



## Purpose

This document summarises recent updates to TLF's *Technical Specification for Content Development* (version 6.0). The specification is available in the Specifications section of TLF's website <http://www.thelearningfederation.edu.au> and will be available from the technical knowledgebase confluence <http://jira.thelearningfederation.edu.au/confluence/display/cdevx/Technical+specifications+for+content+development>

The intended audience for this document is TLF stakeholders and content developers.

## Summary of updates

	Technical Specification v5.2	Technical Specification v6.0
<b>Audio and video</b>	MPEG-1 Audio Layer 3 (MP3)	MPEG-1 Audio Layer 3 (MP3) Ogg Vorbis 1.0
<b>General</b>	Technology-specific information provided in technical specification.	Technology-specific information will be contained within the supporting specifications documentation. Outdated/obsolete/broken links updated to more recent links.
<b>Images and graphics</b>	Images and graphics	Raster graphics Vector graphics
<b>Document formats</b>	Text files for simple data (.txt) PDF Acceptable alternatives subject to approval: MS Word, MS Excel, MS PowerPoint	Text files for simple data (.txt) PDF RTF Acceptable alternatives subject to approval: MS Word, MS Excel, MS PowerPoint
<b>Web applications</b>	Flash Player 9 QuickTime 7.1.6 Firefox 2.0 on PC Internet Explorer 6.2 on Windows 2000 Internet Explorer 7.0 on Windows XP Safari 2.0 on OS X	Flash Player 10 QuickTime 7.6.0 Firefox 3.0 on Windows 2000/XP/Vista Internet Explorer 6.2 on Windows 2000 Internet Explorer 7.0 and 8.0 on Windows XP and Vista Safari 3.0 on OS X Adobe Integrated Runtime (AIR) 1.1
<b>Persistence</b>	State must not be maintained across learning object or browser sessions	State should not be maintained across digital curriculum resources or browser sessions, unless this limits the educational integrity of the content and decreases the capacity of the content to meet educational soundness requirements
<b>Style sheets</b>	CSS 1 CSS 2.1	CSS 1 CSS 2.1 XSLT 1.0 XPath 1.0
<b>Start file</b>	index.html as starting point	index.html or index.xml as starting point
<b>Fonts</b>	Windows 2000 and XP: default installation fonts plus East Asian fonts OS X: default installation fonts	Windows 2000 and XP: default installation fonts plus East Asian fonts Windows Vista: Chinese (PRC) / Chinese (Simplified), Chinese (Taiwan) / Chinese (Traditional) and Japanese (Japan) / Japanese OS X: default installation fonts
<b>Rights information</b>	The copyright statement must be placed in the XHTML start file of each learning object and digital resource, digital resources may also incorporate rights information for partner institutions:	The copyright statement must be placed in the XHTML start file of each digital curriculum resource, resources may also incorporate rights information for partner institutions:



# TLF Technical Specification for Content Development

## release notes for version 6.0

### December 22, 2009

PROJECT: INTEROPERABILITY SPECIFICATIONS

	Copyright TLF: © Curriculum Corporation, 2006, except where indicated under Acknowledgements The printable output footer must be placed on all printable outputs: Printable worksheet made available by The Le@rning Federation: © Curriculum, 2006, except where indicated under Acknowledgements Copyright TLF and partner institutions: © Curriculum Corporation and Partner institution, 2006, except where indicated under Acknowledgements	Copyright TLF: © Curriculum Corporation, 2009, except where indicated under Acknowledgements The printable output footer must be placed on all printable outputs: Printable worksheet made available by The Le@rning Federation: © Curriculum, 2009, except where indicated under Acknowledgements Copyright TLF and partner institutions: © Curriculum Corporation and Partner institution, 2009, except where indicated under Acknowledgements
<b>Interaction time</b>	As a baseline all Learning content produced for The Le@rning Federation must have an interaction time of less than 10 seconds over a dedicated 64 kbit/s connection	Digital curriculum resources will be frequently used over limited bandwidth connections. As a baseline all digital curriculum resources developed for The Le@rning Federation will ideally have an interaction time of less than 10 seconds over a dedicated 64 kbit/s connection
<b>Overall size</b>	As a guide, the maximum size of TLF content should be 5 MB.	As a guide, the maximum size for any item of content for The Le@rning Federation is 5 MB. The Le@rning Federation may agree to an exception to this requirement. Where an exception is agreed, it will be recorded in the relevant metadata element in the Exchange and that information will be available in the content package.

## Detailed rationale for updates

### Version 6.0

#### Audio and video

After investigation of numerous new audio technologies over the last 18 months, Ogg Vorbis has been selected as a new audio technology in the technical specification document. This allows for the use of a patent-free, open source audio format for content development and procurement.

#### General

1. Technology-specific information has been removed from the technical specification. This keeps the technical specification document technology-neutral and removes non-critical information from the specification. Technology-specific information will be moved to separate support documents.
2. Outdated/obsolete/broken links have been updated with more recent links.

#### Images and graphics

The Images and graphics section has been reworded to remove the ambiguous wording in version 5.2 of the specification. The original wording used “images” and “graphics” to separate bitmap graphics and vector graphics. This section has been updated to reflect this.

#### Document formats

TLF have added RTF to the document formats section of the technical specification. This was prompted by the AGIMO “Guide to Minimum Website Standards – Accessibility” guidelines.

#### Web Applications

1. Flash Player 9 has been updated to Flash Player 10. This is due to Adobe releasing several security bulletins urging users to upgrade to Flash Player 10 due to vulnerabilities in Flash



Player 9<sup>1</sup>. As a result of these bulletins, we had reports from both the LFCC and jurisdictions that schools were moving to Flash Player 10 and conducted testing of our content to see whether there were any migration issues caused. We were satisfied that there were no issues caused by the migration from Flash Player 9 to Flash Player 10.

2. Quicktime 7.1.6 has been updated to Quicktime 7.6.0. This was prompted by the removal of old versions of Quicktime from Apple's website, as well as reports that the majority of users were no longer using the Quicktime 7.1.6 plugin. We conducted testing of content to ensure that playback of content was 100% compatible with Quicktime 7.6.0 and were happy to find there were no issues caused by the migration.
3. Firefox 2.0 has been updated to Firefox 3.0 for Windows 2000, XP and Vista. This was prompted by: notification and confirmation by the LFCC that jurisdictions had been updating from 2.x to 3.x versions due to security advisories; Firefox's own update service notifying the user of new versions; and Vista rollouts. We conducted testing of content with Firefox 3.0 and found initial problems caused with content that had video embedded in an XHTML page. After investigation we found this was caused by a combination of TLFs embed syntax and the LMS not sending the correct MIME-type for MPEG-4. This was fixed by changing the MIME-type sent by the CMS from application/octet-stream to video/mpeg4. There were no other issues found.
4. Internet Explorer 7.0 and 8.0 on Windows XP and Vista are now both supported by TLF. This update was due to the rollout of Vista installations as well as Microsoft pushing out Internet Explorer 8.0 via Windows Updates, prompting systems administrators to update versions. We conducted testing of content with Internet Explorer 8.0 and found no issues.
5. Safari 2.0 has been updated to Safari 3.0. This was prompted by a number of security bulletins released<sup>2</sup> as well as Apple software update pushing out Safari 3.0 to users. We conducted testing of content with Safari 3.0 and found no issues.
6. Due to the recent uptake of Adobe Integrated Runtime (AIR) 1.1 TLF investigated whether it could support this as a new technology format. A trial was conducted called "Open Explorer" which used AIR and was tested extensively for cross-platform functionality. We were satisfied that this content worked successfully on the supported operating systems and have included it in the latest revision of the technical specification.

## Persistence

Discussion at the LFCC indicated that jurisdictions would like to start seeing content that could save out information. To support this, the persistence section of the specification has been reworded to permit this to occur but to not encourage this functionality due to the potential technical limitations that apply.

## Style sheets

TLF have added XSLT 1.0 and XPath 1.0 to the technical specification. This permits the use of XML as a method of storing data and then creating a visualisation of that data using XSLT 1.0, ultimately rendering XHTML-compliant pages. This technology was trialled and tested in several projects and was successful.

## Start file

The file 'index.xml' has been added to the technical specification to support XSLT 1.0, as the 'index' file is an XML file rather than an XHTML file.

---

<sup>1</sup> See <http://secunia.com/advisories/product/11901/?task=advisories> for a full list of bulletins issued.

<sup>2</sup> See <https://secunia.com/advisories/product/5289/?task=advisories> for a full list of bulletins issued.



### **Fonts**

The fonts have been updated to support the addition of Vista to the technical specification. After investigation of the fonts required, we added them to the install of Vista and tested LOTE content that required the fonts to be installed and were satisfied with the results.

### **Rights information**

We have updated the rights information so developed content will be © Curriculum Corporation, 2009 or © Curriculum Corporation and Partner institution, 2009, except where indicated under Acknowledgements.

### **Interaction time**

Interaction time has been reworded to permit content to take longer than 10 seconds to load in unusual circumstances. This is to support larger, more complex learning materials. This functionality is not encouraged and the vast majority of content will still have an interaction time of less than 10 seconds. In such circumstances the relevant metadata will be modified to reflect this.

### **Overall size**

This section has been reworded to indicate when and how we will mark content as not adhering to the size requirement.