Current Capabilities, Issues, and Trends in LMSs & Authoring Tools

Peter Berking
Dr. Keysha Gamor
Kent Weeks
ADL Co-Lab
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# Current Capabilities, Issues, and Trends in LMSs & Authoring Tools

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- a. Report: unclassified
- b. Abstract: unclassified
- c. This Page: unclassified

**Limitation of Abstract:** Same as Report (SAR)

**Number of Pages:** 24
Disclaimer

Vendor citations or descriptions are for *illustrative purposes only* and are NOT an endorsement by ADL.
Purpose & Scope

- Present and discuss high-level capabilities, issues, and trends
- Functionality-related issues and trends, not business-related
Functional Areas/ Issues - 1

- Training types supported
- Media types supported
- Interactivity level supported
- Author skill set requirements
- Output file format
- Standards compliance (e.g., SCORM)

- Collaborative authoring
- Flexibility of licensing agreement and associated support/training contracts
- Attainability of system requirements for authors and learners
- Optimization for reusability
SCORM 2004 Support Requirements

- The authoring tool should
  - Support object-based learning design
  - Allow SCOs to be defined at any level
  - Support incorporation of all SCORM data model elements
  - Enable metadata tagging
  - Allow definition of sequencing and navigation rules via
    - Sequencing templates
    OR
    - Interface allowing selection of sequencing rule operators
Ensuring SCORM 2004 Viability

- Test sample SCO produced by authoring tool through SCORM Test Suite
- View sample content on your target course delivery system to ensure it functions as intended
- View SCORM Certified Products and SCORM Adopters lists on the ADL Web site under “What We Do” then “SCORM” http://www.ADLNet.gov/ (currently being updated)
Trends

- “Organization-aware”, team-based life cycle production and maintenance
- XML output
- Separation of content and appearance
- Complex and numerous templates and skins
- Automated metadata generation/extraction
- Learning object-centric architecture
- Embedded best-practice design principles
- Support for immersive learning technologies
- Support for social media
LMSs
LMS Functionality is Defined by Type of Learning

- Learner-led
  - LMS
  - LCMS
- Facilitated
  - Content management system (CMS)
- Instructor-led
  - Virtual learning environment (VLE) aka virtual classroom
- Embedded
  - LMS
Functional Areas/ Issues

- Training workflow
- Delivery
- Assessment
- Collaborative learning options
- Open architecture
- Competencies, curricula, and learning tracks
- Reports
- Ease of administration
SCORM Support

- SCORM-certified LMSs
  - Currently 29 @ 3rd Edition
  - View list on www.ADLNet.gov

- SCORM certification process being revised
  - Revalidation across product lifecycle
  - Align with ISO certification standard
  - New challenge and decertification processes
  - Details coming soon
Trends - 1

- Interoperable assessment authoring (using cmi.interactions)
- Team-based learning
- Services/component architecture
- Functionality creep, for example:
  - Authoring
  - KM
- Third party application integration
- Support for multi-byte fonts
Trends - 2

- Optimization for specific pedagogical principles and best practices
- Movement from proprietary database back-end or MySQL to Open Database Alliance
Users demand social software as part of learning toolkit
LMSs incorporate social software in a variety of ways
For ideas on what may be in store for LMSs and Social Media, visit:
  - www.brandonhall.com
  - www.astd.org
  - www.gartner.com
  - www.socialmediatoday.edu
  - www.socialmedia.com
## Five LMSs Commonly Used in the Federal Government and Social Media Integration

<table>
<thead>
<tr>
<th>LMS</th>
<th>LMS Description</th>
<th>Sample List of Integrated Social Media</th>
<th>Purpose</th>
<th>Supports SCORM</th>
<th>VW Integration</th>
<th>Perceived Industry Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meridian KSI</td>
<td>Meridian KSI</td>
<td>Online communities, Blogs</td>
<td>“Learning First” approach</td>
<td>Yes</td>
<td>None Listed</td>
<td>Serious Use, Perceptions</td>
</tr>
<tr>
<td>OutStart</td>
<td>TrainingEdge.com</td>
<td>Communities, Blogs, Wikis</td>
<td>Informal Learning Enabled, Talent Management</td>
<td>Yes</td>
<td>Recommends AICC’s e-learning standards to weave VW software into fabric of learning content, Using a ‘simulations and gaming’ paradigm</td>
<td>Lifecycle Management Issues, Tracking</td>
</tr>
<tr>
<td>Plateau</td>
<td>Talent Management</td>
<td>Available through Virtual Learning System, Multimedia content, Application demos, VOIP, Real-time Collaboration technologies from Adobe Connect Pro, WebEx, LiveMeeting, &amp; Centra</td>
<td>Talent Management, Learning Management</td>
<td>Yes</td>
<td>None Listed</td>
<td>Integration, Timely accessibility to information</td>
</tr>
</tbody>
</table>
## Five LMSs Commonly Used in the Federal Government and Social Media Integration (continued)

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<tbody>
<tr>
<td>Saba</td>
<td>● Saba</td>
<td>● Wiki</td>
<td>● Learning Management</td>
<td>Yes</td>
<td>None Listed</td>
<td>Organizational Control (culture)</td>
</tr>
<tr>
<td></td>
<td>● Saba Centra (Collaborative)</td>
<td>● Communities of Practice</td>
<td>● Talent Management</td>
<td></td>
<td></td>
<td>Quality/Accuracy</td>
</tr>
<tr>
<td></td>
<td>● Saba Social (Enterprise Social Networking/Productivity Solution)</td>
<td>● User-generated content capture and exchange</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>● Discussion forums</td>
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<tr>
<td></td>
<td></td>
<td>● RSS</td>
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<tr>
<td></td>
<td></td>
<td>● Search-based learning</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>● Real-time Collaborative capability (webconferencing, e-meetings, &amp; virtual classes)</td>
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<tr>
<td></td>
<td></td>
<td>● Wiki</td>
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<td>Yes</td>
<td>None Listed</td>
<td>Organizational Control (culture)</td>
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<td></td>
<td></td>
<td>● Online Communities</td>
<td>● Learning Management</td>
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<td>Quality/Accuracy</td>
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<td>● Talent Management</td>
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<td></td>
<td>● Mobile access</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>● Integration with SkillSoft, WebEx™, Interwise® and Centra®</td>
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<tr>
<td></td>
<td></td>
<td>● Capture and categorize virtual events for use as job aids or information modules</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SumTotal</td>
<td>● Total LMS</td>
<td>● Collaborative Web 2.0 Learning solutions</td>
<td>● Learning Management</td>
<td>Yes</td>
<td>None Listed</td>
<td>Organizational Control (culture)</td>
</tr>
<tr>
<td></td>
<td>● Total Access (Empower Mobile or offline workforce)</td>
<td>● Online Communities</td>
<td>● Talent Management</td>
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**Sources:**
- [http://www.usalearning.gov/USAlearning/service_golearn.htm](http://www.usalearning.gov/USAlearning/service_golearn.htm)
- [http://www.brandon-hall.com](http://www.brandon-hall.com)
Trends - 4

- Users want to access functionality of LMSs and VWs in one tool
- VWs incorporate LMS functionality in a variety of ways
- For ideas on what may be in store for LMSs and VWs, visit:
  - www.brandonhall.com
  - www.virtualworldsreview.com/
  - www.sl-educationblog.org/
  - www.educause.com
- Info presented on next slide is in no way exhaustive
## Five VWs Commonly Used in the Federal Government and LMS Integration

<table>
<thead>
<tr>
<th>VW</th>
<th>VW Description</th>
<th>Social Media-Type Functionality</th>
<th>Purpose</th>
<th>Perceived Challenges</th>
</tr>
</thead>
</table>
| **ECS Nexus** | ● 3D environment  
● Avatar-based, interactive meeting environments  
● Massive Multi-User Online Environment (MMOE)  
● **Communicates with LMS** | ● Voice Over Internet Protocol (VOIP)  
● Text chat  
● Instant Messaging  
● Buddy lists  
● Event scheduling and management | ● Commercial collaboration & training  
● Government collaboration & training | ● Tracking  
● Adoption  
● New Pedagogies |
| **Forterra** | ● 3D environment  
● Avatar  
● Collaborative Meetings  
● Training & Learning  
● Events  
● Specialized Applications  
● **Communicates with LMS** | ● High-quality Audio  
● Enables embedded links within avatars or 3D objects to launch your social networking sites, profiles, blogs, wikis, or content repositories  
● Includes web-based modules to help you build communities and facilitate relationships between users  
● Record & Play  
● Documentation and Application Sharing  
● Lotus SameTime Plug-In | ● Commercial collaboration & training  
● Government collaboration & training  
● Higher Education collaboration & training | ● Metrics  
● Integration |
| **Protosphere** | ● 3D environment  
● Avatar  
● Secure Communication  
● Built-in Social Network  
● **Communicates with LMS** | ● Application sharing  
● Voice over IP (VoIP)  
● Text chat  
● Video broadcasting facilities  
● Blogs  
● Wikis  
● Create groups & Communities  
● Document and file sharing | ● Commercial collaboration & training  
● Government collaboration & training  
● Higher Education collaboration & training | ● Integration  
● Tracking  
● Perceptions |

Sources: Information gleaned from vendor web sites, conference presentations, workshops, and discussions.
## Five VWs Commonly Used in the Federal Government and LMS Integration (continued)

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<td>Qwaq</td>
<td>• Scalable architecture&lt;br&gt;• Secure, flexible, and extensible&lt;br&gt;• Software as a Service (SaaS)&lt;br&gt;• Qwaq Multi-Share&lt;br&gt;• Built-in data encryption&lt;br&gt;• Open standards&lt;br&gt;• <strong>Communicates with LMS</strong></td>
<td>• 2-D and 3-D graphics&lt;br&gt;• Data, voice and video integration, Whiteboards, post-it notes, and text notepads&lt;br&gt;• Document and file sharing&lt;br&gt;• Live Internet ‘in-world’&lt;br&gt;• Presentation venues</td>
<td>• Commercial collaboration &amp; training&lt;br&gt;• Government collaboration &amp; training</td>
<td>• Learning Curve&lt;br&gt;• Tracking&lt;br&gt;• Integration</td>
</tr>
<tr>
<td>SecondLife</td>
<td>• In-world commerce&lt;br&gt;• APIs to customize desired capabilities/features&lt;br&gt;• Service metrics&lt;br&gt;• Open source*&lt;br&gt;• *<em>Communicates with LMS</em> (SLOODLE)</td>
<td>• 3D Chat (text and VOIP)&lt;br&gt;• In-world photo taking and sharing&lt;br&gt;• User-created content&lt;br&gt;• Presentation capabilities&lt;br&gt;• Communities &amp; events&lt;br&gt;• HTTP Request</td>
<td>• Social collaboration&lt;br&gt;• Multi-sector marketing, training &amp; education</td>
<td>• Tracking&lt;br&gt;• Security&lt;br&gt;• Interoperability</td>
</tr>
<tr>
<td>Vastpark</td>
<td>• Not a single virtual world. Instead, it provides free software tools, APIs and open source libraries so you can deploy (and even monetize) your own virtual worlds and add-ons&lt;br&gt;• <strong>Communicates with LMS</strong></td>
<td>• Support virtual conferencing and training applications, immersive visualization of products, data, business processes, architecture, gameplay and 3D multiuser environments</td>
<td>• Commercial collaboration &amp; training&lt;br&gt;• Government collaboration &amp; training&lt;br&gt;• Higher Education collaboration &amp; training</td>
<td>• Integration&lt;br&gt;• Tracking</td>
</tr>
</tbody>
</table>

**Sources:** Information gleaned from vendor web sites, conference presentations, workshops, and discussions.
Resources
Resources - 1

- **ADL Initiative**
  - [http://www.ADLNet.gov/](http://www.ADLNet.gov/)

- **Industry surveys, product comparisons, reports, buyers guides**
  - **Bersin & Associates**
  - **Brandon-Hall**
  - **E-learning Guild**
  - **Training Media Review**
“Choosing Authoring Tools” paper and presentation

1. Go to: http://www.adlnet.gov/Technologies/Lab/default.aspx
2. See link in **Announcements** section on right side of page

“Choosing an LMS” paper and presentation in progress
Questions or Comments?

Peter Berking
peter.berking.ctr@adlnet.gov

Dr. Keysha Gamor
keysha.gamor.ctr@adlnet.gov

Kent Weeks
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