Discussion of Mobile Learning Standards, or Lack Thereof

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Mobile Content & Application

• What Standards Are Currently In Place to Support M-Learning?

• Platform Compatibility Challenges – Current Mobile Development Options (SDKs & Toolkits)

• Are Tools That Provide Easy Publishing and Distribution Opportunities Sufficient?
Existing Standards

- Sharable Content Object Reference Model (SCORM) by the Advanced Distributed Learning (ADL) Initiative

  - integrates a set of related technical standards, specifications, and guidelines that makes learning content accessible, interoperable, durable, and reusable.

- SCORM content can be delivered to your learners via any SCORM-compliant Learning Management System (LMS).

### High-level Requirements (the "ilities")

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<tr>
<th>Requirement</th>
<th>Explanation</th>
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<tr>
<td>Accessibility</td>
<td>The ability to locate and access instructional components from one remote location and deliver them to many other locations.</td>
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<td>Interoperability</td>
<td>The ability to take instructional components developed in one location with one set of tools or platforms and use them in another location with a different set of tools or platforms.</td>
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<td>Durability</td>
<td>The ability to withstand technology evolution and changes without costly redesign, reconfiguration or recoding.</td>
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<td>Reusability</td>
<td>The ability to incorporate instructional components in multiple applications and contexts.</td>
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Existing Standards

- Sharable Content Object Reference Model (SCORM) by the Advanced Distributed Learning (ADL) Initiative

http://www.adlnet.gov/technologies/scorm
Existing Standards

- Mobile Web Initiative by the World Wide Web Consortium (W3C)
  - Develops best practices & guidelines for creating mobile-friendly content and applications
  - Provides test suites for increased interoperability of mobile browsers

http://www.w3c.org/Mobile
Mobile Web Best Practices
http://www.w3.org/TR/2008/REC-mobile-bp-20080729/

Device Description Repository Simple API
http://www.w3.org/TR/DDR-Simple-API/

mobileOK Basic
http://www.w3.org/TR/mobileOK-basic10-tests/

Content Transformation Guidelines
http://www.w3.org/TR/ct-guidelines/

Mobile Web Application Best Practices
http://www.w3.org/TR/mwabp/
Current M-Learning Challenges

- Poor SCORM support for mobile devices
- Not all LMS vendors provide a mobile version or fully support W3C standards
- Both LMS applications and SCORM content lack life-cycle maintenance and were developed with the desktop browser in mind
- Multiple mobile application platforms to support
  - J2ME, Symbian, Brew, iPhone, Blackberry, Palm, Windows Mobile, etc.
Mobile Development Tools

- **Nokia’s Ovi SDK (Symbian & Maemo)**
  - Web-based toolkit runs as an extension to your PC browser

- **Samsung Bada SDK (Samsung Mobile Devices)**
  - Still under development
  [http://www.bada.com](http://www.bada.com)

- **Unity 3D (iPhone & iPod Touch)**
  - Multiplatform (not just for mobile) game development tool
  - Publishes a build for iphone & creates an Xcode project

- **Game Salad (iPhone & iPhone Touch)**
  - Game development tool and requires GameSalad Viewer iPhone app
  - Members can access GameSalad submission system & convert to Xcode project
  [http://gamesalad.com/](http://gamesalad.com/)
Mobile Development Tools

- Sweb Apps (iPhone & iPod Touch)
  - Provides wizard interface to create app in 6 steps
  - Submit app to Sweb Apps website and they will upload to iTunes for you
    http://swebapps.com/

- My App Builder (iPhone & iPod Touch)
  - Provides similar type of wizard as Sweb Apps, but offers a different pricing structure.
    http://myappbuilder.com/

- App Breeder (iPhone, Android, Blackberry)
  - Very similar to My App Builder and Sweb Apps
  - Provides several pre-defined industry-specific templates to choose from
    http://appbreeder.com/

- Titanium Mobile (Supports iPhone and Android)
  - Native access to features like geo-location, local file system/database, photos, and touch / accelerometer controls.
    http://www.appcelerator.com/
Mobile Development Tools

- **PhoneGap (iPhone, Android, Blackberry)**
  - Open source development tool
  - Requires knowledge of HTML and JavaScript
  [http://phonegap.com/](http://phonegap.com/)

- **Adobe Flash Professional CS5 & Flash Player 10.1**
  - Flash player is now supported on all mobile devices except iPhone
  - Flash Professional CS5 will support publishing to an iPhone app
Standards Do Exist: Follow W3C accessibility standards for mobile content

Mobile Support is poor for most LMS implementations

Ask if they provide a mobile-friendly version or an alternate mobile application

Does SCORM need to be updated to support M-Learning?

Write a proposal in response to the BAA (next slide)

SDKs and DIY Tools now provide quick development and distribution options for mobile application development of games, apps, etc.
Partner with RDECOM-STTC to sponsor research and development

Desired Topics for Review:
- Interoperability of Learning and Training Systems
- Team-based Training
- Learner Profile Management
- Advanced Content Management
- Content Life Cycle Management & Maintenance
- Mobile Learning & Web 2.0 Technologies
- ROI and ADL Technologies

Leverage projects and initiatives for dual use in both organizations

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Questions / Discussion

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