TECHNICAL REPORT

ISO/TR 18529

First edition
2000-06-15

Ergonomics — Ergonomics of human-system interaction — Human-centred lifecycle process descriptions

Ergonomie — Ergonomie de l'interaction homme/système — Descriptions des processus cycle de vie centrées sur l'opérateur humain

Reference number
ISO/TR 18529:2000(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report.

A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of ISO/TR 18529 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 18529 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*, WG 6. It extends and formalises the human-centred processes defined in ISO 13407:1999, *Human-centred design processes for interactive systems*. It is presented in a similar form to the process definitions for software development defined in ISO/IEC TR 15504, *Information technology — Software process assessment*.

Introduction

This document is intended to assist those involved in the design, use and assessment of lifecycle processes for systems, hardware and software. It presents a definition of the processes which comprise a human-centred approach and lists their components, outcomes and the information used and produced. The intention is to inform the users of process models who want to take account of human-centred processes in system, hardware and software lifecycles.

ISO 13407 *Human-centred design processes for interactive systems* is the standard produced by ISO TC159/SC4/WG6 that explains the benefits achieved by making the interactive systems lifecycle more human centred, and the processes required to make a lifecycle human-centred. The human-centred lifecycle process model presented in this Technical Report is a structured and formalised definition of the human-centred processes described in ISO 13407. It is intended to make the contents of ISO 13407 accessible to process assessment and improvement specialists and to those familiar with or involved in process modelling.

The model presented in this document uses the format common to process assessment models. These models describe the processes which ought to be performed by an organisation to achieve defined technical goals. The processes in this model are described in the format defined in ISO/IEC TR 15504, *Information technology — Software process assessment*. Although the primary use of a process assessment model is for the measurement of how well an organisation carries out the processes covered by the model, such models can also be used as a description of what is required in order to design and develop effective organisational and project processes.

Human sciences experts (e.g. ergonomists, usability engineers etc.) may find the model useful as a means of presenting the activities required when projects or companies adopt a human-centred approach or need to develop products with an assured degree of quality in use. Process modelling and process definitions are means of discussing and planning the work required in order to take account of human sciences input in system development and operation. Process definitions are widely understood in the systems and software development communities. The ability to describe human sciences methods and techniques, and their inputs and outputs, in the language used by systems and software engineers and their managers simplifies the adoption and implementation of the human-centred approach.

Ergonomics — Ergonomics of human-system interaction — Human-centred lifecycle process descriptions

1 Scope

This Technical Report contains a formalised model based on the human-centred processes described in ISO 13407, *Human-centred design processes for interactive systems*. It should be used in the specification, assessment and improvement of the human-centred processes in system development and operation.

NOTE 1 The word formalised is used in the preceding paragraph to mean that the process descriptions in this document follow the format specified in ISO/IEC TR 15504, *Information technology — Software process assessment*. It should not be read as a claim that the model has any mathematical basis or rigour.

NOTE 2 The difference in coverage of the model and ISO 13407 is indicated in the relevant processes (HCD 1 clause 6.2 and HCD 7 Clause 6.8).

The scope of the model is based on that for ISO 13407 which has as its scope *'guidance on human-centred design activities throughout the life cycle of interactive computer-based systems.'* However, whilst the intended audience for ISO 13407 is given as '*those managing the design process*' this Technical Report is intended as guidance for those who are involved in the design, use and assessment of lifecycle processes for system, hardware and software.

Readers of this Technical Report are expected to be familiar with ISO 13407.

NOTE 3 Copyright release for the process descriptions: Users of this Technical Report may freely reproduce the process and work product descriptions contained in this document as part of any Assessment Model based on these descriptions, or as part of any demonstration of compatibility with the described processes, so that the descriptions can be used for their intended purpose.

2 Normative References

The following standards contain provisions which, through reference in this text (or the text of ISO 13407 which is normative on this standard) constitute provisions of this Technical Report. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6385:1981, *Ergonomic principles in the design of work systems*.

ISO 13407:1999, *Human-centred design processes for interactive systems*.

3 Definitions

For the purposes of this Technical Report, the terms and definitions given in ISO 6385:1981, *Ergonomic principles in the design of work systems*, ISO 9241-11:1998, *Ergonomic requirements for office work with visual display terminals (VDTS) — Part 11: Guidance on usability*, ISO 13407:1999, *Human-centred design processes for interactive systems,* ISO/IEC TR 15504-9:1998, *Information technology — Software process assessment — Part 9: Vocabulary*, ISO/IEC 9126-1, *Information technology — Software product quality — Part 1: Quality model* and

