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## Information technology — User interfaces — Voice commands —

### Part 1: Framework and general guidance

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

ICS: 35.240.20

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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.

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This part of ISO/IEC 30122 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User Interfaces*.

ISO/IEC 30122 consists of the following parts, under the general title *Information technology — User interfaces — Voice commands*:

- *Part 1: Framework and general guidance*
- *Part 2: Procedures for constructing and testing*
- *Part 3: Guidance on translation and localization of voice commands*
- *Part 4: Management of voice command registration*

## Introduction

Voice command is used for controlling ICT devices with the voice and in the language of the user. This technology is based on speech 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.

This part of ISO/IEC 30122 provides a framework and general guidance for essential voice commands.

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

## 1 Scope

This part of ISO/IEC 30122 defines a framework and general guidance for essential voice commands.

This International Standard provides 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.

This International Standard does not include the natural sentence recognition by using natural language processing technology.

## 2 Conformity

A voice command is conformant to ISO/IEC 30122-1 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 639-2, Codes for the representation of names of languages -- Part 2: Alpha-3 code

ISO 639-3, Codes for the representation of names of languages -- Part 3: Alpha-3 code for comprehensive coverage of languages

## 4 Terms and definitions

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

### 4.1

#### voice command

spoken instruction to control ICT system

### 4.2

#### 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 to entry: A 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.

## 5 Requirements and recommendations

### 5.1 Overview

#### 5.1.1 General

ISO/IEC 30122 consists of four parts.

Part 1 provides a framework and general guidance for essential voice commands. Basic and common requirements and recommendations for voice commands are provided.

Part 2 provides the technical criteria and test methods of voice commands and its speech recognition system. A voice command is the instruction spoken by user to control ICT device. The ICT device recognizes and identifies the spoken instruction by speech recognition technology. Thus, in order to determine appropriateness of a voice command, specification of the speech recognition technology that is used in ICT device must be also taken into account as well as the acoustical property of voice command.

Part 3 provides the linguistic requirements to translate and localize them and procedure to decide the words or phrases for voice commands on the linguistic points of view. A voice command is used in any language. Inter-language issues of voice commands must be taken into account for translation and localization of voice commands.

Part 4 defines supplementary procedural information, requirements and criteria that apply to a collection of voice commands published as a web-accessible voice command database. They are based on the Annex SK of the ISO Supplement to ISO/IEC Directives. Part 4 also defines the method for adding, changing or withdrawing voice commands in an electronic database of standard voice commands.

A developer of system/application that will use voice command shall follow the next procedures.

- Identify needed commands.
- Check database of voice command to find voice commands that meet these needs.
- Where standard voice command exist use them.
- Where standard voice commands do not exist, refer to guidance in Part 1 and Part 2 to create missing voice command.
- For all voice commands refer to guidance of Part 3 for inter-language issue and localization.
- If desired, submit new command to standardization procedure, see Part 4.

#### 5.1.2 Attributes

Each of voice commands in series of this standard has the following attributes.

NOTE In EXAMPLEs of a)-j), the example data of attributes are expressed in English.

##### 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 always the word or phrase to be spoken by user as voice command.

EXAMPLE 1 "Confirmation of operation"

EXAMPLE 2 "Answer; Confirmation"



## b) Function

Function gives the purpose of the voice command, or actual action when the voice command is given. Function starts with *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."

## c) Phrase of command

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

EXAMPLE 1 "Yes"

EXAMPLE 2 "I agree"

## d) Pronunciation

Pronunciation gives the special requirement of pronunciation. It should be described in appropriate mark-up way. If there is no special information concerning pronunciation, this can be blank.

EXAMPLE 1 The make-up ways include IPA (International Phonetic Alphabet), SAMPA, etc.

EXAMPLE 2 If the Phase of command is "Direction" and only a pronunciation [dərəkʃən] is allowed (i.e. [daɪrəkʃən] is invalid for that command), the Pronunciation is "[dərəkʃən]".

EXAMPLE 3 If the Phase of command is "Direction" and both pronunciations [dərəkʃən] and [daɪrəkʃən] are allowed, the Pronunciation is "[dərəkʃən][daɪrəkʃən]".

## e) Note

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

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

## f) 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"

## g) 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"

## h) Version

Version is a number of revision. This must start with 1,00. The number increases by 1 in the case of major revision, and by 0,01 in the case of minor revision.

EXAMPLE "1.02" ("," is a decimal point)

## i) History