



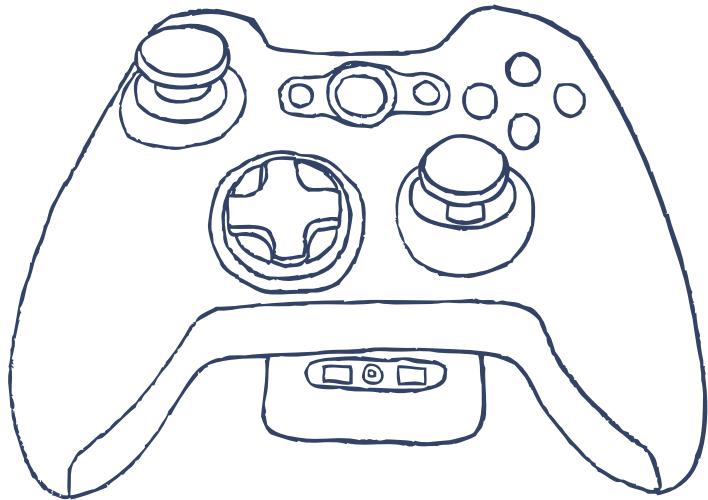
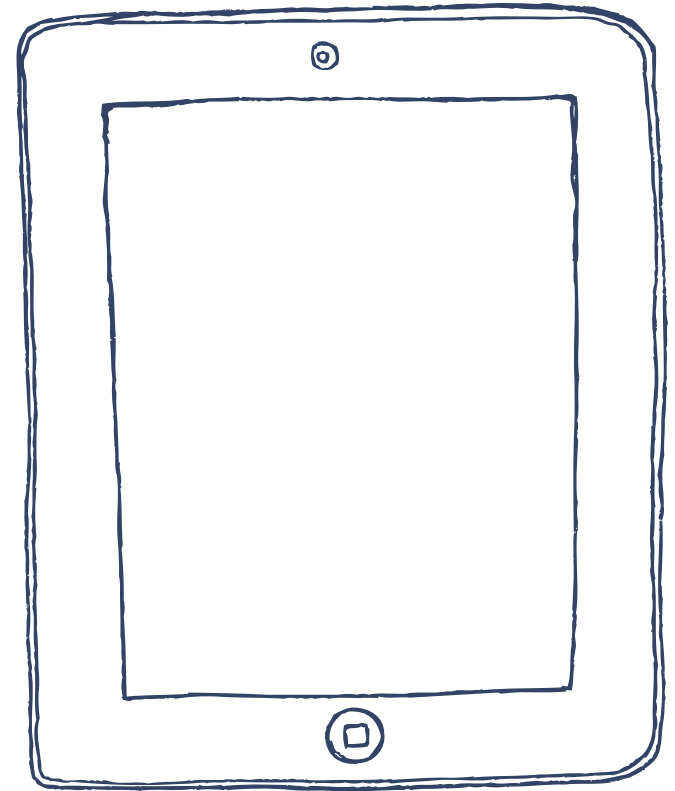
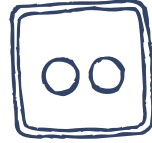
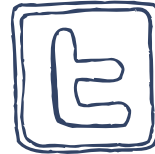
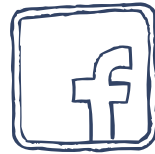
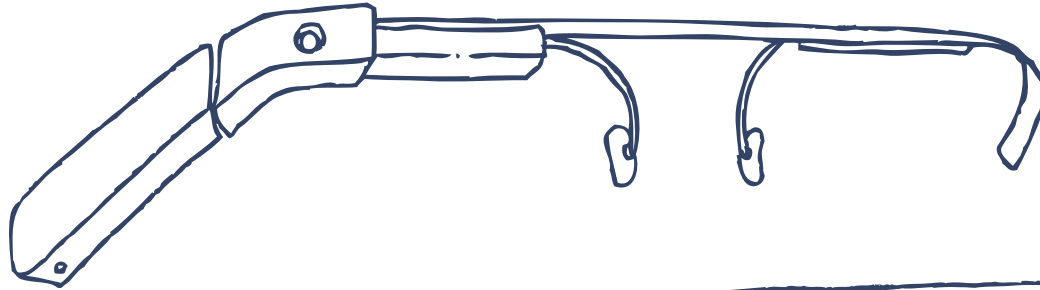
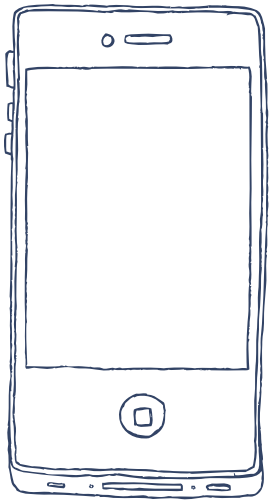
# **Advanced Distributed Learning: Enabling Enhanced Learning Experiences**

Damon Regan, Ph.D.

The Tolliver Group, Inc., supporting the ADL Initiative

eLSE 2013

**What are enhanced  
learning experiences?**

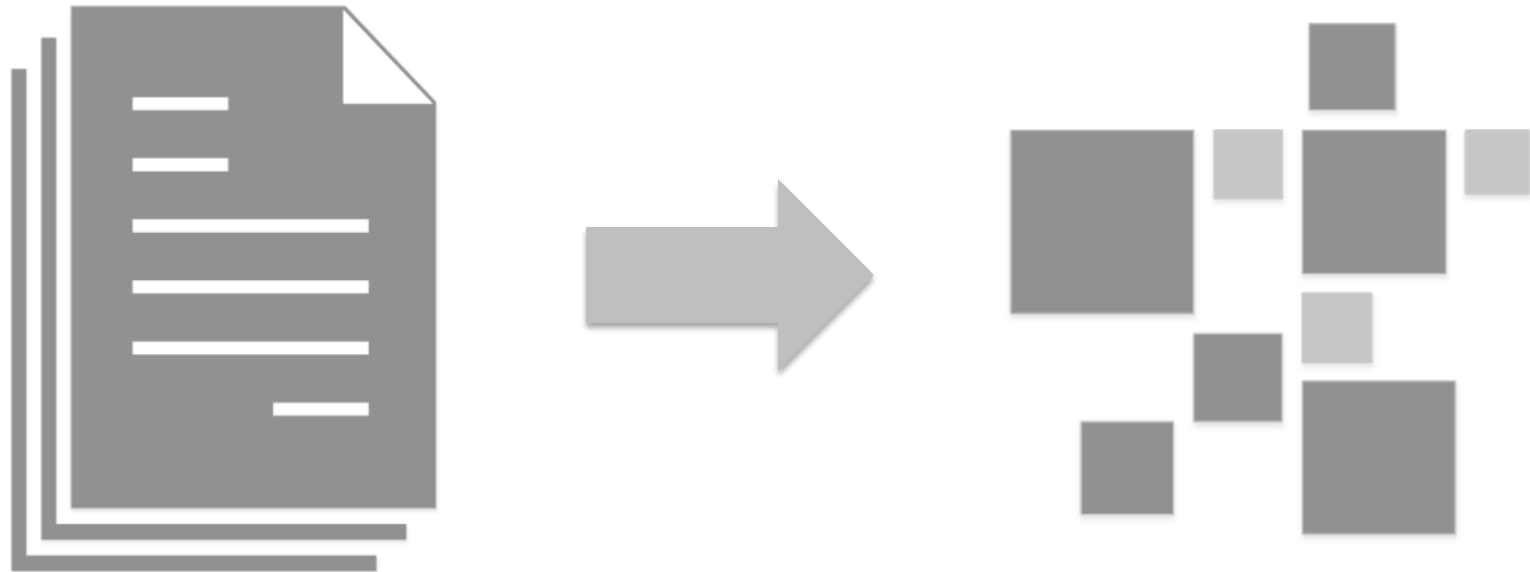


**How do we *enable* enhanced learning experiences?**

---

**Unlock the power of data to spur innovation and improve quality**

# Move from managing “documents” to managing discrete pieces of open data and content



# Information-Centric Approach

Public Digital  
Services

Private Digital  
Services

Presentation Layer

Systems, Processes,  
Management & Web APIs

Platform Layer

Open Data & Content  
(Information)

Information Layer

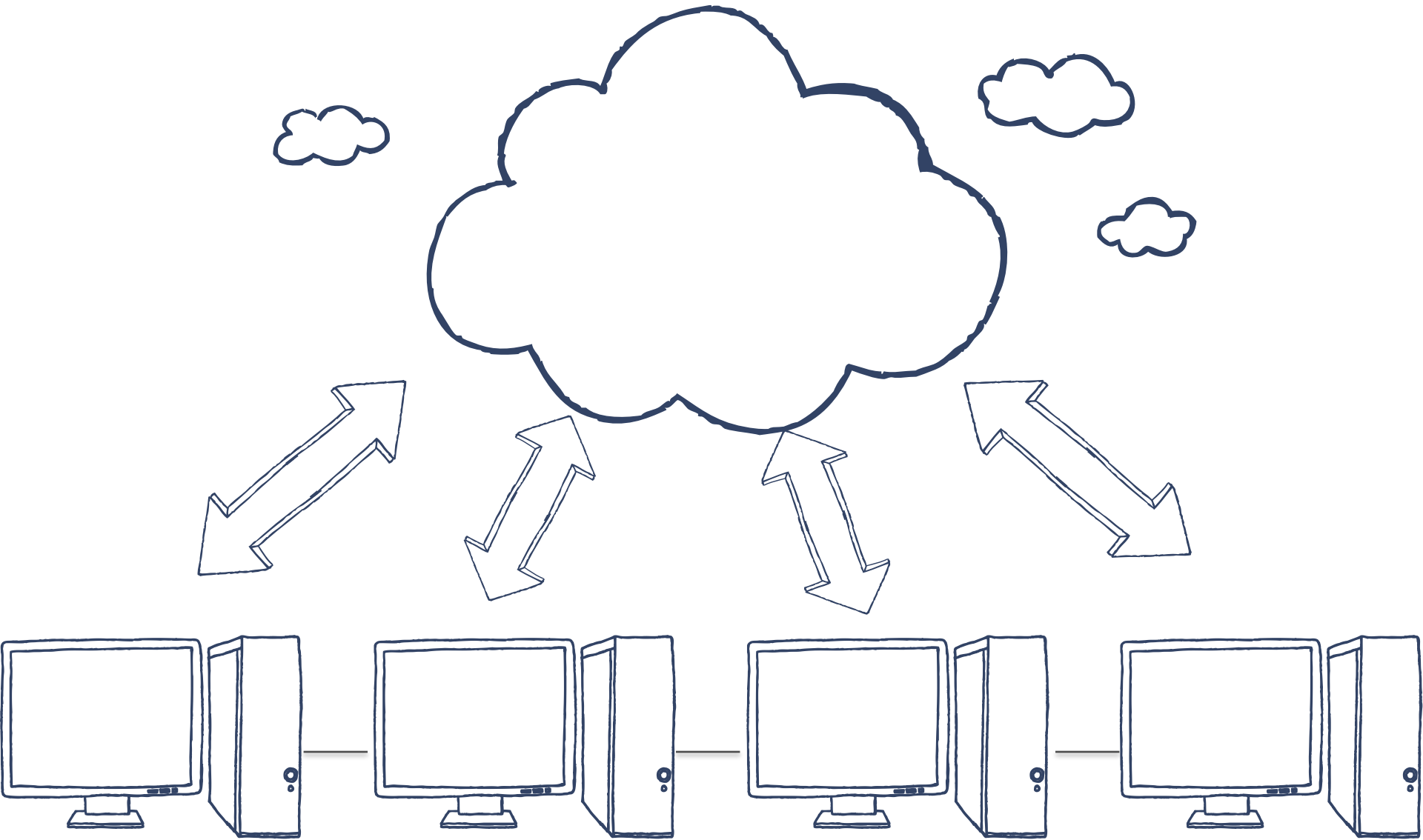
*The Layers of Digital Services*

<http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government.html>

# Leveraging Data for Play



- **NASA Topography Data brought real slopes into SSX Snowboarding**
- **Zynga changes gameplay on the fly based on player statistics**





# Training and Learning Architecture (TLA)

**TLA**

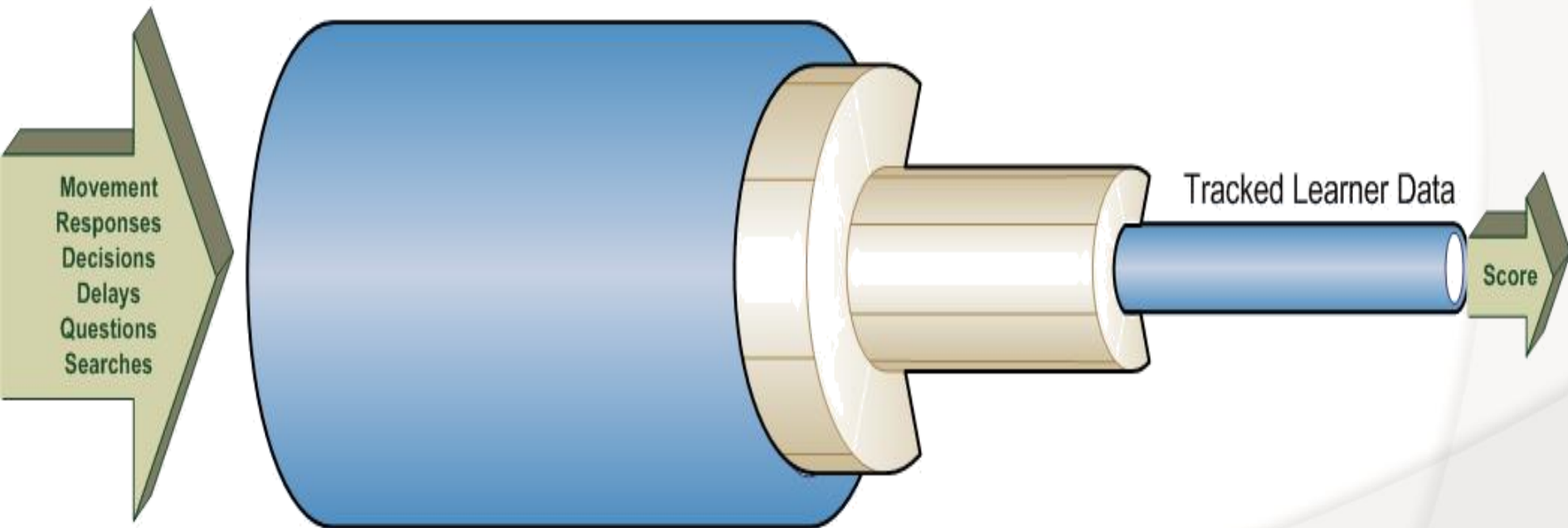
- Experience Tracking
- Content Brokering
- Learner Profiles
- Competency Networks

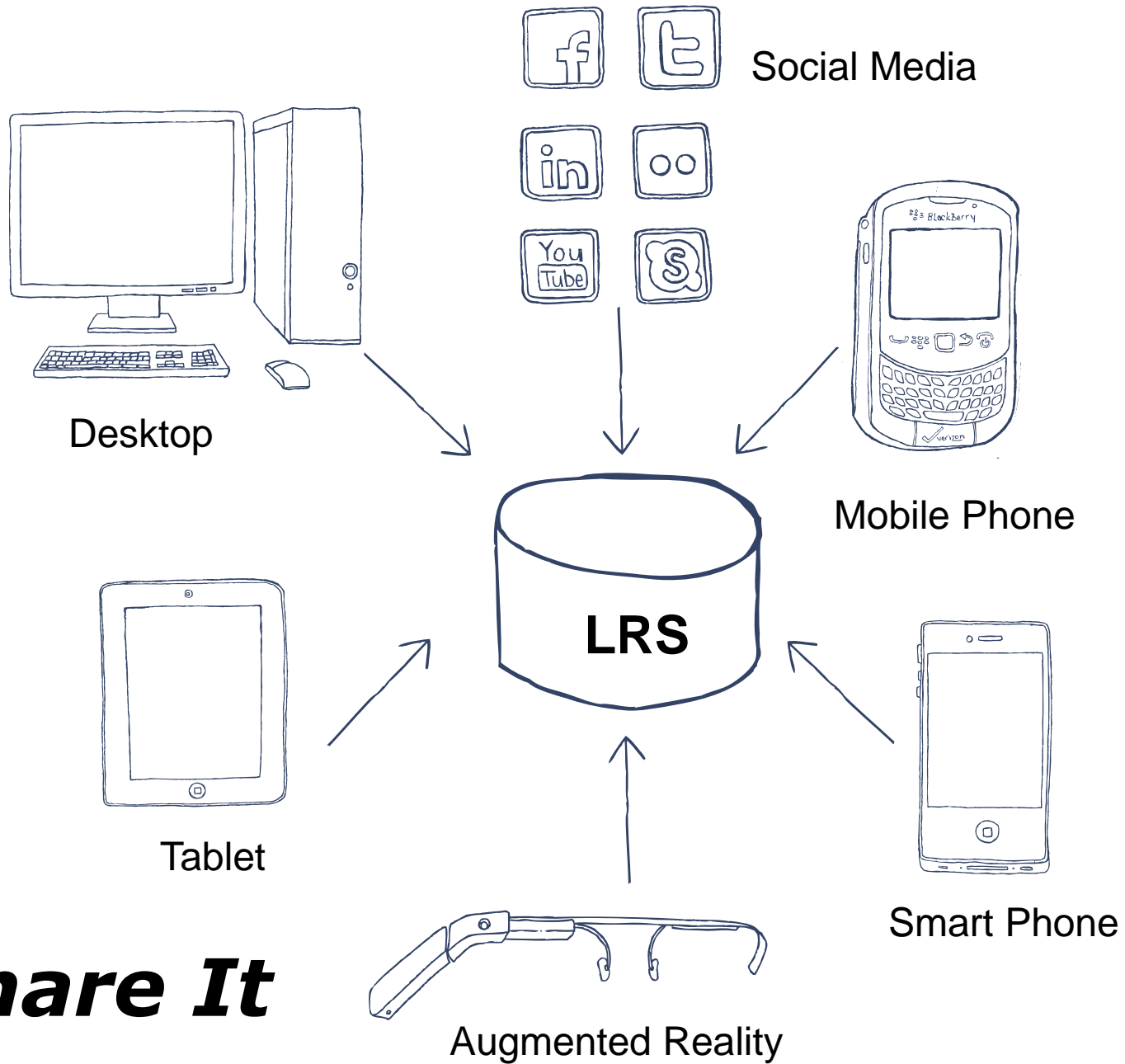
# **TLA Experience API**

**Web Service Specification &  
Open Source Examples**

# Traditional Tracking

Learner Experiences

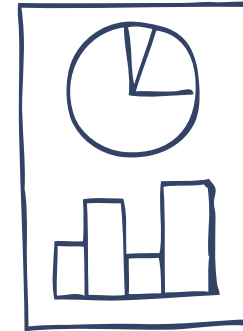




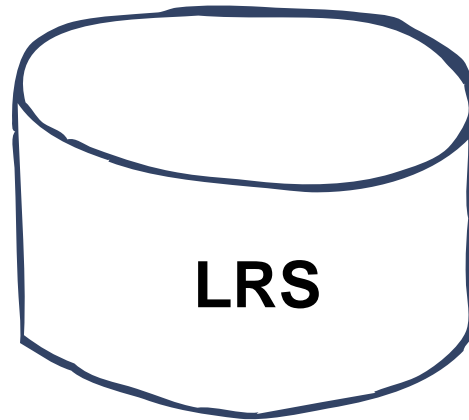
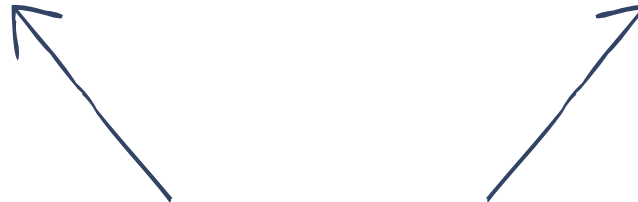
***Share It***



Assessment  
Service



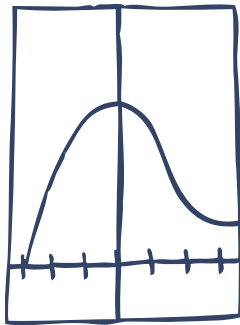
Reporting  
Systems



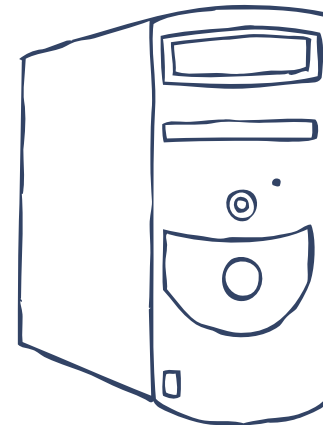
LRS

***Act On It***

Statistics  
Services



LMS



# ADL Learning Record Store (LRS)

Open Source Software

[https://github.com/adlnet/ADL\\_LRS](https://github.com/adlnet/ADL_LRS)

# What is an LRS?

## Learning Management System (LMS)

User Management

Learning Records

Scheduling

Course Management

Statistics

Grade Book

Run-Time

Repository

Search

Player

Sequencing

Delivery

Preferences

Reports

Assessment

# What is an LRS?

Learning Record Store (LRS)

Learning Records



# Get Involved – Experience API

[xapi.adlnet.gov](http://xapi.adlnet.gov)

- **Stakeholders** – Find out about the latest spec release, open source software and other major announcements
- **Adopters** – Work with ADL and other developers to integrate the Experience API into your learning environment
- **Specification Contributors** – Influence the specification and technology roadmap

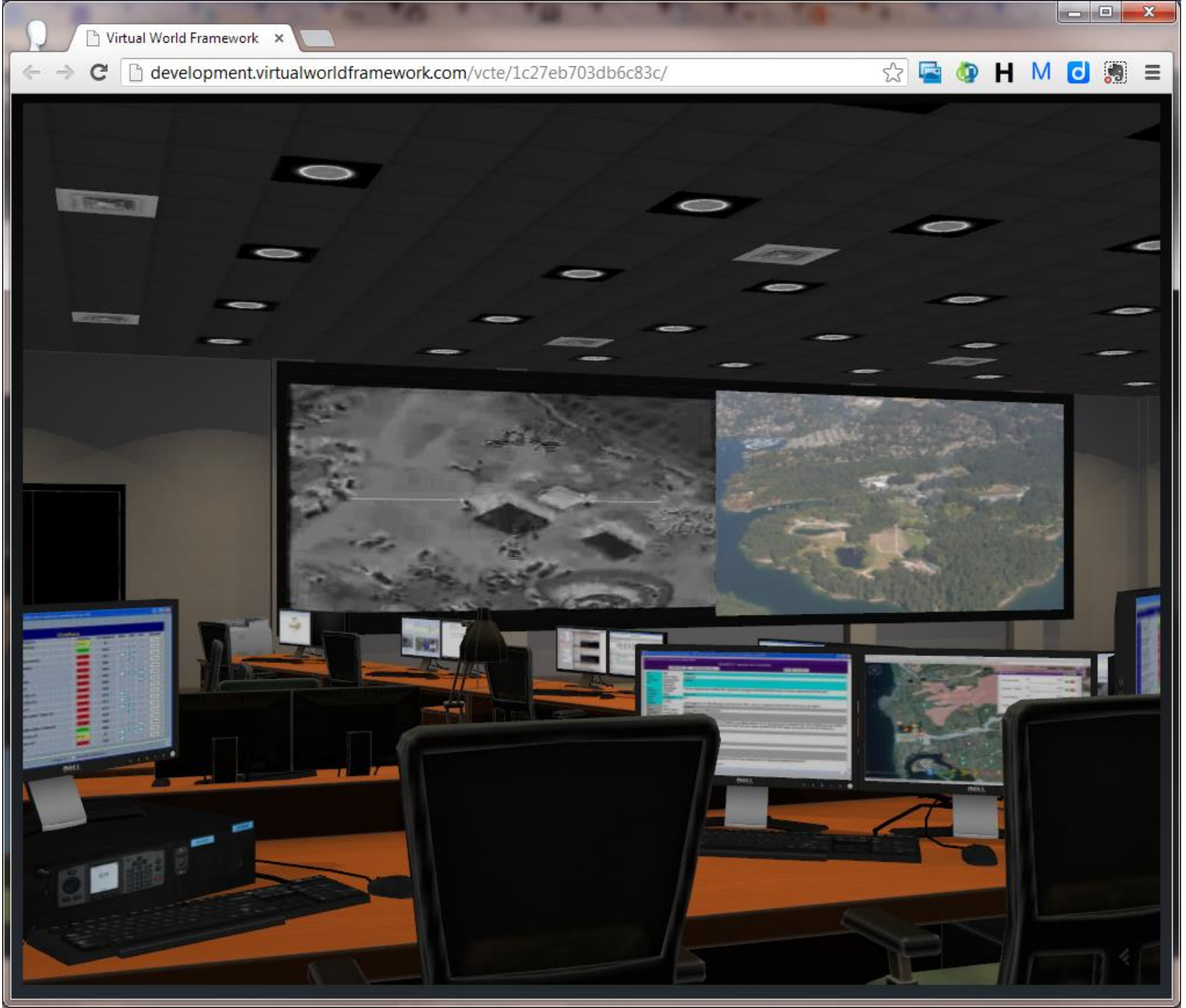
# Enabling Games and Virtual World Learning Experiences



# Virtual World Framework



- ▶ **A fast, light-weight, web-based architecture for creating and distributing, scalable, collaborative, and component-based virtual spaces**
- ▶ **Design Goals**
  - HTML5 and Web-based standards
  - Open source
  - JavaScript for simulation logic
  - Replicated computation







### Object Properties

- Flags
- Transforms
  - Translation: [-6, 7, 0]
  - Rotation: [0, 0, 0]
  - Scale: [1, 0.75, 0.5]
- sphere
- noise

### Inventory

Objects

- twisted column
- Wall Door
- Wall Section
- NPCTEST
- cylinder with texture
- Wall with door in place
- city wall
- textured chair
- e2cc1f1a-1a69-1dcc-215f-89641ea96dcf

Scripts

- spinZ
- Material Scroll
- Message on Click

Create Delete View Rename

### Chat Window

\*System\* Rob logging on  
 Rob Steve, what do you think of this?

Close Send

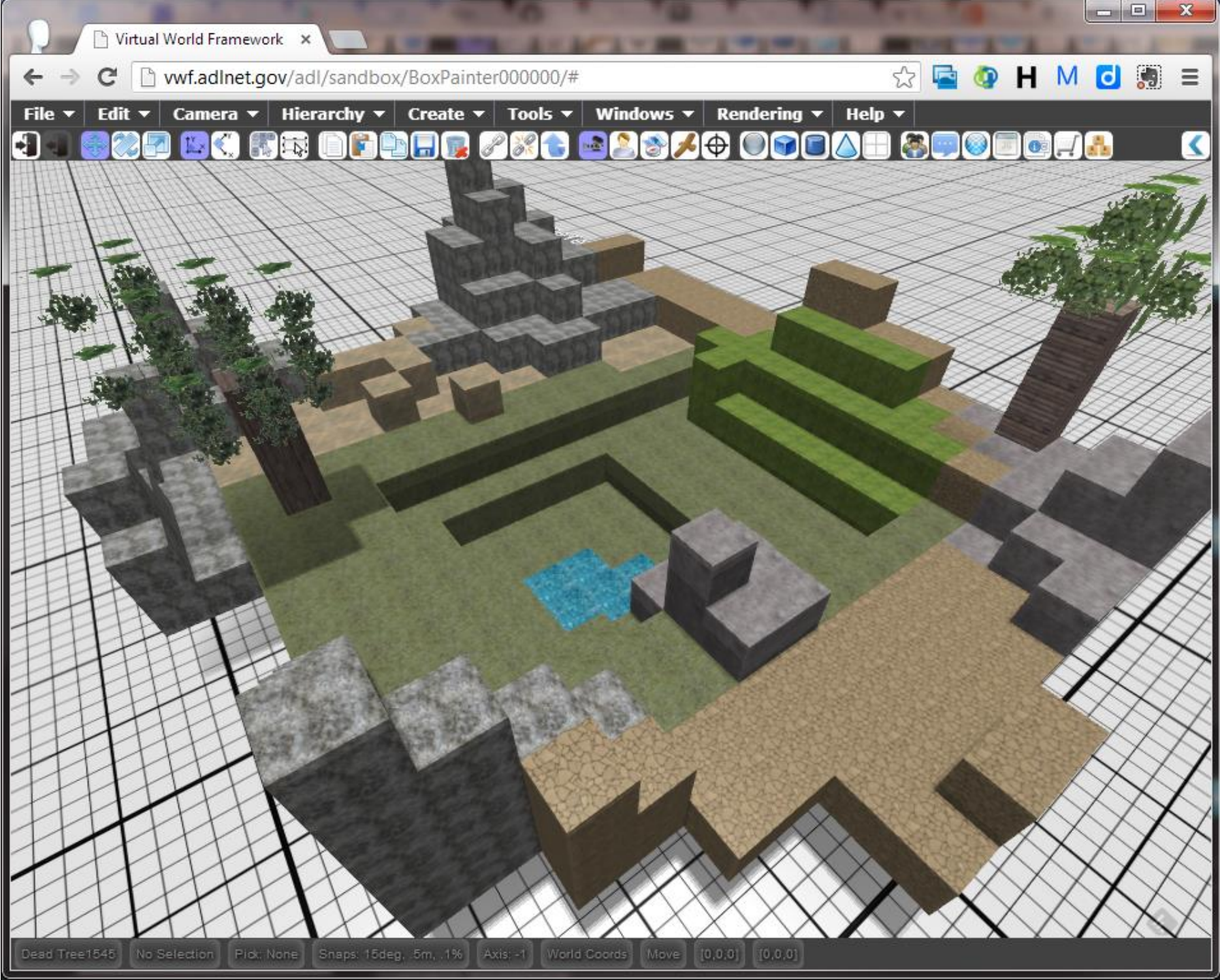
### Search 3DR

tree Search

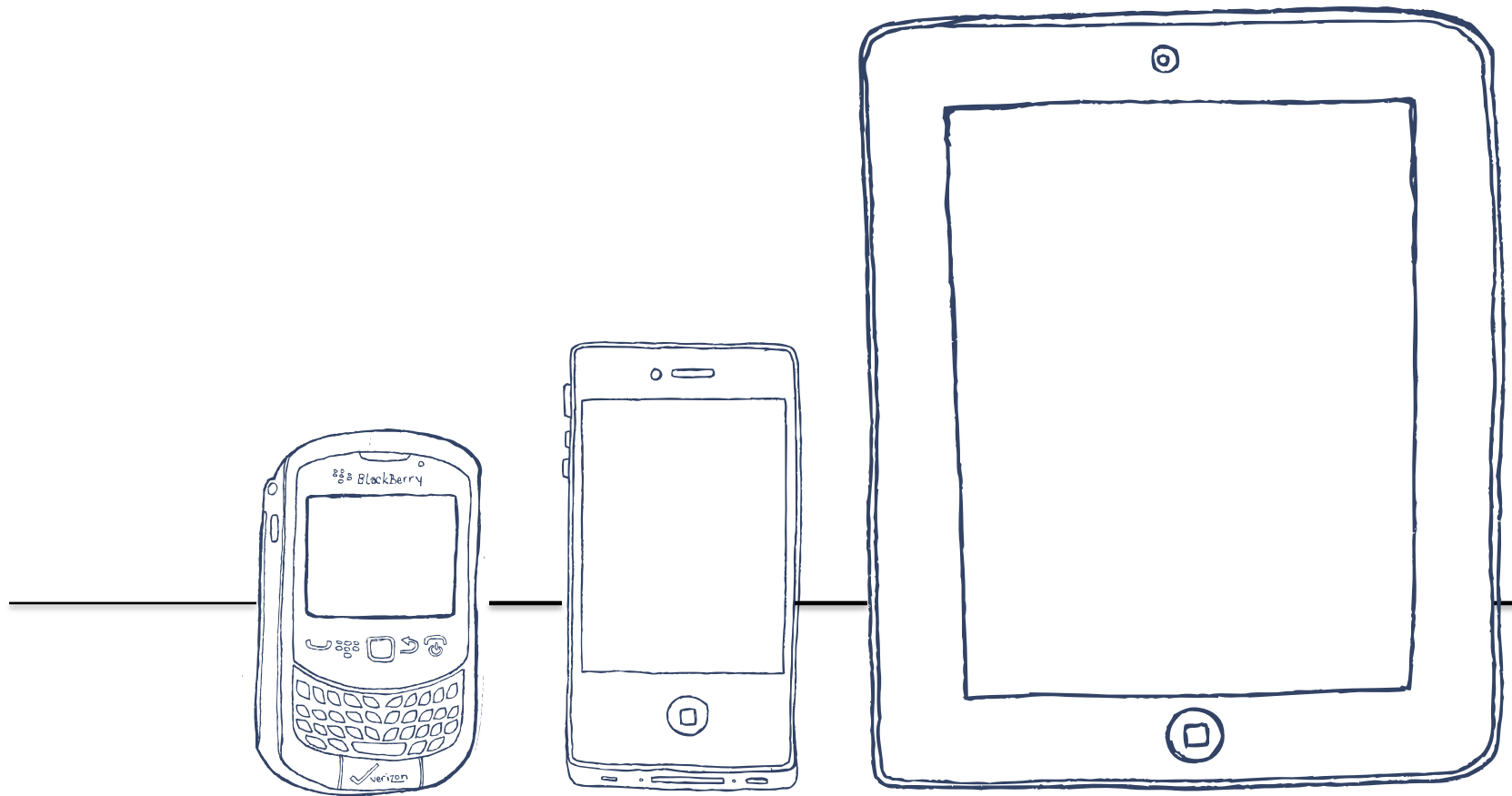
- Tree
- Bamboo Tree
- street fighter...
- Dead Tree
- Tree
- Arcade Game Console
- High Poly Sphere

This interface allows you to load 3D models from a library of content. This content will be created at the center of your viewport. Type a search term in the box above. Click on thumbnails to display additional data about the objects. If you wish to upload content, please visit the [3DR Repository](#). Here, you can upload assets to be included in this virtual world. Be careful to mark your content as publically accessible, as this system can only load public content at this time.





# Enabling Mobile Learning Experiences



# Why Mobile?

*"As part of this strategy, the delivery of credible, rigorous, and relevant training and education products **through the medium of hand held devices** for the individual Soldier provides the optimum delivery mechanism for the future force."*

*Army Learning Concept 2015*



# JKO

JOINT KNOWLEDGE ONLINE



## JKO/ADL Mobile Pilot

# Features and Benefits

- Free App available in Apple and Android App stores
- Course completions synch with JKO desktop system for tracking and reporting
- Download job aids
- Get the latest JKO news
- Access podcasts, videos and e-books
- Course content segregated by participating partners and PIN
- Public content and news announcements available without PIN



# Courses Currently Available

- USFK TDY Theater Specific Required Training
- USFK PCS Theater Specific Required Training
- Operational Swahili
- VCAT Afghanistan Pashto +L
- VCAT Afghanistan Dari +L
- Cross-Cultural Competence Trainer (3CT) for Civilians



# JKO/ADL Mobile Pilot Way Forward

- Continuing ADL/Partner lab coalition collaboration
  - Best practices and lessons learned sharing
  - Content sharing
- Expansion of content development
- Integration of Experience API
- Instructional strategies for mobile learning
- Guidance and best practices on mobile learning development for the DoD community

# Mobile Training Implementation Framework (MoTIF)

---

Produce examples, guidelines, and best practices for designing mobile learning

<http://motif.adlnet.gov>

# Approach

Integrative Learning Design Framework (ILDF)  
Developed by Dr. Brenda Bannan

Consists of 4 Phases:

1. Informed Exploration (needs analysis)
2. Enactment (intervention development)
3. Local Evaluation (road test & iterative feedback loops)
4. Broad Evaluation (diffusion of innovation)

Currently in Phase 1 (needs analysis): March – July 2013

# Resources

**ADL Training & Learning Architecture (TLA)**

<http://www.adlnet.gov/tla>

**TLA Experience API (Tin Can API) & Public Groups**

<http://xapi.adlnet.gov>

**ADL GitHub Main Link**

<https://github.com/adlnet>

**Whitehouse Digital Government Document**

<http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government.html#top>

**ADL Mobile Learning**

<http://ml.adlnet.gov>

**Virtual World Framework (VWF)**

<http://www.virtualworldframework.com>

**ADL VWF Sandbox**

<http://vwf.adlnet.gov/adl/sandbox/>

# Let's Connect!



**Damon Regan, Ph.D.**  
Technical Team Co-Lead  
The Tolliver Group, Inc  
[damon.regan.ctr@adlnet.gov](mailto:damon.regan.ctr@adlnet.gov)



**@damonregan**