



**International
Standard**

ISO 25062

**Systems and software
engineering — Systems and
software Quality Requirements and
Evaluation (SQuaRE) — Common
Industry Format (CIF) for reporting
usability evaluations**

**First edition
2025-01**

*Ingénierie des systèmes et logiciels — Exigences et évaluation de
la qualité des systèmes et logiciels (SQuaRE) — Format industriel
commun pour le reporting des évaluations d'utilisabilité*

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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.

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 document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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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 Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

This first edition of ISO 25062 cancels and replaces the first edition ISO/IEC 25062:2006, which has been technically revised.

The main change is as follows:

- the scope of the document has been significantly expanded to go beyond usability test reports and deal with all types of usability evaluations.

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

This document provides a framework and consistent terminology for reporting the results of usability evaluations of an interactive system. It is intended to assist those who perform usability evaluations in documenting and communicating the results of usability evaluations as part of the system development lifecycle.

NOTE ISO/IEC 25040 specifies a framework for quality evaluation.

The human-centred design approach of ISO 9241-210 is well established and focuses specifically on making systems usable. Usability can be achieved by applying human-centred design throughout the system development lifecycle. It is important that all the relevant types of information related to usability (information items) are identified and communicated as part of a human-centred approach. The identification and communication of relevant types of information related to usability enables the design and testing of the usability of a system.

The information items for reporting the results of usability evaluations of an interactive system can be integrated in any process models. For the purpose of establishing process models, ISO/IEC/IEEE 24774 and ISO/IEC TS 33061 specify the format and conformity requirements for process models, respectively. In addition, ISO/IEC/IEEE 15289 defines the types and content of information items developed and used in process models for system and software life cycle management. ISO/IEC TS 33060 and ISO/IEC TS 33061 define work products, including information items, for the purpose of process capability assessment. Process models and associated information items for human-centred design of interactive systems are contained in ISO 9241-210 and ISO TS 18152, respectively.

The common industry format (CIF) for usability documents are part of the SQuaRE (Systems and software Quality Requirements and Evaluation) group of standards developed by ISO/TC 159, and described in ISO/IEC 25000, *Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Guide to SQuaRE*.

The CIF documents use definitions that are consistent with the ISO 9241 series on ergonomics of human-system interaction, as this is the terminology that is normally used for this subject matter.

ISO TR 25060 gives an overview of the CIF standards, which include documents covering the following information items:

- reporting usability evaluations (ISO 25062);
- context of use description (ISO/IEC 25063);
- user needs report (ISO/IEC 25064);
- user requirements specification (ISO 25065).

[Table 1](#) presents an overview of the structure and the contents of the SQuaRE standards.

Table 1 — Organization of the SQuaRE series

SQuaRE architecture and sub-projects		
ISO/IEC 25030 covering quality requirements	ISO/IEC 25010, ISO/IEC 25011, ISO/IEC 25012, and ISO/IEC 25019 covering quality models	ISO/IEC 25040 covering quality evaluation
	ISO/IEC 25001 covering quality management	
	ISO/IEC 25020, ISO/IEC 25021, ISO/IEC 25022, ISO/IEC 25023, ISO/IEC 25024 and ISO/IEC 25025 covering quality measurement	
Future standards are planned, covering the following, outside of the current architecture:		
— requirements for quality of ready to use software products (RUSP);		
— the common industry format (CIF) for usability division.		

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While this document specifies the minimum content of the various types of usability evaluation reports, ISO 9241-220 introduces the human-centred design processes including:

- identifying the context of use;
- identifying user needs;
- specifying the user requirements;
- specifying the user-system interaction;
- producing and refining user interface design solutions;
- evaluating user-centred design.

[Table 2](#) illustrates the interdependence of these information items with the human-centred design processes described in ISO 9241-220, as well as the corresponding system life cycle processes described in ISO/IEC/IEEE 15288.

Table 2 — Relationship of CIF documents to ISO 9241-220 and ISO/IEC/IEEE 15288

Human-centred design (HCD) processes ISO 9241-220:2019	CIF International Standards	System lifecycle processes ISO/IEC/IEEE 15288:2023
9.4.3 — Identify the context of use	ISO/IEC 25063: <i>Common Industry Format (CIF) for usability: Context of use description</i>	6.4.2 b) 1) — Define context of use
9.4.4.2 — Identify user needs	ISO/IEC 25064: <i>Common Industry Format (CIF) for usability: User needs report</i>	6.4.2 b) 2) — Identify stakeholder needs
9.4.4.3 — Specify the user requirements	ISO 25065: <i>Common Industry Format (CIF) for Usability: User requirements specification</i>	6.4.3 — System requirements definition process
9.4.5.2 — Specify the user-system interaction 9.4.5.3 — Produce and refine user interface design solutions	ISO 25067: <i>Common Industry Format (CIF) for Usability: User interaction and user interface specification</i> ISO 25062:2025	6.4.4 — Architecture definition process (6.4.5) Design definition process
9.4.6 — User-centred Evaluation	ISO 25062: <i>Common Industry Format (CIF) for Usability: Reporting usability evaluations (this document)</i>	6.4.9 — Verification process 6.4.11 — Validation process

Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for reporting usability evaluations

1 Scope

This document describes the common industry format (CIF) for reporting usability evaluations. It provides a classification of evaluation approaches and the specifications for the content items (content elements) to be included in an evaluation report based on the selected evaluation approach(es). The intended users of the usability evaluation reports are identified, as well as the situations in which the usability evaluation report can be applied.

The usability evaluation reports in this document are applicable to software and hardware systems and products or services used for predefined tasks (excluding generic products, such as a display screen or a keyboard). The content elements are intended to be used as part of system-level documentation resulting from development processes such as those in ISO 9241-210 and the ISO/IEC JTC 1/SC 7 process standards (e.g. ISO/IEC/IEEE 15288 on systems lifecycle management, ISO/IEC/IEEE 12207 on software lifecycle management and ISO/IEC 33001 on process capability assessment).

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 and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

accessibility

extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of *user* (3.19) needs, characteristics and capabilities to achieve identified *goals* (3.6) in identified contexts of use

Note 1 to entry: *Context of use* (3.3) includes direct use or use supported by assistive technologies.

[SOURCE: ISO 9241-112:2017, 3.15]

3.2

conformity assessment

demonstration that specified *requirements* (3.9) are fulfilled

[SOURCE: ISO/IEC 17000:2020, 4.1, modified — Notes to entry deleted.]

3.3

context of use

combination of *users* (3.19), *goals* (3.6), *tasks* (3.13), resources, and environment

Note 1 to entry: The “environment” in a context of use includes the technical, physical, social, cultural and organizational environments.

[SOURCE: ISO 9241-11:2018, 3.1.15]

3.4

effectiveness

accuracy and completeness with which *users* (3.19) achieve specified *goals* (3.6)

[SOURCE: ISO 9241-11:2018, 3.1.12]

3.5

efficiency

resources used in relation to the results achieved

Note 1 to entry: Typical resources include time, human effort, costs and materials.

[SOURCE: ISO 9241-11:2018, 3.1.13]

3.6

goal

intended outcome

[SOURCE: ISO 9241-11:2018, 3.1.10]

3.7

harm from use

negative consequences regarding health, safety, finances or the environment that result from use of the system

Note 1 to entry: The negative consequences can be for the *user* (3.19) or for any other *stakeholder* (3.11).

Note 2 to entry: Although avoidance of harm from use, i.e. eliminating any exposure of risk that poses a potential harm, cannot be achieved completely, designing an *interactive system* (3.12) can aim at mitigating risks to an acceptable minimum.

[SOURCE: ISO 9241-220:2019, 3.10]

3.8

information item

separately identifiable body of information that is produced and stored for human use during a system or software life cycle

Note 1 to entry: A document produced to meet information *requirements* (3.9) can be an information item, part of an information item, or a combination of several information items.

Note 2 to entry: An information item can be produced in several versions during a project or system life cycle.

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.12]

3.9

requirement

condition or capability that must be met or possessed by a system, system component, product, or service to satisfy an agreement, standard, specification, or other formally imposed documents

Note 1 to entry: Requirements provide value when delivered, satisfied, or met.

Note 2 to entry: Requirements include the quantified and documented needs, wants, and expectations of the sponsor, customer, and other *stakeholders* (3.11).

[SOURCE: ISO/IEC/IEEE 24765:2017, 3.3431, definition 2, modified — Notes to entry added.]

3.10
satisfaction

extent to which the *user's* (3.19) physical, cognitive and emotional responses that result from the use of a system, product or service meet the user's needs and expectations

Note 1 to entry: Satisfaction includes the extent to which the user experience that results from actual use meets the user's needs and expectations.

Note 2 to entry: Anticipated use can influence satisfaction with actual use.

[SOURCE: ISO 9241-11:2018, 3.1.14]

3.11
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

EXAMPLE End *users* (3.19), end user organizations, supporters, developers, customers, producers, trainers, maintainers, disposers, acquirers, suppliers, regulatory bodies, and people influenced positively or negatively by a system.

Note 1 to entry: Some stakeholders can have interests that oppose each other or oppose the system.

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.44]

3.12
interactive system

combination of hardware and/or software and/or services and/or people that *users* (3.19) interact with in order to achieve specific *goals* (3.6)

Note 1 to entry: This includes, where appropriate, packaging, user documentation, online and human help, support and training.

Note 2 to entry: This definition emphasizes that the user interacts with the system. An interactive system provides feedback to user input and initiates further actions within the system or by other systems as required.

[SOURCE: ISO 25065:2019, 3.2.1]

3.13
task

set of activities undertaken in order to achieve a specific *goal* (3.6)

[SOURCE: ISO 9241-11:2018, 3.1.11, modified — Notes to entry deleted.]

3.14
usability

extent to which a system, product or service can be used by specified *users* (3.19) to achieve specified *goals* (3.6) with *effectiveness* (3.4), *efficiency* (3.5) and *satisfaction* (3.10) in a specified *context of use* (3.3)

[SOURCE: ISO 9241-11:2018, 3.1.1, modified — Notes to entry deleted.]

3.15
usability defect

attribute of the *interactive system* (3.12) that leads to a *usability problem* (3.17)

Note 1 to entry: Usability defects are typically identified during inspections.

Note 2 to entry: Usability defects can originate from incorrect or missing interaction capabilities as well as poor *task* (3.13) support.

Note 3 to entry: Typical usability defects include the following:

- additional unnecessary steps not required as part of completing a task;
- misleading information;

- insufficient and/or poor information on the user interface;
- unexpected system responses;
- limitations in navigation;
- inefficient *use error* (3.18) recovery mechanisms;
- physical characteristics of the user interface that are not suitable for the physical characteristics of the user.

3.16

usability finding

identified *usability defect* (3.15) and/or *usability problem* (3.17) or positive *usability*-related (3.14) attribute

Note 1 to entry: Deviations of attributes of the *interactive system* (3.12) from specified criteria such as *user* (3.19) *requirements* (3.9), principles, design guidelines or established conventions are also usability findings.

Note 2 to entry: Usability findings can lead to the identification of new *user requirements* (3.21).

3.17

usability problem

situation during use, resulting in poor *effectiveness* (3.4), *efficiency* (3.5) or *satisfaction* (3.10)

Note 1 to entry: Usability problems can be either directly observed during qualitative and/or quantitative *usability* (3.14) tests or are identified from analysis of use.

Note 2 to entry: Usability problems can lead to one or more *use errors* (3.18).

Note 3 to entry: Usability problems are sometimes referred to as use difficulties.

3.18

use error

user (3.19) action or lack of user action while using the *interactive system* (3.12) that leads to a different result than that intended by the manufacturer or expected by the user

[SOURCE: IEC 62366-1:2015, 3.21, modified — "Medical device" replaced by "interactive system", notes to entry deleted.]

3.19

user

person who interacts with a system, product or service

Note 1 to entry: Users include people who operate a system, people who use the output provided by a system and people who conduct support *tasks* (3.13) using the system (including maintenance and training).

Note 2 to entry: According to ISO/IEC 25010, "user" is defined as "individual or group that interacts with a system or benefits from a system during its utilization".

Note 3 to entry: Primary and secondary users interact with a system, and primary and indirect users can benefit from a system. This definition includes a broader understanding of individuals and organizations that act as users.

[SOURCE: ISO 9241-11:2018, 3.1.7, modified — Notes 2 and 3 to entry added.]

3.20

user need

prerequisite identified as necessary for a *user* (3.19), or a set of users, to achieve an intended outcome, implied or stated within a specific *context of use* (3.3)

EXAMPLE 1 A presenter (user) needs to know how much time is left (prerequisite) in order to complete the presentation in time (intended outcome) during a presentation with a fixed time limit (context of use).

EXAMPLE 2 An account manager (user) needs to know the number of invoices received and their amounts (prerequisite), in order to complete the daily accounting log (intended outcome) as part of monitoring the cash flow (context of use).

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Note 1 to entry: A user need is independent of any proposed solution for that need.

Note 2 to entry: User needs are identified based on various approaches including interviews with users, observations, surveys, evaluations, expert analysis, etc.

Note 3 to entry: User needs often represent gaps (or discrepancies) between what should be and what is.

Note 4 to entry: User needs are transformed into *user requirements* (3.21) considering the context of use, user priorities, trade-offs with other system *requirements* (3.9) and constraints.

[SOURCE: ISO/IEC 25064:2013, 4.19]

3.21

user requirements

set of *requirements* (3.9) for use that provide the basis for design and evaluation of *interactive systems* (3.12) to meet identified *user needs* (3.20)

Note 1 to entry: User requirements are derived from user needs and capabilities in order to allow the *user* (3.19) to make use of the system in an effective, efficient, safe and satisfying manner.

Note 2 to entry: User requirements are not requirements on the users.

Note 3 to entry: User requirements include *user-system interaction requirements* (3.22) and *use-related quality requirements* (3.23).

Note 4 to entry: In software engineering terms, user requirements include both "functional" and "non-functional" requirements derived from user needs and capabilities.

[SOURCE: ISO 9241-220:2019, 3.46]

3.22

user-system interaction requirements

user requirements (3.21) that specify interactions (including: recognizing information, making inputs, making selections, and receiving outputs) required by the *users* (3.19) to achieve the *goals* (3.6)

Note 1 to entry: User-system interaction *requirements* (3.9) are generally stated in qualitative terms.

[SOURCE: ISO 25065:2019, 3.1.11, modified — Note to entry added.]

3.23

use-related quality requirements

user requirements (3.21) that specify the intended outcomes of use of the *interactive system* (3.12) and associated quality criteria

Note 1 to entry: Use-related quality *requirements* (3.9) are generally stated in quantitative terms.

[SOURCE: ISO 25065:2019, 3.1.12, modified — Note to entry added.]

4 Outcomes and types of usability evaluations

4.1 Outcomes of a usability evaluation

Usability evaluations can produce a variety of outcomes, including:

- determining whether specified user requirements have been implemented;
- actual usability findings (negative and/or positive);
- identifying usability defects that cause usability problems;
- provision of performance data;
- compilation of subjective attitudes of users about the usability of an interactive system;