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Everything You Ever Wanted to Know About the EPUB Format but Were Afraid to Ask

Greg Williams
West Linn Public Library

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EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT

ePUB

(BUT WERE AFRAID TO ASK)

Apologies to Dr. David Reuben and Woody Allen

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Greg Williams

West Linn Public Library

Feb. 11, 2011

PRESENTATION OUTLINE

- EPUB overview
- EPUB under the hood
- Future of EPUB
- EPUB in your library, today and tomorrow

EPUB OVERVIEW

Image by Graham Horn

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WHAT IS EPUB?

"Maintained by
the IDPF, EPUB is an open,
standards-based format
facilitating the production,
distribution, and consumption
(on various platforms) of
reflowable digital
publications."
blah
blah
blah

IDPF

"**Maintained by the IDPF**, EPUB is an open, standards-based format facilitating the production, distribution, and consumption (on various platforms) of reflowable digital publications."

- International Digital Publishing Forum <idpf>
  - 400+ publishing industry participants and stakeholders

OPEN

"Maintained by the IDPF, EPUB is an **open**, standards-based format facilitating the production, distribution, and consumption (on various platforms) of reflowable digital publications."

- EPUB specifications are freely available and can be implemented by anyone
- Open development process

STANDARDS

"Maintained by the IDPF, EPUB is an open, **standards-based** format facilitating the production, distribution, and consumption (on various platforms) of reflowable digital publications."

- EPUB utilizes common technologies and specifications
  - HTML
  - CSS
  - XML
  - JPG/PNG/SVG/GIF
  - Many others

PROVIDERS

"Maintained by the IDPF, EPUB is an open, standards-based format **facilitating the production, distribution**, and consumption (on various platforms) of reflowable digital publications."

- Intended to be a common format used by publishers and distributors
- Who's using it?

PROVIDERS

Hmmm…who's missing?

PROVIDERS

Sad Trombone.wav (freesound.org/samplesViewSingle.php?id=73581) by Benboncan (freesound.org/usersViewSingle.php?id=634166)

INTEROPERABILITY

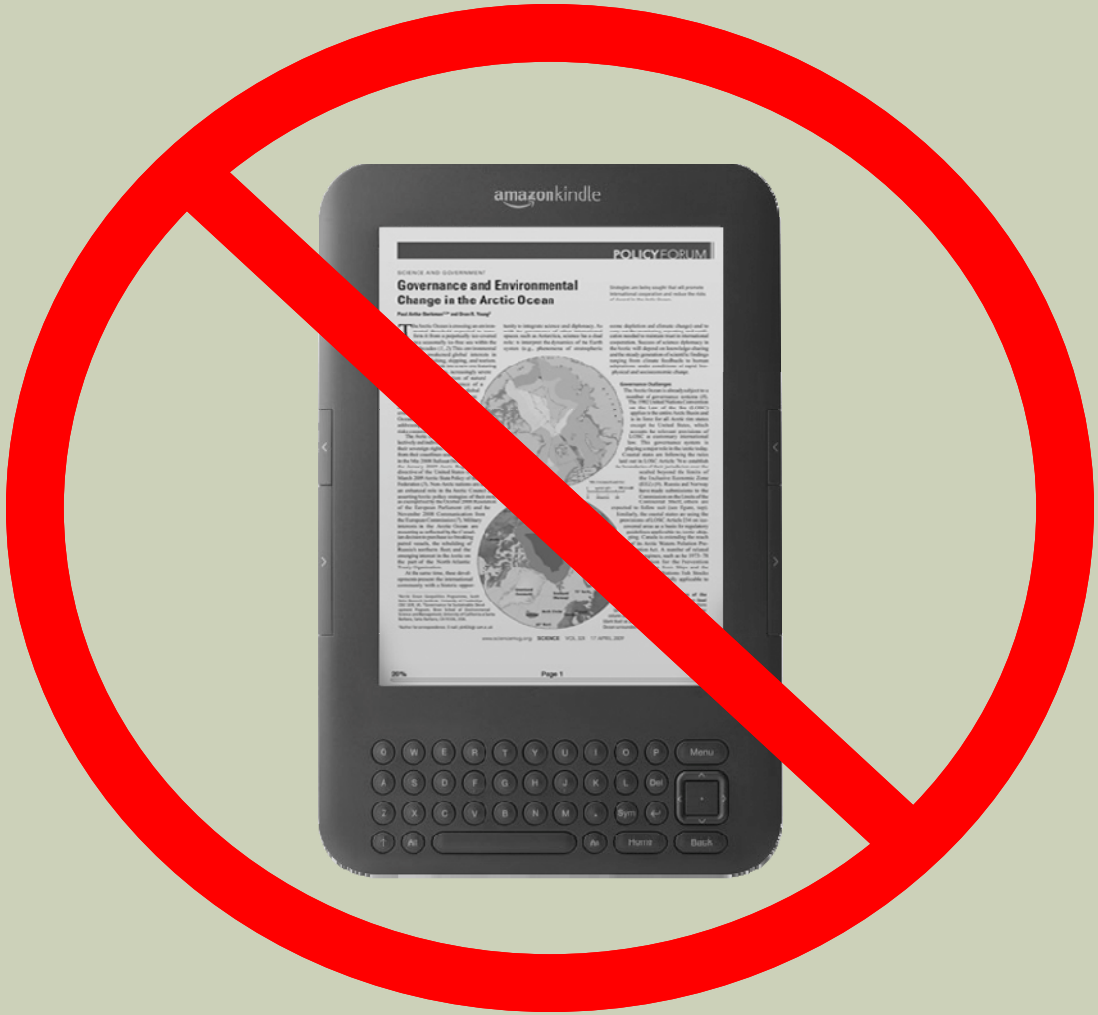
"Maintained by the IDPF, EPUB is an open, standards-based format facilitating the production, distribution, and consumption (on various platforms) of reflowable digital publications."

- Platform-agnostic format for use with:
  - Ereaders
  - PC-based software
  - Smartphone apps
  - Web-based services

INTEROPERABILITY

Don't tell me...

INTEROPERABILITY

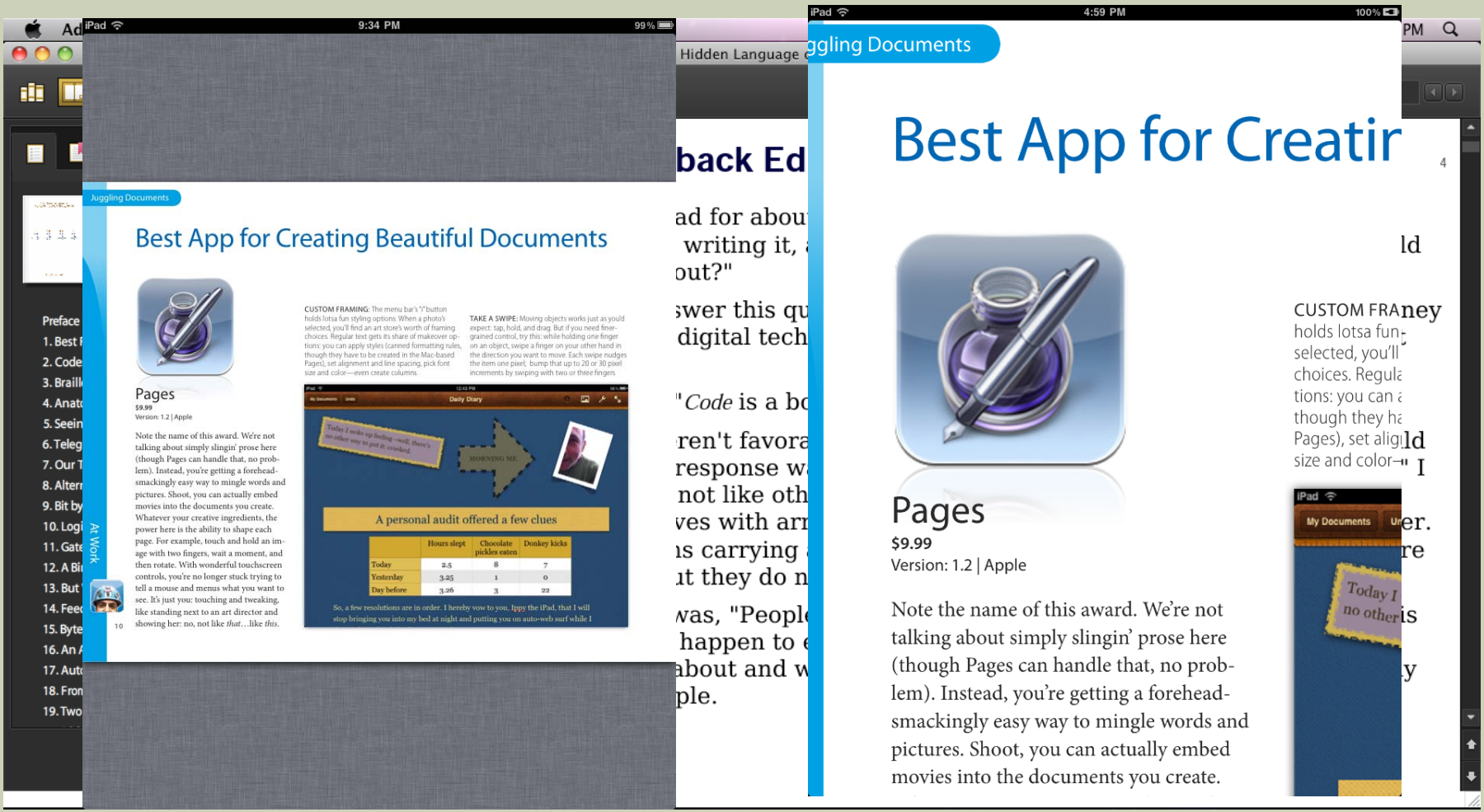


REFLOWABLE

"Maintained by the IDPF, EPUB is an open, standards-based format facilitating the production, distribution, and consumption (on various platforms) of **reflowable** digital publications."

- Content automatically reformats and repaginates based on screen size and display settings

REFLOWABLE


iPad
9:34 PM
99%
Juggling Documents
Best App for Creating Beautiful Documents
Pages
$9.99
Version: 1.2 | Apple
Note the name of this award. We're not talking about simply slingin' prose here (though Pages can handle that, no problem). Instead, you're getting a forehead-smackingly easy way to mingle words and pictures. Shoot, you can actually embed movies into the documents you create. Whatever your creative ingredients, the power here is the ability to shape each page. For example, touch and hold an image with two fingers, wait a moment, and then rotate. With wonderful touchscreen controls, you're no longer stuck trying to tell a mouse and menus what you want to see. It's just you: touching and tweaking, like standing next to an art director and showing her: no, not like that…like this.
CUSTOM FRAMING: The menu bar's "i" button holds lotsa fun styling options. When a photo's selected, you'll find an art store's worth of framing choices. Regular text gets its share of makeover options: you can apply styles (canned formatting rules, though they have to be created in the Mac-based Pages), set alignment and line spacing, pick font size and color—even create columns.
TAKE A SWIPE: Moving objects works just as you'd expect: tap, hold, and drag. But if you need finer-grained control, try this: while holding one finger on an object, swipe a finger on your other hand in the direction you want to move. Each swipe nudges the item one pixel; bump that up to 20 or 30 pixel increments by swiping with two or three fingers
Daily Diary
A personal audit offered a few clues
Hours slept
Chocolate pickles eaten
Donkey kicks
Today 2.5 8 7
Yesterday 3.25 1 0
Day before 3.26 3 22
So, a few resolutions are in order. I hereby vow to you, Ippy the iPad, that I will stop bringing you into my bed at night and putting you on auto-web surf while I
At Work
10
Hidden Language
back Ed
ad for abou
writing it,
out?"
swer this qu
digital tech
Code is a bo
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is carrying
it they do n
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ple.
iPad
4:59 PM
100%
ggling Documents
Best App for Creatir
4
Pages
$9.99
Version: 1.2 | Apple
Note the name of this award. We're not talking about simply slingin' prose here (though Pages can handle that, no problem). Instead, you're getting a forehead-smackingly easy way to mingle words and pictures. Shoot, you can actually embed movies into the documents you create.
CUSTOM FRA
holds lotsa fun
selected, you'll
choices. Regula
tions: you can a
though they ha
Pages), set alig
size and color
iPad
My Documents
Today I
no other

EPUB IS...

- Maintained by the IDPF
- Open
- Standards-based
- Widely-used
- Interoperable
- Reflowable

EPUB UNDER THE HOOD

Image by Beth and Christian Bell from Flickr.com

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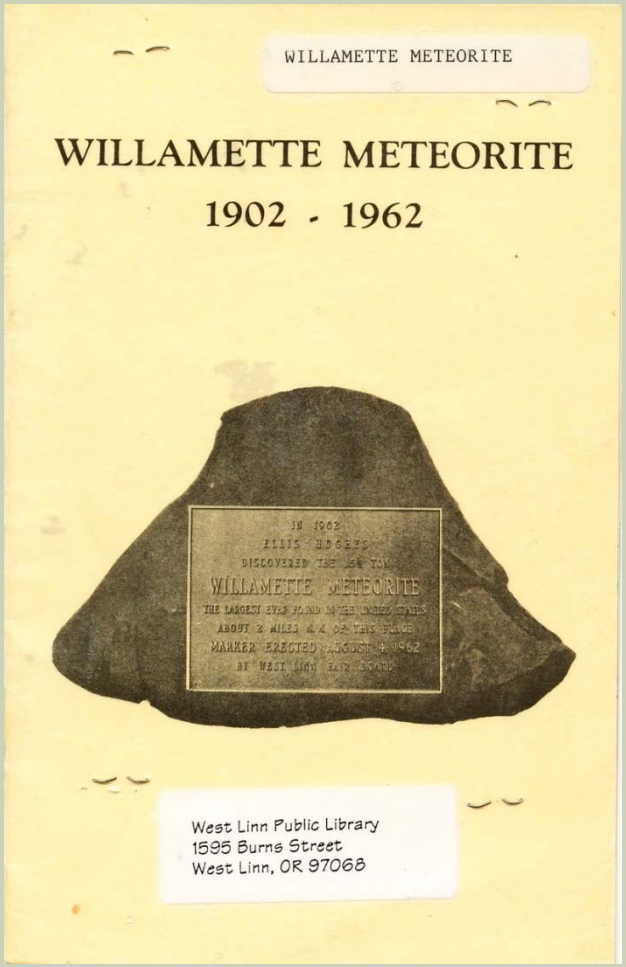
OUR SUBJECT


WILLAMETTE METEORITE
WILLAMETTE METEORITE
1902 - 1962
WILLAMETTE METEORITE
West Linn Public Library
1595 Burns Street
West Linn, OR 97068

EPUB COMPONENTS

- Building an EPUB publication:
  - Create or collect the publication's **content**
  - Define the publication's **structure** (create metadata and 'assemble' the publication)
  - Package everything into a single **container** to facilitate distribution

CONTENT

- EPUB publications consist of familiar, web-standard content
  - Text content = HTML styled with CSS
  - Graphics = PNG, JPG, SVG, GIF
  - Embedded fonts (although reading systems aren't currently required to support them)

CONTENT

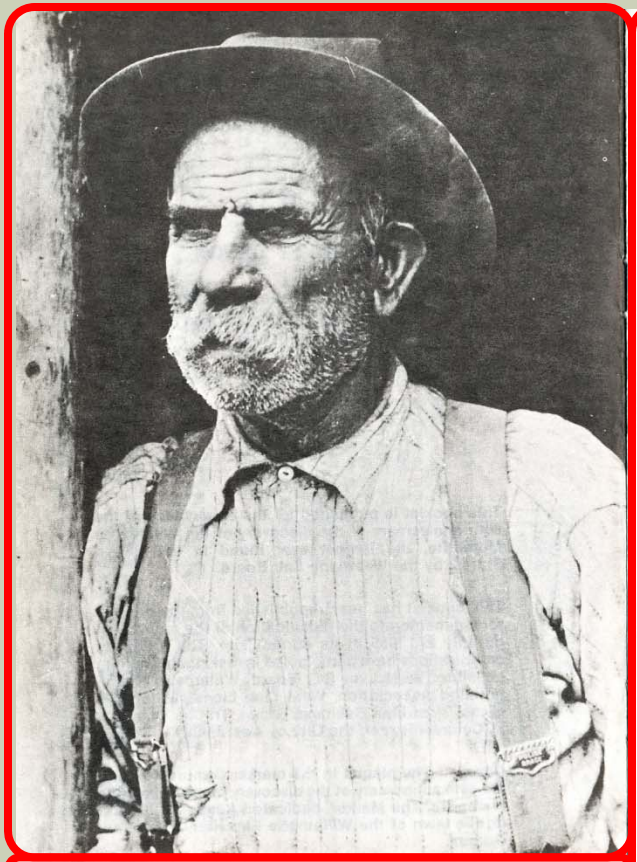


Figure 1 — Ellis Hughes, the discoverer of the Willamette Meteorite, in a photo taken in 1937, five years before his death.

The Willamette Meteorite, Its Story

> The most interesting meteorite, noble in size and wonderful in physical features, was found near the border of Clackamas County, Oregon, in the autumn of 1902. . . . This meteorite having been found two miles from this town (to the northwest) I have given it the name as above, of Willamette Meteorite.

So wrote Henry A. Ward,[9] expert in meteoritics, in 1904 after he had hurriedly journeyed across the United States to view and study the great meteorite which had been publicized in many newspapers throughout the United States.

To this day the 15-1/2 ton Willamette Meteorite remains the largest and most majestic iron meteorite to be discovered in this country. At the time of its finding, the Willamette was the third largest to be discovered on earth. Today, due to the discovery of other large meteorites, it is the world's sixth largest meteoritic discovery.

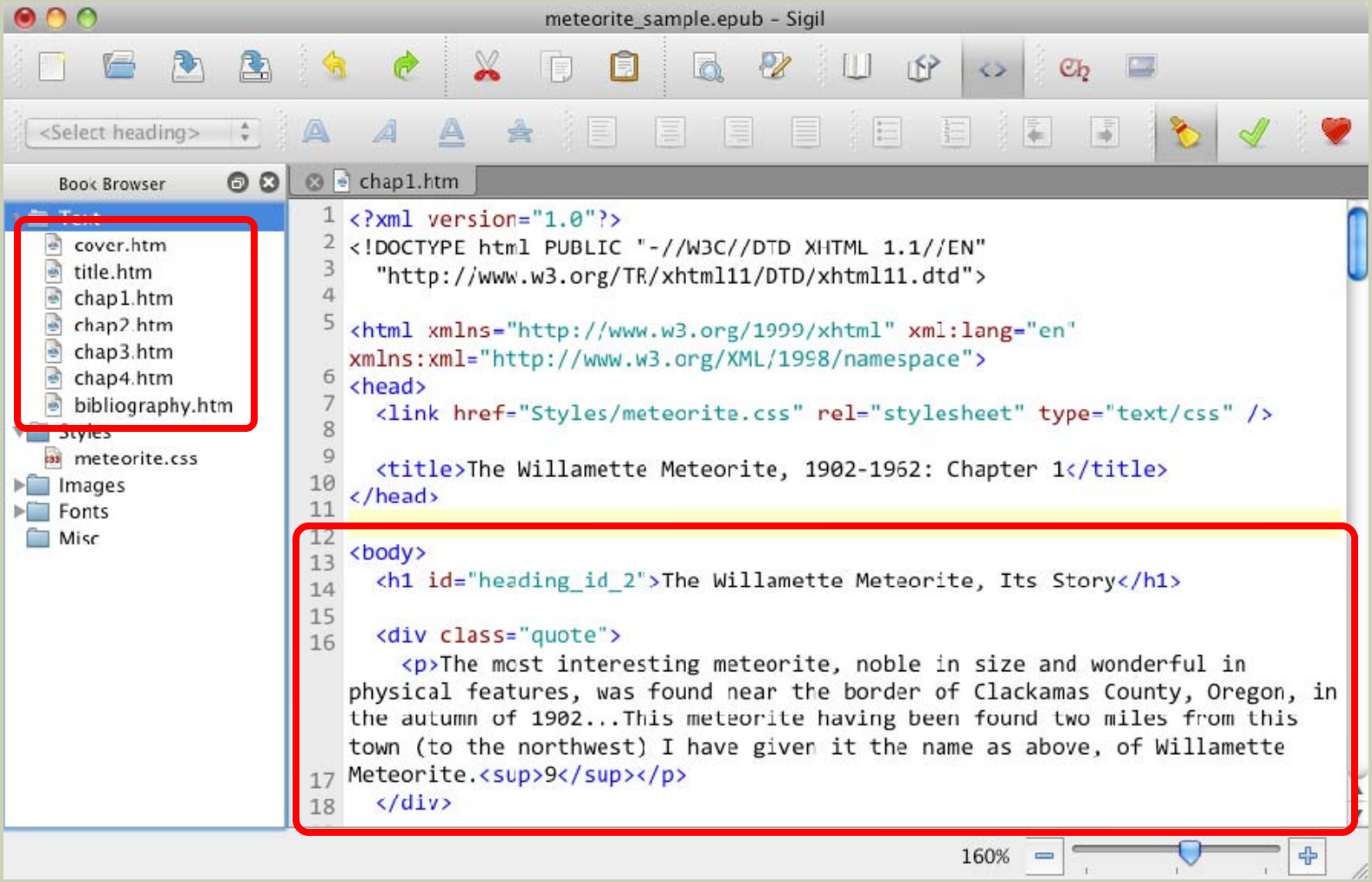
No meteorite has had a more interesting or a more unusual history. The story of the Willamette meteorite includes Indian rituals, a gigantic daylight theft, three judicial proceedings, an exhibit at a world's fair, a cross-country journey, and finally a permanent resting place amid a great meteorite collection in one of the world's major museums.

This great mass from space was quietly discovered in the fall months of 1902 by Ellis Hughes (figure 1), once a Welsh miner, who had purchased a small farm about two miles west of Willamette, Oregon. Willamette since 1913 has been incorporated as part of the city of West Linn. Mr. Hughes made his discovery on land belonging to the Oregon Iron and Steel Company. In his later years he recounted the events of the discovery destined to bring him fame both in the scientific and judicial annals in the following words:[6]

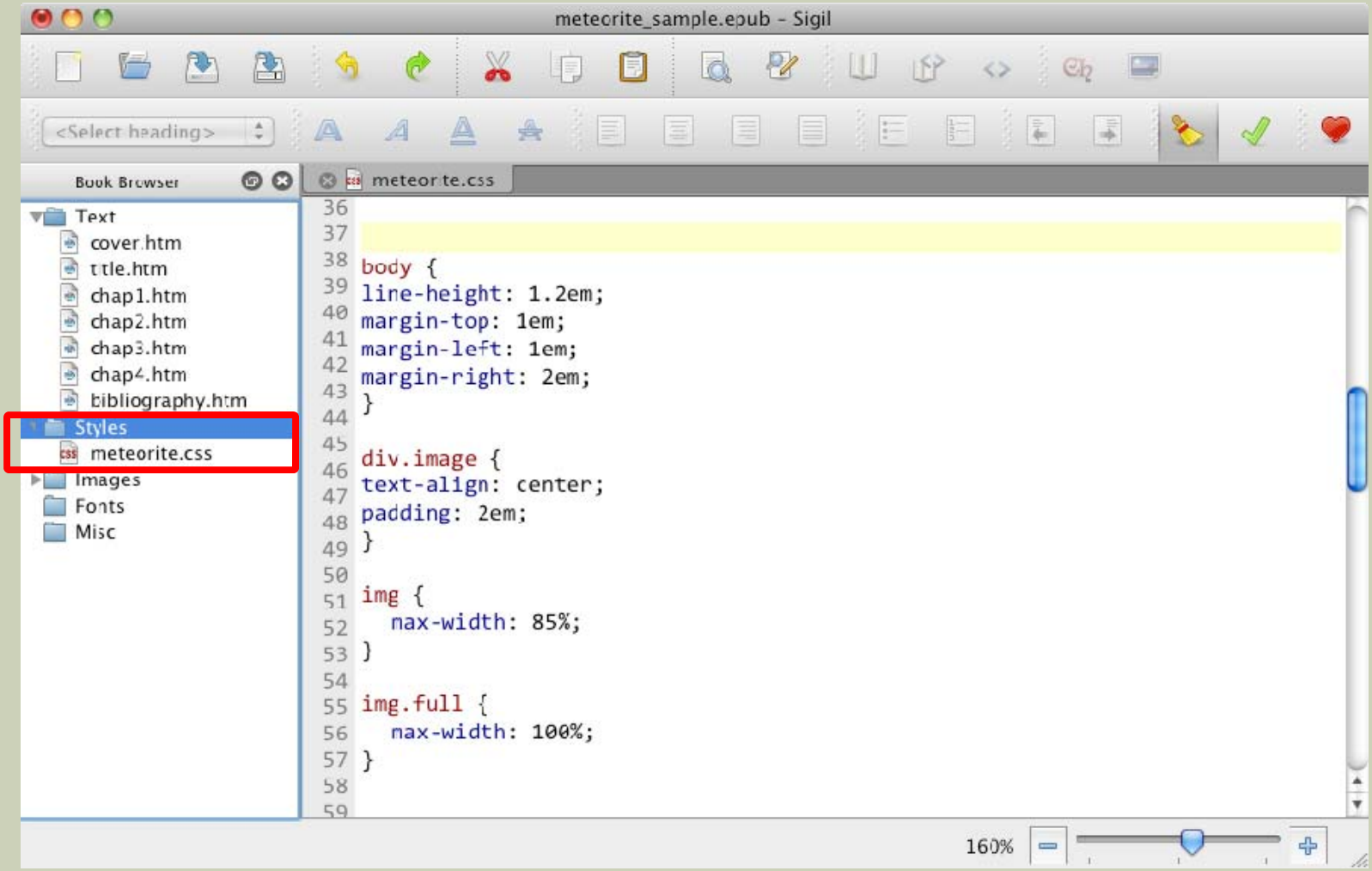
> I was coming back from work where I had been cutting wood for the Willamette school. I saw this big rock, but didn't think anything of it. I'd never seen it before. The next day when I came from work I saw half a broken saw lying near the rock. It was very rusty. Evidently some woodsman had dropped it there. I sat down on the rock. It was about 1-1/2 feet above the ground and very flat.
>
> Bill Dale came by and said, "Hughes, have you seen this rock before?"
>
> Yes, I said, I saw it yesterday. Then I picked up a large white stone and started to hammer on the rock. It rang like a bell.

HTAGE+(RSG)

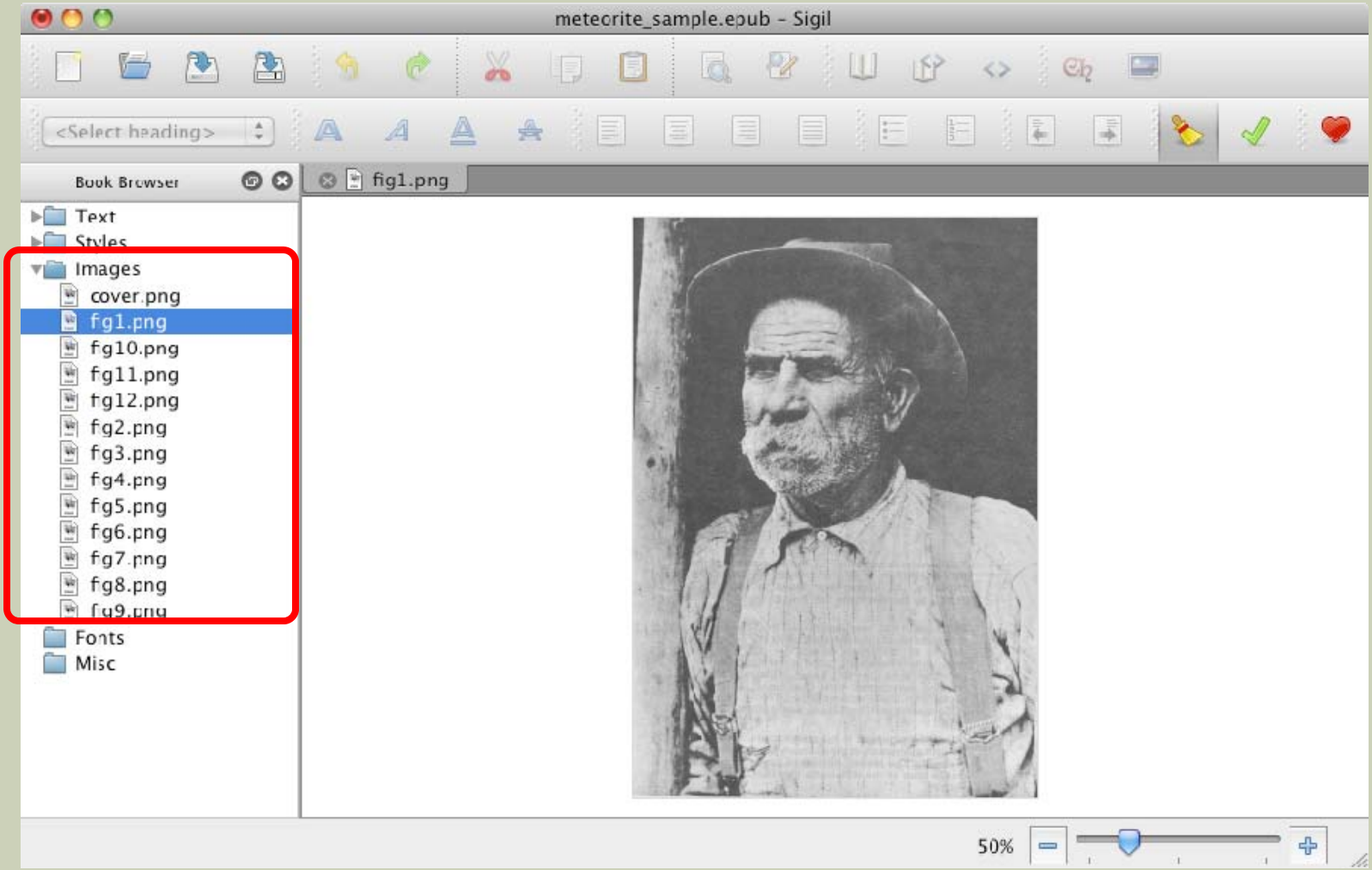
CONTENT – TEXT



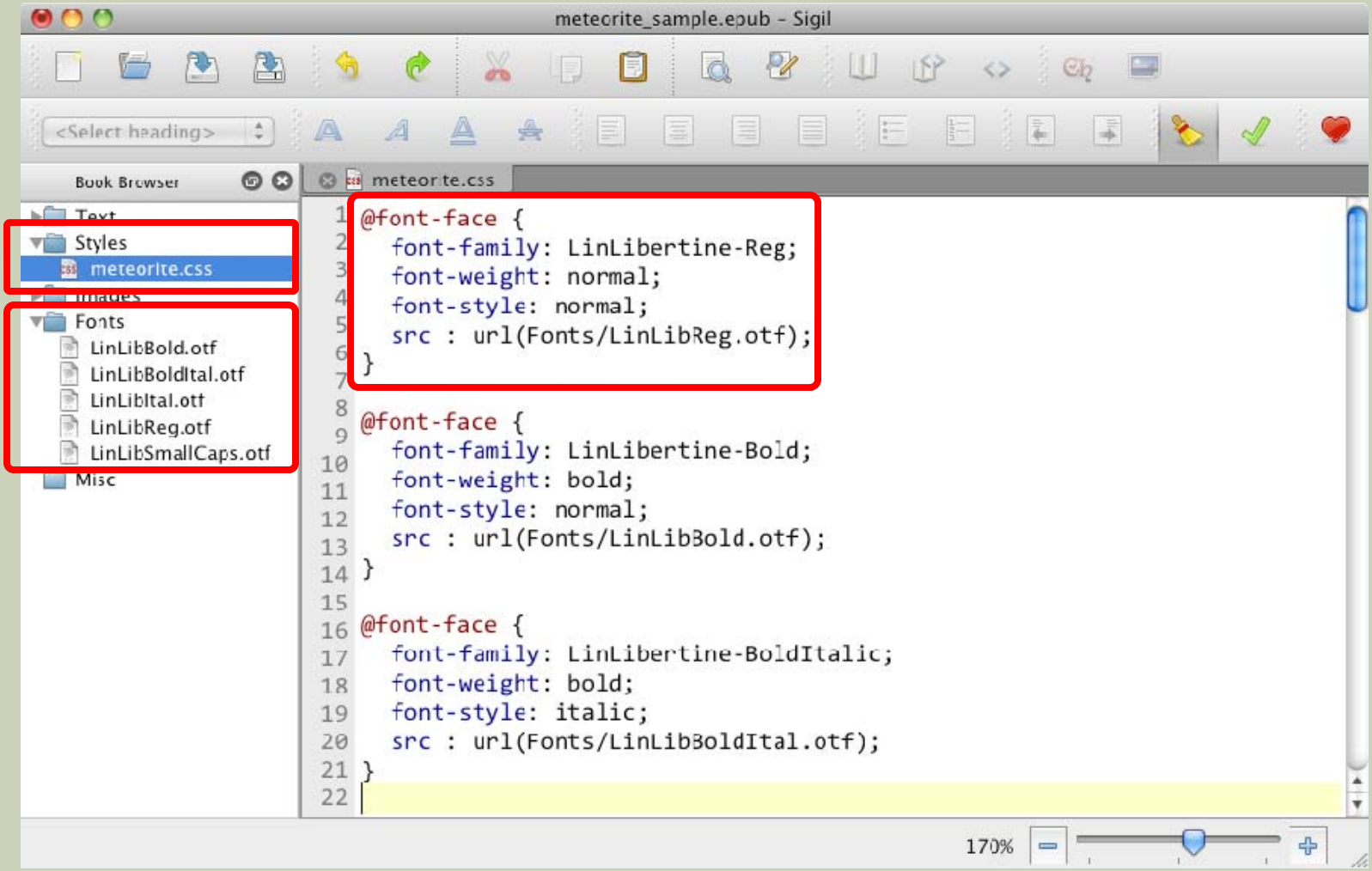
CONTENT - STYLING



CONTENT - IMAGES



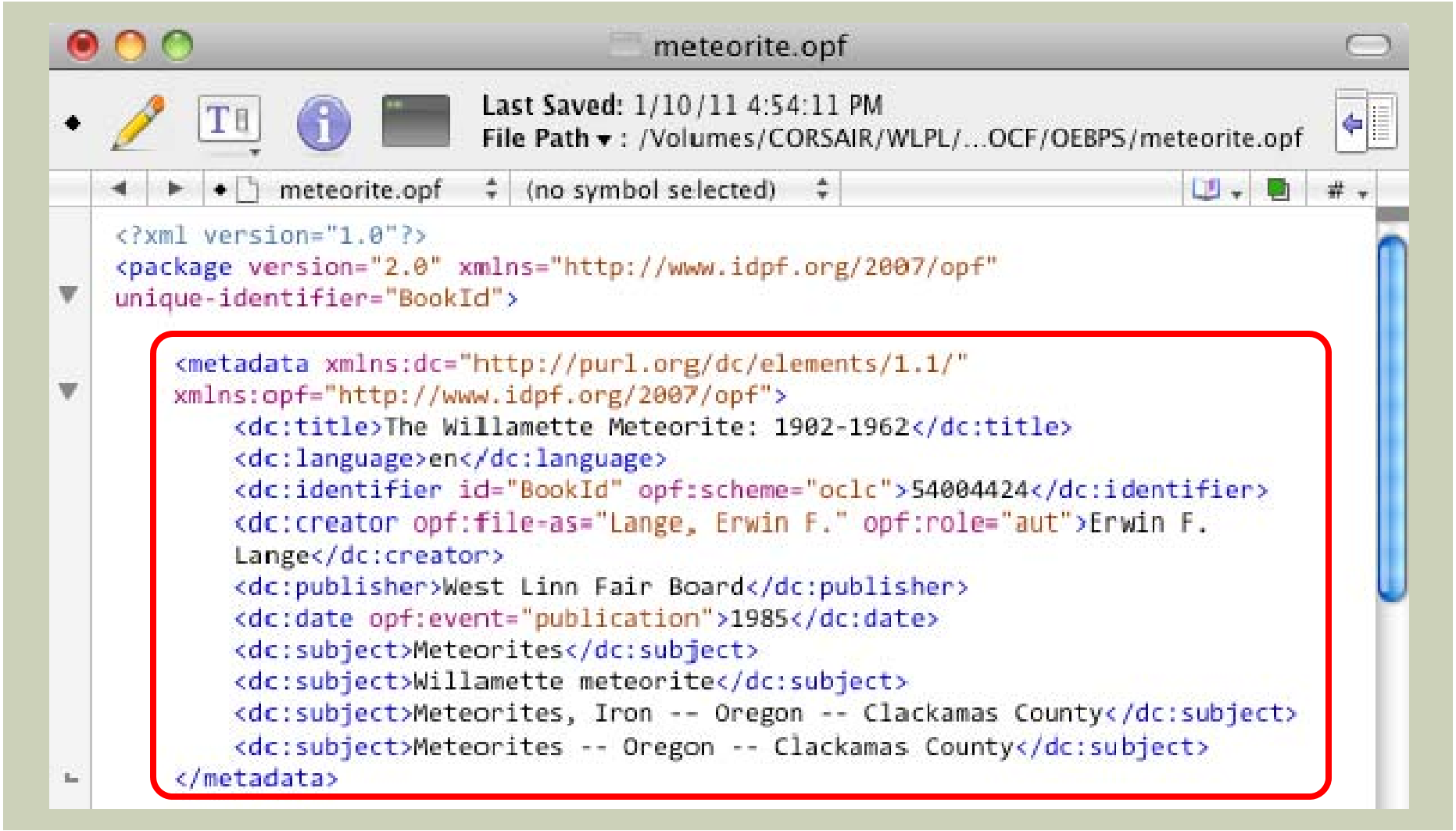
CONTENT - FONTS



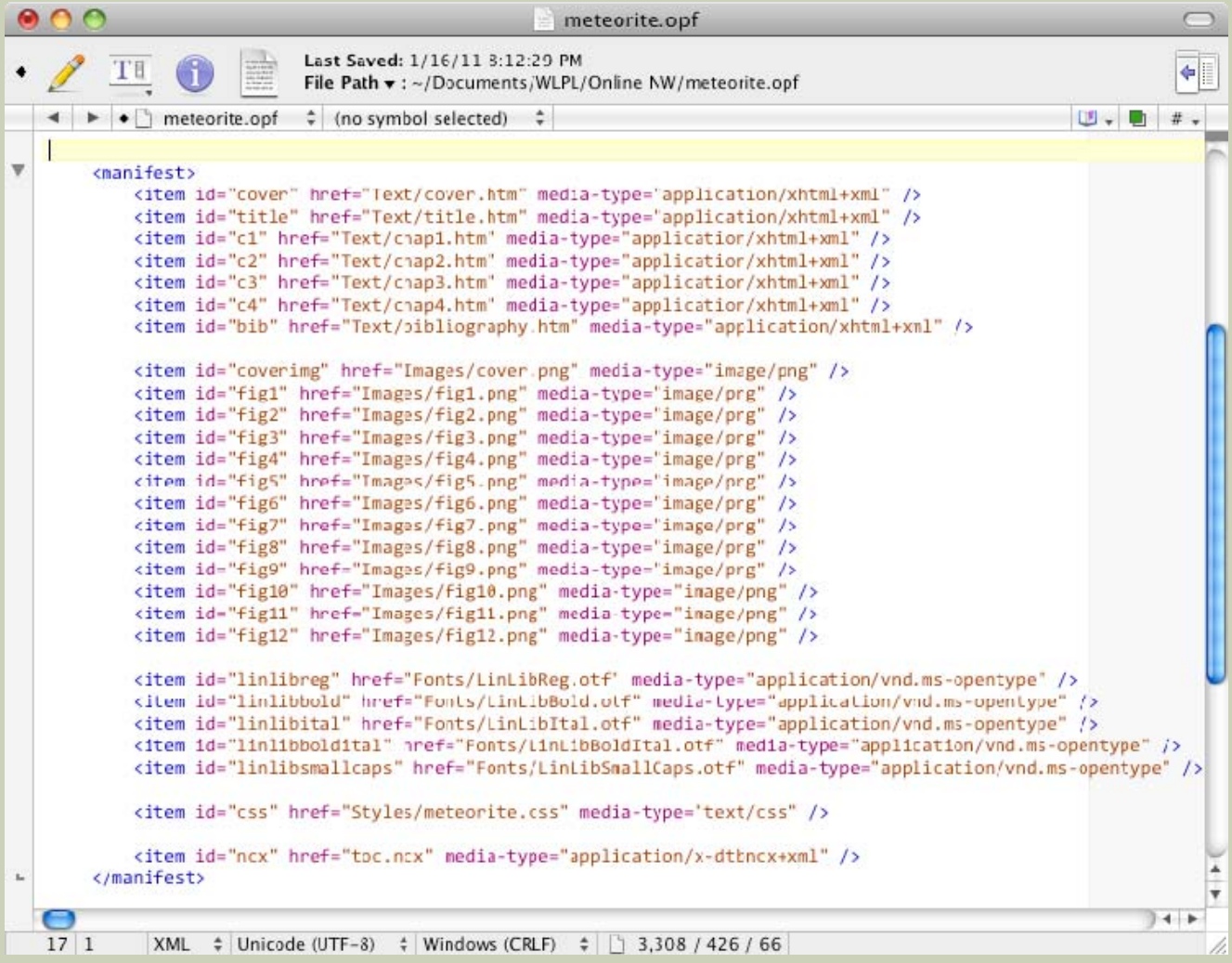
STRUCTURE

- Next, ‘assemble’ the publication by creating XML-based files to specify:
  - Publication-level metadata
  - Inventory of publication’s assets
  - Linear reading order
  - Navigable table of contents

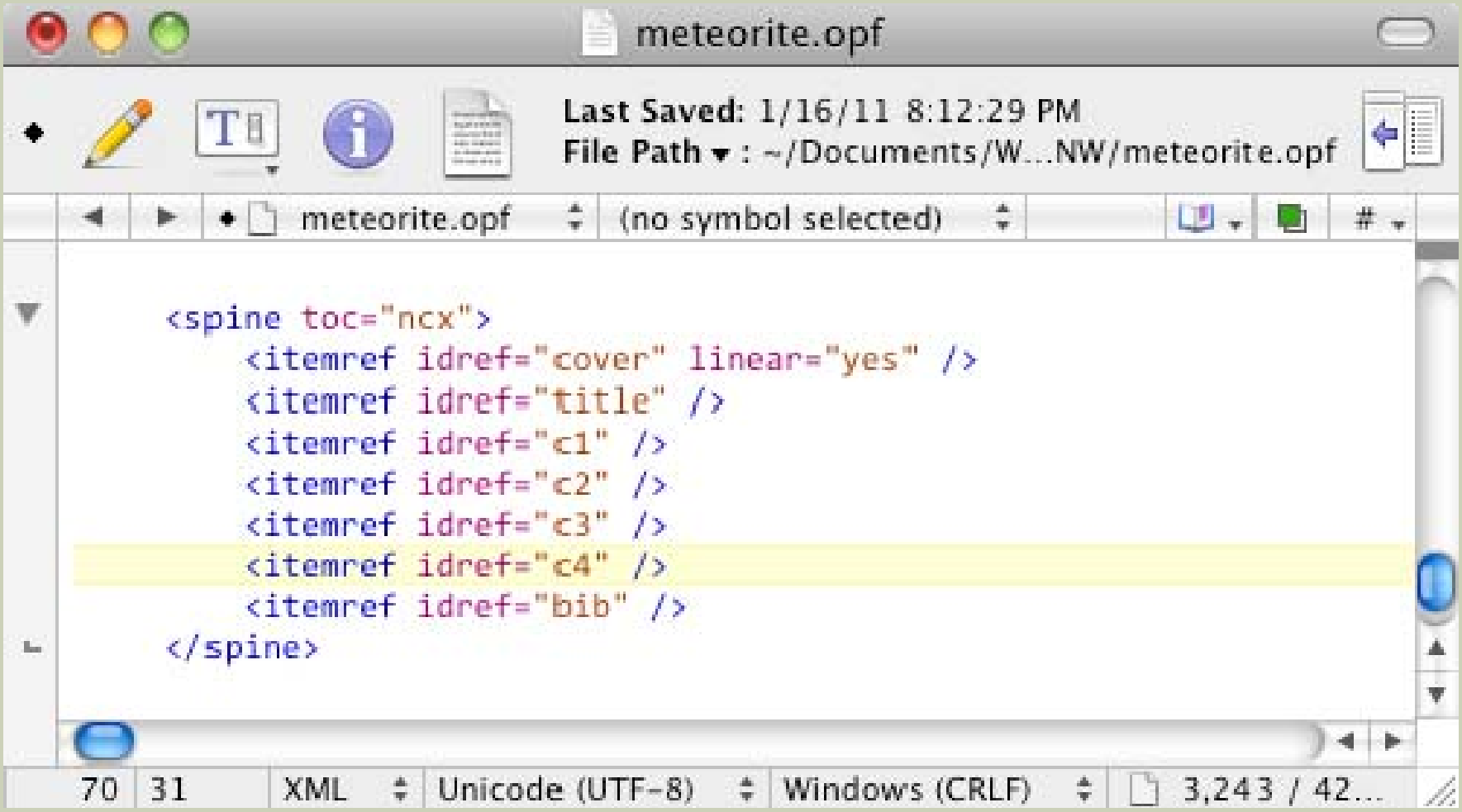
STRUCTURE – METADATA



STRUCTURE – INVENTORY



STRUCTURE – READING ORDER



STRUCTURE – TOC

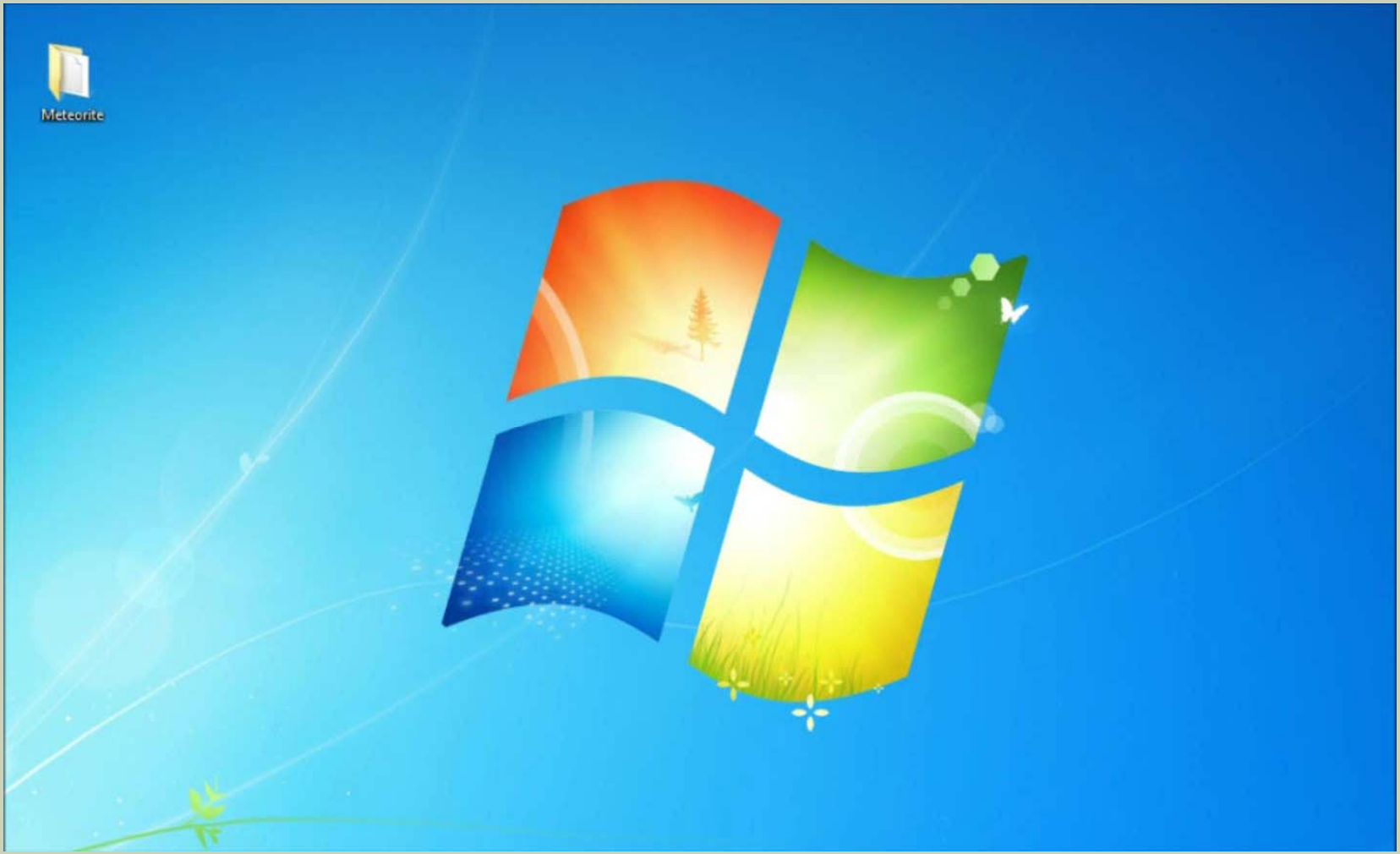
```
<navPoint id="title" class="h1">
    <navLabel><text>Title Page</text></navLabel>
    <content src="title.htm"/>
</navPoint>
```

```
<navPoint id="c1" class="h1">
    <navLabel><text>Chapter 1 - The Willamette Meteorite, Its
    Story</text></navLabel>
    <content src="chap1.htm"/>

    <navPoint id="fig1" class="h2">
        <navLabel><text>Figure 1: Picture of Ellis
        Hughes</text></navLabel>
        <content src="chap1.htm#fig1"/>
    </navPoint>

    <navPoint id="fig2" class="h2">
        <navLabel><text>Figure 2: Willamette Meteorite on
        wagon</text></navLabel>
        <content src="chap1.htm#fig2"/>
    </navPoint>
```

CONTAINER

- It's ZIP! (mimetype = application/epub+zip)
- ZIP archive contains an XML 'pointer' to publication's structure files
- Archive may also contain optional XML files supporting:
  - Container-level metadata (optional)
  - Digital signatures (optional)
  - Rights management (optional)
  - Encryption (optional)

PUTTING IT ALL TOGETHER



FUTURE OF EPUB

Image by keystricken from Flickr.com

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EPUB 3

- Current version of EPUB is 2.0.1
- EPUB 3 is under active development

EPUB 3 GOALS

- Align EPUB with current web standards
- Add support for rich media
- Enhance support for metadata and semantics
- Improve accessibility

Source: http://idpf.org/idpf_groups/IDPF-EPUB-WG-Charter-5-24-2010_Approved.html

EPUB 3 – WEB STANDARDS

- EPUB 3 will utilize current-generation standards
  - HTML5
  - CSS 2.1, plus selected CSS 3 modules
  - OpenType and Web Open Font Format embedded fonts

EPUB 3 – RICH MEDIA

- Improved SVG integration
- Audio and video integration
  - MP3
  - Manga, graphic novels
  - MPEG-4 (H.264, AAC audio)
  - Native player controls

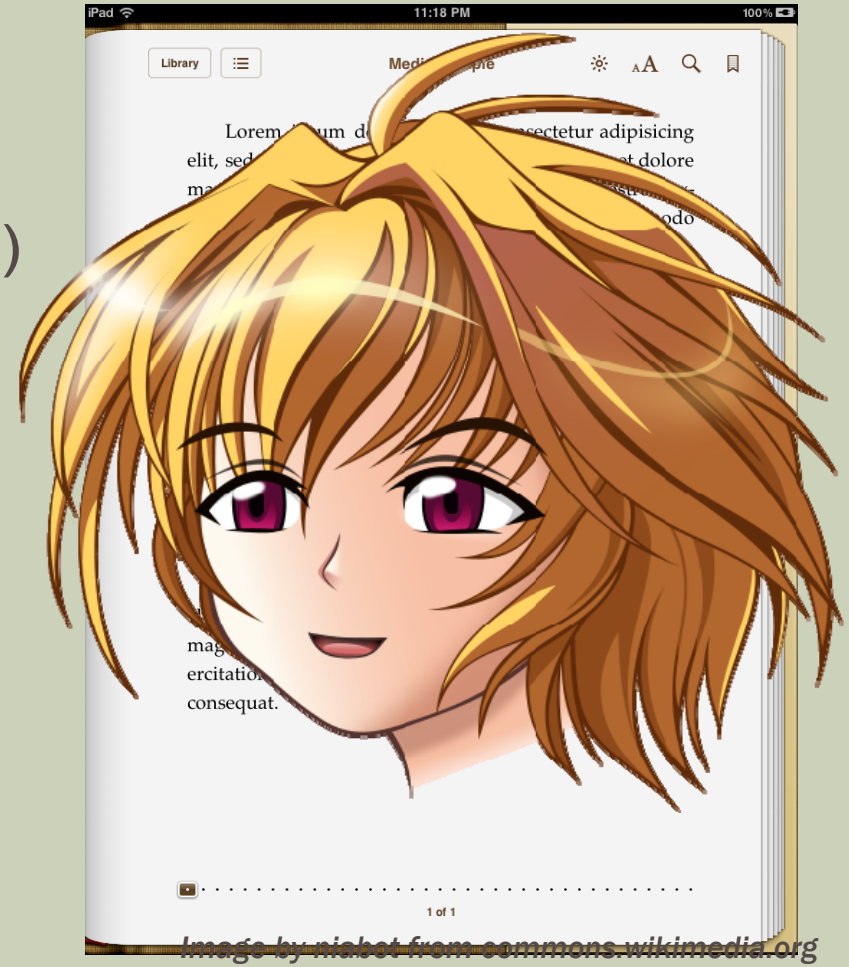

Image by nichot from commons.wikimedia.org
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EPUB 3 – METADATA

- Expanded Dublin Core vocabulary
  - EPUB 2 uses DCMES (15 terms)
  - EPUB 3 will use DCTERMS (55 terms)
- Ability to associate supplementary metadata resources
  - MARC21 XML
  - MODS
  - ONIX
  - Adobe XMP

EPUB 3 – METADATA

- More semantic markup in HTML5
  - <section>, <header>, <aside>, <article>, etc…
- Structural semantics vocabulary
  - ‘chapter’, ‘preface’, ‘topic-sentence’, ‘epigraph’, etc…
- Use of ‘external’ semantic vocabularies

EPUB 3 - ACCESSIBILITY

- Richer document-level semantics
- Improved text-to-speech support
  - Publication-level and word-level control over pronunciation
  - CSS 3 Speech Module (‘aural stylesheets’)

EPUB 3 - ACCESSIBILITY

- Synchronization of text and styling with pre-recorded audio

You don't know about me without you have read a book by the name of The Adventures of Tom Sawyer; but that ain't no matter. That book was made by Mr. Mark Twain, and he told the truth, mainly.

0:01

EPUB IN YOUR LIBRARY, TODAY AND TOMORROW

EPUB IN YOUR LIBRARY - TODAY

- Got web skills? Dive into EPUB!
- Look at your collections through EPUB-colored glasses
  - Local history
  - Government documents
  - Image collections
  - Course reserves
  - Other web-based content

EPUB IN YOUR LIBRARY - TODAY

- Get EPUB into patrons' hands
  - Buy/create EPUB materials
  - Circulate EPUB-compatible ereaders
- Be the EPUB/ereading "geek squad"
  - Practice format advisory
  - Ereader advice and assistance
  - Keep up with current hardware/software
  - Provide/create adequate guides and tutorials

EPUB IN YOUR LIBRARY - TOMORROW

- Increasing supply of content
  - Greater volume and variety of EPUB content
  - "EPUB should become the standard document format for authoring, distributing and reading scholarly content."*
- Increasing patron demand

**Martin Fenner, http://blogs.plos.org/mfenner/2011/01/23/beyond-the-pdf-...-is-epub/)*

EPUB IN YOUR LIBRARY - TOMORROW

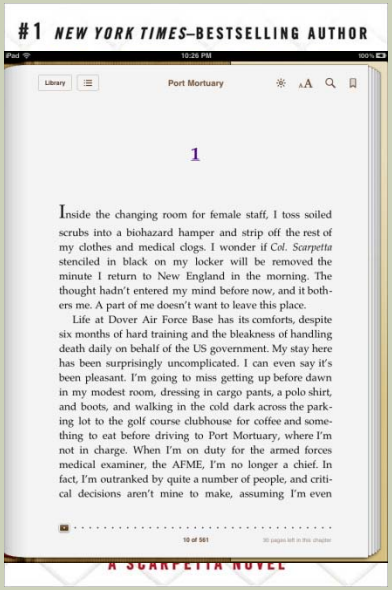
- Increasing access
  - Enhanced metadata and semantics will facilitate discovery
  - New technologies (e.g., OPDS), will simplify EPUB distribution, discovery, and acquisition

http://www.cosla.org/documents/COSLA2270_Report_Final1.pdf

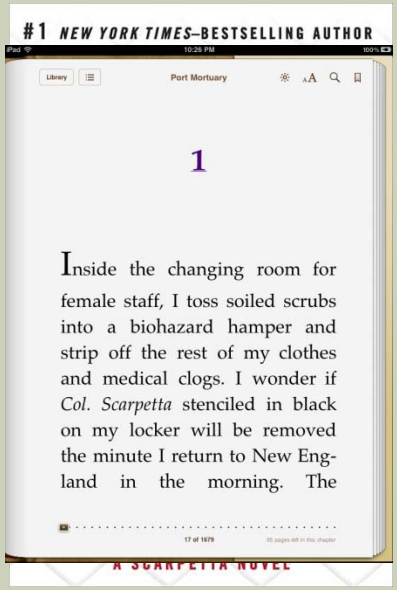
EPUB IN YOUR LIBRARY - TOMORROW

- Impact on collection development and budgets

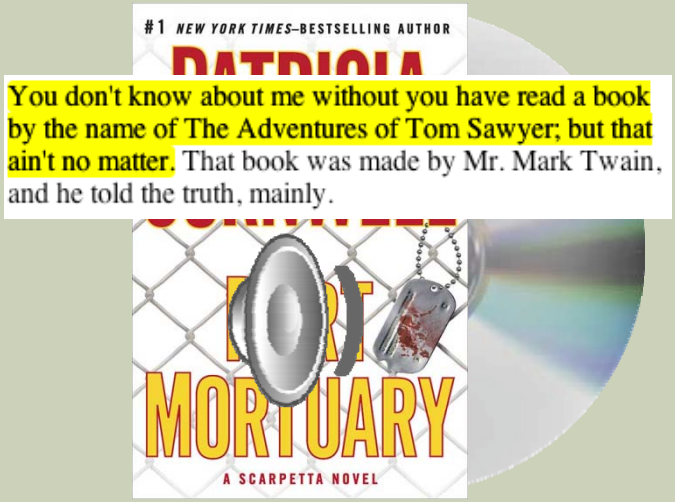
Regular Print



Large Print



Audio



2 Reg. Print + 2 Lg. Print + 2 Adbk. = $157.36

5 'Enhanced' EPUBs ≈ $150.00 (?)

Kobo Reader + 2 'Enhanced' EPUBs ≈ $160.00 (?)

WRAP UP

Image by meddygarnet from Flickr.com

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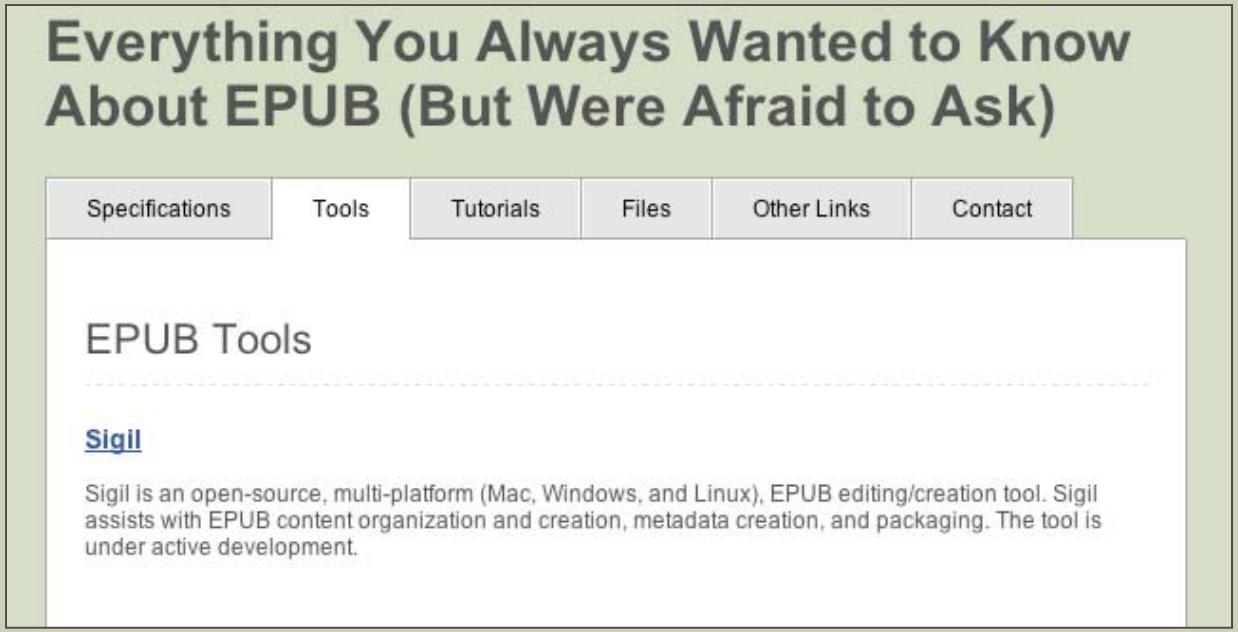
HE HAD 95, I ONLY HAVE 3

ADDITIONAL RESOURCES

- http://tinyurl.com/epubpres



- Email: gwilliams@westlinnoregon.gov
- Twitter: wlgreg