
**Ergonomics of human-system
interaction —**

**Part 129:
Guidance on software individualization**

Ergonomie de l'interaction homme-système —

Partie 129: Lignes directrices relatives à l'individualisation des logiciels



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 9241-129 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 9241 consists of the following parts, under the general title *Ergonomic requirements for office work with visual display terminals (VDTs)*:

- Part 1: General introduction
- Part 2: Guidance on task requirements
- Part 4: Keyboard requirements
- Part 5: Workstation layout and postural requirements
- Part 6: Guidance on the work environment
- Part 9: Requirements for non-keyboard input devices
- Part 11: Guidance on usability
- Part 12: Presentation of information
- Part 13: User guidance
- Part 14: Menu dialogues
- Part 15: Command dialogues
- Part 16: Direct manipulation dialogues
- Part 17: Form filling dialogues

ISO 9241 also consists of the following parts, under the general title *Ergonomics of human-system interaction*:

- *Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*
- *Part 100: Introduction to standards related to software ergonomics* [Technical Report]
- *Part 110: Dialogue principles*
- *Part 129: Guidance on software individualization*
- *Part 151: Guidance on World Wide Web user interfaces*
- *Part 171: Guidance on software accessibility*
- *Part 210: Human-centred design for interactive systems*
- *Part 300: Introduction to electronic visual display requirements*
- *Part 302: Terminology for electronic visual displays*
- *Part 303: Requirements for electronic visual displays*
- *Part 304: User performance test methods for electronic visual displays*
- *Part 305: Optical laboratory test methods for electronic visual displays*
- *Part 306: Field assessment methods for electronic visual displays*
- *Part 307: Analysis and compliance test methods for electronic visual displays*
- *Part 308: Surface-conduction electron-emitter displays (SED)* [Technical Report]
- *Part 309: Organic light-emitting diode (OLED) displays* [Technical Report]
- *Part 310: Visibility, aesthetics and ergonomics of pixel defects* [Technical Report]
- *Part 400: Principles and requirements for physical input devices*
- *Part 410: Design criteria for physical input devices*
- *Part 420: Selection of physical input devices*
- *Part 910: Framework for tactile and haptic interaction*
- *Part 920: Guidance on tactile and haptic interactions*

The following parts are under preparation:

- *Part 143: Form-based dialogues*
- *Part 154: Design guidance for interactive voice response (IVR) applications*

Requirements, analysis and compliance test methods for the reduction of photosensitive seizures and evaluation methods for the design of physical input devices are to form the subjects of future parts 391 and 411.

Introduction

Individualization is used in a wide variety of ways to enhance applications both for users and for branding of the applications themselves. The wide variety of different implementations includes many instances where individualization creates considerable challenges for the users that it ought to be helping. This becomes an even greater challenge when users have to deal with different individualization approaches in each of the several applications that they use.

The purpose of this part of ISO 9241 is to provide guidance on the application of software individualization in order to achieve as high a level of usability as possible. Thus it addresses individualization as the modification of interaction and presentation of information to suit individual capabilities and needs of users. Individualization enables support of a wide range of users, tasks, and contexts of use. It is particularly useful in increasing accessibility (which is discussed in ISO 9241-171).

On the one hand, ISO 9241-110 provides general guidance on individualization, identifying it as one of the seven dialogue principles that are important for the design and evaluation of interactive systems. On the other hand, this part of ISO 9241 provides considerably more detail on the ergonomic use of individualization.

This part of ISO 9241 addresses both user-initiated and system-initiated individualization. It encompasses the concepts of configuration, customization, adaptivity, adaptation, profiling, and internationalization.

It serves the following types of users:

- designers of user-interface development tools and style guides to be used by interface designers;
- user-interface designers, who will apply the guidance during the development process;
- developers, who will apply the guidance during the design and implementation of system functionality;
- system administrators responsible for implementing solutions to meet end-user needs;
- buyers, who will reference this part of ISO 9241 during product procurement;
- evaluators, who are responsible for ensuring that products are in accordance with this part of ISO 9241.

The ultimate beneficiary of this part of ISO 9241 will be the end-user of the software. Although it is unlikely that end-users will read this part of ISO 9241, its application by designers, developers, buyers and evaluators ought to provide user interfaces that are more usable through the use of individualization. This part of ISO 9241 concerns the development of software for user interfaces. However, those involved in designing the hardware aspects of user interfaces may also find it useful when considering the interactions between software and hardware aspects.

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Ergonomics of human-system interaction —

Part 129:

Guidance on software individualization

1 Scope

This part of ISO 9241 provides ergonomics guidance on individualization within interactive systems, including recommendations on

- where individualization might be appropriate or inappropriate, and
- how to apply individualization.

It focuses on individualization of the software user interface to support the needs of users as individuals or as members of a defined group.

It does not recommend specific implementations of individualization mechanisms. It provides guidance on how the various aspects of individualization are made usable and accessible, but does not specify which individualizations are to be included within a system.

NOTE Individualizations depend on the specific context of use for which an interactive system is to be designed and/or used, and need to be developed for that specific context of use.

This part of ISO 9241 is not intended to be used in isolation. It deals only with individualization within the context of designing a complete software system. It is intended to be used with ISO 9241-110 and any other parts in the ISO 9241 series applicable to the design of the intended system.

Some of its guidance can also be applied to hardware user interfaces and user interfaces that combine software and hardware.

2 Normative references

The following referenced documents are indispensable for the application 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, *Ergonomics of human-system interaction — Part 171: Guidance on software accessibility*

ISO/IEC 24786, *Information technology — User interfaces — Accessible user interface for accessibility settings*