New Version of 24751 Part 1

This is a draft - please comment....

Introduction

ISO/IEC 24751 is intended to facilitate the matching of individual user needs and preferences with resources [note:interfaces are used to access resources] that meet those needs and preferences to enable appropriate perception of the resources. This matching might involve finding a suitable resource or interface, or format of a resource, or it might involve adaptation of the resource or its interface. It is intended to address mismatches between personal needs and preferences caused by any number of circumstances, including requirements related to client devices, environments, language proficiency or abilities. The terms and definitions within ISO/IEC 24751 are not judgmental or based on disability classifications, diagnosis or assumptions regarding disability, rather they are descriptions of functions that can be applied by all users; the purpose is not to point out flaws in resources or interfaces with respect to accessibility and adaptability, but to facilitate the discovery and use of the most appropriate resource, configuration or interface for each user.

In ISO/IEC 24751, it is recognized that individuals experience a disability when there is a mismatch between the individual's needs (or preferences) and the user experience, service or environment delivered. Disability is therefore not viewed as a personal trait but as a consequence of the relationship between the individual and the environment or resource delivery system. An individual who is blind is not disabled when the resource is delivered in audio, but an individual who does not have the necessary background knowledge to understand the resource, or an individual who is listening to the resource in a noisy environment, is disabled. Given this reframing, a system is accessible when user needs can be addressed or matched (through adaptation, re-aggregation or substitution of resources and user interfaces). Accessibility is determined by the flexibility of the system or environment (with respect to presentation, control methods, structure, access mode, and supports, for example) and the availability of adequate alternative-but-equivalent content and activities. The needs and preferences of a user may arise from the user's context or environment, the technical requirements of the user's device, the tools available (e.g. assistive technologies such as Braille devices, voice recognition systems, alternative keyboards, etc.), the user's background, or a disability in the traditional sense. Accessible systems adjust the user interface or configuration of the system, locate needed resources and adjust the resources to match the characteristics of the resources to the needs and preferences of a user.

Information technology — Individualized adaptability and accessibility in e-learning, education and training — Part 1: Framework

1   Scope

1.1   Statement of Scope

ISO/IEC 24751 applies to personalization on demand, enabled by ICT and networked systems.

ISO/IEC 24751 is not restricted to classic notions of disability and takes an inclusive approach. It is intended for all users, as every user can experience a mismatch of their individual needs and preferences and the content or services delivered.

ISO/IEC 24751 is framed to support the perspective and understanding of the individual user (in contrast to the technical specifics of an implementation).

This Framework Part 1 of ISO/IEC 24751 provides a common framework for additional parts. These additional parts may include:

1. Part 2 that describes in detail the provision, maintenance, availability, form and use of an open, online, digital registry to be called the AccessForAll Registry;
2. Other parts that specify the definition of data elements to be registered in the AccessForAll (or other conformant registries). It may also specify classes of data elements, such as those associated with a class of visibility, or classes such as those that are mandatory, recommended, or otherwise, and
3. other parts as deemed necessary to support implementation and provide interoperability and efficiency of this standard.

2.1   Exclusions

2.1.1   Implementation

ISO/IEC 24751 is "implementation neutral" to enable innovation and advances in implementations. As such, the standard will not define more than the way of describing needs and preferences, the related characteristics of resources, the creation and maintenance of a registry of terms, and the policies for that registry.

2.1.2   The creation of accessible content

ISO/IEC N24751 does not describe how to create accessible content. Other work exists and standards are under development that describe how content and interfaces can be made more accessible.[1|#_ftn1]

2.1.3   Person: organization and public administration

ISO/IEC24751 does not define how to deal with types and roles of Persons, (and two sub-types of Person namely organization and public administration). Other standards exist and are under development that address these and related issues.[2|#_ftn2]

2.2 Aspects not currently addressed

- · Note – none of this is necessary if the word digital is included with resources in the text ie 'digital resources' instead of just resources.

2 Conformance

This document is a framework document and as such there is no conformance to this part of the standard. Requirements for conformance are specified in successive parts of this standard.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 11179, *Information Technology – Metadata Registries (MDR)*

ISO 19788, *Metadata for Learning Resources (MLR)*

4 Terms and definitions

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

4.1

access for all

AfA

Approach to providing **accessibility** (4.3) in a computer-mediated environment in which the **digital resources** (4.7) and their method of delivery are matched to the needs and preferences of the user

4.2

AccessForAll Registry

A registry of terms to be used in creating PNP statements, resource descriptions, pull statements[3|#_ftn3] and other functions in support of personalization on demand enabled by ICT and networked systems

4.3

AccessForAll (AfA) accessibility

usability (4.18) of a product, service, environment or facility by an individual (4.12) according to that individual's needs and preferences at the time of use

NOTE 1 Although "accessibility" typically addresses users who have a disability, the concept is not limited to medical impairment or disability issues.

NOTE 2 Adapted from ISO/TS 16071:2003, 3.2.

4.4

access mode

human sense perceptual system or cognitive faculty through which a user may process or perceive the content of a **digital resource** (4.9)

4.5

adaptability

ability of a **digital resource** (4.9) or delivery system to adjust the presentation, control methods, structure, **access mode** (4.4), and user supports, when delivered

4.6

adaptation

digital resource (4.9) that presents the **intellectual content** (4.14) of all or part of another **digital resource** (4.9)

NOTE Adaptations can also include the adjustment of the presentation, control methods, access mode, structure and user supports.

4.7

data element, term

unit of data for which the definition, identification, representation and permissible values are specified by means of a set of attributes

[ISO/IEC 11179-1:2004, 3.3.8] [ISO/CEI 11179-1:2004, 3.3.8]

4.8

dataset, term set

identifiable collection of data

NOTE A dataset can be a smaller grouping of data which, though limited by some constraint such as spatial extent or feature type, is located physically within a larger dataset. Theoretically, a dataset can be as small as a single feature or feature attribute contained within a larger dataset.

4.9

digital resource DR

any type of resource that can be transmitted over and/or accessed via an **information technology system** (4.14)

4.10

disability

digital resource delivery any obstacle to an individual's (4.13) use of a **digital resource** (4.9) experienced because of a mismatch between the needs of a user and the **digital resource** (4.9) delivered

NOTE 1 Disability in an AfA context is not a personal trait but a consequence of the relationship between the user and a resource delivery system.

4.11

disability

medical perspective any restriction or lack [resulting from an **impairment** (4.12)] of ability to perform an activity in the manner, or within the range, considered normal for a human being

NOTE 1 This definition of "disability" is included to ensure that users who may have "legal rights" to assistive technologies are served.

NOTE 2 Adapted from World Health Organization Document A29/INFDOCI/1, Geneva, Switzerland, 1976.

4.12

impairment

medical perspective any loss or abnormality of psychological, physiological, or anatomical structure or function

NOTE Adapted from World Health Organization Document A29/INFDOCI/1, Geneva, Switzerland, 1976.

4.13

individual

human being, i.e. a natural person, who acts as a distinct indivisible entity or is considered as such

NOTE Adapted from ISO/IEC 15944-1:2002, 3.28.

4.14

information technology system, IT system

set of one or more computers, associated software, peripherals, terminals, human operations, physical processes, information transfer means, that form an autonomous whole, capable of performing information processing and/or information transfer

[ISO/IEC 14662:2004, 3.1.8]

4.15

language

system of signs for communication, usually consisting of a vocabulary and rules

NOTE In this part of ISO/IEC 24751, language refers to "natural languages" or "special languages" but not "programming languages" or "artificial languages".

[ISO 5127:2001, 1.1.2.01]

4.16

Personal Needs and Preferences (PNP) statement

A statement containing a value associated with a **data element** (**term**) (4.7) for describing the needs and preferences of an individual. Needs and preferences statements may be conditional.

4.16

Personal Needs and Preferences (PNP set

A **dataset** (4.8) (collection) of **Personal Needs and Preference statements** (4.16). Each individual may have multiple PNP statements and/or sets.

4.17

Personal Needs and preferences (PNP) context set

A (named) **dataset** (4.8) of conditions to determine if a PNP statement (4.16) applies[4|#_ftn4]

4.18

Personal Needs and preferences (PNP) context name

A name associated with a **PNP context set (4.17).**

4.18

usability

extent to which a product can be used by specified users to achieve specified goals, with effectiveness, efficiency and satisfaction, in a specified context of use

[ISO 9241-11:1998, 3.1]

5   Symbols (and abbreviated terms)

AfA	access for all
ICT	Information and communication technology
IMS	IMS Global Learning Consortium
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
IT	Information technology
MLR	Metadata for Learning Resources
W3C	World Wide Web Consortium
W3C/WAI WCAG	World Wide Web Consortium/Web Accessibility Initiative Web Content Accessibility Guidelines

6   Basic Principles

ISO/IEC 24751 is constructed to enable interoperability as well as innovation and extensions, not to constrain.

The standard recognizes each user as an individual with individual needs and preferences.

The Personal Needs and Preferences (PNP) of an individual may differ according to their context so each individual can have multiple needs and preferences statements.

Each individual should be able to continuously refine the match provided and their individual PNP statements.

The standard will be "implementation neutral" to enable innovation and advances in implementations.

The standard will be interoperable with MLR (ISO/IEC N19788).

Only the user makes a judgment regarding the urgency or importance of a needs and preference request.

Terms not in the AccessForAll Rgistry can be used in implementing AccessForAll.

6.1 The Matching Process

This standard enables a matching process by providing common terms to be used for descriptions of user requirements and the relevant characteristics of resources and user interfaces so they can be matched. It does not specify how matches are to be made although examples of systems that make matches are provided in Appendix 1.

The goal is to facilitate the provision of a **user experience** that matches the needs and preferences of a user by providing a framework for the definition of common terms describing:

- user needs and preferences and user experiences available from a device and resource

and

- a method and format for maintaining and publishing a registry of such common terms.

The standard defines description terms for Personal Needs and Preferences (PNP) statements with values that can be selected by a user or their agent. PNP statements will take the form of

- a property definition (to be identified by URL);
- a value set for that property, and
- conditions for the operation of that preference.

At any time, an individual's PNP set will be those PNP statements that are resolved according to the conditions identified by a **PNP context set** or **PNP statements** otherwise identified. Where there is a conflict between preference values, the first occurrence within the set will be given priority, independently of when the preferences were stated.

6.3 Extending the Standard

This multi-part standard can be extended by adding additional parts. In general, the standard will be extended by registration of new terms (data elements) and other resources in the AccessForAll Registry according to this standard and, in particular, Parts 2 and 3 of this standard.

7 Description of AccessForAll Registry

The AccessForAll (AfA) Registry will support interoperability and re-use of terms while enabling agile updating and extensions.

The Registry will not standardize the binding to be used.

The Registry will establish a mechanism to enable open and public proposals for new terms.

To support interoperability and reuse, the Registry will establish classes of terms and an agreed upon structure and format for listing terms.

The content of the registry will be interoperable with popular meta-data standards, including the MLR.

Use of the terms within the registry will be free and open.

The registry will establish a lightweight, minimally formalized process for sanctioning new terms.

[1|#_ftnref1] See for example W3C/WAI Web Content Accessibility Guidelines [W3C/WAI, WCAG], ISO 15836, ISO 15706, other standards of ISO/TC 46 and ISO/IEC JTC 1/SC 29, as well as standards being developed by ISO/IEC JTC 1/SC 36.

[2|#ftnref2] See further ISO/IEC 14662:2004, _Information technology — Open-edi reference model and the ISO/IEC15944 multi-part e-business standard.

[3|#_ftnref3] Pull statements are requests to fill gaps in meeting a PNP statement.

[4|#_ftnref4] The stress is on the individual's perspective. A condition should be clear: for example, an objectively determined condition such as 'if it is raining' does not indicate if the user is affected by the rain, as they may be sheltered or have an umbrella.