
**Systems and software engineering —
Requirements for designers and
developers of user documentation**

*Ingénierie du logiciel et des systèmes — Exigences pour les
concepteurs et les développeurs de la documentation de l'utilisateur*

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 26514 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

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Introduction

Anyone who uses application software needs accurate information about how the software will help the user accomplish a task. The documentation may be the first tangible item that the user sees and therefore influences the user's first impressions of the software product. If the information is supplied in a convenient form and is easy to find and understand, the user can quickly become proficient at using the product. Hence, well-designed documentation not only assists the user and helps to reduce the cost of training and support, but also enhances the reputation of the product, its producer, and its suppliers.

Although software developers aim to design user interfaces that behave so intuitively that very little separate documentation is needed, this is rarely possible. Today's software offers increasingly robust functionality, not only within applications, but also across applications that intelligently exchange information with one another. Further, most software designs include underlying rules and calculations, or algorithms, that affect the results a user can obtain when using the software. Such underlying programming mechanics are discernable by users, but only through laborious testing. For these reasons and more, user documentation remains an essential component of usable software products.

Documentation is often regarded as something done after the software has been implemented. However, for high-quality software documentation, its development should be regarded as an integral part of the software life cycle process. If done properly, documentation or information management is a big enough job to require process planning in its own right.

This International Standard was developed to assist users of ISO/IEC 15288:2008, *Systems and software engineering — System life cycle processes*, or ISO/IEC 12207:2008, *Systems and software engineering — Software life cycle processes*, to design and develop documentation as part of the software life cycle processes. It defines the documentation process from the documentation developer's standpoint.

NOTE Other International Standards in the ISO/IEC 26514 family are in preparation or planned to address the documentation and information management processes from the viewpoints of managers, assessors and testers, and acquirers and suppliers.

In addition to defining a standard process, this International Standard also covers the documentation product. This International Standard specifies the structure, content, and format for documentation, and also provides informative guidance for user documentation style.

Earlier standards tended to view the results of the documentation process as a single book or multivolume set: a one-time deliverable. Increasingly, documentation designers recognize that most user documentation is now produced from managed re-use of previously developed information (single-source documentation), adapted for new software versions or presentation in various on-screen and printed media. While this International Standard does not describe how to set up a content management system (CMS), it is applicable for documentation organizations practicing single-source documentation.

This International Standard is independent of the software tools that may be used to produce documentation, and applies to both printed documentation and on-screen documentation. Much of its guidance is applicable to user documentation for systems including hardware as well as software user documentation.

This International Standard conforms to ISO/IEC 12207:2008 as an implementation of subclause 7.2.1, Software Documentation Management Process, for software user documentation. This International Standard may be used as a conformance or a guidance document for documentation products, projects, and organizations claiming conformance to ISO/IEC 15288:2008 or to ISO/IEC 12207:2008.

The primary sources for this International Standard are previous standards IEEE Std 1063-2001, *IEEE standard for software user documentation*, and ISO/IEC 18019:2004, *Software and system engineering — Guidelines for the design and preparation of user documentation for application software*.

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Systems and software engineering — Requirements for designers and developers of user documentation

1 Scope

This clause presents the scope, purpose, organization, and candidate uses of this International Standard.

This International Standard supports the interest of software users in consistent, complete, accurate, and usable documentation. It includes both approaches to standardization: a) process standards, which specify the way in which documentation products are to be developed; and b) documentation product standards, which specify the characteristics and functional requirements of the documentation.

The first part of this International Standard covers the user documentation process for designers and developers of documentation. It describes how to establish what information users need, how to determine the way in which that information should be presented to the users, and how to prepare the information and make it available. It is not limited to the design and development phase of the life cycle, but includes activities throughout the information management and documentation processes.

The second part of this International Standard provides minimum requirements for the structure, information content, and format of user documentation, including both printed and on-screen documents used in the work environment by users of systems containing software. It applies to printed user manuals, online help, tutorials, and user reference documentation.

This International Standard neither encourages nor discourages the use of either printed or electronic (on-screen) media for documentation, or of particular documentation development or management tools or methodologies.

This International Standard may be helpful for developing the following types of documentation, although it does not cover all aspects of them:

- documentation of products other than software;
- multimedia systems using animation, video, and sound;
- computer-based training (CBT) packages and specialized course materials intended primarily for use in formal training programs;
- documentation produced for installers, computer operators, or system administrators who are not end users;
- maintenance documentation describing the internal operation of systems software;
- documentation incorporated into the user interface itself.

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This International Standard is applicable to documentation designers and developers, including a variety of specialists:

- information designers and architects who plan the structure and format of documentation products in a documentation set;
- usability specialists and business analysts who identify the tasks that the intended users will perform with the software;
- those who develop and edit the written content for user documentation;
- graphic designers with expertise in electronic media;
- user interface designers and ergonomics experts working together to design the presentation of the documentation on the screen.

This International Standard may also be consulted by those with other roles and interests in the documentation process:

- managers of the software development process or the documentation process;
- acquirers of documentation prepared by suppliers;
- usability testers, documentation reviewers, subject-matter experts;
- developers of tools for creating on-screen documentation;
- human-factors experts who identify principles for making documentation more accessible and easily used.

This International Standard is intended for use in all types of organizations, whether or not a dedicated documentation department is present, and may be used as a basis for local standards and procedures. Readers are assumed to have experience or knowledge of software development or documentation development processes.

Users of this International Standard should adopt a style manual for use within their own organizations to complement the guidance provided in the annexes to this International Standard, or adopt an industry-recognized style guide. Annex A provides guidance for the content of a style guide, and Annexes B and C provide guidance on style.

The order of clauses in this International Standard does not imply that the documentation should be developed in this order or presented to the user in this order.

In each clause, the requirements are media-independent, as far as possible. Requirements specific to either print or electronic media are identified as such, particularly in Clause 12. Annex D provides guidance for the design of printed documentation.

The checklists in Annex E may be used at each phase of the documentation process to check that the appropriate steps have been carried out and that the finished documentation satisfies quality criteria.

The checklists in Annexes F and G may be used to track conformance with the requirements of this International Standard for documentation processes and products.

The bibliography lists works that provide guidance on the processes of managing, preparing, and testing user documentation.

2 Conformance

This International Standard may be used as a conformance or a guidance document for projects and organizations claiming conformance to ISO/IEC 15288:2008 or ISO/IEC 12207:2008.

2.1 Application of conformance

Whether the organization or project has tailored the selected software life cycle processes or adopted them in full, the organization or project may claim conformance to this International Standard for its documentation process, for the documentation, or for both.

This International Standard is meant to be tailored so that only necessary and cost-effective requirements are applied to documentation. Tailoring may take the form of specifying approaches to conform to its mandatory requirements, or altering its non-mandatory recommendations and approaches to reflect the particular software and documentation product more explicitly. Tailoring decisions made by the acquirer should be specified in the contract.

Throughout this International Standard, “shall” is used to express a provision that is binding, “should” to express a recommendation among other possibilities, and “may” to indicate a course of action permissible within the limits of this International Standard. When using this International Standard as a guide, replace the term “shall” with “should”. Use of the nomenclature of this International Standard for the parts of user documentation (that is, chapters, topics, pages, screens, windows) is not required to claim conformance.

NOTE All “shall” statements are listed in Annex F and Annex G.

2.2 Conformance situations

Conformance of user documentation may be interpreted differently for various situations. The relevant situation shall be identified in the claim of conformance:

- 1) When conformance is claimed for an organization, the organization shall make public a document declaring its tailoring of the life cycle process.

NOTE 1 One possible way for an organization to deal with clauses that cite “the documentation plan” is to specify that they shall be interpreted in the project plans for any particular documentation project.

- 2) When conformance is claimed for a project, the project plans or the contract shall document the tailoring of the documentation requirements.

NOTE 2 A project’s claim of conformance is typically specified with respect to the organization’s claim of conformance.

- 3) When conformance is claimed for a multi-supplier program, it may be the case that no individual project may claim conformance because no single contract calls for all the required activities. Nevertheless, the program, as a whole, may claim conformance if each of the required activities is produced by an identified party. The program plans shall document the tailoring of the required tasks, and their assignment to the various parties, as well as the interpretation of clauses of this International Standard that reference “the contract”.
- 4) When conformance is claimed for documentation products, the organization or project should specify whether conformance applies to a single document, a documentation set, or all user documentation produced through the organization's content management processes.

This International Standard may be included or referenced in contracts or similar agreements when the parties (called the acquirer and the producer or supplier) agree that the supplier will deliver documentation in accordance with this International Standard. It may also be adopted as an in-house standard by a project or organization that decides to produce documentation in accordance with this International Standard.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 12207:2008, *Systems and software engineering — Software life cycle processes*

ISO/IEC 15288:2008, *Systems and software engineering — System life cycle processes*

IEEE Std 100-2000, *The Authoritative Dictionary of IEEE Standards Terms*, Seventh Edition

4 Terms and definitions

For the purposes of this document, the terms and definitions given in IEEE Std 100-2000 and the following apply.

NOTE Throughout this International Standard, the term “documentation” refers to software user documentation. Use of the terminology in this International Standard is for ease of reference and is not mandatory for conformance with this International Standard.

4.1 accessibility

usability of a software or documentation product, service, environment, or facility by people with the widest range of capabilities

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NOTE 1 Adapted from ISO 9241-171. (standards.iteh.ai)

NOTE 2 Although “accessibility” typically addresses users who have disabilities, the concept is not limited to disability issues.

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4.2 action

element of a step that a user performs during a procedure

4.3 active area

<on-screen documentation> area that responds to user input

NOTE A hot-spot on a graphic and a link in text are examples of active areas.

4.4 analysis

investigation and collection phase of development that aims to specify types of users and their informational needs

4.5 application software

software designed to help users perform particular tasks or handle particular types of problems, as distinct from software that controls the computer itself

cf. **software**

4.6 audience

category of users sharing the same or similar characteristics and needs (for example, reason for using the documentation, tasks, education level, abilities, training, experience)

NOTE There may be different audiences for documentation (for example, management, data entry, maintenance) that determine the content, structure, and use of the intended documentation.

4.7**caution**

advisory information in documentation that states that performing some action may lead to consequences that are unwanted or undefined, such as loss of data or an equipment problem

cf. **warning**

4.8**change control procedure**

actions taken to identify, document, review, and authorize changes to a software or documentation product that is being developed

NOTE The procedures ensure that the validity of changes is confirmed, that the effects on other items are examined, and that those people concerned with the development are notified of the changes.

4.9**configuration management****CM**

technical and organizational activities comprising configuration identification, control, status accounting, and auditing

NOTE See ISO 10007:2003, *Quality management systems — Guidelines for configuration management*.

4.10**context-sensitive help**

type of on-screen documentation in which the information that is displayed depends upon the user's view of the software

cf. **embedded documentation, printed documentation**

4.11**critical information** [https://standards.iteh.ai/catalog/standards/sist/a55f7cf0-5f31-4941-885d-](https://standards.iteh.ai/catalog/standards/sist/a55f7cf0-5f31-4941-885d-38133d7989d4/iso-iec-26514-2008)

information describing the safe use of the software, the security of the information created with the software, or the protection of the sensitive personal information created by or stored with the software

4.12**customization**

adaptation of a software or documentation product to the needs of a particular audience

4.13**design**

stage of documentation development that is concerned with determining what documentation will be provided in a product and what the nature of the documentation will be

4.14**development**

activity of preparing documentation after it has been designed

4.15**document**

separately identified piece of documentation which could be part of a documentation set

4.16**documentation**

information that explains how to use a software product

NOTE 1 It can be provided as separate documentation or as embedded documentation or both.