Flash® 8 ActionScript Bible

Joey Lott and Robert Reinhardt
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Joey Lott and Robert Reinhardt

Wiley Publishing, Inc.
May there be peace within and among all beings.

This book is dedicated to the light that shines within you and without you.

—Joey

Flash® 8 ActionScript Bible

Published by
Wiley Publishing, Inc.
10475 Crosspoint Boulevard
Indianapolis, IN 46256
www.wiley.com

Copyright © 2006 by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada


Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

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Library of Congress Cataloging-in-Publication Data

Reinhardt, Robert, 1973- 
Flash 8 ActionScript bible / Joey Lott and Robert Reinhardt. 
   p. cm. 
   Includes index. 
   I. Lott, Joey. II. Title. 
TR897.7.R464 2005 
006.896—dc22 
2005029253

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book such as this one gets published only with the help of many people. The journey from start to completion involves the generous assistance of many people.

Thanks to everyone at John Wiley & Sons for their diligent work to make this book possible. We’d like to specifically thank Chris Webb for his dedication to the project through many editions. And many thanks to Sara Shlaer for her enthusiasm and her work editing this manuscript.

We’d like to thank Matt Sutton for his thorough technical edits, for checking each line of code, and for the many helpful comments. Matt’s contributions are apparent each time the examples work.

Thanks to Margot Maley Hutchinson of Waterside for picking up this project.

The Flash team at Macromedia continues to be a great resource, and we’d like to thank every person on the team for the help they provided. In particular, we’d like to thank Gary Grossman, Erica Norton, Matt Wobensmith, Werner Sharp, Nivesh Rajbhandari, Mike Downey, Jen deHaan, and Peter deHaan.

The Flash community is a great resource. Many thanks to those that are willing to ask questions, speak about differing points of view, challenge popular wisdom, and publish their investigations and discoveries. That makes learning ActionScript so much more accessible.

And thank you. It is you, the readers that make this book possible. And your comments help improve each edition.

Joey’s acknowledgments: Robert, my friend, thank you for everything. Thank you for seeing the potential, and for opening the opportunity to work on this book. Thank you to my parents, my sister, and everyone that has given so generously of their friendship, love, and support. Thanks from beyond the beyond for all that is.
Introduction

Flash has begun to mature as a product, and ActionScript has begun to mature as a language. That represents both opportunity and challenge to you. As a mature language, ActionScript provides a broad spectrum of features and functionality. The possibilities are limitless: There is great opportunity to build new, innovative, useful, and interesting applications using Flash and ActionScript. However, with that opportunity comes the challenge of learning how to use ActionScript effectively. If you want to express your thoughts and feelings well, you need the right language for communicating them. Likewise, with ActionScript the challenge is to learn the language so that there is a natural flow of expression that is seamless from its conception to its manifestation in code.

Our goal with this book is to provide you with the resources to learn the language so that you can express yourself elegantly and eloquently. We make every attempt to meet you right where you are in your journey, and to provide you with the support to get where you want to go. As you can see by the page count of this book, ActionScript is not a short topic. In fact, if you’re new to ActionScript it may seem overwhelming. However, it’s our intention to make learning ActionScript accessible. In this book, you’ll find that we’ve organized the topics in a way that we feel is most accessible to readers.

How to Get the Most Out of This Book

You can read and utilize this book in many ways. If you are a beginning programmer, or even if you might benefit from a review of basic programming, we encourage you to read Part I first. Parts II and III are essential for nearly anyone who wants to use ActionScript. Whether you’re new to programming or simply new to ActionScript, you’ll want to read those chapters. Following that, you can browse the chapters and sections that most interest you. ActionScript is a large subject, and you will likely find that you will master one part at a time.

Intermediate and advanced ActionScript developers can also benefit from the book. You can turn to any chapter as a reference. Even an advanced ActionScript developer might not know all the details about a particular topic, or what’s changed in the newest version of Flash. If you want to update your knowledge, learn more about a topic, or just brush up on it, read the chapter for reference.

Keep the book on your desk. Read sections over and over. Try the exercises. You’ll learn more each time. At first, just getting a MovieClip object to move across the screen may be difficult. But upon returning to the same exercise months later, you will undoubtedly discover something you didn’t notice before.
Conventions Used in the Book

Throughout the book, when we refer to application menus, the menu names and nested menu items are separated by arrow icons. For example, to open a new Flash document within Flash 8, you can select the New option from the File menu. We indicate that in the text by suggesting you choose File \(\rightarrow\) New.

Although the icons are pretty standard and self-explanatory (they have self-explanatory labels), here’s a brief explanation of what they are and what they mean.

**Tip**
Tips offer you extra information that further explains a given topic or technique, often suggesting alternatives or workarounds to a listed procedure.

**Note**
Notes provide supplementary information to the text, shedding light on background processes or miscellaneous options that aren’t crucial to the basic understanding of the material.

**Cross-reference**
If you want to find related information to a given topic in another chapter or section, look for the cross-reference icon.

**Web Resource**
When you see this icon, you will find Web URLs that point to further information about the topic at hand.

**On The Web Site**
This icon points out files or other material available on the book’s web site.

**New Feature**
This icon indicates a new important feature to the specific application.

Also, many code samples that are printed in this book have lines of code that are too long to fit on one line. These lines of code are broken into two or more lines and end with the line continuation symbol, \(\rightarrow\). This symbol should not be typed into the actual code of your Flash document. Simply continue to type the following line(s) of code on the same line in the Actions panel. For example, you would type the following line all on the same line in the Actions panel:

```actionscript
mPhoto._accProps.description = "Picture of attendees at the round table discussion";
```

Because Flash is available for both the Windows and Mac OS X operating systems, when applicable we provide keyboard shortcuts for both. In many cases the Ctrl key in a Windows environment is analogous to the Command key on the Macintosh, which we represent using the \(\text{Ô}\) symbol. You’ll also notice that many keyboard shortcuts are denoted using a + symbol when Flash requires that you press several keys at the same time. For example, the notation Shift+N indicates that you should press and hold the Shift key while then pressing the N key.
How This Book Is Organized

We’ve reorganized this edition of the book in ways that we think will make it most approachable and helpful. The eight parts of the book are outlined in the following sections.

Part I: Getting Started with Flash 8 ActionScript

When you build a building, the first thing you do is lay the foundation. Doing so helps to ensure a sturdy base from which something can be created. Part I aims to provide you with basic information and practical exercises that can assist you in getting a fundamental understanding of ActionScript and programming in general. You’ll learn all about how ActionScript works, where to place it, how to write it, syntax, structure, and much more.

Part II: Using Core Classes

In Part II you’ll learn about some of the core classes in ActionScript. Flash 8 ActionScript is based on the ECMA specification. Although ActionScript introduces features beyond the scope of the ECMA specification, it also incorporates the core functionality. Therefore, the core classes are those classes that are part of the ECMA specification—classes such as Array, Date, Number, and Math. You’ll use the core classes in nearly every ActionScript project.

Part III: Working with Display Objects

Flash has a library of classes for representing data visually. Those classes define objects that we call display objects—objects such as movie clips, buttons, text fields, and so forth. In Part III you’ll learn about working with display objects. You learn basics such as using buttons, movie clips, and text fields. You’ll also learn more advanced topics such as programmatic drawing, filter effects, and working with bitmap data.

Part IV: Scripting Player Control

In Part IV you can learn about working with player-level classes. You’ll learn to script mouse and key detection, work with context menus, and determine how content will scale within the player. You’ll also learn how to print Flash content, and how to detect the user’s Flash Player capabilities.

Part V: Working with Media

Some of the most popular features of Flash involve working with media such as sound and audio. In Part V you can read about using the Sound class to programmatically work with sound. You’ll also learn how to use the NetStream and Video classes to work with video.

Part VI: Using Components

By encapsulating functionality, components can provide a simple drag-and-drop solution to what might otherwise require hundreds or even thousands of lines of code. In Part VI you’ll learn about the user interface components that are included with Flash, as well as how to create your own components.
Part VII: Managing Data

Part VII discusses how to manage data using ActionScript. Flash Player has many data capabilities, and in Part VII you can read about each. You'll learn how to send data across Flash Player instances using LocalConnection, and how to store locally persistent data using SharedObject. You'll also learn how to use URL-encoded data and XML data, how to work with socket connections, web services, Flash Remoting, and file uploads and downloads.

Part VIII: Working with Flash in Context

Flash content can be used in many contexts. While the possibilities are limitless, you can read about some common ways in which you're likely to use Flash content. In Part VIII you learn how to use Flash content in a browser, how to make content accessible, and how to build stand-alone Flash content.

Getting in Touch with Us

The official web site for this book is:
www.rightactionscript.com/asb

At the site you'll find code examples, updates, notes, and more.

You can also find the code examples at:
www.wiley.com/go/actionscriptbible

We appreciate your feedback. If you have found this book to be helpful, please let us know. And if you have suggestions for ways we might improve subsequent editions, please let us know that as well. You can contact Joey by email at joey@person13.com.

Getting in Touch with Macromedia

Macromedia wants to constantly improve Flash in ways that help you. The only way they get to know how you are using Flash (or how you’d like to use Flash) is if you send them feedback. The more feedback you can provide, the better equipped they are to adapt Flash to your requests. In order to hear from you, Macromedia has set up a system by which you can submit your feedback at:
www.macromedia.com/support/email/wishform/?6213=9

If there are features that work particularly well for you, let Macromedia know. If there are features that are not working for you, let them know. And if there are things that Flash does not do that you’d like it to do, let Macromedia know that as well.

Regardless of your geographic location, you always have access to the global Flash community for support and the latest information through the Macromedia Online Forums:
http://webforums.macromedia.com/flash

You can also visit Macromedia’s new Designer & Developer Center, where you can find the latest news and tutorials for Macromedia software:
www.macromedia.com/devnet

For inspiration and motivation, check out the site of the day, weekly features, and case studies at:
www.macromedia.com/showcase