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Ergonomic requirements for office work with visual display terminals (VDTs) – Part 13: User guidance (ISO 9241-13:1998)

The European Standard EN ISO 9241-13:1998 has the status of a Swedish Standard. This document contains the official English version of EN ISO 9241-13: 1998.

Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

Ergonomiska krav på kontorsarbete med bildskärmar (VDTs) – Del 13: Vägledning för användare (ISO 9241-13:1998)

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English version

**Ergonomic requirements for office work with visual
display terminals (VDTs) – Part 13: User guidance
(ISO 9241-13:1998)**

Exigences ergonomiques pour travail de
bureau avec terminaux à écrans de
visualisation (TEV) – Partie 13: Guide général
pour l'utilisateur (ISO 9241-13:1998)

Ergonomische Anforderungen für
Bürotätigkeiten mit Bildschirmgeräten – Teil
13: Benutzerführung (ISO 9241-13:1998)

This European Standard was approved by CEN on 30 May 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CEN

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Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

The text of the International Standard ISO 9241-13:1998 has been prepared by Technical Committee ISO/TC 159 "Ergonomics" in collaboration with CEN/CS.

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 January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

NOTE FROM CEN/CS: The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 9241-13:1998 was approved by CEN as a European Standard without any modification.

Introduction

This part of ISO 9241 deals with user guidance aspects of software user interfaces.

The main purpose of user guidance is to aid the user's interaction with the system by

- promoting efficient system use;
- avoiding unnecessary mental workload;
- providing support to users to manage error situations; and
- providing support for users of different skill levels.

This part of ISO 9241 serves the following types of users:

- the designer of the user guidance, who will apply this part of ISO 9241 during the development process;
- designers of user guidance development tools to be used by dialogue designers;
- the buyer, who will reference this part of ISO 9241 during the product procurement process, and whose end-users will gain from the potential benefits provided by this part; and
- those responsible for ensuring that products meet the recommendations in this part of ISO 9241.

The ultimate beneficiary of this part of ISO 9241 will be the end-user at the visual display terminal (VDT). It was the needs of this user that provided the ergonomic recommendations in this part of ISO 9241. Although it is unlikely that the end-user will read this part or even know of its existence, its application should provide user interfaces that are more usable, consistent and that enable greater productivity.

Application of this part of ISO 9241 involves an understanding of the intended user, the user environment and tasks. User tasks should be listed and key tasks, defined as the most frequent and important tasks, should be explicitly identified.

Recommendations on how to use this part of ISO 9241 can be found in Informative Annex A.

For practical reasons, the following structure has been chosen for presenting the user guidance recommendations:

- common guidance recommendations (see clause 5),
- prompts (see clause 6),
- feedback (see clause 7),
- status information (see clause 8),
- error management (see clause 9),
- on-line help (see clause 10).

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

Part 13: User guidance

1 Scope

This part of ISO 9241 provides recommendations for user guidance attributes of software user interfaces and their evaluation. User guidance as defined in this part of ISO 9241 is information additional to the regular user-computer-dialogue that is provided to the user on request or is automatically provided by the system. In addition to the general guidance provided in this part of ISO 9241, recommendations concerning dialogue-specific user guidance are provided in ISO 9241-12, ISO 9241-14, ISO 9241-15, ISO 9241-16 and ISO 9241-17.

This part of ISO 9241 is applicable to interaction components that aid users in recovering from error conditions. User guidance as covered by this part of ISO 9241 includes recommendations specific to prompts, feedback and status, error management and on-line help as well as general recommendations common to all these types of user guidance.

While user support can be provided via other means (e.g., on-line tutorials, on-line documentation, intelligent system performance aids) these types of support are not addressed by this part of ISO 9241-13.

The recommendations in this part of ISO 9241 are formulated to be independent of applications, environment, or implementation technology. They correspond to typical situations involving special needs for information and actions.

As with other parts of ISO 9241, this part of ISO 9241 can apply in all or in part. For example, applications that do not have browsable help would not need to follow recommendations concerning this class of user guidance.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9241. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9241 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9241-12:—¹⁾, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 12: Presentation of information.*

ISO 9241-14:1997, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 14: Menu dialogues.*

ISO 9241-15:1997, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 15: Command Dialogues.*

ISO 9241-16:—¹⁾, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 16: Direct manipulation dialogues.*

ISO 9241-17:—¹⁾, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 17: Form filling dialogues.*

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3 Definitions

For the purposes of this part of ISO 9241, the following definitions apply.

3.1 browsable help: Help in which access to help is independent of the current task context. Help topics can be accessed in the order and sequence desired by the user.

3.2 context-sensitive help: Help in which the help text or range of help topics is derived from the contextual information associated with the user's task, user's last input, selected object, current location or the current mode within the system or application.

3.3 error: Mismatch between the user's goal and the response of the system. Errors can include navigation errors, syntax errors, conceptual errors, etc.

3.4 error management: Means to support the user in error detection, error explanation, or error recovery.

3.5 error prevention: Means to minimize the probability of the occurrence of errors.

3.6 feedback: Output presented to the user by the system in reaction to the user's input or a system event.

3.7 guidance: Dialogue elements that aid the users in achieving their intended results. Guidance can aid users in discovering the capabilities of a system, enable the users to generate a plan for accomplishing their goals, assist the users in accomplishing a goal, or help the users to manage error situations.

3.8 on-line help: Additional user guidance information beyond prompting, feedback, status, and error messages that can be obtained at the user's initiative or at the initiative of the system. Information about features of the system and dialogue and how they can be used to aid the user in completion of his/her task(s) is typically provided.

3.9 prompt: System output requesting input from the user.

3.10 status information: Information indicating the current state of the system.

3.11 system-initiated guidance: Guidance that is presented to the user by the system when the user has not taken an explicit action to request the guidance.

NOTE System-initiated guidance includes, for example, prompts, feedback, status information, etc.

3.12 user guidance: Additional information beyond the regular user-computer dialogue that is provided to the user on request or is automatically provided by the system.

3.13 user-initiated guidance: Guidance that is presented to the user only when the user has taken an explicit action to request the guidance.

4 Application of this part of ISO 9241

4.1 Appropriateness of user guidance

User guidance is appropriate to all styles of interaction, types of dialogues and contexts, to help users in accomplishing their tasks.

4.2 Applying the recommendations

General ergonomic design objectives are provided in Clauses 5 to 10. The individual recommendations aimed at achieving these objectives should be applied within the specific context for which they are relevant (e.g., particular kinds of users, tasks, environments, technology). The format for the individual recommendations is: statement of the recommendation, example (if appropriate), and notes (if appropriate). Examples provided for the various recommendations generally depict an implementation that embodies the recommendation. Some examples also indicate preferred solutions.

Individual recommendations should be evaluated for their applicability and, if judged to be applicable, should be implemented in the relevant user guidance unless there is evidence that to do so would cause deviation from the design objectives or would result in an overall degradation in usability. When determining applicability, the recommendations generally should be evaluated in the order presented in the relevant clause or subclause. In judging whether applicable recommendations have been met, evaluators should evaluate the product or observe representative users of the product in the context of accomplishing the user's tasks via the user guidance. Sample procedures which support the determination of applicability and for determining whether a recommendation has been followed are provided in Annex A.

4.3 Evaluation of products

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 user guidance shall be specified. The level of specification of the procedure is a matter of negotiation between the involved parties.

Users of this part of ISO 9241 can either utilize the procedures provided in Annex A, or develop another procedure tailored to their particular development and/or evaluation environment.

5 Common guidance recommendations

5.1 Description

This clause addresses general recommendations that are applicable to user guidance (i.e., prompts, feedback, status, error management, on-line help).

5.2 General recommendations

5.2.1 User guidance information should be readily distinguishable from other displayed information. (For recommendations concerning the presentation of visual information using graphical objects and coding techniques, see ISO 9241-17:—²), Clauses 6 and 7).

EXAMPLE: When a user requests guidance, a separate dialogue box appears which has a different background colour.

5.2.2 If system-initiated user guidance messages are no longer applicable to the current system state or user actions, the information should be removed from the display.

5.2.3 User-initiated guidance should stay under the control of the user.

5.2.4 User guidance messages should provide the user with specific information relative to the task context rather than generic messages.

EXAMPLE: Days must be in the range from 1 to 31
instead of
Invalid data.

5.2.5 User guidance should not disrupt the user's task and the continuation of the dialogue.

2) To be published.

5.2.6 Distinctive message or coding techniques should be consistently used to alert users to conditions that require special attention.

5.2.7 Users should be able to specify the level of guidance they want if interaction with the system varies on the basis of user expertise.

5.3 Phrasing of user guidance

5.3.1 The result of an action should be stated before describing how to execute the action.

EXAMPLE: To clear the screen, press RETURN.

instead of

Press RETURN to clear the screen.

5.3.2 User guidance messages should be phrased to enhance the perception of user control rather than system control of the task.

EXAMPLE: To save your changes, press OK.

instead of

The system will only save your changes, if you press [OK].

5.3.3 In general, user guidance messages should be worded as positive statements to emphasize 'what to do' rather than 'what to avoid'. However, negating statements should be used for denoting exceptions to rules or to emphasize a point.

EXAMPLE: To remove characters to the left of the cursor use the 'backspace key', not the 'delete key'.

EXAMPLE: Do not use the tape drive when the backup program is running

instead of

Data can be stored on the disk or tape drive except when the backup program is active.

5.3.4 User guidance should be phrased using consistent grammatical construction.

EXAMPLE:

The available options are:

display file

print file

delete file

instead of

The available options are:

display file

file print

deletion of a file

5.3.5 If user guidance contains written or spoken text, it should be stated in short, simple sentences.

5.3.6 User guidance should be stated in the active voice unless it conflicts with the users' national language.

5.3.7 User guidance should use terminology that the user population typically uses to perform its tasks.

NOTE: Use of user terminology avoids the use of designer terminology which may not be appropriate for the task.

5.3.8 User guidance messages should be worded using terms which are emotionally neutral, such that

- they are not patronizing to the user,
- human characteristics are not inappropriately implied, and
- they do not contain inappropriate attempts at humour.

6 Prompts

6.1 Description

Prompts indicate that the system is available for input. Prompts can be generic or specific. Generic prompts indicate that the system is waiting for user input, but do not explicitly indicate the type of input expected (e.g. DOS ">", the UNIX command prompt "\$"). Specific prompts indicate that the system is waiting for user input as well as direct the user to the type of input that is valid at this point in the dialogue (e.g. Type the name of the file to be loaded:).

6.2 Prompting recommendations

Many of the recommendations for prompts are equally applicable to 'labels' as they appear in form filling dialogues. For more information, see ISO 9241-17:—³, 5.3.

6.2.1 Prompts should indicate implicitly (generic prompt) or explicitly (specific prompt) the types of input that will be accepted by the dialogue system.

6.2.2 Specific prompts should be displayed under the following conditions. As more conditions are met, the greater the applicability of specific prompts.

- a) Users are unfamiliar with the system and will need information on how to proceed.
- b) There is a limited set of valid inputs.
- c) Task requirements (e.g. complicated task, task requires sequenced steps, or need to minimize errors) suggest that user inputs should be guided.

6.2.3 Generic prompts should be displayed under the following conditions. As more conditions are met, the greater the applicability of generic prompts.

- a) Conditions for specific prompts are not applicable.
- b) There are many valid user inputs and there is insufficient display space to provide information on all alternatives.

NOTE When generic prompts are used, it is important to take into account different types of users (i.e., those who are familiar with prompts and those who are not).

6.2.4 The user should be able to obtain on-line help related to prompts that are complex or that the user does not understand.

6.2.5 If a task requires a particular sequence of user actions, prompting for the currently required step should be provided. (See also ISO 9241-12:—³, 6.2.5.)

6.2.6 Prompts for data/command entry should be displayed in a standard location next to the entry field.

EXAMPLE: In languages that are written from left to right, the prompt is presented to the left of the entry field.

6.2.7 If a default value has been defined for user-prompted input, that value should be visually indicated. (See also ISO 9241-17:—³, Clause 6.1.3.)

EXAMPLE: How many windows should be visible at login? **2**

6.2.8 Prompts should provide cues for the type of data to be entered by formatting data entry fields consistently and distinctively. (See also ISO 9241-17:—³, 5.3.7.)

EXAMPLE: Enter the current date: __/__/__

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