# Hands on with EPUB

## (workshop)

tcworld conference 2017 - Stuttgart, Germany

Scott Prentice, Leximation, Inc.

# 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

# 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?)

# 1 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

PDF

# EPUB Help



iBooks - iOS

Readium+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 Readium 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> — 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!