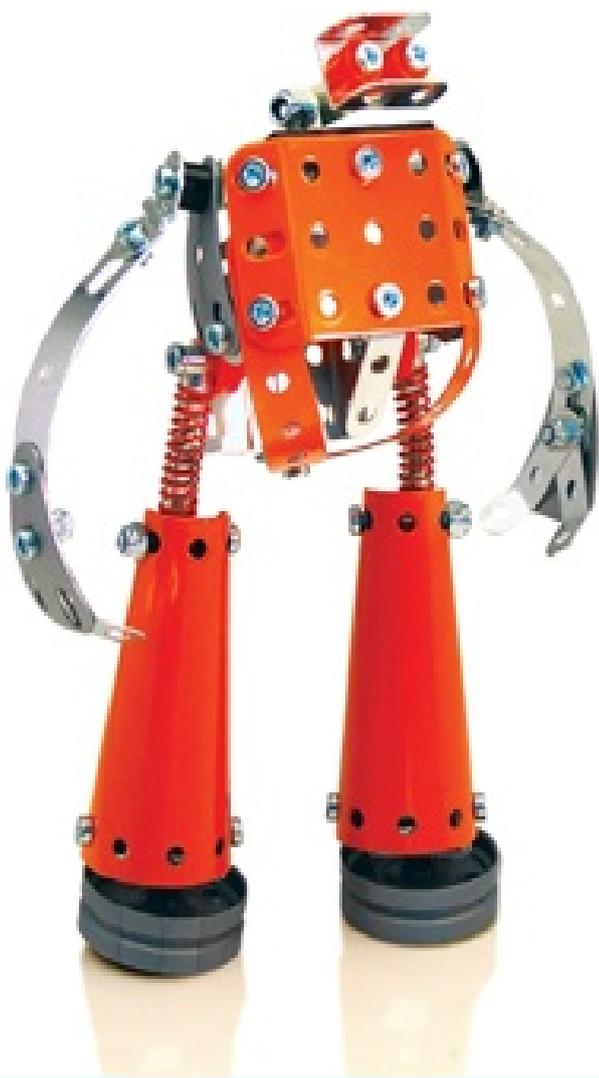


HTML5 & CSS3 FOR THE REAL WORLD

BY ALEXIS GOLDSTEIN
LOUIS LAZARIS
ESTELLE WEYL



POWERFUL HTML5 AND CSS3 TECHNIQUES YOU CAN USE TODAY!

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Program Director: Lisa Lang
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Editor: Kelly Steele
Cover Design: Alex Walker

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48 Cambridge Street, Collingwood
VIC 3066 Australia

Web: www.sitepoint.com
Email: business@sitepoint.com

About Alexis Goldstein

Alexis Goldstein first taught herself HTML while a high school student in the mid-1990s, and went on to get her degree in Computer Science from Columbia University. She runs her own software development and training company, *aut faciam* LLC. Before striking out on her own, Alexis spent seven years in technology on Wall Street, where she worked in both the cash equity and equity derivative spaces at three major firms, and learned to love daily code reviews. She is a teacher and co-organizer of Girl Develop It, a group that conducts low-cost programming classes for women, and a very proud member of the NYC Resistor hackerspace in Brooklyn, NY. You can find Alexis at her website, <http://alexisgo.com/>.

About Louis Lazaris

Louis Lazaris is a freelance web designer and front-end developer based in Toronto, Canada who has been involved in the web design industry since 2000. Louis has been

working on websites ever since the days when table layouts and one-pixel GIFs dominated the industry. Over the past five years he has transitioned to embrace web standards while endeavoring to promote best practices that help both developers and their clients reach practical goals for their projects. Louis writes regularly for a number of top web design blogs including his own site, Impressive Webs (<http://www.impressivewebs.com/>).

About Estelle Weyl

Estelle Weyl is a front-end engineer from San Francisco who has been developing standards-based accessible websites since 1999. Estelle began playing with CSS3 when the iPhone was released in 2007, and after four years of web application development for mobile WebKit, she knows (almost) every CSS3 quirk on WebKit, and has vast experience implementing components of HTML5. She writes two popular technical blogs with tutorials and detailed grids of CSS3 and HTML5 browser support (<http://www.standardista.com/>). Estelle's passion is teaching web development, where you'll find her speaking on CSS3, HTML5, JavaScript, and mobile web development at conferences around the USA (and, she hopes, the world).

About the Expert Reviewer

Russ Weakley has worked in the design field for over 18 years, primarily in web design and development, and web training. Russ co-chairs the Web Standards Group and is a founding committee member of the Web Industry Professionals Association of Australia (WIPA). Russ has produced a series of widely acclaimed CSS tutorials, and is internationally recognized for his presentations and workshops. He manages Max Design (<http://maxdesign.com.au/>).

About SitePoint

SitePoint specializes in publishing fun, practical, and easy-to-understand content for web professionals. Visit <http://www.sitepoint.com/> to access our blogs, books, newsletters, articles, and community forums.

To my parents, who always encourage and
believe in me.

And to my talented, prolific, and loving
Grandma Joan. You always keep me
painting, no matter what else I may be
doing.

—Alexis

To Melanie, the best cook in the world.

And to my parents, for funding the original
course that got me into this unique
industry.

—Louis

To Amie, for putting up with me, and to
Spazzo and Poppers, for snuggling with me
as I worked away.

—Estelle

Foreword

Heard of Sjoerd Visscher? I'd venture to guess you haven't, but what he considered a minor discovery is at the foundation of our ability to use HTML5 today.

Back in 2002, in The Hague, Netherlands, Mr. Visscher was attempting to improve the performance of his XSL output. He switched from `createElement` calls to setting the `innerHTML` property, and then realized that all the unknown, non-HTML elements were no longer able to be styled by CSS.

Fast forward to 2008, and HTML5 is gaining momentum. New elements have been specified, but in practice Internet Explorer versions 6-8 pose a problem, as they fail to recognize unknown elements; the new elements are unable to hold children and CSS has no effect on them. This depressing fact was posing quite a hindrance to HTML5 adoption.

Now, half a decade after his discovery, Sjoerd innocently mentions this trick in a comment on the blog of the W3C HTML Working Group co-chair, Sam Ruby: "BTW, if you want CSS rules to apply to unknown elements in IE, you just have to do `document.createElement(elementName)`. This somehow lets the CSS engine know that elements with that name exist."

Ian Hickson, lead editor of the HTML5 spec, was as surprised as the rest of the Web. Having never heard of this trick before, he was happy to report: "This piece of information makes building an HTML5 compatibility shim for IE7 far easier than had previously been assumed."

A day later, John Resig wrote the post that coined the term "HTML5 shiv." Here's a quick timeline of what followed:

- January 2009: Remy Sharp creates the first distributable script for enabling HTML5 element use in IE.
- June 2009: Faruk Ateş includes the HTML5 shiv in Modernizr's initial release.
- February 2010: A ragtag team of superstar JavaScript developers including Remy, Kangax, John-David Dalton, and PorneL collaborate and drop the file size of the script.
- March 2010: Mathias Bynens and others notice that the shiv doesn't affect pages printed from IE. It was a sad day. I issue an informal challenge to developers to find a solution.
- April 2010: Jonathan Neal answers that challenge with the IE Print Protector (IEPP), which captured the scope of the HTML5 shiv but added in support for

printing the elements as well.

- April 2010: Remy replaces the legacy HTML5 shiv solution with the new IEPP.
- February 2011: Alexander Farkas carries the torch, moving the IEPP project to GitHub, adding a test suite, fixing bugs, and improving performance.
- April 2011: IEPP v2 comes out. Modernizr and the HTML5 shiv inherit the latest code while developers everywhere continue to use HTML5 elements in a cross-browser fashion without worry.

The tale of the HTML5 shiv is just one example of community contribution that helps to progress the open web movement. It's not just the W3C or the browsers who directly affect how we work on the Web, but people like you and me. I hope this book encourages you to contribute in a similar manner; the best way to further your craft is to actively share what you learn.

Adopting HTML5 and CSS3 today is easier than ever, and seriously fun. This book presents a wealth of practical information that gives you what you need to know to take advantage of HTML5 now. The authors—Alexis, Louis, and Estelle—are well-respected web developers who present a realistic learning curve for you to absorb the best practices of HTML5 development easily.

I trust this book is able to serve you well, and that you'll be as excited about the next generation of the Web as I am.

—

Paul Irish
jQuery Dev Relations,
Lead Developer of Modernizr and HTML5 Boilerplate
April 2011

Preface

Welcome to *HTML5 & CSS3 for the Real World*. We're glad you've decided to join us on this journey of discovering some of the latest and the greatest in front-end website building technology.

If you've picked up a copy of this book, it's likely that you've dabbled to some degree in HTML and CSS. You might even be a bit of a seasoned pro in certain areas of markup, styling, or scripting, and now want to extend those skills further by dipping into the new features and technologies associated with HTML5 and CSS3.

Learning a new task can be difficult. You may have limited time to invest in poring over the official documentation and specifications for these web-based languages. You also might be turned off by some of the overly technical books that work well as references but provide little in the way of real-world, practical examples.

To that end, our goal with this book is to help you learn through hands-on, practical instruction that will assist you to tackle the real-world problems you face in building websites today—with a specific focus on HTML5 and CSS3.

But this is more than just a step-by-step tutorial. Along the way, we'll provide plenty of theory and technical information to help fill in any gaps in your understanding—the whys and hows of these new technologies—while doing our best not to overwhelm you with the sheer volume of cool new stuff. So let's get started!

Who Should Read This Book

This book is aimed at web designers and front-end developers who want to learn about the latest generation of browser-based technologies. You should already have at least intermediate knowledge of HTML and CSS, as we won't be spending any time covering the basics of markup and styles. Instead, we'll focus on teaching you what new powers are available to you in the form of HTML5 and CSS3.

The final two chapters of this book cover some of the new JavaScript APIs that have come to be associated with HTML5. These chapters, of course, require some basic familiarity with JavaScript—but they're not critical to the rest of the book. If you're unfamiliar with JavaScript, there's no harm in skipping over them for now, returning later when you're better acquainted with it.

What's in This Book

This book comprises eleven chapters and three appendices. Most chapters follow on from each other, so you'll probably get the most benefit reading them in sequence, but