


Inclusive EPUB

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What is EPUB 3?

Traditional web content + EPUB specific metadata



HTML 5
CSS 2.1
Media*
Scripts*

Cover image and info
Default reading order, or “Spine”
Book Metadata
EPUB semantics (within HTML)

**There are caveats - this is discussed later*

What is EPUB 3?

**Traditional web content + EPUB specific metadata
+ ZIP Compression = EPUB 3**

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Why EPUB 3?

- If EPUB 3 is just zipped HTML 5 and content, why not just use HTML 5?
- EPUB offers:
 - a convenient package for redistribution
 - author defined progression through content
 - Text-to-speech*
 - Content narration*

Feature Caveats

- **Scripting is optional.** Not all reader platforms support it, and content must be accessible without it.
- **Media support varies.** Different platforms support different formats. There's no accepted media standard for video and audio.

Feature Caveats

- **Text to Speech.** Requires the content creator to create appropriate Aural Style Sheets, Pronunciation Lexicon Specification (PLS), and Speech Synthesis markup (SSML). All W3C specifications.
- **Narration (or “Media Overlays”).** Author created narration.
 - Example: <http://vimeo.com/53999718>

EPUB 3 Ecosystem

IDPF



Web standards

System makers

Content creators

Stakeholders



What Goes into Inclusive EPUB 3?



Ingredients

- **Good structured HTML**
 - WAI-ARIA, semantic tags (figure, aside, section)
- **Alternatives for media**
 - Alternate video formats
 - Transcripts for videos and audio
 - Descriptions for images (aria-describedby)
- **Alternatives for scripts**
 - Summaries or exercise alternatives for simulations
 - Text equivalents of evaluations + answer keys

Ingredients

- **Media Overlays (SMIL!)**

```
<smil xmlns="http://www.w3.org/ns/SMIL" version="3.0">
  <body>
    <par id="par1">
      <text src="chapter1.xhtml#sentence1"/>
      <audio src="chapter1_audio.mp3" clipBegin="0s" clipEnd="10s"/>
    </par>
    <par id="par2">
      <text src="chapter1.xhtml#sentence2"/>
      <audio src="chapter1_audio.mp3" clipBegin="10s" clipEnd="20s"/>
    </par>
    <par id="par3">
      <text src="chapter1.xhtml#sentence3"/>
      <audio src="chapter1_audio.mp3" clipBegin="20s" clipEnd="30s"/>
    </par>
  </body>
</smil>
```

Ingredients

- **Text-to-speech**
 - Specify an aural style sheet to provide different speakers & styles to different text
 - Pronunciation lexicon (PLS) information for pronunciation of special terms
 - Speech synthesis markup (SSML) to specify pitch, tone, speed

Ingredients

- **Text-to-speech**

- Example with SSML: <https://code.google.com/p/epub-samples/source/browse/trunk/30/georgia-pls-ssml/EPUB/georgia.xhtml>
- Example of PLS: <https://code.google.com/p/epub-samples/source/browse/trunk/30/georgia-pls-ssml/EPUB/lexicon/en.pls>

Cooking with Metadata

- “Spine” (defined in package.opf)

```
<spine>
  <itemref idref="cover" linear="no"/>
  <itemref idref="htmltoc" linear="yes"/>
  <itemref idref="id-id2632344"/>
  <itemref idref="id-id2604743"/>
  ...
</spine>
```

- Book metadata
 - Dublin core information (author, publisher etc.)
 - Other schemas like Accessibility Metadata, but systems may not understand or use this metadata.

EPUB 3 for Floe Project

- Inclusive EPUB 3 guide to be added to the Inclusive Learning Design Handbook.
- Exemplars (ideas):
 - Create examples to demonstrate inclusive concepts
 - Adapt an existing example to demonstrate inclusive concepts

FLOE Deliverable Description

Support the development of inclusively designed open textbooks through EPub3 authoring supports and exemplars.

The availability of accessibility tools and resources for users and authors of open textbooks. Use of accessible EPub3 authoring techniques.

Designers and developers from the Floe team working together with open textbook initiatives to plan, execute, and integrate accessibility strategies using EPub3.

Usage of FLOE tools by open textbook producers.

FLOE , OER Pub, Bookshare, OpenStax College and others are planning an accessibility sprint in late May 2013 to map out what is needed to support accessible authoring using EPub3.

- Documented strategies for inclusive design techniques to EPub3-based open textbook content.
- Collaboration with open textbook producers (e.g. OpenStax College), including a roadmap for accessibility integration into EPub3 textbook authoring and delivery.
- Complete and extensible set of FLOE components that demonstrate and support the authoring of textbook content that is particularly challenging to make accessible (e.g. Math equations, graphs, embedded video, forms, etc.).
- Integration: Guidance and support for accessible textbooks integrated into publishing tools and processes. The IDRC will participate in the EDUPUB meetings to discuss publishing, accessibility, and the challenges therein in Salt Lake City, Utah, Feb 2014. The EPub3 format and strategy transition will be addressed during these meetings.

The IDRC will participate and present in the annual Connexions conference to discuss the challenges facing OER in making accessible content, interfaces, and services. The panel will focus on textbooks and EPub3.

The team will bring feedback from these two events into the inclusive design process while continuing to build exemplars of accessible EPub3 resources into the Inclusive Learning Design Handbook.