INTERNATIONAL STANDARD

ISO/IEC 14754

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Information technology — Pen-Based Interfaces — Common gestures for Text Editing with Pen-Based Systems

Technologies de l'information — Interfaces basées sur une plume — Mouvements courants en édition de texte avec les systèmes basés sur une plume

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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.

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

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 14754 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

Introduction

Many systems using pen input mode have been produced. These systems recognize gestures as commands, unfortunately these gestures vary from one system to another. In particular, the gestures conventionally used to make changes to the layout and content of text differ across systems.

This International Standard specifies a set of basic gestures which will enable the user to operate a system regardless of its country of origin or specific manufacturer. The advantage of these gestures lies in the fact that the indication of a location and the indication of an action to be performed on the object at that location can both be carried out simultaneously. The gestures chosen to indicate such functions are the most commonly used. These are essentially the kind of gestures covered by this International Standard. This International Standard consists of 8 clauses and covers commands for two types of required functions and also some optional functions.

Information technology — Pen-Based Interfaces — Common gestures for Text Editing with Pen-Based Systems

1 Scope

This International Standard defines the basic gesture commands for text editing with pen-based systems and defines the user actions required to have the system execute these commands. The feedback to the user when a gesture command has been correctly recognized is also defined. This International Standard does not define the user actions necessary for the input of characters.

2 Conformance

A system conforms to this International Standard if it conforms to clauses 6, 7 and 8.

3 Normative references

There are no International Standards referenced.

4 Terms and definitions

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

4.1

action point

point on the *digitizer* display where a *gesture command* will be executed

4.2

digitizer

device which can detect the position touched by the pen

4.3

end point

final point of the stroke drawn by the pen

4.4

gesture

one or a sequence of actions and strokes made by a user upon the *digitizer* that invokes a *gesture command*

4.5

gesture command

instruction to the system resulting from a *gesture* input by the user, e.g. Select, Move, Delete

4.6

lift-off

action in which the user lifts the pen off the active *digitizer* surface

4.7

pause

action where the user keeps the pen stationary for a certain time after *touchdown*

4.8

pen-based system

system consisting of a pen and *digitizer* which can detect the position touched by the pen and with which the user can input the data or commands using the pen

4.9

segment

part of a *stroke* made by moving the pen in a straight line without changing direction

4.10

selected text

continuous character string that the user has selected

4.11

start point

first point of a *stroke* drawn by the pen

4.12

stroke

continuous movement of the pen across the *digitizer* surface starting with a *touchdown* and ending at a *lift-off*

4.13

tap

to touch the *digitizer* briefly, typically less than one second, with the pen and then *lift-off* in approximately the same position

4.14

text area

area where the text is displayed and the user can input gestures

4.15

touchdown

action in which the user touches the active surface of the *digitizer* with a pen

4.16

visible trail

path of the pen temporarily displayed by the *digitizer* until completion of the *stroke*

5 Conventions

For the purposes of this International Standard, the following conventions apply to the diagrams in clauses 6, 7 and 8.

● Start point

■ Touchdown and pause

⦿ Tap and touchdown

Stroke with a visible trail on the screen

Stroke without a visible trail on the screen

Direction of the stroke

Area of selection

6 Required gesture commands

Systems conforming to this International Standard shall implement the functions and the corresponding gesture commands as described in this clause.

6.1 Select

6.1.1 Function

The select function shall identify the area for subsequent editing commands, such as move or copy. The continuous string of characters (including space) from the start point to the end point becomes the selected area.

6.1.2 Gesture

The select gesture shall consist of the following elements: touchdown, pause, system feedback, continuation of the stroke in any direction and lift-off (see Figure 1). To initiate the select gesture, the user touches the screen and pauses until the system feedback is visible and then continues the stroke in any direction. The stroke does not have to be a straight line.

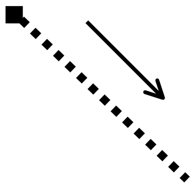
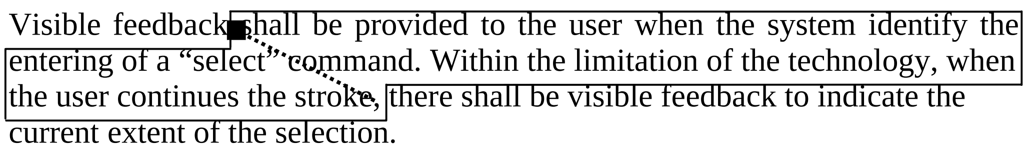


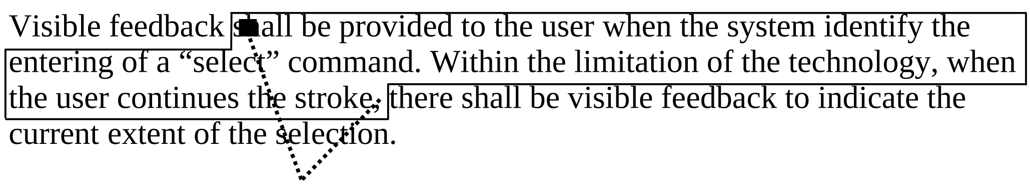
Figure 1 — Gesture for the select function

6.1.3 Feedback

Visible feedback shall be provided to the user when the system recognizes the entering of a “select” command. Within the limitations of the technology, when the user continues the stroke, there shall be visible feedback to indicate the current extent of the selection. Where possible, audible feedback should accompany this command at the “pause” point.

Examples





6.2 Delete

6.2.1 Function

The delete function shall erase a section of the text.

6.2.2 Gesture

The delete gesture shall consist of at least one of the following sequences of elements:

a) Touchdown, a stroke of at least four segments in a zigzag manner as shown in Figure 2a and lift-off. The segments of the zigzag should be about the same length and the segments may overlap.

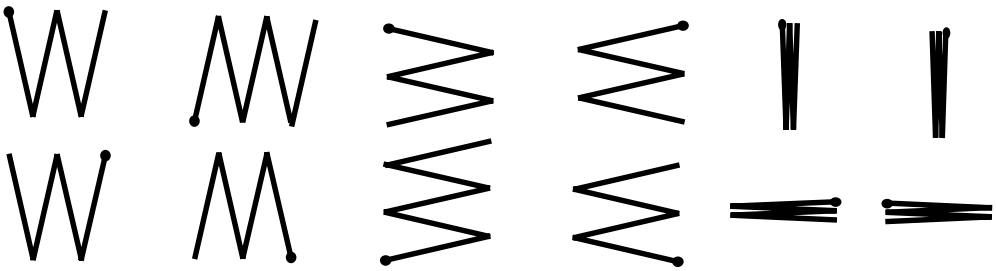


Figure 2a — Gesture for the delete function

b) Touchdown, drawing of two segments of "V" which are drawn from top downward right followed by a right upward segment as shown in Figure 2b and lift-off. The action point shall be the start point. The length of the second segment should be more than twice as the first one.

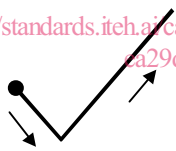


Figure 2b — Gesture for the delete function

Note1: If both gestures, a) and b), are available on the system, then the user should have the option to disable one of them.
Note2: The stroke of these gestures may have no visible trail.