SESSION PRESENTER

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Want the slides?

http://mlearning.com/shows/focuson-2016
SESSION EXPECTATIONS (PER SHOW GUIDE)

• Determine which platforms and tools are xAPI ready and how they can be used in an existing learning environment

• Balance when to use xAPI over SCORM and whether they are mutually exclusive

• Identify new use cases to apply tracking to non-traditional learning assignments and interactions

• Contemplate new technical challenges to overcome with LMS integration, security, mobile access (especially when offline) and more
PRESENTATION AGENDA

• Introductions & Expectations
• Presenter Experience & Background
• Attributes of xAPI ("The Origin Story")
• Benefits of xAPI ("What’s Possible & Available")
• Challenges of xAPI ("Obstacles & Misconceptions")
• Case Studies & Examples
• Next Steps
• Questions & Answers, Wrap Up
SESSION POLL #1

What’s the state of your Learning Technology Infrastructure? Share what you have installed now:

A. We have LMS or Talent Management platform
B. We have a standalone Learning Record Store (“LRS”)  
C. We have an LMS with an integrated LRS? 
D. What’s an LRS?
PLEASE SHARE YOUR THOUGHTS & INSIGHTS

• What are some of the use cases and benefits driving a move to adopt xAPI/install an LRS?
• What tools are you using (or contemplating) that adhere to the xAPI standard?
• How big of a priority is it for your organization to move in this direction?
Company Background & Approach
COMPANY BACKGROUND

- **Formed in 2002** by software development & media experts to create value oriented LMS/LCMS platform for middle market
- Added **CellCast® Solution** offerings, our mobile learning content & training delivery technologies for handsets, tablets & more in 2003
- Headquartered in **Savannah, Georgia USA** with development team in New Zealand plus partners in Americas, APAC & EMEA
- 120+ enterprise installations, 1.1 M+ licensed users worldwide
- 40+ **Industry Awards** received to date
- Hold mlearning.com & mobilelearning.com Internet domains
KEY ENTERPRISE FEATURES

- Apps, Mobile Web, Old/New
- Social Networking/Collaboration
- Game Mechanics/Dynamics
- Enterprise Security (125+ features)
- APIs & Connectors (REST, SSO, xAPI)
- Complimentary Online Portals
- “Unified User Experience” (x-Plat. UI/UX)
OUR FORMULA FOR SUCCESS

Feature Set
- Online
- Mobile
- Responsive UX
- xAPI, SSO, SCORM
- Gamification
- Social
- eCommerce
- APIs & Connectors

Your Business Objectives

Common Use Cases
- Sales Enablement
- Product Launch
- Onboarding & New Hire
- Compliance & Regulatory
- Extended Ecosystems
- Leadership Development

Purpose-Built Outcomes!
Building Block A: The Attributes of xAPI
WE CAN MEASURE EVERYTHING ELSE, WHY NOT LEARNING?

Courtesy: Megan Torrance, Torrance Learning
HECK, WE’VE GOT SCORM TO TRACK LEARNING, AS LONG AS IT IS…

- Time
- Score
- Location
- Status
- Answers

Courtesy: Megan Torrance, Torrance Learning
THE (R)EVOLUTION OF LEARNING
EARLY TRAINING TRACKING TOOLS
“MODERN” SYSTEMS, REPORTS, PROFILES
“MODERN” TRACKING METHODS
xAPI ORIGIN STORY

What’s in a Name? Is it...

Tin Can API?

Experience API?

xAPI?
The Experience API, or xAPI, is a common way of sharing information about our experiences, using data.

Courtesy: Aaron Silvers, Making Better
The “x” in xAPI is for experience.
The Experience API (xAPI)

- Can be used to describe a wide variety of experiences
- Moves us beyond simple web-based, didactic models
- Promotes adaptive design and development practices
- Accelerates integrations with other systems (and practices)
- Encourages transparency in data capture and use

Courtesy: Aaron Silvers, Making Better
How Does Experience API Work?

- People interact with “stuff” (i.e. content, apps, business systems, etc.)
- These interactions are observed and described in JSON.
- The “stuff” sends the statements to a Learning Record Store.
What is a Learning Record Store (LRS)?

- It’s a database that stores activity statements - the “data”
- LRSs can be software (even hardware) that stands on its own.
- LRSs can be a function of other things: data appliances, enterprise applications, LMSs
Data describing our experiences can come from different sources.
xAPI ORIGIN STORY

- xAPI grew out SCORM & AICC (& their limitations)
- SCORM was developed at request of US Govt. (DOD, DOS) to provide a standard normalized way to manage content packages across different LMS platforms
- Basics of SCORM are now more than a dozen years old...

SCORM Limitations (then & now)

- Content that’s largely Flash-based
- Legacy browsers are not advanced
- Limited data points (e.g., progress, completion, score, bookmarks)

“Must” be online (SCORM API on LMS)

The typical scenario involves the learner on a PC + web browser + structured content package – **not mobile, wearable, informal, others**
XAPI ORIGIN STORY

Does xAPI = SCORM 2016?

SCORM is Content Focused
- How content is *built*
- How content is *packaged*
- How content is *played*
- What data is *moved & tracked*

xAPI is Data Focused
- Specific data that you need (or want) to be *collected*...
- & how that data is *moved & tracked*
Activity Statements are “Observations”
ATTRIBUTES OF xAPI

Brian Miller experienced 'Java JAX RS · wordnik/swagger-core Wiki'
Brian Miller experienced 'A Comparison of Spring MVC and JAX-RS'
Tammy Rutherford experienced 'Questions I’ve Fielded on Tin Can API'
Megan Bowe completed 'Js Tetris - Tin Can Prototype’ with Score ‘794'

Courtesy: Megan Bowe
THE “PRESENT FUTURE”

What Vendors/Consultants/Pundits Suggest is this...

LMS  LRS

Tin Can Course  Learning Activity  Learning Activity

Reportin
What’s really happening now is more like this…
Building Block B: The Benefits of xAPI
What’s Now Possible?

The promise of a new frontier for learning, mobile, video, performance support & so much more!
1. Learning can be recorded wherever it occurs.
2. Learning content does not have to reside in a browser (anyone have a mobile device?)
3. Learning does not have to be “launched” from an LMS, enabling:
   • Mobile Apps
   • Social Learning
   • Gaming & Simulations
4. Learning content can be distributed (in another domain)
5. xAPI uses modern, common technology (e.g., REST, JSON)
6. Simplicity! The whole spec is only 70 pages

Courtesy: Art Werkenthin/RISC
6. Simplicity! The whole spec is only 70 pages
SUPPORTING THE 70:20:10 MODEL

xAPI

Formal  People  Experience

Courtesy: Megan Torrance
Kirkpatrick’s Levels of Training

Level 1: Satisfaction & Experience
Level 2: Knowledge & Retention
Level 2: Practice & Testing
Level 3 / 4: Behaviors
Level 4 / 5: Results & ROI

SCORM
xAPI

Courtesy: Megan Torrance
BENEFITS OF xAPI: 140+ SOLUTIONS TODAY!

xAPI-Capable Authoring Tools
- Adobe
- articulate
- dominoKnow
- easygenerator
- ExamBuilder
- iSpring
- Lectora
- Questionmark
- Xyleme
- Zebra Apps

LRS Solution Providers
- Watershed LRS
- Rustici Software
- Learning Locker
- NexLeArN
- Yet
- Wax LRS
- PROBLEM SOLUTIONS

Notable M.I.A. Providers
Several leading LMS Vendors have yet to DEPLOY* their xAPI/Tin Can support including:
- Cornerstone on Demand
- Oracle HCM/Taleo
- SumTotal/Skillsoft
- SAP/SuccessFactors
- Meridian
- Others...

* = Announcing isn’t Shipping
A Tale of 3 Approaches

- **Storyline**
- **Captivate**
- **Lectora**

Courtesy: Sean Putnam
BENEFITS xAPI – ACTIVITY PROVIDERS COMPS

A Tale of 3 Approaches

Storyline
✓ In-Application Simple Publish to xAPI

Captivate
✓ In-Application Simple Publish to xAPI

Lectora
✓ In-Appl. Advanced xAPI Controls

Courtesy: Sean Putnam
Building Block C: The Challenges of xAPI
Examples of Popular Myths

- The Unicorn
- Bigfoot
- Lock Ness Monster
Popular Misconceptions

- **George had wooden teeth!**
  - **Truth:** They were made of animal bone/teeth, gold & glue.

- **We use only 10% of brain!**
  - **Truth:** We use it all but not to capacity.

- **Al “Invented Internet.”**
  - **Truth:** His Committee helped to continue the funding.
CHALLENGES OF xAPI
COMMON MYTHS MISCONCEPTIONS

• Will xAPI Replace SCORM?

• Will the LRS replace the LMS?
“Lots of promise but still a lack of Commercial Off-the-Shelf” (‘COTS’) solutions from leading Activity Providers to deliver on all the promises.“

T. J. Seabrook
Rustici Software
Challenging for LMS Providers
- Uncertainty in how systems will report statements
- Lack of guidance on how LRS will integrate with their platforms
- Lack of statement predictability
- Thinking big instead of small

Challenging for Activity Providers
- Lack of tooling for tech users/SMEs
- Lack of standards in statement design
- Desire to do “new things in old ways”
CHALLENGES OF xAPI – PRE-FLIGHT CHECK

• Industry Adoption Rates
  • L&D Teams (sparse but growing)
  • Tool & Platform Developers (slow to adopt but expanding)
  • Consultants (the overzealous vs. the uninformed)

• Limited Solution Sets (today)

• Proven Use Cases “at scale” to point to

• For many, xAPI overlaps with SCORM (parity vs. no parity)

• Ambiguity for terms/structures (e.g., actors, verbs, actions/objects)
CHALLENGES OF xAPI – POST LANDING

• Too Much Data
  • No easy/rational way to decipher it all
  • Lack of standard tools to visualize your “big data”

• Building Your Team
  • Do you need to be a data scientist?
  • Do you need programmers?
  • Do your vendors have *real game*?

• Bright, Shiny Object Syndrome

• Overall resistance to change
Let’s Build Something!
Case Studies & Examples
CUSTOM APP CONSIDERATIONS

Use Case: Tracking user achievements in custom apps

Value Prop: Track learning-related achievements in a custom built native or web performance support app

Overview: Most organizations are building custom apps within the enterprise to support their businesses. These apps may not be defined as learning apps, but learning and performance support objectives may overlap with the primary purpose. xAPI statements can be leveraged within these apps to track formal and informal achievement and access info.

Requirements:
- Custom built native apps or web apps
- Standalone or integrated LRS platform
SOCIAL READING – RISC & FLOAT

Use Case:  
xAPI-enabled Document (PDF) Annotator

Value Prop: RISC worked with Float Mobile to develop a Tin Can-powered PDF annotator managed inside the RISC LMS platform.

Overview: Solution allows learners to annotate a PDF using the mobile device then view those annotations on another device or share them with others.

Requirements:
- Publically available (and privately branded) native app
- Embedded LRS in RISC LMS platform
- Rich administrative interface & reporting tools
**Use Case:** Social Learning Application

**Value Prop:** Float’s Tappestry is an Apple iOS application that tracks informal learning & issues Tin Can statements about these learning experiences.

**Overview:** Well-designed social solution proves an excellent example of a full, end-to-end xAPI-based implementation spanning an App + LRS + integrated reporting & analytics.

**Requirements:**
- Publically available (and privately branded) native app
- Basic LRS plus support for 3rd party LRS platforms
- Rich administrative interface & reporting tools
Use Case: Social Learning Application

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INTERACTIVE VIDEO FOR ONBOARDING

Use Case: Track activity within and around Interactive Video modules for onboarding initiatives

Value Prop: Tracking interactions within high-end, immersive video content and correlating with real performance data

Overview: Well known consumer products company onboards Independent Business Owners using interactive video, introducing the company, its product portfolio, and selling techniques to help them succeed. Using xAPI, interactions are tracked and correlated against real sales data.

Requirements:

- Interactive video delivery framework supporting xAPI
- Online/offline, mobile-enabled xAPI statement collection & management
- LRS to collect statements + visualization tools for analytics
INTERACTIVE VIDEO FOR ONBOARDING
Use Case: Open Learning Analytics Service

Value Prop: Track learning-related achievements for the entire UK education sector

Overview: “JISC shares our passion and belief that learning data should be Open, Standard and Student-Centric. The Open Analytics project is a hugely exciting initiative that seeks to provide a one-stop-shop for institutions to use their existing infrastructure as the basis for advanced Learning Analytics. By adopting the xAPI and by using Learning Locker as a foundation of the project, Jisc have given themselves a huge head start in rapidly establishing a basic service that can be built upon for years to come.”

Scope:
- Custom built solution with apps, platforms, services, people, statements….
- Billions (perhaps trillions) of xAPI statements tracked & managed
**Use Case:** xAPI meets the Internet of Things (“IoT”)

**His Day Job:** Instructional Designer, eLearning Guru, IT nerd

**His Calling:** Self-proclaimed “Instructional Designer for the Internet of Things (“IDIoT”)” => *hardly!*

**Overview:** Created a wearable LRS device that can accept & manage xAPI statements to meet your anytime/anywhere xAPI demands

**Reaction:** xAPI doesn’t have to be expensive or constraining; if it can be built & delivered for less than US $100, anything is possible
Use Case: Scan Shared QR Code to mark attendance

Value Prop: Eliminate manual attendance effort

Overview: Rather than passing a piece of paper around or taking attendance, instructors can post a shared QR Code for learners to scan and “check in”. This also eliminates the subsequent effort of manually inputting or importing attendance into an LMS.

Requirements:
- Native app with QR Code Scanner and User Authentication
- LRS to receive xAPI statements
- API to convert xAPI attendance statement into LMS attendance record
INFORMAL LEARNING ACTIVITY:
READING ASSIGNMENT COMPLETION

Use Case:  How to track reading assignments?

Value Prop:  Add tracking to typical learning activity

Overview:  Workers demonstrate completion of reading assignments by clicking a link embedded in a digital or printed publication or scanning a QR code (respectively); completions sent to LRS via user’s app. Can also assign simple assessment to verify participation & knowledge acquisition.

Requirements:

- Digital or printed documents with embedded deep link or scan-ready QR
- LRS to receive xAPI statements + APIs to convert statements into social learning record
Use Case: Leveraging xAPI on-the-go & disconnected!

Value Prop: Tracking anytime, anywhere in any situation

Overview: OnPoint’s development team has devised an innovative way to trap xAPI statements inside native apps that can collect xAPI statements from any content object or programmatic feature when while offline. Statements are captured, stamped & queued inside a proxy server and then uploaded once the user can reconnect to the cloud (hours, days, even weeks later).

Requirements:

- Offline capable Native Apps with server proxy engines
- Formal & informal learning objects that generate xAPI statements
- Integrated or third party LRS to capture stored statements
FLEXIBLE REPORTING & ANALYTICS

Use Case:  Quantify & Qualify Learning Experiences

Value Prop:  Make it easy for any admin & any manager

Overview:  OnPoint has been working to create more informative, easier to manage dashboards & analytics with easy drill down/thru capabilities to streamline reporting & better measure organizational performance in real time.

Requirements:

- LRS to receive xAPI statements from any formal or informal learning experience
- Easier ways to extract and contextualize data sets into quantifiable information & results
Where Do I Start with xAPI?
Who’s in charge of xAPI?
is the part of the US Department of Defense that continues to sponsor the collective work on xAPI since April 2010.
…is the international, nonprofit organization purposed to take responsibility for the operations and maintenance of xAPI into perpetuity.

http://datainteroperability.org
DISC Goals for 2017

• LRS Certification
• Conformance requirements
• Certification programs

• And much more for 2018, 2019…

Created by Alex Auda Samora
from Noun Project
THE NEAR-TERM HORIZON OF xAPI

The xAPI Community is Hard at Work

What we can expect soon are finally seeing now

• Available case studies
• Accepted term/verb libraries
• Shared prototypes (code examples)
• Learner profiles understood & implemented
• Easier ways to capture informal learning
• V2s & v3s of tools & applications
• cmi5 for LMS platforms
THE NEAR-TERM HORIZON OF xAPI

My Prediction:

“2016 will be the year xAPI lifts off from the launch pad….but 2017 will be the year it reaches its intended orbit.”
THE NEAR-TERM HORIZON OF xAPI

Our Prediction

2013-2015

2016

The Future

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GETTING STARTED – THE 4 “Ds”

• **Determine** what you want to do
• **Define** the outcomes & expectations you are expecting
• **Detail** how you’re going to measure progress against your vision
  • Are people better prepared & informed? More productive & motivated?
• **Decide** what tools & approaches others have leveraged
GETTING STARTED VIA…

• Change Your Mindset (if necessary) & Run Against the Grain

• Leverage Available Resources
  • ADL web site
  • xAPI Connections Forum site
  • Data Interoperability Standards Consortium (datainteroperability.org)
  • Sign up for a future xAPI Camp via Making Better
  • Register for “Introduction to xAPI” MOOC (Curatr)
  • Brian Dusablon’s “Introduction to xAPI” best practices site
  • Megan Torrance’s “xAPI Learning Cohort” – next one starts this fall
  • Talk to your vendors (current and/or more progressive ones if necessary)
  • Engage consultants & experts
XAPI FUTURES: WHAT’S NEXT?

• ADL’s focused on Training & Learning Architecture (TLA), the “next generation of SCORM”
• xAPI is the first of four components release
• Upcoming IEEE Standards Adoption
• Release & launch of cmi5 *(this week!)*
SCORM-TO-TLA ROADMAP

Phase 0: SCORM
Phase 1: LMS-centric
Phase 2: LRS-centric
Phase 3: TLA

http://adlnet.github.io/SCORM-to-TLA-Roadmap
“SCORM with Benefits”

- Dual tracking
- The LMS continues to be the central hub, but learner progress is also sent to a LRS

You Must:

- Update content to report data to the LMS and an LRS
- Acquire access to an LRS for your organization

LMS as xAPI Consumer

- Role of the LMS has diminished
- The LRS stores learner experiences; content no longer needs to be managed by the LMS
- The LMS is just a node in the xAPI-fed ecosystem

You Must:

- Configure your LMS to pull data from your LRS
- Report data primarily to the LRS instead of the LMS
- Configure content to launch externally from the LMS
- Define content and user access / authentication

CMI5 (FORMERLY ‘CMI-5’)

- “LMS use case for the Experience API”
- Interoperable
- Extensible
- Supports mobile content

CMI5 working group
- Production release (Quartz) released!
- Growing vendor support
SUMMARY & CONCLUSIONS
xAPI Adoption: Plant the seeds and watch them grow!

xAPI Proof-of-Concept → xAPI Pilot Program → xAPI In Production → xAPI Multiple Connections at Scale
REMEMBER OUR THEME

LEARN from the past
LIVE in the present
BELIEVE in the future
XAPI: THE TIME HAS COME!

- **The Past has:**
  - Provided the foundation for tracking our learning, and
  - Shaped our needs & expectations.

- **The Present is:**
  - Offering proper tools/platforms/solutions if applied appropriately
  - Enabling teams to work around limitations (e.g., technology, costs, experience, more)

- **The Future will be:**
  - Exciting & challenging alike, and…
  - next **2 Years** will shape the next **10 Years**
Q&A, Wrap Up
Connect with me via:

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Thanks for Attending!

Please complete your surveys too!