INTERNATIONAL STANDARD

ISO
18232

Health Informatics — Messages and communication — Format of length limited globally unique string identifiers

Informatique de santé — Messages et communication — Format des identifiants uniques universels codés en caractère et limités en longueur

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 18232 was prepared by Technical Committee ISO/TC 215, *Health informatics*.

Introduction

Data objects used in medicine include reports and results of diagnostic procedures which are stored and exchanged in electronic form, and objects such as templates. Applications must be able to find the location and the identification of such objects. Object identifiers are often numeric in form. This International Standard provides a means of exchanging globally unique identifiers expressed as character strings. It is not concerned with the specification of the location from which a data object may be retrieved.

A healthcare service for a patient is delivered in identifiable parts which may be termed healthcare service items. A healthcare service item can be performed for a patient by a healthcare professional, or a healthcare professional may request a healthcare service item to be performed by another healthcare professional or by a healthcare service department such as a medical imaging service department.

Healthcare service item results arise from numerical measurement or assessment by a healthcare professional. Individual numerical results may be included within report text, perhaps in a table. Sets of numerical results may be presented visually e.g. waveform (graph) or image (picture).

Results that consist of a large number of measured values such as a waveform or digital image are known as data objects.

To allow safe use in medicine, all data objects must be identified by a globally unique identifier (GUI), such as an ISO OID or binary MS GUI. The GUI allocated to a data object is attached to the data object (e.g. by including it within a computer file header section). The reference to a data object includes the GUI of the data object as well as the path to the data object. The application that retrieves the data object can verify that the correct data have been retrieved by matching the GUI in the reference to the GUI attached to the data object. See Annex A for relevant scenarios.

It may be noted that:

a) the issue of the location of a data object is separate from the issue of its identity; indeed several identical copies of the object may exist;

b) a globally unique data object identifier is intended for machine use and may be quite large;

c) a short, user-friendly, locally unique identifier is often required in addition to the globally unique identifier for human use. (This is outside the scope of this International Standard.)

Globally unique identifiers are already specified in various standards and the intention of this International Standard is to provide a specification for a common format for the exchange of commonly used globally unique identifiers expressed as alphanumeric strings.

A logical data format for globally unique identifiers constructed from a sequence of integers is defined by ISO/IEC 8824-1. Identifiers based on ISO/IEC 8824-1 are widely used in medical imaging. 128 bit universal unique identifiers (UUIDs) are widely used in the MS Windows environment. This International Standard specifies the format of alphanumeric string fields for the exchange of globally unique string identifiers (GUSI)

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1 Scope

This International Standard specifies the encoding and length for globally unique identifiers for data objects used in healthcare exchanged as alphanumeric strings.

The technologies used for data storage, location and communication are outside the scope of this International Standard.

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/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 8824-1:2002, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation — Part 1*

ISO/IEC 9834 (all parts), *Information Technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities*

DICOM PS 3.3, *Digital Imaging and Communications in Medicine — Part 3: Information Object Definitions*

DICOM PS 3.4, *Digital Imaging and Communications in Medicine — Part 4: Service Class Specifications*

DICOM PS 3.5, *Digital Imaging and Communications in Medicine — Part 5: Data Structures and Encoding*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

3.1.1
information object
well-defined piece of information, definition, or specification which requires a name in order to identify its use in communication

NOTE　　　Adapted from ISO/IEC 8824-1.

3.1.2
object identifier
OID
value (distinguishable from all other such values) that is associated with an information object

NOTE　　　Adapted from ISO/IEC 8824-1.