

ISO/IEC 29138-1:2018 (E)

Information technology — User interface accessibility — Part 1: User accessibility needs

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| 6.1.1 | To recognize that they are included as a system user within diverse contexts |
| 6.1.2 | To have accessible support for using the system |
| 6.1.3 | To have the system accessible to an individual with combinations of needs |
| 6.2 | Details of the needs related to conformity with user expectations |
| 6.2.1 | To not be surprised by the results of interactions with the system |
| 6.2.2 | To apply personal knowledge and experience to interact successfully with the system |
| 6.2.3 | To receive instruction or training directed at preparing users for new knowledge needed to interact successfully with the system |
| 6.2.4 | To obtain immediate and easily accessible help or further instructions, where such help can be provided by the system |
| 6.3 | Details of the needs related to support for individualization |
| 6.3.1 | To be provided with (and to choose) the way of interacting with a system that best works for them (including activating and deactivating built-in accessibility features) |
| 6.3.2 | To choose between the available input/output modalities and their configuration without requiring restart of the system |
| 6.3.3 | To have simultaneous use of alternate interaction modalities |

- 6.3.4 To be provided with information on available options for interacting with a system on which to base a choice of interaction methods
- 6.3.5 To be provided an accessible means to choose individualization features
- 6.3.6 To have individualization features maintained for future uses of the system, until changed by the user
- 6.3.7 To have the system use complete standardized sets of needs or preferences from specific standards
- 6.3.8 To take or give up control of functions that could be performed by either the user or the system
- 6.3.9 To have the option to use the system with a minimum of setup or configuration
- 6.4 Details of the needs related to approachability
 - 6.4.1 To have the system free from any physical barriers
 - 6.4.2 To have the system free from any psychological barriers
 - 6.4.3 To have the system maintain the user's attention
 - 6.4.4 To have interaction options clearly presented
 - 6.4.5 To have appropriate levels of privacy and security
 - 6.4.6 To avoid patterns that cause psychological or physical discomfort or disturbance
 - 6.4.7 To use the system remotely as well as directly
 - 6.4.8 To have the system free from environmental barriers
- 6.5 Details of the needs related to perceivability
 - 6.5.1 To use a specific sensory modality (or a set of specific modalities) to perceive information
 - 6.5.2 To have information presented visually
 - 6.5.3 To have visual information available in other modalities
 - 6.5.4 To have information presented in auditory form
 - 6.5.5 To have audio information available in other modalities
 - 6.5.6 To have information in tactile form
 - 6.5.7 To have tactile information available in other modalities
 - 6.5.8 To experience information via multiple simultaneous modalities
 - 6.5.9 To have presentation attributes of a modality that match an individual's needs
 - 6.5.10 To have presentation attributes specific to the visual modality that match an individual's needs
 - 6.5.11 To have manageable textual material
 - 6.5.12 To have sign language perceivable
 - 6.5.13 To have 3-dimensional visual information presented using only two dimensions
 - 6.5.14 To have presentation attributes specific to the auditory modality that match an individual's needs
 - 6.5.15 To select/deselect different audio streams
 - 6.5.16 To have presentation attributes specific to the tactile modality that match an individual's needs
 - 6.5.17 To have visual or tactile feedback occur at the same location as the control
 - 6.5.18 To distinguish among the different components of information that are being presented
 - 6.5.19 To distinguish between different components without them interfering with one another
 - 6.5.20 To prevent actions which would decrease information perceivability
 - 6.5.21 To locate and identify all actionable components without activating them
 - 6.5.22 To be able to distinguish between actionable and non- actionable components in any modality
 - 6.5.23 To have sufficient landmarks and cues to quickly navigate to the necessary locations, functionalities or controls to carry out a task
 - 6.5.24 To have distinct recognisable signals for different alerts or other messages that use signals
 - 6.5.25 To perceive information regardless of environmental or other conditions that might interfere
 - 6.5.26 To perceive foreground information in the presence of background information
 - 6.5.27 To avoid distractions that prevent focusing on a task
 - 6.5.28 To have accessibility features not interfere with perception of standard information
 - 6.5.29 To have only the content necessary for the current task presented
 - 6.5.30 To have haptic input and output from devices not interfere with the perception of information
 - 6.5.31 To not have one's senses overloaded
 - 6.5.32 To have attention drawn to critically important information in the appropriate modality, form, and language
- 6.6 Details of the needs related to understandability
 - 6.6.1 To obtain information on the system and its components and functionalities

- 6.6.2 To get an overview and to orient themselves to the system and its functions/ components (independent of actual use)
- 6.6.3 To obtain and use unique names for every user interface component
- 6.6.4 To receive training that supports an individual's cognitive needs
- 6.6.5 To receive help that supports an individual's cognitive needs
- 6.6.6 To receive recommendations that aid a user's understanding
- 6.6.7 To understand information presented by the system
- 6.6.8 To have presented information as easy to understand as possible
- 6.6.9 To have individual linguistic requirements supported by the system
- 6.6.10 To have individual cultural requirements supported by the system
- 6.6.11 To have text alternatives be provided for all non-textual information
- 6.6.12 To have information provided pictorially as well as via text
- 6.6.13 To customize abstract symbols with alternative representations
- 6.6.14 To have language presented in a particular modality and format
- 6.6.15 To have information that supports an individual's cognitive needs
- 6.6.16 To have information presented in a manner that supports an individual's styles of reasoning
- 6.6.17 To avoid unnecessary high cognitive demands
- 6.6.18 To have navigation that supports an individual's thinking style
- 6.6.19 To have assistance with remembering and recalling information
- 6.6.20 To have the steps for completing tasks optimized to match an individual's needs and clearly explained
- 6.6.21 To have cues to support the individual in completing tasks
- 6.6.22 To have feedback showing the results of actions
- 6.6.23 To have sufficient time to interact with the system
- 6.6.24 To have sufficient time to understand displayed or presented information
- 6.6.25 To have information necessary to plan actions available in advance
- 6.6.26 To plan a series of actions in advance
- 6.6.27 To access support when needed
- 6.7 Details of the needs related to controllability
- 6.7.1 To use a specific sensory modality (or a set of specific sensory modalities) for inputs to the system
- 6.7.2 To have alternate modalities of input to the system
- 6.7.3 To use the tactile modality as a source of inputs to the system
- 6.7.4 To use sound as a source of inputs
- 6.7.5 To use visual recognition as a source of inputs
- 6.7.6 To control attributes of an input or interaction modality to match an individual's needs
- 6.7.7 To have acceptable input or interaction attributes specific to the tactile modality
- 6.7.8 To have acceptable input or interaction attributes specific to the auditory modality
- 6.7.9 To have acceptable input or interaction attributes specific to the visual modality
- 6.7.10 To position system components and devices in suitable locations for their use
- 6.7.11 To use a specific interaction method to provide inputs to the system
- 6.7.12 To perform the task using specific types of action
- 6.7.13 To have a means of shifting the input focus from one interface component to another interface component
- 6.7.14 To perform the task using various parts of the body
- 6.7.15 To have a method to fully operate the system that does not require simultaneous actions
- 6.7.16 To interact with the system at one's own pace
- 6.7.17 To have a method to fully operate the system that does not require direct body contact
- 6.7.18 To perform supporting and maintenance tasks related to the use of the system that other users are expected to undertake
- 6.7.19 To control the environment (to the extent possible) to prevent interference with performing the task
- 6.7.20 To access the controls that allow them to turn on and adjust the built-in accessibility features
- 6.7.21 To have a suitable level of autonomy
- 6.8 Details of the needs related to usability
- 6.8.1 To be provided a means to successfully accomplish tasks
- 6.8.2 To avoid making mistakes in completing tasks or in using the outcomes of tasks
- 6.8.3 To complete tasks in an efficient manner relative to one's own abilities
- 6.8.4 To perform tasks with a minimum of physical exertion
- 6.8.5 To perform tasks with a minimum of cognitive exertion
- 6.8.6 To operate the system without becoming fatigued

- 6.8.7 To complete tasks within the available time
- 6.8.8 To be satisfied with the outcome of interacting with the system
- 6.8.9 To have comparable satisfaction that the system is worth using to that of other users
- 6.9 Details of the needs related to error tolerance
- 6.9.1 To have confidence that using the system will be free from negative consequences or unacceptable risks
- 6.9.2 to explore a system without unintentionally activating components or their functionality
- 6.9.3 To accomplish tasks in spite of the occurrence of errors
- 6.9.4 To detect when errors have been made
- 6.9.5 To recover from errors made from interacting with the system (whenever possible)
- 6.9.6 To reset a system to an earlier or original condition as a means of responding to errors
- 6.9.7 To avoid errors by having negative consequences be obvious, easy to avoid, and difficult to trigger
- 6.10 Details of the needs related to equitable use
- 6.10.1 To use a system in a manner that is as similar as possible to other users
- 6.10.2 To use a system in a manner that is equivalent to that of other users, even if the manner of use is different
- 6.10.3 To have available alternate ways of interacting with a system that match a user's needs
- 6.11 Details of the needs related to compatibility with other systems
- 6.11.1 to use their own assistive products or assistive technology to interact with all the functionalities of the system
- 6.11.2 To have the interaction between the system and assistive technology be without interference
- 6.11.3 To have specific accessibility functions available at all times, without disruption

Annex A (informative) List of user accessibility needs

Annex B (informative) List of user needs and instances

Annex C (informative) Mapping of ISO/IEC TR 29138-1:2009 to this set of user needs

Annex D (informative) Applying needs to specific purposes

- D.1 Applying needs to the development of ICT products and services
- D.2 Applying needs to acquiring ICT products and services
- D.3 Applying needs to making organizations accessible
- D.4 Applying needs to advocacy
- D.5 Applying needs to research
- D.6 Applying needs to standards development

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