



IMS Learning Tool Interoperability 2.0

Building the Standards for Learning
Functionality Mashup





IMS Learning Tools Interoperability

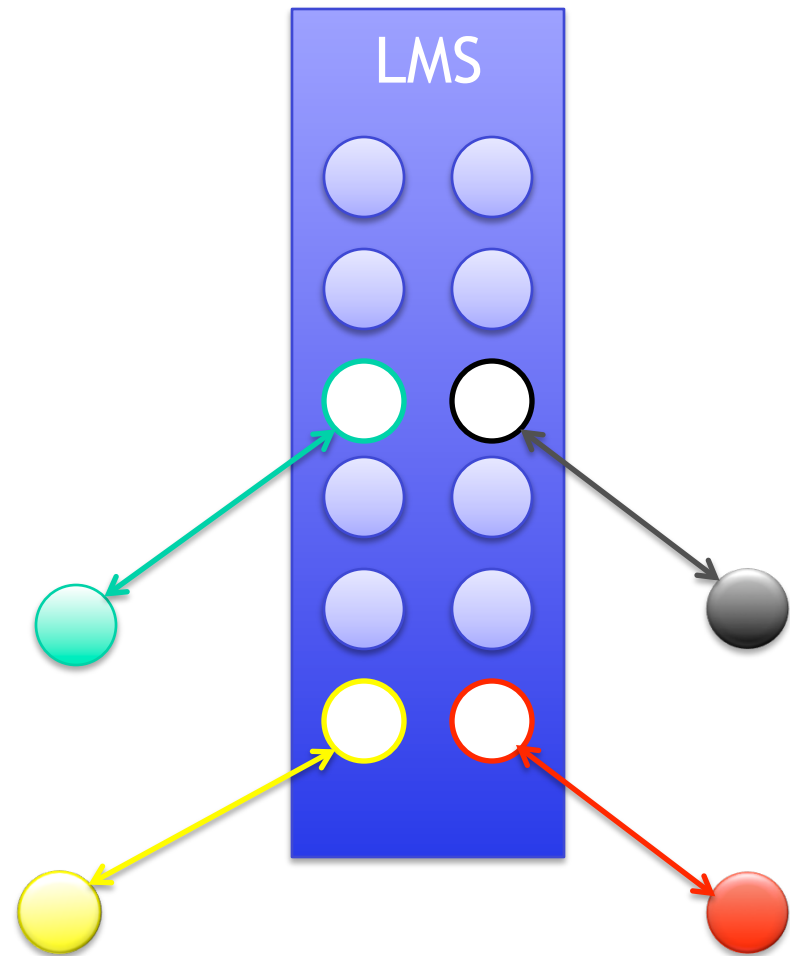
- Describes a “Proxy Tool” for a Learning Management System
- How the tool is installed and registered in the LMS
- Tool lifecycle interactions



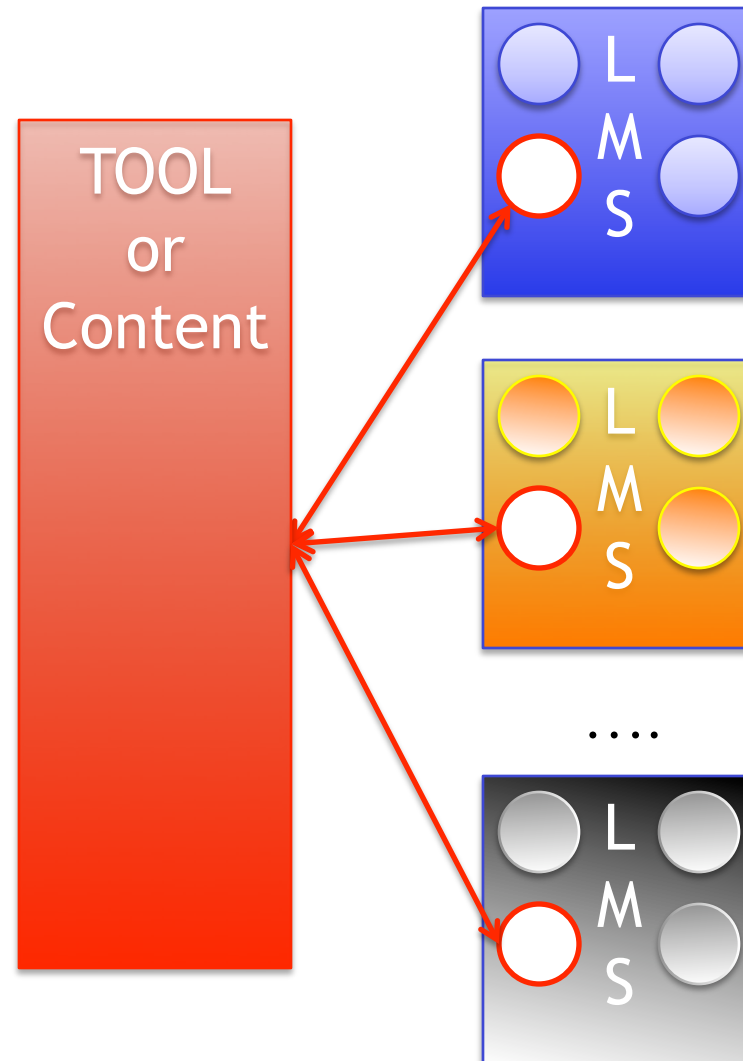
IMS LTI (cont.)

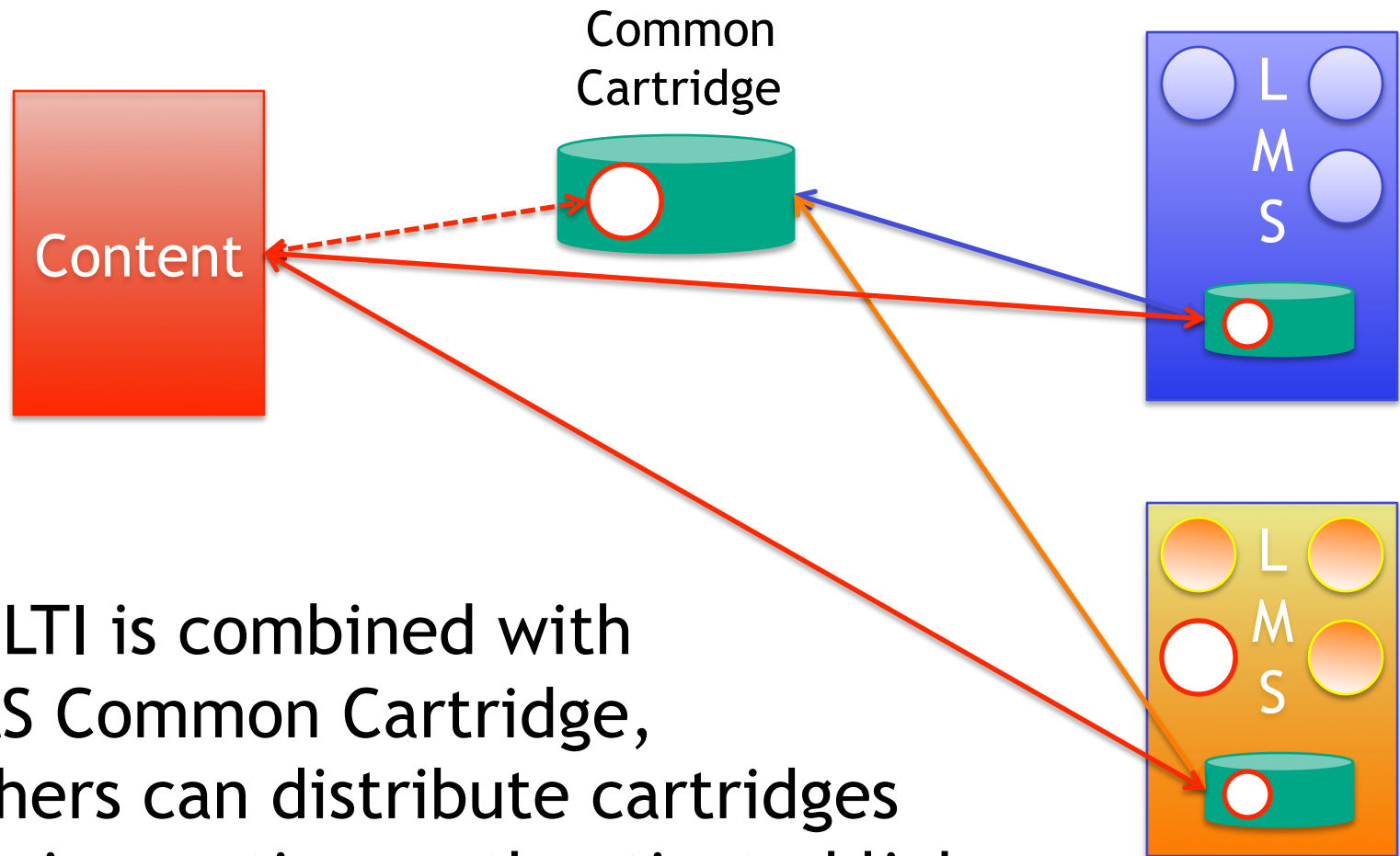
- How the Tool is launched from the LMS including passing roster information
- Run-Time Services allowing the tool to read, write, and exchange information with the LMS

The core LTI use case is that we can augment the tools included in an LMS with externally provided tools.

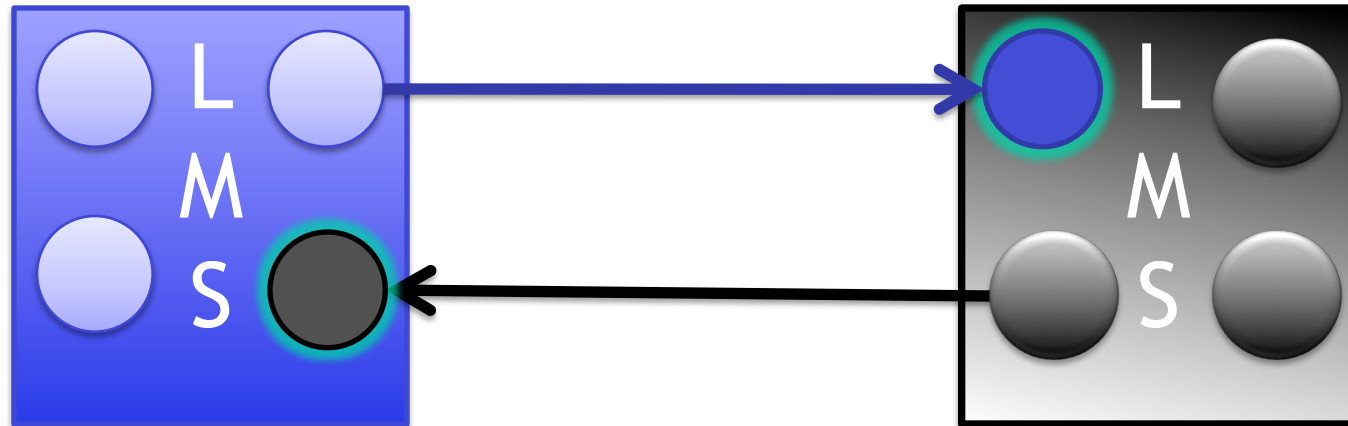


LTI also enables large-scale provisioning of features or content across multiple LMS Systems

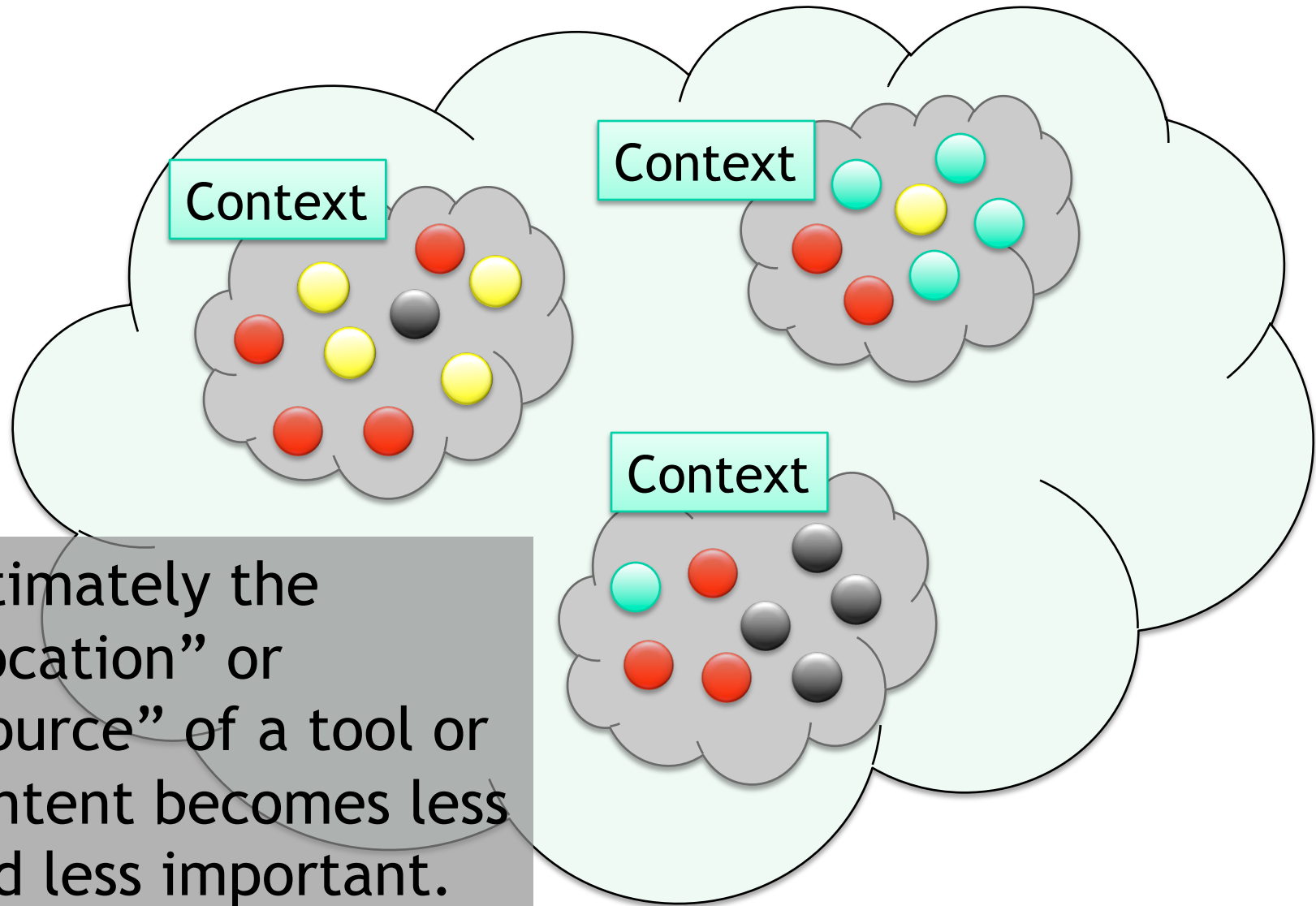




When LTI is combined with the IMS Common Cartridge, publishers can distribute cartridges containing active, authenticated links back centrally hosted content.



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.





Technical Inspiration for LTI

- Adopts many patterns from the approach FaceBook uses for tool integration
- Architecturally aligned with the BlackBoard Proxy Tool in BlackBoard 9.0



Blackboard

The Facebook logo, which is the word 'facebook' in white, lowercase, sans-serif font, set against a blue rectangular background.



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

McGraw-Hill / Microsoft

Quick LMS - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://localhost/QuickLMS/Course/QuickLMSNav.aspx?NT=W&FN=4

Quick LMS Microsoft Outlook Web Access


McGraw Hill

- Welcome
- Course Requirements
- Course Introduction
- Syllabus
- Glossary
- Topic 1
 - Checklist
 - Lesson 1: The History of Science in Psychology
 - Introduction
 - Objectives
 - Lesson Presentation
 - Summary
 - Additional Resources
 - Review Activities
 - Discussion
 - Assignment
 - Reading Assignment
- Topic 2
- Topic 3
- Topic 4
- Topic 5


Introduction

The science of psychology as studied and practiced today involves five major perspectives or approaches: Neuroscience, Psychodynamic, Behavioral, Cognitive, and Humanistic. Each of the three anecdotes below is best understood by a different one of these five perspectives.

Can you match each anecdote with the most appropriate perspective?



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 fought his parents on the bath issue again.



Neuroscience Psychodynamic Behavioral Cognitive Humanistic Back Next

TIP: Click one of the psychological perspectives.

1 of 3

Read www.elearnservices.com 2 Errors



LTI LMS Integrations

- Content Integration
 - McGraw-Hill Katana
 - Pearson TPI
- LMS Integration
 - Angel
 - Sakai
 - Moodle
 - Microsoft QuickLMS

Nervous System: Introduction

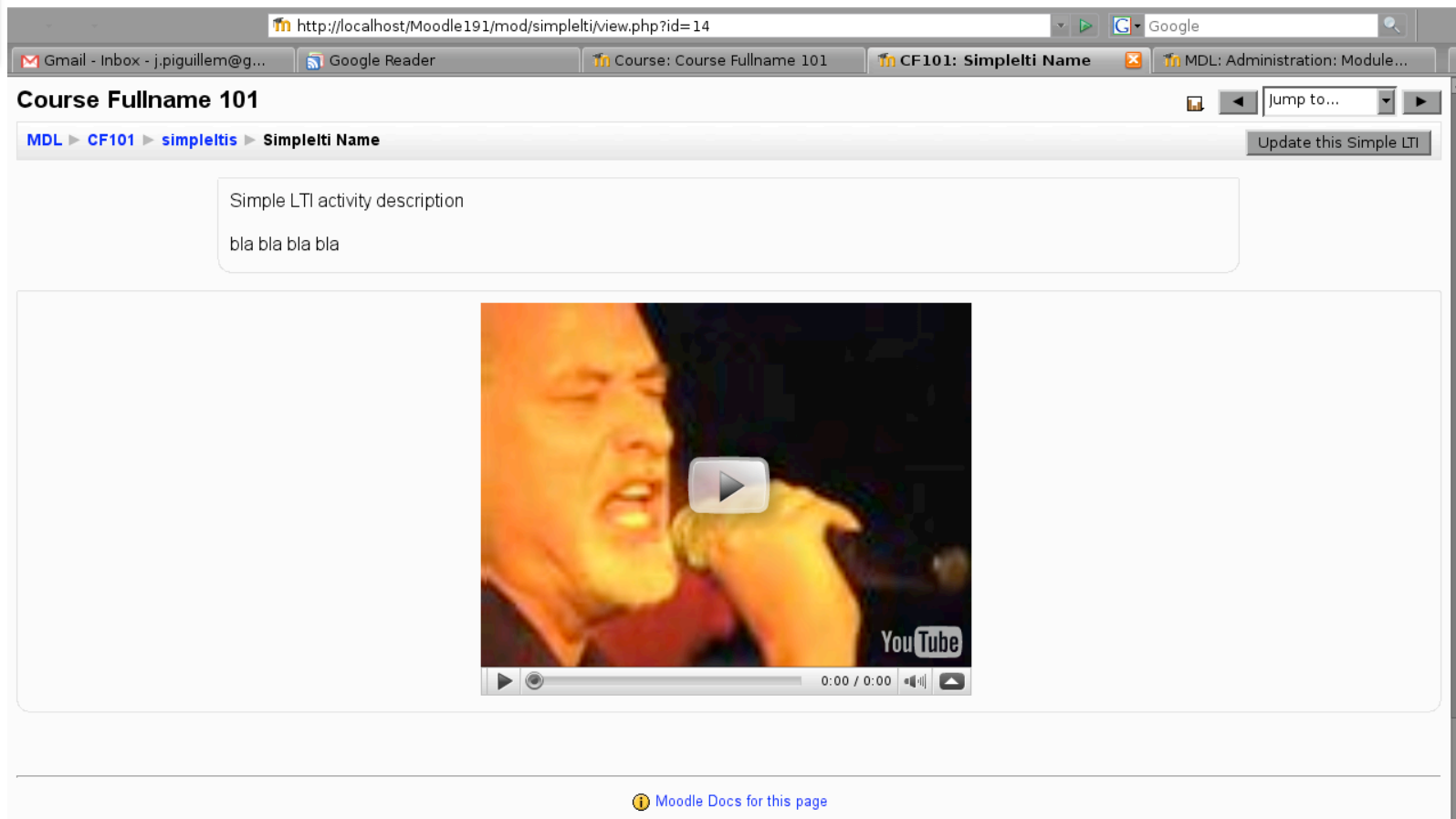


The human nervous system is the body's "command central." It is like a computer and communications network all rolled into one. It carries messages back and forth between brain and body; controls and regulates the body's vital functions; and gives rise to both voluntary and involuntary movements.

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



Moodle



The screenshot shows a web browser window displaying a Moodle course page. The address bar shows the URL: `http://localhost/Moodle191/mod/simplelti/view.php?id=14`. The browser tabs include "Gmail - Inbox - j.piguillem@g...", "Google Reader", "Course: Course Fullname 101", "CF101: Simplelti Name", and "MDL: Administration: Module...". The page title is "Course Fullname 101". The breadcrumb trail is "MDL > CF101 > simpleltis > Simplelti Name". There is a "Jump to..." dropdown menu and an "Update this Simple LTI" button. The main content area contains a text box with the text "Simple LTI activity description" and "bla bla bla bla". Below this is a video player showing a man singing into a microphone. The video player has a play button, a progress bar at 0:00 / 0:00, and a volume icon. At the bottom of the page, there is a link: "Moodle Docs for this page".



TestFest - February 2009

- A number of experimental implementations of the pre-release version of LTI were demonstrated at the Common Cartridge Test Fest:
 - CommonNeed / Stuart Sim (Grails)
 - KERIS
 - Microsoft/LearnGauge



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 -only (i.e. no runtime services)
- Goal is to allow IMS CC Cartridges with Basic LTI to be produced starting Fall 2009



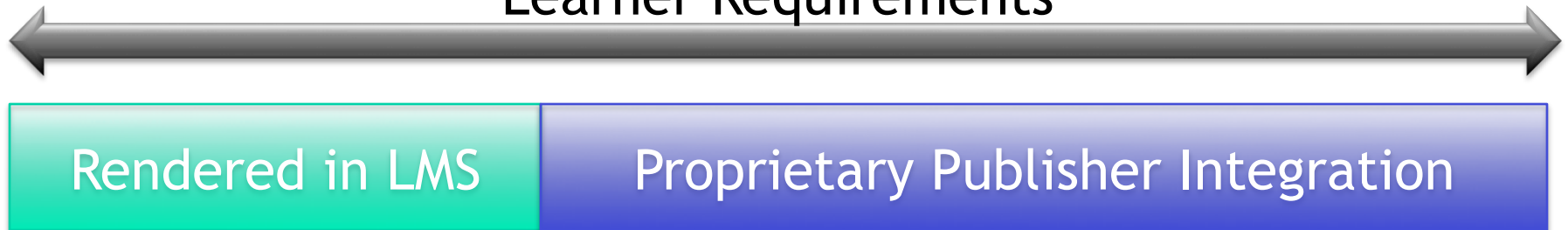
Looking Forward - Strategy

- 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



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



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.