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Ergonomi for interaktion mellem menneske og system – Del 100: Overblik over ISO 9241-standarder om software og ergonomi

Ergonomics of human-system interaction – Part 100: Overview of ISO 9241 software ergonomic standards (ISO/TR 9241-100:2023)

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Ergonomie der Mensch-System-Interaktion - Teil 100: Überblick über Normen zur Software-Ergonomie (ISO/TR 9241-100:2023)

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European foreword

This document (CEN ISO/TR 9241-100:2023) has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with Technical Committee CEN/TC 122 “Ergonomics” the secretariat of which is held by DIN.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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 Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 122, *Ergonomics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO/TR 9241-100:2010), which has been technically revised.

The main changes are as follows:

— overview of the ISO 9241 series updated;

— text edited and added to;

— new Figure 1 added.

A list of all parts in the ISO 9241 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.

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Introduction

The purpose of this document is to provide concise descriptions of the parts of the ISO 9241 series that provide requirements and recommendations for the ergonomic design of software-based interactive systems. It includes descriptions of all the current parts in the ISO 9241-1XX family of documents, which are specifically directed at software, together with descriptions of ISO 9241-11, ISO 9241-210 and ISO 9241-220, which address the concept of usability, human-centred design and human-centred design processes, respectively.

It also informs the reader about upcoming documents that are currently under development.

The adoption of a human-centred approach to the development of products and systems and the application of the requirements and recommendations contained in the ISO 9241-1XX family of documents helps prevent users from experiencing usability problems, such as:

— additional unnecessary steps not required as part of the task;

— misleading information;

— insufficient and poor information on the user interface;

— navigational limitations during use;

— inefficient error recovery.

The documents contain guidance at the levels of:

— principles, e.g. “conformity with user expectations” (ISO 9241-110:2020, 5.3);

— general recommendations, e.g. “The interactive system should use cultural and linguistic conventions for presentation, input and control that the users are familiar with” (ISO 9241-110:2020, 5.3.3.1);

— guidance specific to a thematic subject, e.g. “If sounds need to be used in different countries or cultures, or will be presented to individuals speaking different languages, then the sounds should be culturally appropriate” (ISO/TS 9241-126:2019, 6.1.11).

NOTE Currently, when people phone someone whose line is in use, they hear a different signal in different countries.

The documents do not specify “standardized solutions” in terms of conventions, for example, “the title bar of a window in focus is coloured blue” or “the push button 'OK' is always placed to the left of the push button 'Cancel'.” Such “industry conventions” or even “industry regulations” are published by industry sources and can be found in literature. However, the guidance relating to presented information in ISO documents is intended to be applied when establishing or assessing industry conventions for user interfaces of interactive systems.

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Ergonomics of human-system interaction —

Part 100: Overview of ISO 9241 software ergonomic standards (ISO/TR 9241-100:2023)

1 Scope

This document provides an overview of ISO 9241 software ergonomic standards in the form of executive summaries of these standards, in particular the parts in the ISO 9241-1XX family of documents. In addition, it provides executive summaries for ISO 9241-11, ISO 9241-210 and ISO 9241-220, which have specific relevance to the design of software-based interactive systems.

This document is intended for the following types of users:

— managers, who are involved in planning and managing product, system and/or service development projects, who are to be informed on the human-centred design approach and on guidance on software ergonomics;

— developers, who will apply the guidance in these documents during the development process (either directly, based on training, or by using tools and style guides which incorporate the guidance);

— user interface design roles (including interaction designers, information architects, user interface designers, visual designers and content creators), who will apply the guidance in these documents during the creation and design process (either directly, based on training, or by using tools and style guides which incorporate the guidance);

— user researchers, who are responsible for identifying user needs and inform context of use of a product, system or service;

— evaluators, who are responsible for ensuring that products, systems or services meet the recommendations contained in these documents;

— buyers, who will reference these documents in contracts during product procurement;

— designers of user interface development tools and style guides to be used by user interface designers and developers.

While the documents are applicable to all types of interactive systems, they do not cover the specifics of every context of use, such as safety critical systems and collaborative work.

2 Normative references

There are no normative references in this document.

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