IMS Learning Tool
Interoperability

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IMS Learning Tools Interoperability

• Describes a “Proxy Tool” for a Learning Management System
• How the tool is installed and registered in the LMS
• Tool lifecycle interactions
IMS LTI (cont.)

• How the Tool is launched from the LMS including passing roster information

• Run-Time Services allowing the tool to read, write, and exchange information with the LMS
The core LTI use case is that we can augment the tools included in an LMS with externally provided tools.
LTI also enables large-scale provisioning of features or content across multiple LMS Systems.
When LTI is combined with the IMS Common Cartridge, publishers can distribute cartridges containing active, authenticated links back centrally hosted content.
Advanced: LTI also allows tools from a learning management system from one vendor to be used in a learning management system from another vendor. An example of this approach is the BlackBoard Connect project which integrates Sakai and Moodle (coming) functionality into BlackBoard.
Ultimately the “location” or “source” of a tool or content becomes less and less important.
Learning Tools Interoperability Timeline

- **SimpleLTI** - Not a formal spec - May 2008
- **BasicLTI** - Launch + Outcomes - Part of IMS Common Cartridge 1.1 - July 2009
- **IMS LTI 2.0** - End of 2009
  - Runtime
  - Provisioning
  - Launch
Technical Inspiration for LTI 2.0

• Adopts many patterns from the approach FaceBook uses for tool integration

• Architecturally aligned with the BlackBoard Proxy Tool in BlackBoard 9.0
Learning Tools Interoperability Leadership

- Chairs: Greg McFall, Pearson, Lance Newman, BlackBoard, Bruno Van Haetsdaele, Wimba
- IMS Representative: Mark McKell
- Weekly Working Group Meetings throughout 2008
- Very prolific in document production
LTI Progress in 2008

- March 2008: Very mature draft of our initial approach - implementations in BlackBoard, Moodle, and Sakai
- April 2008 - BlackBoard offered Bb 9 ProxyTool to the working group as an alternative technical approach - we switched to the new approach
LTI In 2008

- May 2008 - Published an informal “Implementation Document” called SimpleLTI that described the new launch protocol to allow some software experimentation to be done
- October 2008 - Produced a prototype CC+LTI spec and used this to produce a demo at educause
Educause 2008

- Participants: Pearson, McGraw-Hill, Microsoft, and Angel
- Built cartridges including LTI from both publishers and played the cartridges in both LMS systems
Pearson / Angel
The science of psychology, as studied and practiced today, involves five major perspectives or approaches: Neuroscience, Psychodynamic, Behavioral, Cognitive, and Humanistic. Each of these anecdotes below is best understood by a different one of these five perspectives.

**Introduction**

Once there was a little boy named Justin who didn't like to take his bath. Every night, it seemed, his parents had to fight the "bathtime battle" with him. Finally, in desperation, they threatened that the next time he refused to get in the bath voluntarily, they would simply throw him in, fully clothed. Justin, of course, called their "bluff" and resisted as usual. The parents followed through and threw him into the bathwater with all his clothes on. Justin was shocked and enraged! But, he never forgot his parents on the bath issue again.

**Can you match each anecdote with the most appropriate perspective?**

- Neuroscience
- Psychodynamic
- Behavioral
- Cognitive
- Humanistic
Simple LTI Integrations

- Content Integration
  - McGraw-Hill Katana
  - Pearson TPI
  - K12 - www.k12.com
  - Google Documents (SAML)

- LMS Integration
  - Angel
  - Sakai
  - Moodle
  - Microsoft QuickLMS
  - Blackboard Building Block
Nervous System: Introduction

The human nervous system is the body's "command central." It is like a computer and communications network all rolled into one. It carries messages back and forth between brain and body, controls and regulates the body's vital functions, and gives rise to both voluntary and involuntary movements.

Because the nervous system is complex, so we will start with an overview and go on to examine its subsystems one at a time.
Write a short paper

Proposta titlu: Interoperability for LMS: the Missing Piece to Become the Common Place for Elearning Innovation

Introduction
The LMS, the Dinosaur and the Meteor
Elearning has experienced an extraordinary growth over the last years, learning
Unit 1: Classification of Invertebrates

What do a spotted ladybug, an octopus, and a sea urchin all have in common? These organisms are invertebrates—organisms that don’t have a backbone. Meet other organisms and discover the world of invertebrates as you read Come Learn With Me: Animals Without Backbones: Invertebrates.
LTI in 2009

- February 2009: Documents are effectively complete with high consensus within the working group
- Moving toward CM / DN Draft and beginning to work on interoperable implementations of LTI 2.0
Common Cartridge and LTI

- We will be adding a subset of Learning Tools Interoperability 2.0 to IMS Common Cartridge 1.1
- A very basic subset of LTI which supports launch and simple outcomes based on IMS TI 1.0
- Goal is to allow IMS CC Cartridges with Basic LTI to be produced starting Fall 2009
When LTI is combined with the IMS Common Cartridge, publishers can distribute cartridges containing active, authenticated links back centrally hosted content.
Looking Forward - Strategy

• Once we add LTI to Common Cartridge, we have full-spectrum solution to providing high quality user experience which we can iterate over time.

• Currently publishers generally have more capabilities than LMS systems when it comes to dynamic learning paths informed by assessment information.
Common Cartridge 1.0

Learner Requirements

Rendered in LMS  Proprietary Publisher Integration

Many question types

Learning Design

Dynamic Paths
Common Cartridge 1.1

Learner Requirements

Rendered in LMS

Publisher Provided Via LTI

Many question types

Learning Design

Dynamic Paths
Common Cartridge x.y

Learner Requirements

Rendered in LMS

Publisher Provided Via LTI

QTI 2.x

More question types

Learning Design
Common Cartridge y.z

Learner Requirements

Rendered in LMS

Publisher Provided

QTI 2.x  IMS LD ??

Innovative content and approaches.

We innovate and standardize the effective innovations.
Iterative Approach

• With CC 1.1 including LTI we now have a way to meet a broad range of learner requirements through a combination of LMS and external resources.

• Beyond CC 1.1, we can improve the features of the cartridge over time to described increasingly advanced functionality in the cartridge.
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Summary

- Thank you for your time
- IMS LTI gives us a service-oriented approach to deploying tools and content
- Going forward we have a very natural way to innovate and evolve while meeting a broad range of learner needs.