Adobe AIR 1.5 Cookbook(影印版)

Adobe® AIR™ 1.5 Cookbook™

David Tucker,
Marco Casario,
Koen De Weggheleire
& Rich Tretola 著

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Adobe® AIR™ 1.5 Cookbook™（影印版）

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David Tucker, Marco Casario,
Koen De Weggheleire & Rich Tretola

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Foreword

Since coming to Adobe, I've spent a great deal of time supporting the release of Adobe AIR. To help developers get up to speed on the new technology, the On AIR Bus Tour visited 18 cities across the United States and a similar AIR tour crisscrossed Europe. Over the course of those many miles and months, we reached a huge number of developers and did our best to help get them started building their own AIR applications.

The community has responded. As of this writing there are over 25,000,000 installs of Adobe AIR and a steady stream of new applications being released. With Adobe AIR 1.5, developers now have access to all of the amazing new features in Flash Player 10, including native 3D support, dynamic sound generation, and Pixel Bender.

To harness this new power, however, developers need learning resources. Although novice developers can get up to speed using the articles and tutorials at the Adobe AIR Developer Center (*http://www.adobe.com/devnet/air*) as well as a few introductory books, intermediate and advanced developers have been largely on their own. There hasn't been a more advanced resource that focuses on providing solutions and code snippets for real-world AIR development—until now. This is why I'm so excited about the *Adobe AIR 1.5 Cookbook*. I've always been a fan of the O'Reilly cookbook series.

Many aspects of this book make it a great reference. To begin with, *Adobe AIR 1.5 Cookbook* is the first book to cover Adobe AIR 1.5, so you can be sure that you will have an up-to-date reference. You couldn't ask for a better group of authors to help teach you the ins and outs of AIR development. An active member of the Flash community, David Tucker has created great video training on AIR for Lynda.com. A frequent speaker on the conference circuit, Marco Casario is an authority on all things Flash, Flex, and AIR. Koen De Weggheleire is a highly energetic Flash Platform expert from Belgium who is also extremely active in the community. Rich Tretola has been involved with AIR from the beginning and is a recognized Flex expert.

Packed with advice from such a trusted team, *Adobe AIR 1.5 Cookbook* will find a permanent home beside my keyboard whenever I'm doing any AIR development.

—Lee Brimelow
Platform Evangelist
Adobe Systems, Inc.

Credits

Author Bios

David Tucker is a software engineer with Universal Mind (*http://www.universalmind.com*) and is located in Savannah, Georgia. David's current focus is developing the next generation of rich Internet applications with Adobe AIR, Flex, and Flash. David is the author of the *AIR for Flash Developers* video training series (Lynda.com, 2008). David has worked on a variety of development platforms including ColdFusion and PHP. When David does not have a computer in front of him, he is probably playing guitar. David writes regularly at *http://www.insideria.com*, and his blog can be found at *http://www.davidtucker.net*.

Marco Casario is the founder and CTO of Comtaste (*http://www.comtaste.com*), a company dedicated to exploring new frontiers in rich Internet applications in the enterprise field. He's an Adobe Community Expert, an Adobe Master Instructor for Flex, and a professional speaker at international conferences like Adobe MAX, Flash on the Beach, 360Flex, FITC, AJAXWorld, and Web 2.0 Expo. Marco is the author of *Flex Solutions: Essential Techniques for Flex 3 Developers* (friends of ED, 2007) and *The Essential Guide to AIR with Flash* (friends of ED, 2008), as well as a coauthor of *Advanced AIR Applications* (friends of ED, 2009). He runs his well-known personal blog at *http://casario.blogs.com*.

Koen De Weggheleire is a faculty member of the Technical University of West-Flanders (HOWEST) where he teaches Flash Platform solutions (Flash, Flex, and AIR) with a smile. As the Adobe User Group manager for Belgium (*http://www.adobeusergroup.be*) and Adobe Community Expert for Flash, Koen is heavily addicted to the community; he inspires the community by his blog at *http://www.newmovieclip.com* and by speaking at several events (Adobe MAX, FITC, 360 Flex, Flashbelt, Flash in the Can, and Flash on the Beach). Koen also is a coauthor of *Foundation Flex for Developers* (friends of ED, 2007). When there is still some time left, you can find Koen at his company, Happy-Banana, together with Wouter Verweirder doing Flash Platform consultancy on advanced, award-winning rich Internet applications. When Koen is not talking ActionScript, you can find him producing music, collecting goodies, eating pizza, or renovating his 100-year-old house.

Rich Tretola currently is the rich applications technical lead at Herff Jones. An award-winning Flex developer, he is the lead author of *Professional Flex 2* (Wrox, 2007) and the sole author of *Beginning AIR* (Wrox, 2008). Rich has been building Internet applications for more than 10 years and has worked with Flex since the original Royale beta version of Flex in 2003. Other than Flex, Rich builds applications using ColdFusion, Flash, and Java. Rich is highly regarded within the Flex community as an expert in RIA and is also an Adobe Community Expert. He runs a popular Flex and AIR blog at *http://everythingflex.com*, is the community manager of *http://insideria.com*, and was also a speaker at the Adobe MAX 2007 conference in Chicago. Rich will be speaking at MAX 2008 in San Francisco. For a nontechnical escape, Rich is also a co-owner of a company that manufactures chocolate bars located on Maui named WowWee Maui.

Technical Editor Bios

Ikezi Kamanu is a senior technical consultant at Adobe Systems and longtime RIA enthusiast, with more than 10 years of experience with Adobe technologies. His career in software and multimedia development has been centered on rich, innovative user experiences and overall cool factor. An aspiring "efficiency architect," Ikezi can be seen near his New York home studying checkout counter queues, taxi patterns, or favorable flight routes for his next great escape. His website is *http://www.efficiencyarchitect.com*.

Aaron Brownlee is a senior technical consultant for Adobe Systems and makes his home in Oakland, California. He started doing web development in 1997, spent a decade orienting objects using Java, and currently dazzles the clients of Adobe Consulting using Flex and AIR. When not causing his MacBook to overheat, he enjoys family, bicycles, and motorcycles. His blog can be found at *http://blogs.adobe.com/viab*.

Peter Elst is an Adobe Community Expert, is a certified instructor, and is active in the Adobe User Group Belgium. As a freelance Flash Platform consultant and respected member of the online community, Peter has spoken at various international industry events and has published his work in leading journals. Most recently, Peter was lead author of *Object-Oriented ActionScript 3.0* (friends of ED, 2007).

Community Contributor Bios

Luca Mezzalira is an Italian Adobe Certified Expert and Adobe Certified Instructor for Flash and Flash Lite. Luca is the owner of M.art3, the first Italian Flash Platform agency that works exclusively on Flex, Flash, AIR, and Flash Lite. M.art3 is based in Padova near Venice, Italy. Luca works with national and international companies on many types of projects utilizing the Flash Platform, from mobile devices to touch screens. He also created a training project, called Let's Course, with other Italian companies that organize courses and important events in Italy. In May 2008, Luca became a consultant for Adobe Italy on the Flash Platform. He writes for national and international technical magazines, and he is a staff member of actionscript.it, the Italian

Adobe User Group. In addition, Luca is a speaker for national and international conferences and community events.

Marin Todorov is a software engineer with experience in building web applications and desktop software going back to the mid-90s. Professionally as a developer and manager, he has utilized various technologies, mostly focusing on the server programming side of the Web. In addition to his career as a developer, he has also been an associate university teacher, and he has written many technical articles and published a book about Perl. Marin started using Flash with version 4 and has been developing desktop software in Adobe AIR ever since its early betas. In his free time, Marin fancies composing music and studying languages.

Jeff Tapper has over a decade of experience developing Internet applications for many clients, including Condé Nast, IBM, and Morgan Stanley. He is an Adobe Certified Instructor for all of their Flex, ColdFusion, and AIR development courses. Jeff has worked as an author on ten books, including *Flex 3: Training from the Source* (Adobe Press, 2008) and *Breaking Out of the Web Browser with Adobe AIR* (New Riders Press, 2008). He sits on the editorial board of Flex Developer's Journal. Jeff is a senior consultant at Digital Primates IT Consulting Group.

Matt Poole is a freelance Flash platform consultant and developer working in London, United Kingdom and is active in the London Flex and Flash Platform user groups. Matt has consulted on making the most of breaking Flash Platform features in the social networking and online gambling arenas, and has more recently been involved in the high profile BBC iPlayer.

Greg Jastrab is a Flex/Flash/AIR developer working at SmartLogic Solutions, LLC, in Baltimore, Maryland. He has been using Flash since Flash 5 and Flex since 1.5. When not coding, Greg enjoys playing poker, guitar, video games, and relaxing with his wife and dog.

Ryan Stewart is a Platform Evangelist for Adobe and lives in Seattle, Washington. He has been doing Flex development for almost five years and has a passion for all things rich Internet application. He has had speaking engagements at industry conferences like Adobe MAX, Web 2.0 Expo, and Web Design World. He also has an industry-leading blog on ZDNet, where he covers all aspects of the RIA space. In his free time, he hikes, goes mountaineering, and codes.

Preface

AIR is a powerful application runtime that lets developers build cross-platform desktop applications in multiple development environments: Flex, Flash, and JavaScript. AIR applications have all the features you would expect from a web application, but in addition, they provide functionality you would expect from a desktop application, including file system access, network monitoring, and an embedded database.

The *Adobe AIR 1.5 Cookbook* exists to help you solve problems. It is not here to explain everything about AIR but rather to be a guide and reference during your AIR development. Like every developer, you will inevitably encounter roadblocks during development, and this book will help you get over the hump.

The challenge in writing this book was to adequately discuss as much of the AIR APIs as possible for each of the three development environments: Flash, Flex, and JavaScript. Because of this, we have chosen to tackle specific areas of AIR development that we think are useful for developers. This book is meant to provide answers for beginning, intermediate, and advanced AIR developers.

AIR 1.5

This book introduces the newest version of the runtime, AIR 1.5. This is the fourth production release of AIR. This new version adds some great tools to the developer's toolset. In addition to many bug fixes, this version includes several new features:

- Support for Flash Player 10: The biggest addition to AIR 1.5 is the support for the new functionality in Flash Player 10 including 3D support, a new type engine, Pixel Bender filter integration, new Sound APIs, and much more.
- SquirrelFish JavaScript interpreter: The new SquirrelFish JavaScript interpreter from the WebKit project provides extremely fast JavaScript execution within AIR.

For more information on the SquirrelFish JavaScript interpreter, visit the WebKit blog here: *http://webkit.org/blog/189/announcing-squirrelfish/*.

- Encrypted SQLite database support: Previously the only way to store encrypted data within the AIR API was to utilize the encrypted local store. Now AIR allows you to store structured relational data inside a SQLite database with AES encryption.
- Extended language support: In addition to the languages that were supported in AIR 1.1, the new release of AIR supports Swedish, Dutch, Czech, Turkish, and Polish.

In this book, you will learn about many of the new features that are included with AIR 1.5.

Flash Player 10 Support

Although we cover the new areas of the AIR API, many of the features within Flash Player 10 are specific to a certain development environment. If you are interested in learning more about 3D support, the new type engine, or the new Sound APIs, be sure to check out the documentation for your development environment (whether Flex or Flash).

Bonus Chapter Online: Developing Mashup AIR Applications

We wanted to strike a balance between providing single solutions for problems and also helping developers build AIR applications for the first time. Because of this, we have provided an additional chapter online that will walk you through the process of creating four different mashup applications with Adobe AIR utilizing the solutions found in this book. This chapter should assist anyone new to AIR in developing a complete application. Go to *http://www.oreilly.com/catalog/9780596522506* to read the bonus chapter.

Who This Book Is For

The *Adobe AIR 1.5 Cookbook* is for intermediate developers who already have an understanding of their specific development environment. That means Flash and Flex developers need to already have a good understanding of ActionScript 3. It also means that JavaScript developers need to have a working knowledge of the language. We have tried to provide background information where it is needed, but without a core understanding of your development environment, many solutions may not make sense.

Every recipe in this book contains code for each development environment. This means that if we are presenting a solution for the File API, we'll provide both the ActionScript and JavaScript solutions. It also means that if we are discussing how to edit the application descriptor file, we will cover how to manually edit the XML file for Flex and JavaScript AIR applications as well as how to use the graphical tool provided in Flash.

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Who This Book Is Not For

This book is not for developers who are new to ActionScript 3 or JavaScript. You will need to understand one of these languages. If you are new to Flex, you may want to read *Programming Flex 3* by Joey Lott and Chafic Kazoun (O'Reilly, 2008), and if you are new to ActionScript 3, you may want to check out *Learning ActionScript 3* by Rick Shupe and Zevan Rosser (O'Reilly, 2007). If you are new to JavaScript, you may want to read *Learning JavaScript* by Shelley Powers (O'Reilly, 2006). However, if you are familiar with ActionScript 3 or JavaScript but you have not worked with AIR previously, there is ample material to get you started developing your first application here within the book.

How This Book Is Organized

This book is a collection of recipes intended to be a reference that you can use in your AIR development. Each recipe in this book is a stand-alone solution. However, where needed, the recipe might reference other recipes in the book to provide additional information that may be needed to solve the problem. Our hope is that this book can be a valuable resource in your development by providing quick and easy-to-understand solutions to common problems you may encounter.

This book is essentially divided into four content groupings:

Chapter 1–Chapter 2 give you basic information about how to develop AIR applications in the different development environments as well as how to configure an AIR application's settings.

Chapter 3–Chapter 15 provide solutions for working with the APIs that are included with AIR. This includes the file system, a network monitoring framework, the embedded SQLite database, and much more.

Chapter 16–Chapter 17 give you the information needed to distribute and update your application. This includes using the AIR Update Framework and using the install badges.

The **online chapter** provides information needed to create mashup applications utilizing popular public APIs available to developers.

As mentioned earlier, each chapter provides information for each of the development environments.

Conventions Used in This Book

The following typographical conventions are used in this book:

Menu options

Menu options are shown using the → character, such as File→Open.

Italic
: Italic indicates new terms, URLs, email addresses, filenames, and file extensions.

`Constant width`
: This is used for program listings, as well as within paragraphs, to refer to program elements such as variable or function names, databases, data types, environment variables, statements, and keywords.

`Constant width bold`
: This shows commands or other text that should be typed literally by you.

`Constant width italic`
: This shows text that should be replaced with user-supplied values or by values determined by context.

This Book's Example Files

You can download the example files for this book from this location:

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Where necessary, multiple code samples are provided for each recipe to correspond with the different development environments. Each sample will be separated into a folder for the specific environment. Each application should include the needed code for your environment as well as an application descriptor file.

Using the Code Examples

This book is here to help you get your job done. In general, you may use the code in this book in your programs and documentation. You do not need to contact us for permission unless you're reproducing a significant portion of the code. For example, writing a program that uses several chunks of code from this book does not require permission. In addition, answering a question by citing this book and quoting example code does not require permission. However, selling or distributing a CD-ROM of examples from O'Reilly books does require permission. Incorporating a significant amount of example code from this book into your product's documentation does require permission.

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How to Use This Book

Development rarely happens in a vacuum. In today's world, email, Twitter, blog posts, co-workers, friends, and colleagues all play a vital role in helping you solve development problems. Consider this book yet another resource at your disposal to help you solve the development problems you will encounter. The content is arranged in such a way that solutions should be easy to find and easy to understand. However, this book does have a big advantage: it is available anytime of the day or night.

The Adobe AIR Cookbook Cook-Off

O'Reilly sponsored the Adobe AIR Cookbook Cook-Off, a chance for developers to submit recipes and win prizes. Many of the top entries have been included in this book, and the winning entry from Greg Jastrab can be found at Recipe 9-13. This contest was open to developers in the United States. Greg's entry was chosen by a group of experts in the RIA development community. Congratulations, Greg!

O'Reilly Cookbooks

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While four of us get to share the cover of the book, we all know that none of this would have been possible if it had not been for the hard work of many people behind the scenes.

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While the authors have contributed some great solutions in this book, the technical editors contributed a great deal of insight and knowledge into making the recipes easy to understand and follow. The work of Ikezi Kamanu, Aaron Brownlee, and Peter Elst

was essential in developing the final recipes. They provided insight into every aspect of the recipes including the code content, the code structure, the wording of solutions, and the structure of the chapters. This book is significantly better because of their input.

From David

This book was truly a collaborative effort between Marco, Rich, Koen, and me. I have learned something from each of them, and I am extremely grateful to have such a great group of coauthors for this book.

I want to thank Steve Weiss for giving me the opportunity to write this book. Steve has been someone who I learned a great deal from, and he has opened many doors for me that would have taken me decades to open by myself. In addition, I want to thank Michael Koch at Adobe for giving me many opportunities to contribute to the Adobe AIR Developer Center. Many highlights in my career were initially brought about by the opportunities he gave me to write. In addition, Rich Tretola has provided a great example to me of how to positively contribute to the developer community in many different ways. Also, I want to thank Jill Parks and Sam Skinner whose wisdom served me well during my time at Georgia Tech, when the book was just in its conceptual stage.

Finally, I have several people to thank in my family: Brian and Kevin for providing a great example to follow, Mom for always providing encouragement, Dad for exemplifying hard work and integrity, and Shannon for being an amazingly patient and supportive wife during the writing of this book. Most of all, to Jesus, who blesses Shannon and me beyond what we deserve, even with suffering, so we could learn to love Him more.

From Marco

My contribution to this book wouldn't be possible without David Tucker, who gave me the possibility to collaborate with him on this awesome book, and of course without the support of the O'Reilly team, specifically, Steve Weiss and Dennis Fitzgerald. I'm amazed by the hard work done by the reviewers of this book. Thanks.

Finally, I would like to thank my girlfriend, Katia, for her patience with all the weekend hours spent on this book in the past months.

I dedicate this book to my mother who taught me to constantly challenge myself yet remain balanced.

From Koen

I really want to thank the dedicated people at O'Reilly for their professional help and guidance. I also want to thank my coauthors—David, Marco, and Rich—for the incredible amount of work they have put into this book to make it the best.

Of course, I also want to thank my colleagues, friends, and family for being supportive and for understanding why I sometimes didn't have enough time for them.

I learned a lot from the community, and I still do, but I am very happy that I can give something back. You know...it's all about giving back to the community!

Happy coding!

From Rich

Special thanks for the hard work of my coauthors—David, Marco, and Koen—and also Steve Weiss for asking me to be part of this book.

I would also like to thank my wife and best friend, Kim, and my daughters, Skye and Coral.

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