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Australian STANDARD

Systems and software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for usability: User needs 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 user needs reports, and to provide specifications for their contents and format, including the content elements to be provided. User needs reports include both the collection and documentation of information from various sources relevant to user needs, and the analysis and integration of this information into consolidated user needs.

This Standard is identical with, and has been reproduced from, ISO/IEC 25064:2013, *Systems and software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for usability: User needs report.*

As this document has been reproduced from an International Standard, 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 25064 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

Introduction

The human-centred design approach of ISO 9241-210 is well established and focuses on making systems usable. Usability can be achieved by applying human-centred design and testing 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 are identified and communicated. This identification and communication enables the usability of a system to be designed and tested.

This International Standard provides a framework and consistent terminology for reporting on the assessment of user needs. Specifying user needs in a consistent manner will assist those developing and acquiring interactive systems. It describes a set of user needs report content elements as part of a human-centred approach to design of interactive systems. A user needs report is intended to assist developers in determining user requirements for a system, product, or service.

The Common Industry Format (CIF) for Usability family of International Standards is described in ISO/IEC TR 25060 and is part of the SQuaRE series (ISO/IEC 25000 – ISO/IEC 25099) of standards on systems and software product quality requirements and evaluation.

CIF standards are planned for the following information items:

- Context of use description (25063)
- User needs report (25064)
- User requirements specification (25065)
- User interaction specification (2506X)
- User interface specification (2506X)
- Usability evaluation report (25066)
- Field data report (2506X)

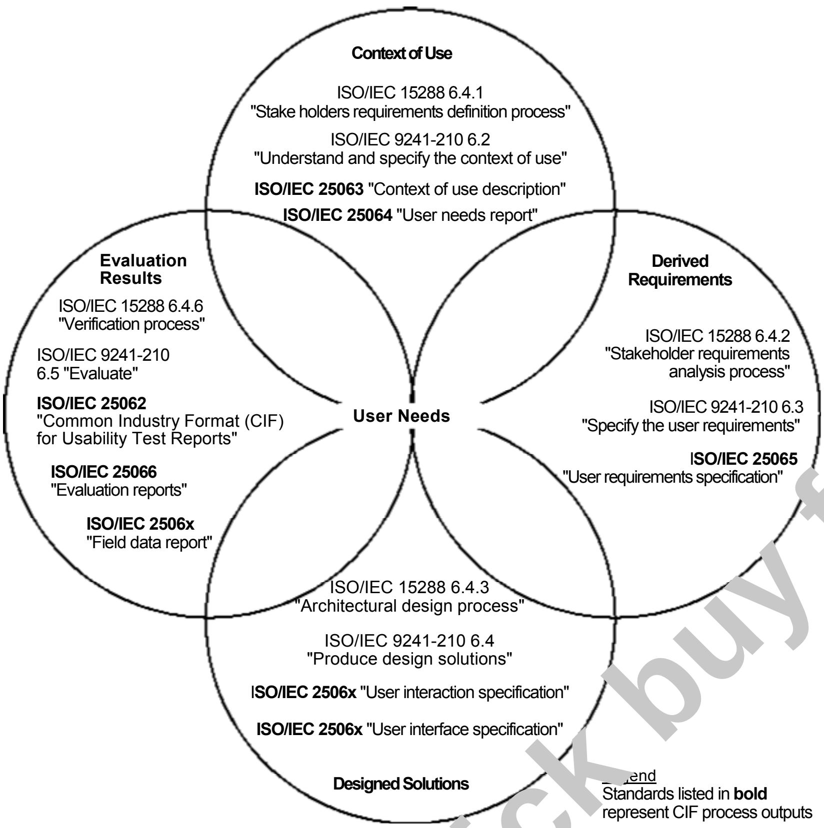

Figure 1 — Relationship of CIF documents to user centred design in ISO 924-210 and system lifecycle processes in ISO/IEC 15288

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. 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, there is no starting point, no endpoint, or linear process intended.

Human-centred design relies on user needs that are first identified based on 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 “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 “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 report, and usability data such as that described in ISO/IEC 25062 can support the ISO/IEC 15288 validation process that confirms that the system complies with the stakeholders requirements.

Systems and software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Common Industry Format (CIF) for usability: User needs report

1 Scope

This International Standard describes the Common Industry Format (CIF) for reporting user needs. This specifies the contents and provides a sample format of user needs reports. Specification of management needs, as well as other stakeholder needs, is considered to the extent that they directly impact on user needs. The purpose of the User Needs Report and the intended users of the information are identified, as well as the relationship of user needs to other outputs of human-centred design. The audience of this standard includes all users stated in the scope of ISO/IEC 25000. Annex B of ISO/IEC 25000 describes the users of the information item "user needs report" in detail. Annex A of this International Standard provides a list of typical users of a User Needs Report.

User Needs Reports include:

- documentation of information collected from various sources relevant to user needs
- the consolidated user needs based on the analysis of the collected information

The User Needs Report is applicable to software and hardware systems, products or services (excluding generic products, such as a display screen or keyboard). User Needs Reports are relevant for existing and new products, services and systems, although the extent to which use needs are reported depends upon the type of system, product, or service involved. It can also contribute to determining, verifying, changing and elaborating the context of use. 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 JTC1/SC7 process standards.

This International Standard does not prescribe any kind of method, lifecycle or process. To ensure that these content elements can be used within the broadest range of process models and used in combination with other information items, the descriptions use the classifications in ISO/IEC 15289 and ISO/IEC 15504-6.

NOTE The content elements documenting user needs can be integrated in any process models. For the purpose of establishing process models, ISO/IEC 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 lifecycle management. ISO/IEC 15504-5 and 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 TR 18529 and ISO TS 18152 respectively.

2 Conformance

A user needs report conforms to this International Standard if it contains all of the required information elements specified in clause 6.