynamic and sustainable
- to find a host for the database
- to determine usability, users and benefits

The presentation tackled these and other aspects which triggered the discussion. Most of the participants emphasized an attractive design given the fact that users could easily loose interest in using it. The design should take into consideration:

- Type of users and objectives (Who is using it and what for?)
- Selection of diverse tags for the search function (by number, by key word). How granular should it be?
- Revise the list of stakeholders
- Usability should be foreseen before it is made public
- Contact should be established with potential users asking them for advice about their needs when looking for standards in eAccessibility&eInclusion, as well as with respect to revising the key words and keyword system

The discussion about the description of the standards provided insights about the need to determine who the real users of the database would be.

- Apparently, it is made for specialists
- reduce the scope to certain audiences (for example for teachers, certification examiners)
- Reword the description was out of the question in view of the resulting implications.

Actions to continue:

- To determine user cases
- To revise the key words and to organize them in a more systematic/manageable/pragmatic way, in other words it could be useful to standardize the key words (ontology?)
- To determine options for searching
- It was proposed to continue the discussion through e-mail
- Contact people knowledgeable in the field

Options

D. Archambault representing AAATE provided possibilities to continue with the development of the database based the topics discussed above. The task of design could be assigned to one of his students (it has time constraints due to the students' schedule). The changes/revision/updates and decisions should be ready for the end of the year so that students could be engaged in the design and development.

Sustainability: when using a crowdsourcing, it would be necessary to have a type of filter committee to make the decisions on the suggestions provided by users.

It was also suggested to ask students who would like to participate in a competition and be awarded with any incentive. In any case, it is necessary to count with expertise in different fields: design development, librarian/linguistic etc. Participants suggested to contact user communities: among others Jim Carter (relate the standards/keywords to a mind map), Mike Kluger, JTC 1 Access.

6 General discussion

The final discussion focused on the formulation of a recommendation to standards bodies and other authorities concerning the facilitation of access to information on standards related to eAccessibility&eInclusion. (see Annex 7)

7 Wrap-up and closure

The discussion brought forth many good ideas and suggestions. The new Recommendation (Annex 7) will be circulated for comments and then taken as adopted by the ICCHP, AAATE and other pertinent communities.

Mr. Galinski thanked the participants for their pro-active participation and – wishing all a good summer – closed the workshop

NOTE on information after the Workshop:

(1) K. Miesenberger mentioned that his institute at JKU could also assist in the programming of the IN LIFE database platform.

(2) R. Andrich mentioned that The European Assistive Technology Network (EASTIN) would also be interested in participating in the effort to make the IN LIFE database sustainable by means of regularly updating the content.

(3) K. Miesenberger is going to circulate the Recommendation 2016 to several comprehensive mailing lists so that it can be considered as adopted.

INdependent LIving support Functions for the Elderly
www.inlife-project.eu

Peter Cudd

AAATE

Starting date: 1 February 2015
Duration: 36 Months
Submitted under the Call PHC-20-2014 (Single stage)

Presentation overview

- Overview of aims
- Project
- Operational Overview
- Some of the challenges addressed
- Status
- What is due to happen

Over view of aims

- To establish
  - An open architecture cloud based system
  - That hosts digital assistive devices and services
  - That improve independent living particularly of people living with dementia/MCI in the community
  - Determine open business models to operate successfully across the various types markets that exist in Europe

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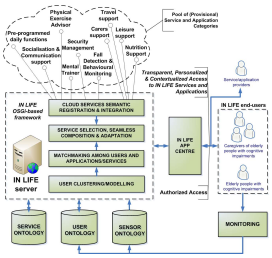
1200 users
1100 carers

The Project

- 20 partners
  - 6 test sites & countries
    - UK, Sweden, The Netherlands, Spain, Greece, Slovenia
    - A service providing partner
    - An 'evidence partner'
  - Technology developers
  - Standards developers
  - Business modelling
  - Total value 3.3 Meuros
  - The AAATE only for dissemination 50k

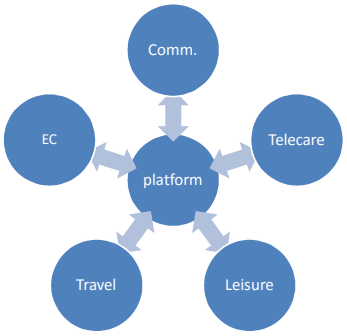
InLife platform architecture



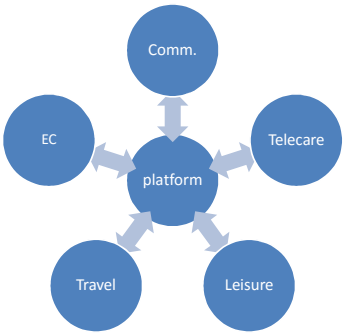
Beneficiaries from the InLife platform

- **End user**
  - Service users
  - UIR mobile and usage shareable
- **Care**
  - Care Service Providers
  - Set UIR and monitor usage/events
- **AT**
  - AT supplier
  - Ready access to InLife users/network
- **Platform**
  - Hard- and firm- ware platform hosts
  - Market anonymised data

Technology types on platform



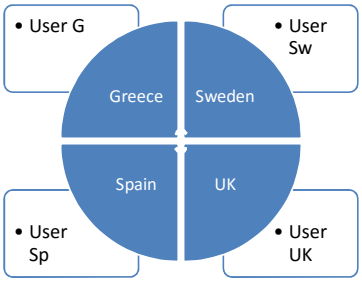
Technology types on platform



16 InLife services

1. Daily function assistant
2. Activity monitoring and coaching
3. Teleconsulation
4. Patient management and complaints monitoring
5. Mental capacity training
6. eDoorman
7. Fall detection and behavioural monitoring module
8. Care giving monitoring and supervision/ Care giver scheduling and reminding
9. Leisure support
10. Guardian angel
11. Physical activity monitoring
12. Car driving ability assessment and enhancement
13. Trip planning and routing support
14. Public transport support
15. Socialisation and communication support / Multilingual and multiculture support
16. Virtual gaming

Users Across Europe



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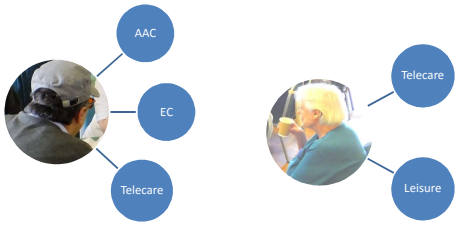

Some of the significant challenges

- Many challenges in the project
  - Consolidating who the 'users' are and what they want/need
  - Adapting and enabling proven technology for use with the InLife platform when they are all so different
  - Working towards standardisation
  - Evidencing the benefit across varied technology, personalised selections and markets

Strategies in addressing the challenges

Users	• Agreeing who they are • Literature review • Consultation
Proven tech.	• Allow variable data sharing via connection • Semantic matching between needs and tech.
Standards	• Catalogue Relevant standards • Identify barriers for InLife • Activate communities
Evidence	• Examine Return on Investment models • Use recognised measures where useful • Use new measures where needed

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Status

- What has been achieved
  - Consolidated user needs
  - Chosen technologies to pilot
  - Evidence tools and the protocol to use them
  - Strategy for business modelling chosen
  - A database of Standards

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Status

- What has been achieved
  - Consolidated user needs
  - Chosen technologies to pilot
  - Evidence tools and the protocol to use them
  - Strategy for business modelling chosen
  - A database of Standards
- What is about to happen
  - Completion of integration with InLife platform
  - Pilot of
    - The technologies
    - Operating the services
    - Collecting the data
    - Analysing the data
  - A Standards workshop at ICCHP

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What next

In project year 3

- A full deployment with the 1200 users and 1100 carers
- A final workshop to engage interested parties

inLIFE

Thanks for listening

First Workshop at Medetel 2016

www.inlife-project.eu

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ICCHP Workshop 2016

Strategic Standardization Issues Concerning eAccessibility & eInclusion

Introduction

Shadi Abou-Zahra
Christian Galinski
Blanca Stella Giraldo

Overview

- Aims and purpose
- Legal situation: CRPD, EU Mandates
- International and European standards
- W3C, IETF and other standards
- World Standards Cooperation (WSC)
- WSC Workshop 2010 "Accessibility"
- WSC Workshop 2010 follow up
- Certification

Aims and purpose

- State of the art of standardization *wrt* eAccessibility&eInclusion
- Improvement of access to information on pertinent standards
- Enhancing the quality of standards through improved access to information on standards
  - ❖Quantitatively less, but qualitatively better standards
  - ❖Identification of benefits, drawbacks and gaps in standardization
- Important: standards-based certification schemes
- Recommendations

Program outline

- Introduction to the wider background of the topic
- Recent standardization activities
- EU Project IN_LIFE
- IN_LIFE database of information on standards related to eAccessibility&eInclusion
- Discussion of recommendations

Legal situation

CRPD, EU Mandates

- Convention on the Rights of Persons with Disabilities CRPD)
  - ❖International human rights treaty of the United Nations intended to protect the rights and dignity of persons with disabilities
  - ❖160 signatories and 165 parties, including 164 states and the European Union (ratified on 23 December 2010)
  - ❖Signatories obliged to adopt the CRPD into national law

CRPD

CRPD definition of disability:

(congenital or acquired) 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

UNESCO

also considers societal and economic factors

EU Mandates (excl. built env.)

- **M/273 (1998) Mandate to the European Standards Bodies for Standardization in the field of information and communications technologies (ICT) for disabled and elderly people**
- **M/283 (1999) Mandate to the European Standards Bodies for a guidance document in the field of safety and usability of products by people with special needs (e.g. elderly and disabled)**
- M/420 (2008) Standardisation mandate to CEN, CENELEC and ETSI in support of European accessibility requiremetns for public procurement in the built environment

➔ **CEN's Strategic Advisory Group on Accessibility (CEN/BT/WG 213 - SAGA)**

EU Standardization Mandates

- **M/376 (2005) Standardisation M: to CEN, CENELEC and ETSI in Support of European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain**
  - ➔ EN 301 549:2014 Accessibility requirements for public procurement of ICT products and services in Europe
  - ➔ COM(2015) 615 final. Proposal for a Directive of the European Parliament and of the Council on the approximation of the laws, regulations and administrative provisions of the Member States as regards the accessibility requirements for products and services
- **M/473 (2010) Standardisation mandate to CEN, CENELEC and ETSI to include "Design for All" in relevant standardisation initiatives**

EU Directives

- **M/376 (2005) Standardisation M: to CEN, CENELEC and ETSI in Support of European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain**
- **76/207/EEC on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions**
- **2014/24/EU on public procurement and repealing Directive 2004/18/EC**
- **2014/23/EU on the award of concession contracts**
- **2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC**

Standardization

International standards

(focusing on software accessibility:)

- **ISO 9241-171:2008 Ergonomics of human-system interaction – Part 171: Guidance on software accessibility**

(from the content point of view:)

- **ISO/IEC 40500:2012 Information technology – W3C Web Content Accessibility Guidelines (WCAG) 2.0**
  (also freely available under http://www.w3.org/TR/WCAG20/)

European standards

(focusing on eProcurement from a EU perspective)

- **EN 301 549:2014 Accessibility requirements for public procurement of ICT products and services in Europe**

(focusing on ICT products and services:)

- **EG 202 116:2009-03 ETSI Guide. Human Factors (HF); Guidelines for ICT products and services; "Design for All"**

W3C, IETF… standards

(from the content point of view:)

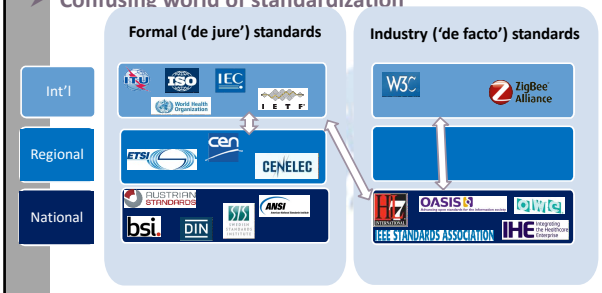
- **W3C Web Content Accessibility Guidelines (WCAG) 2.0**
  (freely available under http://www.w3.org/TR/WCAG20/)

Identical International Standard:

- **ISO/IEC 40500:2012 Information technology – W3C Web Content Accessibility Guidelines (WCAG) 2.0**

Standards developing organizations – SDOs

- Confusing world of standardization



Information on standards

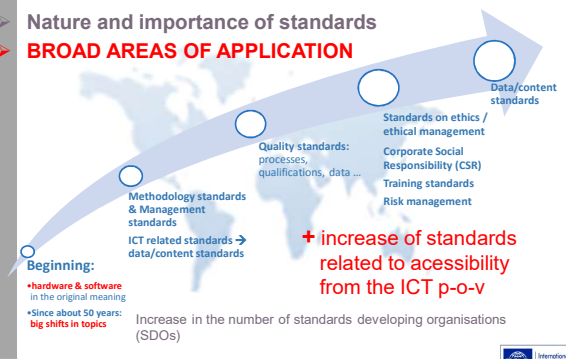
(standards inventory <outdated>:)

- **ISO/IEC TR 29138-2:2009 Information technology – Accessibility considerations for people with disabilities – Part 2: Standards inventory**

(standards inventory <outdated>:)

- **ETSI SR 001 996 V6.1.1 (2013-08) Human Factors (HF); An annotated bibliography of documents dealing with Human Factors and disability**
- *+ Many inventories as a result of EU-projects*

- Nature and importance of standards
- **BROAD AREAS OF APPLICATION**



WSC 2010 Workshop "Accessibility"

ITU, ISO, IEC
World Standards cooperation (WSC)

WSC 2010 Workshop

- World Standards Cooperation (WSC): ITU, ISO, IEC
- WSC Workshop 2010 „Accessibility“
- Enhancing the quality of standards through improved access to information on standards
  - ❖Less, but more comprehensive and better standards
  - ❖Identification of benefits, drawbacks and gaps in standardization
- Important: standards-based certification schemes

WSC Workshop follow up

- World Standards Cooperation (WSC): ITU, ISO, IEC
- WSC Workshop 2010 „Accessibility“
- Enhancing the quality of standards through improved access to information on standards
  - ❖Less, but more comprehensive and better standards
  - ❖Identification of benefits, drawbacks and gaps in standardization
- Important: standards-based certification schemes

Standards-based certification

- World Standards Cooperation (WSC): ITU, ISO, IEC
- WSC Workshop 2010 „Accessibility“
- Enhancing the quality of standards through improved access to information on standards
  - ❖Less, but more comprehensive and better standards
  - ❖Identification of benefits, drawbacks and gaps in standardization
- Important: standards-based certification schemes

Quality of semantic standards
INTEROPERABILITY AND SEMANTIC STANDARDS

- **Interoperability (IOp)**
  - Technical IOp → organizational IOp → semantic IOp → content IOp
  - True semantic IOp: lexical IOp, conceptual IOp, pragmatic IOp
  - ETSI: protocol IOp, service IOp, application IOp, user perceived IOp
- universAAL (too general): ***“Interoperability is the ability to work together from different systems, technologies and organisations. For this, usually it is necessary that common norms and standards are observed.”***

IN LIFE

- Cross-border IOp: → multilinguality
- Cross platforms/applications: full technical IOp
- PwD communication: → multimodality
- Foreign backgrounds: → cultural diversity

Quality of semantic standards: universAAL
Semantic IOp and QA standards

- **Semantic information system (IS) standards ←→ interoperability**
  - Deficiencies with respect to quality
  - Quality standards concerning semantic IS standards: insufficient

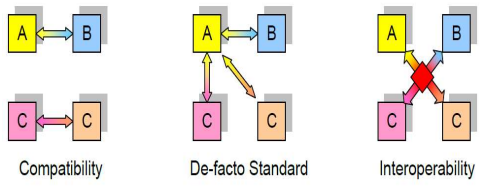


Figure 3.1: Three forms of cooperation of systems

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MoU/MG/12 N 476 Rev.1
Status: FI
Date: 26 March 2012
Source: ISO/TC 37 Co-secretary

Recommendation on software and content development principles 2010

Formulated at the ICCHP 2010 and endorsed by ISO/TC 37 and other technical committees

Purpose

This recommendation addresses decision makers in public as well as private frameworks, software developers, the content industry and developers of pertinent standards. Its purpose is to make aware that multilinguality, multimodality, eInclusion and eAccessibility need to be considered from the outset in software and content development, in order to avoid the need for additional or remedial engineering or redesign at the time of adaptation, which tend to be very costly and often prove to be impossible.

Background

In software development, globalization[1], localization[2] and internationalization[3] have a particular meaning and application. In software localization they have been recognized as interdependent and of high importance from a strategic level down to the level of data modelling and content interoperability.

In 2005 the Management Group of the ITU-ISO-IEC-UN/ECE Memorandum of Understanding on eBusiness standardization adopted a statement (MoU/MG N0221), which defines as basic requirements for the development of fundamental methodology standards concerning semantic interoperability the fitness for

- multilinguality (covering also cultural diversity),
- multimodality and multimedia,
- eInclusion and eAccessibility,
- multi-channel presentations,

which have to be considered at the earliest stage of

- the software design process, and
- data modelling (including the definition of metadata),

and hereafter throughout all the iterative development cycles.

The above requirements are a prerequisite for global content integration and aggregation as well as content interoperability. Content interoperability is the capability of content to be combined with or embedded in other (types of) content items and to be extensively re-used as well as re-purposed for other kinds of eApplications. In order to achieve this capability, software must support these requirements from the outset. The same applies to the methods and tools of content management – including web content management.

Recommendation

Software should be developed and data models for content prepared in compliance with the above-mentioned requirements to facilitate the adaptation to different languages and cultures (localization) or new applications (re-purposing), the personalization for different individual preferences or needs, including those of persons with disabilities. These requirements should also be referenced in all pertinent standards.

[1] ***Globalization****) refers to all of the business decisions and activities required to make an organization truly international in scope and outlook. G11N is the transformation of business, processes and products to support customers around the world, in whatever language, country, or culture they require.*
[2] ***Localization*** *is the process of modifying products or services to account for differences in distinct markets. Therefore, L10N is an integral part of G11N, and without it, other globalization efforts are likely to be ineffective. The interdependence of G11N and L10N has also been coined* ***glocalization****.*
[3] ***Internationalization*** *is the process of enabling a product at a technical level for localization. An internationalized product does not require remedial engineering or redesign at the time of localization. Instead, it has been designed and built from the outset to be easily adapted for a specific application after the engineering phase.*

Date : 8 November 2010

WSC-Workshop « Accessibility and the contribution of International Standards" 3 – 5 November 2010, Geneva, Switzerland

Final recommendations adopted by the workshop on 5 November 2010

The participants in the workshop agreed that as a background to the recommendations, they wished to underline that "Accessibility" is not limited to addressing the needs of persons with disabilities, elderly people or persons with temporary impairments, but aims at the usability of a product, service, environment or facility by people with the widest range of capabilities.

A. Recommendations with a high priority

1. Establish a **Strategic Advisory Group „Accessibility"** between the WSC-organizations, including key accessibility stakeholders to address, decide and monitor key issues related to accessibility, the standards development process, accessible formats of standards, considering financing mechanisms to strengthen the participation of disabled persons in standards development as well as the creation of awareness about accessibility.

2. A **common accessibility policy between the WSC-organizations** should be developed which could become an annex to the key rule documents (e.g. Directives or others) on standards development.

3. Encourage **national members of the WSC-organizations** to actively promote the implementation of accessibility standards, to provide training to disabled persons and to build capacity to prepare them prior to attending meetings in international standardization.

4. WSC-organizations should strengthen their **relationship with the United Nations Convention of the Rights of Persons with Disabilities** (CRPD) and establish **links and liaisons with disability organizations**.

5. The **revision of ISO/IEC Guide 71** under leadership of ISO and IEC is a key task to ensure consistent concepts in the area of accessibility. The revision should take into account relevant documents developed by ISO, IEC and ITU (and other organizations), such as ISO/TR 22411, ISO 21542, IEC TR 62678 to achieve a common approach between the WSC-organizations. Guide 71 should be promoted to all committees as the key reference document (in ISO and IEC) to be applied by them when addressing accessibility matters.

6. If the content of documents proposed in **New Work Item Proposals** is related to accessibility, then this should be identified (e.g. through the introduction of a system of check boxes). **Agendas of meetings of standards committees** should include a standing item in which accessibility should be addressed.

B. Recommendations with a medium priority

7. Establish an **Accessibility Portal** to provide up-to-date online information about ongoing projects and standards related to accessibility issues. The portal may be extended to include links to similar activities of other organizations (e.g. at regional level).

8. Establish an **Accessibility Helpdesk** which could link up with other organizations such as national bodies and disability organizations to advise on accessibility issues and support addressing accessibility in standards development.

9. There is a need for **awareness raising and training** of committee secretariats, chairs, convenors, Central Secretariat-staff about accessibility. Training in accessibility matters should be organized and promoted by the WSC-organizations. Existing training materials, including videos etc., should be re-used and shared and the concept of “accessibility for all” should be promoted.

C. Recommendations with a lower priority

10. Prepare **synopses of key accessibility standards** in simple language that is easy to understand to facilitate application.

11. Use new **social network tools** (such as Facebook, Twitter) to facilitate accessibility and provide a way for people with disabilities to link up and exchange experiences and expertise.

CWAE
Certified Web Accessibilty Expert

Klaus Höckner:
Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs

CWAE

- Certified Web Accessibility Expert
  - Certification of a person according to ISO 17024
  - Valid internationally
  - Against a fee
  - revolving
  - Initial costs 290,00 Euro + 20 % UST

CWAE

- Experts and/or consultants registered at the Chamber of Commerce/branch cunsultants and information technology (UBIT) can be certified
- Edited by the quality academy of the UBIT, the company incite
- Only for physical persons

CWAE

- Adresses to persons working in the following fields:
  - Webdesign/-development:
  - Administration, tender business: persons, who have to deal with legal restrictions (EN 301549 i.e.) in their field of profession
  - Consulting
  - Persons with disabilities, acting as peer-experts – new job opportunities

CWAE

- Preconditions:
  - Knowledge of the guidelines and techniques of accessible webdesign (i.e. WCAG, WAI-ARIA) and capability of
    - Evaluation and redesign of existing webprojects,
    - To create new websites accessible
    - To be able to consult and begleiten web projects regarding to accessibilty in all stages of the project

Training course
Webaccessibility/Incite

- Incite stands for„institute for management consultants and information technology experts".
- Many other certifications and courses offered

Training course

Webaccessibility/Contents

- Modul 1:
  - Design4All
  - Guidelines and needs/participants and processes: Accessiblity in terms of laws and in terms of practicality
- Modul2:
  - Accessible content
  - Techniques: HTML, CSS…….
- Modul3:
  - Accessible multimedia-content in the web
  - Authoring tools und user agents/other guidelines
  - Usability engineering

Links

- Training course Web Accessiblity
  information about trainers, content and dates on the website:
  - http://www.incite.at/ausbildung/de/lehrgaenge/webaccessibility/
- CWAE – Certified Web Accessiblity Expert
  - http://www.incite.at/ausbildung/de/zertifizierungen/certified-webaccessibility-expert/

Kontakt/Infos

Höckner Klaus
Hilfsgemeinschaft der Blinden und Sehschwachen Österreichs
Tel.: +43 1 330 35 45 – 24
Mail:
hoeckner@hilfsgemeinschaft.at

IN_LIFE database of information on standards related to eAccessibility&eInclusion

Christian Galinski
Blanca Stella Giraldo

Overview

- Introduction
- IN LIFE Task A9.3 Standardisation Plan
- Database: proposed solutions

INVESTIGATION AND ANALYSIS OF STANDARDS

- **Database of information on standards pertinent to eAccessibility and eInclusion**
  - More than 400 standards
  - Distinction between primary and secondary relevance?
  - Due to standards life-cycles 10~20% changes per year
- **First gaps in standardisation identified**
  - Interhuman communication neglected
    - → Formulation of a standardisation strategy
    - → Preparations to initiate and launch concrete standardisation activities

Revision of the standards collections showed:

- withdrawn (and not replaced)
- superseded by a revised standard document or by another standard
- recorded in a version before the final stage as standard
- few internet links, broken links, wrong links where standards can be found

IDENTIFIED PERTINENT STANDARDS

Small collections

Ideal Group, Inc.; ASK-IT; OASIS; AEGIS
→180 standards

Large collections

ISO/IEC TR 29138-2:2009 IT —Accessibility considerations for people with disabilities — Part 2: Standards inventory

ETSI SR 001 996 V6.1.1 (2013-08) Human Factors (HF); An annotated bibliography …

CEN/ISSS DfA Workshop "Design for All and Assistive Technologies in ICT" collected information on about 340 standards searchable by subjects – Tiresias

STANDARDS' CATEGORIES AND INDEXING

Ideal group standards bibliography	AEGIS categories of standards (D5.5.1)	OASIS categories of standards (D5.6.1)	ASK-IT categories of standards (5.9.1_final)	Tiresias categories of standards
21	7	12	12	27

- Different categories; categorisation not granular enough
  - Not useful for searching
  - Many categories missing
  - In most cases more than one category apply to a standard
- **Largely outdated information in previous collections**
  - Overlap with health standards, etc.
  - Information in entries incomplete

Group, category, index or key word?

① Several similar `categories`

displays | Visual displays | Tactual displays | Displays (visual, tactual)

② One standard falls under several `categories`

displays (visual, tactual); hardware; user interface

>150 → 47 `key words`

Database: proposed solutions WHAT IS NECESSARY?

- **Database with user-evaluated information on standards related to eAccessibility&eInclusion:**
  - High degree of change in standards development
  - Sustainable maintenance and updating of the database
  - Improve the present structure of information in the DB
  - Too many standards vs. gaps in standardization
  - Obtaining feedback from users to improve standards
  - Using the "crowd" approach involving users and many experts

Can we find a host for a platform for this information?

where users can

- comment on the standards and their relation to each other
- add useful keywords for facilitating search and evaluation (e.g. based on the mapping of concepts)
- provide suggestions for the improvement of the data-base and for making existing standards better known
- provide ideas for necessary new standards
  - → reduce uncertainty wrt which standards are most important/authoritative
  - → improve existing situation wrt info on standards

Database: proposed solutions WHO BENEFITS?

- **What is at stake?**
  "Access to information on Assistive Technologies (AT) is a key issue in social participation and eInclusion. The UN Convention on the Rights of Persons with Disabilities declares this as a fundamental right; all UN member states are obliged to comply with this Convention." Thurmair et al, 2012
- **Stakeholders:**
  - Users: patients, family, social environment
  - Formal and informal caregivers
  - Service provider organizations (SPO)
  - Developers of systems, tools, devices, services, etc.
- **How & why?**
  - IN LIFE standards information database provides complete overview
  - Provides access to further information, such as definitions
  - Can be used for teaching and training

In LIFE Database at a glance

Key words	Standard number	Title of standard	Standard description	Relevance t	Comment
HF, ergonomics, usability and DfA	ISO/IEC Guide 71:2014	Guide for addressing accessibility in standards	ISO/IEC Guide 71:2014 provides guidance to standards developers on addressing accessibility requirements and recommendations in standards that focus, whether directly or indirectly, on systems (i.e. products, services and built environments) used by people. To assist standards developers to define accessibility requirements and recommendations, it presents a summary of current terminology relating to accessibility, issues to consider in support of accessibility in the standards development process, a set of accessibility	☐	
computer; general ICT; HF, ergonomics, usability andDfA; user interface	ISO 9241-20:2008	Ergonomics of human-system interaction — Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services	It is intended for use by those responsible for planning, designing, developing, acquiring, and evaluating information/communication technology (ICT) equipment and services. It provides guidelines for improving the accessibility of ICT equipment and services such that they will have wider accessibility for use at work, in the home, and in mobile and public environments. It covers issues associated with the design of equipment and services for people with a wide range of sensory, physical and cognitive abilities, including those who are temporarily	☐	
general ICT	ISO/TR 22411:2008	Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities	It presents ergonomics data and guidelines for applying ISO/IEC Guide 71 in addressing the needs of older persons and persons with disabilities in standards development. It provides ergonomics data and knowledge about human abilities — sensory, physical and cognitive — and allergies, as well as guidance on the accessible design of products, services and environments.	☐	

thank you!

??

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2016-07-14
Recommendation 2016

In view of the fact that numerous standards related to eAccessibility and eInclusion

- are developed by many standards developing organizations (SDOs) often without adequate coordination under an interoperability perspective;
- can only be found with great difficulty which poses a barrier to the use and application of standards in the field;
- rarely refer to the content aspects of increasingly ICT-supported human communication which creates communication barriers among persons with disabilities (PwD), their care givers and care service providers;
- are increasingly important for the management of all sorts of organizations under a risk management perspective;
- …

the following organizations are called upon

(A) standards developing organizations (SDOs), in particular those of the World Standards Cooperation (WSC), namely ITU, ISO and IEC with respect to eAccessibility and eInclusion:

- to identify potential relevance of the content of documents in New Working Item Proposals (NWIPs) and standards documents to be revised right from the beginning of a standardizing activity;
- to provide a more refined classification and/or keywording scheme to be used for standards documents in the field;
- to foster cross-referencing between standards documents;
- to adapt – if necessary – the existing systems for searching standards so that documents can be easily found by potential users;
- to investigate ways to ensure that standards documents are useful with respect to fulfilling the fundamental aim of interoperability;
- …

(B) UNESCO, the United Nations Educational, Scientific and Cultural Organization, one of whose main foci is on universal access to information and knowledge, in particular on digital empowerment using ICTs for persons with disabilities:

- to promote and encourage efforts by SDOs concerning the above;
- to encourage organizations active in the field in their efforts to facilitate access to information on standards related to eAccessibility and eInclusion;
- to promote approaches that maintain the quality and sustainability of this information over time;
- to …

This Recommendation 2016 is referring to

the “Recommendation on software and content development principles 2010” (formulated at ICCHP 2010)

- which requests “*decision makers in public as well as private frameworks, software developers, the content industry and developers of pertinent standards /to be/ aware that multilinguality, multimodality, eInclusion and eAccessibility need to be considered from the outset in software and content development. These considerations are required in order to avoid the need for additional or remedial engineering or redesign at the time of adaptation, which tend to be very costly and often prove to be impossible*”. and
- which has been endorsed by committees in the field of standardization and was taken as a reference in several multinational projects
-

the Final recommendations adopted by the WSC Workshop “Accessibilty and the contribution of International Standards”, 3-5 November 2010, Geneva (Switzerland) organized by the World Standards Cooperation (WSC) of ITU, ISO and IEC

- covering 6 recommendations with a high priority
- including Recommendation *“6. If the content of documents proposed in **New Work Item Proposals** is related to accessibility, then this should be identified (e.g. through the introduction of a system of check boxes). **Agendas of meetings of standards committees** should include a standing item in which accessibility should be addressed.”*