



SLOVENSKI STANDARD
oSIST ISO 21127:2007

01-april-2007

Informacija in dokumentacija - A referenčna ontologija za izmenjavo kulturne dediščine

Information and documentation - A reference ontology for the interchange of cultural heritage information

Ta slovenski standard je istoveten z:

ICS:

35.240.30	Uporabniške rešitve IT v informatiki, dokumentiranju in založništvu	IT applications in information, documentation and publishing
-----------	---	--

oSIST ISO 21127:2007

en

INTERNATIONAL
STANDARD

ISO
21127

First edition
2006-09-15

**Information and documentation —
A reference ontology for the interchange
of cultural heritage information**

*Information et documentation — Une ontologie de référence pour
l'échange d'informations du patrimoine culturel*



Reference number
ISO 21127:2006(E)

© ISO 2006

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Conformance	2
3 Terms and definitions	2
4 Structure and presentation	6
4.1 Property quantifiers	6
4.2 Naming conventions	8
5 Modelling principles	8
5.1 Monotonicity	8
5.2 Minimality	9
5.3 Shortcuts	9
5.4 Disjointness	9
5.5 Types	10
5.6 Extensions	10
5.7 Coverage of intended scope	11
6 Class declarations	11
7 Property declarations	55
Annex A (informative) Class hierarchy	101
Annex B (informative) Property hierarchy	103
Bibliography	108

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21127 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 4, *Technical interoperability*, in collaboration with the International Council of Museums Committee for Documentation (ICOM CIDOC).

Introduction

This International Standard is the culmination of more than a decade of standards development work by the International Committee for Documentation (CIDOC) of the International Council of Museums (ICOM). Work on this International Standard began in 1996 under the auspices of the ICOM-CIDOC Documentation Standards Working Group. Throughout its development, the model has been known as the “CIDOC Conceptual Reference Model” or CRM. References to the CRM can be considered throughout as synonymous with ISO 21127.

The primary purpose of this International Standard is to offer a conceptual basis for the mediation of information between cultural heritage organizations such as museums, libraries and archives. This International Standard aims to provide a common reference point against which divergent and incompatible sources of information can be compared and, ultimately, harmonized.

ISO 21127 is a domain ontology ¹⁾ for cultural heritage information: a formal representation of the conceptual scheme, or “world view”, underlying the database applications and documentation systems that are used by cultural heritage institutions. It is important to note that this International Standard aims to clarify the logic of what cultural heritage institutions do in fact document; it is not intended as a normative specification of what they *should* document. The primary role of this International Standard is to enable information exchange and integration between heterogeneous sources of cultural heritage information. It aims to provide the semantic definitions and clarifications needed to transform disparate, localized information sources into a coherent global resource, be it within an institution, an intranet or on the Internet.

The specific aims of this International Standard are to:

- Serve as a common language for domain experts and IT developers when formulating requirements.
- Serve as a formal language for the identification of common information contents in different data formats; in particular to support the implementation of automatic data transformation algorithms from local to global data structures without loss of meaning. These transformation algorithms are useful for data exchange, data migration from legacy systems, data information integration, and mediation of heterogeneous sources.
- Support associative queries against integrated resources by providing a global model of the basic classes and their associations to formulate such queries.
- Provide developers of information systems with a guide to good practice in conceptual modelling.

The CRM ontology is expressed as a series of interrelated concepts with definitions. This presentation is similar to that used for a thesaurus. However, the ontology is not intended as a terminology standard and does not set out to define the terms that are typically used as data in cultural heritage documentation. Although the presentation provided here is complete, it is an intentionally compact and concise presentation of the ontology's 80 classes and 130 unique properties. It does not attempt to articulate the inheritance of properties by subclasses throughout the class hierarchy (this would require the declaration of several thousand properties, as opposed to 130). However, this definition does contain all the information needed to infer and automatically generate a full declaration of all properties, including inherited properties.

1) In the sense used in computer science, i.e. it describes in a formal language the relevant explicit and implicit concepts and the relationships between them ^[1].

