

**Software ergonomics for multimedia user
interfaces - Part 3: Media selection and
combination**

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Part 3: Media selection and combination

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 14915-3:2003 sisaldab Euroopa standardi EN ISO 14915-3:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 14915-3:2003 consists of the English text of the European standard EN ISO 14915-3:2002. This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala:	Scope:

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English version

Software ergonomics for multimedia user interfaces

Part 3: Media selection and combination

(ISO 14915-3 : 2002)

Ergonomie des logiciels pour les interfaces utilisateur multimédias –
Partie 3: Sélection et combinaison
des médias (ISO 14915-3 : 2002)

Software-Ergonomie für Multimedia-
Benutzungsschnittstellen – Teil 3:
Auswahl und Kombination von
Medien (ISO 14915-3 : 2002)

This European Standard was approved by CEN on 2002-10-10.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

Foreword

International Standard

ISO 14915-3 : 2002 Software ergonomics for multimedia user interfaces – Part 3: Media selection and combination,

which was prepared by ISO/TC 159 'Ergonomics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 122 'Ergonomics', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by April 2003 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 14915-3 : 2002 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative.)

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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 format 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 the tasks they are intended to fulfil (e.g. for work, education or performance support), user characteristics and the environment in which the system will be used. Multimedia applications are often used for communicative purposes. An ergonomic design of multimedia user interfaces can also improve the safety of operating a system (e.g. delivering an alarm in both visual and auditory media).

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

This part of ISO 14915 provides guidance on the selection, combination and integration of media. The focus is primarily on presentational aspects of multimedia (i.e. from system to user) as opposed to control and navigation issues, which are addressed in ISO 14915-2. This part of ISO 14915 starts from information requirements, which are stated in logical terms, and addresses the design issues concerning which media combinations to choose for the information requirements. This is followed by guidance on how the user's reading/viewing sequence can be directed by design effects to ensure that the user acquires the desired information. Supplementary design guidance for different media combinations and integration are presented in informative annexes A to D.

1 Scope

This part of ISO 14915 gives recommendations for, and guidance on, the design, selection and combination of interactive user interfaces that integrate and synchronize different media. It addresses user interfaces for applications that incorporate, integrate and synchronize different media. This includes static media such as text, graphics, images; and dynamic media such as audio, animation, video or media related to other sensory modalities. Detailed design issues within a single medium (e.g. the graphical design of an animation sequence) are only addressed as far as they imply ergonomic consequences for the user.

This part of ISO 14915 applies to

- presentational techniques for computer-based multimedia applications in general, including stand-alone and networked applications when the prime goal is to support the user's work task or provision of information,
- the design of the software user interface, and
- training and tutorial multimedia insofar as its recommendations bear on effective delivery of information.

This part of ISO 14915 does not deal with pedagogical design issues for tutorial applications and does not address hardware issues, such as input or output devices. The recommendations in this part do not specifically address applications whose primary purpose is entertainment, such as games. The focus of this part of ISO 14915 is on multimedia presentation issues; multimodal input which uses different media, such as speech, in combination with pointing for entering information is not considered in the recommendations provided.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 14915. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 14915 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 14915-2:—¹⁾ *Software ergonomics for multimedia user interfaces — Part 2: Multimedia navigation and control*

1) To be published.