

# INTERNATIONAL STANDARD

**ISO**  
**13407**

First edition  
1999-06-01

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## **Human-centred design processes for interactive systems**

*Processus de conception centrée sur l'opérateur humain pour les systèmes  
interactifs*



Reference number  
ISO 13407:1999(E)

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## Contents

Page

<b>1 Scope .....</b>	<b>1</b>
<b>2 Terms and definitions .....</b>	<b>1</b>
<b>3 Structure of this International Standard.....</b>	<b>2</b>
<b>4 Rationale for adopting a human-centred design process .....</b>	<b>2</b>
<b>5 Principles of human-centred design.....</b>	<b>3</b>
5.1 General.....	3
5.2 The active involvement of users and a clear understanding of user and task requirements.....	3
5.3 An appropriate allocation of function between users and technology .....	3
5.4 Iteration of design solutions.....	3
5.5 Multi-disciplinary design.....	4
<b>6 Planning the human-centred design process.....</b>	<b>4</b>
<b>7 Human-centred design activities .....</b>	<b>5</b>
7.1 General.....	5
7.2 Understand and specify the context of use .....	6
7.3 Specify the user and organizational requirements .....	7
7.4 Produce design solutions.....	8
7.5 Evaluate designs against requirements .....	9
<b>8 Conformance.....</b>	<b>12</b>
<b>Annex A (informative) Guidance on other relevant standards .....</b>	<b>13</b>
<b>Annex B (informative) Example of a structure of a usability evaluation report.....</b>	<b>17</b>
<b>Annex C (informative) Sample procedure for demonstrating conformance to this International Standard ....</b>	<b>20</b>
<b>Bibliography .....</b>	<b>25</b>

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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.

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

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.

International Standard ISO 13407 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

Annexes A, B and C of this International Standard are for information only.

## Introduction

Human-centred design is an approach to interactive system development that focuses specifically on making systems usable. It is a multi-disciplinary activity which incorporates human factors and ergonomics knowledge and techniques. The application of human factors and ergonomics to interactive systems design enhances effectiveness and efficiency, improves human working conditions, and counteracts possible adverse effects of use on human health, safety and performance. Applying ergonomics to the design of systems involves taking account of human capabilities, skills, limitations and needs.

Human-centred systems support users and motivate them to learn. The benefits can include increased productivity, enhanced quality of work, reductions in support and training costs, and improved user satisfaction. Although there is a substantial body of human factors and ergonomics knowledge about how such design processes can be organized and used effectively, much of this information is only well-known by specialists in these fields. This International Standard aims to help those responsible for managing hardware and software design processes to identify and plan effective and timely human-centred design activities. It complements existing design approaches and methods.

# Human-centred design processes for interactive systems

## 1 Scope

This International Standard provides guidance on human-centred design activities throughout the life cycle of computer-based interactive systems. It is aimed at those managing design processes and provides guidance on sources of information and standards relevant to the human-centred approach.

This International Standard is concerned with both hardware and software components of interactive systems.

**NOTE** Computer-based interactive systems vary in scale and complexity. Examples include off-the-shelf (shrink wrap) software products, custom office systems, plant monitoring systems, automated banking systems and consumer products.

This International Standard addresses the planning and management of human-centred design. It does not address all aspects of project management.

This International Standard provides an overview of human-centred design activities. It does not provide detailed coverage of the methods and techniques required for human-centred design, nor does it address health and safety aspects in detail.

The main users of this International Standard will be project managers. This International Standard therefore addresses technical human factors and ergonomics issues only to the extent necessary to allow managers to understand their relevance and importance in the design process as a whole. Such issues are dealt with more fully in ISO 9241 (see bibliography) which is complementary to this International Standard and is aimed at system developers, specifiers and purchasers of systems. Nonetheless, all parties involved in human-centred system development, including the end-users of systems, should find the guidance in this International Standard relevant.

## 2 Terms and definitions

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

### 2.1

#### **interactive system**

combination of hardware and software components that receive input from, and communicate output to, a human user in order to support his or her performance of a task

**NOTE** The term “system” is often used rather than “interactive system”.

### 2.2

#### **prototype**

representation of all or part of a product or system that, although limited in some way, can be used for evaluation

### 2.3

#### **usability**

extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[ISO 9241-11:1998, definition 3.1]