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HTML5 and CSS3
Develop with Tomorrow's Standards Today

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Preface

Three months on the Web is like a year in real time.

Web developers pretty much think this way, since we're always hearing about something new. A year ago HTML5 and CSS3 seemed so far off in the distance, but already companies are using these technologies in their work today, because browsers like Google Chrome, Safari, Firefox, and Opera are starting to implement pieces of the specification.

HTML5 and CSS3 help lay the groundwork for the next generation of web applications. They let us build sites that are simpler to develop, easier to maintain, and more user-friendly. HTML5 has new elements for defining site structure and embedding content, which means we don't have to resort to extra markup or plug-ins. CSS3 provides advanced selectors, graphical enhancements, and better font support that makes our sites more visually appealing without using font image replacement techniques, complex JavaScript, or graphics tools. Improved accessibility support will improve Ajax applications for people with disabilities, and offline support lets us start building working applications that don't need an Internet connection.

In this book, you're going to find out about all of the ways you can use HTML5 and CSS3 right now, even if your users don't have browsers that can support all of these features yet. Before we get started, let's take a second and talk about HTML5 and buzzwords.

HTML5: The Platform vs. the Specification

HTML5 is a specification that describes some new tags and markup, as well as some wonderful JavaScript APIs, but it's getting caught up in a whirlwind of hype and promises. Unfortunately, HTML5 the standard has evolved into HTML5 the platform, creating an awful lot of confusion among developers, customers, and even authors. In some cases, pieces

from the CSS3 specification such as shadows, gradients, and transformations are being called "HTML." Browser makers are trying to one-up each other with how much "HTML5" they support. People are starting to make strange requests like "My site will be in HTML5, right?"

For the majority of the book, we'll focus on the HTML5 and CSS3 specifications themselves and how you can use the techniques they describe. In the last part of the book, we'll look into a suite of closely related specifications that were once part of HTML5 but are in use right now on multiple platforms. These include Web SQL Databases, Geolocation, and Web Sockets. Although these things aren't *technically* HTML5, they can help you build incredible things when combined with HTML5 and CSS3.

How This Works

Each chapter in this book focuses on a specific group of problems that we can solve with HTML5 and CSS3. Each chapter has an overview and a table summarizing the tags, features, or concepts covered in the chapter. The main content of each chapter is broken apart into "tips," which introduce you to a specific concept and walk you through building a simple example using the concept. The chapters in this book are grouped topically. Rather than group things into an HTML5 part and a CSS3 part, it made more sense to group them based on the problems they solve.

Each tip contains a section called "Falling Back," which shows you methods for addressing the users who use browsers that don't offer HTML5 and CSS3 support. We'll be using a variety of techniques to make these fallbacks work, from third-party libraries to our own jQuery plug-ins. These tips can be read in any order you like.

Finally, each chapter wraps up with a section called "The Future," where we discuss how the concept can be applied as it becomes more widely adopted.

This book focuses on what you can use today. There are more HTML5 and CSS3 features that aren't in widespread use yet. You'll learn more about them in the final chapter, Chapter 11, *Where to Go Next*, on page 220.

What's in This Book

We'll start off with a brief overview of HTML5 and CSS3 and take a look at some of the new structural tags you can use to describe your page content. Then we'll work with forms, and you'll get a chance to use some of the form fields and features such as autofocus and placeholders. From there, you'll get to play with CSS3's new selectors so you can learn how to apply styles to elements without adding extra markup to your content.

Then we'll explore HTML's audio and video support, and you'll learn how to use the canvas to draw shapes. You'll also get to see how to use CSS3's shadows, gradients, and transformations, as well as how to learn how to work with fonts.

In the last section, we'll use HTML5's client-side features such as Web Storage, Web SQL Databases, and offline support to build client-side applications. We'll use Web Sockets to talk to a simple chat service, and you'll see how HTML5 makes it possible to send messages and data across domains. You'll also get a chance to play with the Geolocation API and learn how to manipulate the browser's history. We'll then wrap up by taking a look at a few things that aren't immediately useful but will become important in the near future.

In Appendix A, on page 234, you'll find a listing of all the features covered in this book with a quick reference to those chapters that reference those features. We'll be using a lot of jQuery in this book, so Appendix B, on page 242, gives you a short primer. You'll also find a small appendix explaining how to encode audio and video files for use with HTML5.

Prerequisites

This book is aimed primarily at web developers who have a good understanding of HTML and CSS. If you're just starting out, you'll still find this book valuable, but I recommend you check out *Designing with Web Standards* [Zel09] and my book, *Web Design for Developers* [Hog09].

I also assume that you have a basic understanding of JavaScript and jQuery,[1] which we will be using to implement many of our fallback

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1. http://www.jquery.com

solutions. Appendix B, on page 242, is a brief introduction to jQuery that covers the basic methods we'll be using.

You'll need Firefox 3.6, Google Chrome 5, Opera 10.6, or Safari 5 to test the code in this book. You'll probably need all of these browsers to test everything we'll be building, since each browser does things a little differently.

You'll also need a way to test your sites with Internet Explorer so you can ensure that the fallback solutions we create actually work. If you need to be able to test your examples in multiple versions of Internet Explorer, you can download IETester for Windows, because it supports IE 6, 7, and 8 in a single application. If you're not running Windows, you should consider using a virtual machine like VirtualBox or VMware or using a service like CrossBrowserTesting[2] or MogoTest.[3]

Online Resources

The book's website[4] has links to an interactive discussion forum as well as errata for the book. You can also find the source code for all the examples in this book linked on that page. Additionally, readers of the eBook can click on the gray box above the code excerpts to download that snippet directly

If you find a mistake, please create an entry on the Errata page so we can get it addressed. If you have an electronic copy of this book, there are links in the footer of each page that you can use to easily submit errata.

Finally, be sure to visit this book's blog, Beyond HTML5 and CSS3.[5] I'll be posting related material, updates, and working examples from this book.

Ready to go? Great! Let's get started with HTML5 and CSS3.

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2. http://crossbrowsertesting.com/
3. http://www.mogotest.com/
4. http://www.pragprog.com/titles/bhh5/
5. http://www.beyondhtml5andcss3.com/

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