

# Introduction

When Flickr was launched in early 2004, few would have expected that a little more than a year later it would not only have become one of the top photo-sharing sites on the Internet, but also have caught the eye of the Internet giant Yahoo!, which acquired Flickr and its parent company Ludicorp in March 2005.

Many things could be said to have contributed to Flickr's enormous success: the intuitive user interface, the friendly tone of the text scattered about the site, the emphasis on the social aspects of building a web-based community, perhaps even just its being in the right place at the right time. One thing is clear — the decision to open up Flickr to the outside world was a smart one. Allowing developers to create applications that can fully interact with Flickr, storing and retrieving photos, together with all the other details stored alongside them, has spawned a whole secondary industry in Flickr-based applications. It seems that you can find practically everything out there — from tools to help you upload your photos to applications to turn your photostream into a bound and printed book. Everyone, from hobbyists to businesses, is getting in on the act.

The emergence of mashups as a means of building systems presents a whole new world of possibilities. No longer do you have to wait for a company to implement the features you know you need — you can just do it yourself. If Flickr doesn't provide a way to automatically build sets of your most interesting photos, you don't need to sit waiting in despair — you can go ahead and create the necessary functionality. Perhaps you want to geotag your photos, but Flickr's maps don't cover your local area very well? That's not a problem — use the Flickr API to enable you to overlay your photos onto Google maps instead. If you don't like Google Maps, take your own aerial photographs and use those! No matter how niche your requirements are, the fact that companies like Flickr are opening up their systems to outside developers means that you can supplement the services they provide to get just what you need, regardless of how bizarre or offbeat that need is.

Flickr is a great starting point for building mashups — a picture is worth a thousand words, and pictures are something Flickr has in abundance. You only have to visit Flickr fleetingly to realize that it is packed full of great photographs — pictures of pretty much everywhere in the world. From Antarctic survey stations to Brazilian rain forests, from New York skyscrapers to African desert scenes — with such an abundance of spectacular imagery, it is little wonder that people want to build new ways to explore and interact with this vast photographic database. Whatever it is you want to display, chances are you will find it on Flickr.

## Whom This Book Is For

If you are interested in building software that interfaces with Flickr in some way, then this book is for you. You'll need to be comfortable with a few things first, though. In this book, I won't teach you how to program from scratch — you should at least be familiar with basic programming techniques. If you know what a `for` loop is, though, you're well on the way.

# Introduction

---

As you work through this book, you'll come across a wide range of different tools and technologies — everything from AJAX to MySQL, from Greasemonkey to ImageMagick. You're not expected to be an expert in each of them — in fact, you're not expected to know very much about them at all. As you go through, you will find enough about each new piece of software or technology to enable you to easily follow the examples and understand what is going on. Where possible, additional references are provided so that readers who want to pursue in more detail some of the topics covered can easily do so at their leisure.

You'll be using PHP for most of the examples shown, so a passing familiarity with PHP or similar scripting languages would be very helpful. If you're not already familiar with PHP, all is not lost — PHP is a pretty straightforward language and very easy to learn. If you've used other programming languages, such as JavaScript, Perl, C++, or Java, the code in this book should present you with very little difficulty. The documentation on the PHP web site at [www.php.net/](http://www.php.net/) contains everything you need to bring you up to speed.

Pretty much all the examples presented here are web-based, and so a working knowledge of basic HTML and some familiarity with JavaScript is assumed. All the basics of setting up a web server and PHP are covered in Chapter 3, so even if you've never looked under the covers of a web server before, this book should tell you everything you need to get you started.

One chapter, Chapter 10, uses Perl. Even if you don't know Perl, the code used is fairly straightforward and most developers should be able to follow the example and get it up and running without any problems. Again, you're gently walked through the process of getting Perl installed and running on your computer, so there's really no excuse not to give it a try. If you really, really loathe it, however, the chapter is completely optional — skipping it won't spoil your enjoyment of the rest of the book in any way whatsoever.

## What This Book Covers

In this book, you will be walked through a variety of ways to build software that interacts in some way with Flickr. You'll see how to use feeds to retrieve information, how to use Greasemonkey to change the Flickr web site to suit your own needs, and how to use the Flickr API to build whole systems that use Flickr as a source of information.

As this book is being written, Flickr is in what the developers call, in typical tongue-in-cheek fashion, "gamma" status. Gamma is the next letter in the Greek alphabet after beta — so the implication is that they consider the site to be out of beta, but still not ready for final release. In fact, a site like Flickr can never be considered "final" — some things can always be improved and new features added. It is inevitable that as time goes on, some parts of this book will grow dated — in particular those bits that say things like "Flickr doesn't do this yet." Although some of the details may change, and newer and cooler ways of building things will emerge, the basic principles covered in this book will remain valid. The techniques you will see used here will stand you in good stead all the way through to Flickr omega.

It's not only Flickr that changes over time — in this book you will use a wide variety of software packages, and those too can be expected to grow and evolve. If you want to catch up on the latest changes made to either Flickr or the software packages used here, in particular with regard to how they may affect anything you read in this book, you should check out my web site at [www.dopiazza.org/](http://www.dopiazza.org/). You will find information there about changes that have an impact on anything you read here. You'll also find some other Flickr remixes and mashups to play with. If you dig deeper, the site features also a

whole bunch of things that you are probably not the slightest bit interested in — including some great recipes — but don't worry, you're not obliged to read those. The chicken with chili and nuts is pretty good, though, even if I say so myself.

## How This Book Is Structured

This book is very much about learning by doing. It includes many hands-on examples to help you understand how things work, and each chapter includes one or more exercises to help you put all your newly-learned skills to the test. Don't worry if you get stuck, though — Appendix A contains full answers to all of the exercises.

The book is divided into three parts. Part I, “Building a New Internet” is aimed at bringing you up to speed with the world of mashups, and getting you ready to start building them. Chapter 1 talks about remixes and mashups, and the differences between them. It describes the world of Web 2.0 and introduces many of the technologies you will be using during the course of this book. Chapter 2 then takes you on a short guided tour of Flickr — even if you're already familiar with the Flickr web site, this chapter helps identify some of the interesting bits from the mashup author's perspective. Chapter 3 makes sure that you are fully equipped to start developing your mashups. It walks you through the process of setting up a development web server, and it shows you how to configure PHP and install Perl — by the end of this chapter, you will have all the software you need in place, ready to start mashing. Part I concludes with Chapter 4, “The Flickr API.” This chapter explains the main programmatic interface you will be using to build the projects in this book.

Parts II and III are all about building software. In these sections you are guided, step-by-step, through a series of software projects. Some of the projects are complete stand-alone applications, while others build upon earlier projects to add new features. Each project introduces you to a new aspect of building mashups with Flickr, guiding you through the process of creating your own working application. Part II focuses on remixes — taking content from Flickr and presenting it on your own web site, or even changing the look of the Flickr web site itself by using Firefox and Greasemonkey. Part III concentrates on mashing. In this section you will take content from both Flickr and a variety of other sources to build a range of projects, from finding photographs to illustrate news feeds through to displaying your photos on Google Maps. The final chapter of the book looks at some more advanced mashup techniques and shows you how to use a local database to improve the performance and scalability of your software.

By the end of the book you will have built a variety of remixes and mashups, each building upon the core services provided by Flickr, and you will be well prepared to embark on new mashup projects of your own.

## What You Need to Use This Book

All the software used in this book — web servers, PHP, Perl, ImageMagick, MySQL — is cross-platform. Whatever your choice of computing environment, it is more than likely that you will be able to build the projects described here. It is, however, impractical to give full instructions on how to set up every kind of computer out there. The chapters that discuss installation and setup of software packages such as Apache, PHP, Perl, and MySQL are written principally from the point of view of a user running Windows XP Professional. Users of other variants of Windows will probably find their experiences largely similar, but possibly subtly different.

# Introduction

---

Linux users will find, on the whole, that all the software they need is already included within their Linux distribution, and should consult their distribution's documentation for instructions on how to make sure that the necessary packages are installed.

All the software packages needed for the exercises in this book are also available for Mac OSX and, wherever possible, additional notes are given to help you locate the necessary software and installation and configuration information.

## Conventions

To help you get the most from the text and keep track of what's happening, we've used a number of conventions throughout the book.

**Boxes like this one hold important, not-to-be forgotten information that is directly relevant to the surrounding text.**

*Tips, hints, tricks, and asides to the current discussion are offset and placed in italics like this.*

As for styles in the text:

- ❑ We *italicize* new terms and important words when we introduce them.
- ❑ We show keyboard strokes like this: Ctrl+A.
- ❑ We show filenames, URLs, and code within the text like so: `persistence.properties`.
- ❑ We present code in two different ways:

In code examples we highlight new and important code with a gray background.

The gray highlighting is not used for code that's less important in the present context, or that has been shown before.

## Source Code

As you work through the examples in this book, you may choose either to type in all the code manually or use the source-code files that accompany the book. All the source code used in this book is available for download at [www.wrox.com](http://www.wrox.com). Once at the site, simply locate the book's title (either by using the Search box or by using one of the title lists) and click the "Download Code" link on the book's detail page to obtain all the source code for the book.

*Because many books have similar titles, you may find it easiest to search by ISBN; this book's ISBN is 978-0-470-09774-8.*

Once you download the code, just decompress it with your favorite compression tool. Alternately, you can go to the main Wrox code download page at [www.wrox.com/dynamic/books/download.aspx](http://www.wrox.com/dynamic/books/download.aspx) to see the code available for this book and all other Wrox books.

## Errata

We make every effort to ensure that there are no errors in the text or in the code. However, no one is perfect, and mistakes do occur. If you find an error in one of our books, such as a spelling mistake or faulty piece of code, we would be very grateful for your feedback. By sending in errata you may save another reader hours of frustration and at the same time you will be helping us provide even higher-quality information.

To find the errata page for this book, go to [www.wrox.com](http://www.wrox.com) and locate the title using the Search box or one of the title lists. Then, on the book details page, click the “Book Errata” link. On this page you can view all errata that have been submitted for this book and posted by Wrox editors. A complete book list, including links to each’s book’s errata, is also available at [www.wrox.com/misc-pages/booklist.shtml](http://www.wrox.com/misc-pages/booklist.shtml).

If you don’t spot “your” error on the Book Errata page, go to [www.wrox.com/contact/techsupport.shtml](http://www.wrox.com/contact/techsupport.shtml) and complete the form there to send us the error you have found. We’ll check the information and, if appropriate, post a message to the book’s errata page and fix the problem in subsequent editions of the book.

## p2p.wrox.com

For author and peer discussion, join the P2P forums at [p2p.wrox.com](http://p2p.wrox.com). The forums are a Web-based system enabling you to post messages relating to Wrox books and related technologies and to interact with other readers and technology users. The forums offer a subscription feature to e-mail you when new posts on topics of interest to you are made to the forums. Wrox authors, editors, other industry experts, and your fellow readers are present on these forums.

At <http://p2p.wrox.com> you will find a number of different forums that will help you not only as you read this book, but also as you develop your own applications. To join the forums, just follow these steps:

1. Go to [p2p.wrox.com](http://p2p.wrox.com) and click the Register link.
2. Read the terms of use and click Agree.
3. Complete the required information to join as well as any optional information you wish to provide and click Submit.
4. You will receive an e-mail with information describing how to verify your account and complete the joining process.

*You can read messages in the forums without joining P2P, but in order to post your own messages you must join.*

Once you join, you can post new messages and respond to messages other users post. You can read messages at any time on the Web. If you would like to have new messages from a particular forum e-mailed to you, click the Subscribe to this Forum icon by the forum name in the forum listing.

For more information about how to use the Wrox P2P, be sure to read the P2P FAQs for answers to questions about how the forum software works as well as to many common questions specific to P2P and Wrox books. To read the FAQs, click the FAQ link on any P2P page.