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2001-03-01

Ergonomic requirements for office work with visual display terminals (VDTs) —

Part 1: General introduction

AMENDMENT 1

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*Exigences ergonomiques pour travail de bureau avec terminaux à écrans
de visualisation (TEV) —*

ISO 9241-1:1997/Amd 1:2001

Partie 1: Introduction générale

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AMENDEMENT 1-1-1997-amd-1-2001



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

Amendment 1 to International Standard ISO 9241-1:1997 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

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Introduction

ISO 9241 covers both the hardware and software ergonomic aspects of the use of visual display terminals. The individual parts of ISO 9241, their interrelationships, and the expected users of the parts are described in the main body of ISO 9241-1.

This Amendment deals particularly with the software parts of ISO 9241, i.e. ISO 9241-10 to ISO 9241-17. These parts are concerned with the ergonomic design of software user interfaces.

The goal of this Amendment (complementing ISO 9241-1) is to help readers of ISO 9241-10 to ISO 9241-17 in

- gaining an overview on the content of ISO 9241-10 to ISO 9241-17,
- understanding the relationship between the individual software parts of ISO 9241,
- providing guidance on the relevance of individual parts to the development process, i.e. understanding where and when to use the software parts of ISO 9241,
- understanding how to select and combine dialogue techniques which are described in ISO 9241-14 to ISO 9241-17.

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The ultimate beneficiary of ISO 9241-10 to ISO 9241-17 will be the end user at the VDT. It was the needs of these users that provided the ergonomic recommendations in ISO 9241-10 to ISO 9241-17. Although it is unlikely that the end user will read ISO 9241 or even know of its existence, its application should provide user interfaces that are more usable, consistent and that enable greater productivity.

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Ergonomic requirements for office work with visual display terminals (VDTs) —

Part 1: General introduction

AMENDMENT 1

1 Scope

Page ii

Replace the Contents with the following text.

Contents

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Foreword.....	iii
Introduction.....	iv
1 Scope	1
2 Normative reference	1
3 Definitions	1
4 General introduction to ISO 9241	2
4.1 Purpose and intended users	2
4.2 Product specifications, technological change and the user-performance approach	2
5 Structure of ISO 9241	2
6 Guidance on use of ISO 9241	4
7 Reporting conformance to parts of ISO 9241	6
Annex A (informative) Description and application of software parts in ISO 9241-10 to ISO 9241-17	7
Bibliography	17

Page 5

At the end of clause 6, add the following paragraph.

Annex A provides guidance on the use of ISO 9241-10 to ISO 9241-17 in the development of software applications, and on the selection and combination of the dialogue techniques covered in ISO 9241-14 to ISO 9241-17.

Page 7

Delete “Annex A (informative)” and transfer the bibliography to the page after the new annex A.

Page 7

Add the following new annex A.

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Annex A (informative)

Description and application of software parts (in ISO 9241-10 to ISO 9241-17)

A.1 Structure of ISO 9241-10 to ISO 9241-17

A.1.1 Introduction

ISO 9241-10 to ISO 9241-17 cover software ergonomics issues such as:

- principles for human-computer dialogues (ISO 9241-10);
- the relevance of the context of use (users, tasks, environment) and the definition of usability in terms of effectiveness, efficiency and satisfaction (ISO 9241-11);
- characteristics of presented information and recommendations for the presentation of information (ISO 9241-12);
- recommendations for user guidance; these apply to all dialogue techniques (ISO 9241-13);
- recommendations for the usage of dialogue techniques (ISO 9241-14 to ISO 9241-17).

The specification or design of human-computer dialogues should be driven by an understanding of the requirements of the users, their tasks, the environment and the available technology. There are usually several options and the final choice may be influenced by the desire for consistency (e.g. with existing organizational practices or across a range of systems). Decisions about the overall suitability of human-computer dialogues can be assisted by reference to standards containing general principles of dialogue design i.e. ISO 9241-10. Specific recommendations for dialogue design are addressed in ISO 9241-14 to ISO 9241-17.

A.1.2 Relationship between ISO 9241-10 to ISO 9241-17

Figure A.1 illustrates the structure of ISO 9241-10 to ISO 9241-17, reflecting the nature of the individual parts in terms of principles and recommendations.

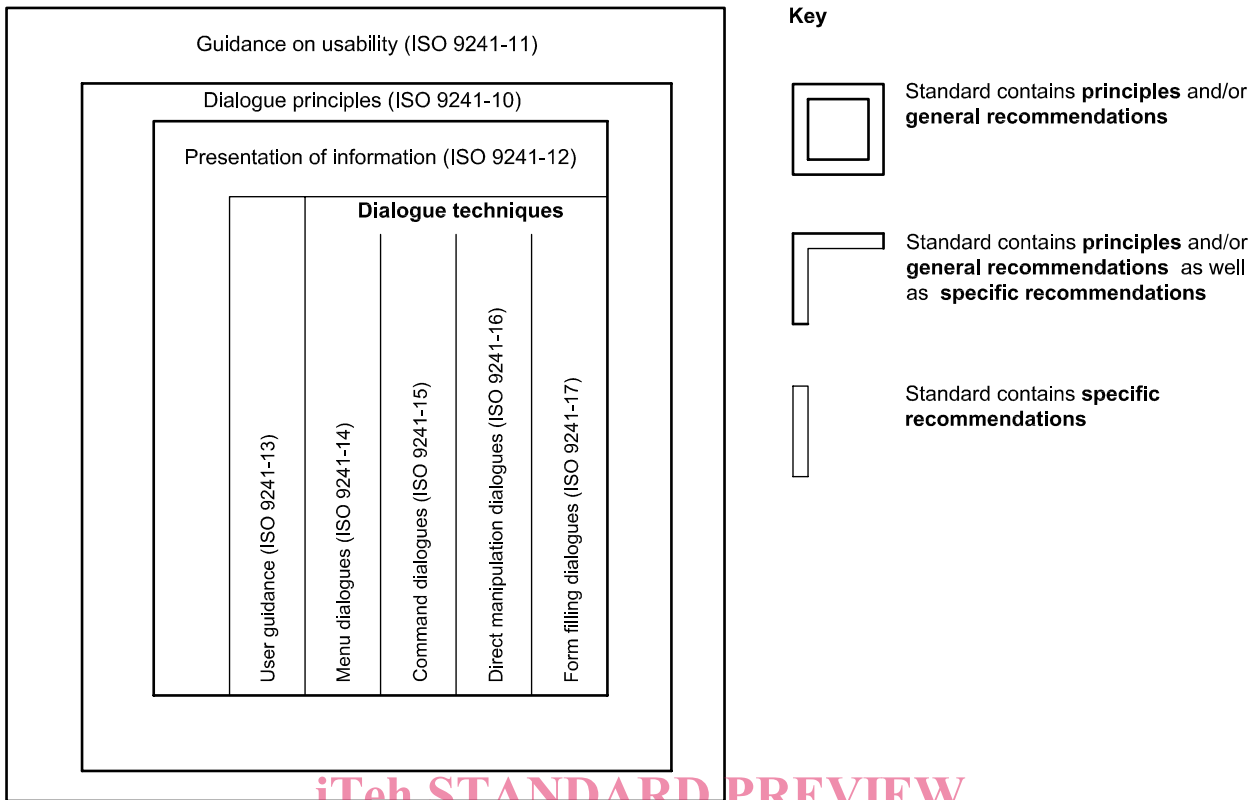


Figure A.1 — Relationship of the software parts of ISO 9241

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ISO 9241-1:1997/Amd 1:2001

A.1.3 ISO 9241-10 “Dialogue principles”

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The purpose of ISO 9241-10 is to present high-level ergonomic principles that apply to the design of dialogues between humans and information systems. ISO 9241-10 provides seven principles of good practice for the design of the dialogue between the user and the interface software.

These seven principles are:

- suitability for the task;
- self-descriptiveness;
- controllability;
- conformity with user expectations;
- error tolerance;
- suitability for individualization;
- suitability for learning.

The principles given in ISO 9241-10 form the basis for understanding any specific software-ergonomic recommendation given in other parts of ISO 9241. These principles do not permit strict compliance checking, although it may be possible to evaluate whether these principles have been generally applied.

A.1.4 ISO 9241-11 “Guidance on usability”

ISO 9241-11 introduces the concept of usability, but does not contain specific recommendations in terms of product attributes. It is concerned with the extent to which the users of products are able to achieve specified goals effectively, efficiently and with satisfaction in a given context of use (users, tasks and environment). This framework can be used as part of an ergonomics requirements specification. It includes descriptions of the context of use, the evaluation procedures to be carried out and the criterion measures to be satisfied when the usability of the system is to be evaluated.

A.1.5 Structure within ISO 9241-12 to ISO 9241-17

A.1.5.1 Structural organization

The following structure applies to each of these ISO 9241 parts.

- Foreword
- Introduction
- Scope
- Normative references
- Definitions
- Application clause
- Recommendations
- Annexes

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A.1.5.2 Application clause

Within the application clause of ISO 9241-12 to ISO 9241-17 the appropriateness of the specific part is explained in terms of

- user and organizational characteristics,
- task characteristics,
- system capabilities.

NOTE More details are provided on these characteristics in A.3.2.

The application clause also explains how the recommendations given in the standard should be applied. Each recommendation should be evaluated for its applicability and, if judged to be applicable, should be implemented in the relevant dialogue technique unless there is evidence that to do so would cause deviation from the design objectives or would result in an overall degradation in usability.

Furthermore, each part of ISO 9241-12 to ISO 9241-17 states: “if a product is claimed to have met the applicable recommendations in this part of ISO 9241, the procedure used in establishing requirements for, developing, and/or evaluating the [...] shall be specified. The level of specification of the procedure is a matter of negotiation between the involved parties”.