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# BUSINESS PLAN FOR JTC 1/SC 35 USER INTERFACES

## Period covered:

October 2013 – September 2014

## Submitted by:

Dr Khalid Choukri, ISO/IEC/JTC 1/SC 35 Chairman

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## 1.0 MANAGEMENT SUMMARY

### SC 35 Meetings

#### *Past meetings*

The SC35 Working Groups met two times during the period referenced by the previous Business Plan. These meetings took place in:

- Busan, Korea – 2013-02-18/22
- Saskatoon, Canada – 2013-08-26/30

#### *Next meetings*

- Barcelona, Spain, 2014-02-10/14
- Hangzhou, China – 2014-06-30/07-04

### Organization within SC 35

JTC 1/SC 35 is subdivided in 7 permanent Working Groups

#### *Working Groups :*

- **WG1 : Keyboards and Input Interfaces** – Mr Alain LABONTÉ
- **WG2 : Graphical User Interface and Interaction** – Dr Yoshikazu YAMAMOTO
- **WG4 : User Interfaces for Mobile Devices** – Mr Yoshihide NAKAO
- **WG5 : Cultural and Linguistic Adaptability** – Dr Yves NEUVILLE
- **WG6 : User Interface Accessibility** – Dr Jim CARTER
- **WG7 : User Interfaces Object, Actions and Attributes** – Dr Jim CARTER
- **WG8 : User Interfaces for Remote Interactions** – Dr Gottfried ZIMMERMANN

#### *Note:*

SC35 resolved to integrate **WG3 (Graphical Symbols)** with WG2 (User Interface Interaction), which was chaired by Dr. Yamamoto. This merger took effect in June 2004 and the title of the new WG2 became "Graphical User Interface and Interaction".

## 1.1 CHAIRMAN'S REMARKS

### Changes to members' list

**South Africa** (SABS) has joined SC 35 as a P-Member. **Romania** has changed its membership level from P to O-Member.

So far, **35 national bodies** are members of **SC 35** (19 P-members, 17 O-members).

### Members' list

JTC 1/SC 35 membership as of 2013-10-14 ([ISO Website's SC 35 page](#))

### List of P and O Members

#### *P Members (19)*

- Canada (SCC)
- China (SAC)
- Denmark (DS)
- Finland (SFS)
- France (AFNOR)
- Germany (DIN)
- Greece (ELOT)
- India (BIS)
- Italy (UNI)
- Japan (JISC)
- Korea, Republic of (KATS)
- Russian Federation (GOST R)
- South Africa (SABS)
- Spain (AENOR)
- Sweden (SIS)
- Switzerland (SNV)
- Ukraine (DSSU)
- United Kingdom (BSI)
- USA (ANSI)

#### *O Members (17)*

- Austria (ASI)
- Belgium (NBN)
- Bosnia Herzegovina (BAS)
- Bulgaria (BDS)
- Czech Republic (UNMZ)
- Ghana (GSB)
- Hungary (MSZT)
- Indonesia (BSN)
- Iran (ISIRI)
- Ireland (NSAI)
- Israel (SII)
- Kenya (KEBS)
- Netherlands (NEN)
- New Zealand (SNZ)
- Poland (PKN)
- Romania (ASRO)
- Serbia (SSI)

## 1.2 JTC 1/SC 35 STATEMENT OF SCOPE

The current approved title and scope for ISO/IEC JTC 1/SC 35 is:

**Title:**

ISO/IEC JTC 1/ SC 35 – User interfaces

**Scope:**

Standardization in the field of user-system interfaces in information and communication technology (ICT) environments and support for these interfaces to serve all users, including people having accessibility or other specific needs, with a priority of meeting the JTC 1 requirements for cultural and linguistic adaptability.

This includes:

- user interface accessibility (requirements, needs, methods, techniques and enablers);
- cultural and linguistic adaptability and accessibility (such as evaluation of cultural and linguistic adaptability of ICT products, harmonized human language equivalents, localization parameters, voice messaging menus...);
- user interface objects, actions and attributes;
- methods and technologies for controlling and navigating within systems, devices and applications in visual, auditory, tactile and other sensorial modalities (such as by voice, vision, movement, gestures...);
- symbols, functionality and interactions of user interfaces (such as graphical, tactile and auditory icons, graphical symbols and other user interface elements);
- visual, auditory, tactile and other sensorial input and output devices and methods in ICT environments (for devices such as keyboards, displays, mice...);
- user interfaces for mobile devices, hand-held devices and remote interactions.

**NOTE:**

The current wording of the JTC 1/SC 35 Scope was proposed to and accepted by JTC 1 on its 2009 Plenary meeting in Tel Aviv. The new wording was **drafted in Plenary sessions and approved unanimously** (JTC 1/SC 35 Resolution 2009.62).

### 1.3 PROJECT REPORT

Overview of current standardization projects in the JTC1/SC35 work programme:

#### Active projects

(Highlighted text marks title changes and project subdivisions submitted to JTC 1 for review in a separate document)

Stage	Reference	Title	WG	Status	Publication target
PUB	9995-9	Information technology -- Keyboard layouts for text and office systems -- Part 9: Multilingual-usage, multiscript keyboard group layouts	1	Submitted for PUB	2013
DIS	9995-11	Information technology — Keyboard layouts for office systems — Part 11: Functionality of dead keys and repertoires of characters entered by dead keys	1	To be submitted for DIS	2016
PUB	11581-41	Information technology -- User system interfaces and symbols -- Icon symbols and functions -- Part 41: Data structure to be used by the ISO/IEC JTC1/SC35 Icon Repository	2	Submitted for PUB	2014
DTR	13066-4	Information Technology -- Assistive Technology Interoperability -- Part 4: Linux/UNIX graphical environments accessibility API	6	To be submitted to DTR	2014
PWI TR	13066-5	Information Technology -- Assistive Technology Interoperability -- Part 5: Macintosh-OS accessibility API	6	—	—
PUB	13066-6	Information Technology -- Assistive Technology Interoperability -- Part 6: Java accessibility API	6	Submitted for PUB	2014
PWI TR	13066-7	Information Technology -- Assistive Technology Interoperability -- Part 7: ARIA (Accessible Rich Internet Applications) accessibility API	6	—	—
DTR	15440	Information technology – User interfaces – Future Keyboards, and other input devices and entry methods	4	—	—

Stage	Reference	Title	WG	Status	Publication target
PWI	17549-1	Information technology – User interface guidelines on menu navigation – Part 1: Framework and convergence matters	4	—	—
DIS	17549-2	Information technology -- User interface guidelines on menu navigation -- Part 2: Navigation with 4-direction devices	4	Submitted to DIS	2015
DTR	20007	Information technology -- Symbols, icons, characters and glyphs	5	Submitted for PUB	2013
WD TS	20071-21	Information Technology — User interface component accessibility — Part 21: Guidance on audio descriptions	6	WG work	—
PWI	20071-41	Information Technology — Information technology — User interface component accessibility — Part 41: Guidance on menu structuring and navigation	6	—	—
PUB	24752-1	Information technology -- User interfaces -- Universal remote console -- Part 1: Framework	8	To be submitted for PUB	2015
FDIS	24752-2	Information technology -- User interfaces -- Universal remote console -- Part 2: User interface socket description	8	FDIS submitted	2014
FDIS	24752-4	Information technology -- User interfaces -- Universal remote console -- Part 4: Target description	8	FDIS submitted	2015
FDIS	24752-5	Information technology -- User interfaces -- Universal remote console -- Part 5: Resource description	8	FDIS submitted	2015
PUB	24752-6	Information technology -- User interfaces -- Universal remote console -- Part 6: Web service integration	8	To be submitted for PUB	2014
DTR	30109	Information Technology -- User Interfaces -- Worldwide availability of personalized computing environments	5	WG Work	2014
PUB	30112	Specification methods for cultural conventions	5	Submitted for PUB	2014



Stage	Reference	Title	WG	Status	Publication target
DIS	30113-1	Information technology -- Gesture-based interfaces across devices and methods -- Part 1: Framework	1	WG work	2014
CD	30113-11	Information technology -- Gesture-based interfaces across devices and methods -- Part 11: Single-point gestures for common system actions	1	WG work	—
PWI	30113-12	Information technology -- Gesture-based interfaces across devices and methods -- Part 12: 3-Dimensional mouse gestures for navigation and control	1	—	—
DIS	30122-1	Information Technology -- Voice commands – Part 1: Framework and general guidance	5	WG work	2014
DIS	30122-4	Information Technology -- Voice commands – Part 4: Management of voice command registration	5	Submitted for DIS	2014

### Recently published standards

Reference	Document title
ISO/IEC 9995-10:2013	Information technology -- Keyboard layouts for text and office systems -- Part 10: Conventional symbols and methods to represent graphic characters not uniquely recognizable by their glyph on keyboards and in documentation
ISO/IEC 15897:2011/Cor 1:2013	Information technology -- User interfaces -- Procedures for the registration of cultural elements
ISO/IEC TR 13066-2:2012	Information technology -- Interoperability with Assistive Technology (AT) -- Part 2: Windows accessibility application programming interface (API)

### Standards to be reviewed

Reference	Document title	WG	Starting date
ISO/IEC 24757:2008	Information technology -- Keyboard interaction model -- Machine-readable keyboard description	8	2013-01-15
ISO/IEC 24752-3:2008	Information technology -- User interfaces -- Universal remote console -- Part 3: Presentation template	4	2012-10-15
ISO/IEC 24756:2008	Information technology -- Framework for specifying a common access profile (CAP) of needs and capabilities of users, systems, and their environments		

## 1.4 CO-OPERATION AND COMPETITION

### Liaisons

SC35 maintains **liaisons** with the following JTC1 subcommittees, ISO, IEC, CEN Technical committees.

ISO/IEC JTC 1/SC 2	Coded character sets
ISO/IEC JTC 1/SC 36	Information technology for learning, education and training
ISO/IEC JTC 1/SWG 1	Accessibility (SWG-A)
ISO/TC 145	Graphical symbols
ISO/TC 159	Ergonomics
ISO/TC 159/SC 4	Ergonomics/ Ergonomics of human system Interaction - Software ergonomics and human - computer dialogues
IEC TC 3/SC 3C	Information structures, documentation and graphical symbols
JWG 11 ISO/TC 145– IEC TC 3/SC 3C	Joint working group ISO/TC 145-IEC/SC 3C

*SC35 also maintains or initiates contacts with the following category C liaisons:*

W3C	World Wide Web consortium
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## **Cultural and Linguistic Adaptability and User Interfaces**

SC 35 has the mission to consider how to integrate the requirements for Cultural and Linguistic Adaptability and User Interfaces (CLAUI) aspects in products standards so that software and hardware be adapted to local cultural and linguistic needs.

JTC 1/SC 35/WG 5, "Cultural and linguistic Adaptability" focuses directly on establishing recommended practices on how to evaluate CLAUI in ICT products. The Technical Report "*Guidelines, methodology, and reference criteria for cultural and linguistic adaptability in information technology products*" issued by SC35/WG 5 both in English and French, is a most relevant tool to ensure CLAUI.

The ISO/IEC 9995 multi-part standard, "*Information technology- Keyboard layouts for text and office systems*" under the responsibility of WG 1, defines important aspects to enable keyboards to enter the full ISO 10646 universal characters set (UCS) and also the allocation of Latin letters to the keys of numeric keypads. It is currently undergoing important revision and additions (part 9 and 10).

An active and fruitful cooperation has been set in this domain with CEN/ISSS WS MEEK on Multilingual Extensions for European Keyboards.

The 11581 series "*Information technology - Icon symbols & functions*" in the hands of WG 2 and WG 7 provides language-independent means of communicating information.

Two WG 6 technical reports published in 2007 cope with the key new topic that is e-Accessibility standardization, which means participation for all citizens worldwide in a knowledge-based economy, and making web content and ICT systems accessible to people with special needs including the children, elderly and disabled. The subject described within those Technical reports are :

- ISO/IEC TR 19765, "*Survey of existing icons and symbols for elderly and disabled persons*;
- "ISO/IEC TR 19766, "*Requirements concerning icons and symbols in IT for elderly and disabled persons*".

Those TRs have CLAUI implications.

As stated in the Cooperation and Coordination of Cross Cultural and linguistic matters (CCCCLM), held in June 2003 in Geneva, Switzerland, the "*particular expertise*" of SC 35 in Cultural and Linguistic adaptability (CLA) was formally recognized and referred to in the following recommendation (R5) "*CCCCLM notes JTC 1/SC 35 has particular expertise in CLA (culture and linguistic adaptability) user interface requirements... and suggests that other SCs take advantage of that expertise when they have questions regarding cultural and linguistic adaptability issues in their work*".

The participation in different international events like WSIS (World Summit on Information Society) or Barcelona Forum also concurred to those aims.

## **Accessibility and User Interfaces**

IT Accessibility matters to an important and growing population around the world. Situations such as handicap persons, ageing populations, people working in noisy environments, limited use of hands (e.g. while driving or typing)... all of these examples may result in specific, permanent or temporary user needs that IT User interfaces help address. Equal access to IT devices, electronic information and interactions is central not only to secure wider products adoption, but also to facilitate employment, and enable all users with means of socialization, business interactions or citizenship rights.

With the creation of WG 6 “User interface accessibility”, SC 35 work now benefits from a full standardization community dedicated to IT accessibility and Design for all. WG 6 works closely with JTC 1 / SWG-A to optimize coverage of IT Accessibility-related issues. Among the main achievements is the development of a Multi-part standard (ISO/IEC 13066) on “Information technology – Interoperability with Assistive technology (AT)” that encompasses all major APIs.

## **2.0 PERIOD REVIEW**

### **2.1 MARKET REQUIREMENTS**

Information and communication technologies (ICT) are used in every conceivable area of life. There is a need, for instance, to secure access to the Internet by all citizens all around the world and to bring everyone, independently from their culture and language, online. There is especially a need to develop market-relevant standards enabling the Cultural and linguistic concept to be implemented in ICT products.

Besides, the growth of the elderly population of industrialized countries and the growing concern for disabled drive a stream of user's needs and accessibility requirements that can partially be addressed by SC 35 standards in the context of its scope. To help to achieve those goals SC35 is actively participating in JTC1/SWG A on accessibility.

## 2.2 METRICS

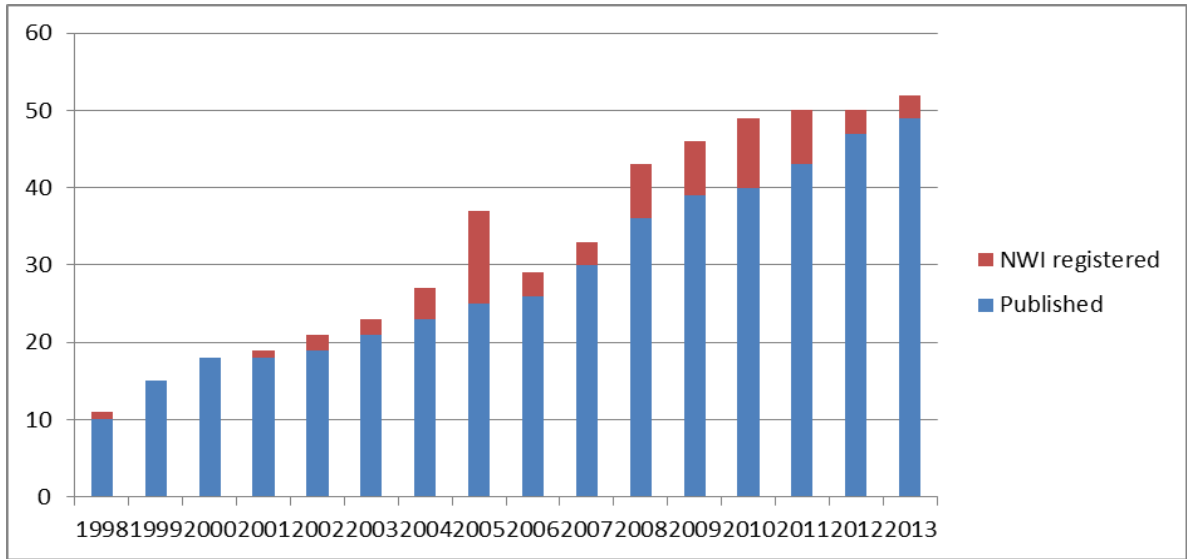
Year	Documents published				With-drawn	Total published documents	New projects
	New documents	REV	AMD	Total			
1998						10	1
1999	5		2	7		15	
2000	3			3		18	
2001						18	1
2002	1	4		5		19	2
2003	2			2		21	2
2004	2			2		23	4
2005	2			2		25	12
2006	1	4		5		26	3
2007	0			4		30	1
2008	0			6		36	14
2009	4	6		10	1 <sup>1</sup>	39	4
2010	1	1		2		40	4
2011	3	1		4		43	8
2012 <sup>2</sup>	4		2	6		47	9
2013	2		1	4		49	2

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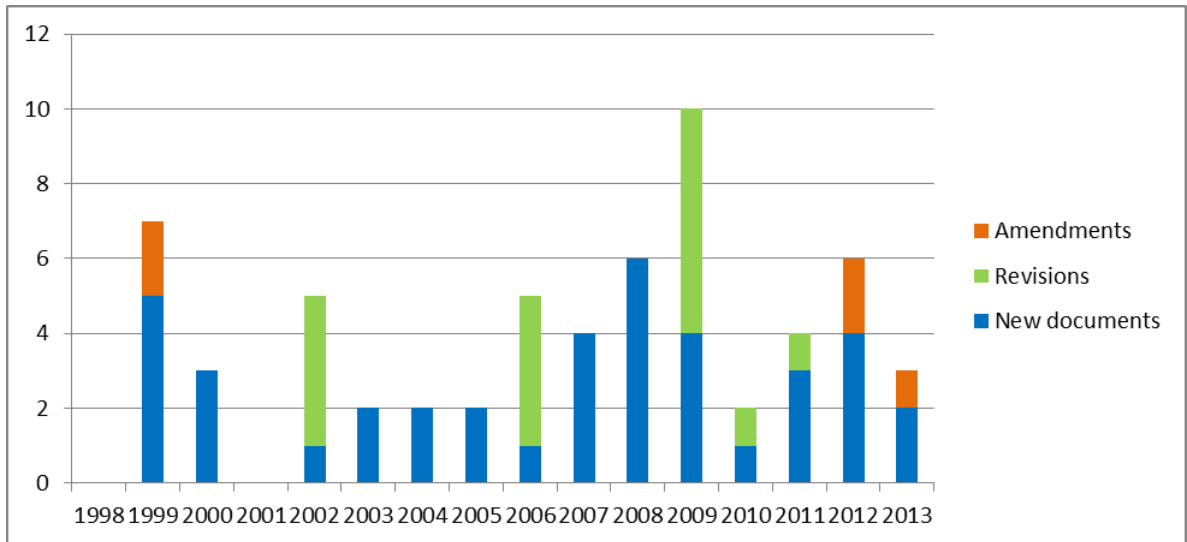
<sup>1</sup> TR 24784 withdrawn after its recommendations were implemented in a revision of ISO/IEC 9995 series

<sup>2</sup> Figures for 2013 as anticipated from Work program on 2013-10-14

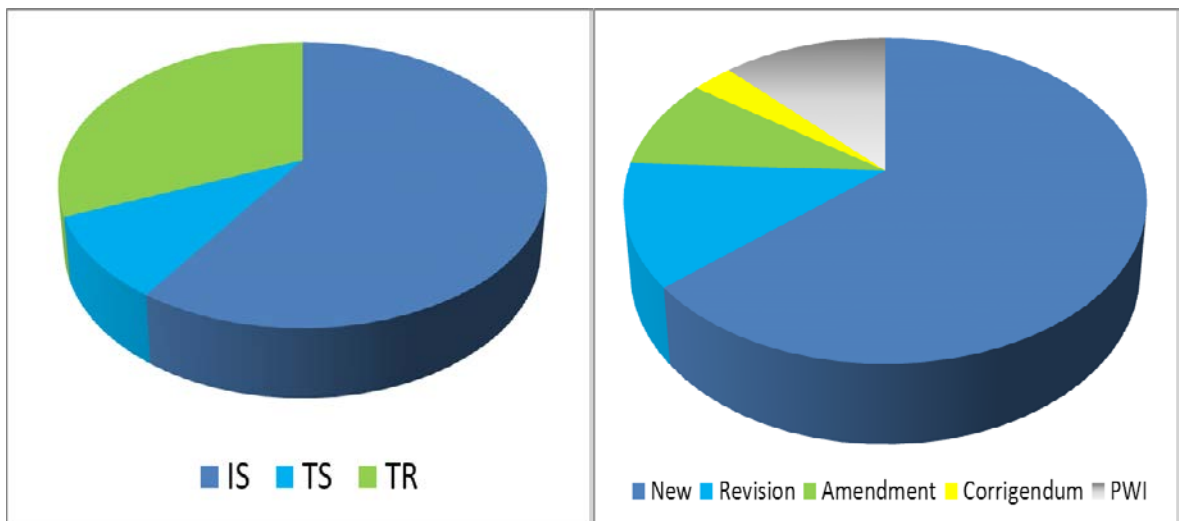
**JTC 1/SC 35 Published documents and New work items**



**Publications by type**



**2013 work items**



On 2012-09-25, JTC 1/SC 35 has 20 active work items and 5 PWI.

## **2.3 RESOURCES**

Projects are well staffed and resources are adequate for the current tasks.

JTC 1/SC 35 has participants with substantial expertise. However to cover future necessary developments, it is needed to attract new highly trained experts representing the market players and willing to actively contribute to the development of new projects.

A current consolidation of various member countries' participation to JTC 1/SC 35, involving key software and hardware industry players, reinforces the representation of stakeholder interests and expertise, and is already bringing in highly valuable technical inputs into the standardisation process.

## **3.0 FOCUS NEXT WORK PERIOD**

JTC 1/SC 35 plans to continue to focus on user requirements, product-oriented and market-driven standards and initiating new projects that have clear and well-defined objectives together with concrete specifications.

SC 35 is increasing its activity in the field of Voice interfaces (ISO/IEC 17549 series) and Gesture-based interfaces (ISO/IEC 30113 series), while pursuing work on Accessibility APIs (ISO/IEC 13066 series) and considering further development in the field of User interface components accessibility (ISO/IEC 20071 series).

## **3.1 DELIVERABLES**

A list of ongoing projects and their status is proposed on page 6.

## **3.2 STRATEGIES**

JTC 1/SC 35 is focused on progressing its projects as timely and efficiently as possible. This has already been demonstrated with the important number of IS and TR achieved in the recent years.

To achieve its mission, JTC 1/SC 35 has been actively undertaking the following actions:

- Managing its activities effectively with the help in the past of its ad-hoc Group on SC 35 WG Management;
- Increasing the number of experts within the committee and establishing relationship with users and industry representatives, human factors and cognitive sciences specialists, software designers, vendors and consortia;
- Enhancing flexibility of work to possibly attract newcomers (phone participation especially, experts invitations...);
- Maximizing its contribution to JTC 1 by seeking out New Work Items related to innovative products with well-defined specifications. For that purpose, his WG 5 is working on Taxonomy (ISO/IEC TR 24785 Information technology - Taxonomy of cultural and linguistic adaptability user requirements);



- Offering SC 35 expertise for cross-fertilization with other SCs and TCs especially for CLAUUI matters according to the recommendations set up at the JTC 1 Coordination of Cross Cultural and linguistic Matters meeting.

### 3.2.1 RISKS

A risk may come from the **potential conflicting proprietary and de facto standards**.

A second risk may be raised by the difficulties in supporting standardization efforts for **lack of availability and time from experts**, especially those willing to take part in the writing of projects, and increasing **financial difficulties** to participate.

One of the keys to the growth of the SC membership is to **attract** experts from **companies, research centres, and government agencies** but also to try to **develop** the **participation of users and consumers' organizations, unions, family associations...**

Being **more involved in the international cooperation process** (e.g. **WSIS**) could help to increase the number of countries participating especially those unable to join for financial reasons.

National bodies' participation in **new proposals** is crucial to develop standardization programmes. NSB's should realize that the cost of participation in a new project is less demanding than it may appear. JTC 1/SC 35 takes advantage of Internet or various other communication devices like telephone conferencing as recommended at JTC 1 level to encourage more countries to effectively participate in the writing of standards or join the standardization work.

Because of the **rarity of experts in some technical areas** and the **increasing geographical concentration of the industry**, this flexibility is a priority to avoid the decline of ICT standards production in various domains in the near future.

### 3.2.2 OPPORTUNITIES

SC35 is actively cooperating with SWG A on Accessibility and trying to increase its participation (important SC35 representatives are participating in the meetings and activities). This is fruitful and consequently opens the way to new important projects.

In addition, the work items and published standards concerning icons and the Universal remote console will probably impact major applications in the future.

A major standards series (13066) is now being developed in the field of Assistive Technologies in the different major existing IT environments, and is representing a major step towards more interoperability and more open markets for the benefit of the users.

The continuous development of SC35 activities has recently led to the re-definition of its scope in line with the current technologies progress, especially in assistive technologies, and market evolution.

Liaisons recently established (W3C) or pending (Unicode Consortium) are opportunities to maintain a high relevance and strong industry support for SC 35 deliverables.