

Ergonomics of human-system interaction - Part 161:  
Visual user-interface elements (ISO 9241-161:2025)

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ICS 35.180

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## Ergonomics of human-system interaction - Part 161: Visual user-interface elements (ISO 9241-161:2025)

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161: Éléments visuels de l'interface utilisateur (ISO  
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Ergonomie der Mensch-System-Interaktion - Teil 161:  
Leitfaden zu visuellen User-Interface-Elementen (ISO  
9241-161:2025)

This European Standard was approved by CEN on 14 December 2025.

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This document (EN ISO 9241-161:2025) 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of an identical text or by endorsement, at the latest by June 2026, and conflicting national standards shall be withdrawn at the latest by June 2026.

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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 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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee 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 9241-161:2016), which has been technically revised.

The main changes are as follows:

- revision of terms and definitions clause;
- addition of information on the relationship of input techniques and visual user-interface elements;
- revision of states of visual user-interface elements;
- addition of user-interface elements;
- revision of guidance on user-interface elements.

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](http://www.iso.org/members.html).

## Introduction

In different communities in the interactive system development ecosystem, the use, the names and the understanding of user-interface elements differ significantly. One of the results is that users must cope with elements which differ in terms of keyboard entry and control, mouse behaviour, visual presentation of functionality and different options to control elements. Consistent element behaviour, functionality and rendering is crucial for the usability of user interfaces. This causes added efforts in all stakeholders in human-centred design activities, since this multitude must be managed in order to ensure high-quality collaboration of various specialists. Especially in the light of new emerging user-interface concepts and designs, a common definition of visual user-interface elements and the rationale for their selection as well as their use can be regarded as an effort to sustain cooperation and ensure a sound basis for professional conversation. This document, covering visual user-interface elements, in no way predetermines a visual style of the elements themselves, thus avoiding impressing determinants in creation, brand usage and style development, as outlined in [Figure 1](#). In addition, this document is laid out in an independent of platform specifics, so that no specific industrial user-interface style-guide, implementation technology or development process must be observed in order to conform to this document.

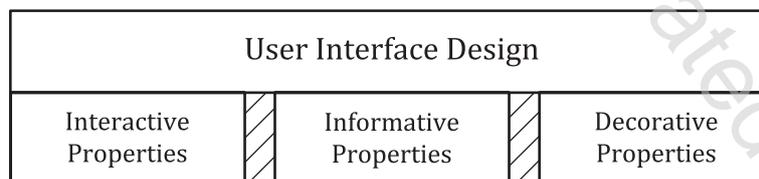
This document aims to provide information on visual user-interface elements to help those responsible for managing software design and re-design processes, create user interface specifications, guidelines, style-guides, design systems and visual concepts to identify, plan and design effective, efficient and satisfactory interactive systems.

Visual user-interface elements described in this document complement existing systems design approaches, methods or processes. They can be referenced in any kind of user interface strategy, regardless of the technology used for the user interface.

This document provides a comprehensive list of generic visual user-interface elements in whatever context these elements are being implemented. The guidance given in document is intended to be used in conjunction with other guidance on interaction techniques in the ISO 9241 series. It recognizes that additional elements can evolve. It also addresses derivatives, compositions (assemblies) and states of user-interface elements.

The information in this part of ISO 9241 is intended for use by those responsible for the selection and implementation of visual user-interface elements in interactive systems and for evaluating user interfaces. It is intended for use by those planning and managing platform specific aspects of user interface screen design. It also provides guidance for human factors and ergonomics and usability professionals involved in human-centred design. It addresses technical issues only to the extent necessary to allow users of this document to understand the relevance and importance of a consistent interface element usage and selection in the design process as a whole.

[Figure 1](#) shows an overview of different visual user interface properties that are used to build a user interface design.



**Figure 1 — Overview of different visual user interface properties**

# Ergonomics of human-system interaction —

## Part 161: Visual user-interface elements

### 1 Scope

This document specifies requirements and provides recommendations for the selection, usage and dependencies of visual user-interface elements and their application. This document is concerned with visual software components of interactive systems to make human-system interaction usable.

This document is applicable regardless of a fixed, portable or mobile interactive system, or cross-device use.

It does not provide detailed coverage of the methods and techniques required for design of visual user-interface elements. This document does not address implementation (e.g. graphical design of elements) and interaction details for specific input methods or technologies. It does not cover decorative user-interface elements that are intended to address solely aesthetic (hedonic) qualities in the user interface e.g. background images.

### 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 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

##### **accessibility**

extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use

[SOURCE: ISO 9241-112:2017, modified — Note to entry deleted.]

#### 3.2

##### **default action**

operation predefined for an object or set of objects (including an entire dialogue box) that will take place when the user actuates the default action mechanism

EXAMPLE In a search application, pressing the ENTER key activates the search.

[SOURCE: ISO 9241-143:2012, modified — Example added.]