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Information technology — User interface requirements and recommendations on menu navigation —

Part 1: **Framework**

Technologies de l'information — Exigences et recommandations d'interface portant sur la navigation dans les menus —

Partie 1: Cadre

Reference number
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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 or www.iec.ch/members_experts/refdocs).

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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. In the IEC, see www.iec.ch/understanding-standards.

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 17549 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.

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Introduction

Menus are frequently used for human–machine interface navigation of functions and contents. But many different types of menus exist and many different manipulation procedures occur. Such a variety of procedures often disturbs the user.

Menus and associated means of action should offer users an easy and continuous ergonomics experience.

The ISO/IEC 17549 series defines menu navigation logic associated to a set of directional devices. It provides descriptions of functions for supporting navigation and activation.

The ISO/IEC 17549 series consists of three parts:

— This document provides an overview of the design of navigation methods based upon menu selection for human–machine interfaces. It provides a framework of the "menu" user-interface element to help design an effective, efficient and satisfactory interactive system.

— ISO/IEC 17549-2, provides guidelines on the design of navigation methods for selection menus with use of a 4-direction device. It also provides recommendations for parameters to display screen settings, character sets and languages in use.

— ISO/IEC 17549-3 provides requirements and recommendations on the design of navigation methods for selection menus with use of a 1-direction device. It also provides recommendations for parameters to display screen settings, character sets and languages in use.

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Information technology — User interface requirements and recommendations on menu navigation —

Part 1: Framework

1 Scope

This document provides a framework for the ISO/IEC 17549 series describing user interface guidelines on menu navigation. It specifies requirements and recommendations on how to design usable and consistent navigation through the interface component called a "menu". This document specifies how to select and validate elements displayed on menus.

This document covers design-consistent navigation inside menus. It does not include testing or organization of menus.

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
navigation command
action means that enables the user to operate navigation function(s), such as selecting the next item, the previous one, activating the focused item, or going back in the menu hierarchy

Note 1 to entry: It can be operated through a key press, a gesture, a vocal command, a click on a pointed item.

3.2
direct action command
action means that enables the user to operate navigation or activation function(s) directly through a shortcut

Note 1 to entry: It can be operated through a key press, a gesture, a vocal command, a click on a pointed item.

3.3
menu
set of selectable options giving access to objects or actions

Note 1 to entry: A menu primarily provides access to functions and/or specified locations within an interactive system.

Note 2 to entry: A menu can be displayed vertically and/or horizontally.

Note 3 to entry: A menu can be in a loop.

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Note 4 to entry: A menu can be visually displayed, audibly played and/or displayed in a tactile manner.

3.4
ladder menu
set of options displayed vertically or horizontally

3.5
tile menu
set of options displayed with a number of rows and columns, one of which is to be selected

3.6
tab menu
set of options displayed vertically or horizontally enabling the sublevel of the selected tab to be displayed at the same time

3.7
drop-down menu
set of options displayed that can be coiled or uncoiled vertically and/or horizontally

Note 1 to entry: It needs to be manipulated continuously in order to be displayed.

3.8
contextual menu
set of options displayed vertically or horizontally that are contextualized to the pointing or focus area

3.9
pie menu
set of options displayed in a circle

4 Conformance

A menu is in conformance with this document if it meets the requirements of Clause 5.

5 Framework of the ISO/IEC 17549 series

5.1 Software interfaces

Interface objects that are addressed in the ISO/IEC 17549 series are menus. Most menus are explored as ladder menus, tabs menus, pie menus, tile menus, drop-down menus or contextual menus.

Menus are the main component of human–machine interaction. They are useful for freeing screen space, as an alternative to place functionality in buttons or other user controls in the content area of the application. Menus provide a means for performing operations and for navigating to other parts of the application or even to other applications. A menu is a list of items; several menus are hierarchical trees of item lists. Navigation inside such menus depends upon available device keys and the kind of operating system used.

This document focuses on guidelines regarding the design of navigation menus, taking into account coherency and adequate adjustment between commands and displays.

5.2 Menus heterogeneity

5.2.1 Manipulation of menus

There are various ways to manipulate menus and it can be a source of trouble for some users.

Sometimes, the device includes several ways to manipulate similar menus through several input peripherals. The options of a ladder menu can be directly pointed at with a mouse or on a touchscreen and can also be selected from the keyboard.

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