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# HTML5

# Quick Markup

# Reference

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Wallace Jackson

Apress®

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## **HTML5 Quick Markup Reference**

Wallace Jackson  
Lompoc, California, USA

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*This book is dedicated to affordable software developers and all the members of the open source software community who work so diligently to make professional application development software, as well as audio, 2D, video, and 3D content development tools, freely available to new media application developers, so that we can utilize these tools to achieve our creative dreams and our financial goals.*

*I also dedicate this book to my superstar father, Parker Jackson, my family, my life-long friends, my content production facility's neighbors, and my production team partners, for all their help, assistance, and those relaxing beautiful sunset BBQs underneath pink clouds on Point Conception.*



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# About the Author

**Wallace Jackson** has been writing for several leading multimedia publications about production for the media content development industry, after contributing an article about advanced computer processing architectures for the centerfold (a removable “mini issue” insert) of the original issue of *AV Video Multimedia Producer* magazine, distributed at the SIGGRAPH trade show.

Wallace has written for a number of popular publications, regarding his work in interactive 3D and new media advertising campaign design including *3D Artist* magazine, *Desktop Publisher Journal*, *CrossMedia*, *Kiosk*, *AV Video Multimedia Producer*, and *Digital Signage* magazine, as well as many other publications.

Wallace Jackson has authored more than twenty Apress book titles, including several titles in the ever popular Apress *Pro Android* series, Java and JavaFX game engine development titles, digital image compositing titles, digital audio editing titles, digital video editing titles, digital illustration titles, VFX special effects titles, digital painting titles, Android 6 new media content production titles, and now JSON and HTML5 titles.

In the current book covering HTML5 markup Wallace focuses on the tags, or elements, which comprise the HTML5 and HTML 5.1 standard, and uses them to demonstrate HTML5 content production as well as HTML5 application and document design fundamentals, to beginners who want to become savvy regarding HTML5 workflows and how to pull new media content production assets into HTML5.

Wallace is currently the CEO of MindTaffy Design, the new media advertising agency which specializes in new media content production and digital campaign design and development, located by La Purisima State Park, in Northern Santa Barbara County, on the Point Conception Peninsula, halfway between their clientele in Silicon Valley to the North, and Hollywood, The OC, West Los Angeles, and San Diego to the South.

Mind Taffy Design has created open-source, technology-based (HTML5, JavaScript, Java 9, JavaFX 9, and Android 6.0) digital new media i3D content deliverables for more than a quarter century, since January of 1991.

The company’s clients consist of a significant number of international brand manufacturers, including IBM, Sony, Tyco, Samsung, Dell, Epson, Nokia, TEAC, Sun Microsystems (Oracle), Micron, SGI, KDS USA, EIZO, CTX International, KFC, Nanao USA, Techmedia, EZC, and Mitsubishi Electronics, among others.

Wallace received his undergraduate degree in business economics from the University of California at Los Angeles (UCLA) and his graduate degrees in MIS/IT, business information systems design and implementation from the University of Southern California (USC).

Wallace also received post-graduate degrees from USC in entrepreneurship and marketing strategy and completed the USC Graduate Entrepreneurship Program. Wallace earned his degrees while at USC’s nighttime Marshall School of Business MBA Program, which allowed him to work full-time as a COBOL and RPG-II programmer.

## ■ ABOUT THE AUTHOR

You can visit Wallace's blog at [www.wallacejackson.com](http://www.wallacejackson.com) or you can view his multimedia production content at [www.iTVset.com](http://www.iTVset.com) or [www.MindTaffy.com](http://www.MindTaffy.com). You could also follow Wallace Jackson on Twitter at [@wallacejackson](https://twitter.com/wallacejackson), or connect with him on LinkedIn at [www.Linkedin.com/in/wallacejackson](http://www.Linkedin.com/in/wallacejackson).

# About the Technical Reviewer



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Chád is a contributing author to several Java books, including *Professional Java E-Commerce* (Wrox Press), *Beginning Java Networking* (Wrox Press), and *XML and Web Services Unleashed* (Sams Publishing). Chád has Java certifications from Sun Microsystems and IBM. He holds a BS in computer science from Carnegie Mellon University.

You can visit Chád’s blog at [www.luv2code.com](http://www.luv2code.com) to view his free video tutorials on Java. You can also follow him on Twitter at @darbyluvs2code.



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# Introduction

*HTML5 Quick Markup Reference* is intended for the HTML5 content developer. As HTML5 now powers not only web browsers, but also, smartphones, iTV Sets, gaming consoles, tablets, smart watches, notebooks, laptops, e-books, and more. This book is for digital artisans, digital videographers, multimedia producers, digital illustrators, HTML5 OS or application developers, HTML5 website developers, all social media campaign developers, HTML5 game producers, HTML5 effect compositors, user interface design architects, user experience designer architects, and anyone else interested in generating the superior-quality HTML5 content experience that the public is looking for.

The book covers HTML5 and new HTML5.1 concepts, elements, editing, new media assets, publishing, programming, styling and real-time rendering. This equates to creating the most advanced multimedia-capable HTML5 content applications, including genres including digital images, digital audio, digital video, digital illustration or scalable vector graphics (SVG), Interactive 3D, or WebGL and WebGL 2, as well as Web 3.0 (Semantic Web Search).

Each chapter builds upon the knowledge learned in the previous chapter. Thus, later chapters in the book have readers creating more advanced HTML5 content using canvas, objects, applets, templates, ruby, or iframes. There are also appendices covering how to download, and set-up, open source HTML5 content production integrated development environments (or IDEs), using the leading NetBeans, Eclipse, and IntelliJ software packages. I also cover how to download, and install, leading new media content development software packages (all free) in Appendix D.

In Chapter 1, you look at the history of HTML5, the future of HTML5, and the topics covered in the book.

In Chapter 2, you look at the HTML5 tags used for your top-level document definition, as we start at the top, or HEAD, of your HTML document, and work downwards, in this title.

In Chapter 3 you look at those HTML5 elements that greatly affect search engine optimization, or SEO, including your META and TITLE tags. These are contained at the top, or in the HEAD of a HTML5 document, building on what was learned in Chapter 2.

Chapter 4 covers referencing external assets from an HTML5 document or application using the LINK element. You look at how to “externalize” your CSS3 and JavaScript assets, as a data footprint optimization technique.

Chapter 5 explores the SCRIPT (JavaScript) and STYLE (cascading style sheet) tags, in the HEAD of the HTML5 document. JavaScript and CSS3 are discussed in detail.

Chapter 6 introduces the concept of global attributes, or parameters, allowed for use by every tag (element) across HTML5.

Chapter 7 covers “hypertext,” which differentiates HTML5, and look at document navigation using an ANCHOR tag or element.



Chapter 8 delves into using new media assets with HTML5, including digital image, digital video, digital audio, digital illustration, interactive 3D, and similar leading-edge content.

Chapter 9 covers HTML5 content hierarchy and organization of HTML5 documents, as well as the effect of this hierarchy for search engine optimization (SEO) strategies and techniques.

Chapter 10 introduces new semantic content elements, which allow HTML5 to merge into this new Web 3.0, or “semantic search,” era, which is now upon us. These tags allow HTML5 developers to make their HTML5 content compatible with Web 3.0.

Chapter 11 gets into publishing HTML5 text-based content, as well as how to use tags (elements) to “style” text content. This chapter covers what many consider the “core” tags in HTML5, including paragraph, bold, italics, underline, and more.

Chapter 12 outlines the HTML5 phrase tags, which allow you use special types of text in a semantic context with your HTML5 documents, websites, e-books, iTV shows, games, and applications.

Chapter 13 takes a look at HTML5 elements which allow you to create bulleted, numbered and other ordered lists of data or information in your HTML5 documents. These tags are also “core” tags in HTML and can be used for user interface design as well.

Chapter 14 covers another popular topic for HTML5 content developers, specifically, tables, and these many table related elements which are supported in HTML5 for tabular information designs.

Chapter 15 delves into interactive HTML5 form design, and the many complexities involved with client-side form markup and how to talk to these, using server-side forms processing languages and databases, which store the information culled using these forms.

Chapter 16 explores the positioning of content for HTML5, using the division and span elements, in combination with CSS3.

Chapter 17 covers scripting in HTML5 in greater detail by using the JavaScript programming language in combination with a SCRIPT element in both the HEAD and the BODY of HTML5 documents.

Chapter 18 looks at CSS styles in HTML5 in greater detail by using cascading style sheets, in combination with the STYLE element, in both the HEAD and the BODY of your HTML5 documents.

Chapter 19 gets into HTML5 real-time rendering done using the CANVAS element. This allows developers to create games, interactive 2D or i2D content, as well as interactive 3D or i3D content, using an advanced real-time drawing surface, also found in the Android 7 OS, as well as in other advanced operating systems.

Chapter 20 deals with the different ways to “plug in” or embed external content into HTML5 documents using Java applets or other types of “objects” new in HTML5.

Chapter 21 covers frames in HTML, including the iFrame element still supported in HTML5. This element allows you to seamlessly embed content from another website or application inside of your current HTML5 website or application.

Chapter 22 covers Ruby annotations, small text elements, attached to main text, usually to indicate the pronunciation or meaning of your corresponding characters. These annotations are often used in Japanese, Korean, and Chinese publications.

Finally, Chapter 23 explores the new tags introduced in HTML 5.1 to bridge the HTML5 content markup language from a web browser centric platform over into the new HTML5 operating systems that are running popular consumer electronics devices today, such as smartphones running Firefox OS and iTVs running Opera OS.

If you are interested in producing cutting-edge, Web 3.0 compatible, HTML5 content, and you want to learn all your basic HTML5 element fundamentals, as well as how new media assets can work together with HTML5 design or publishing elements, this is the *HTML5 Quick Markup Reference* manual that you can use to begin your journey to new experiences with HTML5 content.

Indeed, the *HTML5 Quick Markup Reference* manual gives you comprehensive HTML5 design element knowledge that transitions you from an HTML5 neophyte to an HTML5 design professional.

## CHAPTER 1



# HTML5 History: The Past and Future of HTML Markup

Let's get started by taking a look at the history of markup languages, of which HTML—now in its fifth revision, called HTML5—is the most popular and widely utilized. This year (2016) portends the release of another version of HTML5 called HTML 5.1, which supports using HTML5 not only for all of the popular browsers, but also for the new HTML5 operating systems that have recently appeared as competitors to Android, iOS, and Windows Mobile. The browser manufacturers—specifically Opera, Mozilla Firefox, and Google Chrome—realized that they could enhance their browser code, add icons, and run HTML5 on top of the Linux kernel and compete with the other consumer electronics operating systems. Now Firefox OS is on Panasonic iTV Sets and Alcatel-Lucent smartphones, and the Opera HTML5 OS is on Sony Bravia iTV Sets. HTML 5.1 adds features more in line with HTML5 OS requirements.

This book provides a reference to all of those HTML5 tags and their parameters, attributes, characteristics, and configuration options, of which there are currently 120 or more. I organize these as logically as possible, starting at the top of the HTML5 document with the metatags for search engine optimization (SEO), styling (CSS), or interactivity (JavaScript), and logically stratify chapters covering tags used for writing (text), forms, lists, multimedia, and similar document features and attributes.

Besides the history and future of HTML, this chapter overviews the markup (coding) format or syntax for tag and parameter usage, so that understand the rest of the book as we cover the 120 HTML5 tags used to implement document features, along with the parameters they support.

Finally, I outline the rest of the book to show you how I organize and reference the 120 HTML tags in the HTML5 specification into logical topical areas, which build on each other in an orderly fashion.

## The History of HTML: Reveal Codes Tags

The first time I ever encountered tags, which are used for formatting text values, was using a word processing software package called WordPerfect for the Data General MV-7800XP mini-computer. This software had a handy feature called **Reveal Codes** that was accessed using F3, the third function key along the top of the keyboard. Using this