XML workflow documentation

Carlos Araya

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Thank You

Thanks to Laura Brady for getting this particular idea started :)

Background: HTML is the final format

In researching the technologies and tools that I use when developing digital content I've come across multiple discussions about what's the best way to create HTML for X application (ebooks, web, transforming into other formats and any number of ideas. Some people think that HTML is perfect for everyone to write, regardless of experience and comfort with the technology. We forget that HTML now is very different to HTML as it was originally created.

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Example Markdown document

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I only discovered Asciidoctor recently, while researching O'Reilly Media's publishing toolchains. It caught my attention because of it's structure, the expresiveness of the markup without being HTML like HTMLbook and the extensibility of the templating system that it uses behind the scenes.

Asciidoctor has both a command line interface (CLI) and an API. The CLI is a drop-in replacement for the *asciidoc* command from the Standard python distribution. This means that you have a command line tool *asciidoctor* that will allow you to convert your marked documents without having to resort to a full blown application.

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HTMLBook

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Given O'Reilly's history and association with open source publishing tools (they were an early adopter and promoter of Docbook and still use it for some of their publications) I found HTMLbook intriguing but not something to look at right away, as with many things you leave for later it fell off my radar.

It wasn't until I saw Sanders Kleinfeld's (O'Reilly Media Director of Publishing Technologies) presentation at IDPF Book World conference that I decided to take a second look at HTMLbook and its ecosystem.

Conceptually HTMLbook is very simple; it combines a subset of HTML5, the semantic structure of ePub documents and other IDPF specifications to create a flavor of HTML 5 that is designed specifically for publishing. There are also stylesheets that will allow you to convert Markdown and other text formats into HTMLbook (see Markdown to HTMLBook and AsciiDoc to HTMLBook (via AsciiDoctor))

If you use Atlas (O'Reilly's authoring and publishing platform) you don't have to worry about markup as the content is created visually. The challenges begin when implementing this vocabulary outside the Atlas environment.

The project comes with a set of stylesheets to convert HTMLbook content to ePub, MOBI and PDF. The intriguing thing about the stylesheets is that they use CSS Paged Media stylesheets in conjunction with third party tools such as AntennaHouse or PrinceXML.

The open source solutions offer permisive licenses that allow modification and integration into other products without requiring you to release your project under the same license like GPL and LGPL.

As with any solution that advocates creating HTML directly I have my reservations. In HTML formating in general and specialized formats like HTMLbooks in particular, the learning curve may be too steep for independent authors to use for creating content.

The user must learn not only the required HTML5 syntax but also the details regarding ePub semantic structure attributes and the other standards needed to create ePub books. While I understand that technologies such as this are not meant for independent authors or for poeple who are not comfortable or familiar with HTML but the learning curve may still be too steep for most users.

Example HTMLbook document

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XML / XSLT

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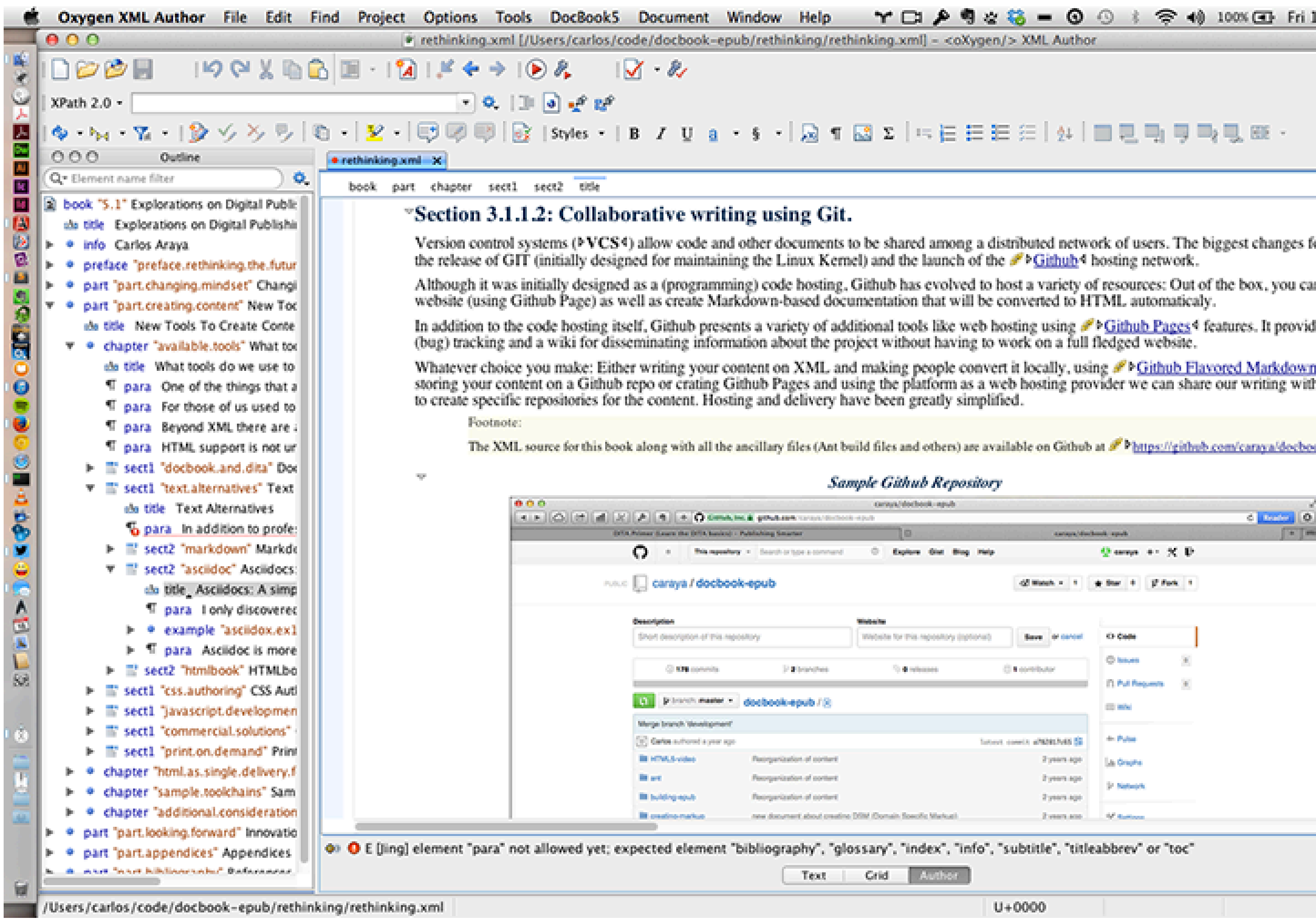
Furthermore, tools like OxygenXML Author (and I would assume other tools in the same category have a visual mode that allow users to write XML content, validated against a schema in a way that is more familiar to people not used to creating content with raw XML tools.

The issues with xml are similar to those involved in creating HTML. The markup vocabulary requires brackets, attributes have to be enclosed in quotation marks and generall the syntax is as complicated as you make it. However, tools like Oxygen and smilar help alleviate this problem but don't resolve it completely.

The screenshot below shows OxygenXML Author working in a Docbook 5 document using visual mode.


Oxygen XML Author File Edit Find Project Options Tools DocBook5 Document Window Help
rethinking.xml [/Users/carlos/code/docbook-epub/rethinking/rethinking.xml] - <oXygen/> XML Author
XPath 2.0
Styles
Outline
Element name filter
rethinking.xml
book part chapter sect1 sect2 title
Text Grid Author
U+0000

book "5.1" Explorations on Digital Publi
title Explorations on Digital Publishi
info Carlos Araya
preface "preface.rethinking.the.futur
part "part.changing.mindset" Changi
part "part.creating.content" New Too
title New Tools To Create Conte
chapter "available.tools" What too
title What tools do we use to
para One of the things that a
para For those of us used to
para Beyond XML there are
para HTML support is not ur
sect1 "docbook.and.dita" Doc
sect1 "text.alternatives" Text
title Text Alternatives
para In addition to profe
sect2 "markdown" Markd
sect2 "asciidoc" Asciidocs
title Asciidocs: A simp
para I only discovered
example "ascidox.ex1
para Ascidoc is more
sect2 "htmlbook" HTMLbo
sect1 "css.authoring" CSS Aut
sect1 "javascript.developmen
sect1 "commercial.solutions"
sect1 "print.on.demand" Prin
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Whatever choice you make: Either writing your content on XML and making people convert it locally, using Github Flavored Markdown storing your content on a Github repo or crating Github Pages and using the platform as a web hosting provider we can share our writing wit to create specific repositories for the content. Hosting and delivery have been greatly simplified.

Footnote:

The XML source for this book along with all the ancillary files (Ant build files and others) are available on Github at https://github.com/caraya/docbo

Sample Github Repository

E [Jing] element "para" not allowed yet; expected element "bibliography", "glossary", "index", "info", "subtitle", "titleabbrev" or "toc"

/Users/carlos/code/docbook-epub/rethinking/rethinking.xml

Figure 1: OxygenXML Visual Editor for XML

The positive side is that using XSLT there is no limit to what we can do with our XML content.

XML examples

- Sample Chapter marked as Docbook
- Tales by Edgar Allan Poe, marked as TEI
- Chapter from 20000 Leagues Under the Sea, marked as DITA

Conclusion

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The answer is *it depends*.

The best way to see how can these text-based tools can be incorporated is to ask yourself how much work you want to do in the backend versus how much work do you want you authors to do when creating the content. This is where the value of specialists in digital formats and publishing becomes essential, we can work with clients in providing the best solution to meet their needs.

Keep in mind who your audience and what the target vocabulary you're working towards, it will dictate what your best strategy is. Are these all the solutions; definitely not. Other solutions may appear that fit your needs better than those presented here; I would love to hear if that is the case.

Striking the balance between author and publisher is a delicate one. I tend to fall on the side of making things easier for authors... The tools can be made to translate basic markup into the desired result with minimal requirements for authors to mark up the content; the same can't necessarily be said about the publisher-first strategy

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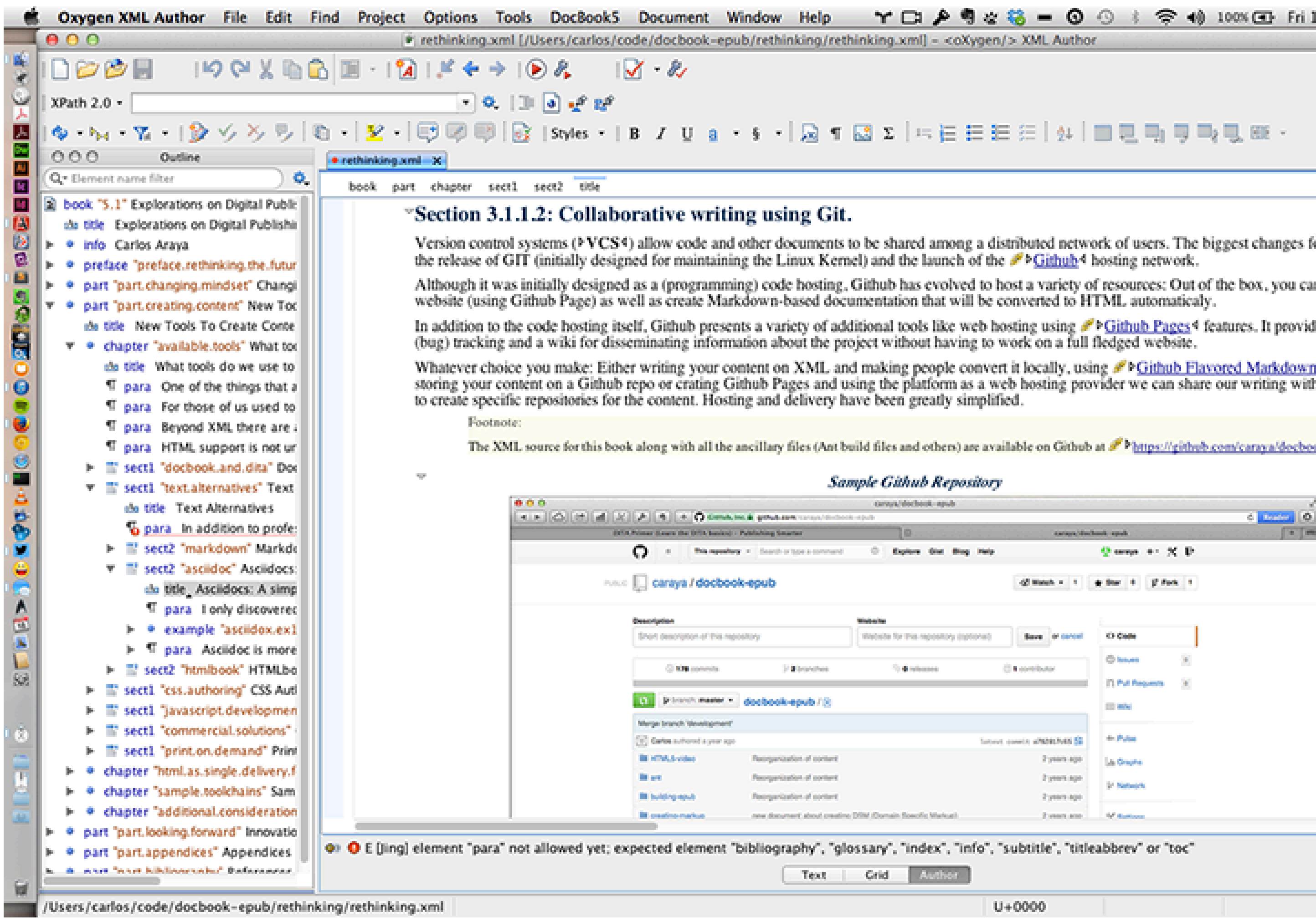
Oxygen XML Author File Edit Find Project Options Tools DocBook5 Document Window Help
rethinking.xml [/Users/carlos/code/docbook-epub/rethinking/rethinking.xml] - <oXygen/> XML Author
XPath 2.0
Styles
Outline
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book "5.1" Explorations on Digital Publi
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  info Carlos Araya
  preface "preface.rethinking.the.futur
  part "part.changing.mindset" Changi
  part "part.creating.content" New Too
    title New Tools To Create Conte
    chapter "available.tools" What too
      title What tools do we use to
      para One of the things that a
      para For those of us used to
      para Beyond XML there are
      para HTML support is not ur
      sect1 "docbook.and.dita" Doc
      sect1 "text.alternatives" Text
        title Text Alternatives
        para In addition to profe
        sect2 "markdown" Markdo
        sect2 "asciidoc" Asciidocs:
          title Asciidocs: A simp
          para I only discovered
          example "asciidox.ex1
          para Asciidoc is more
        sect2 "htmlbook" HTMLbo
      sect1 "css.authoring" CSS Autl
      sect1 "javascript.developmen
      sect1 "commercial.solutions"
      sect1 "print.on.demand" Print
    chapter "html.as.single.delivery.f
    chapter "sample.toolchains" Sam
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Introduction

One of the biggest limitations of markup languages, in my opinion, is how confining they are. Even large vocabularies like Docbook are limited in what they can do out of the box. HTML4 is non-extensible and HTML5 is limited in how you can extend it (web components are the only way to extend HTML5 I'm aware of that doesn't require an update to the HTML specification.)

By creating our own markup vocabulary we can be as expressive as we need to be without adding additional complexity for writers and users and without adding unecessary complexity for the developers building the tools to interact with the markup.

Why create our own markup

I have a few answers to that question:

In creating your own xml-based markup you enforce separation of content and style. The XML document provides the basic content of the document and the hints to use elsewhere. XSLT stylesheets allow you to structure the base document and associated hints into any number of formats (for the purposes of this document we'll concentrate on XHTML, PDF created through Paged Media CSS and ePub)

Creating a domain specific markup vocabulary allows you think about structure and complexity for yourself as the editor/typesetter and for your authors. It makes you think about elements and attributes and which one is better for the given experience you want and what, if any, restrictions you want to impose on your makeup.

By creating our own vocabulary we make it easier for authors to write clean and simple content. XML provides a host of validation tools to enforce the structure and format of the XML document.

Options for defining the markup

For the purpose of this project we'll define a set of resources that work with a book structure like the one below:

```
<book>
<metadata>
<title>The adventures of SHerlock Holmes</title>

<author>
<first-name>Arthur</first-name>
<surname>Connan Doyle</surname>
</author>
</metadata>

<section type="chapter">
<para>Lorem Ipsum</para>
<para>Lorem Ipsum</para>
</section>
</book>
```

It is not a complete structure. We will continue adding elements afte we reach the MVP (Minimum Viable Product) stage. As usual, feedback is always appreciated.