Using Standards in Digital Library Design & Development

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ABSTRACT
This tutorial will cover a set of Standards and de facto Standards that can play a role in the design and development of Digital Library applications. The Standards that will be discussed are the ISO MPEG-21 Digital Item Declaration, the ISO MPEG-21 Digital Item Identification, the ISO MPEG-21 Digital Item Processing, the Open Archives Protocol for Metadata Harvesting, the Internet Archive Arc File format, the NISO OpenURL Framework for Context-Sensitive Services, and the proposed info URI scheme. The tutorial will discuss these Standards by illustrating how they have been used in the context of the aDORe Digital Object repository. aDORe has been designed and implemented for ingesting, storing, and accessing a vast collection of Digital Objects at the Research Library of the Los Alamos National Laboratory. Since aDORe is not a product, the tutorial is not a product advertisement. Rather, it is an opportunity for designers and developers to learn about Standards that can help addressing real-life challenges in DL design and development, and help increase interoperability across systems. The presenters are actively involved in all of the standardization efforts that are discussed.

Categories and Subject Descriptors
H.3.7 [Digital Libraries]: Standards

General Terms: Standardization, Design

1. OUTLINE
1.1 Using MPEG-21 DID to represent Digital Objects

1.2 Using MPEG-21 DII to identify Digital Objects
The tutorial examines the use of the MPEG-21 Digital Item Identification [4] (ISO/IEC 21000-2) to convey the identifier(s) of a Digital Object, and its constituent datastreams.

1.3 Using MPEG-21 DIP to process Digital Objects

Using OAI-PMH to harvest resources represented as Digital Objects
The tutorial examines how digital resources, not just metadata about resources, can be harvested using the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) [5].

1.4 Using Internet Archive ARC files to store datastreams constituting a Digital Object
The tutorial examines how constituent datastreams of the Digital Object can be provided by reference and physically stored in Internet Archive ARC files [1].

1.5 Using info URI to facilitate the referencing of information assets under the URI allocation
The tutorial examines the use of the info URI scheme [7], proposed to allow referencing by means of URIs those resources that have identifiers in public namespaces but have no representation within the URI allocation.

1.6 Using the OpenURL Framework to convey Context-Sensitive dissemination requests
The tutorial examines how digital resources, not just metadata about resources, can be harvested using the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) [5].

2. REFERENCES