

# Contents at a Glance

<i>Introduction</i> .....	xxxi
<b>Part 1 Getting Started</b> .....	<b>1</b>
Chapter 1 • Getting Acquainted with HTML and XHTML .....	3
Chapter 2 • Creating Your First HTML or XHTML Document .....	25
Chapter 3 • Linking Your Documents .....	57
Chapter 4 • Including Images .....	73
<b>Part 2 Advancing Your Skills</b> .....	<b>107</b>
Chapter 5 • Developing Tables .....	109
Chapter 6 • Developing Forms .....	141
Chapter 7 • Creating Frames .....	177
Chapter 8 • Converting HTML to XHTML .....	213
<b>Part 3 Moving Beyond Pure HTML and XHTML</b> .....	<b>229</b>
Chapter 9 • Using Style Sheets .....	231
Chapter 10 • Adding JavaScript .....	275
Chapter 11 • Including Multimedia .....	303
<b>Part 4 Developing Web Sites</b> .....	<b>321</b>
Chapter 12 • Planning for a Coherent, Usable, Maintainable, and Accessible Web Site .....	323
Chapter 13 • Implementing a Good Web Site .....	355
Chapter 14 • Tips for Web Sites: Public, Personal, and Intranet .....	369
Chapter 15 • Publishing Your XHTML Documents .....	393

<b>Part 5</b>	<b>Applying HTML and XHTML to Advanced Applications</b>	<b>407</b>
	Chapter 16 • Bringing Pages to Life with Dynamic HTML and XHTML	409
	Chapter 17 • Generating HTML or XHTML from a Database	433
	Chapter 18 • Making Your Web Site Searchable	443
<b>Part 6</b>	<b>HTML and XHTML Development Tools</b>	<b>457</b>
	Chapter 19 • Choosing Development Tools	459
	Chapter 20 • Validating HTML and XHTML Documents	467
<b>Part 7</b>	<b>A Bridge to XML</b>	<b>481</b>
	Chapter 21 • An Overview of XML	483
	Chapter 22 • Extending XHTML Using Namespaces	499
	Chapter 23 • Getting Started with DTDs	515
	Chapter 24 • Creating a DTD	527
	Chapter 25 • XHTML 1.1 and XHTML Modularization	547
<b>Part 8</b>	<b>The XML Family of Applications</b>	<b>585</b>
	Chapter 26 • XSLT: Extensible Stylesheet Language Transformations	587
	Chapter 27 • SMIL	631
	Chapter 28 • XML Tree Model Reference	647
	Chapter 29 • XML Schemas	657
<b>Part 9</b>	<b>Master's Reference</b>	<b>685</b>
	Master's Reference Part 1 • HTML and XHTML Elements and Attributes	687
	Master's Reference Part 2 • Cascading Style Sheets Reference	847
	Master's Reference Part 3 • Scripting Reference	921
	Master's Reference Part 4 • HTML and XHTML Special Characters	1037
	Master's Reference Part 5 • Color Codes	1051
	<i>Index</i>	<i>1055</i>

# Contents

*Introduction* . . . . . xxxxi

## **Part 1 Getting Started** . . . . . **1**

### **Chapter 1 • Getting Acquainted with HTML and XHTML** . . . . . **3**

Why Use HTML or XHTML?	3
What's the Difference Between HTML and XHTML?	4
What Tools Do You Need?	7
Text Editors	8
Web Browsers	9
The W3C Validator	11
What Does HTML and XHTML Code Look Like?	12
Understanding Elements	15
Understanding Attributes	16
Typing Elements and Attributes Correctly	17
What Other Resources Can Help?	23
Visit the W3C	23
Monitor Netscape and Microsoft Sites	23
Monitor Other Sites	24
Where to Go from Here	24

### **Chapter 2 • Creating Your First HTML or XHTML Document** . . . . . **25**

Creating, Saving, and Viewing Documents	25
Applying Document Structure Elements	27
The DOCTYPE Declaration	28
The html Element	30
The head Element	30
The body Element	32
Applying Basic Elements	34
Creating Paragraphs	35
Creating Headings	37
Creating Lists	39
Applying Bold, Italic, and Other Emphases	47
Including Horizontal Rules	49
Specifying Line Breaks	51
Including Fancier Formatting	51
Adding Colors	51
Specifying Fonts and Font Sizes	54
Where to Go from Here	56

<b>Chapter 3 • Linking Your Documents</b> .....	<b>57</b>
URL Anatomy .....	57
Protocol .....	58
Hostname .....	59
Folder Name .....	59
Filename .....	60
Types of URLs .....	60
Absolute URLs .....	61
Relative URLs .....	62
Link Anatomy .....	65
Linking to Documents and Web Sites .....	66
Linking to Documents in the Same Folder .....	66
Linking to Documents in a Different Folder .....	67
Linking to Documents on the Web .....	67
Linking to a Specific Location in a Document .....	68
Forming Name Anchors .....	68
Linking to Name Anchors .....	69
Inserting E-mail Links .....	70
Where to Go from Here .....	71
<b>Chapter 4 • Including Images</b> .....	<b>73</b>
Developing Images .....	73
Determining File Size .....	74
Dealing with Physical Dimensions .....	74
Understanding Image Formats .....	76
Adding Images .....	81
Adding an Image .....	81
Including Alternative Text .....	84
Specifying Height and Width .....	86
Aligning the Image .....	86
Controlling the Border .....	88
Choosing Suitable Colors .....	89
Using Images as Links .....	91
Creating Image Links .....	91
Creating Thumbnails .....	92
Creating Image Maps .....	93
Creating Client-Side Image Maps .....	96
Using Background Images .....	103
Where to Go from Here .....	105
<b>Part 2 Advancing Your Skills</b> .....	<b>107</b>
<b>Chapter 5 • Developing Tables</b> .....	<b>109</b>
Using Tables Effectively .....	109
Creating Basic Tables .....	112

Adding or Removing Rows and Columns . . . . .	115
Adding Rows . . . . .	115
Adding Columns . . . . .	116
Deleting Rows and Columns . . . . .	117
Spanning Rows and Columns . . . . .	118
Spanning Rows . . . . .	119
Spanning Columns . . . . .	120
Adding Captions . . . . .	121
Formatting Tables . . . . .	122
Adding and Formatting Borders . . . . .	123
Setting Table Background Options . . . . .	125
Specifying Cell Alignment . . . . .	128
Specifying Cell Size . . . . .	129
Adding Cell Spacing and Padding . . . . .	131
Specifying Table Alignment, Width, and Text Wrap . . . . .	132
Using Advanced Table Features . . . . .	133
Identifying Table Sections . . . . .	134
Table Borders . . . . .	136
Where to Go from Here . . . . .	140
<b>Chapter 6 • Developing Forms . . . . .</b>	<b>141</b>
Determining Form Content . . . . .	142
Information Issues . . . . .	142
Usability Issues . . . . .	144
Design Issues . . . . .	145
Creating Forms . . . . .	146
Understanding Widgets . . . . .	147
Creating a Form and Adding Submit and Reset Buttons . . . . .	148
Including General Input Fields . . . . .	153
Including Text Areas . . . . .	164
Including Select Fields . . . . .	166
Processing Forms . . . . .	169
One Solution: Processing Results with cgiemail . . . . .	172
Where to Go from Here . . . . .	175
<b>Chapter 7 • Creating Frames . . . . .</b>	<b>177</b>
Understanding Frames . . . . .	177
Deciding to Use Frames . . . . .	179
Some Advantages of Using Frames . . . . .	179
Some Disadvantages of Using Frames . . . . .	180
Creating Frames . . . . .	182
Determining Frame Size . . . . .	182
Creating a Frameset . . . . .	184
Adding Frames . . . . .	187
Formatting Frames . . . . .	192

Controlling Frames	196
Accommodating Nonframed Browsers	198
Enabling Effective Navigation	202
Choosing Navigation Types	202
Implementing Navigation	203
Using Special Target Names	206
Creating Inline Frames	208
Where to Go from Here	211

## **Chapter 8 • Converting HTML to XHTML** . . . . . **213**

Why Convert Your Documents?	213
Converting Documents by Hand	214
Backward Compatibility	214
The Rules	215
Summing It Up	216
Working with Tidy	219
Using Tidy from the Command Prompt	223
Using TidyGUI	224
Using Tidy in HTML-Kit	225
Using Tidy on the Mac	227
Where to Go from Here	228

## **Part 3 Moving Beyond Pure HTML and XHTML** . . . . . **229**

### **Chapter 9 • Using Style Sheets** . . . . . **231**

How Do Style Sheets Work?	231
Some Advantages of Using Style Sheets	232
Cascading Style Sheets Level 1	233
Cascading Style Sheets Level 2	233
Cascading Style Sheets Level 3 and Beyond	234
Implementing Style Sheets	234
Associating Style Sheets with Documents	235
Embedding the Style Sheet in the Document	235
Storing Style Sheets Separately	237
Applying Style Sheets to Parts of Documents	241
Applying Inline Style Definitions	244
What Is Cascading?	244
Developing a Style Sheet	245
Specifying Measurements	248
Specifying Colors in Style Rules	248
Setting Style Sheet Properties	252
Setting Font Properties	252
Setting Text Properties	256
Setting Box Properties	261
Setting Color and Background Properties	263
Setting Classification Properties	264

Setting Aural Style Sheet Properties . . . . .	269
Setting Printed-Media Properties . . . . .	270
Setting Positioning Properties . . . . .	271
Where to Go from Here . . . . .	273
<b>Chapter 10 • Adding JavaScript . . . . .</b>	<b>275</b>
What Is JavaScript? . . . . .	275
Adding JavaScript to Your Document . . . . .	278
Embedding JavaScript . . . . .	278
Adding a JavaScript Function in the Head . . . . .	282
Linking JavaScript . . . . .	286
Providing for Older Browsers . . . . .	286
Adding Event Handlers . . . . .	287
Using onmouseover and onmouseout Events . . . . .	288
Using onclick and onchange Event Handlers . . . . .	293
Using the onsubmit Event Handler . . . . .	295
Using the onload Event Handler . . . . .	296
Tracking Users Using Cookies . . . . .	299
Session Cookies . . . . .	300
Persistent Cookies . . . . .	301
Where to Go from Here . . . . .	302
<b>Chapter 11 • Including Multimedia . . . . .</b>	<b>303</b>
Deciding to Include Multimedia . . . . .	303
The Challenges for Users . . . . .	304
The Challenges for Developers . . . . .	306
Developing and Using Animated GIFs . . . . .	307
Developing Animated GIFs . . . . .	307
Incorporating Animated GIFs into HTML and XHTML Documents . . . . .	309
Adding Sounds . . . . .	310
Some Disadvantages of Sounds . . . . .	311
Sound File Formats . . . . .	311
Adding Video . . . . .	312
Video File Formats . . . . .	312
Adding Java Applets . . . . .	313
Adding Flash Animations . . . . .	314
Adding Multimedia . . . . .	315
Where to Go from Here . . . . .	320
<b>Part 4 Developing Web Sites . . . . .</b>	<b>321</b>
<b>Chapter 12 • Planning for a Coherent, Usable, Maintainable,     and Accessible Web Site . . . . .</b>	<b>323</b>
Planning for Site Development and Maintenance . . . . .	324
Planning for a Smooth Development (and Redesign) Process . . . . .	324

- Planning for Development . . . . . 325
- Planning for Maintenance . . . . . 326
- Determining What Information to Provide . . . . . 328
  - What Do Your Users Want? . . . . . 328
  - What Do You Want to Provide? . . . . . 330
  - Reconciling the Want Lists . . . . . 331
- Determining How to Organize the Information . . . . . 332
  - Hierarchical Organization . . . . . 333
  - Linear Organization . . . . . 334
  - Webbed Organization . . . . . 335
- Planning Site Navigation . . . . . 336
  - Textual Navigation . . . . . 337
  - Graphical Navigation . . . . . 338
  - Placing Navigation Menus . . . . . 339
- Planning for Accessibility . . . . . 340
  - Understanding the Need to Address Accessibility Issues . . . . . 341
  - Understanding Adaptive Technologies . . . . . 344
  - Planning for Accessibility . . . . . 346
- Creating a Master Document . . . . . 347
  - Adding Backgrounds . . . . . 349
  - Choosing Colors . . . . . 351
  - Including Logos . . . . . 352
  - Incorporating Other Graphical Elements . . . . . 353
- Where to Go from Here . . . . . 353

**Chapter 13 • Implementing a Good Web Site . . . . . 355**

- Understanding (and Accommodating) Your Users' Wants and Needs . . . . . 355
- Favoring Content over Flash . . . . . 358
  - Ensuring That the "Flash" Does Not Obscure Your Site's Content . . . . . 358
  - Being Aware of Other Obstacles That May Impede Your Users . . . . . 360
- Testing Your Web Site . . . . . 362
  - Getting Ready to Test . . . . . 362
  - Testing for Overall Appearance . . . . . 363
  - Testing for Usability . . . . . 363
  - Testing for Readability . . . . . 365
  - Testing for Accuracy . . . . . 366
  - Maintaining Your Site . . . . . 366
- Where to Go from Here . . . . . 367

**Chapter 14 • Tips for Web Sites: Public, Personal, and Intranet . . . . . 369**

- Developing Public Sites . . . . . 369
  - Publicizing Your Site . . . . . 370
  - Making Users Want to Browse Your Site . . . . . 374
  - Making Users Yearn to Return . . . . . 375
  - Maintaining Public Sites . . . . . 376
  - Putting Ads on Your Site . . . . . 377

Developing Personal Sites . . . . .	378
Marketing Your Skills . . . . .	378
Self-Publishing Information . . . . .	384
Developing Intranet Sites . . . . .	386
Determining Intranet Content . . . . .	387
Accommodating User Needs . . . . .	388
Helping Others Contribute . . . . .	388
Announcing New or Updated Information . . . . .	392
Setting Up a Discussion Forum . . . . .	392
Where to Go from Here . . . . .	392
<b>Chapter 15 • Publishing Your XHTML Documents . . . . .</b>	<b>393</b>
Places to Publish . . . . .	393
Publishing through Your ISP . . . . .	394
Publishing through a Corporate Server . . . . .	398
Publishing through Your Own Server . . . . .	399
The Publishing Process . . . . .	401
Uploading with FTP . . . . .	402
Uploading with Other Tools . . . . .	405
Where to Go from Here . . . . .	406
<b>Part 5 Applying HTML and XHTML to Advanced Applications . . . . .</b>	<b>407</b>
<b>Chapter 16 • Bringing Pages to Life with Dynamic HTML and XHTML . . . . .</b>	<b>409</b>
What Are Dynamic HTML and XHTML? . . . . .	410
The Document Object Model (DOM) . . . . .	411
Understanding the Standard Implementation . . . . .	415
Creating a Collapsible Document . . . . .	418
Collapsing a Document . . . . .	418
Implementing Browser Detection . . . . .	426
Where to Go from Here . . . . .	432
<b>Chapter 17 • Generating HTML or XHTML from a Database . . . . .</b>	<b>433</b>
Why Generate HTML or XHTML from a Database? . . . . .	433
Deciding to Use a Database . . . . .	434
Exploring Your Options . . . . .	436
The Large Company Scenario . . . . .	436
The Small Company Scenario . . . . .	436
Choosing Software . . . . .	437
Tools for Database Publishing . . . . .	437
Scripting Languages for Database Publishing . . . . .	438
Generating HTML or XHTML Pages from Databases . . . . .	439
Maintaining Pages Generated from a Database . . . . .	441
Where to Go from Here . . . . .	441

<b>Chapter 18 • Making Your Web Site Searchable</b> . . . . .	<b>443</b>
Exploring the Benefits and Drawbacks of a Site Search Engine . . . . .	443
Benefits for Users . . . . .	444
Potential Drawbacks for Users . . . . .	444
Potential Drawbacks for Developers . . . . .	445
Using Low-Tech Alternatives . . . . .	446
Developing Effective Navigation Menus . . . . .	446
Using “Breadcrumbs” . . . . .	447
Taking the Guided Tour Approach . . . . .	447
Using Hierarchical Menus . . . . .	448
Using a Back-of-the-Book Index . . . . .	449
Using JavaScript . . . . .	449
Adding a Site Map . . . . .	450
Preparing to Implement a Search Engine on Your Site . . . . .	450
How Much of Your Site Will Be Indexed? . . . . .	450
Who Can Access Your Search Engine? . . . . .	451
What Can You Do to Improve the Search Engine’s Performance? . . . . .	451
Choosing the Right Search Engine for Your Needs . . . . .	452
Hosted Solutions . . . . .	452
Unix Solutions . . . . .	454
Windows Solutions . . . . .	455
Where to Go from Here . . . . .	456
<b>Part 6 HTML and XHTML Development Tools</b> . . . . .	<b>457</b>
<b>Chapter 19 • Choosing Development Tools</b> . . . . .	<b>459</b>
Choosing an Editing Tool . . . . .	459
Text Editors . . . . .	460
WYSIWYG Editors . . . . .	462
Discovering XML Development Tools . . . . .	464
XML Spy . . . . .	465
XML Pro . . . . .	465
epcEdit . . . . .	465
Choosing an Image-Editing Tool . . . . .	466
Where to Go from Here . . . . .	466
<b>Chapter 20 • Validating HTML and XHTML Documents</b> . . . . .	<b>467</b>
Why Validate Your Documents? . . . . .	467
The Validation Process . . . . .	469
The W3C Validator . . . . .	470
Validating Using the W3C’s Web Interface . . . . .	470
Validating by Uploading a Document to the W3C Site . . . . .	472
Translating Error Messages . . . . .	472
Adding the W3C Icon . . . . .	474
Working with Other Available Validators . . . . .	475
The W3C Online CSS Validator . . . . .	475

STG's Online XML Validator . . . . .	477
The WDG Validator . . . . .	478
WDG's CSSCheck . . . . .	479
Page Valet . . . . .	479
CAST's Bobby . . . . .	479
Where to Go from Here . . . . .	480
<b>Part 7 A Bridge to XML . . . . .</b>	<b>481</b>
<b>Chapter 21 • An Overview of XML . . . . .</b>	<b>483</b>
Why Another Markup Language? . . . . .	484
Understanding SGML Basics . . . . .	484
The Advantages of SGML . . . . .	485
The Disadvantages of SGML . . . . .	485
Why HTML and XHTML Were Built . . . . .	486
The Advantages of HTML and XHTML . . . . .	486
The Disadvantages of HTML and XHTML . . . . .	487
Understanding XML Markup . . . . .	490
The Advantages of XML . . . . .	493
The Disadvantages of XML . . . . .	497
Where to Go from Here . . . . .	497
<b>Chapter 22 • Extending XHTML Using Namespaces . . . . .</b>	<b>499</b>
Benefits of Extending XHTML . . . . .	500
XML Namespaces . . . . .	501
Declaring Namespaces . . . . .	502
Combining Namespaces . . . . .	505
Combining XML Vocabularies with XHTML—Extended Examples . . . . .	506
MathML . . . . .	506
SVG . . . . .	510
Your Own Vocabulary . . . . .	512
Validation . . . . .	512
Suggestions and Tips . . . . .	513
Where to Go from Here . . . . .	514
<b>Chapter 23 • Getting Started with DTDs . . . . .</b>	<b>515</b>
Understanding DTDs and Validity . . . . .	515
Declarations: The Heart of a DTD . . . . .	516
Understanding DTD Rules and Concepts . . . . .	518
Characters and Names . . . . .	519
Logic in a DTD . . . . .	519
Data Types . . . . .	521
Comments in a DTD . . . . .	521
INCLUDE/IGNORE . . . . .	522
Connecting DTDs to XML Documents . . . . .	524
Embedding the DTD . . . . .	524

Referencing the DTD .....	525
Combining External and Internal DTDs .....	525
Where to Go from Here .....	526
<b>Chapter 24 • Creating a DTD .....</b>	<b>527</b>
Specifying Processing Instructions .....	527
Filling in DTD Content .....	529
Element Type Declarations .....	530
Attribute List Declarations .....	533
Entity Declarations .....	538
Notation Declarations .....	543
Putting It All Together .....	543
Where to Go from Here .....	546
<b>Chapter 25 • XHTML 1.1 and XHTML Modularization .....</b>	<b>547</b>
Understanding XHTML Modularization .....	548
Encapsulating XHTML Abstract Modules .....	548
Meet the XHTML 1.1 Specification .....	550
XHTML Modules: Abstract and Otherwise .....	552
Modularization Rules and Naming Conventions .....	552
Attribute Collections .....	553
Core XHTML Modules .....	553
XHTML Forms Modules .....	557
XHTML Tables Modules .....	559
XHTML Basic Defines Bare-bones XHTML .....	561
Text Extension Modules .....	562
Other Standard XHTML Modules .....	564
Deprecated XHTML Modules .....	572
The XHTML 1.1 Ruby Annotation Module .....	576
Using XHTML Modules .....	577
Modular XHTML and Schemas .....	583
Where to Go from Here .....	584
<b>Part 8 The XML Family of Applications .....</b>	<b>585</b>
<b>Chapter 26 • XSLT: Extensible Stylesheet Language Transformations .....</b>	<b>587</b>
Understanding XSL and XSLT .....	588
Working with XSLT .....	589
The Transformation Process .....	589
Understanding the Tree .....	591
Variables, Expressions, and Data Types .....	592
Style Sheet Structure .....	594
Templates .....	594
XSLT Products .....	596
A Working Example .....	596
XSLT Elements Reference .....	599
Defining Style Sheet Structure .....	599
Applying and Invoking Template Rules .....	602

Defining Variables and Parameters . . . . .	606
Copying Nodes . . . . .	610
Conditional Processing . . . . .	612
Sorting and Numbering . . . . .	615
Generating Output . . . . .	617
Manipulating White Space in the Output . . . . .	623
XSLT Expressions Reference . . . . .	626
XSLT Patterns . . . . .	628
Where to Go from Here . . . . .	629
<b>Chapter 27 • SMIL . . . . .</b>	<b>631</b>
What Can SMIL Do? . . . . .	631
A Brief History of SMIL . . . . .	632
SMIL Support . . . . .	633
Creating SMIL Files . . . . .	634
Creating SMIL Files Using HTML + Time . . . . .	641
Working with SMIL . . . . .	644
Server Issues . . . . .	645
SMIL Tools . . . . .	645
SMIL Resources . . . . .	646
Where to Go from Here . . . . .	646
<b>Chapter 28 • XML Tree Model Reference . . . . .</b>	<b>647</b>
XML Information Set . . . . .	647
Where to Use it . . . . .	648
Information Items . . . . .	648
XML DOM . . . . .	653
Core Objects . . . . .	654
XPath . . . . .	655
Nodes . . . . .	655
Where to Go from Here . . . . .	656
<b>Chapter 29 • XML Schemas . . . . .</b>	<b>657</b>
Schema Overview . . . . .	657
XML Schemas versus DTDs . . . . .	658
XML Schema Specification Documents . . . . .	659
XML Schema Namespaces . . . . .	660
XML Schema Syntax . . . . .	661
XML Schema Vocabulary . . . . .	661
Declarations . . . . .	665
Declaring Elements . . . . .	666
Declaring Attributes . . . . .	676
Schema Data Types . . . . .	678
Other Schema Vocabularies . . . . .	681
RELAX NG . . . . .	681
Schematron . . . . .	682
Where to Go from Here . . . . .	683

<b>Part 9 Master's Reference</b> . . . . .	<b>685</b>
<b>Master's Reference Part 1 • HTML and XHTML Elements and Attributes</b> . . . . .	<b>687</b>
<b>Master's Reference Part 2 • Cascading Style Sheets Reference</b> . . . . .	<b>847</b>
General Information . . . . .	848
Font Properties . . . . .	854
Text Properties . . . . .	861
Box Padding Properties . . . . .	869
Box Border Properties . . . . .	872
Box Margin Properties . . . . .	880
Box Position Properties . . . . .	885
Background and Color Properties . . . . .	888
Classification Properties . . . . .	894
Positioning . . . . .	899
Aural Style Sheets . . . . .	904
Printed Media Style Sheets . . . . .	912
Auto-Generated Content . . . . .	918
<b>Master's Reference Part 3 • Scripting Reference</b> . . . . .	<b>921</b>
Constructs . . . . .	922
Operators . . . . .	930
Escape Character . . . . .	933
Reserved Words . . . . .	934
Objects . . . . .	935
Methods and Functions . . . . .	958
Event Handlers . . . . .	1010
Properties . . . . .	1016
<b>Master's Reference Part 4 • HTML and XHTML Special Characters</b> . . . . .	<b>1037</b>
HTML and XHTML Entities . . . . .	1038
Entity Reference . . . . .	1038
HTML, XHTML, and Character Sets . . . . .	1048
<b>Master's Reference Part 5 • Color Codes</b> . . . . .	<b>1051</b>
<i>Index</i> . . . . .	<i>1055</i>