BS EN ISO 9241-112:2017

BSI Standards Publication

Ergonomics of human-system interaction

Part 112: Principles for the presentation of information

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Full document details: BS EN ISO 9241-112:2017

National foreword

This British Standard is the UK implementation of EN ISO 9241-112:2017. It is identical to ISO 9241-112:2017. Together with BS EN ISO 9241-125, it supersedes BS EN ISO 9241-12:1999 which will be withdrawn upon publication of BS EN ISO 9241-125.

The UK participation in its preparation was entrusted to Technical Committee PH/9, Applied ergonomics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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ISBN 978 0 580 86359 2

ICS 35.240.20; 13.180; 35.080; 35.180

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 July 2017.

Amendments/corrigenda issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 9241-112

March 2017

ICS 13.180; 35.080; 35.240.01

Supersedes EN ISO 9241-12:1998

English Version

Ergonomics of human-system interaction - Part 112: Principles for the presentation of information (ISO 9241-112:2017)

Ergonomie de l'interaction homme-système - Partie 112: Principes et lignes directrices relatives à la présentation de l'information (ISO 9241-112:2017)

Ergonomie der Mensch-System-Interaktion - Teil 112: Grundsätze der Informationsdarstellung (ISO 9241-112:2017)

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Ref. No. EN ISO 9241-112:2017 E

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European foreword

This document (EN ISO 9241-112:2017) 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.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 9241-112:2017 has been approved by CEN as EN ISO 9241-112:2017 without any modification.

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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 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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: 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*.

This first edition of ISO 9241-112, together with ISO 9241-125, cancels and replaces ISO 9241-12:1998.

A list of all parts in the ISO 9241 series can be found on the ISO website.

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Introduction

This document presents principles for the presentation of information that apply to the design and evaluation of user interfaces.

The application and use of the principles and general recommendations in this document results in a variety of benefits to users of interactive user interfaces, including improvements in speed, accuracy, mental effort, and user experience. They also help prevent users from experiencing usability problems with presented information. Examples of such problems include the following:

— Users do not detect information, although the information is present.

— Users are distracted from information they are focusing on by other information.

— Users cannot discriminate between pieces of information, since they appear to be identical.

— Users misinterpret information since the meaning of the information is ambiguous.

— Users expend unnecessary time in understanding information since the information is presented is unnecessarily lengthy.

— Users do not understand information due to unknown conventions used in the information.

The principles and general recommendations will help to avoid misinterpretations by providing guidance on the appropriate and effective presentation of information. The guidance in this document does not deal with the identification of the specific information to be presented.

This document contains general recommendations that apply across modalities. ISO 9241-125 provides detailed recommendations relating to the design and evaluation of visual user interfaces.

This document can be used with ISO 9241-110 to provide principles covering interaction with user interfaces, including the presentation of information.

These principles replace the “characteristics of presented information” listed in ISO 9241-12:1998, 4.1. The characteristic “legibility” formerly contained in ISO 9241-12 is not being dealt with specifically in this document since it is specific to visual information, but it is covered in general as part of “Discriminability” and “Interpretability”. “Clarity” and “Comprehensibility” also formerly contained in ISO 9241-12 are now being dealt with as part of “Freedom from distraction” and “Interpretability”.

This document focuses on software aspects of the presentation of information and does not include guidance on the hardware-controlled physical characteristics of information presented in different modalities.

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INTERNATIONAL STANDARD **ISO 9241-112:2017(E)**

Ergonomics of human-system interaction —

Part 112: Principles for the presentation of information

1 Scope

This document establishes ergonomic design principles for interactive systems related to the software-controlled presentation of information by user interfaces. It applies to the three main modalities (visual, auditory, tactile/haptic) typically used in information and communication technology. These principles apply to the perception and understanding of presented information. These principles are applicable in the analysis, design, and evaluation of interactive systems. This document also provides recommendations corresponding to the principles. The recommendations for each of the principles are not exhaustive and are not necessarily independent from one another.

While this document is applicable to all types of interactive systems, it does not cover the specifics of particular application domains. This document also applies to outputs from interactive systems (such as printed documents, e.g. invoices).

The guidance in this document for presenting information is aimed at helping the user to accomplish tasks. This guidance is not aimed at the presentation of information for other reasons (e.g. corporate branding or advertising).

It is intended for the following types of users:

— user interface designers, who will apply the guidance during the development process;

— developers, who will apply the guidance during design and implementation of system functionality;

— evaluators, who are responsible for ensuring that products meet the recommendations;

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

— project managers, who are responsible for managing development processes;

— buyers, who will reference this document during product procurement.

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

3 Terms and definitions

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

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

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

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

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