

cmi5: The Way Ahead

An overview of the cmi5 specification
and Project CATAPULT

March 17, 2021



Webinar Overview

Introductions- ADL

cmi5 Overview- Bill McDonald

Project CATAPULT Overview- Brian Miller

Overview of cmi5



Bill McDonald

cmi5 Working Group Leader

Overview

- **What is cmi5 ? / cmi5 background**
- **Components**
- **Roles**
- **Process**
- **Key cmi5 Features**

What is cmi5 ?

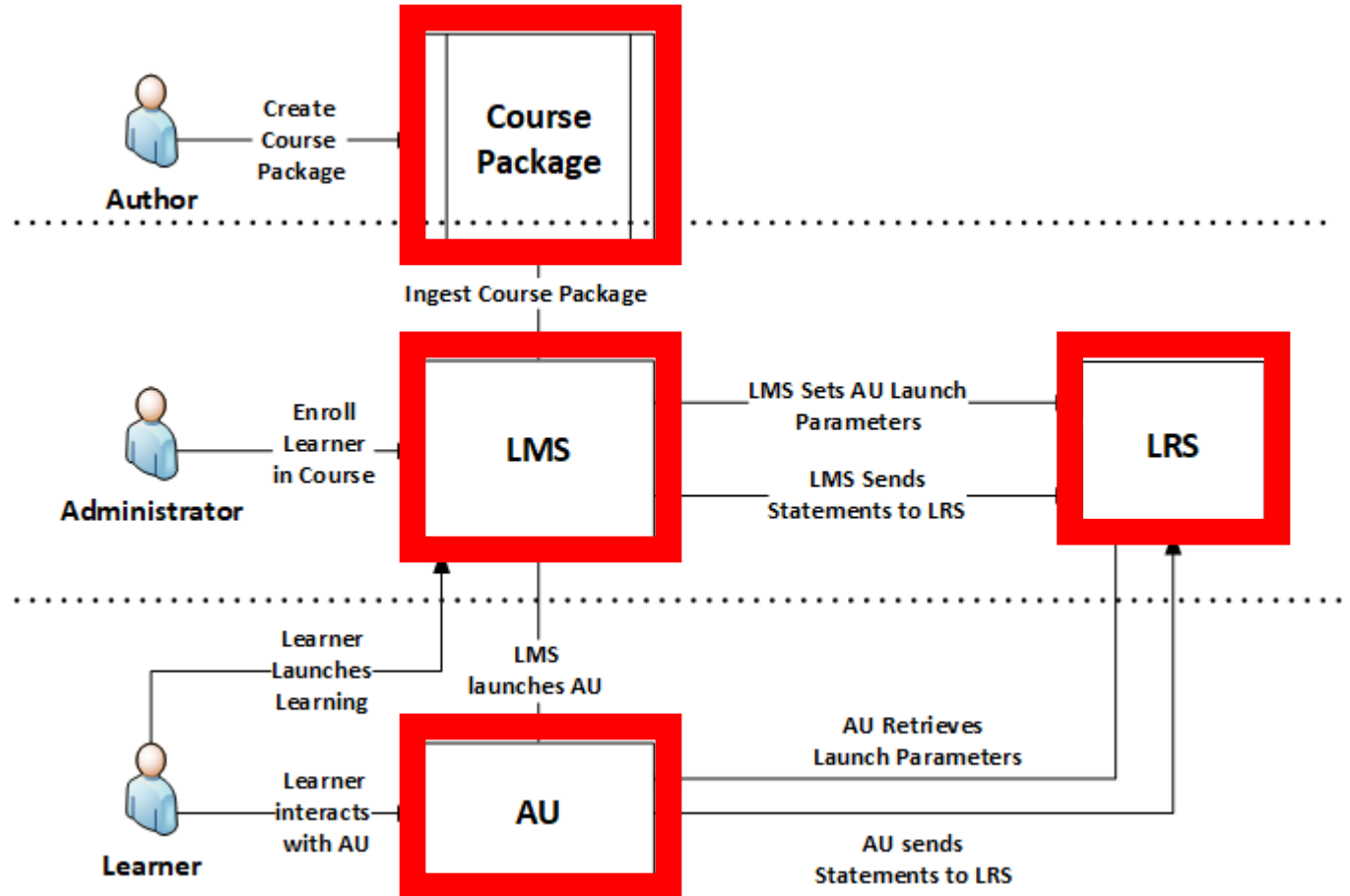
- **cmi5 is an “xAPI profile”**
- **To use xAPI you need an extra set of rules (a profile) !**
- **cmi5 ensures plug and play interoperability**
- **cmi5 is designed for the LMS use case**

cmi5 Background

- cmi5 pre-dates xAPI (What !?)
- An AICC Project started in 2010 to provide a better (web-service) replacement for existing SCORM and AICC specifications
- In 2012 the project (originally in SOAP) was “rebooted” to use xAPI
- In 2014 the AICC dissolved and transferred cmi5 to the ADL
- “cmi5” is name (not a version) – but the versions “really rock”
- In 2016, the first implementable version of cmi5 (quartz) was released

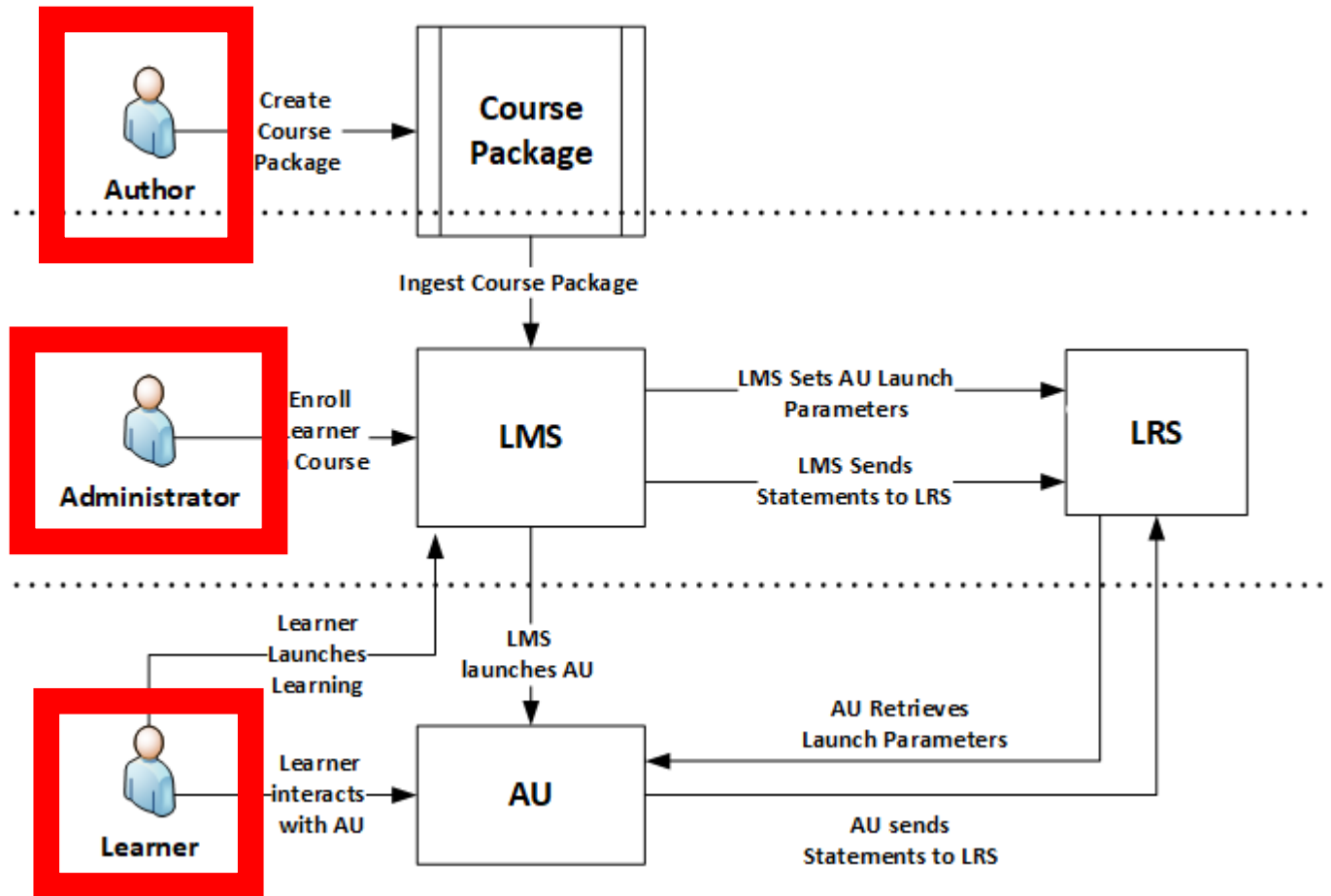
Components

- Course Package/Structure
- LMS (Learning Management System)
- LRS (Learning Record Store)
- AU (Assignable Unit)



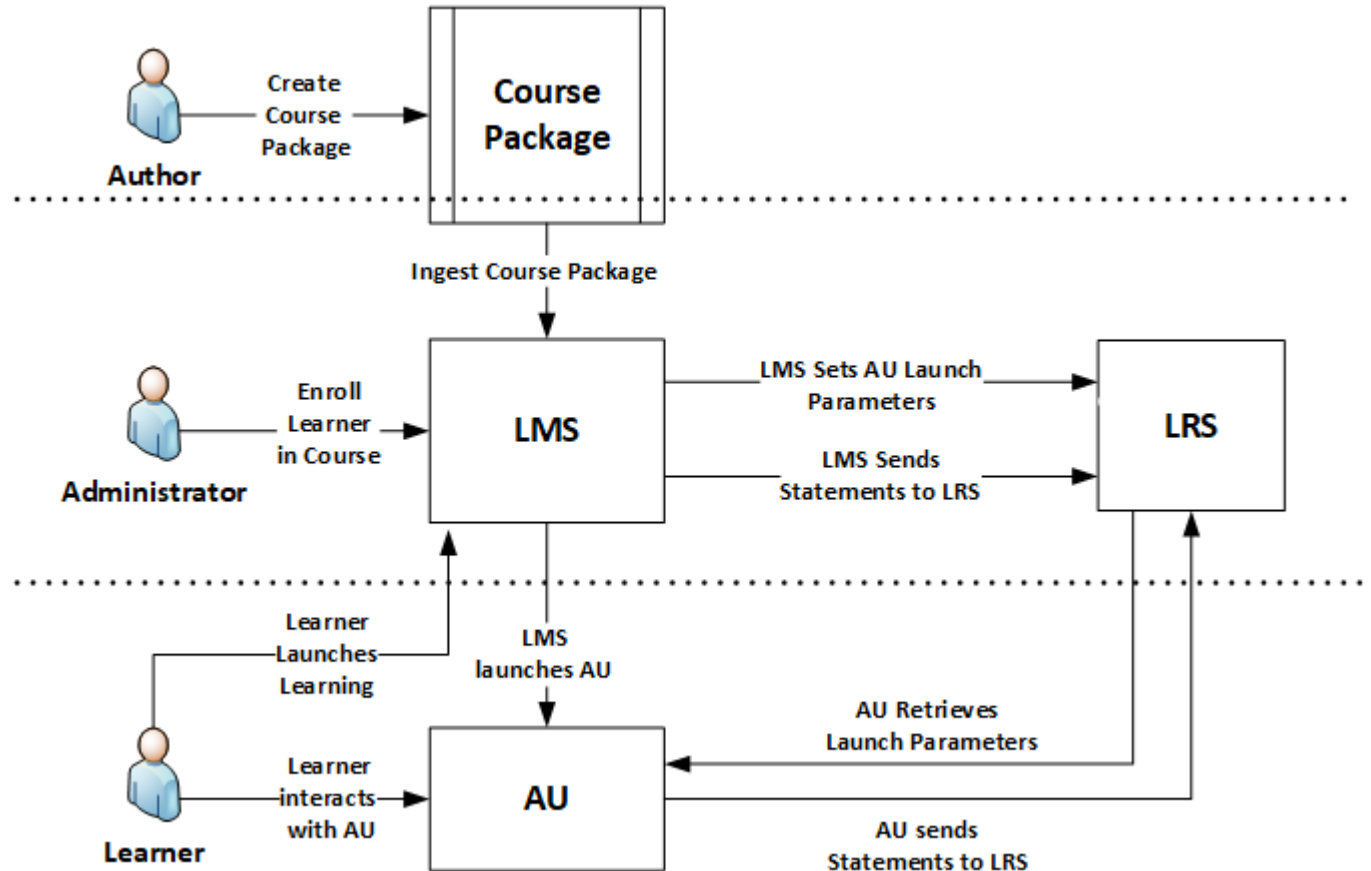
Roles

- Learner
- Author
- Administrator



Process

1. Author Creates AU's
2. Author creates course structure/package
3. Administrator Imports the course structure
4. Administrator enrolls the learner in course
5. Learner Initiates AU Launch in the LMS
6. LMS records launch data to the LRS
7. LMS launches the AU
8. AU records data to the LRS



Key cmi5 Features

- **Launch Mechanism**
- **Fetch URL**
- **Session Management**
- **Extensibility**

Key cmi5 Features - Launch Mechanism

cmi5 Launch URL = <URL to content>?<Query String Parameters>

cmi5 Query String Parameters:

- LRS Location
- Learner Identifier
- Activity ID
- Registration
- Fetch URL

- Example:

```
http://www.example.com/LA1/Start.html  
?endpoint=http://lrs.example.com/lrslistener/  
&fetch=http://lms.example.com/tokenGen.htm?k=2390289x0  
&actor={"objectType": "Agent", "account":  
{"homePage": "http://www.example.com", "name": "1625378"}}  
&registration=760e3480-ba55-4991-94b0-01820dbd23a2  
&activityId=http://www.example.com/LA1/001/intro
```

Key cmi5 Features - Fetch URL

- **The AU must get its authorization token from the Fetch URL**
- **The Fetch URL may only be called once**

Key cmi5 Features - Session Management

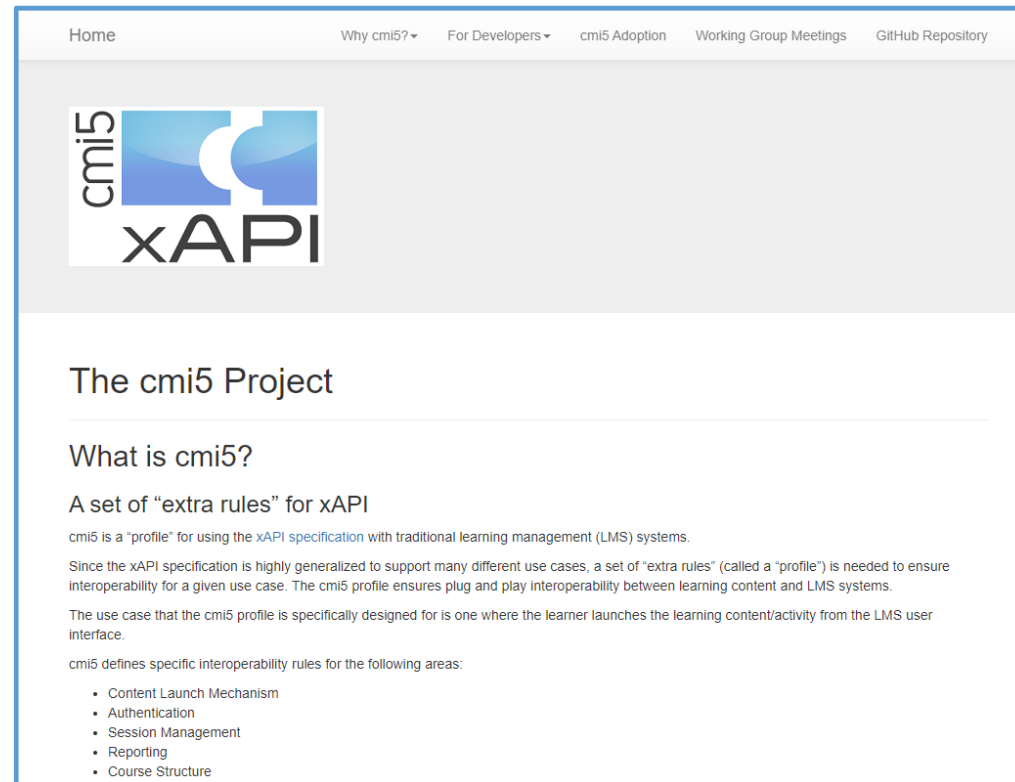
- **Session = Time from Launch to Termination**
- **All Statements made have a Session ID**
- **The LMS Manages Session creation**
- **Specific Statements must be sent in a Session**

Key cmi5 Features - Extensibility

- **cmi5 has defined Statements for specific purposes**
- **The AU may send additional “custom” statements**
- **Must contain cmi5 identification and be issued during the session**

Overview Conclusion

For more information about cmi5, visit the project site:



https://aicc.github.io/CMI-5_Spec_Current/

project catapult

Brian Miller
Rustici Software

Project CATAPULT Overview

- What is CATAPULT?
- Expected Outcomes
- Prototype Review
- Schedule and next steps

Brian Miller
Rustici Software

What is Project CATAPULT?

cmi5 Advanced Testing Application and Player Underpinning Learning Technologies

12-month project to develop and deliver tools and a cmi5 conformance test suite that includes:

- Open Source cmi5 player Prototype
- Sample cmi5 course templates
- cmi5 conformance test suite to test content and platform conformance
- Best practice guides and documentation for implementing the tools

Key DoD Stakeholders include:

- Dr. Mitch Bonnett, 83rd United States Army Reserve Readiness Training Command
- Shawn Miller, Defense Acquisition University (DAU)
- Gary R (Hank) Reeves, USN PEO EIS
- Richard S Shipmon and team, Army University

Project CATAPULT: Expected Outcomes

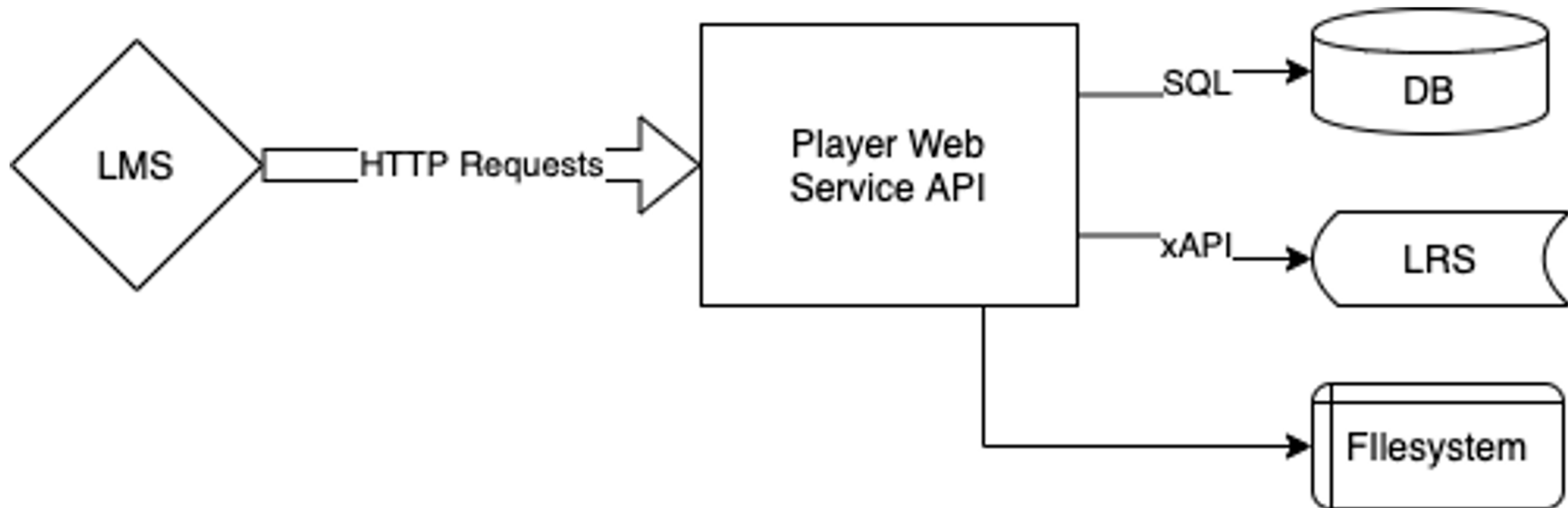
Support the adoption of cmi5 and xAPI across the DoD, from development to procurement, to meet distributed learning policy (DoDI 1322.26) related to learning analytics and interoperability

- Accelerate the adoption of cmi5 and xAPI across the DoD enterprise
- Enable DoD entities to develop and implement cmi5
- Offer course creators options for migrating legacy content
- Provide resources to vendors and industry members to incorporate support for cmi5 in their products
- Support procurement by providing a mechanism to validate existing products and applications

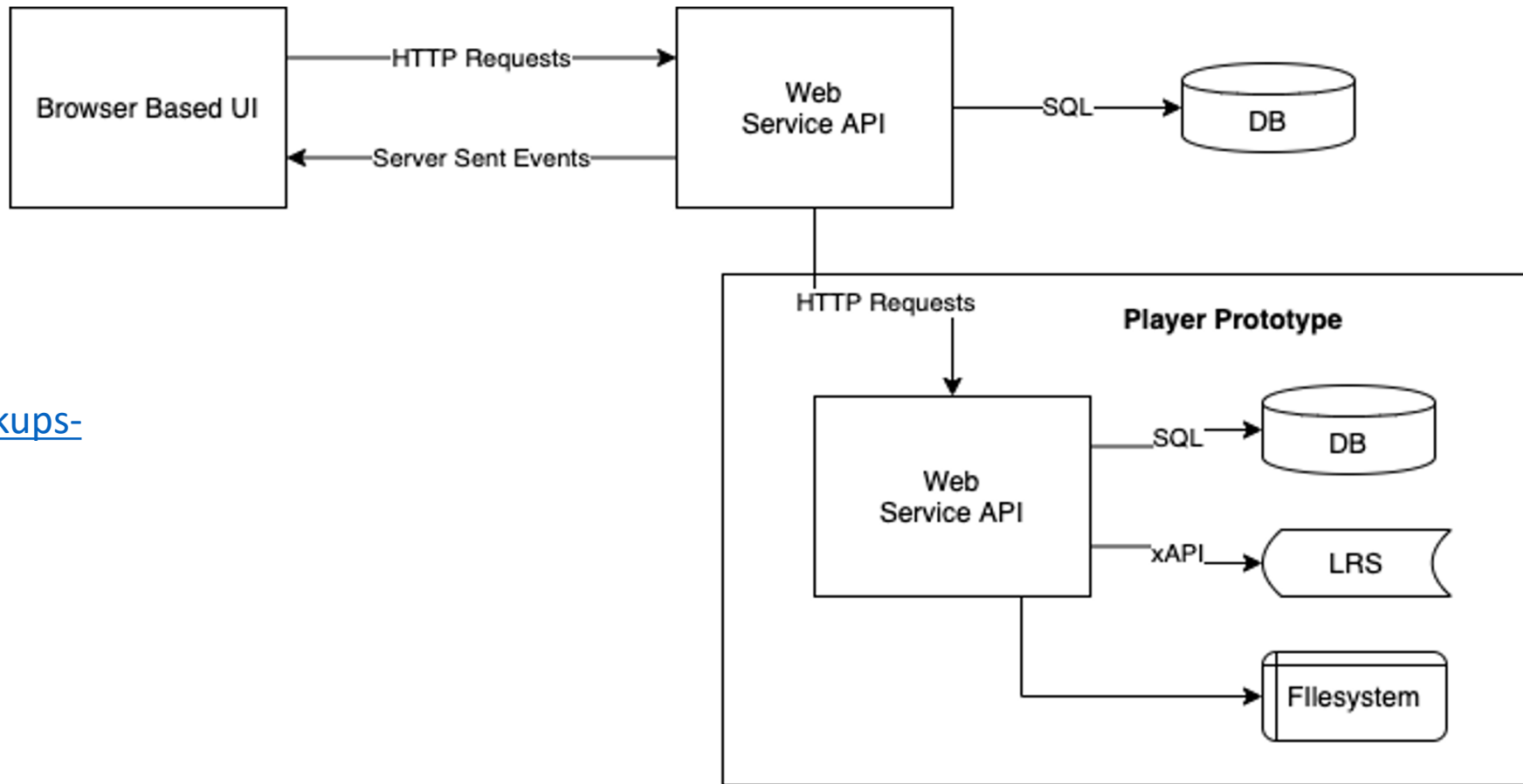
Project CATAPULT: Prototype Review

- Player Prototype
- Content Testing Application
- LMS Testing Application

Project CATAPULT: Player prototype

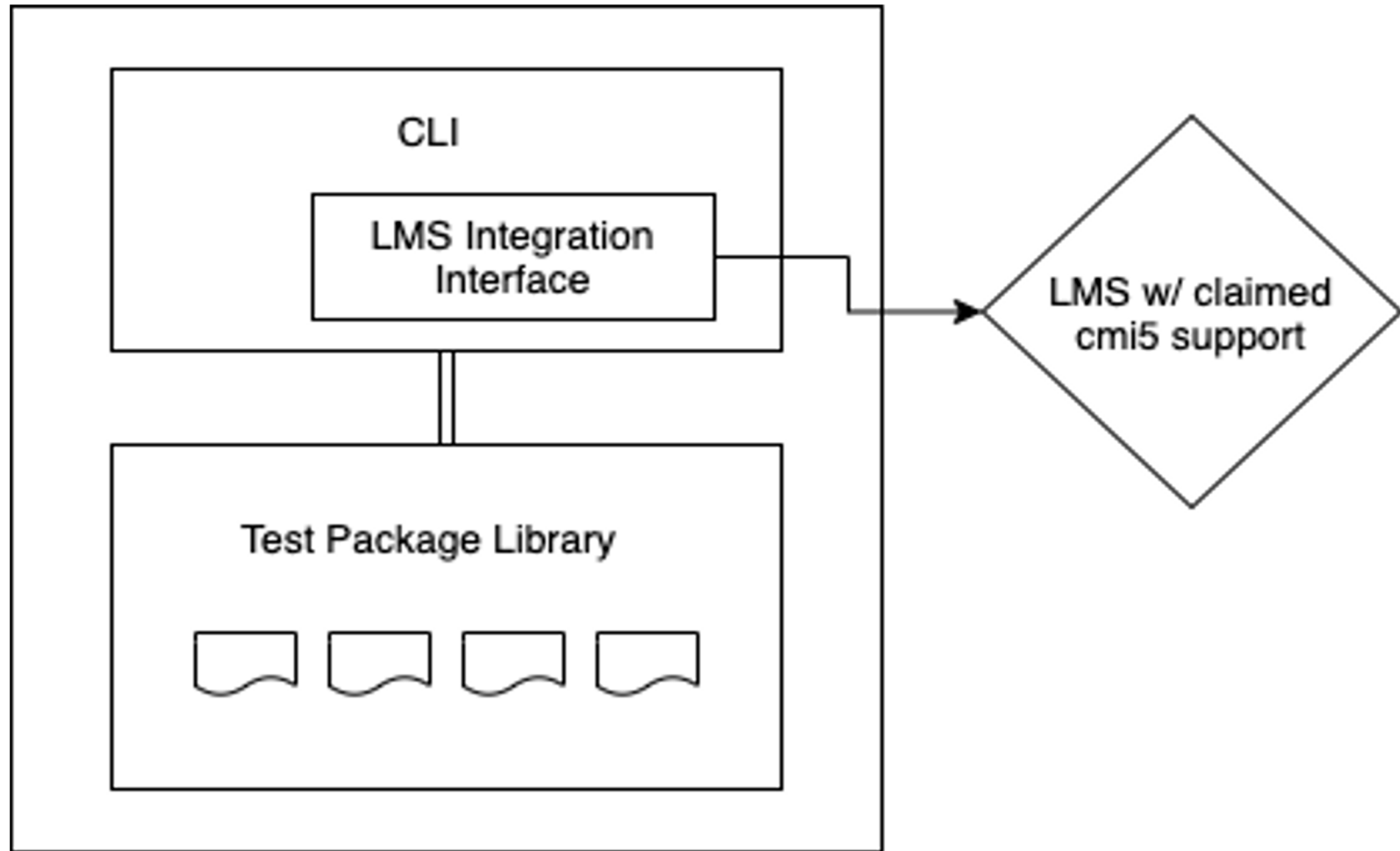


Project CATAPULT: Content testing




[Prototype design mockups- Sketch Cloud](#)

Project CATAPULT: LMS testing



Project Catapult: UI/UX Design Review

catapult Home New Course New Test 

Courses

Show Search...


Courses per page First Prev 1 2 3 ... Next Last

Title	Test Result	Last Tested	Actions
Ating Alamin	✓ Conformant	2 months ago	Test Delete
Bambusa bambos	✓ Conformant	11 months ago	Test Delete
Beardsly meteorite	✗ Non-conformant	10 days ago	Test Delete
CARNet	? Result Pending	Never	Test Delete
Crookston, Minnesota	✗ Non-conformant	6 hours ago	Test Delete
Dean of Lincoln	✗ Non-conformant	14 hours ago	Test Delete
Dyspessa fantolii	✓ Conformant	1 year ago	Test Delete
Forestia	✓ Conformant	2 months ago	Test Delete
Geology	? Result Pending	1 day ago	Test Delete
Introduction to Geology	? Result Pending	Never	Test Delete

Courses per page First Prev 1 2 3 ... Next Last

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Project Catapult: UI/UX Design Review

catapult [Home](#) / [Geology](#) / Conformance Test New Course New Test 

Conformance Test for Geology

Course ID: <http://course-repository.example.edu/identifiers/courses/d07e186b>

Registration

Leonardo Oliveira (9dca22c4-1122-4187-b2dc-9dc4d11ea928)

Configuration

Actor [Agent Profile](#) [Launch Settings](#)

Name: Leonardo Oliveira
Account homepage: <https://www.example.com>
Account name: 7840-60552

Assignable Units

Rock and rock cycle ✔ Conformant
AU ID: <http://courses.example.edu/identifiers/courses/d07e186b/blocks/001/aus/64f6>
Block: Geologic materials

Launch Waive Show configuration

Unconsolidated material ⚠ Result Pending

Test Report

Download

Conformance Status

- Geology ⚠
 - Geologic materials ⚠
 - [Rock and rock cycle](#) ✔
 - [Unconsolidated material](#) ⚠
 - Whole-Earth structure ⚠
 - Geologic time scale ⚠
 - [Quiz](#) ⚠

Registration Log

- Registration created
- Course Structure retrieved
- AU [Rock and rock cycle](#) launch session initiated ✔
- Fetch URL used ✔
- LMS.LaunchData state retrieved ✔
 - contextTemplate confirmed ✔
 - launchMode confirmed ✔
 - launchMethod confirmed ✔
 - launchParameters confirmed ✔
 - entitlementKey not present ✔

Project CATAPULT: Schedule

FY20
Q3

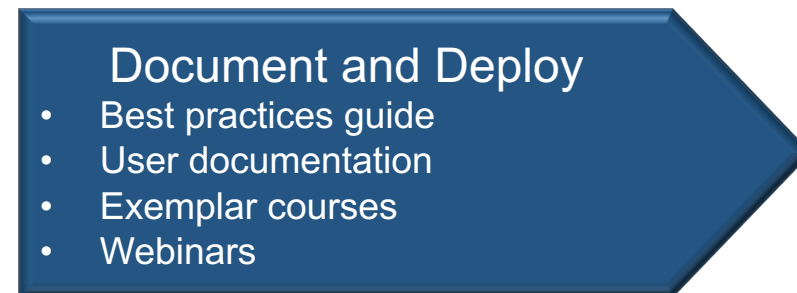
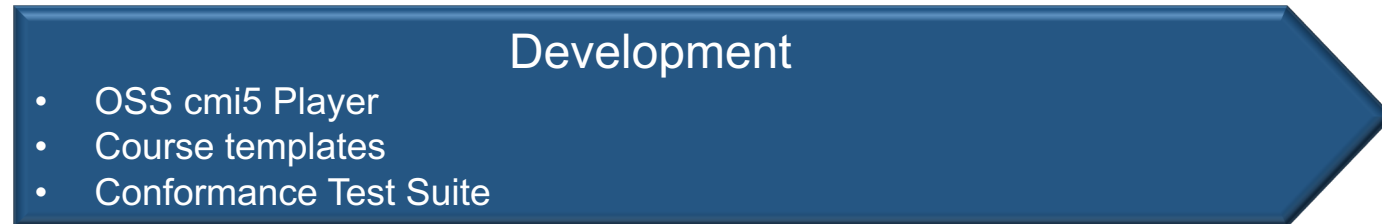
Q4

FY21
Q1

Q2

Q3

Q4



Project CATAPULT

Questions?