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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18978.11-2023

Replacing GB/T 18978.11-2004

**Ergonomics of human-system interaction - Part 11: Usability:
Definitions and concepts**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is Part 11 of GB/T 18978. GB/T 18978 has published the following parts.

- Ergonomic requirements for working with visual display terminals (VDTs) Part 1. Overview;
- Ergonomic requirements for working with visual display terminals (VDTs) Part 2. Guidance on task requirements;
- Ergonomic requirements for working with visual display terminals (VDTs) Part 10. Dialogue principles;
- Ergonomic requirements for working with visual display terminals (VDTs) Part 12. Information presentation;
- Ergonomic requirements for working with visual display terminals (VDTs) Part 13. User Guide;
- Ergonomic requirements for working with visual display terminals (VDTs) Part 16. Direct operation dialogue;
- Human-System Interaction Ergonomics Part 11. Usability. Definitions and Concepts;
- Human-System Interaction Ergonomics Part 143. Forms;
- Human-System Interaction Ergonomics Part 151. Guidelines for Internet User Interfaces;
- Human-system interaction ergonomics Part 300. Overview of electronic visual display requirements;
- Human-system interaction ergonomics Part 304. User performance test methods for

electronic visual displays;

---Human-system interaction ergonomics Part 307. Analysis and compliance test methods for electronic visual displays;

---Human-system interaction ergonomics Part 400. Principles and requirements for physical input devices.

This document replaces GB/T 18978.11-2004 "Ergonomic Requirements for Office Use of Visual Display Terminals (VDTs) - Part 11"

"Usability Guidelines", compared with GB/T 18978.11-2004, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The scope of application of "availability" is expanded to include systems and services, and other parts of the ISO 9241 series of standards (including

ISO 9241-210), ISO 26800 and ISO 20282 are consistent (see 3.1.1, 3.1 of the.2004 version);

b) considers broader goals, including results for individuals and results for the organization;

c) Changed the definition of "efficiency" (see 3.1.13, 3.3 of the.2004 version);

d) Changed the definition of "satisfaction" (see 3.1.14, 3.4 of the.2004 version).

This document is equivalent to ISO 9241-11:2018 "Ergonomics of Human-System Interaction Part 11. Usability. Definitions and Concepts".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

The GB/T 18978 ergonomics series of national standards corresponds to the ISO 9241 series of international standards. It was initially composed of 17 parts.

This series of standards provides ergonomic requirements for using visual display terminals for office work. During the review of international standards, the ISO 9241 series

Significant adjustments have been made to expand the scope and include other relevant standards, making it easier to use. The overall title of ISO 9241 is "People-System Interaction".

"Interoperability" reflects the changes after the adjustment. ISO 9241 remains consistent with the general title and scope of ISO /TC159/SC4. After the adjustment, more

The series of standards composed of some standards are numbered with "hundred", among which the 100 series is the software interface and the.200 series is the human-centered design.

Design, the 300 series involves visual displays, the 400 series involves physical input devices, etc. Other ISO 9241 series not included in the "Hundred" series

Standards still use the old numbering. For example, this document is equivalent to ISO 9241-11:2018, and the numbering still uses GB/T 18978.11.

Corresponding to the ISO 9241 series of standards, the GB/T 18978 "Hundred" series of standards is intended to be composed of the following series.

---100 series. software ergonomics. The aim is to identify processes and methods relevant to software ergonomics.

---200 Series. Human-centered design. The aim is to introduce human-centered design principles throughout the life cycle of interactive systems.

and provide requests and suggestions for activities.

---300 series. monitors and monitor-related hardware. The purpose is to provide methods for the ergonomic design and evaluation of visual displays.

laws, compliance measures and guidelines.

---400 series. physical input device. The purpose is to provide ergonomic design criteria, selection procedures, testing and assessment method.

---500 series. work space. The purpose is to provide ergonomic principles and methods for the design of interactive system space environment.

---600 Series. Environmental Ergonomics. The purpose is to give environmental ergonomic requirements and the impact of the environment on people.

---700 series. control room. The purpose is to provide requirements, recommendations and guidance for the ergonomic design and evaluation of controlled indoor locations.

---900 Series. Tactile and tactile interaction. The purpose is to provide guidance for the design and evaluation of tactile and tactile ergonomic interactions.

The purpose of designing and evaluating the usability of systems, products and services is to ensure that users can use them effectively, efficiently and satisfactorily in specific use situations.

Goals. This document explains how to interpret usability from the perspective of user experience and user satisfaction, emphasizing that usability depends on the user

A specific use case for a system, product or service.

This document explains how to interpret the elements within the definition of usability. "the ability of a system, product or system to

The extent to which a service can be used by specific users to achieve specific goals effectively, efficiently and satisfactorily. "

Note 1. In this document, usability is related to the interaction results of systems, products or services. Although appropriate product attributes ensure that the product can be used in a specific use situation

is available in the product, but availability is not an attribute of the product as defined in this document.

Note 2. The category of usability is more comprehensive than what people usually understand as "ease of use" or "user-friendliness".

Availability is related to the following factors.

---In the period of regular and frequent use, users can achieve their goals effectively, efficiently and satisfactorily;

---In the learning stage, new users can start using a new system, product or service more effectively, efficiently and satisfactorily;

---In the non-frequent use stage, users can achieve their goals effectively, efficiently and satisfactorily every time they use the system again;

---Applicable to the widest range of user groups;

---Reduce the risk of incorrect use and corresponding adverse consequences;

---In the maintenance phase, users can complete maintenance effectively, efficiently and satisfactorily.

Usability needs to be considered when designing and evaluating the interactivity of a system, product, or service for the following purposes.

---Development;

---purchase;

---Review or compare;

---Marketing and market research.

Appendix A and Appendix B of this document explain the relationship between usability and other concepts or disciplines, such as usability and human-centered

The relationship between design, ergonomics, human factors, human-centered quality, user experience, and quality (generally used in systems and software engineering)

Tie. It also explains how to consider usability within different usage scenarios, and gives examples of application of usability methods.