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Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for Usability — Evaluation Report



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Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for Usability — Evaluation Report

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Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to describe 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.

This Standard is identical with, and has been reproduced from, ISO/IEC 25066:2016, *Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for Usability — Evaluation Report.*

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this International Standard" should read "this Australian Standard".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

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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 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction* and Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and system engineering*.

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Introduction

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 lifecycle. In order to enable a human-centred approach to be adopted, it is important that all the relevant types of information related to usability (information items) are identified and communicated. The identification and communication of relevant types of information related to usability enables the design and testing of the usability of a system.

This International Standard provides a framework and consistent terminology for reporting the evaluation of an interactive system. It is intended to assist usability specialists and developers in documenting and communicating usability-related information as part of the system development lifecycle.

The Common Industry Format (CIF) for Usability family of International Standards is described in ISO/IEC TR 25060 and is part of the SQuaRE (Systems and software Quality Requirements and Evaluation) series of standards on systems and software product quality requirements and evaluation (ISO/IEC 25000[1)], ISO/IEC 25001, ISO/IEC 25021[2)], ISO/IEC 25023[3)], ISO/IEC 25040, ISO/IEC 25041 and ISO/IEC 25051).

The CIF family of standards uses definitions that are consistent with the ISO 9241 series of standards (Ergonomics of human-system interaction), as this is the terminology that is normally used for this subject matter. In some cases, these definitions differ from those in ISO/IEC 25000.

CIF standards are published or planned for the following information items:

— Common Industry Format (CIF) for usability test reports (ISO/IEC 25062);

NOTE ISO/IEC 25062 provides more detail for the content of a user observation report for performance measurement.

— Context of use description (ISO/IEC 25063);

— User needs report (ISO/IEC 25064);

— User requirements specification (ISO/IEC 25065);

— Evaluation reports (ISO/IEC 25066);

— User interaction specification (planned);

— User interface specification (planned);

— Field data report (planned).

The CIF standards are part of the “Extension Division” of the ISO/IEC 25000 SQuaRE series of International Standards. Table 1 presents an overview of the structure and the contents of the SQuaRE series of International Standards.

1) Withdrawn.

2) Withdrawn.

3) Under development.

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Table 1 — Organization of SQuaRE series of International Standards

<table>
<tr><th colspan="3">SQuaRE Architecture and Sub-projects</th></tr>
<tr><td rowspan="3">ISO/IEC 2503n: Quality Requirement Division</td><td>ISO/IEC 2501n: Quality Model Division</td><td rowspan="3">ISO/IEC 2504n: Quality Evaluation Division</td></tr>
<tr><td>ISO/IEC 2500n: Quality Management Division</td></tr>
<tr><td>ISO/IEC 2502n: Quality Measurement Division</td></tr>
<tr><td colspan="3">ISO/IEC 25050 – 25099 SQuaRE Extension Division</td></tr>
<tr><td colspan="2">ISO/IEC 25051: Requirements for quality of Ready to Use Software Product (RUSP) and instructions for testing</td><td>ISO/IEC 2506n Common Industry Format Division</td></tr>
</table>

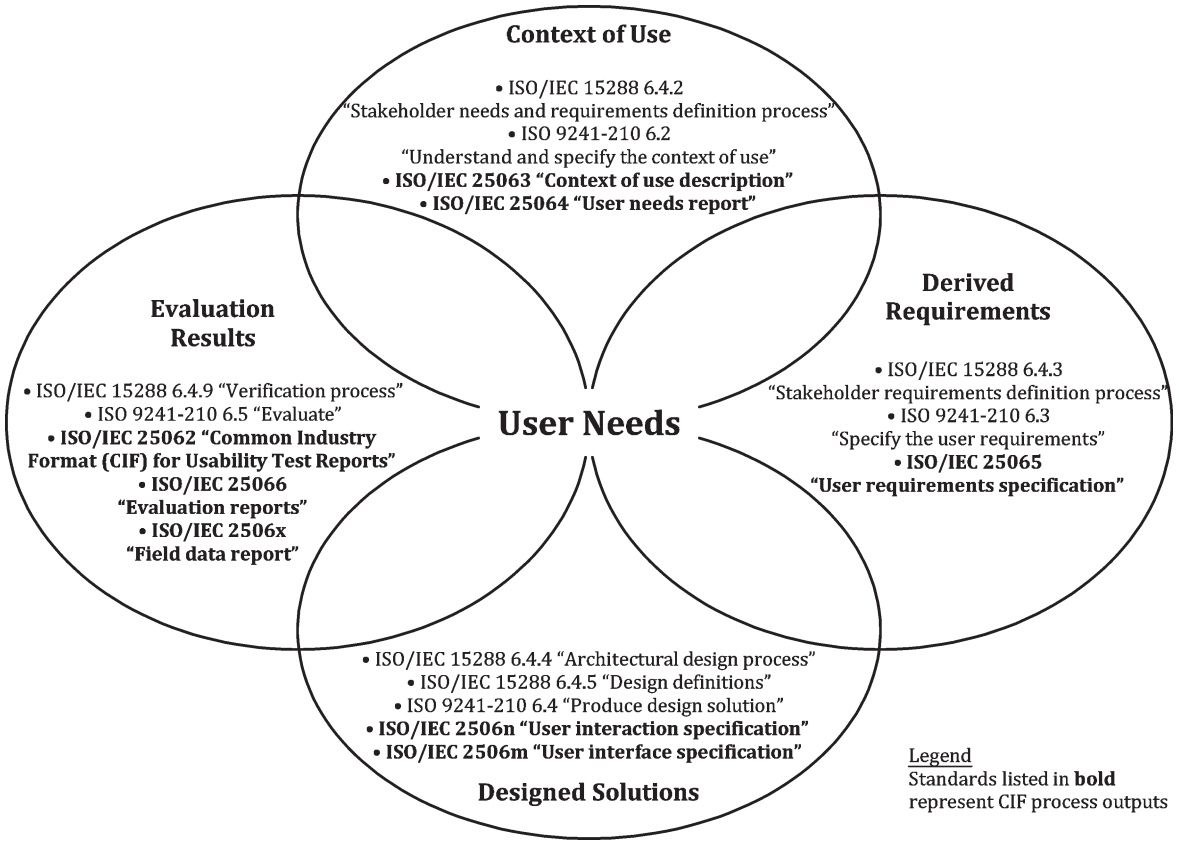


Figure 1 — Relationship of CIF documents to human-centred design in ISO 9241-210 and system lifecycle processes in ISO/IEC 15288

Figure 1 illustrates the interdependence of these information items with the human-centred design activities described in ISO 9241-210, as well as the corresponding System Life Cycle processes described in ISO/IEC 15288 [4)].

The following discussion also serves as alternative text for the figure.

The figure depicts the activities as a set of intersecting circles. The circles overlap to represent that the activities are not separate, but rather overlapping in time and scope, and the outcome of each activity provides the input to one or more other activities. As each human-centred design activity can provide input to any other, no starting point, end point, or linear process is intended.

4) Withdrawn. Replaced with ISO/IEC/IEEE 15288:2015.

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The human-centred design is composed of four interacting activities represented as overlapping circles in the diagram where User Needs are at the centre.

The first activity involves Context of Use. Human-centred design relies on user needs that are first identified during of the Context of Use analysis. User needs are documented in the User needs report (ISO/IEC 25064), which is an intermediate deliverable that links the Context of Use Description (ISO/IEC 25063) that contains information about the users, their tasks and the organizational and physical environment, to the user requirements. These items are developed during the Stakeholders requirements definition process described in ISO/IEC 15288.

The second activity involves Derived Requirements. The User requirements specification (ISO/IEC 25065) provides the basis for design and evaluation of interactive systems to meet the user needs. User requirements are developed in conjunction with and from part of the overall requirements specification of an interactive system.

The third activity involves Designed Solutions. The “Produce design solutions” activity focuses on designing user interaction that meets user requirements. This activity takes place during the Architectural Design, Implementation, and Integration processes described in ISO/IEC 15288 and produces the information items “User interaction specification” and the “User interface specification”.

The fourth activity involves Evaluation Results. The “Evaluate” activity starts at the earliest stages in the project, evaluating design concepts to obtain a better understanding of the user needs. Design solutions can be evaluated multiple times as the interactive system is being developed and can produce various types of evaluation reports and usability data such as that described in ISO/IEC 25062. These evaluations can support the ISO/IEC 15288 Validation Process that confirms that the system complies with the stakeholders’ requirements.

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Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for Usability — Evaluation Report

1 Scope

This International Standard 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 International Standard are applicable to software and hardware systems, 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 ISO/IEC JTC 1/SC 7 process standards.

The content elements for documenting evaluations can be integrated in any type of process model.

NOTE For the purpose of establishing process models, ISO/IEC TR 24774 and ISO/IEC 33020 specify the format and conformance requirements for process models, respectively. In addition, ISO/IEC 15289 defines the types and content of information items developed and used in process models for system and software lifecycle management. ISO/IEC 15504-5 and ISO/IEC 15504-6 (to be replaced by ISO/IEC 33060) 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/TR 18529 and ISO/TS 18152.

2 Conformance

An evaluation report conforms to this International Standard if it contains all the required content elements in Clause 5 that are applicable to the type(s) of evaluation, including:

— additional optional content elements that were selected to be part of the evaluation;

— the content elements for the conformity assessment (if used).

3 Terms and definitions

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

NOTE The CIF family of standards uses definitions that are consistent with the ISO 9241 series of standards, as this is the terminology that is normally used for this subject matter. In some cases, these definitions differ from those in ISO/IEC 25000.

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 characteristics and capabilities to achieve a specified goal in a specified context of use

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

[SOURCE: ISO 26800:2011, 2.1; modified, Note 2 to entry deleted]

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