ISO 9241-171:2008 Ergonomics of human-system interaction — Part 171: Guidance on software accessibility

(JIS X 8341-6: Software Accessibility)

https://www.iso.org/standard/39080.html

Annex D (informative) Activity limitation issues

D.2 Sensory functions

D.2.1 Vision

For many interactive software systems, a major part of the interaction between the user and the technology relies on the use of visually presented material.

D.2.1.1 Individuals who are unable to see

A user who is unable to see will have to use his or her remaining senses and appropriate provision will have to be made to enable access to equivalent content and resources via those senses. In addition, individuals could have normal vision but be unable to view a screen due to context or task-related issues — for example, while driving a car, a motorist is unable to view the screen of their GPS system.
(snip)

D.2.1.2 Individuals with low vision

Persons with low vision often use technologies more commonly associated with those who are unable to see at all (e.g. screen readers). However, for individuals with low vision it is important to find ways to facilitate their use of their remaining vision whenever possible. Sight — even limited sight — is a very powerful capability and those with low vision should not be placed in the same situation as if they were blind. Combinations of visual and auditory techniques are often most effective (tactile can sometimes be used, but is less common except for individuals with very low vision).
(snip)

D.2.2 Hearing

Auditory feedback (both speech and non-speech) and automatic speech recognition of user input have become increasingly important elements of software interaction.

D.2.2.1 Individuals who are unable to hear

Individuals who are unable to hear sound are thus unable to detect or discriminate information presented in auditory form. The inability to hear sound below 90 dB is generally taken as the criterion for an individual being unable to hear. Disabling environments can occur when individuals cannot hear signals generated by the system, for example, if there is a very high ambient noise level or the use of hearing protection. These situations must be regarded as creating limitations on the ability of individuals to use the system. In these circumstances, the preferred solution is to eliminate the source of the problem. However, where this might be impractical, the approach will be to implement the same software-based solutions that are appropriate for individuals who cannot hear in standard environments.
(snip)

D.2.2.2 Individuals with a reduced ability to hear

(snip)

D.2.2.3 Tactile

(snip)

D.3 Neuromusculoskeletal and movement-related functions

D.3.1 General

D.3.2 Individuals with limitations in motor activity

(snip)

D.3.3 Physical size and reach

(snip)

D.3.4 Speech disabilities

(snip)

D.4 Mental functions

D.4.1 General

(snip)

D.4.2 Limitations on attention

(snip)

D.4.3 Limitations on memory

(snip)

D.4.4 Limitations on the mental functions of language

(snip)

D.5 Individuals with other disabilities

D.5.1 Allergy

(snip)

D.5.2 Other functional limitations

(snip)

D.6 Multiple body function effects

Individuals can experience limitations on function in more than one area of body function at the same time and this creates greater complexity in terms of achieving accessibility in interactive software systems. In particular, this can occur with increasing age when there are parallel changes in sensory, motor and mental function. Experience of the effects of age on body function is universal and as such is a matter of concern for older users. For this reason, the greater the possibility of integrating design solutions that address the full range of user capabilities within the software system — rather than requiring add-on assistive technologies — the greater the positive outcome in terms of achieving accessibility and removal of potential sources of stigma.
(snip)