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Part 12: Keyboard group selection

Traitement de l'information — Dispositions de claviers pour systèmes bureautiques —

Partie 12: Technologies de l'information — Disposition des claviers conçus pour la bureautique — Partie 12 : Sélection des groupes sur clavier

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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 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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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 Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

A list of all parts in the ISO/IEC 9995 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.

Introduction

Many keyboard layouts are used over the whole world. This document specifies a way to navigate between keyboard groups, so a user can use more than one collection of characters, for example, to write text in more than one language, or input names of persons or places in different scripts.

Many graphic operating environments offer a way to click on an icon to change the keyboard group. This document offers an alternative way to change keyboard group in a few keyboard strokes, and in a standardized way, only using characters that are widely available on keyboards across the world.

This document builds on ISO/IEC TR 15440.

Information technology — Keyboard layouts for text and office systems —

Part 12:
Keyboard group selection

1 Scope

This document specifies mechanisms to choose between the keyboard groups specified in the ISO/IEC 9995 series, national keyboards standards, or other keyboard definitions.

These mechanisms primarily become useful when the stipulated marking on the key top can be dynamically displayed on the key top.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 9995-1, *Information technology — Keyboard layouts for text and office systems — Part 1: General principles governing keyboard layouts*

ISO/IEC 9995-9:2016, *Information technology — Keyboard layouts for text and office systems — Part 9: Multi-lingual, multiscript keyboard layouts*

ISO/IEC 10646, *Information technology — Universal Coded Character Set (UCS)*

ISO/IEC 15897, *Information technology — User interfaces — Procedures for the registration of cultural elements*

ISO/IEC 24757, *Information technology — Keyboard interaction model — Machine-readable keyboard description*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 9995-1, ISO/IEC 9995-9 and the following apply.

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

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

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

3.1
group
logical state of a keyboard providing access to a collection of graphic characters or elements of graphic characters whose subsets are called levels

Note 1 to entry: A group gives access to one collection of characters. Typically, when more than one language is used, multiple groups are required.

Note 2 to entry: Usually these graphic characters or elements of graphic characters logically belong together and may be arranged on several levels (up to 3) within a group.

Note 3 to entry: The input of certain graphic characters, such as accented letters, may require access to more than one group.

Note 4 to entry: On physical keyboards, each group is normally labelled using a distinct column on a key, and levels are stacked vertically within that column, except when stated otherwise in certain situations. On on-screen keyboards, a group is normally shown one level at a time. There is usually a button to choose the group (or language) and another button, or more, to choose the level.

3.2
level
logical state of a keyboard providing access to a subset of a collection of graphic characters or elements of graphic characters which form a group

Note 1 to entry: Usually these graphic characters or elements of graphic characters logically belong together, such as the capital forms of letters.

Note 2 to entry: In certain cases, the level selected may also affect function keys.

Note 3 to entry: On physical keyboards, levels of a same group are normally labelled in a column on a key, except when stated otherwise in certain situations. On on-screen keyboards, it is normal that only one level be shown per panel at a time.

Note 4 to entry: For ergonomic reasons, the ISO/IEC 9995 series limits the number of levels per group to 3, in order to avoid typing a character with more than 2 fingers. When there is a need to enter more than 3 levels with a key, another group (with its own levels) is defined. It is possible to define implementation-defined methods for group selection, as long as the methods prescribed in different parts of the ISO/IEC 9995 series are provided. Characters in more than one group need not be always labelled on a key of a physical keyboard.

3.3
superselect sequence
sequence of key strokes to begin selection of a keyboard group

3.4
input method
means to enter a character that has a corresponding encoding in a character set

4 Conformance

An application is in conformance with this document if it meets the requirements of Clause 5.

5 Mechanisms for general selection of keyboard groups

5.1 Superselect sequence

The superselect sequence of this document is the same as that of ISO/IEC 9995-9, which is frequently the *Level 3 select* key (sometimes labelled AltGr or Alt on a keyboard) combined with a tab. The superselect sequence is then followed by the selection characters described in subclause 5.3. If the *Level 3 select key* is not available on a specific keyboard, the implementation shall specify the alternate key.

5.2 Terminating sequence

The terminating sequence referenced in subclause 5.3 is done by hitting the Return key, as described in each case.

5.3 Selection of standardized groups

Examples of the use of the specifications of this subclause are given in Annex A.

In ISO/IEC 9995-9, the superselect sequence reserves the use of the 26 Latin letters plus space to standardize groups.

In order to invoke a group according to this document, the superselect sequence shall be invoked.

Groups defined in ISO/IEC 9995-9 may also be invoked without modification.

When a new group is selected, this also includes any associated input method. When a group is selected which is normally associated with one or more other groups (e.g. as defined in a national standard or ISO/IEC 9995-9), then the way to navigate between these groups should be supported as defined in the specification of these groups, in addition to the method specified in this document.

Once the superselect sequence has begun, any associated groups in addition to those of ISO/IEC 9995-9, which are selected by a Latin letter or space, are identified by entering one of the following.

a) The character HYPHEN-MINUS (U002D in ISO/IEC 10646) followed by the registration number of a keyboard description registered with ISO/IEC 15897 – in the LC_KEYBOARD category. The number is terminated by the terminating sequence.

b) The character FULL STOP (U002E in ISO/IEC 10646) or its equivalent followed by a keyboard name provided by the operating system and which identifies a group, terminated by the terminating sequence.

c) The character SOLIDUS (U002F in ISO/IEC 10646) or its equivalent followed by the name of a file (using the local file system) containing a specification in an implementation-defined format, preferably according to ISO/IEC 24757. If the file name begins with “http:” or “https:” this is a link to a resource on the internet, and a file should be obtainable from there. The character sequence is terminated by the terminating sequence. Use of ISO/IEC TR 30112 is recommended for encapsulating the information, using the LC_KEYBOARD category.

d) The character PLUS SIGN (U002B in ISO/IEC 10646) followed by a single digit, used to define a keyboard to be easily referenced later on. This digit is followed by a string of characters used to identify a keyboard as per any of the three previous cases.

e) A single digit, used to switch to the keyboard group previously defined for that digit.

f) The backspace key, used to revert to the previous keyboard in use.

g) The character SPACE (U0020 in ISO/IEC 10646) reverts to the system-defined default keyboard. This use is compatible with the use of the same sequence as described in ISO/IEC 9995-9.

h) The character GREATER-THAN SIGN (U003E in ISO/IEC 10646), used to switch to the next keyboard in the list of keyboards, defined by the system plus the user defined keyboards in number order.

i) The character LESS-THAN SIGN (U003C in ISO/IEC 10646), used to switch to the previous keyboard in the list of keyboards, defined by the system plus the user defined keyboards in number order.

5.4 Menu-driven selection

An alternate mode of selection should be provided to allow switching to another group by selecting a predefined element of a menu intended for that purpose.

EXAMPLE 1 In order to select the keyboard group in macOS®, a user can use the input menu in the menu bar which is located in the top right of a screen. After clicking the input menu icon, the user can select the keyboard group listed. The groups that the user need can be added in System Preferences > Keyboard > Input sources.

EXAMPLE 2 In order to select the keyboard group in MS Windows®, a user can use the language bar in the taskbar which is usually located on the right button of a screen. After clicking the language bar icon, the user can select the keyboard group listed. The groups that the user need can be added in Settings > Region & language > Add a language.

5.5 Market available methods for keyboard group selection

See Annex B.

Annex A
(informative)

Examples of keyboard group selection

In the following, <S> represents the superselect sequence and <Return> indicates the Return key as per 5.2.

Entering **<S>.da<Return>** switches to the keyboard group or collection of characters named “da” of the operating system in question. This is the primary keyboard for Danish on a number of platforms.

Entering **<S>G** switches to the Greek group “G” defined in ISO/IEC 9995-9. By this, the input of classical and modern Greek text is enabled, as the Latin letters of the basic keyboard layout or special sequences thereof are assigned uniquely to Greek characters.

Entering **<S>K** switches to the Korean group “K” defined in ISO/IEC 9995-9 and the “Hangul” mode defined there. By this, the input of Korean characters by jamo sequences is enabled, while the Latin letters of the basic keyboard layout or special sequences thereof uniquely select the jamos according to the rules given by “Hangul” mode.

Entering **<S>-109<Return>** switches to the keyboard group registration 109 of the ISO/IEC 15897 registry.

Pressing **<S>** followed by the backspace key reverts to the previous keyboard group in use.

Entering **<S>+1/greek-extended<Return>** defines group 1 as the keyboard group named “greek-extended” in the operating system.

Entering **<S>1** switches to the keyboard group previously defined for the digit 1.

Entering **<S>CE** switches to the CE Cyrillic extra letters group of ISO/IEC 9995-9.

Entering **<S><** switches to the previous group in the list of keyboard groups.

Entering **<S>>** switches to the next group in the list of keyboard groups.

Entering **<S>+2/https://some.web.address/keybords/keyboard1<Return>** defines group 2 to be the keyboard group defined in the file with the address "https://some.web.address/keybords/keyboard1" on the Internet. The format of the file is implementation-defined, but the file format defined in ISO/IEC 24755 is recommended.

For further examples, see ISO/IEC 9995-9:2016 Annex E.