

Ergonomics of human-system interaction - Part 960:  
Framework and guidance for gesture interactions (ISO  
9241-960:2017)

## EESTI STANDARDI EESSÕNA

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English Version

**Ergonomics of human-system interaction - Part 960:  
Framework and guidance for gesture interactions (ISO  
9241-960:2017)**

Ergonomie de l'interaction homme-système - Partie  
960: Cadre et lignes directrices relatives aux  
interactions gestuelles (ISO 9241-960:2017)

Ergonomie der Mensch-System-Interaktion - Teil 960:  
Rahmen und Anleitung zur Gestensteuerung (ISO  
9241-960:2017)

This European Standard was approved by CEN on 6 July 2017.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## European foreword

This document (EN ISO 9241-960:2017) has been prepared by Technical Committee ISO/TC 159 “Ergonomics” in collaboration with Technical Committee CEN/TC 122 “Ergonomics” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

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### Endorsement notice

The text of ISO 9241-960:2017 has been approved by CEN as EN ISO 9241-960:2017 without any modification.

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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.

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](http://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](http://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](http://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*.

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

## Introduction

Tactile and haptic interactions are becoming increasingly important as candidate interaction modalities in computer systems such as special purpose computing environments (e.g. tablets), wearable technology (e.g. tactile arrays, instrumented gloves), and assistive technologies.

Tactile and haptic devices are being developed in university and industrial laboratories in many countries. Both the developer and the prospective purchaser of such devices need a means of making comparisons between competing devices and common design of interactions.

This document focuses on gestures and identification of gesture sets as a specific type of tactile/haptic interaction. It explains how to describe their features, and what factors to take into account when defining gestures.

ISO 9241-910 provides a common set of terms, definitions and descriptions of the various concepts central to designing and using tactile/haptic interactions. It also provides an overview of the range of tactile/haptic applications, objects, attributes, and interactions.

ISO 9241-920 provides basic guidance (including references to related standards) in the design of tactile/haptic interactions.

ISO 9241-940 (under preparation) is to provide ways of evaluating tactile/haptic interactions for various aspects of interaction quality (such as haptic device attributes, logical space design and usability).



# Ergonomics of human-system interaction —

## Part 960:

### Framework and guidance for gesture interactions

#### 1 Scope

This document gives guidance on the selection or creation of the gestures to be used in a gesture interface. It addresses the usability of gestures and provides information on their design, the design process and relevant parameters that are to be considered. In addition, it provides guidance on how gestures should be documented. This document is concerned with gestures expressed by a human and not with the system response generated when users are performing these gestures.

NOTE 1 Specific gestures are standardized within ISO/IEC 14754 and the ISO/IEC 30113 series.

NOTE 2 Input devices such as tablets or spatial gesture recognition devices can capture gestures in 2D or 3D. All human gestures are 3D.

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9241-910, *Ergonomics of human-system interaction — Part 910: Framework for tactile and haptic interaction*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9241-910 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

##### 3.1

##### **feedforward gesture information**

information provided by the *gesture interface* (3.4) to maintain consistency of a body part's movement with predicted single or multiple gesture trajectories

EXAMPLE A gesture might be visualized through inking the trajectory on the display. Several choices of possible future trajectories can be inked, thereby helping the user to complete the gesture.

Note 1 to entry: Feedforward gestural information improves self-explanation of the gestural interface.

##### 3.2

##### **gesture**

movement or posture, of the whole body or parts of the body

Note 1 to entry: Operation of a physical keyboard is not addressed in this document.

[SOURCE: ISO/IEC 30113-1, 3.1]