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Information technology — Development of user interface accessibility —

Part 1: Code of practice for creating accessible ICT products and services

Technologies de l'information — Développement de l'accessibilité des interfaces utilisateur —

Partie 1: Code de bonnes pratiques pour créer des produits et services TIC accessibles

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

A list of all parts in the ISO/IEC 30071 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document provides guidance on developing and implementing an organizational accessibility policy for creating accessible ICT systems (including products and services). It can help organizations to ensure that their ICT systems are accessible to diverse users.

The design of many ICT systems unnecessarily excludes users with disabilities or others with accessibility requirements, for example, older persons, which can leave organizations that provide these systems subject to legal challenge on the grounds of discrimination. However, by following good practice in creating, updating or procuring ICT systems, this exclusion can generally be prevented.

This document contains process-related guidance rather than technical requirements. It brings together and summarizes important information needed to enable organizations that create ICT systems to understand:

— how to create organizational policies to embed accessibility considerations into their "business as usual" processes;

— how to consider the needs of users with disabilities and older people at all stages of the ICT development process.

The document is intended for:

— persons responsible for setting high-level organizational policies;

— persons responsible for setting accessibility policies and procedures at the system, product or service level;

— persons responsible for directly designing or implementing accessibility activities derived from the policies applied within the organization.

The guidance in this document focuses on activities and outcomes rather than specifying complete processes and methods, allowing organizations to implement this guidance in the manner most suited to their individual organizational culture and operations.

Drivers for organizations to make their ICT systems more accessible and usable include:

a) legal reasons;

b) commercial reasons;

c) ethical reasons/human rights/social responsibility;

d) innovation reasons.

Often, these drivers interrelate. These include the accessibility of ICT systems that support employment, those used in public and private transport, in public buildings, in the home, in education, in social networking and in the ubiquitous use of ICT known as the Internet of Things. Ensuring systems are accessible to the widest range of diverse users will increase inclusion. This can create benefits for many sectors of society.

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Information technology — Development of user interface accessibility —

Part 1: Code of practice for creating accessible ICT products and services

1 Scope

This document takes a holistic approach to the accessibility of information and communications technology (ICT) by combining guidance on implementing the accessibility of ICT systems (ICT accessibility) both at organizational and system development levels.

This document gives guidelines for building and maintaining ICT systems (including products and services) that are accessible to diverse users (including users with disabilities and older people).

This document is applicable to all types of organizations. This document applies to the breadth of ICT systems and the results of convergent and emerging technologies within an organization including, but not limited to: information systems; intranet systems; websites; mobile and wearable applications; social media; and Internet of Things (IoT) systems.

It gives requirements and recommendations for organizations:

a) ensuring accessibility is considered in their policies or strategy by creating an organizational ICT accessibility policy;

b) embedding the consideration of accessibility decisions through the entire process of developing procuring, installing, operating and maintaining ICT systems, and documenting these choices;

c) justifying decisions on accessibility;

d) communicating the ICT system's accessibility decisions to its users at launch, through creating and publishing its accessibility statement.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

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3.1 Accessibility and related definitions

3.1.1
accessibility
extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use

Note 1 to entry: Context of use includes direct use or use supported by assistive technologies.

[SOURCE: ISO 9241-112:2017, 3.15]

3.1.2
usability
extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

Note 1 to entry: The “specified” users, goals and context of use refer to the particular combination of users, goals and context of use for which usability is being considered.

Note 2 to entry: The word “usability” is also used as a qualifier to refer to the design knowledge, competencies, activities and design attributes that contribute to usability, such as usability expertise, usability professional, usability engineering, usability method, usability evaluation, usability heuristic.

[SOURCE: ISO 9241-11:2018, 3.1.1]

3.1.3
effectiveness
accuracy and completeness with which users achieved specified goals

[SOURCE: ISO 9241-11:2018, 3.1.12]

3.1.4
efficiency
resources used in relation to the results achieved

Note 1 to entry: Typical resources include time, human effort, costs and materials.

[SOURCE: ISO 9241-11:2018, 3.1.13]

3.1.5
satisfaction
extent to which the user's physical, cognitive and emotional responses that result from the use of a system, product or service meet the user’s needs and expectations

[SOURCE: ISO 9241-11:2018, 3.1.14 — modified, Notes 1 and 2 to entry removed]

3.1.6
user experience
person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service

Note 1 to entry: User experience includes all the users' emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and accomplishments that occur before, during and after use.

Note 2 to entry: User experience is a consequence of brand image, presentation, functionality, system performance, interactive behaviour and assistive capabilities of a system, product or service. It also results from the user's internal and physical state resulting from prior experiences, attitudes, skills and personality, and the context of use.

[SOURCE: ISO 9241-11:2018, 3.2.3]

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3.1.7
goal
intended outcome

[SOURCE: ISO 9241-11:2018, 3.1.10]

3.1.8
accessibility experience
experience of an individual of the accessibility of a system

Note 1 to entry: Accessibility experience can be considered at three levels: technical, effective and efficient, and satisfying.

Note 2 to entry: The basic level of accessibility experience that is acceptable in a particular country will depend on that country's accessibility legislation.

3.1.9
individualization
modification of interaction and presentation of information to suit individual capabilities and needs of users

[SOURCE: ISO 9241-171:2008, 3.17]

3.2 Users and systems related definitions

3.2.1
user
individual who accesses or interacts with a system

[SOURCE: ISO/IEC Guide 71:2014, 2.2]

3.2.2
diverse users
individuals with differing abilities and characteristics or accessibility needs

[SOURCE: ISO/IEC Guide 71:2014, 2.3]

3.2.3
user group
subset of intended users who are differentiated from other intended users by characteristics of the users, tasks or environments that could influence usability

[SOURCE: ISO 9241-11:2018, 3.1.8]

3.2.4
system
product, service, or built environment or any combination of them with which the user interacts

[SOURCE: ISO/IEC Guide 71:2014, 2.1]

3.2.5
ICT
information and communication technology
technology for gathering, storing, retrieving, processing, analysing and transmitting information

[SOURCE: ISO 9241-20:2008, 3.4]

3.2.6
ICT system
system utilizing ICT

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3.3 Definitions relating to developing accessibility

3.3.1
user accessibility need
user need related to features or attributes that are necessary for a system to be accessible

Note 1 to entry: User accessibility needs vary over time and across contexts of use.

[SOURCE: ISO/IEC Guide 71:2014, 2.4]

3.3.2
activity
set of cohesive tasks of a process

[SOURCE: ISO/IEC/IEEE 15288:2015, 4.3]

Note 1 to entry: Organizations can use checkpoints to ensure that activities are performed.

3.3.3
organization
company, non-profit organization, government department, local council, public sector organization or academic institution

3.3.4
content author
individual or organization responsible for authoring ICT content, as distinct from designing it, or coding it

3.3.5
context of use
physical and social environments in which a system is used, including users, tasks, equipment and materials

[SOURCE: ISO/IEC Guide 71:2014, 2.7]

3.3.6
diverse contexts
differing contexts of use and differing economic, cultural and organizational conditions

[SOURCE: ISO/IEC Guide 71:2014, 2.8]

3.3.7
assistive technology
hardware or software that is added to or incorporated within an ICT system that increases accessibility for an individual

Note 1 to entry: This includes all such software which is either: part of the operating system, installed into the operating system (executable extensions or applications), installed into the browser (plug-ins), or included on the website.

EXAMPLE Screen readers and text-to-speech systems; screen-magnification software; tactile Braille displays, trackballs, touch pads/screens, etc.; alternatives to standard computer mice, keyboards, switches and speech recognition software.

Note 2 to entry: Also referred to as “access technology” and “adaptive technology”.

[SOURCE: ISO 9241-171:2008, 3.4 — modified with the additions of the Notes to entry and EXAMPLE]

4 Conformity

If an organization claims conformity with this document, then the decisions about how it addresses the requirements and recommendations in this document or the justifications for any course of action that deviates from any of the recommendations shall be documented.

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