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Information technology — Survey of icons and symbols that provide access to functions and facilities to improve the use of information technology products by the elderly and persons with disabilities

Technologies de l'information — Vue d'ensemble des symboles et des icônes fournissant un accès aux fonctions et aux équipements pour améliorer l'utilisation des produits des technologies de l'information par les personnes âgées et les personnes avec un handicap

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

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- type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

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ISO/IEC TR 19765, which is a Technical Report of type 3, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

Introduction

Advances in information technology have promoted the use of information technology products as a necessary element of an individual's daily life. It is therefore very important to make this technology accessible to everyone, especially to disabled and elderly people. These consumers need specific icons and symbols to enable them to access special facilities and functions to compensate for their disabilities and to give them confidence to use the various services made available through information and communications technology product development.

Increasing numbers of people, especially elderly and disabled, have problems using personal computers and the Internet for services, e.g. postal and banking services. It is essential to make the producers of these services aware of this, and to record and provide existing symbols and icons especially configured for use by disabled and elderly people.

This Technical Report resulted from a survey of icons and symbols currently used to provide access to facilities and tools to support the needs of elderly and disabled users of information technology (IT) products. ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) do not in any way endorse, recommend or dissuade the use of any of the icons and symbols presented in this Technical Report.

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Withdrawn

Information technology — Survey of icons and symbols that provide access to functions and facilities to improve the use of information technology products by the elderly and persons with disabilities

1 Scope

Different users of information technology products possess different sets of abilities. Some abilities may not ever be present in a user as they may have been born without them. Some abilities are acquired, developed or deteriorate over time due to education, maturity, injury, illness or age. Just as it is possible that a user possesses a combination of abilities, it is also possible that they may lack a combination of abilities.

This Technical Report presents icons and symbols currently used to provide access to facilities and tools to support the needs of elderly and disabled users of information technology (IT) products, and could form the basis of a future International Standard which would provide a recommended collection of icons and symbols.

These icons and symbols have been collected from a variety of sources including other standards, contemporary software products, web sites and hardware devices. These sources are cross-referenced and listed in the Bibliography.

The icons and symbols presented here are categorized by modality and method of use.

NOTE 1 ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) do not in any way endorse, recommend or dissuade the use of any of the icons and symbols presented in this Technical Report.

NOTE 2 The icon and symbol designs reproduced in this Technical Report remain the property of the source owners and may not be directly copied into IT products without the permission of the source owners.

2 Terms and definitions

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

2.1

closed captioning

viewer-selected display of dialogue, narration and sound effects of a video programme as words on a television screen

cf. open captioning (2.7)

NOTE Unlike subtitled movies, closed captioning allows the viewer to select whether or not to display the captions that are transmitted within the broadcast signal in encoded (or closed) form. A decoder built into or attached to a television set is used to “open” the captions and display the words on the television screen.

[National Captioning Institute [7]]

2.2

electrical coupling

transmission of information from one device to another through a direct electrical connection

[ETSI EN 301 462 v1.1.1 (2000-03)[1]]

2.3
filter key
logical setting that enables brief or repeated key strokes to be ignored or slows the keystroke input repeat rate

2.4
inductive coupling loop
transmission of information from one device to another via a wireless connection

2.5
mouse
commonly used pointing device that contains one or more buttons with which a user can interact with a computer system

EXAMPLE Using a mouse button, a user can select objects or choices, initiate actions, or directly manipulate objects.

2.6
numeric keypad
physical grouping of keys, containing numbers, in a block on a computer keyboard

NOTE The numeric keypad typically contains cursor control keys and is located on the right side of a computer keyboard.

2.7
open captioning
constant display of dialogue, narration and sound effects of a video programme as words on a television screen

c.f. closed captioning (2.1)

NOTE Similar to subtitled movies, open captioning constantly presents text information to the viewer.

2.8
pointer icon
icon that is logically attached to a physical input device, and that the user manipulates to interact with other screen elements

[ISO/IEC 11581-1:2000]

NOTE For further information on pointer icons, see ISO/IEC 11581-3:2000.

2.9
serial key device
device used to input data in sequential order

EXAMPLE Computer keyboard.

2.10
sign
“words” of a sign language produced by actions of the hands, arms, torso, face and head that produce signals perceived visually

NOTE 1 Sign languages are not universal; they have developed spontaneously and independently within communities of deaf users all over the world.

NOTE 2 For deaf-blind singers, a sign language is perceived through touch.

2.11
signing
convention of gestures (“signs”) used instead of speaking to convey information

2.12**sticky key**

logical setting that enables sequentially pressed keyboard keystrokes combined as a single input

2.13**telecommunications terminal**

point at which data can either enter or leave a system or communications network

NOTE In data communications, a telecommunications terminal is a device, usually equipped with a keyboard and display device, capable of sending and receiving information.

3 Collection of icons and symbols**3.1 Presentation of icons and symbols**

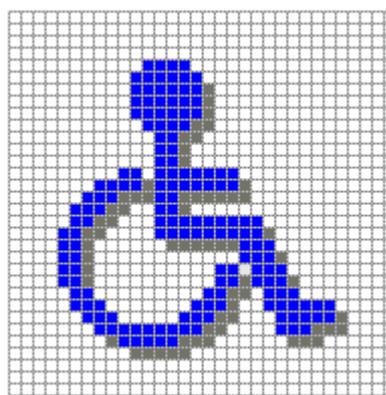
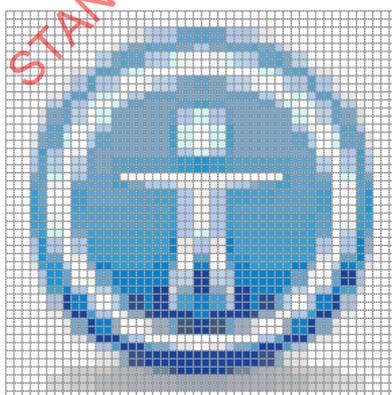
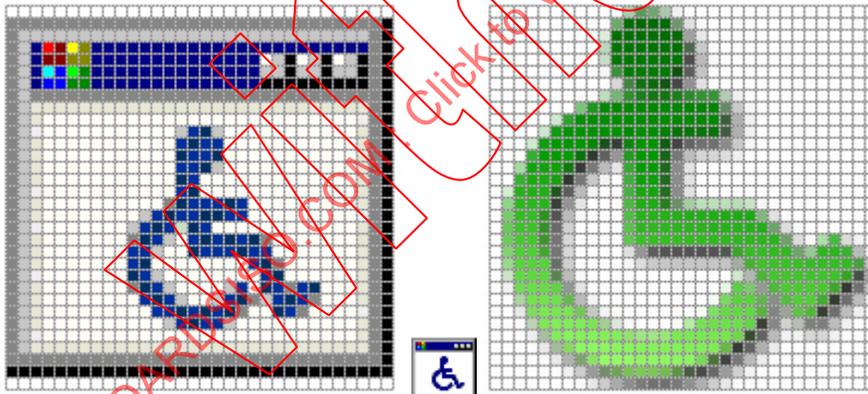
Throughout this clause, and where appropriate, the icons and symbols are displayed upon a squared grid (icons) or upon a matrix (standardized symbols). In addition, the icons are also displayed approximately actual size alongside the enlarged (and gridded) version.

3.2 General icons and symbols**3.2.1 Accessibility options – software**

Primary domain: IT software & hardware.

Function: Provides access to a suite of functions and utilities which enable the customization of the software and hardware to best support the abilities of the disabled user.

Graphics:



Sources: Top row: Microsoft Windows 2000® [3] (left), Windows XP® [3] (Centre). Bottom row: Apple Mac OS X [11] (right). IBM ThinkPad® [12].

NOTE These are examples of icons currently in use and not ISO/IEC recommendations.

3.2.2 Facility for disabled users – ICTA international symbol of access

Function: Identifies a facility with special provisions available for disabled users.

Graphic:



Source: International Commission on Technology and Accessibility [5].

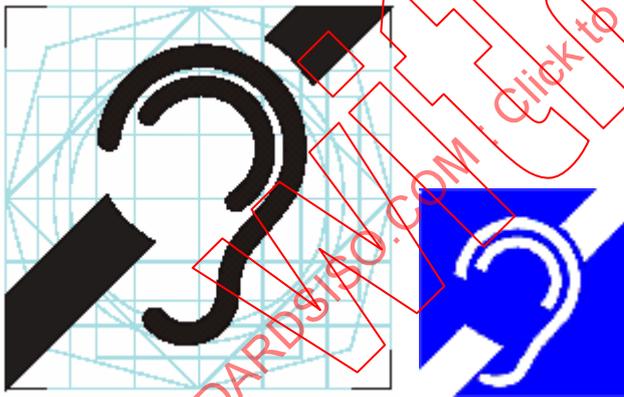
NOTE This symbol is registered with ISO.

3.2.3 General facilities for the deaf and hard of hearing

Primary domain: Hardware, telecommunications.

Function: To enable access to general facilities and functions.

Graphics:



Sources: Left: ETSI EN 301 462 v1.1.1 (2000-03), graphical symbol number 1 [1]. Right: International Commission on Technology and Accessibility (ICTA), International Symbol of Deafness [5].

NOTE 1 This symbol is considered to be culturally unacceptable by the deaf and hard-of-hearing community, due to the negative connotations of the diagonal “prohibition” line across an ear. The use of symbols that indicate specific access services in a positive manner are encouraged. A good example is the TTY symbol (3.4.1.2), as opposed to misusing the symbol shown above to represent various distinct accommodations (e.g. inductive coupling, electrical coupling, etc.).

NOTE 2 These are examples of symbols currently in use and not ISO/IEC recommendations.

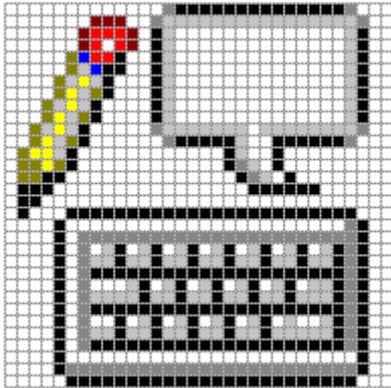
3.3 Input methods

3.3.1 General

Primary domain: Hardware.

Function: Enables the setting of alternative input methods: handwriting recognition, keyboard input or voice recognition.

Graphic:



Source: Microsoft Windows 2000® [3].

NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

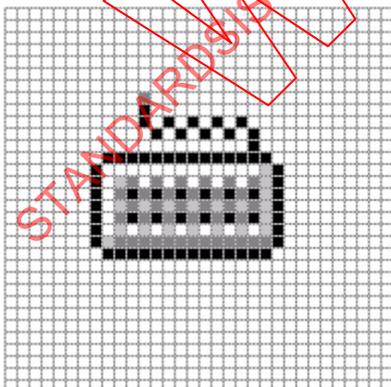
3.3.2 Keyboard

3.3.2.1 Keyboard input

Primary domain: Hardware.

Function: Enables the user to select the keyboard method to input text.

Graphic:



Source: Microsoft Windows 2000® [3].

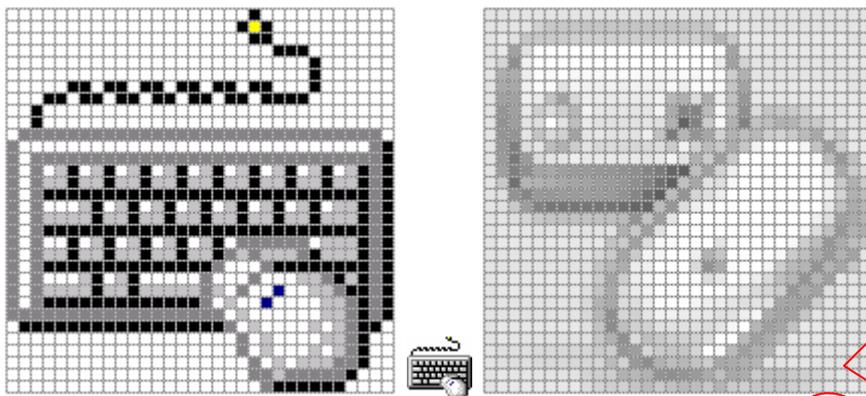
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.2 Serial key devices

Primary domain: Hardware.

Primary function: Enables the user to select alternative access to the keyboard and mouse features.

Graphic:



Sources: Left, Microsoft Windows 2000® [3]. Right, Apple Mac OS X.

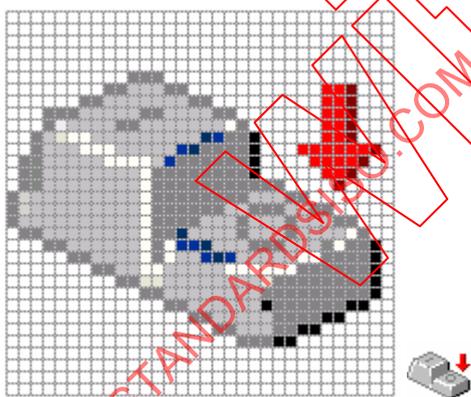
NOTE These are examples of icons currently in use and not ISO/IEC recommendations.

3.3.2.3 Stickykeys

Primary domain: Hardware.

Function: Combines sequentially pressed keyboard keystrokes as single input.

Graphic:



Source: Microsoft Windows 2000® [3].

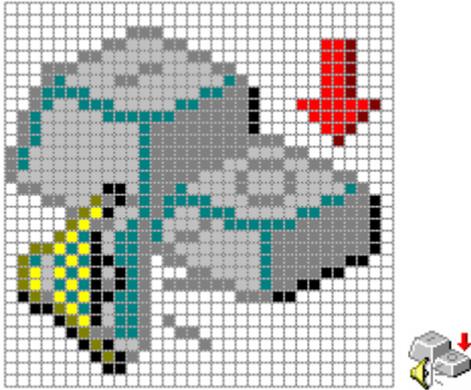
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.4 ToggleKeys

Primary domain: Hardware.

Function: Enables the user to hear tones when pressing Caps Lock, Num Lock and Scroll Lock.

Graphic:



Source: Microsoft Windows 98® [3].

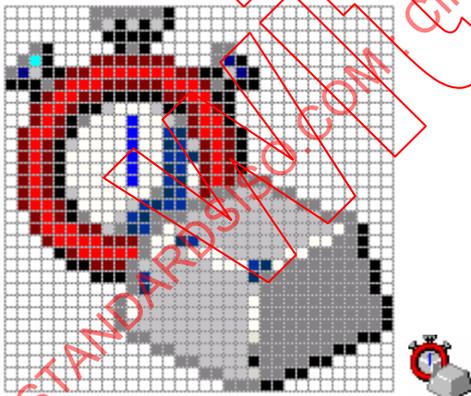
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.5 Filter keys

Primary domain: Hardware.

Function: Ignores brief or repeated key strokes or slows the keystroke input repeat rate.

Graphic:



Source: Microsoft Windows 2000® [3].

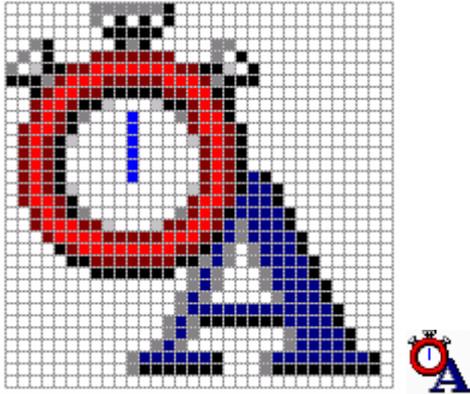
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.6 Character repeat delay

Primary domain: Hardware.

Function: Enables the user to set the keyboard input repeat character input delay (settings: variable, long to short).

Graphic:



Source: Microsoft Windows 2000® [3].

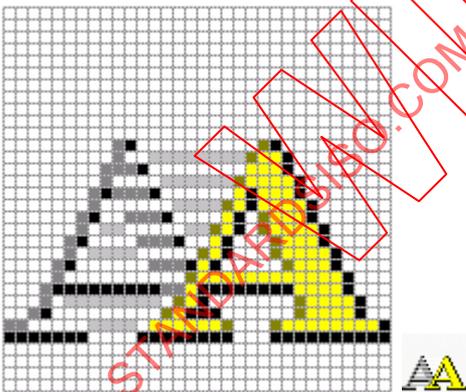
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.7 Character repeat rate

Primary domain: Hardware or software?

Function: Enables the user to set the repeat character input rate (settings: variable, slow to fast).

Graphic:



Source: Microsoft Windows 2000® [3].

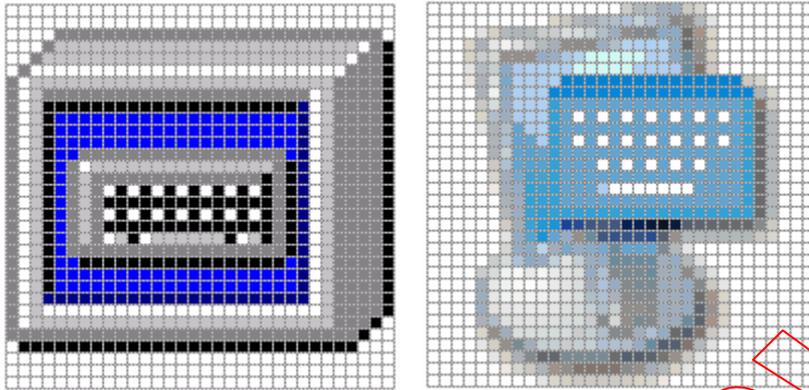
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.2.8 On-screen keyboard

Primary domain: Software interface

Function: Provides mobility-impaired users with basic keyboard functions via a touch screen interface.

Graphics:



Source: Microsoft Windows 2000® and Windows XP® [3].

NOTE These are examples of icons currently in use and not ISO/IEC recommendations.

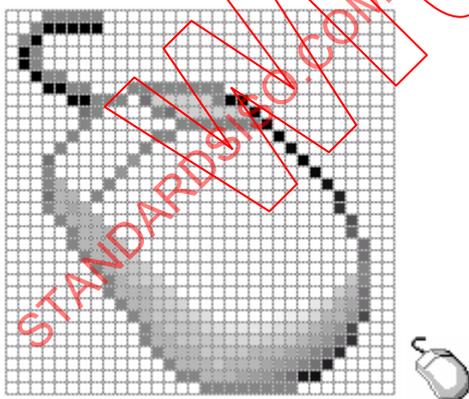
3.3.3 Pointing device

3.3.3.1 Mouse Properties

Primary domain: Hardware.

Function: Enables the user to set their personal preferences for the operation of the mouse.

Graphic:



Source: Microsoft Windows 2000® [3].

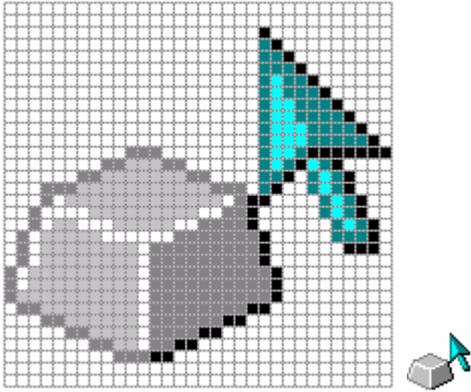
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.3.2 Mouse Keys

Primary domain: Hardware.

Function: Enables the pointer icon to be controlled by the numeric keypad on the keyboard.

Graphic:



Source: Microsoft Windows 2000® [3].

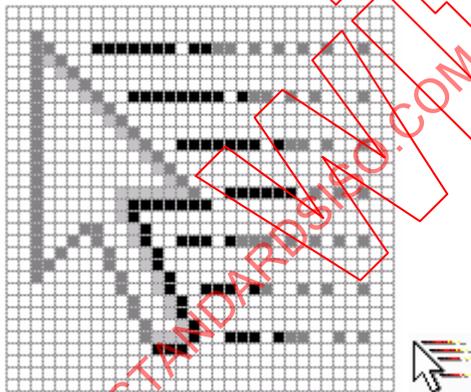
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.3.3 Select pointer speed (“Motion”)

Primary domain: Software interface.

Function: Enables the user to set the speed and acceleration of the pointer icon.

Graphic:



Source: Microsoft Windows 2000® [3].

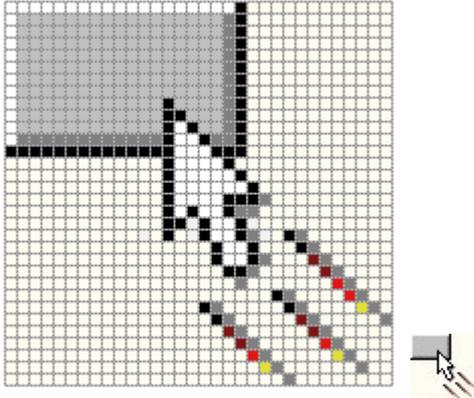
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.3.4 Automatically move pointer to default button (“Snap to”)

Primary domain: Software interface.

Function: When set by the user, automatically moves the pointer icon to the default button within a dialogue box.

Graphic:



Source: Microsoft Windows XP® [3].

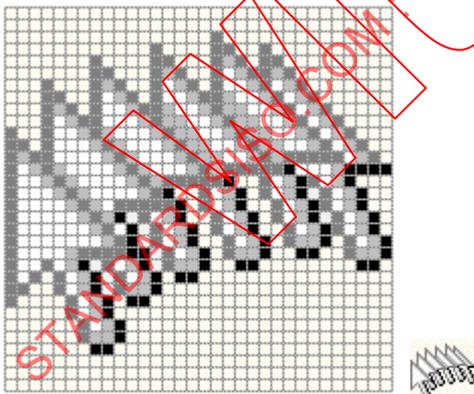
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.3.5 Display pointer trails

Primary domain: Software interface.

Function: When set by the user, will display the trail of the pointer icon.

Graphic:



Source: Microsoft Windows XP® [3].

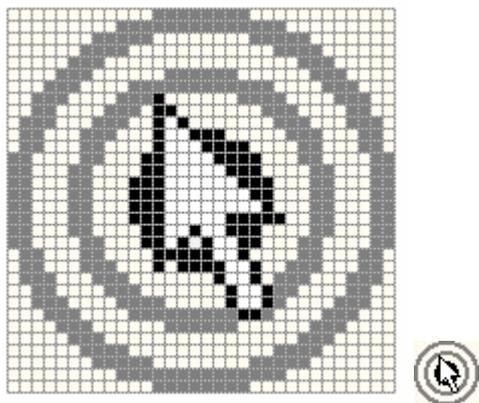
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.3.3.6 Show location of pointer

Primary domain: Software interface.

Function: When set by the user, shows the location of the pointer icon.

Graphic:



Source: Microsoft Windows XP® [3].

NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

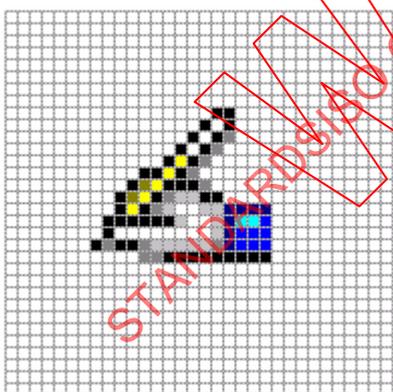
3.3.4 Handwriting

3.3.4.1 Handwriting recognition

Primary domain: Hardware.

Function: Enables the user to select the handwriting method to input text.

Graphic:



Source: Microsoft Windows 2000® [3].

NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

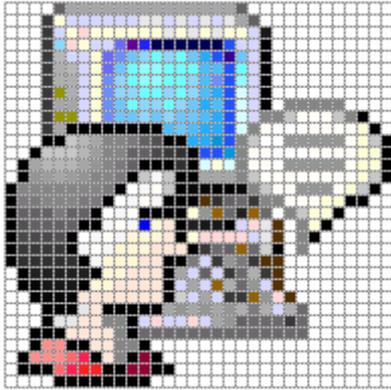
3.3.5 Audio

3.3.5.1 Speech properties

Primary domain: Software.

Function: Enables the user to adjust settings and select options for both speech input and output.

Graphic:



Source: Microsoft Windows 2000® [3].

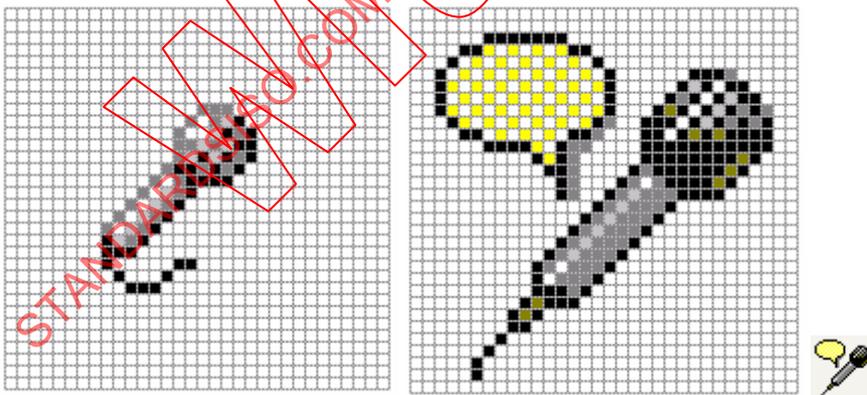
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

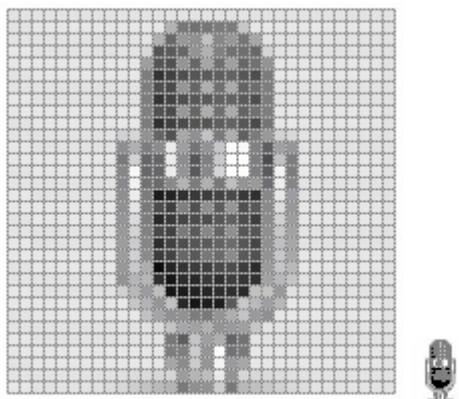
3.3.5.2 Speech

Primary domain: Hardware and software.

Function: Enables the user to adjust settings and select options for speech input via a microphone.

Graphics:





Sources: Top row: Microsoft Windows 2000® [3]. Lower row: Apple Mac OS X [11].

NOTE These are examples of icons currently in use and not ISO/IEC recommendations.

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3.4 Output methods

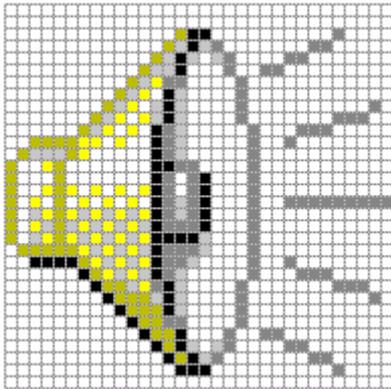
3.4.1 Audio

3.4.1.1 Sound

Primary domain: Hardware.

Function: Enables the user to adjust the sound settings.

Graphic:



Source: Microsoft Windows 2000® [3].

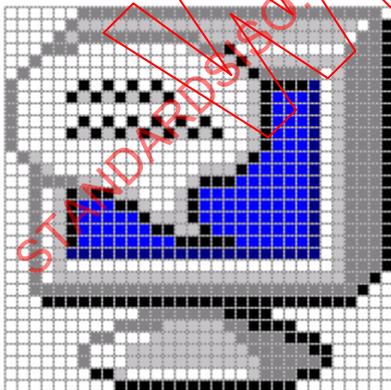
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.1.2 “Narrator”

Primary domain: Software.

Function: Enables people to have contents of the screen read aloud to them.

Graphic:



Source: Microsoft Windows 2000® [3].

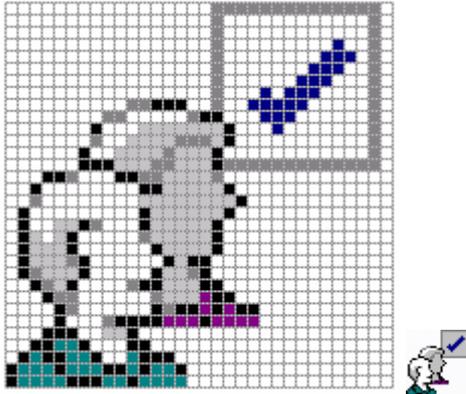
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.1.3 Text to speech settings

Primary domain: Software.

Function: Enables the user to adjust settings and select options for text output as speech via a sound speaker.

Graphic:



Source: Microsoft Windows 2000® [3].

NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.1.4 Audio description for TV, video, film, etc.

Primary domain: Entertainment.

Function: Indicates the availability of a audio description of key visual elements in a video or multimedia product.

Graphic:



Sources: Left, National Disability Arts Form (US), typically used on American television [4]; centre, typically used for the theatre [6]; right, Voiceprint Canada [9].

NOTE 1 These are examples of symbols currently in use and not ISO/IEC recommendations.

NOTE 2 The use of printed letters, as in this icon, is not appropriate because it does not meet the needs of cultural and linguistic adaptability.

3.4.1.5 Assistive listening systems

Graphic:



Source: (US) National Disability Arts Forum [4].

NOTE This is an example of a symbol currently in use and not an ISO/IEC recommendation.

3.4.1.6 Captioning

Primary domain: Entertainment.

Function: Denotes that “captioning” facilities are available.

Graphic:



Source: (US) National Captioning Institute [7].

NOTE This is an example of a symbol currently in use and not an ISO/IEC recommendation.

3.4.1.6.1 Closed captioning

Primary domain: Entertainment.

Function: Denotes that “closed captioning” facilities are available.

Graphic:



Source: (US) National Disability Arts Forum [4].

NOTE 1 This is an example of a symbol currently in use and not an ISO/IEC recommendation.

NOTE 2 The use of printed letters, as in this icon, is not appropriate because it does not meet the needs of cultural and linguistic adaptability.

3.4.1.6.2 Open captioning

Primary domain: Entertainment.

Function: Denotes that “open captioning” facilities are available.

Graphic:



Source: Kerasotes Theatres [8].

NOTE 1 This is an example of a symbol currently in use and not an ISO/IEC recommendation.

NOTE 2 The use of printed letters, as in this icon, is not appropriate because it does not meet the needs of cultural and linguistic adaptability.

3.4.2 Visual

3.4.2.1 General

Primary domain: Hardware and software.

Function: Identifies facilities for vision impaired people.

Graphic:



Source: BS 8501:2002, registration number BS 8501.6025 [10].

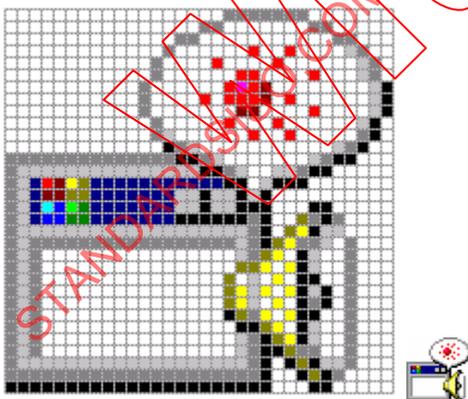
NOTE This is an example of a symbol currently in use and not an ISO/IEC recommendation.

3.4.2.2 “Sound Sentry”

Primary domain: Hardware.

Function: Generates visual warnings when the system makes a sound.

Graphic:



Source: Microsoft Windows 2000® [3].

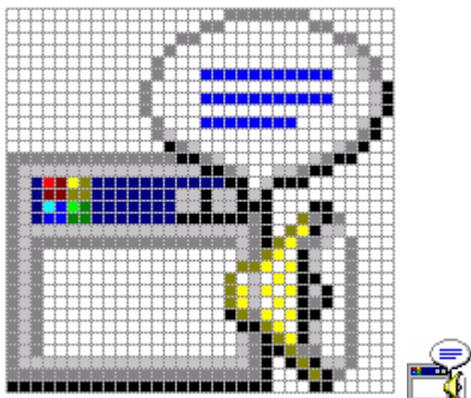
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.2.3 “Show sounds”

Primary domain: Hardware.

Function: Displays captions for the speech and the sounds that applications make.

Graphic:



Source: Microsoft Windows 2000® [3].

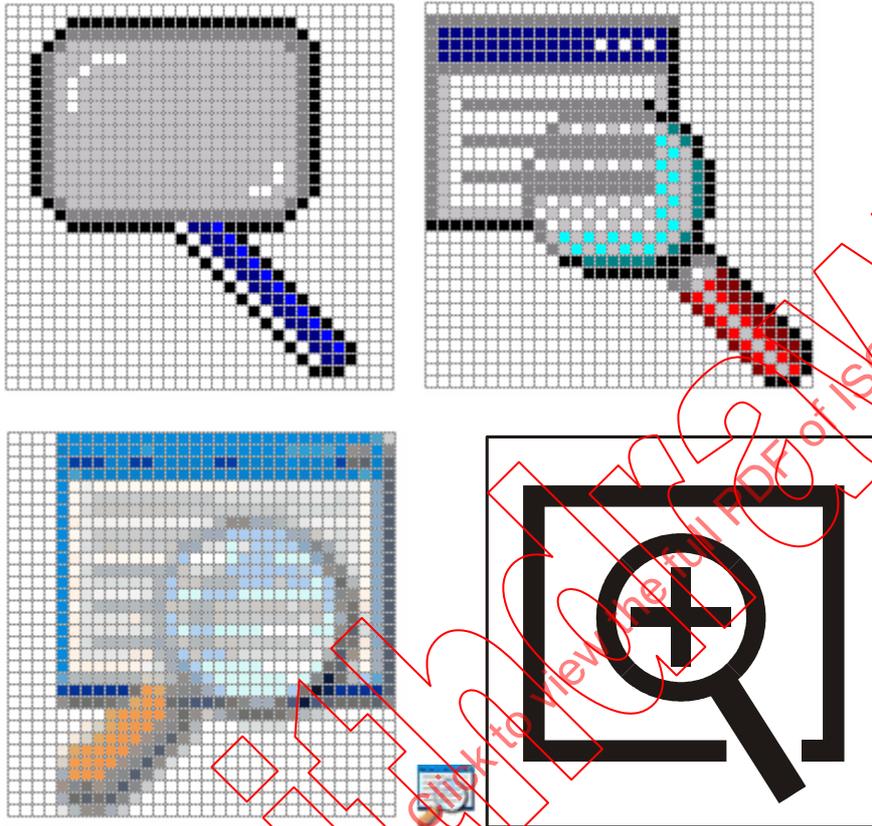
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.2.4 Magnifying glass/Screen magnifier

Primary domain: Software interface.

Function: Activates the screen the magnification function, and enables setting of magnification values. An additional window shows enlarged text and images in proximity of the pointer icon.

Graphics:



Sources: Top row, Microsoft Windows 2000® & XP® [3]; bottom row, IBM ThinkPad® (spacebar) [12].

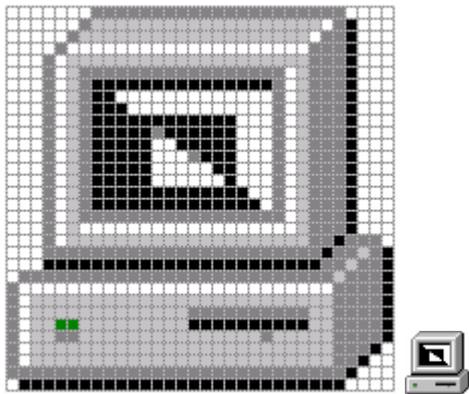
NOTE These are examples of icons and a symbol currently in use and not ISO/IEC recommendations.

3.4.2.5 High Contrast

Primary domain: Software interface.

Function: Sets the screen colours and typefonts designed for easy reading.

Graphic:



Source: Microsoft Windows 2000® [3].

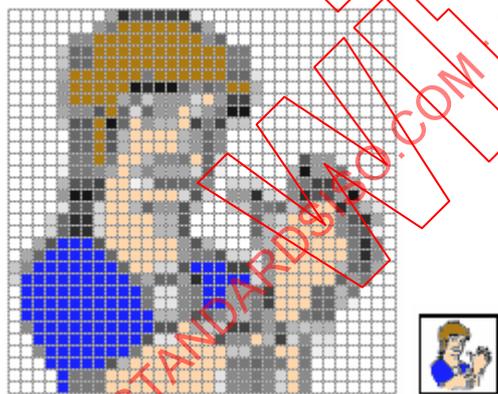
NOTE This is an example of an icon currently in use and not an ISO/IEC recommendation.

3.4.2.6 Sign language availability

Primary domain: Software, World Wide Web interfaces.

Function: Indicates the availability of sign language as an alternative to text.

Graphic:



Source: CEN Workshop Agreement CWA 14835 (September 2003) - Proposal [2].

NOTE This is an example of a proposed icon and not an ISO/IEC recommendation.