

SLOVENSKI STANDARD

SIST EN ISO 14915-1:2003

01-julij-2003

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Software ergonomics for multimedia user interfaces - Part 1: Design principles and framework (ISO 14915-1:2002)

Software-Ergonomie für Multimedia-Benutzungsschnittstellen - Teil 1:
Gestaltungsgrundsätze und Rahmenbedingungen (ISO 14915-1:2002)

Ergonomie des logiciels pour les interfaces utilisateurs multimédias - Partie 1: Principes
et cadre de conception (ISO 14915-1:2002)

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Ta slovenski standard je istoveten z: **EN ISO 14915-1:2002**

ICS:

13.180	Ergonomija	Ergonomics
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 14915-1

November 2002

ICS 13.180; 35.200

English version

**Software ergonomics for multimedia user interfaces - Part 1:
Design principles and framework (ISO 14915-1:2002)**

Ergonomie des logiciels pour les interfaces utilisateurs
multimedias - Partie 1: Principes et cadre de conception
(ISO 14915-1:2002)

Software-Ergonomie für Multimedia-
Benutzungsschnittstellen - Teil 1: Gestaltungsgrundsätze
und Rahmenbedingungen (ISO 14915-1:2002)

This European Standard was approved by CEN on 9 October 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 14915-1:2002 (E)**CORRECTED 2002-12-18****Foreword**

This document (EN ISO 14915-1:2002) 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 May 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 14915-1:2002 has been approved by CEN as EN ISO 14915-1:2002 without any modifications.

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NOTE Normative references to International Standards are listed in Annex ZA (normative).

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Annex ZA (normative)

Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 9241-10	1996	Ergonomic requirements for office work with visual display terminals (VDTs) - Part 10: Dialogue principles	EN ISO 9241-10	1996
ISO 9241-11	1998	Ergonomic requirements for office work with visual display terminals (VDTs) - Part 11: Guidance on usability	EN ISO 9241-11	1998
ISO 13407	1999	Human-centred design processes for interactive systems	EN ISO 13407	1999

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INTERNATIONAL STANDARD

ISO
14915-1

First edition
2002-11-01

Software ergonomics for multimedia user interfaces —

Part 1: Design principles and framework

*Ergonomie des logiciels pour les interfaces utilisateur multimédias —
Partie 1: Principes et cadre de conception*

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ISO 14915-1:2002(E)

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 3.

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 part of ISO 14915 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14915-1 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 14915 consists of the following parts, under the general title *Software ergonomics for multimedia user interfaces*:

- Part 1: Design principles and framework
- Part 2: Multimedia navigation and control
- Part 3: Media selection and combination

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Introduction

The design of user interfaces for multimedia applications typically involves a much wider range of design and evaluation issues than that of conventional user interfaces based only in textual and graphical format. Many different techniques and design options are available. Multimedia user interfaces incorporate, integrate and synchronize different media (static media such as text, graphics, images, and dynamic media such as audio, animation, video or other sensory modalities). Within each medium, further distinctions can be made. Graphics, for instance, can be presented either in two- or three-dimensional representation and audio can be further categorized according to the level of sound quality or with respect to mono, stereo or surround sound.

Ergonomic design enhances the ability of users to operate multimedia applications effectively, efficiently and with satisfaction (see ISO 9241-11). This can be achieved by careful design of multimedia applications with respect to user characteristics, the different tasks they are intended to fulfil (e.g. for work, education or performance support) and the environment in which the system will be used. An ergonomic design of multimedia user interfaces can also improve the safety of operating a system (e.g. delivering an alarm both in visual and auditory media).

The range of media available and the interaction of different media have a variety of perceptual, cognitive and other ergonomic implications for the users. Specific characteristics of multimedia are the potentially high perceptual load, the structural and semantic complexity, or the large volume of information to be conveyed through the system. Multimedia applications are often used for communicative purposes. Manipulation of data or information presented in multimedia applications is also often part of the user's activity.

ISO 14915 provides requirements and recommendations on the ergonomic design of multimedia software-user interfaces. ISO 14915 is not intended to provide detailed guidance for the design using only a single medium. It does not, therefore, describe how to design an effective graphical animation or how to cut a particular video sequence. This part of ISO 14915 addresses design issues related to the user interface of multimedia applications, such as the conceptual structure of the interface, the selection and integration of media, user navigation or the controls used for interacting with the different media. The range of applications addressed includes stand-alone and network-delivered applications of various sizes and degrees of complexity (e.g. from a single web page to a complex catalogue or an interactive simulation).

ISO 14915 consists of the following parts.

a) Part 1: Design principles and framework

Part 1 establishes design principles for multimedia user interfaces and provides a framework for multimedia design. The principles are introduced in order to provide the basis for detailed multimedia-specific recommendations described in the other parts of ISO 14915. General recommendations on the process of designing multimedia user interfaces are given.

b) Part 2: Multimedia navigation and control

Part 2 provides recommendations for media control and navigation in multimedia applications. Media control is mainly concerned with functions for controlling dynamic media such as audio or video. Navigation refers to the conceptual structure of the multimedia application and the user's interactions needed in order to move in that structure. It also includes recommendations for searching multimedia material.

c) Part 3: Media selection and combination

Part 3 provides recommendations for the selection of media with respect to the communication goal or the task, as well as with respect to the information's characteristics. It also provides guidance for combining different media. In addition, it includes recommendations for integrating multimedia components in viewing and reading sequences.