TECHNICAL REPORT

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Information technology — Future keyboards and other input devices and entry methods

Technologies de l'information — Claviers futurs, autres dispositifs d'entrée associés et méthodes d'entrée liées

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

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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 document 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 and IEC 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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

This fourth edition cancels and replaces the third edition (ISO/IEC TR 15440:2005), which has been technically revised.

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Introduction

This Technical Report, supported by the history of information technology keyboards during the last three decades, lists current and anticipated problem areas as seen by users and tries to pave the way to foreseen work items in JTC 1 for solving issues of the user interface with keyboards, other input devices and input methods.

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1 Scope

This Technical Report (TR) covers the following:

— different input requirements catering for national and international practices and support of cultural and linguistic diversity;

— recognition of requirements regarding comfort of use (for any user, including children, elderly and disabled people) and improved user productivity related to inputting data;

— enhancements of keyboards and related input devices and methods required for new emerging phenomena such as Internet, multimedia, virtual reality;

— virtual input requirements;

— labelling issues (soft [LCD] and hard, permanent and temporary labels), function symbols and icons.

This Technical Report does not cover implications of biometric input (fingerprint-based, iris-pattern-based, face-shape-based, etc.) devices for access and security.

This Technical Report is aimed at both the users and manufacturers and intends to present the user requirements regarding keyboards and associated devices and methods, at the time of publication of this technical report.

2 Terms and definitions

For the purposes of this document, the terms and definitions in ISO/IEC 9995-1 apply.

3 Benefits and disadvantages of current keyboards and data entry devices on the market

— Most existing desktop and laptop keyboards on the market are following ISO/IEC 9995-1 and ISO/IEC 9995-2. This helps for education and training.

— The situation on portable computers is less clear, as confusion very often exists between function and alphanumeric keys; some dedicated keys like the portable Fn key are either not “seen” by software or are used in different fashions between different manufacturers’ equipment. Different cursor and editing functions are interfering with character data entry. Because of the reduced size of the keyboard, row A in particular is really confusing, function keys varying locations from model to model and not being really well-thought out (for example, the Insert key is sometimes placed immediately next to the Delete key, which is extremely error-prone for the user); blind or visually impaired persons have specific problems, particularly with portable computers: the variation in the placement of the different keys due to the lack of strictly defined international standards for common functions. Because of this, no clues exist to help them finding the location of these functions. Even if the functions are not universal, a survey of the different functions should be made among the devices available on the market and reserving a relative location to each one in an international standard would be desirable.

— Most keyboards misinterpret some parts of ISO/IEC 9995. For example, the decimal separator is not used as a function but rather as an alphanumeric key [this creates problems in countries in which the decimal separator is multiple (this function should not depend from output representation)];

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