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Sistemi z identifikacijskimi karticami - Vmesnik človek-stroj - 4. del: Kodiranje zahtev uporabnikov za ljudi s posebnimi potrebami

Identification card systems - Man-machine interface - Part 4: Coding of user requirements for people with special needs

Identifikationskartensysteme - Schnittstelle Mensch-Maschine - Teil 4: Codierung von Benutzeranforderungen für Personen mit besonderem Bedarf
(standards.iteh.ai)Systemes de cartes d'identification - Interface homme-machine - Partie 4: Codage des prescriptions utilisateur pour les personnes ayant des besoins spécifiques
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35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
35.240.15	Identifikacijske kartice in sorodne naprave	Identification cards and related devices

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EUROPEAN STANDARD

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Identification card systems - Man-machine interface - Part 4: Coding of user requirements for people with special needs

Systèmes de cartes d'identification - Interface homme-machine - Partie 4: Codage des prescriptions utilisateur pour les personnes ayant des besoins spécifiques

Identifikationskartensysteme - Mensch-Maschine-Schnittstelle - Teil 4: Codierung von Benutzeranforderungen für Personen mit besonderem Bedarf

This European Standard was approved by CEN on 16 May 2007.

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EN 1332-4:2007 (E)**Foreword**

This document (EN 1332-4:2007) has been prepared by Technical Committee CEN/TC 224 "Personal identification, electronic signature and cards and their related systems and operations", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

This document supersedes EN 1332-4:1999.

This document is a major revision of the previous version EN 1332-4:1999. The number of tags has been increased from 17 to 42. The grouping of preferences has been reorganised to make it more intuitive and notes have been added to draw attention to possible incompatible tag settings.

This European Standard is one of a series of standards, under the general title "Identification card systems - Man-machine interface" and the different parts are the following:

- *Part 1 : Design principles for the user interface*
- *Part 2 : Dimensions and location of a tactile identifier for ID-1 cards*
- *Part 3 : Key-pads*
- *Part 4 : Coding of user requirements for people with special needs*
- *Part 5 : Raised tactile symbols for differentiation of application on ID-1 cards*

In addition there is a Technical Specification on Guidance on Design for Accessible Card Activated Devices.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Machine readable cards facilitate the provision of a growing variety of services across Europe. The purpose of EN 1332 is to increase the accessibility of these services for the benefit of consumers. This will be achieved by facilitating the inter-sector and cross-border interpretability of machine readable cards and to do so with the maximum possible degree of user-friendliness.

EN 1332 addresses the needs of all users, including people with special needs, for example the aged, minors, the disabled, the visually impaired, those with learning difficulties, first time users, those not conversant with the local language.

EN 1332 specifies:

- a) design principles for the user interface (including symbols) to be incorporated into design of card operated equipment, but not the machine operations associated with the selection and delivery of goods or services;
- b) tactile identifier to be incorporated into the design of machine readable cards;
- c) standard layout for the keypads of card operated equipment;
- d) coding of user requirements for people with special needs;
- e) tactile markings for differentiating cards by application.

The contents of EN 1332 are generically based, not sector specific, and cover card operated equipment. It is recognised that the equipment can also be operated by other means, such as the insertion of notes and coins, but the scope of this standard has been, as indicated, narrowly defined.

The objective of establishing a standard on the coding of user requirements for people with special needs is to enable cardholders, in particular elderly and disabled people, to make better use of cardholder operated equipment accepting integrated circuit(s) cards (e.g. cash dispenser, ticket machine, vending machine), which is becoming more and more widespread in Europe. This also enables service providers to ensure that their equipment, and the services provided, can be made responsive to individual cardholder requirements.

Current standards for some specific industry sectors, for example finance or healthcare, which include handling of sensitive information may not include user preference data. If issuers of cards in these sectors wish to make use of the tags specified in EN 1332-4 they should consider placing this information on the card in a separate dataset or in separate media.

EN 1332-4:2007 (E)**1 Scope**

This European Standard defines the data objects to be stored within an integrated circuit(s) card and exchanged in order to enable integrated circuit(s) card accepting terminals to identify specific user interface preferences. The preference information may be used by terminals to configure appropriate methods of communicating with the user during a transaction process.

The European Standard also specifies a mechanism for the retrieval of the user preference information from an integrated circuit(s) card and for the combination of data objects to form particular user profiles, through the assignment of unique tags.

Formats and detailed definitions of single data objects are specified, however, the exact method of storage of data within the integrated circuit(s) card is outside the scope of this European Standard.

This European Standard is applicable to the scenario where the cardholder operates the card accepting equipment (e.g. a cash dispenser, ticket machine, vending machine) and to integrated circuit(s) cards conforming to ISO/IEC 7816-4 and ISO/IEC 7816-6 and personalised to the individual cardholder.

2 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 (all parts), *Codes for the representation of names of languages*

ISO/IEC 7816-4:2005, *Identification cards - Integrated circuit cards - Part 4: Organization, security and commands for interchange*

ISO/IEC 7816-6:2004, *Identification cards - Integrated circuit cards - Part 6: Interindustry data elements for interchange*

ISO/IEC 8825-1:2002, *Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*

3 Terms and definitions

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

3.1 data element

[ISO/IEC 7816-4:2005]

3.2 data object

[ISO/IEC 7816-4:2005]

3.3 primitive/constructed data objects

[ISO/IEC 8825-1:2002]

3.4 Template

[ISO/IEC 7816-6:2004]

4 Abbreviations

ASN.1	Abstract Syntax Notation One
b8.b1	Bits one to eight of a byte (lsb)
BCD	Binary Coded Decimal
ls	Least significant byte
ms	Most significant byte
PIN	Personal Identification Number
TLV	Tag, length, value.

5 User interface data objects

5.1 General remarks

Information shall only be stored on a card with the consent of the user.

The interface device shall not retain the data elements or objects stored on the card.

If a separate updating process exists it may retain a copy of the preference information in a database. This database shall conform to relevant data protection legislation.

For each data object, the following descriptors may be present:

- purpose (a short description of the use of the given data object);
- format (giving the size of the data object and possibly a symbolic format used to describe the content);
- content (the exact definition for the coding of the data object);
- remarks (other information).

Absence of a data object in the card indicates that no special requirements apply in the area concerned.

Subclause 5.4 uses private tags in accordance with the registered Cardholder Included Requirements tag specified in ISO/IEC 7816-3 and ISO/IEC 7816-6. The defined data objects that may be present within an integrated circuit(s) card indicate user interface preferences. Presentation of the precise combination of user's preferences specified in the data objects encoded on the card is dependent on the terminal's capability to support the options. For example presentation may require the presence of a colour display or a loudspeaker.

The ISO registered tag for Cardholder Requirements Included Features is 7F22.

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5.2 Principles

The following principles apply to the identification of user preference data objects within this standard:

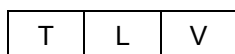
- data element is generally presented in the value field of a data object;
- data object is the concatenation of the following string of bytes:
 - mandatory tag field, referred to as a tag;
 - mandatory length field indicating the number of bytes of the value field;
 - conditional value field of L bytes (when 'L' is not equal to '00').

5.3 Data object structure and byte settings

5.3.1 Data object structure

The following data object structures conforming to ISO/IEC 7816-4 are supported:

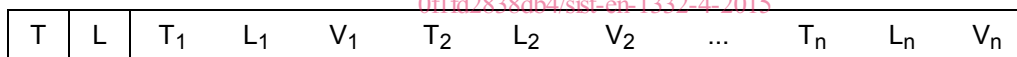
- primitive data object



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where T = Tag, L = Length, V = Value

- constructed data object <https://standards.iteh.ai/catalog/standards/sist/1aa1b4a7-bede-4c98-9d11-0f1fd2838db4/sist-en-1332-4-2015>



T = Tag of constructed data object

L = Length of the string (template) T₁ to V_n

T₁ = Tag of a data object

L₁ = Length of V₁

V₁ = Value

5.3.2 Structure of the tag

The tag consists of one or two bytes. The coding of these bytes shall be consistent with the basic encoding rules of ASN.1 as defined in ISO/IEC 8825-1. Table 1 defines the first byte.

Table 1 — Structure of the first byte of the tag

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0	-	-	-	-	-	-	Not defined in this standard
0	1	-	-	-	-	-	-	Defined in this standard Application class, unambiguous identification
1	0	-	-	-	-	-	-	Defined in this document and only to be used within a template
1	1	-	-	-	-	-	-	Private tags defined in this document.
-	-	0	-	-	-	-	-	Primitive data object
-	-	1	-	-	-	-	-	Constructed data object
-	-	-	1	1	1	1	1	Tag number contained in the next byte - range 31..127
-	-	-	x	x	x	x	x	Tag number - range 0 - 30 Not all equal to 1

The coding of the second byte of the tag, when present, is:

- b8 = 0;
- b7 to b1 = binary value of the tag number in the range 31..127.

NOTE The first byte of tags of the primitive data objects defined in this document has the value 'DF'.

5.3.3 Structure of the length

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All lengths are expressed in bytes.

The length consists of one or more bytes. The coding of these bytes shall be consistent with the basic encoding rules of ASN.1 as defined in ISO/IEC 8825-1 and shall be as defined in Table 2.

Table 2 — Coding of the length value

Range	Number of bytes	1st byte	2nd byte	3rd byte
0..127	1	binary value	none	none
0..255	2	'81'	binary value	none
0..65,535	3	'82'	binary ms byte	value ls byte

5.4 Coding of user requirements

5.4.1 Symbols

Purpose: To indicate the preferred method of presentation of visual information, either via text, symbols, Braille or a combination of both.

Format: 1 byte binary.

Content: The content of this field is in accordance with Table 3.

Table 3 — Content of the symbols data object

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
-	-	-	-	-	-	-	1	Text required
-	-	-	-	-	-	1	-	Symbols required
-	-	-	-	-	1	-	-	Sign language required
-	-	-	-	1	-	-	-	Braille output required
x	x	x	x	-	-	-	-	Reserved for future use. All bits set to zero

Remarks: This data object is addressed through the use of tag number 'DF50'.

NOTE If Braille, b4, is set the default setting of tag DF6F is Grade 1, 6 dot Braille.

5.4.2 Character size

Purpose: This data object enables the preferred size of any text information to be provided to the terminal device.

Format: 1 byte coded as two BCD digits.

Content: The height of characters in millimetres. The width of characters shall be in proportion to the specified height for the particular font being displayed.

Remark: This data object is addressed through the use of tag number 'DF51'.

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5.4.3 Screen colour

Purpose: To indicate preferred colours for the presentation of visual information.

Format: 1 byte binary.

Content: The coding of the screen colour byte shall be in accordance with Table 4.

Table 4 — Content of the screen colours data object

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
-	-	-	-	-	-	-	1	Use application default colours
-	-	-	-	x	x	x	-	Preferred colour for text according to the values specified below
-	x	x	x	-	-	-	-	Preferred background colour according to the values specified below
1	-	-	-	-	-	-	-	Plain background