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

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Endorsement notice

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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 documents 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).

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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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 122, *Ergonomics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO/IEC TR 25060:2010, which has been technically revised.

The main changes are as follows:

— Information on the ISO 2506X family of documents has been updated.

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.

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Introduction

The purpose of this document is to define a framework and consistent terminology for the specification and evaluation of the usability of an interactive system. Specifying and evaluating usability assists those developing and acquiring interactive systems. This document 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 9241-210 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 documents that will provide a Common Industry Format (CIF) for specific information items to be used as part of a human-centred approach to the 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 documents are part of the SQuaRE documents 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 documents. The CIF family of documents 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.

NOTE Some CIF documents are prefixed “ISO” while others are prefixed “ISO/IEC”, depending on how they are administered. However, all CIF documents are jointly developed by ISO/IEC JTC 1/SC 7 and ISO TC 159/SC 4.

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/IEEE 15289 and ISO/IEC TS 33060.

The information items for documenting usability-related information 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.

While this document 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.

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

1 Scope

This document describes information items enabling systematic human-centred design for interactive systems.

Some of these information items are elaborated by separate International Standards, named the Common Industry Format (CIF) for usability-related information.

This document provides the framework of information items, including definitions and the content for each information item.

This document includes the following:

— the intended users of the information items;

— consistent terminology;

— the high-level content structure to be used for documenting each information item.

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, ISO 9241-220 and ISO/IEC JTC 1/SC 7 process standards (e.g. ISO/IEC/IEEE 15288, ISO/IEC/IEEE 29148).

This document focuses on those information items needed for design, development and evaluation of usable systems, rather than prescribing a specific process. It is intended to be used in conjunction with existing International Standards, including the standards of the ISO 9241 series and the SQuaRE documents.

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

NOTE The information items produced by human-centred design activities can be incorporated in design approaches as diverse as object-oriented, waterfall, HFI (human factors integration), agile and rapid development.

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/

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