EESTI STANDARD　　　　**EVS-EN ISO 14915-1:2003**

Software ergonomics for multimeda user interfaces - Part 1: Design principles and framework

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 14915-1:2003 sisaldab Euroopa standardi EN ISO 14915-1:2002 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 14915-1:2003 consists of the English text of the European standard EN ISO 14915-1:2002.

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. |

Käsitlusala:
This part of ISO 14915 establishes design principles for multimedia user interfaces and provides a framework for handling the different considerations involved in their design. It addresses user interfaces for applications that incorporate, integrate and synchronize different media	**Scope:**
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Võtmesõnad:

EUROPEAN STANDARD
NORME EUROPÉENNE
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EN ISO 14915-1

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English version

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

Ergonomie des logiciels pour les
interfaces utilisateur multimédias –
Partie 1: Principes et cadre de con-
ception (ISO 14915-1 : 2002)

Software-Ergonomie für Multimedia-
Benutzungsschnittstellen – Teil 1:
Gestaltungsgrundsätze und Rahmen-
bedingungen (ISO 14915-1 : 2002

This European Standard was approved by CEN on 2002-10-09.

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 stand-
ards 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, Switzer-
land, 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

Ref. No. EN ISO 14915-1 : 2002 E

Foreword

International Standard

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

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 May 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 14915-1 : 2002 was approved by CEN as a European Standard without any modification.

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

Contents

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.

1 Scope

This part of ISO 14915 establishes design principles for multimedia user interfaces and provides a framework for handling the different considerations involved in their design. It addresses user interfaces for applications that incorporate, integrate and synchronize different media. This includes static media such as text, graphics, or 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 gives requirements and recommendations for the ergonomic design of multimedia applications mainly intended for professional and vocational activities such as work or learning. It does not specifically address applications outside this area such as entertainment, although some recommendations can also be applicable in such domains.

This part of ISO 14915 is applicable to software aspects related to multimedia user interfaces and does not address hardware or implementation issues. The ergonomic requirements and recommendations described in this part of ISO 14915 can be realized through very different techniques, e.g. the delivery system, a scripting language, or the application.

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 9241-10:1996, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 10: Dialogue principles*

ISO 9241-11:1998, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 11: Guidance on usability*

ISO 13407:1999, *Human-centred design processes for interactive systems*

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

ISO 14915-3:—[2], *Software ergonomics for multimedia user interfaces — Part 3: Media selection and combination*

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[1] To be published.

[2] To be published.