

Hands on with EPUB (workshop)

HTML



CSS



tcworld conference 2017 - Stuttgart, Germany

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Introduction

— [Scott Prentice, President of Leximation, Inc.

— [Specializing in FrameMaker plugin development as well as structured FrameMaker conversions, consulting, and development. FrameMaker user/developer since 1991.

— [Developed DITA-FMx, a FrameMaker plugin for efficient DITA authoring and publishing.

— [Consulting for custom Help systems, creative/functional web applications, and EPUB solutions.

Workshop tools

— [Oxygen XML Editor – installer and trial license provided

— [ADE ebook reader – installer provided

— [Chrome+Readium plugin – installer not provided

— [Sample EPUBs – files provided

What is EPUB?

— [EPUB: ebook file format for every device and platform

— [Requires a “reader” application or dedicated device

— [A collection of XHTML, XML, CSS, and media files wrapped in a “zip” archive

— [Defines the content, navigation, and formatting of ebook

— [“EPUB” is a registered trademark of the W3C (was IDPF)

EPUB timeline

1999 - Open eBook Publication (OEB)

2007 - Initial EPUB format

2010 - EPUB 2.0.1

2011 - EPUB 3

2014 - EPUB 3.0.1

2017 - EPUB 3.1

2017 - EPUB specification (now) maintained by the W3C



EPUB 2 or EPUB 3?

— [EPUB 3 is current spec, but full support still weak

— [70% of new EPUBs are still EPUB 2 (but dropping!)

— [EPUB 3 adds interactivity, multimedia, and much more

— [Hand code to take full advantage of EPUB 3, no tools provide interactive features (yet)

— [Some EPUB 3 features may limit the readers

— [This workshop covers some of both

What about Kindle?

— [Amazon uses proprietary ebook formats for Kindle readers

— [MOBI (like EPUB 2) and KF8 (like EPUB 3)

— [Download utility from amazon.com to convert EPUB to Kindle formats

— [Mostly “works” but some situations may require extra effort

— [This workshop will not cover Kindle conversion issues

EPUB 3 changed everything!

— [Underlying technologies will be familiar to techcomm:
(X)HTML5 and CSS3

— [EPUB 3 supports features you'll see on the web

— [Supports most languages (text orientation and Unicode)

— [MathML, SVG, audio, video

— [Responsive design via media queries

— [JavaScript support including libraries like jQuery

Page layout options

- [Paged - typical ebook, default output for tools
 - Best for linear books
- [Fixed layout (FXL) - like a PDF but in HTML
 - Graphics intensive books
- [Vertical scrolling - per “topic” or entire book
 - References or online Help (EPUB Help?)

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Yosemite National Park

Yosemite National Park is a United States National Park spanning eastern portions of Tuolumne, Mariposa and Madera counties in the central eastern portion of California, United States.



Figure 1-1: Yosemite Valley from Tunnel View

Location	Tuolumne, Mariposa, & Madera counties, California, USA
Nearest city	Mariposa, California
Coordinates	37°44'43"N 119°35'54"W
Area	761,268 acres (308,074 ha)
Established	October 1, 1890
Visitors	3,951,393 (in 2011)
Governing body	National Park Service UNESCO World Heritage Site

The park covers an area of 761,268 acres (3,080.74 km²) and reaches across the western slopes of the Sierra Nevada mountain chain. Over 3.7 million people visit Yosemite each year: most spend their time in the seven square miles (18 km²) of Yosemite Valley. Designated a World Heritage Site in 1984, Yosemite is internationally recognized for its

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EPUB Help

The screenshot shows a web browser window with the Radium EPUB help page. The page title is "Using the Reference Manager". The left sidebar contains a navigation menu with the following items: "Using DITA-FMx" (expanded), "Features", "Limitations", "Tips and Troubleshooting", "Using the Reference Manager", "Filtering Content", "Using the Apply Dival as Conditions Command", "Working with Images", "Graphic Overlay Objects", "Support for Indented Images", "Working with Tables", "Table Formatting", "Custom Ruling and Shading", "Controlling Table Widths", "Rotated Table Cells", "Simpletable Specializations", "Working with Indexterms", "Working with Maps", "Basic Map Structure", "Bookmaps", "Best Practice for Book Assembly", "Recommended Folder/File Structure", "Using Keyspaces in DITA-FMx", "Working with Keys", "Using coderefs", "Setting up Book Builds (PDF)", and "The Book Structure Application". The main content area has the heading "Using the Reference Manager" and a sub-heading "Parent: Using DITA-FMx". Below the heading is a paragraph: "Lets you select a conref, xref, or link target by specifying the file, element type, and element." This is followed by another paragraph: "The Reference Manager is displayed when inserting a conref, xref, or link. To insert a conref, choose Insert Conref from the DITA menu, to insert an xref or link, use the Element Catalog. Note that the Reference Manager is only displayed for xref or link elements if they are defined as a 'Container' rather than a 'Cross-Reference' element in your EDD." A small inset box contains a list of links: "Parent: Using DITA-FMx", "Related information", "INI-Only Settings", "Update References", "Insert Conref", and "Setting Up to Use Cross-References".

Figure 1. DITA-FMx Reference Manager

The screenshot shows the "DITA-FMx - Reference Manager" dialog box. It has four main sections: 1. File location: "Files currently open in FrameMaker" with buttons for "F", "M", and "X". 2. Source file: "C:\Tools\lmi-docs\DITA-FMx2.0_Help_Source\ditafmx_ref_inionly.x" with a file selection button and an "Edit" button. 3. Element tag: A list box containing "b", "dentry", and "topic", with "topic" selected. 4. Element data [id | content]: A table with one row containing "id067FF8008E9 | INI-Only Settings". There is also a "Show all elements" checkbox.

The screenshot shows the iBooks app interface on a mobile device. The top status bar shows "AT&T", "5:38 PM", and "83%". The app header shows "Library" with a menu icon, and "A A Q" icons. The main content area displays the heading "Using the Reference Manager" and the text: "Lets you select a conref, xref, or link target by specifying the file, element type, and element." Below this is another paragraph: "The Reference Manager is displayed when inserting a conref, xref, or link. To insert a conref, choose Insert Conref from the DITA menu, to insert an xref or link, use the Element Catalog. Note that the Reference Manager is only". At the bottom, there is a navigation bar with "Back to p.2" and "5 of 13".

iBooks - iOS

Radium+Chrome - Mac

EPUB 3.1 updates

Resources may be loaded from remote locations

HTML and SVG versions are now the “current” version

CSS support removes EPUB-specific properties

EPUBCFI linking no longer “required” for readers

NCX file (EPUB 2 ToC) to be removed in next update

Guide element deprecated in favor of landmarks nav

Useful EPUB 3 readers

— [Desktop

- ADE (macOS, Windows, iOS, Android)
- Chrome+Readium (macOS, Linux, Windows) .. WAIT!
- AZARDI (macOS, Linux, Windows) .. maybe?

— [Mobile

- Apple iBooks (iOS)
- Gitden Reader (Android, iOS)

Authoring/publishing tools

— [Adobe FrameMaker

— [Adobe RoboHelp

— [MadCap Flare

— [MadCap DocToHelp

— [oXygen XML Editor

— [DITA-OT + DITA for
Publishers

— [Adobe InDesign

— [Calibre

— [Chapters

— [and .. epubcheck!

EPUBs created from tools

— [Tools only make “paged” EPUBs

— [No interactivity

— [Bloated HTML

— [Bad CSS tagging

— [Typically “invalid”

— [Cleanup is almost always required!

Working with Oxygen

— [Other tools can be used, Oxygen makes it easy to fix

— [Open EPUB to view/edit content

— [Changes are saved back to EPUB

— [Validation errors are easy to locate and fix

— [Easy to add/edit/delete files

— [Perform global (regex-based) search and replace!

Review EPUB structure

— [“ZIP” package

— [META-INF/container.xml points to OPF file

— [OPF file contains metadata and manifest of all files

— [Navigation files (EPUB 3: XHTML; EPUB 2: NCX)

— [XHTML content files

— [Additional media, styling, scripting files

Possible enhancements

— [General cleanup. Open EPUB, show problems and fixes

— [Update CSS, show effect on rendering

— [Add JS library for formatting or scripting support

— [Integrate responsive CSS (media queries) techniques

— [Add video and audio controls

— [Read-aloud?

EPUB cleanup

— [Regardless of the tool, some cleanup will be needed ..

— [Use Oxygen XML Editor

— [Validate and correct errors

— [Strip all @style attributes

— [Add missing @class attributes so CSS works properly

— [Delete unused JavaScript and other resources

Demo

— [Review EPUBs created from some tools

— [Fix validation errors

— [Fix minor usability issues (tables and images)

— [Add minor enhancements

— [Review some table options

Useful JS libraries

- [highlight.js — code styling, 176 languages + 79 styles
- [moment.js — date/time support library
- [Raphaël — vector graphic (SVG) support library
- [jQuery — powerful scripting support

Integrate JS into EPUB

— [Add file(s) to folders in EPUB

— [Add references to new all files in OPF manifest
(be sure to use correct mime type)

— [Add **properties="scripted"** to the OPF item

Responsive EPUB

Media query loads alternate CSS based on media type and related expressions:

media-type and | **not** | **only** (features)

media-type: **all**, **print**, **screen**, **speech**, ...

feature: **width**, **height**, **device-width**, **device-height**, **orientation**, **aspect-ratio**, **device-aspect-ratio**, **color**, **color-index**, **monochrome**, **resolution**, **scan**, **grid**, ...

Responsive EPUB

— [Declare in HTML:

```
<link rel="stylesheet"  
media="screen and (max-width: 400px)"  
href="css/epub-help-small.css" />
```

— [Declare in CSS:

```
@media screen and (max-width: 400px)  
{ ... }
```


Demo

— [Add highlight.js support to existing EPUB

— [Explore options for adding charts and vector graphics with Raphaël library

— [Test options with adding responsive techniques (media queries)

EPUB Help

— [Looking for an alternative to HTML Help?

— [“EPUB Help” provides all of the features of Help

— [Single-file Help deliverable on all platforms/devices

— [Vertical scrolling “topics” (instead of paged)

— [Context sensitivity (??)

— [Hoping Radium Desktop will be “the” reader!

Demo

- [Discussion/demo of EPUB Help prototype
- [What's coming ...

Video and audio

— [Add video and audio with the standard HTML5 elements

— [Include the proper mime types in XHTML and OPF

— [Be aware of the file size

— [Can load from remote locations, with caveats

— [Read-aloud

Demo

- [Add video and audio to EPUB

- [Discuss read-aloud technology (SMIL)

Wrap-up

— [EPUB is like a “website in a box”!

— [Decide what your customers need in their documentation and make it happen

— [Don't be limited by the current tools

— [Talk to tool vendors about what you want

JS Resources

— [highlight.js — <http://highlightjs.org/>

— [moment.js — <http://momentjs.com/>

— [Raphael — <http://dmitrybaranovskiy.github.io/raphael/>

— [jQuery — <http://jquery.com/>

— [jQueryUI — <http://jqueryui.com/>

Resources

— [EPUB 3.1 specification — www.idpf.org/epub/31/spec

— [CSS 3 Module Info — www.css3.info/modules

— [Responsive Ebook Design — <https://medium.com/@sandersk/responsive-ebook-design-a-primer-8bba01328219>

— [Multimedia Support in EPUB3 — <http://epubzone.org/news/multimedia-support-in-epub-3>

— [EPUB Resources — www.epubtest.com/resources.php

— [Follow #eprdctn on Twitter

— [Scott Prentice <[scott AT leximation.com](mailto:scott@leximation.com)> — www.leximation.com

Feedback



Your opinion is important!

Please tell us what you thought of the lecture. We look forward to your feedback via smartphone or tablet.

**Scan the QR code
or visit the URL:**

<http://mob09.honestly.de>

The feedback tool will be available even after the conference!