

Don't Bother Me with
Standards
I Have Content to Develop

October 13, 2006
San Francisco, CA

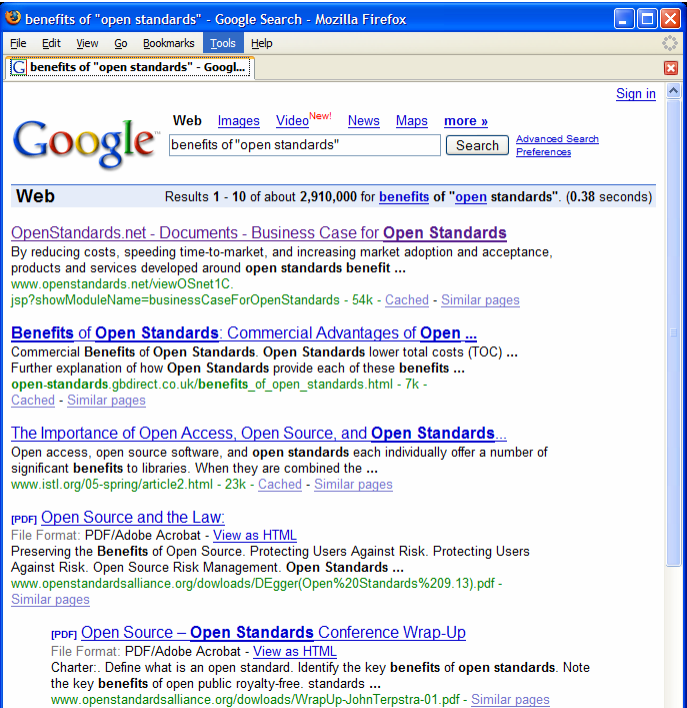
Panel

- Matthew Lewis
- Tom King
- Judy Brown

Agenda

- WHY
- WHAT
- HOW
- Questions – Discussion
- Take Aways

Why



The screenshot shows a Mozilla Firefox browser window displaying Google search results for the query "benefits of open standards". The search results are as follows:

- OpenStandards.net - Documents - Business Case for Open Standards**
By reducing costs, speeding time-to-market, and increasing market adoption and acceptance, products and services developed around **open standards benefit** ...
www.openstandards.net/ViewOSnet1C.jsp?showModuleName=businessCaseForOpenStandards - 54k - [Cached](#) - [Similar pages](#)
- Benefits of Open Standards: Commercial Advantages of Open ...**
Commercial **Benefits of Open Standards**. **Open Standards** lower total costs (TOC) ...
Further explanation of how **Open Standards** provide each of these **benefits** ...
open-standards.gbdirect.co.uk/benefits_of_open_standards.html - 7k - [Cached](#) - [Similar pages](#)
- The Importance of Open Access, Open Source, and Open Standards...**
Open access, open source software, and **open standards** each individually offer a number of significant **benefits** to libraries. When they are combined the ...
www.istl.org/05-spring/article2.html - 23k - [Cached](#) - [Similar pages](#)
- Open Source and the Law:**
File Format: PDF/Adobe Acrobat - [View as HTML](#)
Preserving the **Benefits** of Open Source. Protecting Users Against Risk. Protecting Users Against Risk. Open Source Risk Management. **Open Standards** ...
[www.openstandardsalliance.org/downloads/DEgger\(Open%20Standards%209.13\).pdf](http://www.openstandardsalliance.org/downloads/DEgger(Open%20Standards%209.13).pdf) - [Similar pages](#)
- Open Source – Open Standards Conference Wrap-Up**
File Format: PDF/Adobe Acrobat - [View as HTML](#)
Charter: Define what is an open standard. Identify the key **benefits** of open standards. Note the key **benefits** of open public royalty-free standards ...
www.openstandardsalliance.org/downloads/WrapUp-JohnTerpstra-01.pdf - [Similar pages](#)

Why

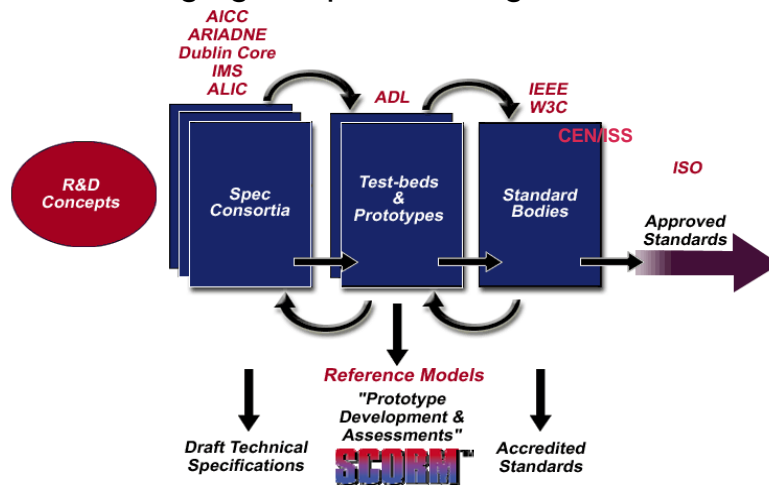
- Create a market for buyers and sellers
- Offer alternatives now & in the future
- Simplify integration
- Focus competition
- Reduce costs

What

- Specification
 - A documented description stating functional requirements.
- Standard
 - de jure Standards: The designation or certification of a specification's status by an accredited body such as IEEE LTSC, ISO/IECJTC1/SC36, or CEN/ISSS (European).
 - de facto Standards: Typically, when a critical mass or majority choose to adopt and use a specification. For example, TCP/IP, HTTP, VHS, etc., are all "de facto" standards.

ADL Model for Standards Evolution

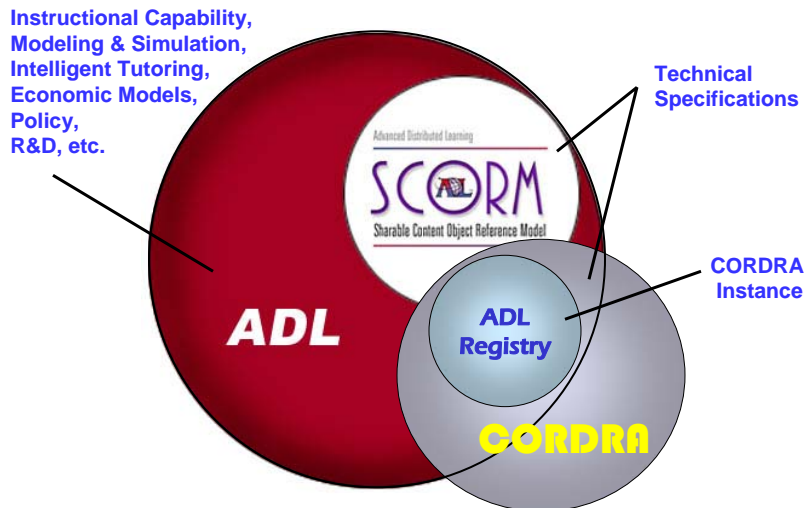
Managing Adoption through the Model



SCORM 2004 3rd Edition

- SCORM 2004 3rd Edition
 - Changes due to standardization/specification efforts, in particular the IMS Content Packaging Specification Version 1.1.4 and IEEE Standard for Learning Technology – XML Schema Definition Language Binding for Learning Object Metadata
 - Clarification of concepts and requirements
 - Enhancements and bug fixes.
 - Best practices from the ADL Community
 - Incorporates SCORM Addendum Document into core document set

ADL, CORDRA & SCORM



ADL's problem: finding content

- SCORM specifies how to develop & deploy content objects that can be shared & contextualized to suit the needs of the learner
- SCORM provides the means to tag content for later discovery & access in a distributed environment
- SCORM is silent about discovery & access

Can Standards REALLY Help Me Create Reusable Content?

Show Me the ROI....

Today's Talk: Are you Kidding Me? You Want Me to Think about "Standards"

- Why "standards" (and the people who make them) scare me
- Why standards might actually help us
 - ROI from "reusable" learning objects
 - Thinking outside "training" for reuse
- ROI from Reuse: Obstacles to, and strategies for increasing reuse

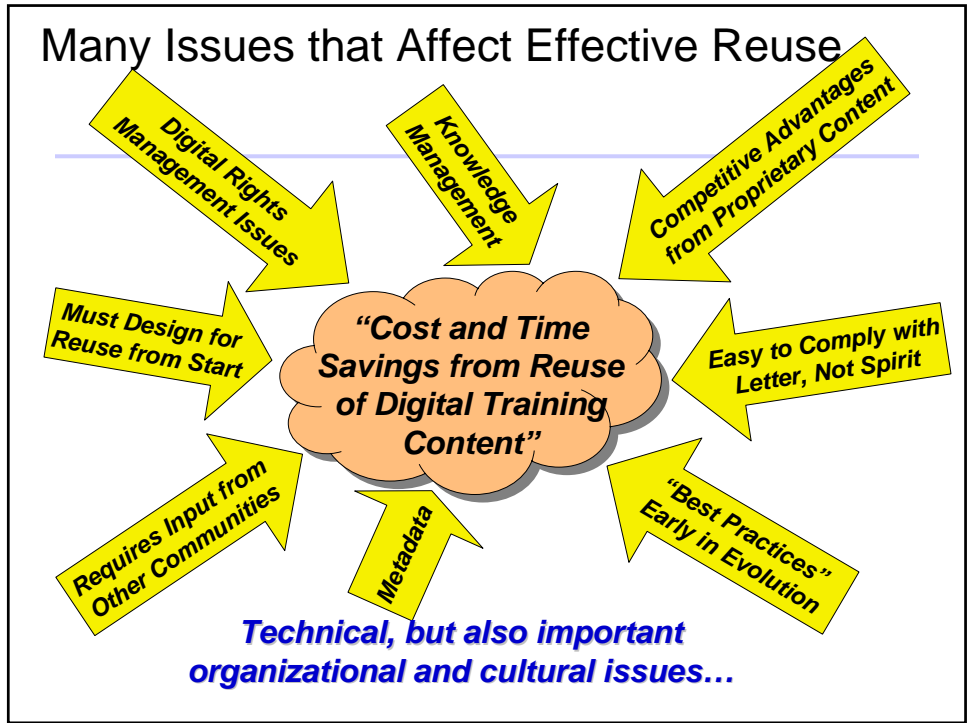
Why “Standards” (And the People who Make them) Scare Me

- Standards in any area of our lives are
 - Boring
 - Petty, nit-picky, retentive, etc.
 - Things I specifically DON'T want to think about
- Standards are created by nerdy people who
 - Self-select to form strange committees
 - Meet in darkened rooms over long periods
 - Like unintelligible names of things with lots of letters and numbers in them, like ISO S1000D and DODI 1322.26

**BUT... Standards WILL Help with Hard
Problem of Reuse: It's Complex and Difficult**

Especially in Market Settings...





Good News: DON'T Have to Think About Standards Much to Appreciate and Benefit from Them

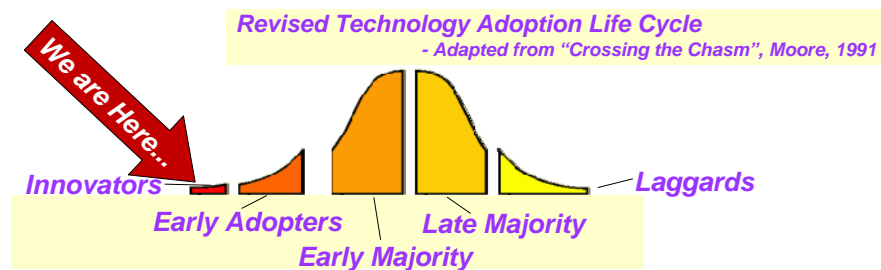
- Good standards, like good technology, become invisible (eventually)
- Early in this area of standards development that affects you

*Revised Technology Adoption Life Cycle
- Adapted from "Crossing the Chasm", Moore, 1991*

Innovators *Early Adopters* *Early Majority* *Late Majority* *Laggards*

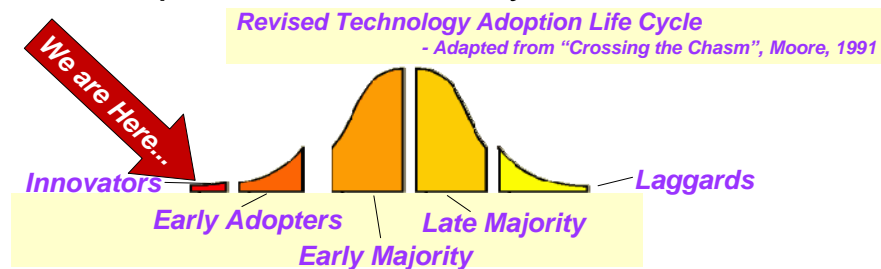
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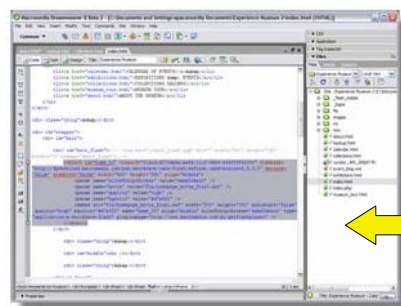
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All will benefit from development and use... No, REALLY...

Show Me the ROI: Why Standards Might Actually Help Us...

- Standards like AICC and SCORM allow “interoperability” between LMSs
 - Decrease need for reworking content when switching LMSs
- Provide underlying “grammar” for combining and re-combining learning “objects”
 - Looks like nasty XML gobbledygook
 - IS nasty XML gobbledygook



Authoring...
A screen image from a
current authoring tool...

← Note nasty code...

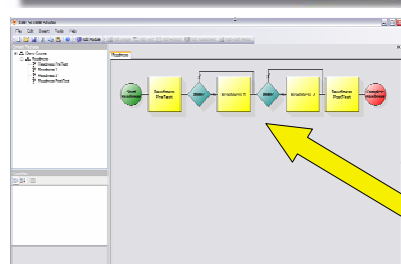
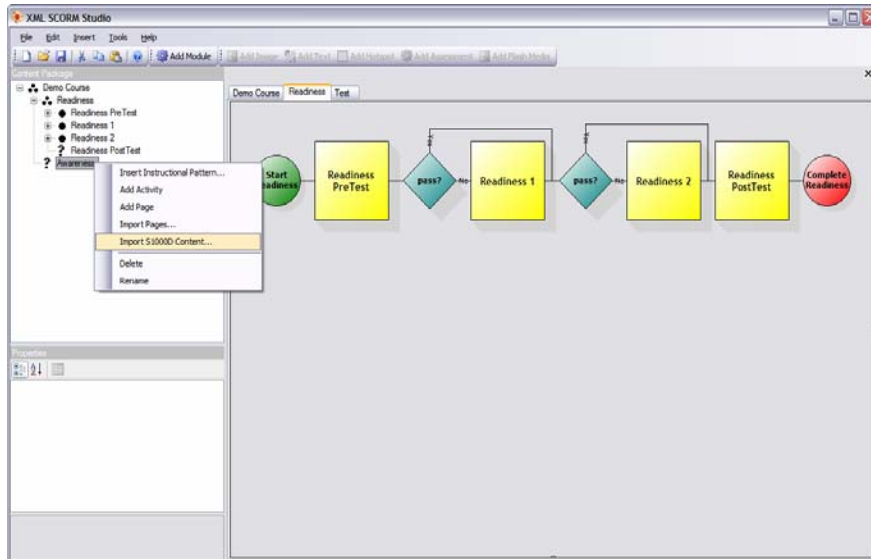


Image from XML SCORM
Studio, an emerging,
standards-based authoring
tool by Eduworks...

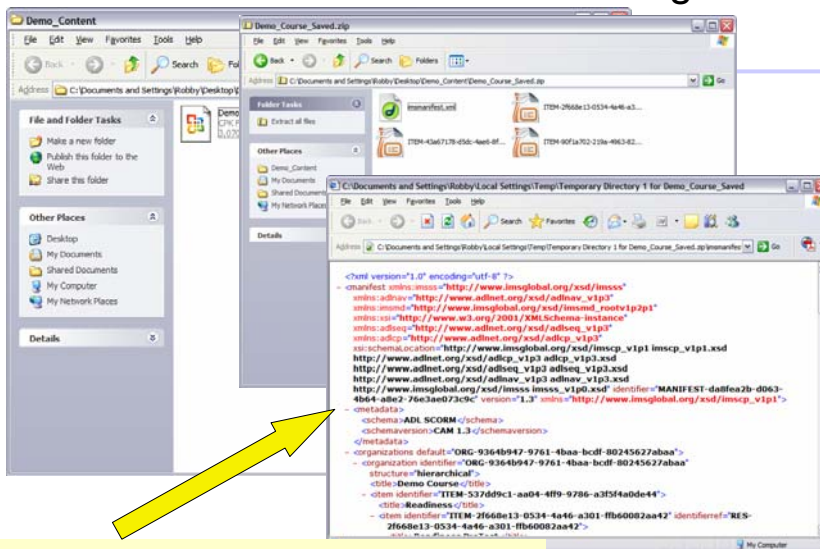
← Manipulating “objects”,
not code

XML SCORM Studio



Including importing of S1000D content...

Content is Saved in Content Package format



*Note nasty code again...
But you don't have to worry about it!*

ROI from Thinking About Reuse Outside of “Developing Training”

- Will allow you to find, share, and reuse content (eventually...)
- Yes... there is the rest of the enterprise outside of “training”
- ROI from easier maintenance of training content if modular and standards-based
- “Content objects” developed can be used for different roles across an organization...
 - Training
 - Manuals
 - On-line help
 - Marketing, etc

ROI from Reuse: Obstacles to, and Strategies for Increasing Reuse

- “Working with the standards is too complex and hard”
 - Technical aspects of conformance to standards for reuse will end up being the easy part
 - Evolving tools will make the generation of content that conforms to technical standards nearly trivial
 - Make sure somebody in your shop tracks and understands the evolution
- “I don’t have the original content for reuse”
 - Store broad range of digital content, including “context” data
 - Courses, objects, assets, sources, supporting documents (e.g., story boards, scripts)
 - Memory and content mgt systems are relatively cheap
 - Take the time to provide good Meta-data
 - It’s a pain but if you can’t find it, you can’t use it
 - Evolving tools to aid in metadata generation

Based on RAND research and “Reusable Design Guidelines” by Robby Robson www.eduworks.com

ROI from Reuse: Obstacles to, and Strategies for Increasing Reuse (cont.)

- “Customers don’t care about reuse, they just want their specific content NOW”
 - Standards and technology are the easy part
 - Implementation or reuse is the challenge, START NOW..
 - Put in place processes so that reuse is done as part of internal workflow anyway
 - Benefit internally, increase margins
 - Educate/enlighten customers about short- and long-term costs and benefits of standards and reuse to THEM
 - Generate repeat business via relationship
 - Competitive advantage? Publicize “recycled content”??
- “Keeping up with evolving authoring tools/ technologies is too difficult”
 - Always the argument... Evolve or die

ROI from Reuse: Obstacles to, and Strategies for Increasing Reuse (cont.)

- “I know all this already, management won’t invest in changes...”
 - Cultural changes in your org to think about “this project” vs..
 - This project and future projects
 - This project and other parts of the org
 - This project’s “life-cycle” cost with maintenance
 - Look to potential intra-organizational links to make case for reuse
 - Potential ROI across departments
 - Separate budgets/orgs for training, documentation, on-line help, etc
- Watch ADL for upcoming case studies of success and ROI
- www.adlnet.gov

Tried to reuse? Succeeded or failed?

Please help us with your insights or to pointers to others!!!

- HOW?

- “Collar” us today at this meeting
- Contact us:
 - MikeS@rand.org
 - mlewis@rand.org

How

- Examples: PENS & Adobe Captivate
- Others: AICC, SCORM, S1000D, DITA

Package Exchange Notification – What is it?

- “A better way to get content to an LMS.”
- Guiding Principles for PENS
 - Focus on learning & training uses
 - Simplify deployment for authors (AICC and SCORM ...)
 - Use established & understood technology
 - Easy for vendors on all sides to implement & interoperate
 - Enable evolution & extension
 - Fast track with AICC, move on to IEEE
 - Separate concept (model) from binding (transport)

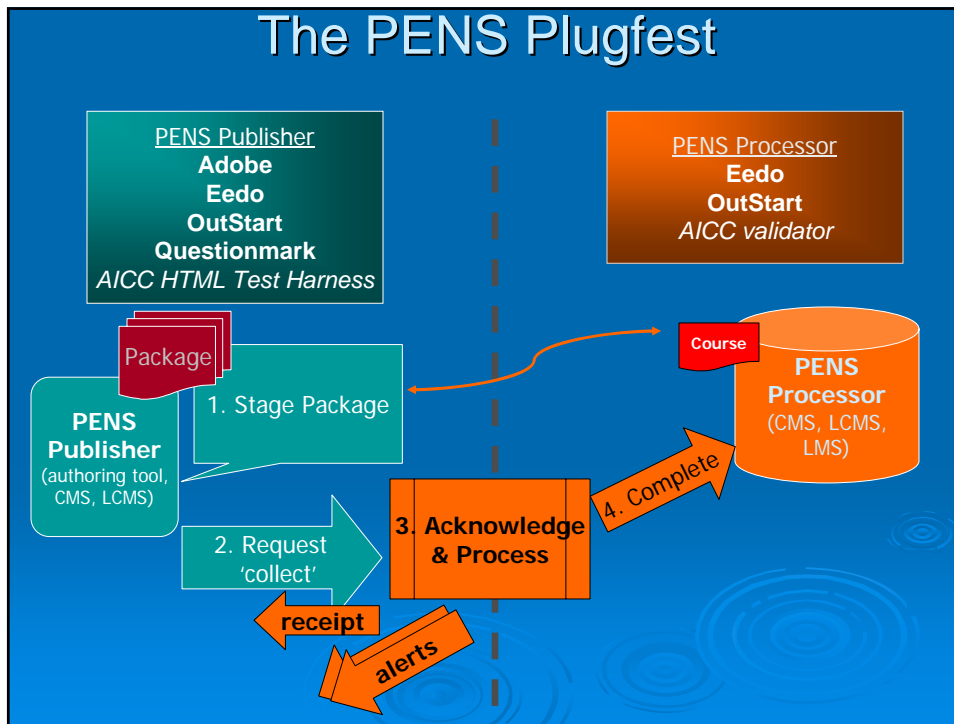
PENS is an Official AICC Spec

- AGR011 - CBT Package Exchange Notification
 - <http://aicc.org/pages/down-docs-index.htm#AGR>
- CMI010 - Package Exchange Notification Services
 - <http://aicc.org/pages/down-docs-index.htm#cmi010>

Both approved in June of 2005

- AICC Packaging format is ready for ballot was approved in September 2006

The PENS Plugfest



User Interface and "Actionable" Information

Test harness to generate PENS collect command

target system URL	<input type="text" value="http://scc.pathlore.com/lms/pens/pens.dll"/>
pens-version	<input type="text" value="0.5.0"/>
package-type	<input type="text" value="scorm-pif"/>
package-type-version	<input type="text" value="1.2"/>
package-format	<input type="text" value="zip"/>
package-id-scheme	<input type="text" value="urn"/>
package-id	<input type="text" value="PERCEPTION:2"/>
package-url	<input type="text" value="http://hosting.questionmark.com/devteamres"/>
package-url-user-id	<input type="text"/>
package-url-account	<input type="text"/>
package-url-password	<input type="text"/>
package-url-expiry	<input type="text" value="2005-06-10T08:31:05Z"/>
client	<input type="text" value="PENS test harness v1.0.2"/>
system-user-id	<input type="text" value="PERCEPTION"/>
system-password	<input type="text"/>
receipt	<input type="text" value="mailto:eric@questionmark.com"/>
alerts	<input type="text"/>

error=0
 error-text=
 version=1.0
 pens-data=

PENS 1.0 free Test Harness: http://aicc.org/pages/pens_sample.html
 now includes PHP server code for validating PENS commands

Next Steps for PENS

- “Compelling Event” at Trade Show
 - Increase visibility to elearning community
 - Drive preparation & interoperability between vendors
- Improve self-test tools
- Clarify staging issues
 - Consider direct transfer of packages (no staging)
- Repeat the Plugfest
- Recommendations:
 - *Defer other bindings/Web Services*
 - *Use case / whitepapers on value/ROI*
 - *Think outside the (form) box for UI*
- Evaluate migration of spec to IEEE
- Other?