
Contents

| | |
|---|----|
| Introduction | 1 |
| Part I New Toys | 7 |
| Chapter 1 Advanced Selectors..... | 9 |
| Child and Sibling Selectors | 9 |
| Child Combinator | 9 |
| Adjacent Sibling Combinator | 10 |
| General Sibling Combinator | 10 |
| Attribute Selectors | 11 |
| Selecting Based on the Existence of an HTML Attribute | 11 |
| Selecting Based on the Exact Value of an HTML Attribute | 11 |
| Selecting Based on the Partial Contents of an HTML Attribute Value..... | 12 |
| Selecting Based on the Beginning of an HTML Attribute Value | 12 |
| Selecting Based on the End of an HTML Attribute Value..... | 13 |
| Selecting Based on Space-Separated HTML Attribute Values | 13 |
| Pseudo-Classes | 13 |
| Firsts and Lasts | 14 |
| Nth Child Selectors | 15 |
| Taking Nth Child to the Next Level with Expressions | 16 |
| <i>Using Keywords with Nth Child</i> | 17 |
| <i>Using Negative Numbers with Nth Child</i> | 17 |
| The Best of the Rest | 19 |
| Bringing It All Together..... | 20 |
| Summary | 23 |
| Further Reading..... | 24 |
| Chapter 2 New Tools for Text | 25 |
| Perfecting Your Type..... | 25 |
| Ligatures | 25 |
| Kerning..... | 27 |
| Borrowing from SVG..... | 28 |
| Maintaining Legibility with Aspect Values..... | 30 |

| | |
|--|-----------|
| More Control with More New Toys | 33 |
| <i>Font Stretch</i> | 33 |
| <i>Synthetic Font Styling</i> | 33 |
| <i>By the Numbers</i> | 34 |
| <i>Hyphenation</i> | 35 |
| Writing Modes | 37 |
| The Direction Property | 38 |
| The Writing Mode Property | 38 |
| The Text Orientation Property | 38 |
| SVG to the Rescue! | 38 |
| Looking Good Is Half the Battle | 39 |
| Text Decoration | 39 |
| Masking Background Images Over Text | 40 |
| Text Shadow | 42 |
| <i>Creating 3D Text</i> | 42 |
| <i>Creating Outer Glow</i> | 44 |
| Summary | 45 |
| Further Reading | 46 |
| | |
| Chapter 3 New Tools for Backgrounds and Borders | 47 |
| More Control with CSS3 Backgrounds | 47 |
| Background Clip and Background Origin | 47 |
| Background Size | 50 |
| Understanding the Background Shorthand | 52 |
| Handling Box Breaks | 52 |
| Into the Future with the Image Function | 53 |
| Multiple Backgrounds | 55 |
| The Syntax for Multiple Backgrounds | 55 |
| Layered Backgrounds | 56 |
| Animating Multiple Backgrounds | 57 |
| New Tools for Borders | 58 |
| Border Image | 58 |
| Into the Future with Border Corner Shape | 62 |
| Gradients | 63 |
| Linear Gradients | 63 |
| <i>The Linear Gradient Syntax</i> | 63 |
| <i>Browser Support</i> | 65 |
| <i>Linear Gradients in Action</i> | 65 |

| | |
|--|------------|
| Radial Gradients | 66 |
| <i>The Radial Gradients Syntax</i> | 66 |
| <i>Radial Gradients in Action</i> | 68 |
| <i>Browser Support</i> | 69 |
| Pushing the Limits with Gradient Patterns | 70 |
| Summary | 73 |
| Further Reading | 74 |
| | |
| Chapter 4 Into the Browser with CSS3 Filters and Blending Modes | 75 |
| CSS3 Filters | 75 |
| How Do CSS Filters Work? | 76 |
| Grayscale | 76 |
| Brightness | 77 |
| Contrast | 77 |
| Saturate | 78 |
| Sepia | 78 |
| Hue-Rotate | 79 |
| Invert | 79 |
| Opacity | 80 |
| Drop Shadow | 80 |
| Blur | 81 |
| Combining Filters | 82 |
| Blending Modes | 83 |
| What Are Blending Modes? | 84 |
| The Blending Modes Syntax | 85 |
| Summary | 85 |
| Further Reading | 86 |
| | |
| Part II Transforms, Transitions, and Animation | 87 |
| | |
| Chapter 5 Introducing CSS3 2D Transforms | 89 |
| The Transform Property | 89 |
| Translate | 90 |
| Skew | 93 |
| Rotate | 94 |
| Scale | 96 |
| Transform Origin | 99 |
| Combining Transforms | 100 |
| Browser Support | 102 |
| Summary | 102 |
| Further Reading | 102 |

| | |
|---|-----|
| Chapter 6 Bringing 2D Transforms to Life with Transitions..... | 103 |
| Introducing CSS Transitions | 103 |
| Controlling Your Transitions | 104 |
| Understanding the Shorthand Syntax..... | 105 |
| Understanding the Transition Property | 106 |
| Applying Separate On and Off Transitions..... | 107 |
| Understanding the Timing Function | 108 |
| <i>The Bézier Curve</i> | 109 |
| <i>Ease</i> | 111 |
| <i>Linear</i> | 112 |
| <i>Ease-In</i> | 113 |
| <i>Ease-Out</i> | 113 |
| <i>Ease-In-Out</i> | 114 |
| <i>Stepping Functions</i> | 115 |
| Browser Support for Transitions..... | 117 |
| Transitions in Action | 117 |
| Combining Transitions and 2D Transforms | 120 |
| Transitioning Rotate | 120 |
| Transitioning Translate | 123 |
| Transitioning Scale | 127 |
| Transitioning Skew | 128 |
| Creating a Scattered Image Gallery | 129 |
| Summary | 133 |
| Further Reading | 134 |
| | |
| Chapter 7 A New Dimension with 3D Transforms..... | 135 |
| What Are 3D Transforms? | 135 |
| It's All About Perspective | 136 |
| The Perspective Property | 137 |
| Perspective Origin..... | 141 |
| Maintaining Perspective | 142 |
| Backface Visibility..... | 145 |
| Moving on to More Transform Properties | 148 |
| Rotating in a 3D Environment | 149 |
| Translating in a 3D Environment | 151 |
| Scaling in a 3D Environment..... | 153 |
| Creating a Cube Using 3D Transforms | 154 |
| Animating the Cube with Transitions | 157 |
| Examining Browser Support for 3D Transforms | 159 |
| Summary | 160 |
| Further Reading | 160 |

| | |
|---|-----|
| Chapter 8 Getting Animated | 161 |
| Introducing CSS3 Animation | 161 |
| Defining Keyframes..... | 161 |
| Applying the Animation..... | 163 |
| Further Control..... | 163 |
| Looking at CSS3 Animations in Action | 166 |
| Adding Progressive Enhancement with Subtle Animation | 170 |
| Fade In Effects..... | 171 |
| Attention Seekers..... | 173 |
| <i>Shake</i> | 173 |
| <i>Wobble</i> | 174 |
| Combining Animations..... | 175 |
| Forming the Structure..... | 176 |
| Creating an Animated Slide Show | 177 |
| Creating a Swinging Animation..... | 178 |
| Introducing Content with Subtle Animation | 180 |
| Seeking Attention with Loud Animation | 182 |
| Examining Browser Support for CSS Animation | 182 |
| Summary | 183 |
| Further Reading..... | 183 |
| | |
| Part III Getting to Grips with New Layout Tools..... | 185 |
| | |
| Chapter 9 Creating a Multicolumn Layout..... | 187 |
| The Evolution of Layout Tools | 187 |
| What's New in Layout Solutions? | 188 |
| Introducing Multi-column Layout..... | 189 |
| New Multicolumn Properties | 189 |
| <i>Defining Your Columns</i> | 189 |
| <i>Handling Column Breaks</i> | 198 |
| Limitations | 201 |
| Creating a Multicolumn Layout | 202 |
| Examining Browser Support for Multi-column Layout | 206 |
| Summary | 207 |
| Further Reading..... | 208 |
| | |
| Chapter 10 Flexible Box Layout | 209 |
| What Is Flexbox? | 209 |
| New Flexbox Properties | 210 |
| Establishing the Flex Formatting Context | 210 |
| Examining Direction, Flow, and Visual Ordering | 212 |

| | |
|---|------------|
| Controlling Alignment..... | 217 |
| Defining Flex Factors..... | 223 |
| Creating a Flexible Box Layout..... | 225 |
| Examining Browser Support for Flexbox..... | 230 |
| Summary..... | 231 |
| Further Reading..... | 231 |
| | |
| Chapter 11 Grid Layout, Regions, and Exclusions..... | 233 |
| Introducing CSS Grid Layout..... | 233 |
| What Is Grid Layout?..... | 234 |
| Creating a Grid Element..... | 234 |
| Defining the Grid..... | 235 |
| Positioning Elements into the Grid..... | 237 |
| Making Your Grid Flexible and Adaptable..... | 238 |
| Introducing CSS Regions..... | 241 |
| What Are CSS Regions?..... | 241 |
| How Do Regions Work?..... | 242 |
| Introducing CSS Exclusions..... | 243 |
| What Are CSS Exclusions?..... | 244 |
| How Do Exclusions Work?..... | 244 |
| Playing with Shapes..... | 247 |
| A Caveat on Exclusions and Shapes..... | 249 |
| Summary..... | 249 |
| Further Reading..... | 250 |
| | |
| Chapter 12 Going Responsive with CSS3 Media Queries..... | 251 |
| What Is Responsive Web Design?..... | 251 |
| Using Media Queries to Design for Device Differences..... | 252 |
| Understanding Media Types and Media Features..... | 253 |
| Applying the Mobile-First Approach..... | 253 |
| Using the Viewport Meta Tag..... | 256 |
| Making a Multicolumn Layout Responsive..... | 256 |
| Making a Flexbox Layout Responsive..... | 261 |
| A Word on CSS Grid Layout..... | 268 |
| The Here and Now of RWD..... | 269 |
| Summary..... | 269 |
| Further Reading..... | 270 |

| | |
|---|-----|
| Part IV Pushing the Limits..... | 271 |
| Chapter 13 Getting Creative with Pseudo-elements..... | 273 |
| Distinguishing Pseudo-elements and Pseudo-classes..... | 273 |
| What Is a Pseudo-class?..... | 273 |
| What Is a Pseudo-element?..... | 274 |
| Syntactical Differences..... | 274 |
| Exploring the Current Range of Pseudo-elements..... | 275 |
| Enhancing Your Typography with Pseudo-elements..... | 275 |
| Drawing Users into Your Copy..... | 276 |
| Getting Creative with Type-based Pseudo-elements..... | 278 |
| Using Pseudo-elements to Generate Content..... | 282 |
| Pushing Pseudo-elements to the Limit..... | 285 |
| A Contemporary Clearfix..... | 287 |
| Creating Scalable Icons and Shapes..... | 288 |
| <i>Creating a Speech Bubble</i> | 288 |
| <i>Creating an OK Icon</i> | 289 |
| <i>Creating a Print Icon</i> | 290 |
| <i>Creating a Save Icon</i> | 291 |
| <i>Pushing the Limits Even Further and Knowing When to Stop</i> | 293 |
| Summary..... | 293 |
| Further Reading..... | 294 |
| Chapter 14 Using Preprocessors to Push CSS3 to the Limit..... | 295 |
| What Is a CSS Preprocessor?..... | 295 |
| What Can CSS Preprocessors Do for You?..... | 295 |
| Choosing the Right Preprocessor for You..... | 296 |
| Declaring Variables..... | 297 |
| Doing Functions and Simple Math..... | 298 |
| Using Mixins..... | 299 |
| Selector Inheritance..... | 300 |
| Nested Selectors..... | 301 |
| Getting to Grips with the Dark Side of Preprocessors..... | 302 |
| Step 1: Installing Ruby..... | 303 |
| Step 2: Installing Sass..... | 304 |
| Step 3: Creating Your First Sass File..... | 304 |
| Step 4: Compiling Your Sass Code..... | 305 |
| Helpful Tools..... | 306 |

| | |
|---|------------|
| Making CSS3 More Efficient with Mixins..... | 307 |
| Creating Proportional Layouts with Simple Math..... | 309 |
| Using Functions to Form a Dynamic Color Palette..... | 310 |
| A Word of Caution on Preprocessors..... | 311 |
| Summary..... | 311 |
| Further Reading..... | 311 |
| Chapter 15 Creating Practical Solutions Using Only CSS3..... | 313 |
| Creating Tabbed Content Using Only CSS3..... | 313 |
| The Markup..... | 314 |
| Applying Basic Styling to the Panels..... | 316 |
| Styling the Tabs..... | 317 |
| Making the Tabs Functional..... | 318 |
| Applying the Finishing Touches..... | 320 |
| Creating a Lightbox Feature Using Only CSS3..... | 321 |
| Laying the Foundations for the Markup..... | 322 |
| Styling the Thumbnail Gallery..... | 324 |
| Adding the Lightbox Markup..... | 326 |
| Making the Lightbox Functional..... | 327 |
| Applying the Polish to the Final Design..... | 330 |
| Creating a 3D Image Carousel Using Only CSS3..... | 334 |
| Marking Up the Carousel..... | 334 |
| Establishing a 3D Formatting Context..... | 335 |
| Positioning the Images in a 3D Environment..... | 335 |
| Making the Carousel Functional..... | 339 |
| Applying the Finishing Touches..... | 340 |
| Summary..... | 342 |
| Further Reading..... | 343 |
| Chapter 16 The Future of CSS..... | 345 |
| CSS Variables..... | 346 |
| CSS Selectors: Level 4..... | 348 |
| Browser Support Using CSS Conditional Rules..... | 352 |
| Pseudo-elements: Level 4..... | 353 |
| Have Your Say..... | 354 |
| Summary..... | 354 |
| Further Reading..... | 355 |
| Index..... | 357 |