

# CONTENTS

Preface .....	xi
---------------	----

<b>Part I</b> Getting Started .....	<b>1</b>
-------------------------------------	----------

---

## Chapter 1

<b>ActionScript Overview</b> .....	<b>3</b>
What Is ActionScript 3.0? .....	4
The Flash Platform .....	7
Procedural Versus Object-Oriented Programming .....	8
The Document Class .....	9
Legacy Code Compatibility .....	11

## Chapter 2

<b>Core Language Fundamentals</b> .....	<b>13</b>
Miscellaneous Basics .....	15
Variables and Data Types .....	16
Conditionals .....	17
Loops .....	20
Arrays .....	23
Functions .....	24
Custom Objects .....	26
this .....	27
Absolute versus Relative Addresses .....	27

**Chapter 3**

**Properties, Methods, and Events** ..... 31

- Inherited Attributes ..... 32
- Properties ..... 32
- Events ..... 34
- Methods ..... 39
- Event Propagation ..... 41
- Frame and Timer Events ..... 43
- Removing Event Listeners ..... 46

**Chapter 4**

**The Display List** ..... 49

- The Sum of Its Parts ..... 50
- Adding and Removing Children ..... 58
- Managing Object Names, Positions, and Data Types ..... 63
- Changing the Display List Hierarchy ..... 65
- A Dynamic Navigation Bar ..... 68

**Chapter 5**

**Timeline Control** ..... 71

- Playhead Movement ..... 71
- Frame Labels ..... 74
- Frame Rate ..... 81
- A Simple Site or Application Structure ..... 82

**Chapter 6**

**OOP** ..... 87

- Classes ..... 89
- Inheritance ..... 93
- Composition ..... 99
- Encapsulation ..... 103
- Polymorphism ..... 106
- Navigation Bar Revisited ..... 111

---

## Chapter 7

<b>Motion</b> .....	<b>115</b>
Basic Movement .....	116
Geometry and Trigonometry .....	119
Physics .....	125
Programmatic Tweening .....	130
Timeline Animation Recreations .....	131
Particle Systems .....	137

## Chapter 8

<b>Drawing with Vectors</b> .....	<b>141</b>
The Graphics Class .....	142
The Geometry Package .....	149
The Motion Package .....	158
9-Slice Scaling .....	159
Applied Examples .....	161

## Chapter 9

<b>Drawing with Pixels</b> .....	<b>167</b>
Bitmap Caching .....	168
The BitmapData Class .....	170
Blend Modes .....	177
Bitmap Filters .....	180
Color Effects .....	188
Image Encoding and Saving .....	192

---

**Part III Text** 195

---

**Chapter 10**

**Text** ..... 197

- Creating Text Fields ..... 198
- Setting Text Field Characteristics ..... 198
- Selecting Text ..... 200
- Formatting Text ..... 202
- Formatting with HTML and CSS ..... 206
- Triggering ActionScript from HTML Links ..... 209
- Parsing Text Fields ..... 210
- Loading HTML and CSS ..... 214

**Part IV Sound and Video** 219

---

**Chapter 11**

**Sound** ..... 221

- ActionScript Sound Architecture ..... 222
- Internal and External Sounds ..... 223
- Playing, Stopping, and Pausing Sounds ..... 226
- Buffering Streaming Sounds ..... 228
- Changing Sound Volume and Pan ..... 229
- Reading ID3 Metadata from MP3 Sounds ..... 231
- Visualizing Sound Data ..... 234
- Working with Microphone Sound ..... 236
- Waveform Visualization ..... 239

**Chapter 12**

**Video** ..... 251

- Encoding ..... 252
- Components ..... 254
- Full-screen Video ..... 258
- Captions ..... 260
- Coding Your Own Video Playback ..... 272

---

**Part V**    **Input/Output**    **277**

---

**Chapter 13**

**Loading Assets** ..... 279

- Loading Sound and Video ..... 280
- Loading Text ..... 281
- Loading Display Objects ..... 285
- Communicating Across ActionScript Virtual Machines ..... 289
- Taking a Brief Look at Security ..... 291

**Chapter 14**

**XML and E4X** ..... 297

- Understanding XML Structure ..... 298
- Creating an XML Object ..... 302
- Reading XML ..... 303
- Writing XML ..... 310
- Deleting XML Elements ..... 313
- Loading External XML Documents ..... 314
- Communicating with XML Servers ..... 315
- An XML-Based Navigation System ..... 319

**Part VI**    **Programming Design and Resources**    **331**

---

**Chapter 15**

**Programming Design and Resources** ..... 333

- Programming Design Methodologies ..... 333
- Object-Oriented Design Patterns ..... 339
- Resources ..... 345

**Index** ..... 351