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ISO/IEC Voice command-1

ISO/IEC JTC 1/SC 35/WG 5

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**Information technology — User interfaces — Voice command — Part 1:  
Framework and general guidance**

*Technologies de l'information — Interfaces utilisateur — Commande de voix — Partie 1: Cadre et conseils généraux*

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. 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.

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.

This part of ISO/IEC **Principal voice commands** was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User Interfaces*.

ISO/IEC **Principal voice commands** consists of the following parts, under the general title *Information technology — User interfaces — Principal voice command*:

- *Part 1: Framework and general guidance*
- *Part 2: Procedures for constructing and testing*
- *Part 3: Translation issues and inter-language issues for voice command*
- *Part 4: Management of spoken command registration*

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## Introduction

Voice command is used for controlling ICT devices with the voice and in the language of the user. This technology is based on voice recognition, with some consideration for language tolerance (different accents or speech impairment while using a given language). It is also beneficial to the people who are operating the ICT device when/where they cannot use hands or fingers to operate it.

This International Standard defines the principal standardized voice commands that will be commonly used in various ICT devices.

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# Information technology — User interfaces — Voice command — Part 1: Framework and general guidance

## 1 Scope

This part of ISO/IEC Principal voice command defines a framework and general guidance for essential voice commands.

This International Standard will propose a limited number of commands which could be memorized to facilitate the use of the information/communication technology (ICT) devices including computers, PDA's, tablets, mobile devices, car navigation systems, and business machines.

## 2 Conformity

The voice command is conformant to ISO/IEC Principal voice commands if it meets all requirements of Clause 5.

## 3 Normative references

The following referenced documents are indispensable for the application 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 639-1:2002: Codes for the representation of names of languages -- Part 1: Alpha-2 code

ISO/IEC 2382-29:1999: Information technology -- Vocabulary -- Part 29: Artificial intelligence -- Speech recognition and synthesis

ISO/IEC 24786: 2009: Information technology – User interfaces – Accessible user interface for accessibility settings

## 4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

**voice command**  
**spoken command**

spoken instruction to control ICT devices.

### 3.2

**voice operation**

function that allows users to operate a computer with voice commands through a microphone (e.g. the voice command "Switch to Mail" activates the email application) [ISO/IEC 24786:2009]

NOTE The voice commands usually follow an activation keyword (e.g. "Computer!") in order to be distinguished from other speech that is not intended as a voice command.

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## 5 Requirements and recommendations

### 5.1 Overview

#### 5.1.1 General

This clause provides a framework for use in the analysis, design, and implementation of voice commands.

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#### 5.1.2 Attributes

The voice command shall have the following attributes.

##### a) Title

Title is a name of this voice command. The title should be a noun or a noun phrase. Title shall be unique (see 5.1.4). If there is a need for more than one title, the titles shall be separated with the punctuation mark semicolon.

NOTE Title is not the word or phrase to be spoken by user as voice command.

EXAMPLE 1 "Confirmation of operation"

EXAMPLE 2 "Answer: Confirmation"

##### b) Word or phrase of command

Word or phrase of command is to be spoken by user to control ICT devices. Word or phrase of command shall be unique (see 5.1.4).

EXAMPLE 1 "Yes"

EXAMPLE 2 "I agree"

##### c) Function

Function is a purpose of the voice command, or actual action when the voice command is given. Function should start with *to-infinitive*, i.e. "To verb ..."

EXAMPLE 1 "To confirm the operation that the system requires the user to allow to do."

EXAMPLE 2 "To agree the reaction of ICT device."

##### d) Note

Note is additional explanation. If there is nothing to describe in Note, it can be blank.

EXAMPLE "See also the voice command 'OK'."

##### e) Keywords

Keywords is used by user to search the voice command on the database described in Clause 5.2. If there is no keyword, this can be blank.

EXAMPLE "OK, agree, confirmation"

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f) Date of release

Date of release is the date when the resent data a)-i) is updated. The date shall be UTC.

EXAMPLE "2012-01-01"

g) Version

Version is a number of revision. This must start with 1.0. The number increases by 1.0 in the case of major revision, and by 0.1 in the case of minor revision.

EXAMPLE "1.2"

h) History

History is a record of revisions. History can include past versions, and dates of release of past revisions. If there is no past revision, History can be blank.

EXAMPLE "Ver. 1.0: 2011-01-01, Ver. 1.1: 2011-07-01"

i) Relevant TCs/SCs and publications

Relevant TCs/SCs is TCs/SCs of ISO, IEC, or other standardize organization who standardize the voice command, or is/are interested by it. The publication is the published standard that provides the voice command.

EXAMPLE "JTC1/SC35, ISO/IEC 00000:2012."

**5.1.3 Declaration**

The voice command shall follow to the operation that declares the following word or phrase is the voice command to the system.

The voice command should be followed by the operation that declares the end of the voice command. Otherwise, the time limitation of reception of voice command should be set.

NOTE\_1 The declaration enable the system to distinguish whether the word or phrase spoken by the user is the voice command or just a general utterance.

NOTE 2 The declaration is not always a voice, the declaration includes making sounds, pushing buttons, or gestures.

EXAMPLE\_1 Saying "Computer!" is the declaration of start of voice command.

EXAMPLE 2 Clapping hands three times is the declaration of start of voice command.

EXAMPLE 3 Saying "Over." is the declaration of end of voice command.

EXAMPLE 4 ICT device receives the voice command only in 8 s after the declaration of start of voice command.

**5.1.4 Uniqueness**

Any two voice commands that have different functions shall not have the same Title.

Any two voice commands that have different functions shall not have the same Word or phrase of command.

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## 5.2 Database of voice command

### 5.2.1 Registration of voice command

The standardized voice commands shall be registered to the database defined in Part 4 of this international standard.

### 5.2.2 Language of voice command to be registered in database

Voice command shall be registered in the database in at least one, ideally two, of the official languages of ISO and IEC. Provision shall be included in registration for adding as many equivalents in other languages as needed.

NOTE 1 In order to register a standardized voice command to the database, registration of a word/phrase in an official language of ISO/IEC is mandatory. The database **shall be able** to register as many other language equivalents (Chinese, English, French, German, Italian, Japanese, Russian, , , etc.) as needed.

NOTE 2 Translation and inter-language issues are described in Part 3 of this international standard.

### 5.2.3 Contents of database

The database shall contain the following contents.

[/c is Alpha-2 codes for the representation of names of languages. \[ISO 639-1:2002\]](#)

[Title, Word of phrase of command, Function, Note, and Keyword are functions as language code /c. These functions shall give value when /c = "en" i.e. English. Non-English languages are optional.](#)

[EXAMPLE Word or phase of command\(en\) = "Yes", Word or phase of command\(fr\) = "Oui", Word or phase of command\(de\) = "Ja"](#)

a) [Index number](#)

[Index number is a serial unique number of the voice command.](#)

b) [ID number](#)

[ID number is a classified unique number if the voice command.](#)

c) [Title\(/c\)](#)

d) [Word or phrase of command\(/c\)](#)

e) [Function\(/c\)](#)

f) [Note\(/c\)](#)

g) [Keywords\(/c\)](#)

h) [Date of release](#)

i) [Version](#)

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NOTE Neither pronunciation nor duration of word or phrase is registered in database.

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#### 5.2.4 Management of database

Procedures of management of the database shall conform to Part 4 of this international standard.

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