

ICS 35.080

English Version

**Systems and software engineering - Systems and software
product Quality Requirements and Evaluation (SQuaRE) -
Common Industry Format (CIF) for usability: General
framework for usability-related information (ISO/IEC TR
25060:2010)**

Ingénierie des systèmes et du logiciel - Exigences de
qualité et évaluation des systèmes et du logiciel
(SQuaRE) - Format industriel commun (CIF) pour
l'utilisabilité: Cadre général pour les informations
relatives à l'utilisabilité (ISO/IEC TR 25060:2010)

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European foreword

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Introduction

The purpose of this Technical Report is to define a framework and consistent terminology for the specification and evaluation of the usability of an interactive system. Specifying and evaluating usability will assist those developing and acquiring interactive systems. It describes a framework that defines a set of information items as part of a human-centred approach to the design of an interactive system. The framework is intended to assist in documenting and communicating usability-related information through the system development life cycle.

The human-centred design approach of ISO 9241-210¹⁾ is well established and focuses specifically on making systems usable. Usability can be achieved by applying human-centred design and testing throughout the life cycle. In order to enable a human-centred design approach to be adopted, it is important that all the relevant usability information items are identified and documented. This identification and documentation enables the usability of a system to be designed and tested.

This framework forms the basis for a family of International Standards that will provide a Common Industry Format (CIF) for specific information items to be used as part of a human-centred approach to design of interactive systems. ISO/IEC 25062, which standardizes the types of information that are documented when providing a detailed report of the results of measuring effectiveness, efficiency and satisfaction, is the first specific International Standard in this family.

The CIF for usability family is part of the SQuaRE series of International Standards (ISO/IEC 25000 to ISO/IEC 25099) on software product quality requirements and evaluation. The scope of the CIF family covers systems rather than just software, so is broader than that of the current SQuaRE series. The CIF family of International Standards uses definitions (reproduced in Clause 2) that are consistent with ISO 9241, 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.

To ensure that these information items can be used within the broadest range of process models and can be used in combination with other information items, the descriptions are given in the format defined in ISO/IEC 15289 and ISO/IEC TR 15504-6.

The information items for documenting usability-related information can be integrated in any process models. For the purpose of establishing process models, ISO/IEC TR 24774 and ISO/IEC 15504-2 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 life cycle management. ISO/IEC 15504-5 and ISO/IEC TR 15504-6 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/PAS 18152, respectively.

While this Technical Report focuses on information items needed as the basis for design and development of interactive systems, the data contained in the information items can support post-development activities such as (product) conformity assessment as defined in ISO/IEC 17000:2004.

1) Previously ISO 13407.

Systems and software engineering — Systems and software product Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for usability: General framework for usability-related information

1 Scope

This Technical Report describes a potential family of International Standards, named the Common Industry Formats (CIF), that document the specification and evaluation of the usability of interactive systems. It provides a general overview of the CIF framework and contents, definitions, and the relationship of the framework elements. The intended users of the framework are identified, as well as the situations in which the framework may be applied. The assumptions and constraints of the framework are also enumerated.

The framework content includes the following:

- consistent terminology and classification of specification, evaluation and reporting;
- a definition of the type and scope of formats and the high-level structure to be used for documenting required information and the results of evaluation.

This Technical Report is applicable to software and hardware products used for predefined tasks. The information items 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.

This Technical Report focuses on documenting those elements needed for design and development of usable systems, rather than prescribing a specific process. It is intended to be used in conjunction with existing International Standards, including ISO 9241, ISO 20282, ISO/IEC 9126 and the SQuaRE series (ISO/IEC 25000 to ISO/IEC 25099).

This Technical Report does not prescribe any kind of method, life cycle or process.

2 Terms and definitions

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

2.1

accessibility

⟨interactive system⟩ usability of a product, service, environment or facility by people with the widest range of capabilities

[ISO 9241-171:2008]

2.2

action

user behaviour that a system accepts as a request for a particular operation

[ISO/IEC TR 11580:2007]