Achievement Standards Network: Adoption by IMS Standards

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Talk Objectives

• Explain the significance of learning standards and content interoperability
• Introduce the ASN Framework
• Explain how IMS currently uses ASN
Learning Objectives and Standards

• Annotation of learning content with learning standards identifies competencies being addressed by the content

• Need to be able to describe learning standards, objectives and competencies in machine readable form

• Broad and ease of adoption for linking the content with the corresponding learning standards requires open interoperability standards
Semantic Linking for Learning Standards

[Diagram showing the relationships between different documents and statements, with links indicating isPartof and isChildOf relationships.]
Derived Relationships
An Architecture

Premium Learning Content

Common Cartridge

Contains the GUIDs to the learning standards

Learning Standards Repository
The Achievement Standards Network is an open access service to competency framework data.

Developed by Professor Stuart Sutton at the University of Washington, in collaboration with JES & Co.

Funded through NSF awards DUE-0121717 and DUE-0840740 plus support from the Gates Foundation, and licensed to JES & Co. under agreement with University of Washington.

As of February 2014, the ASN is owned and operated by Desire2learn (D2L)
ASN Framework

• Hosts learning standard definitions
• Supports the encoding of new learning standards
• Provides ASN Toolkit
  – Searching, Cross-walks, URI Resolver
• Provides user documentation and community support
• Hosted by D2L
Curriculum Standards Metadata (CSM)

- IMS metadata to enable learning content to be annotated by links to the associated learning standards (not limited to ASN)
- Can be used in any XML-based/savvy instance e.g. IEEE LOM
- IMS use CSM in the context of a Content Package (CP) or and Common Cartridge (CC)
CSM/ASN Example

<curriculumStandards_metadata_set resource_label="QTI-Item" resource_part_id="ITEM-001">
  <curriculum_standards_metadata provider_id="ASN">
    <set_of_GUIDs region="Texas" version="1.0">
      <labelled_GUID>
        <label>ASN PURL for Texas on subject "..." and level "..".</label>
        <GUID>http://purl.org/ims/cck12ls/usa_texas_LA_4_2_1_6</GUID>
      </labelled_GUID>
      ...
    </set_of_GUIDs>
    ...
  </curriculum_standards_metadata>  
  ...
</curriculum_standards_metadata_set>
What is Common Cartridge?

• Common Cartridge (CC) is a specification for packaging and exchanging learning and assessment content
• The CC package distills the latest and best community practices for sharing digital content among authoring tools and learning platforms
• Supports both the containment of content in the package external references using URLs or LTI
• CCv1.3 and Thin CC are the latest versions
A Common Cartridge

Extended roles meta-data vocabulary (Instructor, Learner, Mentor)

Multilingual support using alternative resources for web content and assessments

Assessment resources now include instructions to guide the learner in completing the assessment

LTI Resource type for integration with web applications and eBooks.

Learning objectives assigned to resources using curriculum standards

Human readable lesson plans provided to guide the instructor in using the cartridge content

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Metadata Everywhere

• Within the manifest:
  – Manifest-level
  – Organization-level
  – Item-level
  – Resource-level
  – File-level

• Binding forms:
  – IMS Metadata v1.3.2
    (Binding)
  – IMS Curriculum Standards Metadata v1.0
    • Manifest-level
    • Resource-level
CC/CSM/ASN Example

<manifest>
  <metadata>
    <csm:curriculumStandardsMetadataSet>
    </csm:curriculumStandardsMetadataSet>
  </metadata>
  ...
  <resources>
    <resource identifier="I_00007_R" type="idpfepub_epubv3p0">
      <metadata>
        <csm:curriculumStandardsMetadataSet>
        </csm:curriculumStandardsMetadataSet>
      </metadata>
      <file href="I_00007_R/moby-dick-mo-20120206.epub"/>
    </resource>
  </resources>
</manifest>
Summary

• ASN is a well established learning standards repository

• IMS supports the use of ASN via the IMS Curriculum Standards Metadata (CSM) interoperability standard

• CSM is currently used in the IMS Common Cartridge and APIP standards