

# Building a Baseline EPUB 3 Production Template

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# A little history

- Wiley publishes professional, STM, and higher ed content in a variety of subject areas including finance, technology, medicine, advanced math, and For Dummies
- Wiley has been distributing 1 EPUB to most ebook retailers since 2008 for most titles. One EPUB for all, no customizing for individual devices

**WILEY Blackwell**

 **wrox**  
A Wiley Brand



**Bloomberg**  
PRESS



FISHER  
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# Wiley explores EPUB 3

- In September 2012, we developed a draft EPUB 3 template and sample EPUB 3 files
- Sent sample EPUB 3 files to ALL retail partners
  - Mixed results: the market was not ready for complex content in EPUB 3
- But, we gained a lot:
  - Temporary template to experiment with one-off EPUB 3 files
  - A thorough knowledge of EPUB 3 specs
  - Springboard for a major template overhaul



# Over the next several months...

- Worked with developer teams from key retailers to understand and resolve issues preventing them from accepting EPUB 3
- More retailers shifted to support more of EPUB 3 or at least the HTML upon which EPUB 3 is built
- Some peers began publishing EPUB 3

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- More retailers shifted to support more of EPUB 3 or at least the HTML upon which EPUB 3 is built
- Some peers began publishing EPUB 3
- Time for an EPUB 3 Project Plan

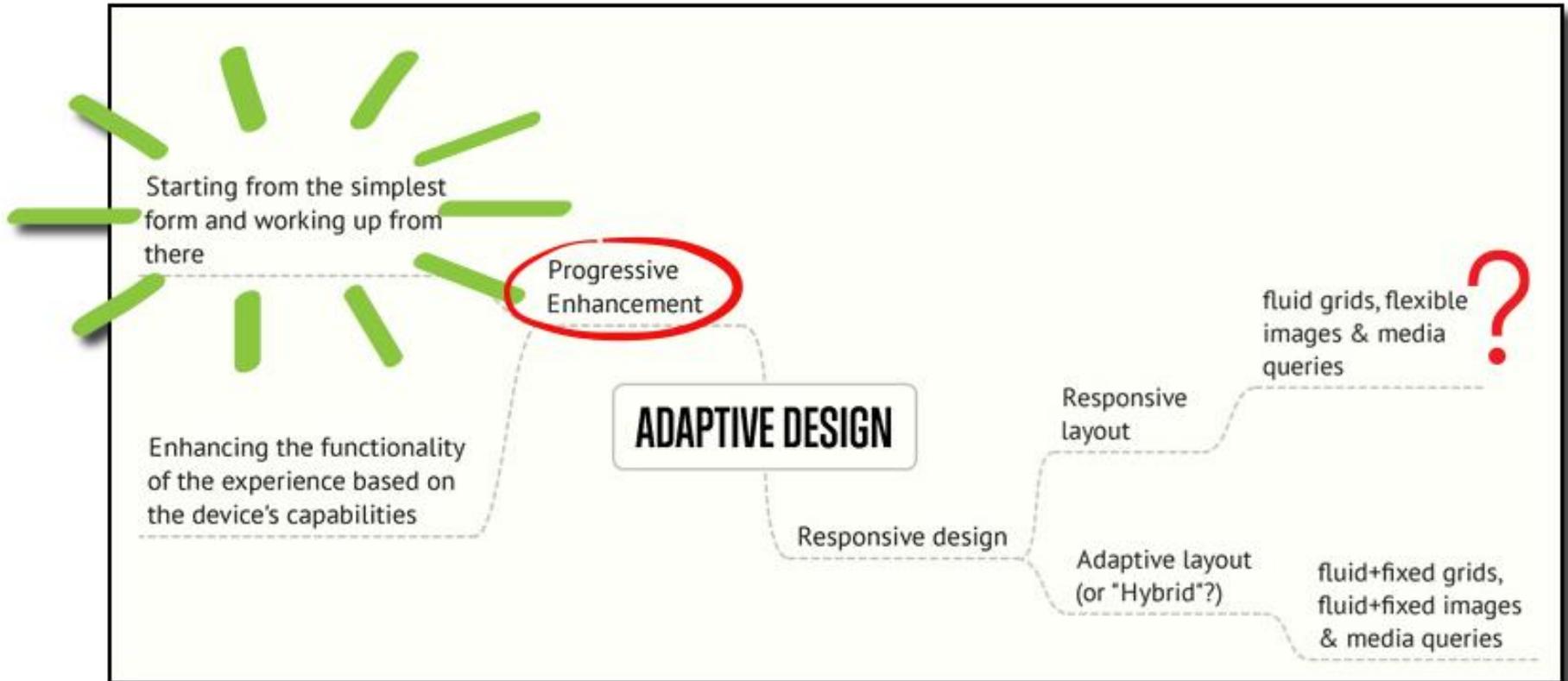
# Goals of the project

- Develop EPUB 3 template that:
  - Supports ALL Wiley book products
  - Can be distributed to ALL Wiley EPUB retailers, including those that use EPUB 3 reading systems, EPUB 2 reading systems, and Kindle
  - Improves accessibility

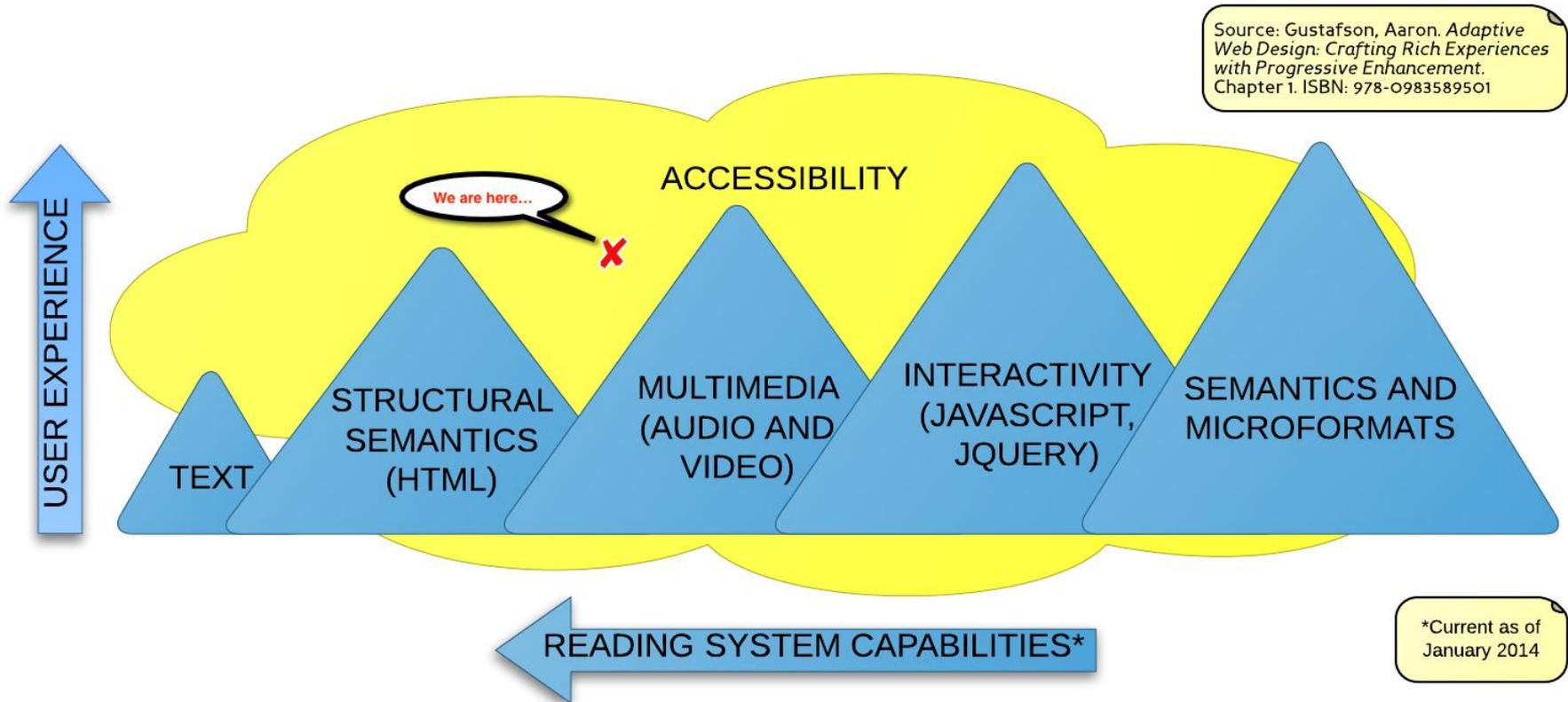
*Seems pretty simple, right?*

# Basic Requirements / Basic Functionality

- Overhaul document structure
  - HTML 5 structure
  - Built-in accessibility
  - Easy to adjust and adapt
- Maintain backward compatibility with specified EPUB 2 devices
  - Fallbacks built into EPUB 3 spec
  - Carefully structured HTML and CSS
- EPUB 3 inflection
  - Use the EPUB 3 structural semantic vocabulary to add precise definition to HTML
  - This allows for page mapping and further accessibility in some devices
- EPUB 3 metadata
  - Already done in the temporary template



# Progressive Enhancement Maturity Model



- A. Plan content structural semantics (HTML5)
  - HTML5 provides built-in accessibility.
  - HTML5 easily adjusts and adapts as the basis of most ebook file formats
  
- B. List all target devices and reading system apps
  - Collect vendor specifications, guidelines, and examples
  - Lay hands on each device required. Emulators aren't good enough
  
- C. Plan CSS Approach
  - Follow CSS best practices wherever possible
  - Consider using a preprocessor (e.g., Sass - <http://sass-lang.com/>)

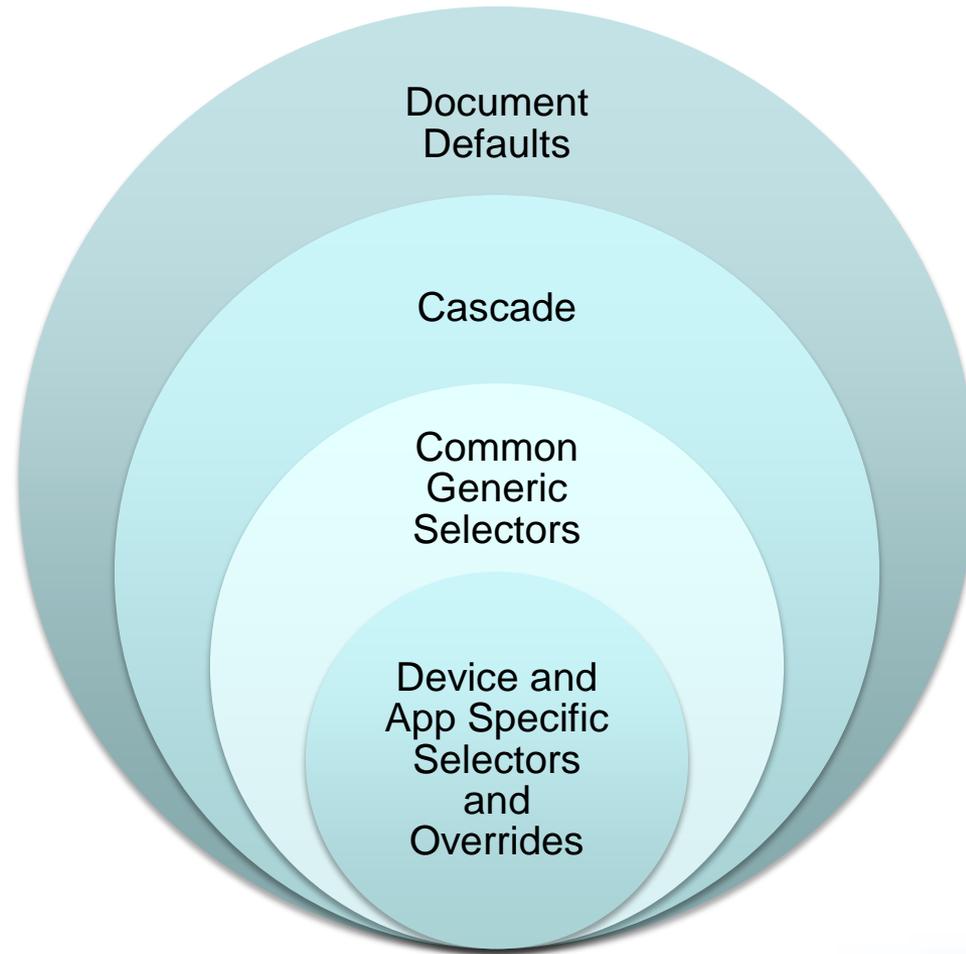
## D. Build EPUB files

- Remember to use EPUB metadata wherever possible
- Apply semantic inflection through the EPUB Structural Semantics **epub:type** values

## E. Test, adjust, test again, wash rinse repeat

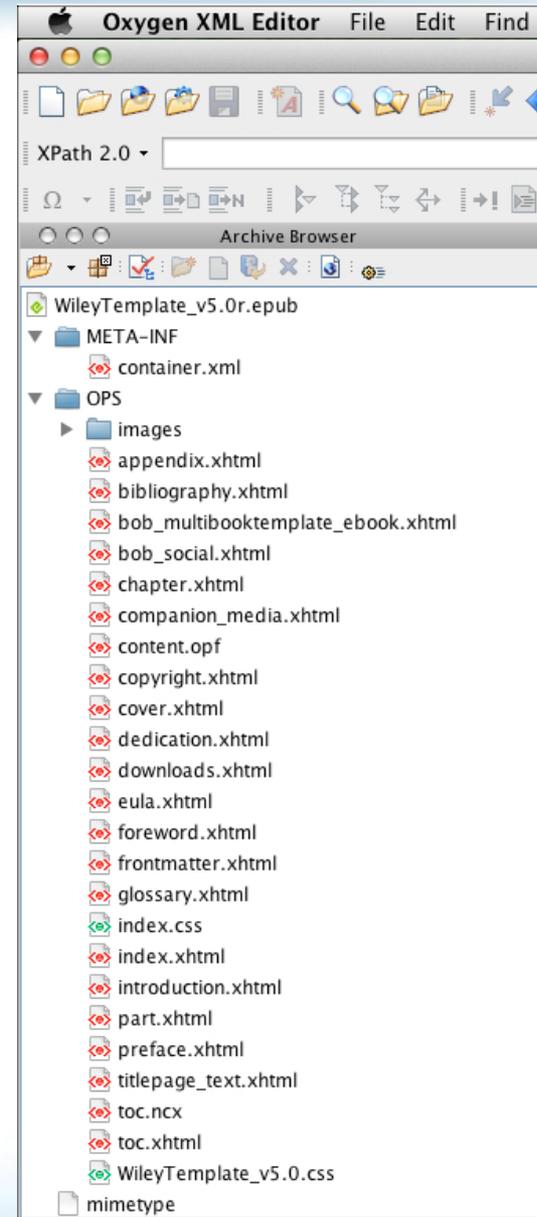
- Content Architecture
  - What are the content components?
  - How will you map and convert existing content to your new HTML5 architecture?
- Title Page
- Part Titles
- Chapter Titles
- Sections
- Headings
- Tables
- Figures
- Features
- Lists
- Math
- Programming Code

- Adobe Digital Editions - Desktop
- Apple iBooks (iPhone, iPod, iPad, OS X Mavericks)
- Google Play Books – Android and iOS tablets and browsers, Desktop Browsers
- Kindle – eInk (Paperwhite), Tablets (HD, HDX models), Android and iOS Tablets and Phones
- Kobo – eInk, Android and iOS tablets and phones
- Nook Media – eInk, Android and iOS tablets and phones, Windows 8.1
- Radium – Chrome Browser
- Vital Source Bookshelf Desktop, Browsers, and iOS



## Ingredients:

- HTML5 markup patterns
- EPUB Structural Semantics Vocabulary
- Packaging metadata
- CSS (season to taste...)



- Document Partitions and Divisions
- Document Sections and Components
- Document Reference Sections (Glossaries and Bibliographies)
- Preliminary sections and components
- Complementary content
- Titles and headings
- Educational content
- Notes and annotations
- References
- Document text
- Pagination
- Tables, Lists, and Figures

- Load file
- Review file
- Screenshots
- Compare
- Adjust

× 22

`<aside epub:type="footnote">Screen captures available on request  
</aside>`

# Decisions: The Outline Algorithm

- Decision about headers was not easy. Should every `<section>` contain a `<header>` and `<h1>` or `<h1>` – `<h6>`?

- Conclusion:

```

<body epub:type="bodymatter chapter">
  <section>
    <header>
      <h1>Chapter X</h1>
      <section>
        <h2><b><a id="OneHead"/>Level One Head</b></h2>
        <p>This is where the content goes.</p>
      </section>
    </section>
  </body>

```

- Why? Current reading systems support this with little CSS, easier transforms from WileyML
- See <http://www.w3.org/TR/WCAG20-GENERAL/H42.html> vs. <http://blog.paciellogroup.com/2013/10/html5-document-outline/>

# Decisions: Lists and Tables

- All lists are tagged as **<ol>**, **<ul>**, and **<li>** with CSS attributes applied (thanks for picking up CSS 2, reading systems!)
- All tables are HTML: tables can be hard to read as images and hard to read as HTML. We opted to make them accessible
- Tables with captions are nested within **<figure>** tag, per accessibility guidelines

## Decisions: Notes and Device Interoperability

- A lot of hype about pop-up notes on some platforms using **epub:type="noteref"** and **epub:type="footnote"**
- Q: What happens when you try this on those other devices?  
A: CRASH
- Our notes are technically endnotes; for academic references, we need notes to be displayed as a body of content
- Notes are tagged as **epub:type="rearnote"**

# Decisions: MathML

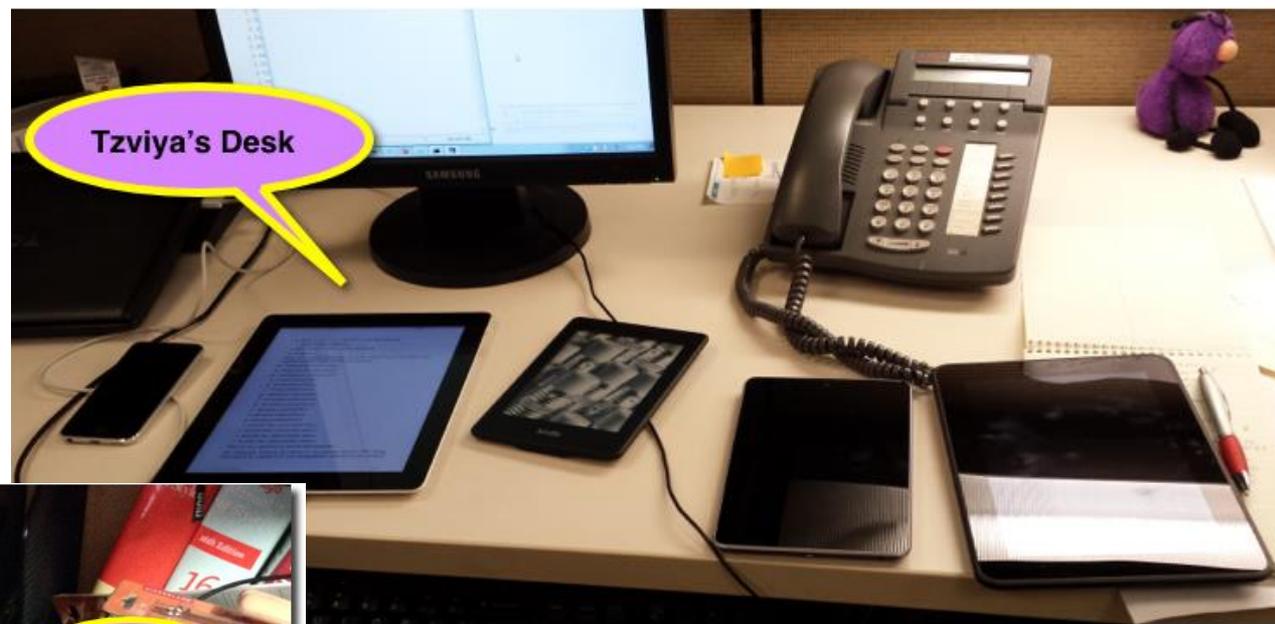
- MathML is the best way to display math in an accessible and reflowable manner
- Many current reading systems do not support MathML. Even more reading systems do not support EPUB 3 fallback epub:switch
- Tough decision to include math as images and embed commented out MathML
- Working with partners to “turn on” the MathML in distribution

# Takeaways

- One reflowable EPUB for all vendors is possible, but be aware of the need for compromises
- Design for the least common denominator first (smallest device screen AND least amount of functionality)
- It is always easier to add than to take away
- Approaching ebook production with a mind toward Progressive Enhancement is possible – but your mileage will vary
- Be patient with the reading system developers and vendors. Improvements happen all the time

# Takeaways, continued

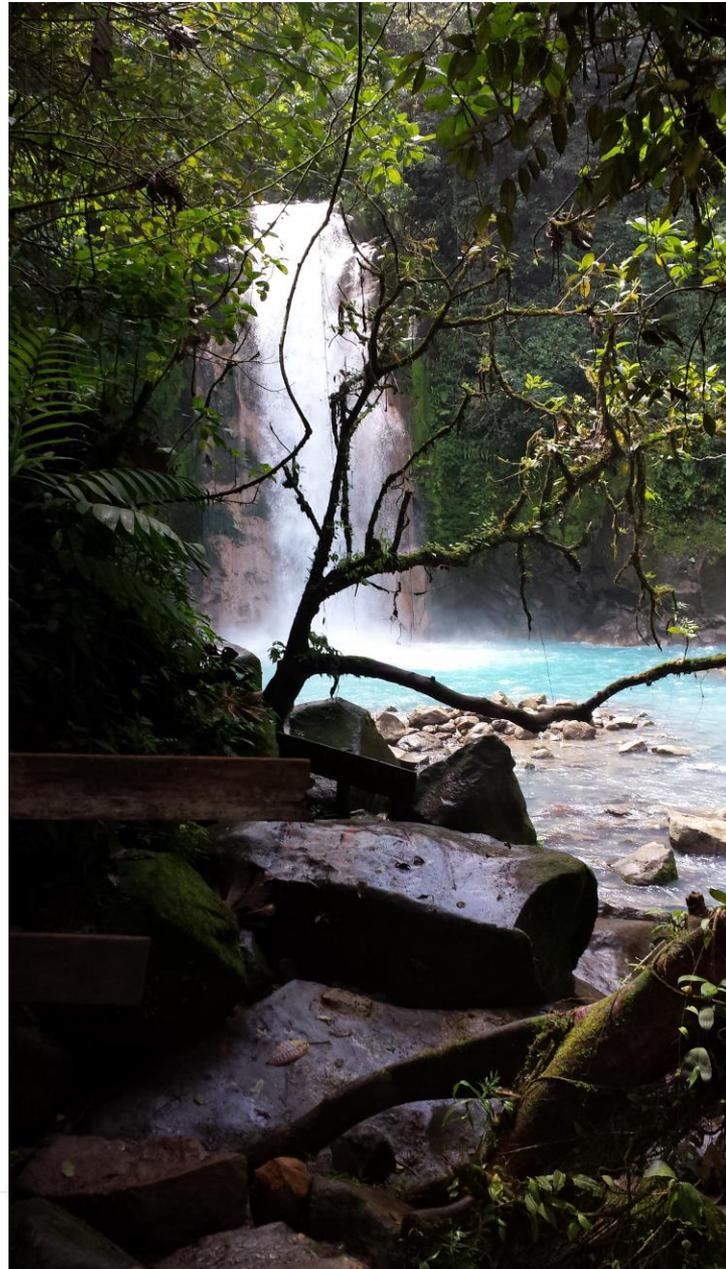
- **Get your hands on the target devices.** Emulators are not as reliable as the devices themselves
- There are very good reasons to use the new semantic markup in HTML5
- The Open Web Platform enables the ebook Progressive Enhancement Maturity Model
- Good things come to those who PLAN



# Take a vacation!

## Rio Celeste, Costa Rica

- Photo by Tzviya



# Thank you

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