INTERNATIONAL STANDARD

**ISO 9241-11**

Second edition
2018-03

# Ergonomics of human-system interaction —

## Part 11: Usability: Definitions and concepts

*Ergonomie de l'interaction homme-système —*

*Partie 11: Utilisabilité — Définitions et concepts*

Reference number
ISO 9241-11:2018(E)

© ISO 2018

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

 © ISO 2018 – All rights reserved

# Contents

Page



© ISO 2018 – All rights reserved

 © ISO 2018 – All rights reserved

# 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: 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*.

This second edition cancels and replaces the first edition (ISO 9241-11:1998), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the scope has been extended to include systems and services (consistent with other parts of ISO 9241 including ISO 9241-210, and with ISO 26800 and ISO 20282);

— a wider range of goals is considered, including personal outcomes and organizational outcomes;

— *efficiency* has been defined in relation to the results achieved rather than in relation to accuracy and completeness with which users achieve goals.;

— *satisfaction* has been clarified to include a wider range of issues.

A list of all parts in the ISO 9241 series can be found on the ISO website.

© ISO 2018 – All rights reserved

# Introduction

The objective of designing and evaluating systems, products and services for usability is to enable users to achieve goals effectively, efficiently and with satisfaction, taking account of the context of use. This document explains how usability can be interpreted in terms of user performance and satisfaction, and emphasizes that usability is dependent on the specific circumstances in which a system, product or service is used.

This document explains how to interpret each component in the definition of usability: "the extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use".

NOTE 1 In this document, usability relates to the outcome of interacting with a system, product or service. Usability, as defined in this document, is not an attribute of a product, although appropriate product attributes can contribute to the product being usable in a particular context of use.

NOTE 2 Usability is a more comprehensive concept than is commonly understood by "ease-of-use" or "user friendliness".

Usability is relevant to:

— regular ongoing use, to enable users to achieve their goals effectively, efficiently and with satisfaction;

— learning, to enable new users to be become effective, efficient and satisfied when starting to use a system, product or service;

— infrequent use, to enable users to be effective, efficient and satisfied, with the system on each reuse;

— use by people with the widest range of capabilities;

— minimizing the risk and the undesirable consequences of use errors; and

— maintenance, in that it enables maintenance tasks to be completed effectively, efficiently and with satisfaction.

Usability is relevant when designing or evaluating interactions with a system, product or service for the purposes of:

— development;

— procurement;

— review or comparison; and

— marketing and market research.

Annexes A and B in this document give an explanation of the relationship of usability to other concepts and disciplines such as human-centred design, ergonomics, human factors, human-centred quality, user experience and quality (as used in systems and software engineering), and explain how usability can be considered for different scopes of contexts of use and provide examples of usability measures.


© ISO 2018 – All rights reserved

# Ergonomics of human-system interaction —

# Part 11:
# Usability: Definitions and concepts

## 1 Scope

This document provides a framework for understanding the concept of usability and applying it to situations where people use interactive systems, and other types of systems (including built environments), and products (including industrial and consumer products) and services (including technical and personal services).

NOTE In this document, the phrase "object of interest" refers to the system, product or service for which usability is being considered (see 8.1).

This document:

— explains that usability is an outcome of use;

— defines key terms and concepts;

— identifies the fundamentals of usability; and

— explains the application of the concept of usability.

It does not describe specific processes or methods for taking account of usability in design development or evaluation.

The intended users of this document include:

— usability/ergonomics/human factors professionals;

— designers and developers of systems, products and services;

— quality assurance personnel;

— public and corporate purchasers; and

— consumer organizations.

The most common applications of this document are in design and evaluation.

## 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 terminological 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/

© ISO 2018 – All rights reserved