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Systems and software engineering — Developing information for users in an agile environment

Ingénierie du logiciel et des systèmes — Développement d'informations pour les utilisateurs dans un environnement agile

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the rules given in the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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 Systems and Software Engineering Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This second edition cancels and replaces the first edition (ISO/IEC/IEEE 26515:2011) which has been technically revised.

The main changes compared to the previous edition are as follows:

— alignment with the widespread use of agile methods to include systems as well as software;

— replacement of the paper-based term “documentation” with the general term “information for users” where appropriate;

— inclusion of agile information development across multiple teams and projects, especially projects in continuous maintenance situations such as DevOps;

— editorial changes;

— new definitions.

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Introduction

Software with an application user interface should generally be intuitive for most users or follow common user interface conventions to limit the need for exhaustive or detailed information for users. However, users should be provided with accurate information about how to use the software's functions if questions arise. This information should explain the major features or use cases deliberately created for all types of users. The information should be easily accessible and clearly written to enable quick learning and user proficiency, while reducing help desk support. Hence, well-designed information not only assists the users and helps to reduce the cost of training and support, but also enhances the reputation of the product, its producer, and its suppliers.

Projects that use agile development methods focus on providing rapid and frequent deliveries of high-value software. These methods often involve detailed planning only for the short term and the implementation of processes in parallel, rather than planning for an entire project in distinct phases.

Although agile development methods often advocate less life cycle documentation, the users of a software product still expect and require quality information to be provided with these software products. Although the end results of the process for developing information for users are the same, the methods may be very different in an agile environment.

Agile development methods follow usually short, iterative development cycles based on customer requirements and feedback. In order to fulfil contractual requirements and provide valuable information for users, deliverables for each iteration include information related to the feature set developed during that iteration. The quantity and quality of the information deliverables depend in part on the completeness and maturity of the software features and design after each iteration, specified through user stories, tasks, and personas.

Information developers and other personnel involved in developing information for users should understand the agile development processes and methods used by their organization. This will enable them to tie in seamlessly and provide relevant and useful information for users.

Because of the nature of agile development methods, the traditional means of developing information (both print and onscreen) for end users are not entirely applicable.

This document was developed to assist users of

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

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

— ISO/IEC 26514:2008, S*ystems and software engineering — Requirements for designers and developers of user documentation* (also available as IEEE Std 26514-2010, IEEE Standard for Adoption of ISO/IEC 26514:2008, *Systems and Software Engineering — Requirements for Designers and Developers of User documentation*), and

— Other documents in the ISO/IEC/IEEE 265NN family of International Standards.

This document provides requirements and guidance to information developers and related roles on how to adapt the processes described in the ISO/IEC/IEEE 265NN family of International Standards to develop quality information for users.

This document is independent of the agile development methods and tools that are used to produce the software. This document gives an overview of agile methodologies although it neither encourages nor discourages the use of any particular agile methodology. Therefore, this document uses generic agile terminology as much as possible.

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Systems and software engineering — Developing information for users in an agile environment

1 Scope

This document supports the interest of information developers and associated roles responsible for producing information for users of software and systems developed within an agile environment. This document takes a process standard approach to specify the way in which information for users can be developed in agile development projects.

This document provides requirements of information management and information development processes appropriate for software projects that are using agile development methods.

Clause 5 covers the overall requirements for information in agile software development.

Clause 6 covers requirements for the information development lead or project manager to plan an agile information development project and manage the information development activities in an agile environment.

Clause 7 covers requirements for designing, developing, and providing information for users in an agile environment.

Annex A describes agile development practices and methods.

This document is intended neither to encourage nor to discourage the use of any particular agile development tools or methods.

This document provides guidance on processes appropriate for information developers of information for users in software and systems projects that are using agile development methodologies. It is not limited to the development phase of the life cycle of information for users, but includes activities throughout the whole life cycle.

This document is intended for use in all organizations that are using agile development or are considering implementing their projects using these techniques. It is assumed that users of this document have experience or general knowledge of information for users (traditionally called “user documentation”) and agile processes.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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:

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

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

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

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3.1
agile development
development approach based on *iterative development* (3.11), frequent inspection and adaptation, and incremental deliveries in which requirements and solutions evolve through collaboration in cross-functional teams and through continuous *stakeholder* (3.13) feedback

Note 1 to entry: Any use of the word "agile" in this document refers to methodology. Various agile methods can be found in Annex A.

3.2
agile environment
organizational culture, infrastructure, and methodologies that support *agile development* (3.1)

3.3
agile team
organization or team using *agile development* (3.1) methods and approaches

Note 1 to entry: Typically with roles such as team lead, project manager, user or user representative, software and *information developers* (3.8), and testers.

3.4
backlog
collection of agile *features* (3.7) or stories of both functional and nonfunctional requirements that are typically sorted in an order based on value priority

3.5
done
regarded by the *agile team* (3.3) as complete and ready to use

3.6
epic
major collection of related feature sets broken down into individual *features* (3.7) or *user stories* (3.16) and implemented in parts over a longer period of time

3.7
feature
functional or nonfunctional distinguishing characteristic of a system

Note 1 to entry: Features are considered to add value for the user.

3.8
information developer
person who prepares content for information for users

3.9
information development lead
person who leads the activities of preparing information for users

3.10
iteration
short time frame in which a set of software *features* (3.7) is developed, leading to a working product that can be demonstrated to *stakeholders* (3.13)

Note 1 to entry: Different agile methodologies use different terms for an iteration.

Note 2 to entry: Some agile methodologies are not based on iterations.

3.11
iterative development
repeated use of concurrent planning, developing, and testing activities

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3.12
persona
model of a user with defined characteristics, based on research

3.13
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, 4.1.44, modified — The example and note to entry have been deleted.]

3.14
stand-up meeting
brief daily project status or planning meeting used in *agile development* (3.1) methodologies

Note 1 to entry: Different agile methodologies use different terms for stand-up meetings.

3.15
use case
description of behavioural requirements of a system and its interaction with a user

Note 1 to entry: A use case describes the users' goal and the requirements including the sequence of interactions between users and the system.

3.16
user story
simple narrative illustrating a user requirement from the perspective of a *persona* (3.12)

4 Conformance

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

Throughout this document, “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 document. Use of the nomenclature of this document for the features of an agile methodology or the parts of information for users (that is, stand-up meetings, iterations, chapters, topics, pages, screens, windows, etc.) is not required to claim conformance.

Conformance to this document may only be claimed by an organization if all of the requirements in this document can be met by the organization. When conformance is claimed for a multisupplier program, it may be the case that no individual supplier 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 performed by an identified party.

This document may be included or referenced in contracts or similar agreements when the parties (called the acquirer and the supplier) agree that the supplier shall deliver information for users in accordance with this document. It may also be adopted as an in-house standard by a project or organization that decides to develop information for users in accordance with this document.

Organizations, projects, or multisupplier programs intending to claim tailored conformance should consult ISO/IEC/IEEE 12207:2017, Annex A.

5 Information development process

The basic process phases as described in ISO/IEC 26514, such as analysis, design, development, and review, still apply. However, agile practices eliminate the distinct separation of phases both within a single iteration and across several iterations.

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