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Systems and software engineering — Requirements for managers of information for users of systems, software, and services

Ingénierie des systèmes et du logiciel — Exigences pour les gestionnaires de l'information pour les utilisateur de systèmes, logiciels, et services

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Foreword

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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 a standard requires approval by at least 75 % of the national bodies casting a vote.

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*, in cooperation with the Software & Systems Engineering Standards Committee of the IEEE Computer Society of the IEEE, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This second edition of ISO/IEC/IEEE 26511 cancels and replaces ISO/IEC/IEEE 26511:2011, which has been technically revised. The main changes compared to the previous edition are as follows:

— increased emphasis on strategic planning to develop a comprehensive content strategy;

— introduction of comprehensive information for managing the translation and localization process;

— comprehensive requirements for conducting a user needs assessment;

— comprehensive requirements for managing an ongoing project;

— focused information on customer quality and project productivity and efficiency measurements; and

— information on process maturity.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Effective management of information for users makes information for users usable, accurate, and delivered when needed by the users. Information managed effectively is produced efficiently and maintained in response to software and system updates and changing user requirements. This document addresses the management of information for users in terms of the overall strategic direction of the information, its initial development, and its subsequent updates.

The role of the information-development manager is comprehensive. The manager is responsible for strategic planning, project planning, project management, staff development and assessment, translation, production and delivery, and quality and productivity measurements. The manager may delegate some or all of these responsibilities to well-qualified staff members.

Information development takes place in organizations of all types, including government entities, corporations, and non-profit organizations.

Effective, well-designed, appropriately delivered information for users increases the return on investment for the development of a software or systems product. It helps to reduce the cost of training and support, enabling the users to decrease the time required to productively use a product. As such, it enhances the reputation of the product, its producer, and its suppliers.

The development of effective information for users should be regarded as an integral part of the software and systems lifecycle processes from the planning and design stages onwards.

This document was developed to assist users of ISO/IEC/IEEE 15288:2015, *Systems and software engineering — System life cycle processes* or ISO/IEC/IEEE 12207:2017, *Systems and software engineering — Software life cycle processes* to manage information for users as part of the Information Management process. This document defines the information-management process from the information-development manager's point of view. It was developed to assist those who provide input to, perform, and evaluate information-development.

NOTE Other documents in the ISO/IEC 265NN family address the documentation and information management processes from the viewpoint of information designers and developers, testers and reviewers, and acquirers and suppliers.

Beyond the development and production of user manuals, help systems, or sets of information for a single software product, it applies to a broader range of information management opportunities, including information for those who install, implement, administer, and operate software, services, and systems for end users. Frequently, information-development managers are responsible for the development and reuse of information (content management) for the following:

— updates of user information as the software or system is updated;

— reuse or adaptations of information to support related products;

— multiple translated or localized versions of information for users; and

— a portfolio of unrelated information-development projects being managed concurrently within an organization.

This document is not intended to advocate the use of either printed or electronic media for information for users or any particular information management, content management, information testing, or project management tools or protocols.

Systems and software engineering — Requirements for managers of information for users of systems, software, and services

1 Scope

This document supports the needs of users for consistent, complete, accurate, and usable information. It provides requirements for strategy, planning, managing, staffing, translation, production, and quality and process-maturity assessment for managers of information for users. It specifies processes and procedures for managing information for users throughout the product- or systems-development life cycle. It also includes requirements for key documents produced for managing information for users, including strategic and project plans.

This document provides an overview of the information-management processes that are specific for the management of information for users. It addresses the following activities:

— developing a comprehensive strategy for information development;

— assessing user information needs;

— planning and managing an information-development project;

— staffing and forming information-development teams;

— reviewing and testing information for users;

— managing the translation process;

— publishing and delivering information for users;

— evaluating customer satisfaction and information quality;

— measuring productivity, efficiency, and costs; and

— evaluating organizational maturity.

The guidance in this document applies to multiple project management approaches, including both agile and traditional practices. Traditional practices can encompass predictive, waterfall, or other top-down management methods. Where certain practices are common in agile project management, they are noted.

This document is applicable for use by managers of information for users or organizations with information developers. This document can also be consulted by those with other roles and interests in the process of developing information for users:

— managers of the product and system development process;

— acquirers of information for users prepared by suppliers;

— experienced information developers who prepare information for users;

— human-factors experts who identify principles for making information for users more accessible and easily used; and

— user interface designers and ergonomics experts working together to design the presentation of information.

This document can be applied to manage the following types of information for users, although it does not cover all aspects of them:

— information for user assistance, training, marketing, and systems documentation for product design and development, based on reuse of user information topics;

— multimedia marketing presentations using animation, video, and sound;

— information developed for virtual and augmented reality presentations;

— computer-based training (CBT) packages and course materials intended primarily for use in formal training programs; and

— information describing the internal operation of products.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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/IEEE 12207:2017, *Systems and software engineering — Software life cycle processes*

ISO/IEC/IEEE 15288:2015, *Systems and software engineering — System life cycle processes*

3 Terms, definitions, and abbreviations

For the purposes of this document, the following terms and definitions apply.

ISO, IEC and IEEE maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEEE Standards Dictionary Online: available at http://ieeexplore.ieee.org/xpls/dictionary

NOTE 1 The verb "include" used in this document indicates that either (1) the information is present or (2) a reference to the information is listed.

NOTE 2 This document refers to "the manager," which applies to anyone performing the required management activities, regardless of title or responsibilities.

NOTE 3 Additional terms and definitions relating to information management can be found is *ISO/IEC/IEEE 24765:2017, Systems and software engineering — Vocabulary*.

3.1 Terms and definitions

3.1.1
accessibility
extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use

[SOURCE: ISO/IEC 25064:2013]

3.1.2
annotated topic list
ATL
list of all topics to be included in an information-development project with annotations that can include writer, where used, file name, and additional data

3.1.3
archiving
process of placing a version of a document in a less frequently used storage area

3.1.4
augmented reality system
view of the physical world that is supplemented by computer-generated text, images, data, or other media

3.1.5
authoring environment
toolset used to create, store, and manage content units

3.1.6
burndown chart
graph that represents the work remaining to do on a project

3.1.7
component content management system
CCMS
content management system that supports the entire document- or information-development life cycle from authoring through review and publishing, including the reuse of modular content

3.1.8
conditional text
text that is marked to be excluded from one or more versions of a final content deliverable

3.1.9
customer
organization or person that receives a product or service

[SOURCE: ISO/IEC/IEEE 12207:2017, modified, Note 1 to entry and EXAMPLE have been deleted.]

3.1.10
cycle time
time associated with one complete operation of a repetitive process

[SOURCE: ISO 16484-2:2004]

3.1.11
disaster recovery
ability of the Information and Communications Technology elements of an organization to support its critical business functions to an acceptable level within a predetermined period following a disaster

[SOURCE: ISO/IEC 19086-1:2016, modified, ICT has been replaced by Information and Communications Technology.]

3.1.12
disposition
range of processes associated with implementing retention, destruction or transfer decisions which are documented in disposition or other instruments

[SOURCE: ISO 16175-2:2011, modified, article “a” has been removed before the word “range.”]

3.1.13
Darwin Information Typing Architecture
DITA
XML-based architecture for authoring, producing, and delivering topic-oriented, information-typed content that can be reused and single-sourced in a variety of ways

3.1.14
embedded help system
information for users that is delivered as an integral part of a piece of software

3.1.15
extensible markup language
XML
formal language used to specify the structure of XML documents, specified in the XML Schema Part 1 —Structures Recommendation

[SOURCE: ISO 10303-28:2007]

3.1.16
information architecture
structure of an information space and the semantics for accessing required task objects, system objects and other information

[SOURCE: ISO/IEC TR 25060:2010, modified, domain <human-centred> has been removed from the beginning of the definition and NOTE has been removed.]

3.1.17
information developer
person who prepares the content and visuals for information for users

3.1.18
information type
category of topics, such as concepts, tasks, or reference

3.1.19
intellectual property
output of creative human thought process that has some intellectual or informational value

3.1.20
markup language
method of defining and describing the structure of different types of electronic documents

3.1.21
metadata
data that describe other data

[SOURCE: ISO/IEC 25024:2015]

3.1.22
minimalism
principle for the selection of information for users that supports task performance, troubleshooting, and problem resolution

[SOURCE: ISO/IEC/IEEE 26515]

3.1.23
process maturity
extent to which an organizational unit consistently implements processes within a defined scope that contributes to the achievement of its business needs (current or projected)

[SOURCE: ISO/IEC 33001:2015, modified, term was originally “organizational process maturity,” definition included article “the” preceding the definition, and Note 1 to entry has been removed.]

3.1.24
repository
organized and persistent data storage that allows data retrieval

[SOURCE: ISO/IEC 29155-1:2011, modified, Note 1 to entry has been removed.]

3.1.25
roadmap
detailed plan to guide progress towards a goal

[SOURCE: ISO/TR 14639-2:2014]

3.1.26
security
protection of information and data so that unauthorized persons or systems cannot read or modify them and authorized persons or systems are not denied access to them

[SOURCE: ISO/IEC 12207:2008]

3.1.27
source language
language of the source from which content is rendered into the target language

[SOURCE: ISO 13611:2014]

3.1.28
Standard Technical English
STE
controlled language that includes a set of writing rules and a basic dictionary for writing technical documentation

Note 1 to entry: The STE specification is maintained by the ASD Simplified Technical English Maintenance Group (STEMG). The current specification is Issue 6, 15 January 2013.

3.1.29
stakeholder
individual or organization having a right, share, claim, or interest in a system or in its possession of characteristics that meet their needs and expectations

[SOURCE: ISO/IEC/IEEE 15288:2015, modified, EXAMPLE has been removed and Note 1 to entry has been removed.]

3.1.30
succession plan
process for identifying and developing current employees with the potential to fill key positions in the organization

[SOURCE: ISO 30400:2016]

3.1.31
system testing
testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements

[SOURCE: IEEE 1012-2012]

3.1.32
target language
language into which source language content is translated

[SOURCE: ISO 13611:2014, modified, the word “translated” has replaced the word “rendered.”]

3.1.33
taxonomy
scheme that partitions a body of knowledge and defines the relationships among the pieces

3.1.34
terminology management system
software tool specifically designed for collecting, maintaining, and accessing terminological data

[SOURCE: ISO 26162:2012]

3.1.35
topic
small part of a document that deals with a single subject

[SOURCE: ISO/IEC 26514:2008, modified, NOTE 1 has been removed.]

3.1.36
unicode
system of uniquely identifying (numbering) characters such that nearly any character in any language is identified

3.1.37
usability test
test to determine whether an implemented system fulfills its functional purpose as determined by its users

[SOURCE: ISO/IEC 2382:2015, modified, Notes 1 and 2 to entry have been removed.]

3.1.38
user
individual or organization that uses the system or software to perform a specific function

[SOURCE: ISO/IEC 25000:2014]

3.1.39
user profiles
set of attributes that are unique to a specific user or user group, such as job function or subscription to a service, used to control the parts of the system or web page that users can access

[SOURCE: ISO/IEC/IEEE 23026:2015]

3.1.40
version control
establishment and maintenance of baselines and the identification and control of changes to baselines that make it possible to return to the previous baseline

3.1.41
value chain analysis
entire sequence of activities or parties that provide or receive value in the form of products or services

[SOURCE: ISO 26000:2010, modified, Notes 1 and 2 to entry have been removed.]

3.1.42
work breakdown structure
deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables