

Extracted from:

Beginning Mac Programming

Develop with Objective-C and Cocoa

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The
Pragmatic
Programmers

Beginning Mac Programming

Develop with Objective-C
and Cocoa



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Chapter 1

Introduction

The iPad, the iPhone, the iPod, the iMac...

The world according to Apple is vast and ever-expanding. The Mac and iPhone OS platforms seem to breed passionate users, united in their love for software and hardware that looks beautiful, behaves exactly how they expect, and works without the pains of hardware incompatibilities, driver installations, and convoluted interfaces.

Behind this alluring exterior lies a fascinating world. All computer platforms have communities of software developers, each equally devoted to what they do. What seems to set the Mac platform apart, though, is that so much of the available Mac and iPhone software has been written either by individual developers, working as independents, or for relatively small companies that maintain that “indie” feel. The sense of community is great, newcomers are welcomed and respected, and the indie-developer experience offers many rewards.

What also sets the Mac apart from another, reasonably well-known computer platform, is that the tools to write software come bundled *free of charge* with every Mac. They’re even available as free downloads from Apple’s website if you happen not to be able to find the original system discs or want the absolutely latest version.

Perhaps the only reasonable excuse not to sit down and write software right away is that the learning curve feels steep. The advice is often to “Go away and learn C, and come back when you’re done!” The aim of this book is to offer a different path.

We’ll be jumping headfirst into creating applications on the Mac that look and behave like the other Mac applications you’re used to. We’ll certainly be learning general programming principles, but we will be

putting them into practice in real-world situations, right from the start. Over the course of the book, you'll learn enough that you can fend for yourself, with enough knowledge of how the Mac programming world works that you know where to go to fill gaps in your knowledge with information from the right sources.

1.1 The Intended Audience

This book is designed for those of us who don't have a degree in computer science. It's intended to be read by people who've spent time working with the Mac, perhaps as power users of their applications, or at least people with the confidence that they know enough to explain the difference between, say, a menu and a window. Most importantly, the book is intended for people who have little or no previous programming knowledge.

If you already revel in the intricacies of hash tables or take pleasure in analyzing complex algorithms, this book probably isn't for you. Similarly, if you prefer to learn theory first or you work best studying computer stuff away from your computer, it's probably wise to look at some of the other books out there.

Throughout the course of this book, we'll be going over basic programming skills, picking them up as they relate to the language we're learning and to the coding we'll be doing. By the time you reach the end, not only will you have learned enough to start building your own Mac applications, but you'll be confident enough to take on the more advanced literature that's available.

1.2 What's Involved?

So, what will we cover in this book? Well, we'll be learning a programming *language*. On the Mac, this means learning something called Objective-C. Don't worry, it's not too scary, and we won't be trying to learn all of it, all at once. Learning a computer programming language is much easier than learning to speak a foreign language; computers understand only a relatively limited vocabulary and grammar.

For some of the programming principles we'll be learning, we'll introduce concepts using a kind of "pseudolanguage," which is really just standard English made more formulaic. As will quickly become clear, this pseudolanguage isn't too far from what Objective-C actually looks

like. Once we've learned to recognize the basic structure of a code project and learned the grammar, or *syntax* used inside the project files, it's not too difficult to work out what's going on in the code.

At the same time that we're learning Objective-C, we'll be learning about a *framework* provided by Apple, called Cocoa, and, obviously, we'll be spending a lot of time using the developer *tools* Xcode and Interface Builder to make Mac software.

The great thing about learning Objective-C for the Mac desktop is that it is also the language used to write software for the iPhone OS, that is, for applications that run on Apple's iPhone and iPod touch devices; toward the end of this book, we'll even take a quick foray into writing iPhone software. The software-building processes we'll learn throughout the book apply just as much on the iPhone as they do the Mac desktop, so we'll be learning skills that open up multiple new worlds of creativity!

1.3 What's Needed?

If you're reading this book, it's probably fairly likely that you either own or have access to a Mac. It doesn't matter whether it's an old PowerPC-based model or the latest top-of-the-line, Intel-based Mac Pro. As long as it runs OS X, you can use it with this book to learn Mac programming.

You won't need to buy any special software. As we've already said, Apple's developer tools are available either on the system discs that came with your computer (or on OS X upgrade discs) or for download from Apple's Developer Connection website. You'll need to register with Apple as a Developer Connection member to download the software, but registration is free.

The developer tools must be installed—they probably won't be available to run on your hard drive unless you've specifically installed them. Installation is very easy; for help, take a look at Appendix B, on page 405.

The only additional considerations are if you want to take iPhone coding further. As a start, the tools used to write for the iPhone OS require an Intel-based Mac. If you want to test and run your software on a real iPhone or iPod touch (rather than in a simulator on your desktop Mac), you'll need to sign up as a registered iPhone Developer; this isn't particularly expensive but, at the time of writing, bears an annual fee

of \$99 for individuals. Rest assured that you won't *need* to do this to get the most out of this book, though.

The screenshots in this book are taken from version 3.2 of the developer tools—the version that comes with Mac OS X 10.6, Snow Leopard. If you're running Mac OS X 10.5, Leopard, you may find that some parts of Xcode look slightly different, but it shouldn't be too difficult to work out how your version relates to what you see in this book.

1.4 Acknowledgments

Although it's *my* name that's listed on the front, this book would not exist were it not for the work of a very large number of people.

Thankfully, the ever-awesome publisher, Pragmatic Bookshelf, also includes the name of the editor on the cover, which is truly fitting for what Colleen Toporek has put into this project. If I simply used the standard author phrase about “tireless support,” it would be one of the biggest understatements of all time. This has been a partnership from beginning to end, and this is as much her book as it is mine.

I have also been lucky enough to have an incredible team of technical reviewers, reading through manuscripts at various stages. The early input from Lyndia Zarra, Bill Dudney, and Rob McGovern requires special mention, as it helped shape much of the book's path and style; they even provided a second set of comments once the first draft was almost complete, for which I doubtless owe an as yet undisclosed number of drinks.

My drawing skills are somewhat lacking, so I'm indebted to David Perkins for his willingness to turn my horrendous scribbles into recognizable shapes. I am also extremely grateful to Dave Verwer, Chris Adamson, Dave Klein, and David Flagg for their support and technical comments on the book as a whole as it got closer to completion, and to Uli Kusterer, Danny Greg, Matt Gallagher, Loren Brichter, Cathy Shive, and Daniel Jalkut for looking over and commenting on the near-final manuscript.

Finally, I'd like to thank all those who submitted errata and forum questions on the book as it went through the Pragmatic Beta process. The Mac and iPhone developer community has to be one of the friendliest, most helpful and supportive groups in existence. We look forward to welcoming you, the reader, into it!

1.5 Let's Go

Writing software for the Mac, and indeed programming in general, can be incredibly rewarding. It doesn't necessarily have to be done at 3 a.m. fueled on coffee or cola, but sometimes it's easy to get carried away knowing that some awesome feature is *so* close to working.

We'll probably manage to avoid some of the blood, sweat, and tears normally associated with learning programming, but even those who have suffered for their art will tell you that it's worth it to use a great piece of software every day and be able to say "I made that!" And, of course, it's even greater to watch other people using and loving (and maybe paying for...) your software too.

So, let's get started!

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