



Experience API Design Cohort #2

Informational Meeting – January 30th, 2014

Andy Johnson – Subcontractor for Problem Solutions in support of the ADL Initiative

Advanced Distributed Learning

What is the Experience API?

- **A specification focusing on tracking learner data through activity streams**
- **xAPI for short, originated from a project with the code name “TinCan”**
- **Version 1.0.1 is out and stable**
- **If you are familiar with the larger ADL vision of a Training and Learning Architecture, this is the substance that flows through the plumbing.**

What is the xAPI Design Group?

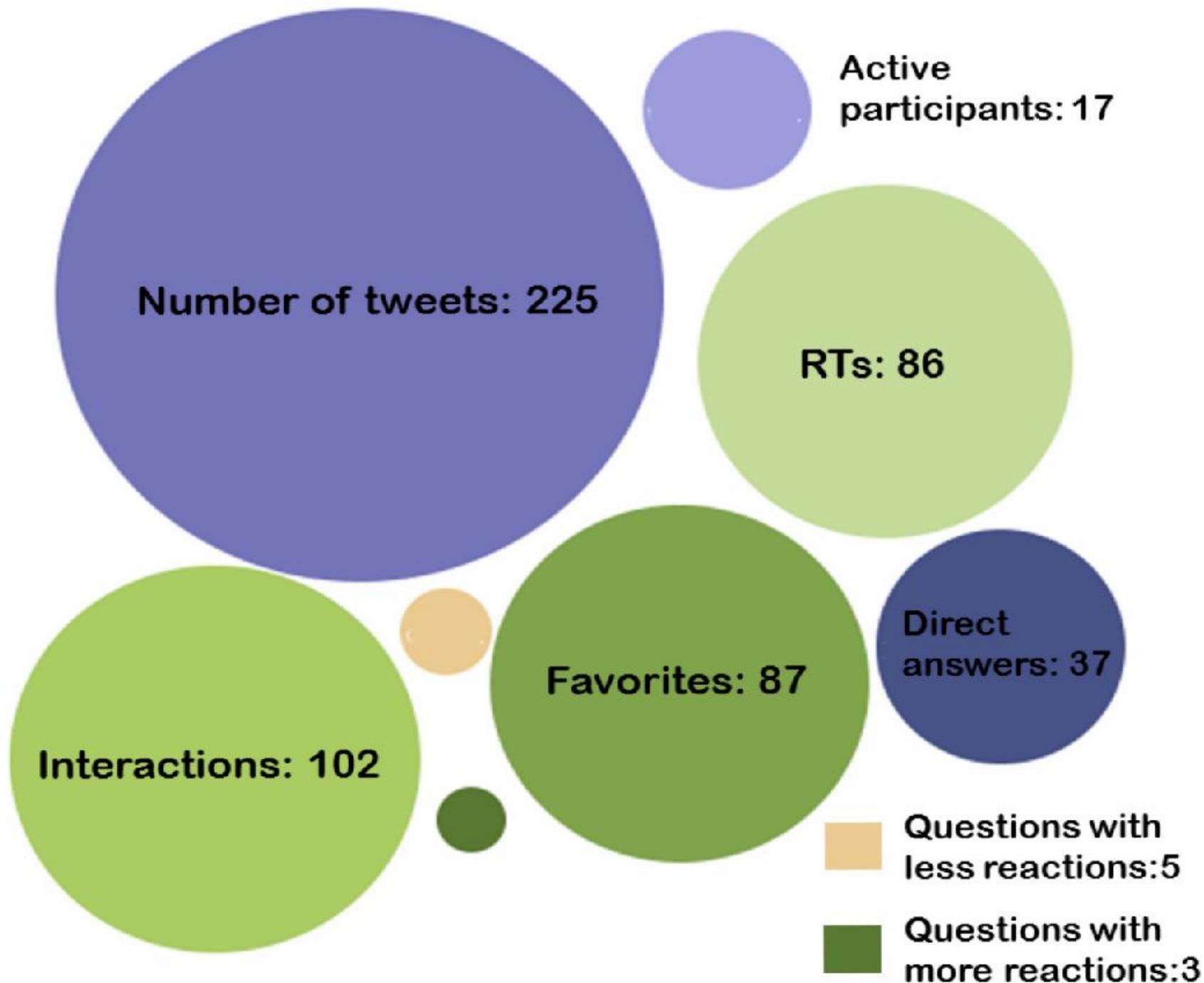
- **xAPI-Design is a team-based, open, applied learning experience**
- **Teams work together for 9 weeks, we have a weekly sharing/bragging session and discussion about xAPI topics**
- **Projects vary greatly in scope and topic**

xAPI Vocabulary and Usage Exploration

- **One group in Design Cohort #1 decided to mimic a Community of Practice adopting xAPI**
- **Chose the hospitality business, specifically in hotels**
- **Defined verbs, actors, permission levels, and discussed issues around the spec in relation to all of these**

An Experiment in xAPI and Social Media

- **Defined criteria, measurable outputs, and set up questions and expected answers**
- **Held Twitter sessions to capture interactions in an online social learning experience**
- **Used registration process and tracking, data analysis, and xAPI subject matter to create engaging twitter sessions and visualizations from results**



A Valuable Piece of Middleware

- **Problem: Learning or training content requires that content is located in the same domain as the LMS**
 - Externally created content is most common
 - Users of an internal system are most common
 - Need to bridge this gap with middleware
- **Solution: Leverage the Experience API to track cross-domain learning experiences from an HTML template for tracking in an LRS**
 - A server-side component with a configuration file/page will store and transmit Basic/OAuth provider credentials to an LRS endpoint
 - An end user will manually enter their user credentials (OpenID, account, or email address) for identification and tracking purposes
- **Until you start working with the idea of not having an LMS and only an LRS, you probably won't see the true value of this proxy**
- **Anyone can contribute!**
https://github.com/adlnet/xapi_design_world_of_xapicraft



lrs.properties from classpath

 unknown authored 4 months agolatest commit `741e18f8a7` 

..

 bin	Remove credentials from code path	4 months ago
 src	lrs.properties from classpath	4 months ago
 README.md	Add proxy stub	4 months ago
 example files.zip	Add proxy stub	4 months ago
 index.jsp	lrs.properties from classpath	4 months ago
 tincan.jar	Add proxy stub	4 months ago
 web.xml	lrs.properties from classpath	4 months ago

 **README.md**

xAPIProxyServer

Middleware for template code to write to an LRS



An LMS, LCMS, LRS, Mobile Integration

- **LCMS**
 - Integrated into current content management with xAPI calls embedded into output
 - Assessment capability as well
- **LMS**
 - LRS Dashboard integration
 - Many new types of queries made available
- **LRS**
 - Holds all of the pieces together
 - Activity stream view integrated
- **Mobile**
 - Playing in mobile was a big concern
 - View progress and take assessments as well
 - Works offline and syncs when online again, so just download and go!

xAPI Support within Instancy Platform (Integrated LMS, LCMS, LRS and Mobile Learning)



xAPI Software Integration

- **Created Statements**
 - Used some ADL verbs
 - Created some of their own
 - Determined mapping of fields to events
 - Embedded tracking within software program (software for creating graphics)
- **Created own LRS**
 - Could then send statements as they were done
 - And retrieve them in another pane plug-in for the software displaying statements
- **Created Visualizations**
 - Created a timeline and visualizations of events
 - Could drill down into events and get Statements
 - Could color code expert vs. user (in real time if needed)
 - Provide pointed instruction/feedback



Linear Static Run Comparison

[Expert] Total elapsed time:	12M57S		
[User] Total elapsed time:	18M26S		User run: 142.34%
[Expert] Automesh:	1M12S		
[User] Automesh:	1M21S		112.5%
[Expert] CollectorCreate:	3M0S		
[User] CollectorCreate:	4M10S		138.12%
[Expert] CardEdit:	1M39S		
[User] CardEdit:	3M5S		186.87%
[Expert] RenameCollector:	28S		
[User] RenameCollector:	28S		100%
[Expert] CheckNormals:	13S		
[User] CheckNormals:	9S		69.23%
[Expert] ChangeCollector:	1M41S		
[User] ChangeCollector:	2M29S		147.52%
[Expert] CreatePressures:	27S		
[User] CreatePressures:	39S		144.44%
[Expert] ConstraintCreation:	2M46S		
[User] ConstraintCreation:	2M44S		98.8%
[Expert] ControlCardCreation:	1M0S		
[User] ControlCardCreation:	1M27S		142.62%
[Expert] LoadStepCreation:	14S		
[User] LoadStepCreation:	34S		242.86%

A WordPress Plug-in

- **Evaluate users' knowledge of the Mozilla Web Literacy Standards**
 - Looked at trackable “activities”
 - Designed Use Case and Future Goals
- **Using xAPI to track the user**
 - Plug-in, created using CKEditor
 - jQuery and AJAX
 - Grassblade plugin to send Statements back to LRS
- **Available on GitHub**
(<https://github.com/Vitzkrieg/xapimozweblit/>)
- **Is now a WordPress download, deployed soon to ADLnet.gov**
- **Tracks what someone “is doing” for future analysis**

Diversity of Projects

- **As you have seen, anything goes in these groups.**
- **Remember to have a stopping point of nine weeks in mind**
- **Can take any of the group 1 materials we have been granted access to and run with them**
- **xAPI Proxy already in the works**

ADL's Goal

- **ADL's main goal in all of this is to research how xAPI should be used**
- **Not to expand the specification itself, but to be able to develop or assist development of a profile**
- **Aid DoD and community in future efforts using xAPI and beyond**

ADL Hats

- **ADL will wear the hat of whichever role your group wants**
- **Will facilitate weekly meetings, but will take on any role for team meetings**
- **Here for your xAPI and LRS questions!**
- **May be able to contribute programmers if we end up short**

Why Participate?

- **Chance to bring any level of experience or area of interest to a space where collaboration is welcomed**
- **Show off your skills! Meet people!**
- **Priority registration for ADL PlugFest and the chance to demonstrate your project in front of attendees**

Ownership/Privacy

- **ADL assumes no ownership over anything produced in this effort**
- **Appreciate any materials at the end for profile creation, future development, lessons learned, demos, etc**
- **Would prefer GitHub is used for any code that is developed by ad hoc teams**
- **ADL will not share your information with anyone**

Process

- **Sign up either alone or with a pre-made team (partial teams are okay too!)**
- **We will all meet for the first weekly meeting on the week of Feb 17th and each week afterwards until April 28th (9 weeks of project time)**
- **Teams will formed according to interest and roles and are advised to meet weekly**
- **Late registration is okay, but the earlier the better so we have time to find ideal fits for everyone**

Team Collaboration

- **We will continue to use GoToMeeting and DCO for .mil persons who cannot use GTM for all weekly meetings**
- **Individual groups are encouraged to use what works for them – Skype, Google Hangouts, etc.**
- **We will set up GitHub areas for each project for document/code management, but you may want your own space as well**

What Do I Need to Bring to the Table?

- **Participants should, at a minimum, be able to attend their own team's weekly meeting (~1 hr/wk)**
- **Each team should have representation in the cohort meeting, but not mandatory**
- **Be realistic with your teammates on how much time you can contribute for the role you take on**
- **Experience with xAPI and/or web technologies are great, but by no means required to participate**

Any Questions?

Action Page

- **Register for the xAPI Design Group –**
<https://groups.google.com/a/adlnet.gov/forum/#!forum/xapi-design>
- **Or if you specified “yes” in the registration, you’ll be added automatically**
- **A survey will come out shortly**
- **E-mail me: andy.johnson.ctr@adlnet.gov if you have any problems**