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# International Standard

# ISO/FDIS 9241-130

# Ergonomics of human-system interaction —

## Part 130:
## User assistance within interactive systems

*Ergonomie de l'interaction homme-système —*

*Partie 130: Assistance des utilisateurs dans les systèmes interactifs*

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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 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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This document was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction.*

This first edition of ISO ISO 9241-130 cancels and replaces ISO 9241-13:1998.

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

This document provides recommendations on user assistance to help those;

— responsible for managing interactive system design and re-design processes;

— creating user interface specifications, style guides and concepts,

to identify, plan and design effective, efficient and satisfactory user assistance.

User assistance described in this document complements control elements and information on user interfaces. User assistance can be applied in any kind of user interface, regardless of the technology used for the user interface.

For the actual user of the interactive system, the benefit of user assistance will be to achieve intended outcomes more effectively and efficiently.

This document provides recommendations on user assistance which help the designer to support the user using the user interface by designing usable assistance meeting the information needs of the user in a specific interaction situation, especially in cases where software or hardware constraints set limits on self-descriptiveness and conformity with user expectations.

This document does not provide detailed coverage of the methods and techniques required for designing and implementing of user assistance.

This document is applicable to those responsible for developing user interfaces, but also for planning and managing platform specific aspects of user interface design. This document therefore addresses technical issues only to the extent necessary to allow such individuals to understand the relevance and importance of a consistent interaction technique use in the design process. This document also provides a framework for human factors professionals and usability professionals involved in human-centred design. Detailed human factors, ergonomics, usability, and accessibility issues are dealt with more fully in a number of standards including other parts of ISO 9241 which sets out the broad principles of ergonomics (see Bibliography).

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# Ergonomics of human-system interaction —

# Part 130:
# User assistance within interactive systems

## 1 Scope

This document provides recommendations on user assistance, including its nature, intended use, and guidance for effective implementation. This document is applicable to software components of interactive systems to make human-system interaction usable.

This document provides a list of user assistance guidelines regardless of a specific visualization and implementation technology. It gives guidance and recommendations on selection, usage and dependencies of user assistance and their applications in various contexts.

## 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 General terms

**3.1.1**
**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

Note 1 to entry: Context of use includes direct use or use supported by assistive technologies.

[SOURCE: ISO 9241-112:2025, 3.11]

**3.1.2**
**context of use**
**context**
combination of users, goals and tasks, resources, and environment

Note 1 to entry: The “environment” in a context of use includes the technical, physical, social, cultural and organizational environments.

[SOURCE: ISO 9241-11:2018, 3.1.15, modified – synonym “context” has added]

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**3.1.3**
**interactive system**
combination of hardware, software, services, and/or people that users interact with in order to achieve specific goals

Note 1 to entry: This includes, where appropriate, packaging, instructions for use, on-line and human help, support and training.

[SOURCE: ISO 9241-11:2018, 3.1.5]

## 3.2 Terms related to user assistance

**3.2.1**
**alarm**
high priority alert used to attract the operator's attention to important deviations or abnormal events in system operation

[SOURCE: ISO 11064-5:2008, 3.1]

**3.2.2**
**assisted task completion**
explicit type of user assistance that assists users in completing a task

**3.2.3**
**context-specific help**
information that can be obtained at the user's request providing additional guidance on the presented information associated with the user's current task, user's last input, selected object or current location

**3.2.4**
**context-specific instruction**
additional information presented by the interactive system guiding the user in achieving a specific outcome

Note 1 to entry: In contrast to help information, context-specific instructions are always present and do not need to be actively requested by the user.

**3.2.5**
**information for users**
information provided by the supplier that provides the target audience with concepts, procedures and reference material for the safe, effective, and efficient use of a supported product during its life cycle

EXAMPLE Printed manuals, onscreen information, and stand-alone online help are examples of information for users.

Note 1 to entry: It can be provided separately or embedded in the product or both.

[SOURCE: ISO/IEC/IEEE 26514:2022, 3.1.29, modified – Notes 1 and 3 to entry have been deleted to widen the scope to "interactive systems".]

**3.2.6**
**status information**
information indicating the current state of the system

Note 1 to entry: Status information does not require active confirmation by the user.

**3.2.7**
**system message**
system-initiated user assistance that is either a system request or a notification that is relevant to the user

**3.2.8**
**system request**
system messages that require confirmation by the user or one or more actions

Note 1 to entry: System requests are either informative messages, warning messages, error messages or alarms.

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Note 2 to entry: System requests stay present and prevent further interaction unless the user acknowledges the system request or takes one of the available actions.

**3.2.9**
**notification**
system messages that either indicate that an event (status) has occurred or will occur that is relevant to the user and do not require confirmation and/or action by the user

Note 1 to entry: Notifications are typically temporal. They can disappear after a predetermined time.

Note 2 to entry: Notifications do not prevent further interaction between user and interactive system. The user can continue with the current task while a notification is present.

Note 3 to entry: Notifications can offer optional actions.

**3.2.10**
**user assistance**
additional information or interactive capabilities beyond the regular user-system interaction that is provided to the user on request (user-initiated) or is automatically provided by the system (system-initiated)

Note 1 to entry: User assistance can be presented as text, images, videos and auditory information depending on the context of use.

Note 2 to entry: User assistance can be information only or provide interactive capabilities ("interactive user assistance").

**3.2.11**
**warning message**
safety-related information that warns about hazards and instructs on how to avoid them

[SOURCE: ISO 24183:2024, 3.7.2.2, modified – Note 1 to entry has been deleted]

## 3.3 Terms specifically related to error management

**3.3.1**
**use error**
user action or lack of user action while using the interactive system that leads to a different result than that intended by the manufacturer or expected by the user

Note 1 to entry: Use error includes the inability of the user to complete a task.

Note 2 to entry: Use errors can result from a mismatch between the characteristics of the user, user interface, task, or use environment.

Note 3 to entry: Users can be aware or unaware that a use error has occurred.

Note 4 to entry: A malfunction of an interactive system that causes an unexpected result is not considered a use error.

Note 5 to entry: The term use error is used in preference to user error or human error in order to avoid the implied assignment of responsibility for the error to the user.

Note 6 to entry: User interface patterns that manipulate users to perform unintended actions (also referred to as deceptive patterns) can cause use errors.

[SOURCE: IEC 62366-1:2015, 3.21, modified – Term "medical device" has been replaced by "interactive system" and Notes 4, 5 and 6 to entry have been replaced with new notes.]

**3.3.2**
**error management**
all capabilities of the interactive system explicitly designed to achieve use error robustness

Note 1 to entry: Error management aims at avoiding use errors, treating use errors tolerantly or enabling the user to recover from use errors in a systematic manner.

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**3.3.3**
**use error robustness**
the interactive system assists the user in avoiding errors and, in case of identifiable errors, treats them tolerantly, and assists the user when recovering from errors

Note 1 to entry: Use error robustness involves guidance related to:

a) use error avoidance;

b) use error tolerance;

c) use error correction.

Note 2 to entry: An interactive system provides error tolerance when, despite evident errors in input, the intended result can be achieved with either no, or minimal, corrective action by the user.

Note 3 to entry: System errors in identifying user inputs (e.g. inappropriate auto-correction) are also considered to be use errors.

## 3.4 Terms related to feedback

**3.4.1**
**feedback**
output presented to the user by the system in reaction to the user's input or a system event

[SOURCE: ISO 9241-13:1998, 3.6]

# 4 Introduction to user assistance

## 4.1 General

User assistance is appropriate to all styles of interaction, types of interaction and contexts of use, to help users in accomplishing their tasks. User assistance is either additional information or interactive capabilities beyond the regular user-system interaction that is provided to the user on request or is automatically provided by the system. User assistance is either system-initiated or user-initiated (on request). User assistance offers necessary information and guiding interactive capabilities to assist the users in completing their tasks.

User assistance can be provided by different media or combinations of different media including:

— written text;

— sound (e.g. beep on error, mail-in);

— speech input/output (e.g. "drive to previous destination", "mind the gap");

— video (e.g. intro, how-to, guided tour);

— icons (e.g. stop, reading glass, help button);

— tactile / haptic feedback.

Table 1 gives an overview on the various types of user assistance. Each of these types of user assistance is detailed in the following clauses.

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