JENS OLIVER **MEIERT**
FRONTEND DOGMA

UPGRADE YOUR

HTML
HTML
HTML
HTML

FOREWORD BY
STEPHANIE **ECKLES**

V

Upgrade Your HTML V

New Examples to Optimize Your Markup

Jens Oliver Meiert

This book is available at http://leanpub.com/upgrade-your-html-5

This version was published on 2024-11-01

Contents

Foreword

"Semantics!" should be the rallying cry across the nation of web development. Those in the know (like Jens Oliver Meiert—and soon you) use HTML semantics to build an unshakable foundation for their projects.

Practicing the craft of HTML will be your best weapon in combating the delusions of AI, sloppy markup, and output by JavaScript frameworks. There are real people your choices affect, since proper use of HTML semantics and the related system of ARIA can make or break an accessible experience. Avoid "divitis" and learn to choose the right element for the job—or at least the element that balances your application's concerns with your users' needs and expectations.

It's considered "easy" to grasp that ‹p› wraps paragraph content. But you'll prove yourself an invaluable asset to your team by understanding what things like landmark elements mean and how to manage heading hierarchy. Challenge yourself to learn default element behavior and when and why you need to modify attributes. Push yourself to use minimal HTML and hand over layout responsibility to CSS, the language more appropriate for that job.

There are ways to improve performance by showing extra care about what you add to your HTML document, and anticipating the content. Going beyond the basics and into the nuances of HTML syntax and semantics is the value you'll find in these pages, knowledge shared with you by Jens.

Congrats on taking the first step toward caring about making a difference on the Web—by upgrading your HTML!

—Stephanie Eckles

Intro

Hi, welcome to the fifth edition of *Upgrade Your HTML*!

You're probably here because you work with HTML, and it's either you like HTML so much, or care about HTML quality enough, to pick up more niche books about the topic. (If you don't particularly like HTML or don't feel strongly about HTML output, keep reading, although the book may be less exciting to you.)

Now, I can relate to liking and caring about HTML. There's much to like—the simple syntax, the broad use cases, the details and intricacies. There's also a lot to HTML quality—using HTML for the right purpose (semantics), the right way (conformance), with as little code as possible (performance, minimalism, efficiency—however you like to call it).

HTML is also challenging. It comes with a huge specification (today's PDF print version speaks of 1,463 pages), which a professional working group and a passionate community actively maintain.

If you're already familiar with this book series, I suggest you move ahead and continue with the first chapter.

If you're new to the series, let me give you a quick overview of what you can expect. *Upgrade Your HTML* focuses on minimal, quality HTML. It's not about learning HTML from scratch, and it's not about the latest changes or additions to HTML, either. It's about understanding HTML better and learning how to write better HTML, by taking, discussing, and optimizing real-world examples.

Yet, you've probably read this in the book description—and like HTML so much, or care about HTML quality enough, to give this book a try.

Welcome again—let's upgrade some HTML.

—Jens Oliver Meiert

> Who is this Jens person here? There's a section at the end of this book for that (*About the Author*). Jens has spent much of his life working with HTML and CSS, including developing HTML/CSS frameworks, defining HTML and CSS coding guidelines, and maxing out HTML and CSS optimization options. He loves HTML, and knows a thing or two about the language.

Acknowledgments

I thank the following people for their help producing and publishing this book:

Stephanie Eckles, for writing the foreword for this book and for being so kind to also review the manuscript. I'm still stoked to finally work together—thank you!

Simon Pieters, for reviewing the manuscript and providing clarifications. I cannot think of a better sparring partner when it comes to getting the maximum out of HTML, and I'm extremely grateful for that. Thank you!

Martha Martins, for proofreading and editing. I've enjoyed and learned from all the thorough feedback, and hope to work on more projects together. Thank you!

Beatriz González Martín, for allowing and supporting me to nibble at our days and nights, writing and updating this very book, like others before it, and again others after it. I love you.

1. Use Tables (for Tabular Data)

It's 2024, but let's go back to the year 2007.

A different time in web development—more developers built their own websites, expressed support for conformance with web standards, and separated concerns. (They also embraced slow-moving browsers, poor interoperability, and limited tooling.)

But I don't want to focus on that time; I just want to pick something from there. In 2007, I ran a now-dead series on my website, "Code I Saw Today." In one of its early editions, it covered a website that featured the following table:

Zahlen und Statistiken
Einwohnerzahl   650
Fläche   456 ha
Steuerfuss   2,03 (Gesamtsteueranlage Kanton/Gemeinde 5,09)
Liegenschaftssteuer   1,0 o/oo
Budget ca.   Fr.   2'500'000.--

"Zahlen und Statistiken," a table.

That table, however, had been implemented as follows:

```
1   <STRONG>Zahlen und Statistiken<BR></STRONG>
2   Einwohnerzahl           &nbsp\
3   ; 
4   650<BR>
5   Fläche             \
6             
7   456 ha<BR>
8   Steuerfuss            &n\
9   bsp;     
10  2,03 (Gesamtsteueranlage Kanton/Gemeinde 5,09)<BR>
11  Liegenschaftssteuer      
12  1,0 o/oo<BR>
13  Budget ca.           &n\
14  bsp;    
15  Fr.    2'500'000.--
```

There's a lot to unpack, which makes this case interesting and worth retrieving. In an order that allows us to look at the more interesting HTML questions last:

- The no-break spaces.
- The use of "o/oo" (for "‰").
- The capitalization of HTML elements.
- The use of the `strong` element.
- The use of `br` elements.
- The lack of a—table.

The no-break spaces represent a way of "layouting" that existed in the late 1990s and early 2000s. Using spaces wasn't all too common, but it did occur. As you already know, we rarely need no-break spaces, at least not in cases like this.

As for the permille hack, this may have been done in ignorance of using the actual symbol, "‰", but it may have also been solved like this due to interoperability problems. We weren't always in the comfortable position of so much widespread support for Unicode and its many glyphs.

The capitalization of HTML elements is a stylistic choice. I appreciate it, and although no one seems to write HTML like this anymore, I believe in the field, we could appreciate it, too. It reflects the original style of writing HTML, as we can tell from specification-like documents like HTML 1's *HTML Tags* or HTML 2's *Document Structure*. Although no one writes HTML like this today, nothing is speaking against it.

Let's review the HTML itself.

The `strong` element is being misused here. The content represents either a heading or a table caption, which we'll discuss in a moment.

The `br` elements are likewise being misused, to force table rows. (Line breaks are often an indicator for presentational thinking—though not always, as I explained in Chapter 3 of *Upgrade Your HTML III*.)

Finally, we're looking at tabular data, but there's no markup for a table—in a document from a time in which tables were used for everything.

So what could an optimized version of this look like?

```
1   <table>
2     <caption>Zahlen und Statistiken</caption>
3     <tr>
4       <th scope=row>Einwohnerzahl
5       <td>650
6     <tr>
7       <th scope=row>Fläche
8       <td>456 ha
9     <tr>
10      <th scope=row>Steuerfuss
11      <td>2,03 (Gesamtsteueranlage Kanton/Gemeinde 5,09)
12    <tr>
```

```
13      <th scope=row>Liegenschaftssteuer
14      <td>1,0‰
15    <tr>
16      <th scope=row>Budget ca.
17      <td>Fr. 2'000'000.--
18    </tr>
19  </table>
```

(What you won't see here are special, invisible characters like U+00A0 no-break spaces before "ha" and after "Fr." These are useful to keep value and unit together, and therefore to support understanding.)

I made two decisions that could also be made differently:

1. Using a caption instead of a heading: From the context we have, "Zahlen und Statistiken" ("numbers and stats") could be a page heading or a table caption. Context as well as intent usually provide us with an answer, but as we don't have that, I opted for a table caption. To me, it looks more appropriate.
2. Not using a tbody element: HTML has three extra elements to structure tables—tbody, thead, and tfoot. These aren't frequently used, either, something you can confirm in the HTTP Archive's data for the Web Almanac (e.g., for 2022). In this case, I chose *not* to use any of these elements explicitly—the table is simple, and with its horizontal flow with table heads on the side, it felt more functional as well as sufficient to work with th elements and the scope attribute. (Why do I say "explicitly"? Depending on the table structure, at least tbody is still present, because it's implied.)

From a purist perspective one could debate the scope attributes: The table is usable and accessible without them. Other than that, not much more can be omitted, and the resulting code is valid.

ℹ️ **On Captions**

In the HTTP Archive's 2022 data for the Web Almanac, the `caption` element is being used on 1.1% of all desktop pages and on 0.9% of sampled mobile pages. What is it for?

As usual, it's useful to turn to the source, that is, the respective definition in the HTML specification:

> The `caption` element represents the title of the `table` that is its parent, if it has a parent and that is a `table` element.
>
> The caption element takes part in the table model.
>
> When a `table` element is the only content in a `figure` element other than the `figcaption`, the `caption` element should be omitted in favor of the `figcaption`.
>
> A caption can introduce context for a table, making it significantly easier to understand.

That's the prose from the spec. While it seems to represent random factoids, it's accompanied by details of the element itself, as with content model, tag omission, and attributes—as well as examples. Having an eye on the spec is an important part of our work, which is why this is a little teaser—learn more about the `caption` element in what's currently § 4.9.2.

2. Know the `search` Element

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

3. Manage Your Classes

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

4. Keep Your Scripts in Order

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

5. Hide With `hidden`

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

6. Be Aware of Preload Requests

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

7. Pause

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

8. All Image Markup Roads Lead to Rome, but Make Sure to Wear a Seatbelt

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

9. Mark Up Keyboard Shortcuts

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

10. Remember Microdata

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

Outro

We're concluding another flight through HTML land. If you're new to the series, I hope you enjoyed it! Try the other books in the series for more optimization examples and discussions.

> 🔑 Leanpub offers bundles of this and other titles. Check out my author page to benefit from great discounts.

What have we covered? What have we learned?

Use tables, for tabular data. Using tables has never been a bad thing—it's the overuse and underuse of tables that must be questioned.

Know the `search` element! It's relatively new but was added for popular use cases.

Manage classes. Don't let them manage you.

Keep your scripts in order. The ordering principle cannot be to add them just as they appear in the mind.

Hide with `hidden`.

Be aware of preload requests. They're powerful tools to optimize the loading of your web pages.

Pause. Yes—everyone is pushing to add the next feature. But pushing is not reflecting, and that's what we need to do if we don't just want to build, but build well.

All image markup roads lead to Rome, but make sure to wear a seatbelt. Thank you for letting me use mouthfuls as headings.

Mark up keyboard shortcuts. At least know that you can.

Remember microdata. It may not be readily clear how useful they are, but they're fairly easy to handle.

<p style="text-align:center">*
**</p>

Remember what Stephanie said at the beginning of this book: "Practicing the craft of HTML will be your best weapon in combating the delusions of AI, sloppy markup, and output by JavaScript frameworks. There are real people your choices affect, since proper use of HTML semantics and the related system of ARIA can make or break an accessible experience."

Please practice the craft of HTML—please practice our craft.

Thank you for reading.

Feedback

This content is not available in the sample book. The book can be purchased on Leanpub at http://leanpub.com/upgrade-your-html-5.

About the Author

Jens Oliver Meiert is an engineering lead and author who has worked for companies like United Internet, Google, and Miro, and who's writing for O'Reilly and Frontend Dogma. He's an expert in web development, specializing in HTML and CSS minimization and optimization. Jens contributes to technical standards and regularly writes about the craft of web development on his website, meiert.com.

Other titles by Jens Oliver Meiert:

The Web Development Glossary 3K (2023)

What is a BHO? CQRS? An EMD? What is Goanna? Hooking? Sharding? How about dynamic color, the phoenix server pattern, or the rules of ARIA? Covering more than 3,000 terms and concepts, and including explanations from Wikipedia and MDN Web Docs, *The Web Development Glossary 3K* provides an overview of web development unlike any other book or site.

Available at Apple Books, Kobo, Google Play Books, and Leanpub. (Try the glossary online at WebGlossary.info.)

The Little Book of Little Books (2021)

The Little Book of Little Books consists of lovingly polished editions of *The Little Book of HTML/CSS Frameworks* (originally published in 2015), *The Little Book of HTML/CSS Coding Guidelines* (2015), and *The Little Book of Website Quality Control* (2016).

Available at Amazon, Apple Books, Kobo, Google Play Books, and Leanpub.

CSS Optimization Basics (2018)

Are you unsure about your style sheets' quality, or whether you've maxed out your options? *CSS Optimization Basics* covers the necessary mindsets, discusses the main optimization methods, and presents useful resources to write higher-quality CSS.

Available at Amazon, Apple Books, Kobo, Google Play Books, and Leanpub.

On Web Development **(2015)**

On Web Development bundles 134 articles and the last 11 years of technical writings by Jens Oliver Meiert (meiert.com). Freshly reordered and commented, the articles cover processes and maintenance, HTML and CSS, standards, as well as development and design in general; they include coding basics and principles, carefully scathing criticism, and tips and tricks and trivia.

Available at Amazon.

The Little Book of HTML/CSS Frameworks **(2015)**

With the speed of web development today, it's little wonder that so many frameworks are available, since they come with a promise of saving development and design time. But using the wrong framework, or wrongly using the right framework, can be costly. This concise book shares higher-level ideas around web development frameworks that govern HTML and CSS code, whether you're looking at an external option or planning to build your own.

Available at O'Reilly.

About *Upgrade Your HTML V*

Written by Jens Oliver Meiert.

Published by Frontend Dogma, c/o Jens Oliver Meiert, Apartado de correos 3, 36070 Pontevedra, Spain.

Editor: Martha Martins
Reviewers: Stephanie Eckles, Simon Pieters

While this book has been produced with great care, the author, publisher, and contributors assume no liability for the up-to-dateness, correctness, and completeness of the information provided. Liability claims based on the use or non-use of this information are excluded, unless author, publisher, or contributors can be proven to have acted with intent or gross negligence. Use of the information in this book is on your own responsibility. When using code or content subject to open-source licenses or the rights of others, it is on you to ensure compliance with the respective licenses and rights.

Contact +34-610859489 or info@frontenddogma.com for questions and more information.

Follow Frontend Dogma on Mastodon (and other networks).

[1.1.1]