

NEW GENERATION TECHNOLOGIES FOR LEARNING



# 2013 VET E-standards

**E-standards for Training**

**V1.0 January 2013**





With the exception of the Commonwealth Coat of Arms, the Department's logo, any material protected by a trade mark and where otherwise noted all material presented in this document is provided under a Creative Commons Attribution 3.0 Australia (<http://creativecommons.org/licenses/by/3.0/au/>) licence.

## Table of Contents

---

<b>1 Background</b> .....	<b>1</b>
1.1 Summary list of VET E-standards.....	1
<b>2 Accessibility</b> .....	<b>3</b>
<b>3 Content Formats</b> .....	<b>3</b>
<b>4 Content Packaging</b> .....	<b>9</b>
<b>5 Intellectual Property Management</b> .....	<b>10</b>
<b>6 Metadata</b> .....	<b>10</b>
<b>7 Platforms</b> .....	<b>11</b>
7.1 Desktop Platforms.....	11
7.2 Mobile Platforms .....	13
<b>8 Repositories</b> .....	<b>17</b>
<b>9 Web Services/Data Exchange</b> .....	<b>17</b>
<b>10 Appendix 1: URIs referenced in this document</b> .....	<b>19</b>
<b>More Information</b> .....	<b>24</b>

# 1 Background

---

The vocational education and training (VET) E-standards were developed by the E-standards for Training business activity under the Australian Flexible Learning Framework ([Framework](#)), and continue to be maintained under the National VET E-learning Strategy (the [Strategy](#)). The E-standards are reviewed and ratified by the [E-standards Expert Group](#) (EEG) - the National Senior Officials Committee (NSOC) endorsed technical standards body for the VET sector. Standards ratified by the EEG are endorsed by the Flexible Learning Advisory Group ([FLAG](#)) for implementation by the states and territories and relevant national agencies.

The E-standards maximise the viability, integrity and portability of e-learning resources. VET E-standards aim to ensure that resource development follows internationally accepted specifications and that the technologies and applications used to build and deliver the resources ensure the most consistent operation and widest possible use and reuse of those resources.

The E-standards identify applicable standards for e-learning functionality and technology in the VET sector, and are intended to facilitate interoperability of learning resources and systems, and remove barriers to e-learning.

This document provides a summary of the VET E-standards. For more information, please refer to the [E-standards for Training website](#).

The following table contains a summary list of E-standards and their applications, with a full account on the following pages.

**Note:** Where more than one recommended technology provides the same functionality, the choice of which of them to use is at the discretion of the resource developer.

Unless otherwise indicated, the formats, standards and specifications recommended in the E-standards are intended ensure maximum interoperability of VET systems and content and apply to all supported desktop and mobile platforms. The formats, standards and specifications are unlikely to be cutting edge as there is a need to support real world users' access to content and systems on a broad spectrum of devices.

The E-standards also have a "legacy" section that was created to support developers of content whose audience utilises feature phone devices.

## 1.1 Summary list of VET E-standards

Topic	Purpose
Accessibility	Identifies accessibility requirements that must be met to ensure that web content provides people with a disability equal access to information. The requirements promote accessible web design, and apply to any website or other web resource in Australia or on an Australian server.

## 2013 VET E-standards

Content formats	Agreed VET file formats for all digital content to enable maximum use of content across a wide range of environments.
Content packaging	Enables the packaging of digital content to enhance its portability. Content packaging is particularly relevant for creating learning objects.
Intellectual property management	Recommendations for describing intellectual property and attribution requirements.
Metadata and vocabularies	Describes digital resources (particularly learning resources) to enable content to be better managed and easier to locate, use, re-use and report – particularly when published online or through a Learning Management System.
Platforms	Minimum hardware and software that VET e-learning content and systems should work with.
Repositories	Standards relating to the implementation and use of repositories
Web services	Technologies for the exchange of XML data over the web.

## 2 Accessibility

Recommended standard	References
<p>WCAG 2.0 (W3C Web Content Accessibility Guidelines)</p> <p>Content produced to the VET E-standards <b>must</b> meet the conformance requirements for:</p> <p>WCAG 2.0 Level AA, that is, all criteria for Level A <b>plus</b> those in Level AA</p>	<p>A customisable <a href="#">quick reference to Web Content Accessibility Guidelines 2.0 requirements (success criteria) and techniques</a></p> <p><a href="#">Understanding Conformance and Accessibility Supported Technologies</a></p> <p>The <a href="#">Australian Government Information Office (AGIMO)</a> Web Guide</p> <p><b>Note:</b> The E-standards for Training endorse a technology neutral application of WCAG 2.0 and therefore an accessibility-supported use of Word, Excel, PowerPoint and JavaScript on the understanding that materials created using these formats have sufficient techniques for the applicable success criteria and meet the accessibility conformance requirements of WCAG 2.0 AA.</p> <p><i><a href="#">“What is Accessible Web Design?”</a></i></p> <p><i>In its most general sense, accessible web design refers to the philosophy and practice of designing web content so that it can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. Accessible web design is usually discussed in relation to people with a disability, because this group is most likely to be disadvantaged if the principles of accessible web design are not implemented. Failure to follow these principles can make it difficult or impossible for people with a disability to access web content. “</i></p> <p><i>From the Australian Human Rights Commission website</i></p>

## 3 Content Formats

Recommended standard(s)	Usage notes
-------------------------	-------------

Web content - file formats	
<p><a href="#">XHTML 1.0 Transitional</a></p>	<p>When designing e-learning content you cannot assume that the delivery environment or device has a specific display size, available screen area or resolution. For example, a user may choose to use content in:</p> <ul style="list-style-type: none"> <li>• a learning management system (LMS) which may have a fixed or reduced amount of available screen area due to the inclusion of the LMS interface,</li> <li>• a content package player with similar but different constraints, or</li> <li>• a smartphone with a smaller resolution,</li> </ul> <p>Therefore web content should be scalable and designed to resize proportionally to fit the available area or resolution. This may be accomplished through a responsive or liquid layout that through the allocation of a percentage of space to each element results in images, text and spaces proportional to the display size.</p> <p>Given changes to the XHTML 1.0 specification since its inception, it is suggested that developers refer to the <a href="#">XHTML media types second edition</a> for additional information about the implementation of XHTML 1.0</p> <p><b>Note:</b> HTML5 is not recommended at this time for use in development of content intended for widespread use in the VET sector because of the inconsistent implementation by browser developers and creators of assistive technologies, and the lack of support in browser versions that are still reported to be in common use in the VET sector. Please see the <a href="#">E-standards for Training 2011 HTML5 Research report</a>. If you choose to use HTML5 functionality, you should provide a fall-back mechanism for browsers not supporting the element/s or functionality you are including.</p>
<p><a href="#">UTF-8 character encoding</a></p>	<p>Web pages should be encoded as UTF-8 and an encoding declaration should be included in the page source, but we strongly recommend that you avoid the use of a byte-order mark (BOM), which</p>

2013 VET E-standards

	<p>may appear rendered in a web page as »¿ or a small rectangle or ♦</p> <p><a href="#">Explanation of BOM</a> <a href="#">Controlling the BOM</a></p>
<b>Web content - style and formatting</b>	
<a href="#">CSS 2.1</a>	CSS 2.1 is the recommended standard for content developed for cross-platform delivery
<a href="#">CSS.3.0</a>	<p>CSS 3.0 may be used <b>provided that it degrades to CSS 2.1</b> until such time as all CSS 3.0 modules are ratified and supported.</p> <p>Some CSS 3.0 media queries will not render in Internet Explorer versions 7 or 8.</p>
<b>Text documents (fixed display)</b>	
<a href="#">PDF</a>	<p>PDF documents should be readable in Adobe Reader 9.0 and above.</p> <p>PDFs are not automatically accessible, but their accessibility can be improved if they are correctly tagged by the author. When used, PDFs should be made as accessible as possible See the <a href="#">NGTL "Increasing PDF and Microsoft Word Document Accessibility" page</a>.</p> <p>The Australian Government Information Management Office and Australian Human Rights Commission do not consider the use of PDFs as the only method of conveying information to meet WCAG 2.0, so there must be an equivalent conforming alternative. That is, a PDF document should also have an alternative version in (for example) HTML. The alternative version should be downloadable as one stand-alone file, and there should be links in each version referencing the other.</p>



2013 VET E-standards

<b>Text documents (editable)</b>	
RTF DOCX	RTF and DOCX format compatible with Microsoft Office 2007. The MS Office Compatibility Pack allows document editing in older Office versions.  Note that not all features of Microsoft Word documents are supported in other word-processing packages. Compatibility may be increased in some circumstances by saving as a .doc file.
TXT	Plain-text alternatives for interactive web content may be created as TXT files.
<b>eBooks</b>	
<a href="#">EPUB</a>	
<b>Spreadsheet formats</b>	
XLSX	Compatible with Microsoft Office 2007. The MS Office Compatibility Pack allows document editing in older Office versions.  Note that not all features are supported in other spreadsheet packages.
<b>Presentation formats</b>	
PPTX	PowerPoint is a cross-platform compatible presentation application. Keynote and OpenOffice

## 2013 VET E-standards

	<p>presentations may also be converted to a PowerPoint format to extend their interoperability.</p> <p>Compatible with Microsoft Office 2007. The MS Office Compatibility Pack allows document editing in older Office versions.</p> <p>Note that not all features are supported in other presentation packages.</p>
<b>Web graphics (non-animated)</b>	
<a href="#">GIF</a>	GIF is recommended for images comprising flat or solid areas of colour.
<a href="#">JPEG</a>	JPEG is recommended for photographs and other images with smooth variations of colour (gradients). See <a href="#">JPEG - Typical Usage</a> for further information.
<a href="#">PNG</a>	<p>PNG8 is recommended for images with up to 256 colours, not requiring an alpha (transparent) channel. It is not suitable for photographs or complex images with gradients.</p> <p>PNG24/32 is recommended for images requiring more than 256 colours, and supports an alpha channel. (JPEG will often produce a smaller file size but with a quality trade-off).</p> <p><a href="#">Comparison of PNG 8, 24, 32</a></p> <p>Specify image size (both width and height as a percentage of the parent element) in web page mark-up for all images.</p>
<b>Audio formats</b>	

2013 VET E-standards

<p><a href="#">MP3</a></p>	<p>Content developers should maintain a balance between sound quality and the size of the MP3 file. Minimise the bit rate and sampling frequency where possible to ensure the MP3 file is not unnecessarily large.</p> <p>Refer to the <a href="#">audio quality section of Wikipedia's MP3 entry</a> for further information.</p>
<p><b>Video file formats</b></p>	
<p><a href="#">MPEG 4</a> (H.264 codec)</p>	<p>The delivery platform is the primary consideration in deciding the format of video content; however the H.264 codec has the broadest application and support.</p> <p>Content developers must balance quality with data rate while maintaining clarity and meaning.</p> <p>The H.264 codec is recommended for broadest forward compatibility.</p>
<p><b>Interactivity</b></p>	
<p>JavaScript as implemented by supported browsers</p>	<p>JavaScript and AJAX may be considered to be accessibility supported technologies provided they are used in an accessible manner and there are <a href="#">WCAG 2.0 sufficient techniques</a> that support the use. If no WCAG 2.0 Sufficient Techniques exist to test the conformance then WCAG 2.0 conformance cannot be claimed.</p>
<p><a href="#">QR Code (2D barcodes)</a></p>	
<p><a href="#">RFID</a></p>	<p>Typically 13.56/125 KHz, and should be compliant with ISO standard relevant to application. Refer to the <a href="#">RFID standards list</a></p>
<p><b>Legacy mobile specific (feature phone) formats</b></p>	

<b>Web content - file formats</b>	
<a href="#">XHTML 1.1 Basic Profile (W3C 2008)</a>	
<a href="#">WML 1.3</a>	
<b>Web content – style and formatting</b>	
<a href="#">CSS 1.0</a>	External CSS Level 1 (W3C 2006) Link to external CSS with LINK, not @import
<b>Interactivity</b>	
<a href="#">Java Platform Mobile Edition (Java ME)</a>	

## 4 Content Packaging

---

Recommended standard(s)	Usage notes
<b>Packaging learning resources</b>	

<p><a href="#">IMS Content Packaging Specification (Version 1.1.4)</a></p> <p><a href="#">Vetadata</a></p> <ul style="list-style-type: none"> <li>▪ Basic Vetadata or</li> <li>▪ Vetadata for content shared in VET repositories</li> </ul> <p><a href="#">SCORM 1.2</a></p>	<p>Vetadata should be used to describe content packages.</p> <p><b>Important note:</b> <i>These specifications should be used for content intended for shared VET content.</i></p>
--	--

## 5 Intellectual Property Management

---

Recommended standard	References
<p><b>Describe the intellectual property rights and the conditions of use of digital resources</b></p>	
<p>The Rights element &lt;rights&gt; of the <a href="#">VET Metadata Application Profile (Vetadata)</a>, in conjunction with the <a href="#">Creative Commons</a> range of licence categories.</p>	<p>See also <a href="#">Smartcopying: The Official Guide to Copyright Issues for Australian Schools and TAFE website</a></p>

## 6 Metadata

---

Recommended standards	References
<p><b>Describe the resource using metadata</b></p>	

<a href="#">Vetadata 1.0</a>	
------------------------------	--

## 7 Platforms

---

This section provides recommendations for the minimum set of browser plug-ins and the minimum platform that developers should use to **test** their e-learning content.

### 7.1 Desktop Platforms

The Desktop Platforms specifications are based on statistical data and information provided by the VET sector through the E-standards Expert Group, and represent a baseline minimum of what is most commonly in use in the sector. The Recommended Applications (Table 1) system requirements as defined by their various publishers have been cross-referenced with the Recommended Test Platforms (Table 2).

**Table 1 - Recommended Applications**

**Usage notes:** As a minimum the following applications should be available in the test environment.

Minimum set of desktop applications	Reference
<a href="#">QuickTime 7</a>	
<a href="#">Java Runtime Environment (RTE) 1.6</a>	Note: developers using the ADL SCORM Test Suite will need to install the Java Runtime Environment version 1.5 on a separate machine.
<a href="#">Adobe Acrobat Reader 9</a>	
<a href="#">Microsoft Office</a> Suite Viewers	

2013 VET E-standards

**Table 2 – Recommended Test Platform for E-Learning Content**

**Usage notes:** Content creators need to check that what they are developing is tested and operates properly in the following desktop environments because they represent a baseline minimum of environments being used in the VET sector.

**Note:** This is the last year in which Internet Explorer v7 will be supported. Due to reported reduction of its use in the sector, and anticipated further reductions IE7 will be removed from the recommended platforms from 2014

Component	Windows XP	Windows 7 32bit	Windows 7 64bit	Macintosh	Linux
CPU (processor)	Intel® Pentium III 1.3 GHz+	1GHz+ x86	1GHz+ x64	Intel Core Duo 1.33GHz	800MHz+ processor
RAM (memory)	512MB	1 GB	2 GB	1 GB	512MB
Operating system (platform)	Windows XP	Windows 7	Windows 7	Mac OSX v10.6 (Snow Leopard)	Ubuntu 9.04 or a distribution of equivalent support
Web browser	Internet Explorer 7 & 8  Mozilla Firefox 15 Chrome 22	Internet Explorer 8 & 9  Mozilla Firefox 15 Chrome 22	Internet Explorer 8 & 9  Mozilla Firefox 15 Chrome 22	Safari 5 Mozilla Firefox 15 Chrome 22	Mozilla Firefox 15
Video monitor (resolution)		1024x768			
Video adapter		Video card with 256 MB of RAM (video RAM or VRAM)			
Network connection		10/100 Mbit/s; or Wireless IEEE 802.11x adapter			
Optical drive		CD-ROM, DVD			

Sound		Soundcard and speakers/headphones
-------	--	-----------------------------------

## 7.2 Mobile Platforms

Device	Description	Capability	Functionality
Baseline Feature Phone Delivery Specification	Feature phones are phones with extra capabilities over and above standard call and messaging. They can often use email and record audio and images, but do not have an extendable operating system. Their use is rapidly declining as older phones are upgraded. These devices can still be used in m-learning, however their web browsing abilities are limited and they are not known to be widely used for delivery of content.	SMS  Phone calls	<b>Network connectivity:</b> 2G (GSM 900/1800), 3G (HSDPA 850/2100)  <b>Display Resolution:</b> 128 x 160 pixels  <b>Storage capacity:</b> 64MB  <b>Camera:</b> 1.3/2.0 megapixel  <b>Runtime Environment:</b> Java Platform, Micro Edition (Java ME)  <b>Messaging services:</b> SMS, MMS
Baseline Smartphone <sup>1</sup> Specification	A smartphone is a mobile phone with an operating system and advanced connectivity and ability compared to a feature phone. Often modern	SMS (short message service)  MMS - camera/ video (multimedia messaging service)	<b>Network connectivity:</b> 3G (HSDPA 850/2100)  <b>Operating systems:</b> One of: Microsoft

<sup>1</sup> A smartphone is a mobile phone telephone with built-in applications and internet access. Smartphones provide an inbuilt digital voice service, text messaging, email, html rendering, web browsing, still and/or video cameras, audio and video playback. In addition, smartphones can run other applications. Definition based on "[Smartphone definition from PC Magazine Encyclopedia](#)". [PC Magazine](#)



2013 VET E-standards

	<p>smartphones combine the functions of portable media-players, digital cameras, global positioning system (GPS) and web browsing, which can access and display web pages (rather than just mobile-optimised sites). Smartphones are highly portable through their size and battery life. These devices in most cases complement a user's computing experience by allowing them to use multiple devices to access the same tools, documents and other content. Smartphones also have access to unique applications that give the phone extended capabilities, for example an app that can capture and edit photos before sending to social media sites.</p>	<p>Phone calls Web access Bluetooth Email enabled Wireless enabled Document, image, audio, video viewing/ recording</p>	<p>Windows Mobile 6, Palm WebOS, iOS, Android, Windows Phone 7, Symbian OS, RIM BlackBerry OS 5</p> <p><b>Display Resolution:</b> 240 x 320 pixels</p> <p><b>Storage capacity:</b> No baseline provided due to diversity.</p> <p><b>Camera:</b> 2.0 megapixel</p> <p><b>Wireless:</b> 802.11 b/g/n</p> <p><b>Bluetooth:</b> Bluetooth v2.1</p> <p><b>Messaging services:</b> SMS, MMS</p>
<p><b>Baseline Tablet Specification</b></p>	<p>A tablet computer is a mobile computer that has a flat touch screen for input. Typically 'tablet' refers to a computer which is designed to be portable and has a screen larger than five inches. They run on unique operating systems that are more similar to that of a smartphone than a desktop computer. Tablets are made for touch input, often including multi-gesture actions, which makes the user interface and the user</p>	<p>Web access Bluetooth Email enabled Wireless enabled Document, image, audio, video viewing/ recording</p>	<p>Network connectivity: 3G (HSDPA 850/2100) Operating systems: One of: Microsoft Windows Mobile 7, iOS 5+, Android 2+, RIM BlackBerry Tablet OS.</p> <p>Display Resolution: 1024 x 768 pixels</p> <p>Storage capacity: No baseline provided due to diversity.</p> <p>Camera: 2.0 megapixel</p>

2013 VET E-standards

	<p>experience different to that of other computers. Tablets can be used with added input devices such as keyboards and microphones but the default functionality of the device is to act as a standalone portable computer. Examples of tablet computers are the iPad and the Galaxy Tab. <a href="#">For a full list see Wikipedia's comparison of tablet computers.</a></p>		<p>Wireless: 802.11 b/g/n</p> <p>Bluetooth: Bluetooth v2.1</p> <p>Messaging services: SMS, MMS, Email</p>
Baseline Portable Digital Media Player Specification	<p>These include portable mp3 players and devices that can store video/audio content for portable playback. Content suitable for digital players can include podcast content for education. Audio players can also be used in some cases as an audio recording device. Although most smartphone and tablet computers also act as portable media/audio players, a separate portable digital media/audio player may be lighter and more portable, affordable and quick to use.</p>	Image, audio, video viewing/recording	<p>'Lightweight' audio players:</p> <p><b>Storage capacity:</b> 16GB+ (2-16GB for lightweight audio players)</p> <p><b>Display resolution:</b> 320 x 240 pixels (not supported for lightweight audio players)</p> <p><b>Bluetooth:</b> Bluetooth v2.1 (not supported for lightweight audio players)</p>
Baseline e-book Device Specification	<p>An e-book reader as opposed to a tablet computer has the specific purpose of reading digital e-books, with optimised screen output for reading text</p>	<p>Read digital books and periodicals</p> <p>Text-to-speech for accessibility</p>	<p><b>Display size:</b> 6 inch</p> <p><b>Display resolution:</b> 600 × 800 pixels (167 ppi)</p>

2013 VET E-standards

	<p>based documents. These devices can usually store digital e-books of more than one file type such as PDF, EPUB, Kindle, etc. For a full list of supported formats and a comparisons <a href="#">visit Wikipedia's comparison of e-book formats</a>. Dedicated e-book readers use electronic paper technology to display content, although any device that can display text on a screen can act as an e-book reader and there are many apps for smartphones and tablets that allow them to also have some of the functionality of e-book readers.</p>		<p><b>Operating System:</b> Linux/Android</p> <p><b>Memory (RAM):</b> 2-4GB</p> <p><b>Other potential features:</b> Touch Screen, Integrated Wi-Fi, Removable Storage (Micro SD/SDHC)</p>
<p>Baseline Removable Storage Formats Specification</p>			<p>512MB/1 GB SD Card family: SD Card, Mini-SD, Micro-SD (Transflash) and SDHC (Secure Digital High Capacity for capacities over 4GB)</p> <p>Note the following for SDHC cards:</p> <p>Devices that do not specifically support SDHC do not recognise SDHC memory cards. Some devices can support SDHC through a firmware upgrade. SDHC devices are backward compatible with SD memory cards.</p> <p>Microsoft Windows may need a hotfix to</p>

			support accessing SDHC cards.
--	--	--	-------------------------------

## 8 Repositories

<b>Recommended standard</b>
<b>Harvesting metadata from repositories and archives</b>
<a href="#">OAI-PMH Open Archives Initiative Protocol</a> for Metadata Harvesting version 2.

## 9 Web Services/Data Exchange

Recommended standard(s)	Usage notes
<b>Share headlines and other web content</b>	
<a href="#">RSS 2.0</a>	
<a href="#">ATOM 1.0</a>	
<b>Exchange remote procedure calls and data structures over HTTP</b>	

2013 VET E-standards

<a href="#">Simple Object Access Protocol (SOAP)</a>	
<b>Provide distributed searches</b>	
<a href="#">Search and Retrieve Web Service/URL Service (SRW/U)</a>	

## 10 Appendix 1: URIs referenced in this document

---

Section		Text	URL
<b>1 Background</b>	Australian Flexible Learning Framework and National VET E-learning Strategy	The Framework and Strategy URLs are the same	<a href="http://www.flexiblelearning.net.au/">http://www.flexiblelearning.net.au/</a>
		<a href="#">E-standards Expert Group</a>	<a href="http://e-standards.flexiblelearning.net.au/about_us/e-standards_expert_group.php">http://e-standards.flexiblelearning.net.au/about_us/e-standards_expert_group.php</a>
		<a href="#">FLAG</a>	<a href="http://www.flag.edu.au/">http://www.flag.edu.au/</a>
<b>1.1 Summary</b>		<a href="#">Australian Human Rights Commission website</a>	<a href="http://www.hreoc.gov.au/disability_rights/standards/www_3/www_3.html#whatis">http://www.hreoc.gov.au/disability_rights/standards/www_3/www_3.html#whatis</a>
		<a href="#">Web Services</a>	<a href="http://en.wikipedia.org/wiki/Web_service">http://en.wikipedia.org/wiki/Web_service</a>
<b>2 Accessibility</b>		A customisable <a href="#">quick reference to Web Content Accessibility Guidelines 2.0 requirements (success criteria) and techniques</a>	<a href="http://www.w3.org/WAI/WCAG20/quickref/">http://www.w3.org/WAI/WCAG20/quickref/</a>
		<a href="#">Understanding Conformance and Accessibility Supported Technologies</a>	<a href="http://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html#uc-accessibility-support-head">http://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html#uc-accessibility-support-head</a>
		<a href="#">Australian Government Information Office (AGIMO) Web Guide</a>	<a href="http://webpublishing.agimo.gov.au/Accessibility">http://webpublishing.agimo.gov.au/Accessibility</a>
<b>3 Content Formats</b>	Web content	<a href="#">XHTML 1.0 Transitional</a>	<a href="http://www.w3.org/TR/xhtml1/">http://www.w3.org/TR/xhtml1/</a>

## 2013 VET E-standards

Section		Text	URL
		<a href="#">XHTML media types second edition</a>	<a href="http://www.w3.org/TR/xhtml-media-types">http://www.w3.org/TR/xhtml-media-types</a>
		<a href="#">E-standards for Training 2011 HTML5 Research report</a>	<a href="http://e-standards.flexiblelearning.net.au/research/html5.php">http://e-standards.flexiblelearning.net.au/research/html5.php</a>
		<a href="#">UTF-8 character encoding</a>	<a href="http://www.ietf.org/rfc/rfc3629.txt">http://www.ietf.org/rfc/rfc3629.txt</a>
		<a href="#">Explanation of BOM</a>	<a href="http://www.w3.org/International/questions/qa-byte-order-mark">http://www.w3.org/International/questions/qa-byte-order-mark</a>
		<a href="#">Controlling the BOM</a>	<a href="http://www.w3.org/International/questions/qa-utf8-bom">http://www.w3.org/International/questions/qa-utf8-bom</a>
		<a href="#">CSS 2.1</a>	<a href="http://www.w3.org/TR/CSS21">http://www.w3.org/TR/CSS21</a>
		<a href="#">CSS.3.0</a>	<a href="http://www.w3.org/TR/2001/WD-css3-roadmap-20010523/">http://www.w3.org/TR/2001/WD-css3-roadmap-20010523/</a>
	Text documents	<a href="#">PDF</a>	<a href="http://en.wikipedia.org/wiki/Pdf">http://en.wikipedia.org/wiki/Pdf</a>
		<a href="#">NGTL “Increasing PDF and Microsoft Word Document Accessibility” page</a>	<a href="http://e-standards.flexiblelearning.net.au/implementation/accessibility/increasing_pdf_and_microsoft_word_document_accessibility.php">http://e-standards.flexiblelearning.net.au/implementation/accessibility/increasing_pdf_and_microsoft_word_document_accessibility.php</a>
	eBooks	<a href="#">EPUB</a>	<a href="http://en.wikipedia.org/wiki/EPUB">http://en.wikipedia.org/wiki/EPUB</a>
	Web graphics	<a href="#">GIF</a>	<a href="http://www.w3.org/Graphics/GIF/spec-gif89a.txt">http://www.w3.org/Graphics/GIF/spec-gif89a.txt</a>
		<a href="#">JPEG</a>	<a href="http://www.w3.org/Graphics/JPEG/">http://www.w3.org/Graphics/JPEG/</a>

2013 VET E-standards

Section		Text	URL
		<a href="#">PNG</a>	<a href="http://www.w3.org/TR/2003/REC-PNG-20031110/">http://www.w3.org/TR/2003/REC-PNG-20031110/</a>
		<a href="#">Comparison of PNG 8, 24, 32</a>	<a href="http://www.patrickhansen.com/blog/2011/02/04/png-8-24-32-what/">http://www.patrickhansen.com/blog/2011/02/04/png-8-24-32-what/</a>
	Audio	<a href="#">MP3</a>	<a href="http://en.wikipedia.org/wiki/Mp3">http://en.wikipedia.org/wiki/Mp3</a>
			<a href="http://en.wikipedia.org/wiki/MP3#Audio_quality">http://en.wikipedia.org/wiki/MP3#Audio_quality</a>
	Video	<a href="#">MPEG 4</a>	<a href="http://en.wikipedia.org/wiki/MPEG_4">http://en.wikipedia.org/wiki/MPEG_4</a>
	Interactivity	<a href="#">WCAG 2.0 sufficient techniques</a>	<a href="http://www.w3.org/TR/WCAG20-TECHS/intro.html">http://www.w3.org/TR/WCAG20-TECHS/intro.html</a>
		<a href="#">QR Code</a> (2D barcodes)	<a href="http://en.wikipedia.org/wiki/QR_Code">http://en.wikipedia.org/wiki/QR_Code</a>
		<a href="#">RFID</a>	<a href="http://en.wikipedia.org/wiki/Radio-frequency_identification">http://en.wikipedia.org/wiki/Radio-frequency_identification</a>
		<a href="#">RFID standards list</a>	<a href="http://rfid.net/basics/186-iso-rfid-standards-a-complete-list">http://rfid.net/basics/186-iso-rfid-standards-a-complete-list</a>
Legacy mobile specifications			
	Web content	<a href="#">XHTML 1.1 Basic Profile (W3C 2008)</a>	<a href="http://www.w3.org/TR/2008/REC-xhtml-basic-20080729/">http://www.w3.org/TR/2008/REC-xhtml-basic-20080729/</a>
		<a href="#">WML 1.3</a>	<a href="http://en.wikipedia.org/wiki/Wireless_Markup_Language">http://en.wikipedia.org/wiki/Wireless_Markup_Language</a>
		<a href="#">CSS 1.0</a>	<a href="http://www.w3.org/TR/mobile-bp/#CSS">http://www.w3.org/TR/mobile-bp/#CSS</a>
	Interactivity	<a href="#">Java Platform Mobile Edition (Java</a>	<a href="http://www.oracle.com/technetwork/java/javame/overview/in">http://www.oracle.com/technetwork/java/javame/overview/in</a>



2013 VET E-standards

Section		Text	URL
		<a href="#">ME)</a>	<a href="#">dex.html</a>
<b>4 Content Packaging</b>		<a href="#">IMS Content Packaging</a>	<a href="http://www.imsglobal.org/content/packaging/">http://www.imsglobal.org/content/packaging/</a>
		<a href="#">Vetadata</a>	<a href="http://e-standards.flexiblelearning.net.au/technical_standards/metadata.php">http://e-standards.flexiblelearning.net.au/technical_standards/metadata.php</a>
		<a href="#">SCORM 1.2</a>	<a href="http://www.adlnet.gov/">http://www.adlnet.gov/</a>
<b>5 Intellectual Property Management</b>		<a href="#">Creative Commons</a>	<a href="http://creativecommons.org/">http://creativecommons.org/</a>
		<a href="#">VET Metadata Application Profile (Vetadata)</a>	<a href="http://e-standards.flexiblelearning.net.au/implementation/metadata/index.php">http://e-standards.flexiblelearning.net.au/implementation/metadata/index.php</a>
			<a href="http://e-standards.flexiblelearning.net.au/technical_standards/intellectual_property.php">http://e-standards.flexiblelearning.net.au/technical_standards/intellectual_property.php</a>
		<a href="#">Smartcopying: The Official Guide to Copyright Issues for Australian Schools and TAFE website</a>	<a href="http://www.smartcopying.edu.au/scw/go">http://www.smartcopying.edu.au/scw/go</a>
<b>6 Metadata</b>		<a href="#">Vetadata 1.0</a>	<a href="http://e-standards.flexiblelearning.net.au/technical_standards/metadata.php">http://e-standards.flexiblelearning.net.au/technical_standards/metadata.php</a>

2013 VET E-standards

Section		Text	URL
<b>7.1 Desktop Platforms</b>		<a href="#">Quicktime 7.0</a>	<a href="http://www.apple.com/quicktime/">http://www.apple.com/quicktime/</a>
		<a href="#">Java Runtime Environment (RTE) 1.6</a>	<a href="http://www.java.com">http://www.java.com</a>
		<a href="#">Adobe Acrobat Reader 9</a>	<a href="http://www.adobe.com">http://www.adobe.com</a>
		<a href="#">Microsoft Office Suite Viewers</a>	<a href="http://www.microsoft.com">http://www.microsoft.com</a>
<b>7.2 Mobile Platforms</b>		<a href="#">"Smartphone definition from PC Magazine Encyclopedia". PC Magazine</a>	<a href="http://www.pcmag.com/encyclopedia_term/0,2542,t=Smartphone&amp;i=51537,00.asp">http://www.pcmag.com/encyclopedia_term/0,2542,t=Smartphone&amp;i=51537,00.asp</a>
<b>8 Repositories</b>		<a href="#">OAI-PMH Open Archives Initiative Protocol for Metadata Harvesting version 2</a>	<a href="http://www.openarchives.org/OAI/openarchivesprotocol.html">http://www.openarchives.org/OAI/openarchivesprotocol.html</a>
<b>9 Web Services data exchange</b>		<a href="#">RSS 2.0</a>	<a href="http://cyber.law.harvard.edu/rss/rss.html">http://cyber.law.harvard.edu/rss/rss.html</a>
		<a href="#">ATOM 1.0</a>	<a href="http://tools.ietf.org/html/rfc4287">http://tools.ietf.org/html/rfc4287</a>
		<a href="#">Simple Object Access Protocol (SOAP)</a>	<a href="http://www.w3.org/TR/SOAP/">http://www.w3.org/TR/SOAP/</a>
		<a href="#">Search and Retrieve Web Service/URL Service (SRW/U)</a>	<a href="http://www.loc.gov/standards/sru">http://www.loc.gov/standards/sru</a>

## More Information

---

### **National VET E-learning Strategy**

Email: [flag\\_enquiries@natese.gov.au](mailto:flag_enquiries@natese.gov.au)

Website: [flexiblelearning.net.au](http://flexiblelearning.net.au)

### **New Generation Technologies for Learning (incorporating E-standards for Training)**

Email: [e-standards@flexiblelearning.net.au](mailto:e-standards@flexiblelearning.net.au)

Website: [e-standards.flexiblelearning.net.au](http://e-standards.flexiblelearning.net.au)