

**Ergonomics of human-system interaction - Part 171:
Software accessibility (ISO 9241-171:2025)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Ergonomics of human-system interaction - Part 171:
Software accessibility (ISO 9241-171:2025)

Ergonomie de l'interaction homme-système - Partie
171: L'accessibilité aux logiciels (ISO 9241-171:2025)

Ergonomie der Mensch-System-Interaktion - Teil 171:
Leitlinien für die Barrierefreiheit von Software (ISO
9241-171:2025)

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European foreword

This document (EN ISO 9241-171:2025) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 "Ergonomics" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

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Endorsement notice

The text of ISO 9241-171:2025 has been approved by CEN as EN ISO 9241-171:2025 without any modification.

Contents

Page

Foreword.....viii

Introduction.....ix

1 Scope.....1

2 Normative references.....1

3 Terms and definitions.....1

3.1 Major accessibility related concepts.....1

3.2 Concepts relating to interaction.....3

3.3 Concepts relating to the user interface.....3

3.4 Concepts relating to individualization.....6

3.5 Concepts relating to accessibility features.....6

3.5.1 Major concepts relating to accessibility features.....6

3.5.2 Concepts relating to visual accessibility features.....7

3.5.3 Concepts relating to audio accessibility features.....8

3.5.4 Concepts relating to audiovisual accessibility features.....9

3.5.5 Concepts relating to input features.....9

3.5.6 Concepts relating to keyboard-based input features.....10

4 Conventions.....12

5 Conformance.....13

6 Structure and application of this document.....13

6.1 External principles and guidance.....13

6.1.1 Accessibility principles of the W3C Web Content Accessibility Guidelines (WCAG) 2.2.....13

6.1.2 Accessibility principles of the W3C User Agent Accessibility Guidelines (UAAG) 2.0.....14

6.2 Accessibility goals of ISO/IEC Guide 71.....14

6.3 Organization of guidance in this document.....15

6.4 Achieving accessibility.....16

7 Goal 1: Achieving suitability for the widest range of users' needs.....16

7.1 To recognize that users are included as system users within diverse contexts.....16

7.2 To have accessible support for using the system.....16

7.2.1 Describe accessibility features.....16

7.2.2 Provide accessible support services.....16

7.2.3 Provide accessible training material.....17

7.2.4 Provide user documentation in accessible electronic form.....17

7.2.5 Provide accessible feedback mechanisms.....17

7.3 To have the system accessible to an individual with combinations of needs.....17

8 Goal 2: Achieving conformity with user expectations needs.....18

8.1 To not be surprised by the results of interactions with the system.....18

8.1.1 Maintain naming consistency.....18

8.1.2 Maintain location and ordering consistency.....18

8.1.3 Present user notification using consistent techniques.....18

8.1.4 Update equivalent alternatives for media when the media changes.....18

8.1.5 Use familiar tactile patterns.....19

8.1.6 Manage consistent focus.....19

8.1.7 Restore state when regaining focus.....19

8.1.8 Follow platform keyboard conventions.....19

8.1.9 Managing changes of context.....19

8.2 To apply personal knowledge and experience to interact successfully with the system.....20

8.3 To provide user assistance for knowledge needed to interact with the system.....20

8.4 To provide immediate and easily accessible help or further instructions, where such help can be provided by the system.....20

9	Goal 3: Achieving support for individualization needs	20
9.1	To be provided with the way of interacting with a system that best works for them	20
9.2	To choose between the available input and output modalities and their configuration without requiring restart of the system	21
9.2.1	Enable switching of input and output alternatives	21
9.2.2	Enable revising or reassigning controls	21
9.3	To have simultaneous use of alternate interaction modalities	21
9.3.1	Choosing modalities to be simultaneously available	21
9.3.2	Switching between simultaneously available modalities	21
9.3.3	Allow user to select media streams to be presented	21
9.4	To be provided with information on available options for interacting with a system on which to base a choice of interaction methods	21
9.5	To be provided with an accessible means to choose individualization features	22
9.5.1	Enable individualization of user-preference settings	22
9.5.2	Enable adjustment of attributes of common user-interface elements	24
9.5.3	Enable individualization of the user interface	24
9.6	To have individualization features maintained for future uses of the system, until changed by the user	24
9.6.1	Utilize user-preference profiles	24
9.6.2	Provide a means of restoring system defaults	25
9.6.3	Minimize the need to restart for changes	25
9.7	To provide pre-defined preference profiles	25
9.8	To take or give up control of functions that can be performed by either the user or the system	25
9.9	To have the option to use the system with a minimum of setup or configuration	25
9.10	To customize important functionality: a new user accessibility need (UAN)	25
9.10.1	Manage key input functionalities	25
9.10.2	Manage pointer functionalities	27
9.10.3	Manage visual attributes	28
9.10.4	Manage auditory attributes	30
9.10.5	Manage language selection	30
9.10.6	Manage windowing functionalities	31
9.10.7	Manage functionalities providing content alternatives	32
9.10.8	Manage animation functionalities	32
9.10.9	Adjust the scale and layout of user-interface elements as font-size changes	32
10	Goal 4: Achieving approachability needs	33
10.1	To have the system free from any physical barriers	33
10.2	To have the system free from any psychological barriers	33
10.3	To have the system maintain the user's attention	33
10.3.1	Engage the user's attention	33
10.3.2	Enable user rest breaks	33
10.4	To have interaction options clearly presented	33
10.5	To have appropriate levels of privacy and security	34
10.6	To avoid patterns that cause psychological or physical discomfort or disturbance	34
10.6.1	Avoid seizure-inducing flash rates	34
10.7	To use the system remotely as well as directly	34
10.8	To have the system free from environmental barriers	34
11	Goal 5: Achieving perceivability needs	34
11.1	To use a specific sensory modality (or a set of specific modalities) to perceive information	34
11.1.1	To have information presented visually	34
11.1.2	To have visual information available in other modalities	35
11.1.3	To have information presented in auditory form	35
11.1.4	To have audio information available in other modalities	35
11.1.5	To have information in tactile form	36
11.1.6	To have tactile information also available in other modalities	36
11.1.7	To experience information via multiple simultaneous modalities	36
11.2	To have presentation attributes of a modality that match an individual's needs	36

11.2.1	To have presentation attributes specific to the visual modality that match an individual's needs.....	36
11.2.2	To have material printed.....	38
11.2.3	To have sign language perceivable.....	38
11.2.4	To have 3-dimensional visual information presented using only two dimensions.....	38
11.2.5	To have presentation attributes specific to the auditory modality that match an individual's needs.....	38
11.2.6	To select or deselect different audio streams.....	39
11.2.7	To have presentation attributes specific to the tactile modality that match an individual's needs.....	39
11.2.8	To have visual or tactile feedback occur at the same location as the control.....	39
11.3	To distinguish among the different components of information that are being presented.....	39
11.3.1	To distinguish between different components without them interfering with one another.....	39
11.3.2	To prevent actions which would unintentionally decrease information perceivability.....	39
11.3.3	To locate and identify all actionable components without activating them.....	39
11.3.4	To have actionable components look, sound or feel distinctive from non-actionable components.....	40
11.3.5	To have sufficient landmarks and cues to navigate to the necessary locations, functionalities or controls to carry out a task.....	40
11.3.6	To have distinct recognizable signals for different alerts or other messages that use signals.....	40
11.4	To perceive information regardless of environmental or other conditions that might interfere.....	40
11.4.1	To perceive foreground information in the presence of background information.....	40
11.4.2	To avoid distractions that prevent focusing on a task.....	41
11.4.3	To have accessibility features not interfere with perception of standard information.....	41
11.4.4	To have only the content necessary for the current task presented.....	41
11.4.5	To have haptic input and output from devices not interfere with the perception of information.....	41
11.5	To not have one's senses overloaded.....	41
11.6	To have attention drawn to critically important information in the appropriate modality, form, and language.....	42
12	Goal 6: Achieving understandability needs.....	42
12.1	To obtain information on the system and its components and functionalities.....	42
12.1.1	To get an overview and to orient the users to the system and its functions and components.....	42
12.1.2	To obtain and use unique names for every user interface component.....	43
12.1.3	To receive training that supports an individual's cognitive needs.....	46
12.1.4	To receive help that supports an individual's cognitive needs.....	46
12.1.5	To receive recommendations that aid a user's understanding.....	47
12.2	To understand information presented by the system.....	47
12.2.1	To have presented information as easy to understand as possible.....	47
12.2.2	To have individual linguistic requirements supported by the system.....	48
12.2.3	To have individual cultural requirements supported by the system.....	48
12.2.4	To have text alternatives be provided for all non-textual information.....	48
12.2.5	To have information provided pictorially as well as via text.....	50
12.2.6	To customize abstract symbols with alternative representations.....	50
12.2.7	To have language presented in a particular modality and format.....	50
12.3	To have information that supports an individual's cognitive needs.....	51
12.3.1	To have information presented in a manner that supports an individual's styles of reasoning.....	51
12.3.2	To avoid unnecessary high cognitive demands.....	51
12.3.3	To have navigation that supports an individual's thinking style.....	51
12.3.4	To have assistance with remembering and recalling information.....	53

12.4	To have the steps for completing tasks optimized to match an individual's needs and clearly explained.....	53
12.4.1	Optimize the number of steps required for any task.....	53
12.5	To have cues to support the individual in completing tasks.....	53
12.5.1	Provide notification about toggle-key status.....	53
12.5.2	Provide implicit or explicit designators.....	54
12.5.3	Provide notification of progress.....	54
12.6	To have feedback showing the results of actions.....	54
12.7	To have sufficient time to interact with the system.....	54
12.7.1	To have sufficient time to understand displayed or presented information.....	54
12.7.2	To have information necessary to plan actions available in advance.....	55
12.7.3	To plan a series of actions in advance.....	55
12.8	To access support when needed.....	55
13	Goal 7: Achieving controllability needs.....	55
13.1	To use a specific sensory modality (or a set of specific sensory modalities) for inputs to the system.....	55
13.1.1	To have alternate modalities of input to the system.....	55
13.1.2	To use the tactile modality as a source of inputs to the system.....	56
13.1.3	To use sound as a source of inputs.....	56
13.1.4	To use visual recognition as a source of inputs.....	57
13.2	To control attributes of an input or interaction modality to match an individual's needs.....	57
13.2.1	To have acceptable input or interaction attributes specific to the tactile modality.....	57
13.2.2	To have acceptable input or interaction attributes specific to the auditory modality.....	57
13.2.3	To have acceptable input or interaction attributes specific to the visual modality.....	57
13.2.4	To position system components and devices in suitable locations for their use.....	57
13.3	To use a specific interaction method to provide inputs to the system.....	57
13.3.1	Keyboard-based interactions.....	57
13.3.2	Pointer-based interactions.....	59
13.3.3	Speech-based interactions.....	59
13.3.4	Gesture-based interactions.....	60
13.4	To perform the task using specific types of action.....	60
13.4.1	To have a means of shifting the focus from one interface component to another interface component.....	60
13.4.2	To perform the task using various parts of the body.....	61
13.4.3	To have a method to fully operate the system that does not require simultaneous actions.....	61
13.4.4	To interact with the system at one's own pace.....	62
13.4.5	To have a method to fully operate the system that does not require direct body contact.....	64
13.4.6	To have specific interaction features: a new user accessibility need (UAN).....	64
13.5	To perform supporting and maintenance tasks related to the use of the system that other users are expected to undertake.....	67
13.6	To control the environment (to the extent possible) to prevent interference with performing the task.....	67
13.6.1	General.....	67
13.6.2	Avoid interference with accessibility features.....	67
13.7	To access the controls that allow them to turn on and adjust the built-in accessibility features.....	68
13.7.1	Make controls for accessibility features discoverable and operable.....	68
13.7.2	Inform user of accessibility feature "On" or "Off" status.....	68
13.7.3	Inform user of accessibility feature activation.....	68
13.7.4	Provide capability to use preference settings across locations.....	68
13.8	To have a suitable level of autonomy.....	69
14	Goal 8: Usability.....	69
14.1	To be provided a means to successfully accomplish tasks.....	69
14.2	To avoid making mistakes in completing tasks.....	69
14.3	To complete tasks in an efficient manner relative to one's own abilities.....	69

14.4	To perform tasks with a minimum of physical exertion	69
14.5	To perform tasks with a minimum of cognitive exertion	69
14.6	To operate the system without becoming fatigued	70
14.7	To complete tasks within the available time	70
14.8	To be satisfied with the outcome of interacting with the system	70
14.9	To have comparable satisfaction that the system is worth using to that of other users	70
15	Goal 9: Error tolerance	70
15.1	To have confidence that using the system will be free from negative consequences or unacceptable risks	70
15.1.1	Avoiding negative consequences	70
15.1.2	Avoiding motion sickness	70
15.1.3	Avoiding unexpected major changes	70
15.2	To explore a system without unintentionally activating components or their functionalities	71
15.2.1	Support exploration without unintentionally activating functions	71
15.2.2	Safeguard against inadvertent activation or deactivation of accessibility features	71
15.3	To accomplish tasks in spite of the occurrence of errors	71
15.3.1	Allow warning or error information to persist	71
15.4	To detect when errors have been made	71
15.4.1	Notify the user when errors are detected	71
15.4.2	Provide information about the error that has occurred	71
15.5	To recover from errors made from interacting with the system	71
15.5.1	Facilitate navigation to the location of errors	71
15.5.2	Assist with error correction	71
15.6	To reset a system to an earlier or original condition as a means of responding to errors	72
15.7	To avoid errors by making negative consequences be obvious, easy to avoid, and difficult to trigger	72
16	Goal 10: Equitable use	72
16.1	To use a system in a manner that is as similar as possible to other users	72
16.2	To use a system in a manner that is equivalent to that of other users, even if the manner of use is different	72
16.3	To have available alternate ways of interacting with a system that match a user's needs	72
16.3.1	Provide alternative means of interaction that match users' needs	72
16.3.2	Provide alternatives when assistive technology (AT) is not operable	73
17	Goal 11: Compatibility with other systems	73
17.1	To use their own assistive products or assistive technology (AT) to interact with all the functionalities of the system	73
17.1.1	Make interactions available to assistive technology (AT)	73
17.1.2	Make user-interface element information available to assistive technologies	73
17.1.3	Make feedback and messages available to assistive technology (AT)	74
17.1.4	Make event notification available to assistive technologies	74
17.1.5	Enable communication between software and assistive technology (AT)	75
17.1.6	Use standard accessibility services	75
17.1.7	Allow assistive technology (AT) to change focus and selection	76
17.1.8	Allow assistive technology (AT) to access resources	76
17.1.9	Use system-standard input and output	76
17.1.10	Enable appropriate presentation of tables	76
17.1.11	Accept the installation of keyboard and pointing device emulators	77
17.1.12	Allow assistive technology (AT) to monitor output operations	77
17.2	To have the interaction between the system and assistive technology be without interference	77
17.2.1	Support combinations of assistive technologies	77
17.2.2	Avoid interference between assistive technologies	77
17.3	To have specific accessibility functions available at all times, without disruption	77
17.3.1	Pass through of system functions	77
17.3.2	Restore hidden accessibility functions	78
Annex A (informative) W3C web content accessibility guidelines (WCAG) 2.2 success criteria		79

Foreword

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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 ISO 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).

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This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 122, *Ergonomics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 9241-171:2008), which has been technically revised.

The main changes are as follows:

- alignment to the user accessibility needs in ISO/IEC 29138-1 in [Clauses 7](#) to [17](#);
- addition of references to accessibility-related standards in [Clauses 7](#) to [17](#);
- addition of annexes for mapping this document to other documents containing accessibility-related guidance in [Annexes A](#) to [C](#).

A list of all parts in the ISO 9241 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 and www.iec.ch/national-committees.

Introduction

Accessibility is an important consideration in the design of products, systems, environments and facilities because it affects the range of people who are able to use them and use them easily. The more accessible a design, the wider the range of people who will find it usable.

The purpose of this document is to provide guidance on the design of the software of interactive systems so that those systems achieve as high a level of accessibility as possible. Designing human-system interactions to increase accessibility promotes increased effectiveness, efficiency and satisfaction for people having a wide variety of capabilities and preferences. Accessibility is therefore strongly related to the concept of usability (see ISO 9241-11).

The most important approaches to increasing the accessibility of a human-system interface are:

- meeting accessibility goals and user accessibility needs (see ISO/IEC 29138-1);
- adopting a human-centred approach to design (see ISO 9241-210);
- following a context-based design process;
- providing the capacity for individualization;
- offering individualized user instruction and training.

Accessibility goals and features must be incorporated into the design as early as possible, when it is relatively inexpensive compared to the cost of modifying products to make them accessible once they have been designed. As well as providing guidance for achieving that, this document addresses the increasing need to consider social and legislative demands for ensuring accessibility by the removal of barriers that prevent people from participating in life activities such as the use of environments, services, products and information.

This document is applicable to software that forms part of interactive systems used in the home, in leisure activities, in public situations and at work. Requirements and recommendations are provided for system design, appearance and behaviour, as well as specific accessibility issues, thereby complementing a wide range of International Standards (referenced in this document), as well as reflecting the goals outlined in ISO/IEC Guide 71.

Accessibility is an issue that affects many groups of people and many different environments. The intended users of interactive systems are consumers or professionals: people in the home, people at school, engineers, clerks, salespersons, web designers, etc. The individuals in such target groups vary significantly in terms of physical, sensory and cognitive abilities and each group will include people with different abilities. People with disabilities do not form a specific group that can be separated out and then disregarded. The differences in capabilities can arise from a variety of factors that serve to limit the capability to engage in the activities of daily living and are a “universal human experience”. Therefore, accessibility addresses a widely defined group of users including:

- people with physical, sensory and cognitive impairments present at birth or acquired during life;
- elderly people who can benefit from new products and services but who experience reduced physical, sensory and cognitive capacities;
- people with temporary disabilities, such as a person with a broken arm or someone who has forgotten his or her glasses;
- people who experience difficulties in particular situations or environments, such as a person who works in a noisy environment or has both hands occupied by other activities.

This document recognizes that some users of software will need assistive technologies in order to use a system. In the concept of designing software to be accessible, this includes the capability of a system to provide connections to, and enable successful integration with, assistive technologies, in order to increase the number of people who will be able to use the interactive system. Guidance is provided on designing

software that integrates with common assistive technologies as effectively as possible. Accessibility can be provided by a combination of both software and hardware controlled by software. This does not mean that every product will be usable by every consumer. There will always be a minority of people who will need adaptations or specialized products. This document emphasizes the goals of maximizing the number of users and striving to increase the level of accessibility that these users experience.

This document serves the following types of users:

- designers of user interface development tools and style guides to be used by interface designers;
- user interface designers, who will apply the guidance during the development process;
- developers, who will apply the guidance during the design and implementation of system functionality;
- those responsible for implementing solutions to meet end-user needs;
- buyers, who will reference this document during product procurement;
- evaluators, who are responsible for ensuring that products are in accordance with this document.

The ultimate beneficiary of this document will be the end-user of the software. Although it is unlikely that end-users will read this document, its application by designers, developers, buyers and evaluators will provide user interfaces that are more accessible. This document concerns the development of software for user interfaces. However, those involved in designing the hardware aspects of user interfaces can also find it useful when considering the interactions between software and hardware aspects.

Ergonomics of human-system interaction —

Part 171: Software accessibility

1 Scope

This document specifies requirements and gives guidelines for designing accessible software for people with the widest range of physical, sensory and cognitive abilities, including those who are temporarily or situationally disabled, and the elderly. It addresses software considerations for accessibility that complement general design for usability as addressed by parts of the ISO 9241 series, especially ISO 9241-11 and ISO 9241-210.

This document is applicable to the accessibility of interactive systems. It addresses a wide range of software (e.g. home, mobile, office, web, learning support and library systems). It promotes the increased usability of systems for a wider range of users in the widest range of contexts of use.

This document does not apply to the behaviour of, or requirements for, assistive technologies (including assistive software), but it does address the use of assistive technologies as an integrated component of interactive systems.

It is intended for use by those responsible for the specification, design, development, evaluation and procurement of software platforms and software applications.

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 terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 Major accessibility related concepts

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 9241-112:2025, 3.11]