



## Flickr Hacks

By Paul Bausch, Jim Bumgardner

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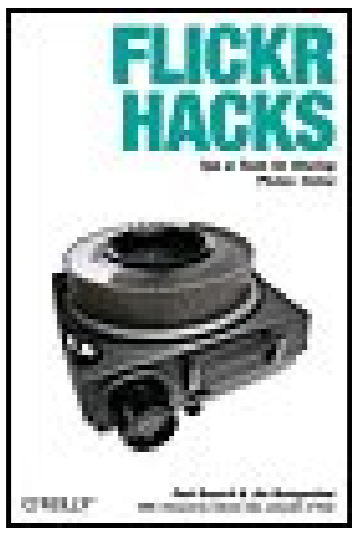
## Overview

Over two million registered Flickr users and counting have discovered the ease and fun of organizing their photo libraries, showing off their favorite pictures to the world, and securely sharing their private pictures with friends, family, or ad hoc groups. But Flickr's own plethora of intuitive menus, options, and features just scratches the surface.

*Flickr Hacks* goes beyond the basics of storing, sorting, and sharing your photos to the much bigger playground of what's possible. Whether you're a beginner looking to manage your metadata and play with tags, or a programmer in need of a detailed reference of Flickr API methods, you'll find what you're looking for here. In addition to getting under the hood of some of the most popular third-party Flickr toys already in the wild, you'll learn how to:

- Post photos to your blog directly from your cameraphone
- Mash up your own photos or others' public pictures into custom mosaics, collages, sliding puzzles, slideshows, or ransom notes
- Back up your Flickr library to your desktop, and save the comments too
- Set random desktop backgrounds and build your own Flickr screensaver
- Geotag your photos and map your contacts
- Download a list of photos and make a contact sheet
- Make your own Flickr-style tag cloud to visualize the frequency of common tags
- Build a color picker with a dynamic color wheel of Flickr photos
- Feed photos to your web site and subscribe to custom Flickr feeds using RSS
- Talk to the Flickr API using your web browser, Perl, or PHP; authenticate yourself and other users; and build custom API applications

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# Preface

In February 2004, a tiny startup in Vancouver called Ludicorp launched a web site for sharing photos called Flickr. Using some of the tools they'd built for their primary product (a web game called Game Neverending), Ludicorp quickly changed the way millions of people share photos. Just one year and one month after its launch, web giant Yahoo! purchased Flickr with rumors putting the price tag at somewhere around \$30 million. Yahoo! is now working diligently to "Flickrize" all of its features by adapting the innovations that Flickr brought to photo sharing to Yahoo!'s existing features for searching, shopping, and travel planning.

So, what exactly did Flickr accomplish that attracted millions of users and has an established web company changing the way it does business? The answer isn't an easy one, but studying how Flickr has taken the world by storm can give us some indication of where the Web is headed.

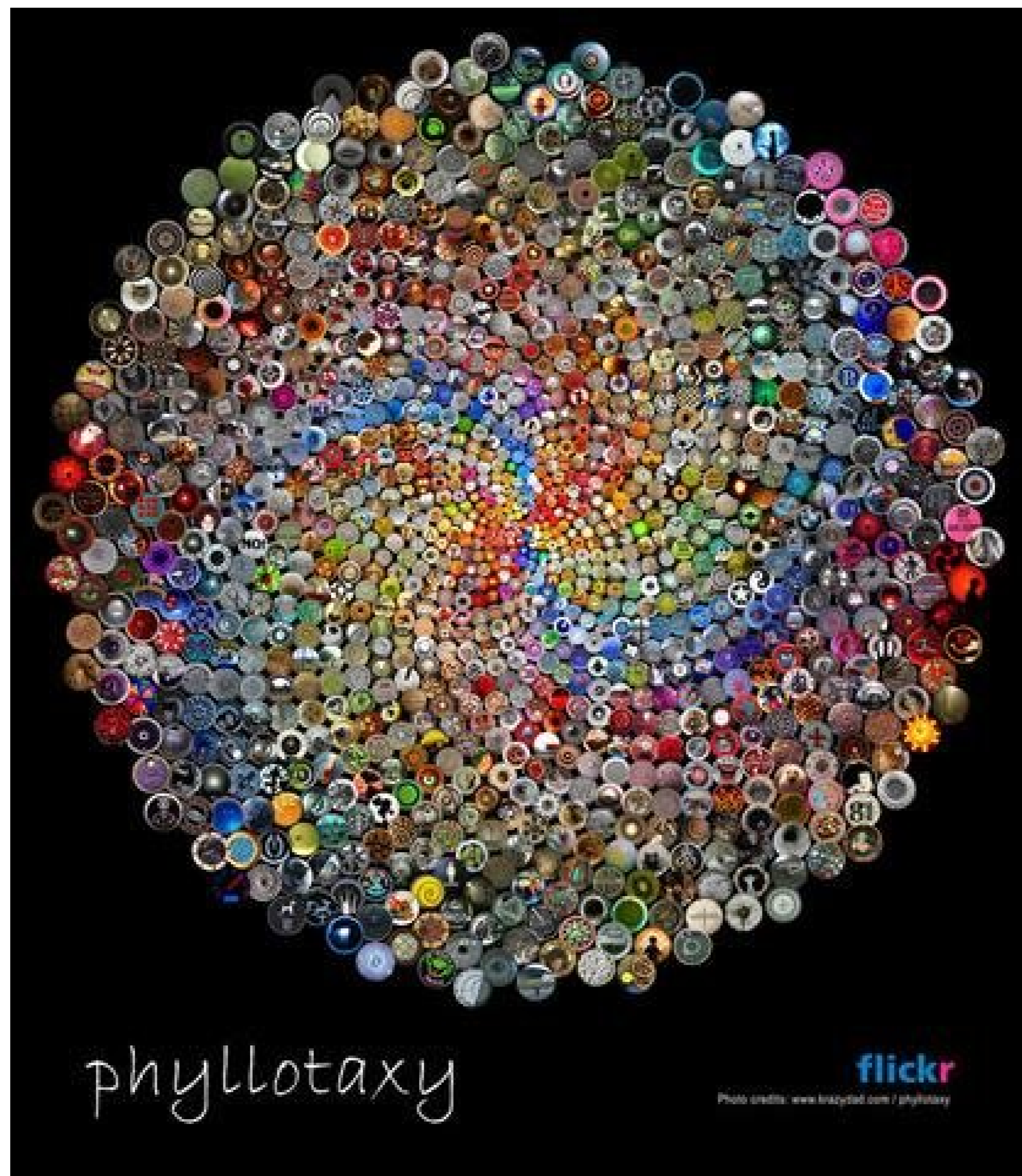
One innovation that Flickr pioneered is the act of *tagging* digital content. Instead of imposing a category system, Flickr lets individual photographers do the hard work of classifying photos. For example, a photo of a car can be tagged with words such as *car* or *automobile*, or with more specific descriptive terms such as *Honda*, *convertible*, or *shiny*. Then, others interested in pictures of cars, convertibles, or shiny things can browse those tags to find photos that might interest them. Tagging is a clever way to loosely connect photos without a structured categorization system.

In addition to tagging, Flickr allows members to create ad hoc groups to share photos of specific subjects. A famous frivolous example is the Flickr Squared Circle group (<http://www.flickr.com/groups/circle/>), which formed to share photos of circular objects cropped to squares. Anyone can participate, and the group has built a library of over 22,000 squared circle photographs at the time of this writing.

In addition to collaborating with strangers on Flickr, you can add friends and family to your Flickr contacts list to easily keep track of new photos posted by people you know. It's a simple but powerful way to share experiences with people you care about.

Another innovation that sets Flickr apart from other photo-sharing services is its open API. Flickr's open architecture allows outside developers to code features for Flickr and show Flickr photos on other web sites and inside other applications. One striking example of the API in action is Jim Bumgardner's visualization of over 1,000 images in the Flickr Squared Circle pool, shown in [Figure P-1](#).

Figure P-1. Flickr squared circle poster



The individual photographers contributing to the Squared Circle group had no idea their photos would end up in a colorful montage, but Flickr's API made the visualization possible. Many sites and applications have already integrated with Flickr thanks to the API, and you'll see many examples of how people are using the API in this book.

The power of sharing photos instantly via the Web hit mainstream consciousness soon after bombs ripped through London's subway on July 7, 2005. As television news networks scrambled to get images of the bombing on TV, pictures were already appearing on Flickr, thanks to people with cell phone cameras at the scene. The photo by Adam Stacey shown in [Figure P-2](#) became an early icon of the attacks, and you can still view this photo on Flickr (<http://www.flickr.com/photos/qwghlm/24230239/in/pool-bomb/>) and read the comments posted.

Figure P-2. London bombing photo by Adam Stacey



During a horrific incident, when people were desperate for any information they could glean about the situation, Flickr provided a way to share images from the event instantly, while it was happening. In addition, Flickr provided a space where people could discuss the event and form groups to share bombing photos, and Flickr's tagging features allowed others to find bomb-related photos quickly.

While most of the photo sharing that happens on a daily basis at Flickr isn't nearly as serious as the photos shared on July 7, 2005, the London bombings let the world know that the features Flickr provides make it more important than a simple web toy.



## Why Flickr Hacks?

The term *hacking* has a bad reputation in the press. They use it to refer to someone who breaks into systems or wreaks havoc with computers as their weapon. Among people who write code, though, the term *hack* refers to a "quick-and-dirty" solution to a problem, or a clever way to get something done. And the term *hacker* is taken very much as a compliment, referring to someone as being *creative*, having the technical chops to get things done. The Hacks series is an attempt to reclaim the word, document the good ways people are hacking, and pass the hacker ethic of creative participation on to the uninitiated. Seeing how others approach systems and problems is often the quickest way to learn about a new technology.

This book aims to help you gain a deeper appreciation and understanding of the creativity Flickr has made possible by showing you some of the many ways people are using and extending Flickr on their own. By understanding Flickr, you'll have a better sense of where the Web is headed, and how you can participate.

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## How to Use This Book

You can read this book from cover to cover if you like, but each hack stands on its own, so feel free to browse and jump to the different sections that interest you most. If there's a prerequisite you need to know about, a cross-reference will guide you to the right hack.

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## How to Run the Hacks

The programmatic hacks in this book run either on the command line (that's Terminal for Mac OS X folks) or as CGI scripts or PHP scripts dynamic pages living on your web site, accessed through your web browser.

### Command-Line Scripts

Running a hack on the command line invariably involves the following steps:

1. Type the program into a garden-variety text editor: Notepad on Windows, TextEdit on Mac OS X, *vi* on Linux. Save the file as directed usually as *scriptname.pl* (the *.pl* bit stands for Perl, the predominant programming language for dynamic web pages).

Alternately, you can download the code for all of the hacks online at <http://www.oreilly.com/catalog/errata/errata.html>. Individual scripts already saved as text files.

2. Get to the command line on your computer or remote server. In Mac OS X, launch Terminal (Applications → Utilities → Terminal). Start button, select Run, type `command`, and hit the Enter/Return key on your keyboard. In Unix... \ command line.
3. Navigate to where you saved the script at hand. This varies from operating system to operating system. For example, `~/Desktop` (that's your Desktop on the Mac).
4. Invoke the script by running the programming language's interpreter (e.g., Perl) and feeding it the

```
perl
scriptname.pl
```

5. Most often, you'll also need to pass along some parameters your search query, the number of results to return, script name, enclosing them in quotes if they're more than one word or if they include an odd character.

```
perl
scriptname.pl "much ado about nothing" script' 10
```

6. The results of your script are almost always sent straight back to the command-line window in which you ran it.

```
> perl
scriptname.pl "much ado about nothing" script' 10
```

1. "Amazon.com: Books: Much Ado About Nothing: Screenplay ..." [http://www.amazon.com/...]
2. "Much Ado About Nothing Script" [http://www.signal42.com/much\_ado\_about\_nothing\_...]
- ...



The ellipsis (. . .) bit signifies that we've cut off the output for brevity's sake.

- To stop output scrolling off your screen faster than you can read it, on most systems you can *pipe* (

```
perl
scriptname.pl
| more
```

- Hit the Enter/Return key on your keyboard to scroll through line by line, or use the spacebar to lea

You'll also sometimes want to direct output to a file for safekeeping, importing into your spreadsheets as easy as:

```
perl
scriptname.pl
>
output_filename.txt
```

- And to pour some input into your script from a file, simply do the opposite:

```
perl
scriptname.pl
<
input_filename.txt
```

Don't worry if you can't remember all of this; each relevant hack has a Section 2.5.3 section that st

## CGI Scripts

CGI scripts are programs that run on your web site and produce pages dynamically. They're a little more complicated than the same sorts of scripts as those run on the command line, they are more troublesome because they run on your own server, on an Internet service provider's (ISP's) server, on a corporate intranet server, or any

Since going through every possibility is beyond the scope of this (or any) book, if you need help you should contact your technical support department, or ask your local system administrator.

Generally, though, the methodology is the same:

- Type the program into a garden-variety text editor: Notepad on Windows, TextEdit on Mac OS X, *vi* on Linux. Save the file as directed, usually as *scriptname.cgi* (the *.cgi* bit reveals that you're dealing with a CG

Alternately, you can download the code for all of the hacks online at <http://www.oreilly.com/catalog/errata/errata.html> or individual scripts already saved as text files.

2. Move the script over to wherever your web site lives. You should have some directory on a server (files) and images (files ending in *.jpg*, *.gif*, etc.) live. Within this directory, you'll probably see some scripts must usually live in order to be run rather than just displayed in your web browser when you
3. You usually need to bless CGI scripts as executable to be run rather than displayed. Just how you do you're on a Unix/Linux or Mac OS X system, this usually entails typing the following on the command

```
chmod 755  
scriptname.cgi
```

4. Now you should be able to point your web browser at the script and have it run as expected, behavior 2.5.3 section of the hack at hand.

Just what URL you use, once again, varies wildly. It should, however, look something like this: *http://your\_domain.com/cgi-bin/scriptname.cgi*, where *your\_domain.com* is your web site domain, *cgi-bin* is the directory in which your CGI scripts

If you don't have a domain and your site is hosted by an ISP, the URL is more likely to look like this: *http://your\_isp.com/~your\_username/bin/scriptname.cgi*, where *your\_isp.com* is your ISP's domain, *~your\_username* is your username where scripts live, and *scriptname.cgi* is the script itself.

If you come up with something called an "Internal Server Error" or see the error code 500, something's gone wrong. You can take a crack at debugging (read: shaking the bugs out) yourself, or ask your ISP or system administrator a little more than the average newbie can bear, but there is help in the form of a famous "Frequently Asked Questions" page. Search for it and step through it as directed.

## PHP Scripts

PHP scripts are programs in the PHP language that run on your web site and produce pages dynamically. They are generally easier to manage. Unlike CGI scripts, the files do not need to live in a special *cgi-bin* directory, and you don't have to change the file permissions.

Most of the scripts in this book require PHP Version 4, which is commonly available from most hosting providers.

For more information about PHP, check out the online manual at <http://www.php.net/manual/en/>.

## Learning to Code

Fancy trying your hand at a spot of programming? O'Reilly's best-selling *Learning Perl* (<http://www.oreill.com/catalog/oreil/catalog.html>) provides a good start. Apply what you learn to understanding and using the hacks in this book, tweak and fiddle with the scripts. This is a useful way to get some programming under your belt, since it gives you a task to accomplish and existing code to leaf through.

## How This Book Is Organized

The book is divided into seven chapters, organized by subject:

### [Chapter 1](#)

This chapter shows you how to master the basics of sharing photos on Flickr, including editing images for Flickr, managing extended information about your photos, and posting directly from your cell phone. You'll also find an overview of tools to help you upload photos more efficiently and a look at ways to use Flickr to publish photos on your own web site.

### [Chapter 2](#)

Flickr is famous for tagging. This chapter shows how to take advantage of tagging for organizing and publicizing your photos. You'll also see some unique ways people are using tagging to group photos by location, and you'll find some external games that use Flickr's tagging features for fun.

### [Chapter 3](#)

This chapter introduces you to some unexpected ways to find and view Flickr photos. You'll get an overview of the many ways Flickr uses RSS to distribute photos, a look at how you can use Flickr mobile to stay in touch on the go, and the lowdown on how to view Flickr photos on your TV.

### [Chapter 4](#)

Use the hacks in this chapter to learn more about your Flickr community. In addition to the basics of adding and viewing contacts, you'll find hacks that show how to view your contacts on a map and browse their non-Flickr activities. You'll also see how to find out which tags are most popular among your friends and which photos they're marking as their favorites.

### [Chapter 5](#)

In this chapter, you'll see how Flickr experts manage large collections of photos and maintain large Flickr groups. You'll find out how to back up your Flickr photos for safekeeping and how to create a contact sheet of your Flickr photos for quick reference.

### [Chapter 6](#)

This chapter introduces you to the Flickr API, which is a back door that Flickr provides for

developers. You can use the hacks in this chapter as building blocks for your own Flickr applications. You'll see concrete examples for talking with the API, authenticating with the API, and using existing tools for rapid Flickr development.

## [Chapter 7](#)

See how people are using Flickr photos in their own applications and games, and have a bit of fun in the process. This chapter shows how to turn your photos into beautiful collages, ransom notes, motivational posters, sliding puzzles, and more.



## Conventions Used in This Book

The following is a list of the typographical conventions used in this book:

### *Italic*

Used for emphasis and new terms where they are defined, and to indicate Unix utilities, URLs, filenames, filename extensions, and directory/folder names. For example, a path in the filesystem will appear as */Developer/Applications*.

### Constant width

Used to show code examples, the contents of files, and console output, as well as the names of variables, commands, and other code excerpts.

### Constant width bold

Used to highlight portions of code, either for emphasis or to indicate text that should be typed by the user.

### Constant width italic

Used in code examples to show sample text to be replaced with your own values.

### Gray type

Gray text is used to indicate a cross-reference within the text.

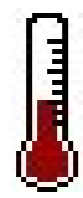
You should pay special attention to notes set apart from the text with the following icons:

This is a tip, suggestion, or general note. It contains useful supplementary information about the topic at hand.

This is a warning or note of caution, often indicating that your money or your privacy might be at risk.



The thermometer icons, found next to each hack, indicate the relative complexity of the hack:

 beginner	moderate	expert
--	----------	--------

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## Using 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. Selling or distributing a CD-ROM of examples from O'Reilly books *does* require permission. Answering a question by citing this book and quoting example code does not require permission. Incorporating a significant amount of example code from this book into your product's documentation *does* require permission.

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(707) 829-0104 (fax)

To ask technical questions or to comment on the book, send email to:

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The web site for *Flickr Hacks* lists examples, errata, and plans for future editions. You can find this page at:

<http://www.oreilly.com/catalog/flickrhks/>

For more information about this book and others, see the O'Reilly web site:

<http://www.oreilly.com>



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# Chapter 1. Sharing Photos

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## Hacks 1-9

Sharing photos has been a popular activity since the invention of the portable camera. Most of us regularly pore over photos during gatherings with friends and family, whether flipping through a stack of photos, looking through albums, or enduring projected slideshows chronicling every detail of a recent vacation. Flickr helps you share photos in many similar ways [[Hack #1](#)], and it gives you control over who sees which photos [[Hack #2](#)].

Now, instead of waiting for a gathering to share your photos, you can make them available to your friends and family almost as soon as you take them [[Hack #6](#)]. You can even add the photos to your own web site [[Hack #9](#)] if you want. And in addition to friends and family, Flickr can connect your photos with a wider audience of people who might be interested in them. Sharing photos is nothing new, but Flickr gives you the opportunity to share your photos in new ways.

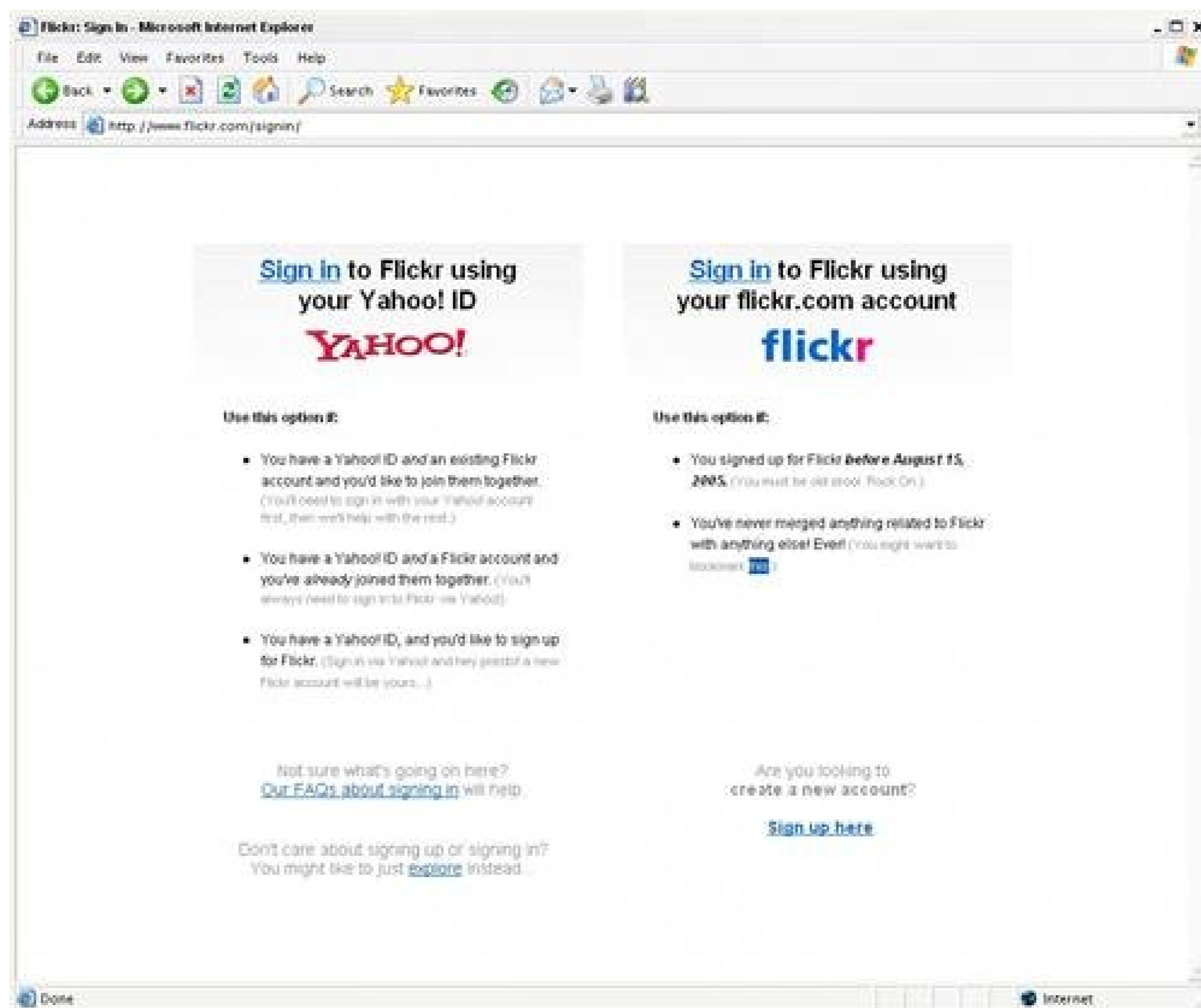
To get started sharing photos with Flickr, you just need a minute or two to create your account. Browse to Flickr (<http://www.flickr.com>), and click the "Sign up now!" button shown in [Figure 1-1](#).

Figure 1-1. The Flickr front page

Flickr is owned by Yahoo!, and if you already have a Yahoo! account, you can use your Yahoo! ID and password to create a new Flickr account. If you don't have a Yahoo! ID yet, clicking the "Sign up now!" link will walk you through the account creation process. The whole process takes less than a few minutes, and once your Flickr account is created, you can start sharing photos.

When you return to Flickr in the future, you can click the "Sign in" link at the top of the Flickr front page. From there, you'll see the two sign-in options shown in [Figure 1-2](#).

Figure 1-2. Flickr sign-in page



If you created your Flickr account after August 15, 2005, you'll use the Yahoo! option for signing in. Otherwise, you can choose the Flickr option on the right. Most likely, Flickr accounts created before August 15, 2005 will eventually be moved to standard Yahoo! accounts, but at the time of this writing, the sign-in page is a visual reminder that Flickr is a new addition to the Yahoo! family of applications.

This chapter will show you the basics of using Flickr to share photos, and it will take you beyond the upload form [\[Hack #5\]](#) so you can be sharing photos like a Flickr power user in no time.





## Hack 1. Store, Sort, and Share Your Photos



To get started with Flickr, you need to understand its basic features.

At its most basic, Flickr is a web application that helps you create a public journal of photos. You can upload your photos to Flickr and see them appear on a web page, with the most recently added photo on top. But once you start playing with Flickr, you'll quickly find that it's much more sophisticated. In fact, Flickr is an open platform for storing, arranging, sharing, discussing, and discovering photos with people across the globe.

What began as an independent project by a small company called Ludicorp was quickly snapped up by Yahoo! and is now reaching a much wider audience. If you don't already have a Yahoo! account, you can sign up for one via the Flickr home page.

A basic Flickr account is free and lets you upload up to 20 MB of photos per month, show up to 200 of your photos, and create three individual galleries (which Flickr calls *sets*). You can also upgrade to a paid Flickr Pro account, which gives you much more storage and unlimited sets. At the time of this writing, a Flickr Pro account costs \$24.95 per year.

Once you've created an account, you can add some information about yourself to your profile that will tell others a bit about you. Flickr is a social application, and unlike some sites where uploading photos feels like a lonely process, adding photos to Flickr feels like a group activity.

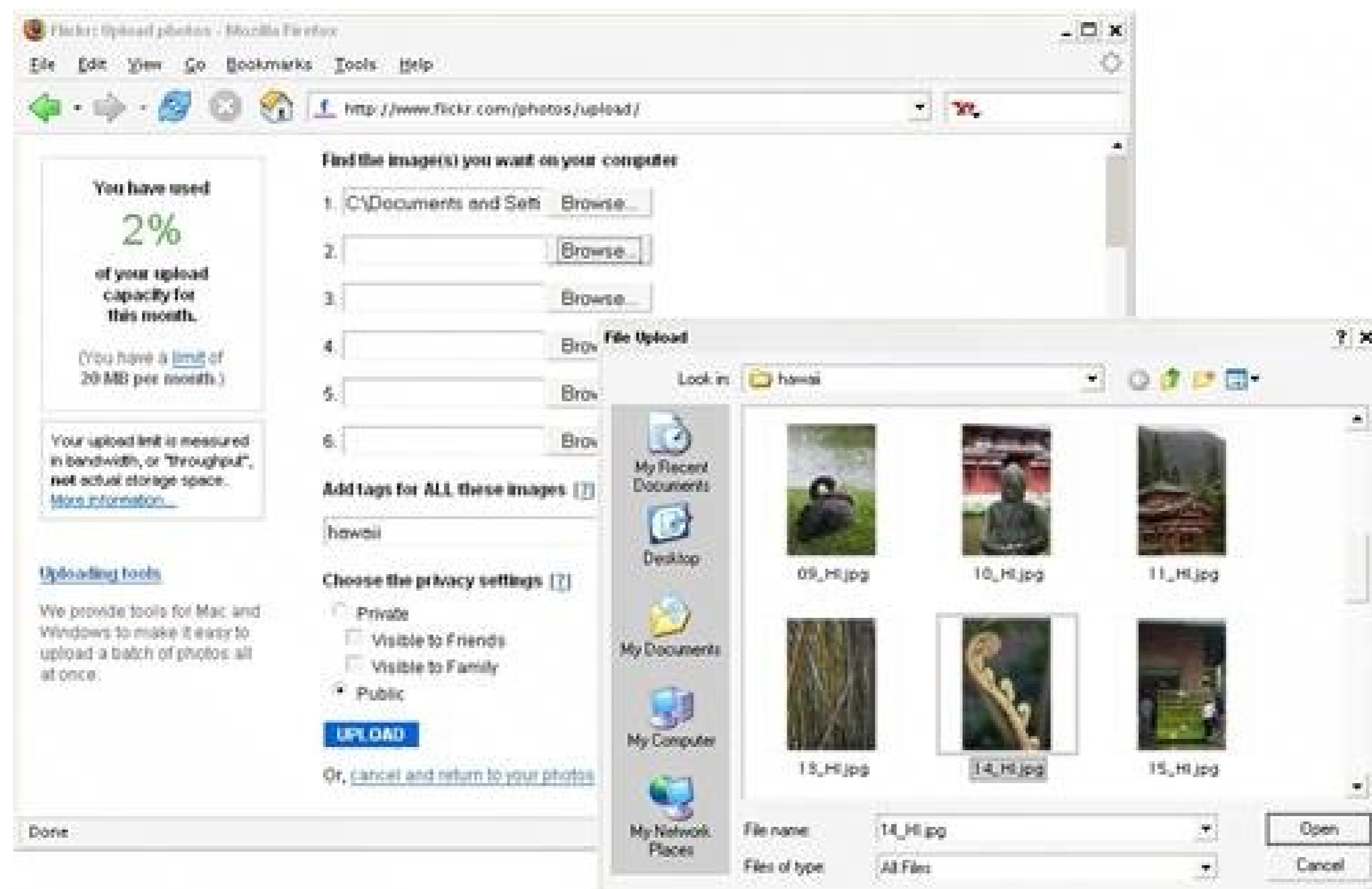
### Store

The first step in getting to know Flickr is uploading some of your photos. The steps required to move photos from your camera to your computer vary widely, so that will have to be an exercise for the reader. But once the photos are on your computer, there are several ways to add them to Flickr.

#### From your browser

When you're getting started, the simplest way to upload photos is via your web browser and the "Upload photos to Flickr" page (<http://www.flickr.com/photos/upload/>). Click Browse... next to one of the blank fields on the page, and a new window will let you choose an image file on your local computer. [Figure 1-3](#) shows what choosing a file looks like on Windows XP.

Figure 1-3. Choosing photos to upload to Flickr



When you highlight a photo and click Open, the previously blank field will be filled with the local path to the image file. You can upload up to six photos at a time and set tags and privacy settings for each photo in the group. Clicking Upload sends your photos to Flickr, which might take some time, depending on the size of your photos and your connection speed. Once your photos have been uploaded, you'll have the option to add titles and descriptions to each of them. It's easy to add titles and descriptions later as well.

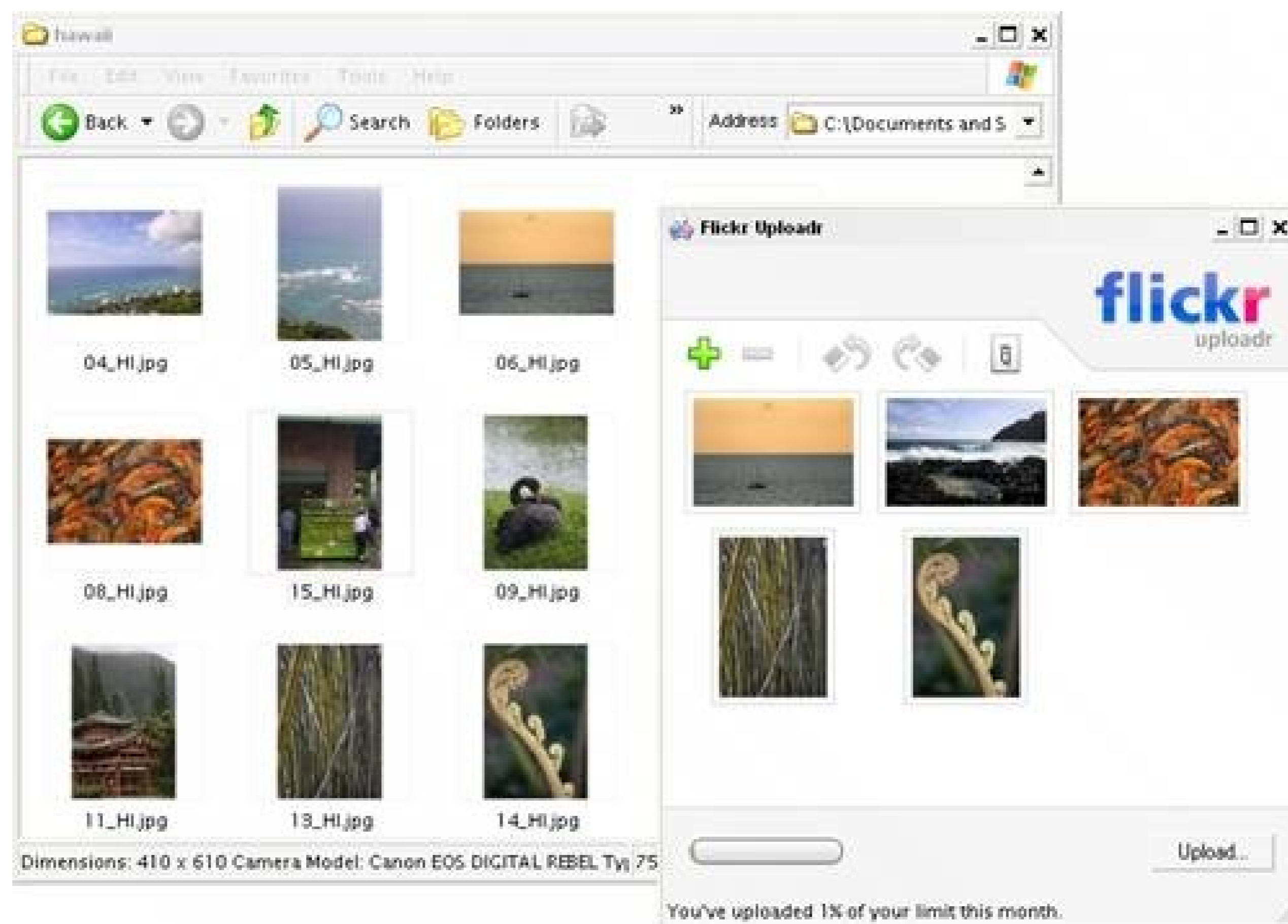
You can set default privacy options [[Hack #2](#)] for every photo you upload by clicking Your Account at the top of any Flickr page and choosing Default Photo Privacy from the menu. Or you can browse directly to [http://www.flickr.com/profile\\_photoconf.gne](http://www.flickr.com/profile_photoconf.gne) to set options such as who can see your photos, who can comment, and who can add notes and tags.

## From your desktop

Once you're completely hooked on Flickr, you might want to upload entire sets of photographs at a time. You can find a number of ways to upload photos on the Tools page (<http://www.flickr.com/tools/>). The tools are programs you can download and install on Windows or Macintosh computers that allow you to upload a number of photos at once.

[Figure 1-4](#) shows the Windows Flickr Uploadr in action; you can simply drag images from the file explorer and drop them onto the Flickr Uploadr window.

Figure 1-4. Adding photos from the desktop with Flickr Uploadr



Once you've added all of the photos you want to send to Flickr into the Flickr Uploadr, click the Upload... button. You'll also have the option to add tags to the photos or change the default privacy settings for those photos. There are many uploading tools available [\[Hack #5\]](#), so be sure to take a look at your options to see which tool might work best with your system.

## From an email address

In addition to uploading photos via the Web or a desktop application, you can send photos to Flickr by email. Click the Your Account link at the top of any Flickr page, and choose "Uploading by email" under the Photo Settings heading. You can also browse directly to [http://www.flickr.com/profile\\_mailconf.gne](http://www.flickr.com/profile_mailconf.gne).

Once there, you'll find a randomly generated email address that's unique to your Flickr account. You can use the address to send photos to Flickr as an email attachment. This option is particularly handy for cell phone cameras, because you can snap your photo on the go and post it directly to Flickr [\[Hack #6\]](#), without making a trip to your home computer.

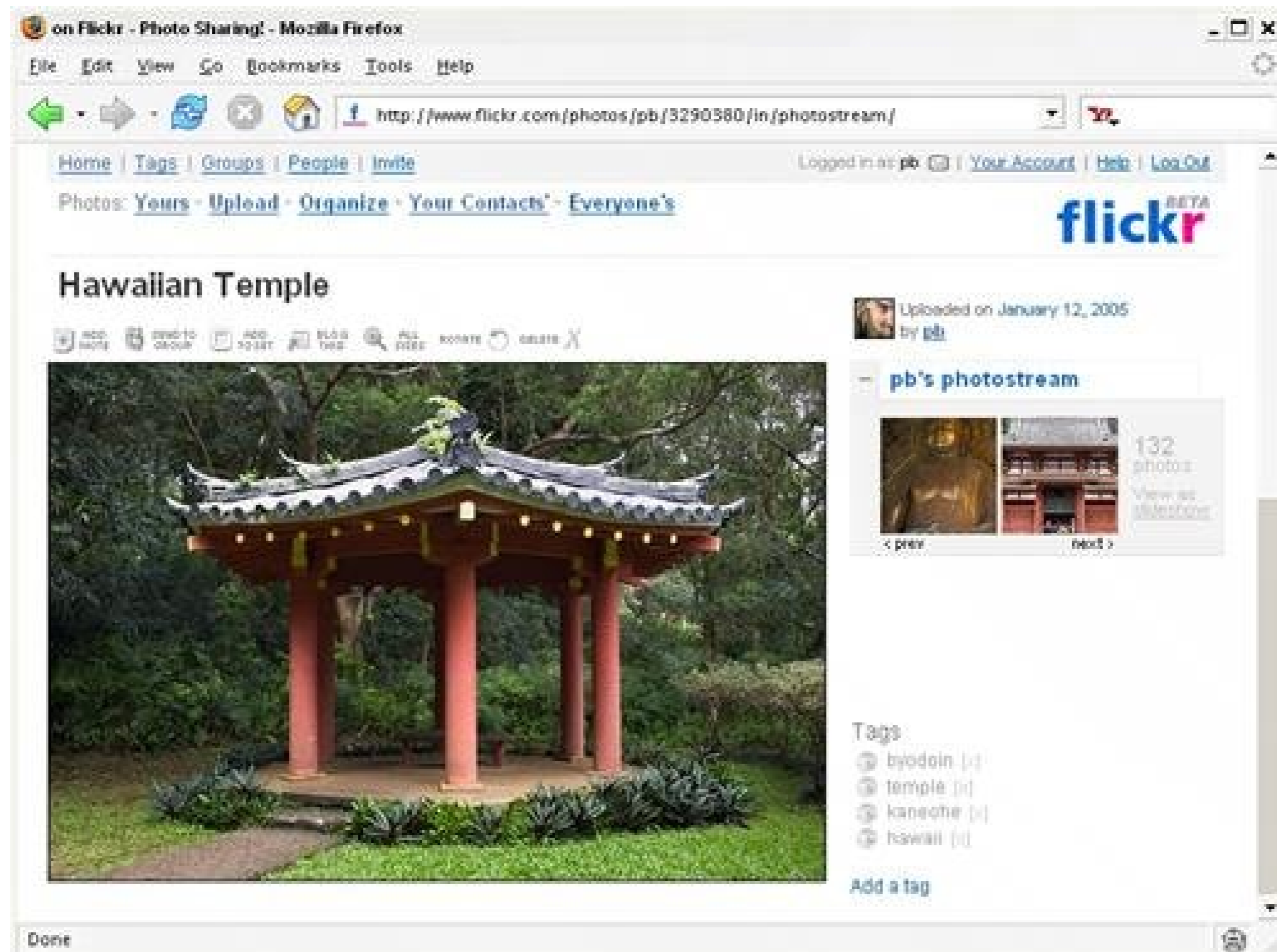
## Sort

You'll find every photo you upload in your Flickr *photostream*. A photostream is simply a list of every photo you've uploaded in reverse-chronological order, with the latest photo you've uploaded first. Once your photos are in your photostream, however, there are a number of ways you can organize them beyond the chronological listing.

## Tagging

Tagging is a simple form of organization that lets you associate keywords with each of your photos. Unlike traditional categorization schemes, tags are freeform, and you can use any words, numbers, or phrases you like. [Figure 1-5](#) shows a photo at Flickr, with its tags listed just to its right. The photo was taken in the town of Kaneohe, Hawaii, at a Buddhist temple, and the photographer has tagged the photo with the words *temple*, *Kaneohe*, and *Hawaii*.

Figure 1-5. A photo with tags at Flickr



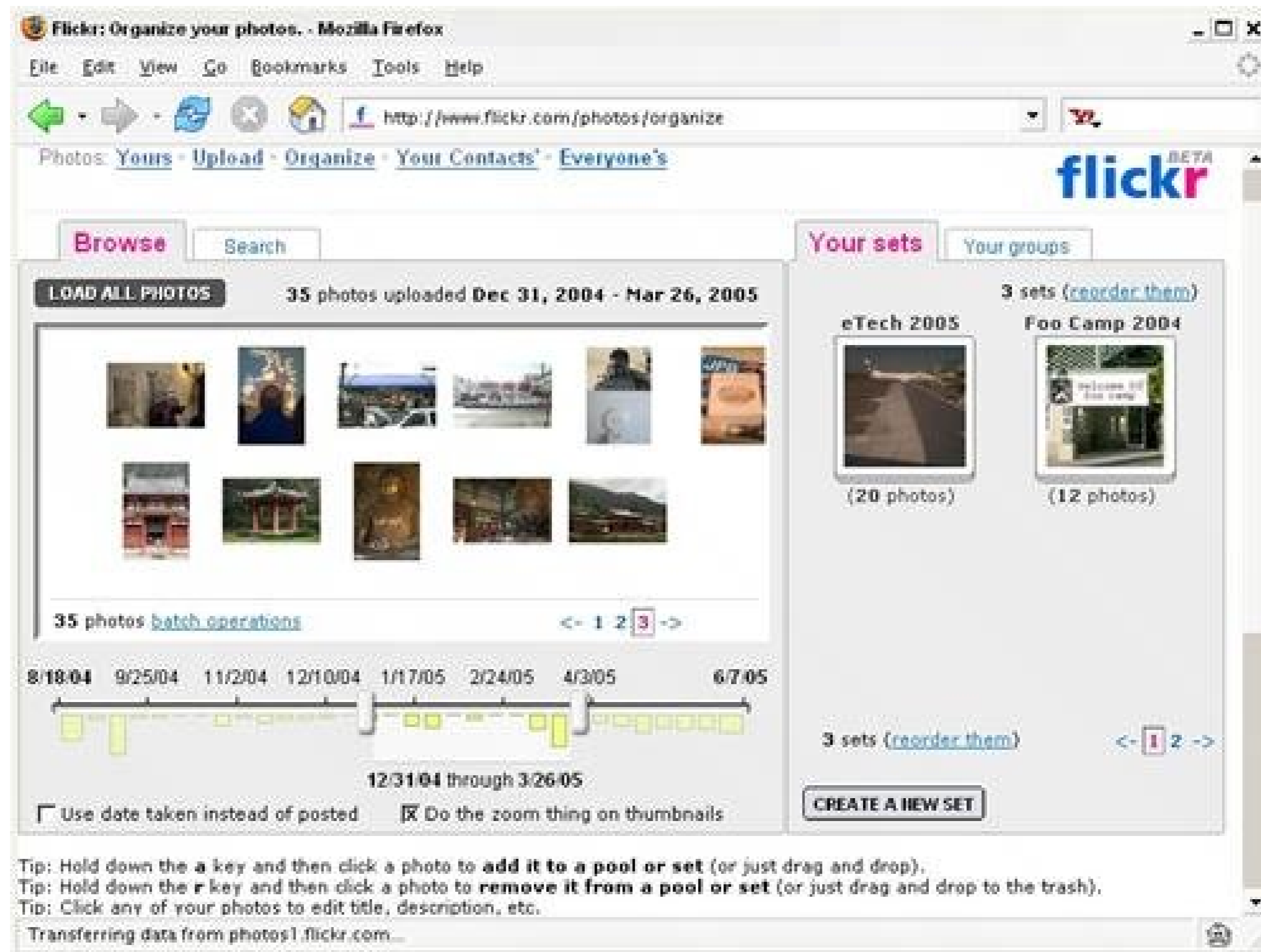
Clicking on any tag will show you all of the photos that you've tagged with that word. Clicking the globe icon next to any tag will show you photos by everyone at Flickr tagged with that word. Tagging photos is a fairly simple process, but learning a few tagging hints [[Hack #10](#)] can help you determine which keywords to use.

## Organizing

The key to more complex organization is the Flickr tool called *Organizr*. Organizr runs in your browser, and you'll need to have the free Macromedia Flash Player (<http://www.macromedia.com/go/getflashplayer/>) installed to use it. You can fire up Organizr by clicking the Organize link at the top of any Flickr page.

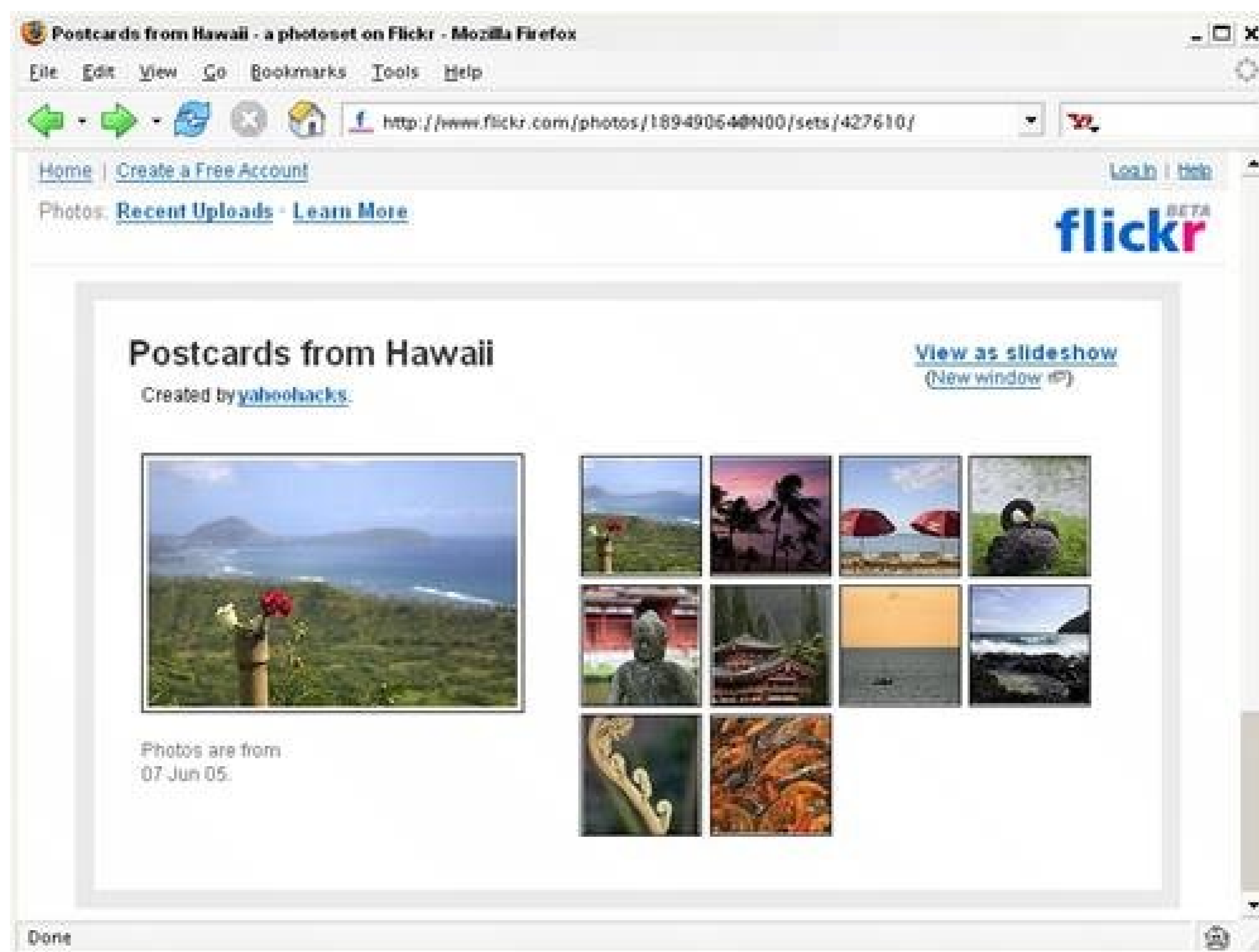
You'll find your photos in Organizr's main window. You can view all photos; limit your photos by date or search your titles, descriptions, and tags. The sliders below the main window adjust the dates you'd like to view, as shown in [Figure 1-6](#).

Figure 1-6. Sorting photos with Flickr Organizr



Inside Organizr, you can create and edit photo sets. A *set* is a group of photos that you assemble into an individual gallery. Once you've created a set and given it a title, you can drag a photo from the main window and drop it into a set on the right to add the photo to that set. From there, you can arrange the photos in a set into a specific order. [Figure 1-7](#) shows what the cover page of a set looks like to someone browsing the set for the first time.

Figure 1-7. A Flickr set



Free Flickr accounts are limited to three sets, but you can create an unlimited number of sets with a Flickr Pro account.

The "View as slideshow" link on the front page of a set will let people see the group of photos as a Flash presentation. Viewers don't even have to press keys or click mouse buttons; they can sit back and watch the photos dissolve in and out as the presentation automatically moves from one picture to the next.

## Share

One of the primary benefits of using Flickr is that once your photos are uploaded, they are accessible to anyone with a web browser.

## Free to the public

The easiest way to share all of your photos is to create a simple URL, called a *Flickr address*, that you can share with others. Browse to [http://www.flickr.com/profile\\_url.gne](http://www.flickr.com/profile_url.gne), and choose a simple word as your address. The format of the URL will look like this:

`http://www.flickr.com/photos/insert your word/`

It's important to choose your Flickr address carefully, because your choice is permanent; you can't edit your Flickr address once you've created it. The newly created URL will point directly to your photostream, and you can give the URL to your friends and family or link to your photostream from another web site using the URL.

Once your photos are on Flickr, you can also share them by automatically posting them to a weblog [\[Hack #9\]](#), or by displaying your latest photos with a Flickr badge [\[Hack #7\]](#). Flickr also provides RSS feeds for photostreams, groups, and tags, so once your photos are in the system, there are myriad ways for others to view them.

One benefit of these methods of sharing is that others viewing your photos don't need to be members of Flickr to see them; they don't have to go through the account creation process simply to look at your photos. However, if they do go the extra mile and become Flickr members themselves, you'll have several more ways to connect and share photographs.

## Flickr community

Flickr works best when your friends and family are also participating at the site. You can add anyone with a Flickr account as a friend, family member, or contact.

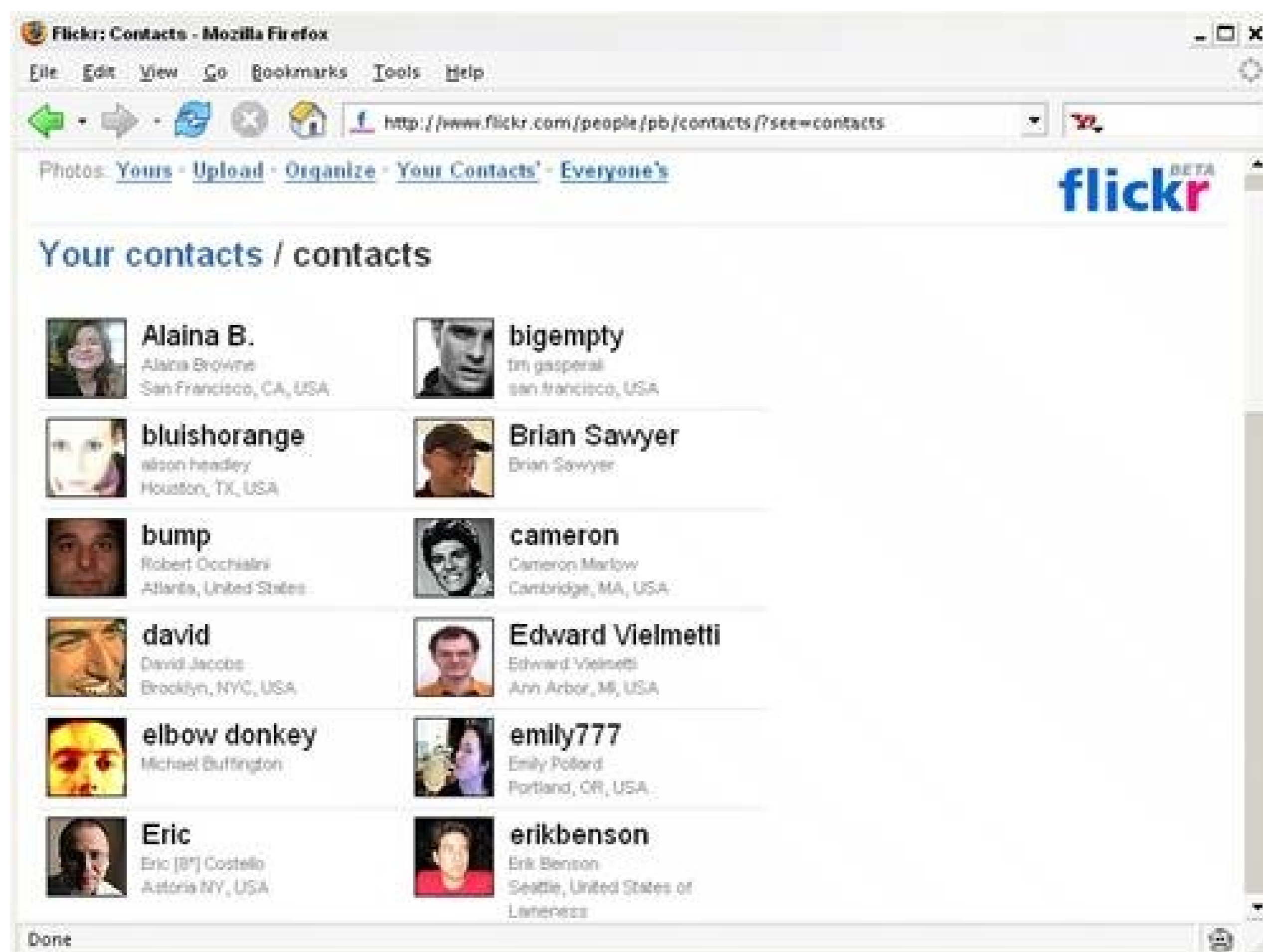
Keep in mind that the category another Flickr member is in will determine which photos of yours that person can see if you alter your photos' default privacy settings.

As you build a group of contacts [\[Hack #24\]](#) at Flickr, you'll be able to easily browse their photos, just as they can browse yours. Clicking the Your Contacts' link at the top of any Flickr page will show the latest photos added by all of your contacts, and it's a great way to keep up with your friends.

You can also browse a full list of your contacts by clicking the People link at the top of any page; clicking a name will take you to that person's photostream. [Figure 1-8](#) shows a contact list at Flickr.

Figure 1-8. A list of contacts at Flickr

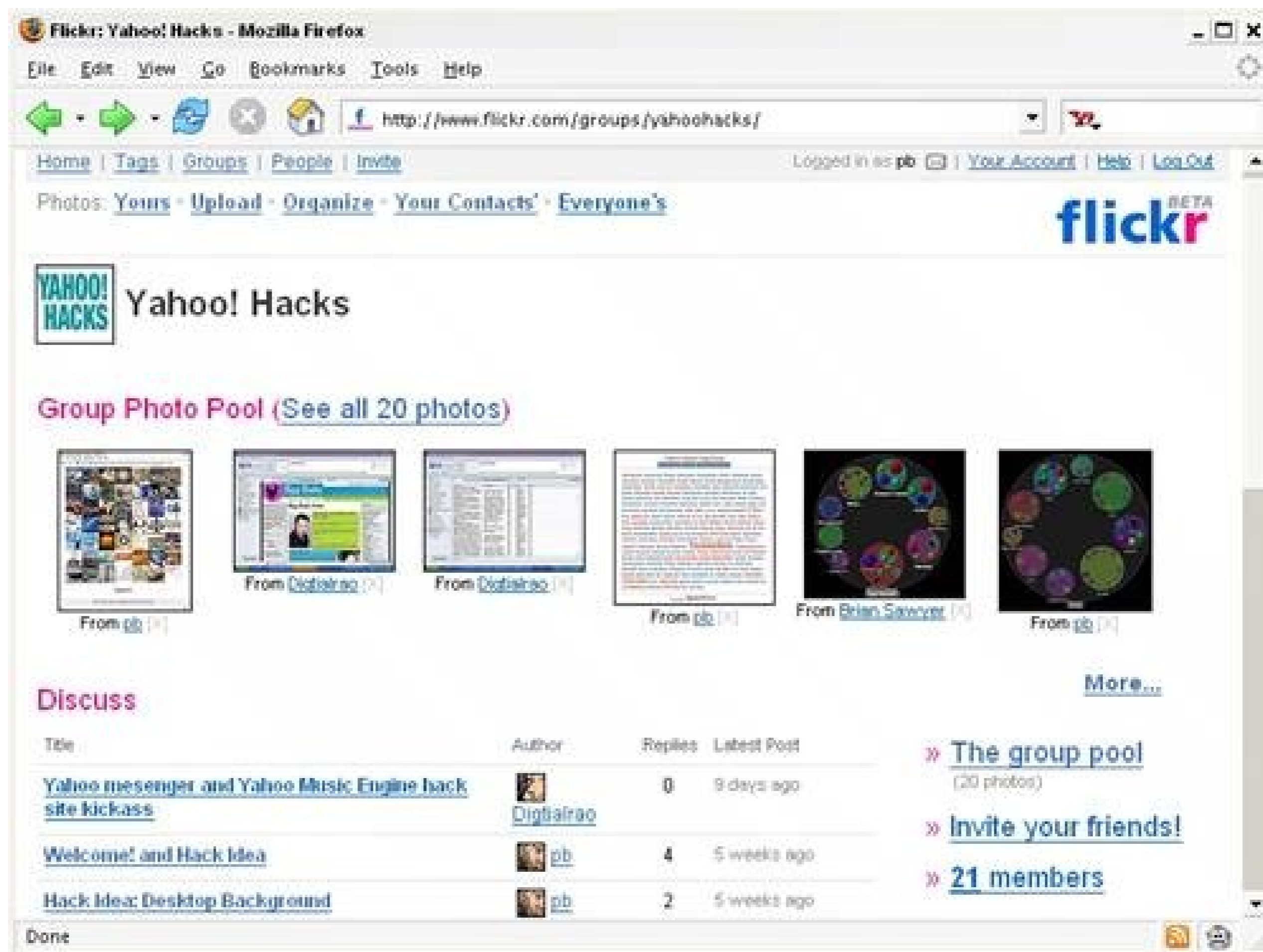




The Groups feature lets anyone form a public discussion and photo sharing space at Flickr. In addition to sending photos to a *group photo pool*, you can post messages to the group and carry on conversations. For example, there's a group called The Bookshelf Project, available at <http://www.flickr.com/groups/bookshelf/>, whose members share photos of their home bookshelves and discuss the topic of storing books.

If you're interested in a specific topic, chances are good that someone has created a specific Flickr group devoted to it. You can browse a full list of groups, organized by topic, at [http://www.flickr.com/groups\\_browse.gne](http://www.flickr.com/groups_browse.gne). Figure 1-9 shows the Flickr group for *Yahoo! Hacks* (my previous book for O'Reilly), which you'll find online at <http://www.flickr.com/groups/yahoo hacks/>.

Figure 1-9. A Flickr group page



Beyond contacts and groups, Flickr members can comment on each other's photos, help out with tagging, and even add notes to specific areas of a photo. (As always, these features are contingent on the permissions you set for your photos [Hack #2].)

## Hack 2. Control Who Sees Your Photos



Flickr has a flexible privacy system that enables you to share photos with your friends, your family, or the world or keep them to yourself.

Flickr exists so that you can share photos, but you might not want everyone in the world to see all of your photos. Your friends would love to see photos of you knocking back a few beers at your favorite bar, but your boss might frown on them. Your family would love to see photos of you dressed up for your cousin's wedding, but your friends might not appreciate your powder-blue tuxedo. With a bit of planning, you can make sure that your Flickr photos are shared with only the people whom you want to see them (or not shared at all).

Every photo sent to Flickr has a privacy setting, and the default setting is Public. When a photo is Public, anyone visiting Flickr can see the photo. If you want to control access to your photos more closely, you can set them as Private. But the term "Private" is a bit misleading, because there are different levels of privacy. To understand how the levels of privacy work, you need to know a bit about how Flickr contacts work.

### Flickr Contacts

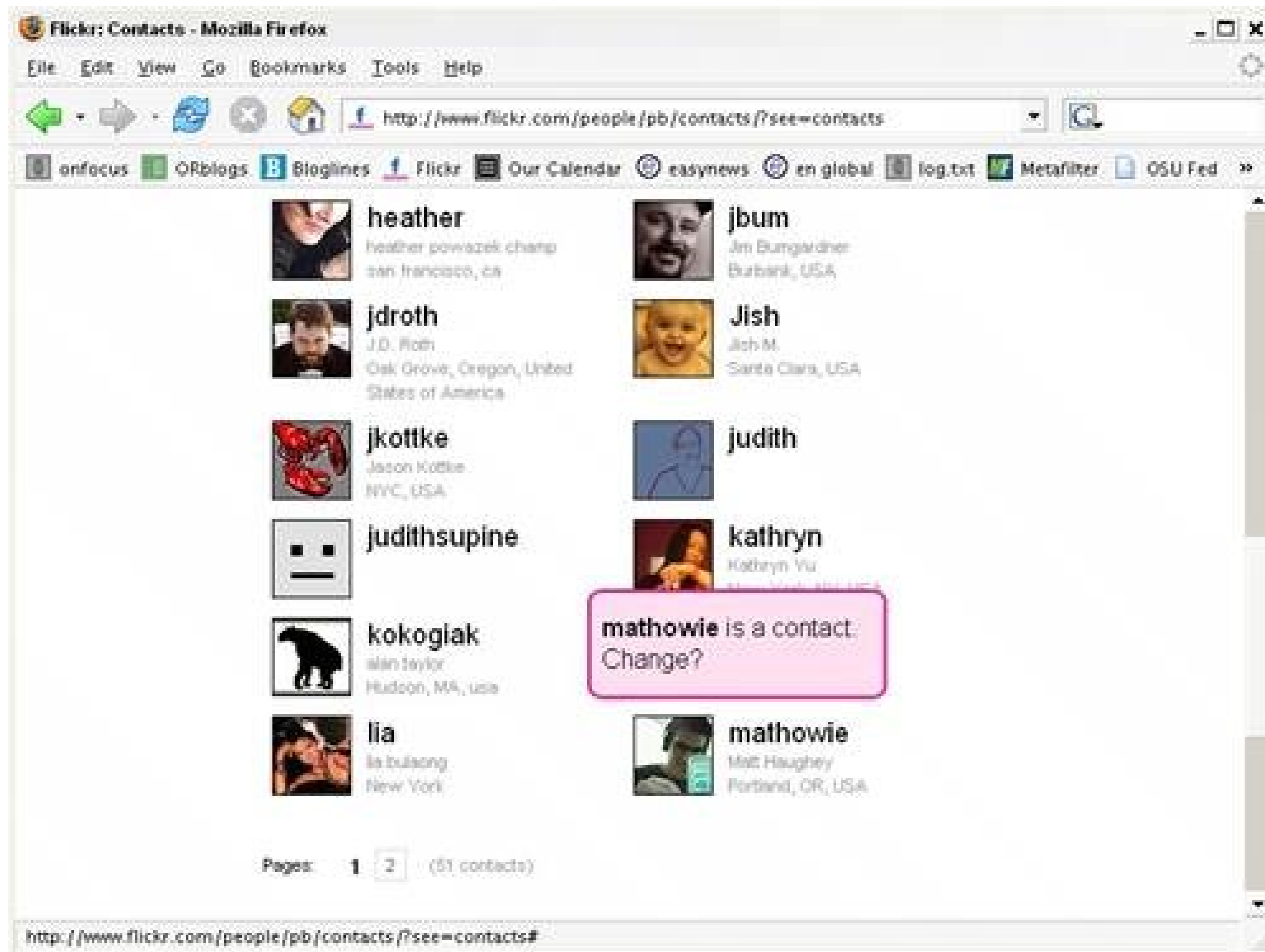
When you mark a photo as Private, the ability to view the photo is limited to you (of course) and certain people among your Flickr contacts. Say you want to share a slightly embarrassing baby picture of yourself with members of your family, but not the rest of the world. First, you'll need to add your family members to your contact list by inviting them to join Flickr (or, if they already have accounts, browsing to their photostream pages and adding them as contacts).

To invite people, browse to your Flickr home page and click the Invite link at the top of the page. Enter your family members' email addresses and names, and designate their relation to you by checking the box next to "This person is family." Click Send, and Flickr will send out invitations. Once a family member receives the invitation, she can register at Flickr, and she'll be added to your contact list as a family member.

Flickr contacts can have three different statuses: Family, Friends, or Contact. Once someone on your contact list is designated as Family, he'll have the ability to view photos that you've designated as Private, Visible to Family. You can also designate photos as Private, Visible to Friends or Private, Visible to Friends and Family to limit access to just friends, or just friends and family members. Contacts without a Friends or Family designation will be able to see your Public photos only.

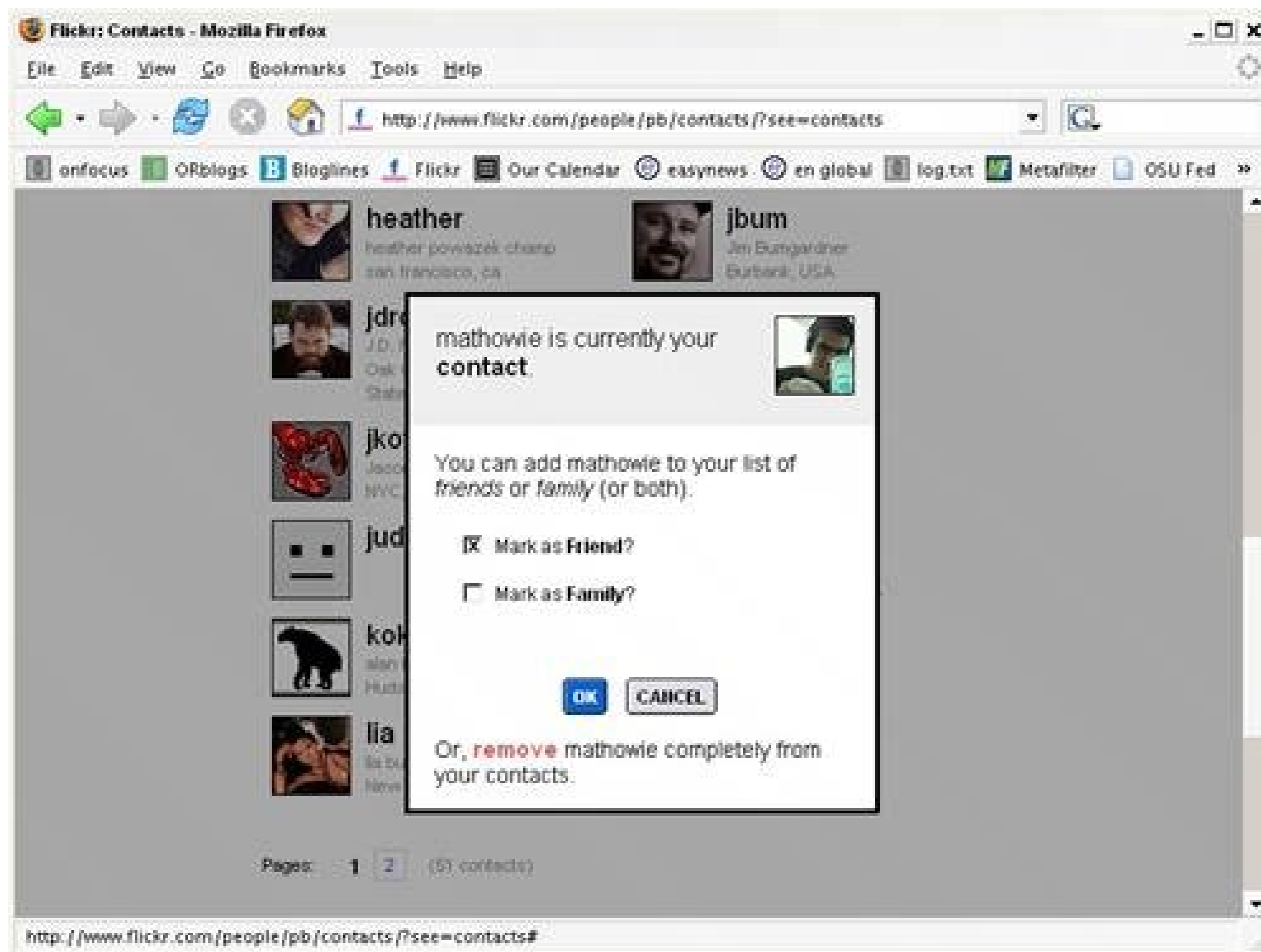
You can change a contact's status at any time by clicking the People link at the top of any Flickr page. From there, navigate through your contacts and hover over the icon of the contact you'd like to change. A pink box like the one in [Figure 1-10](#) will appear, asking if you'd like to change the status of your contact.

Figure 1-10. The change contact question box



Click the box, and you'll see a change contact status dialog like the one shown in [Figure 1-11](#).

Figure 1-11. The change contact dialog

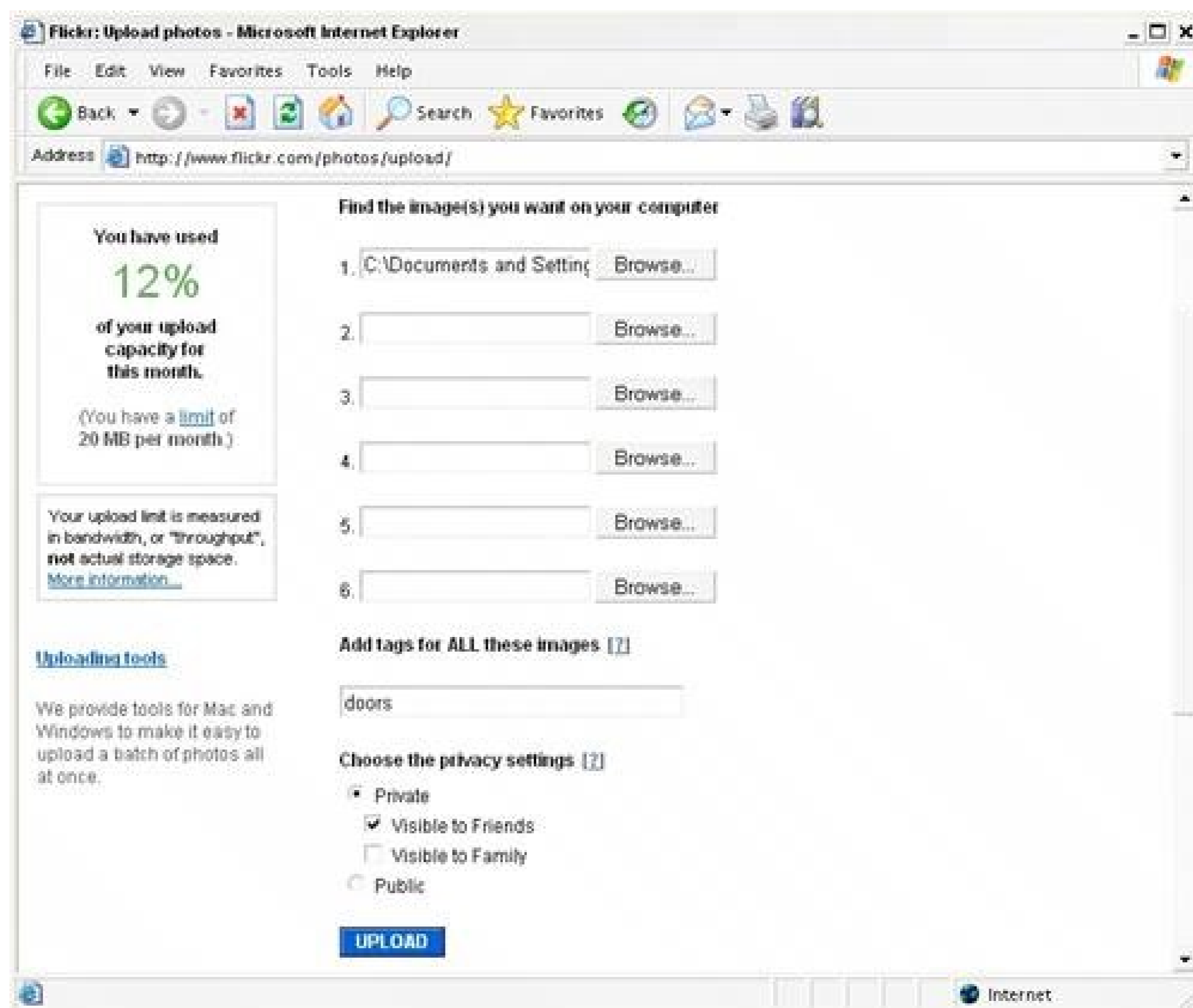


Adjust the settings and click OK, and the contact will have the ability to see photos (or not), depending on his status.

## Setting Privacy

You can set the privacy settings for specific photos at any point, but it's best to do so when you initially upload the photos to Flickr. [Figure 1-12](#) shows the privacy settings on the basic upload form.

Figure 1-12. The privacy settings on the image upload form

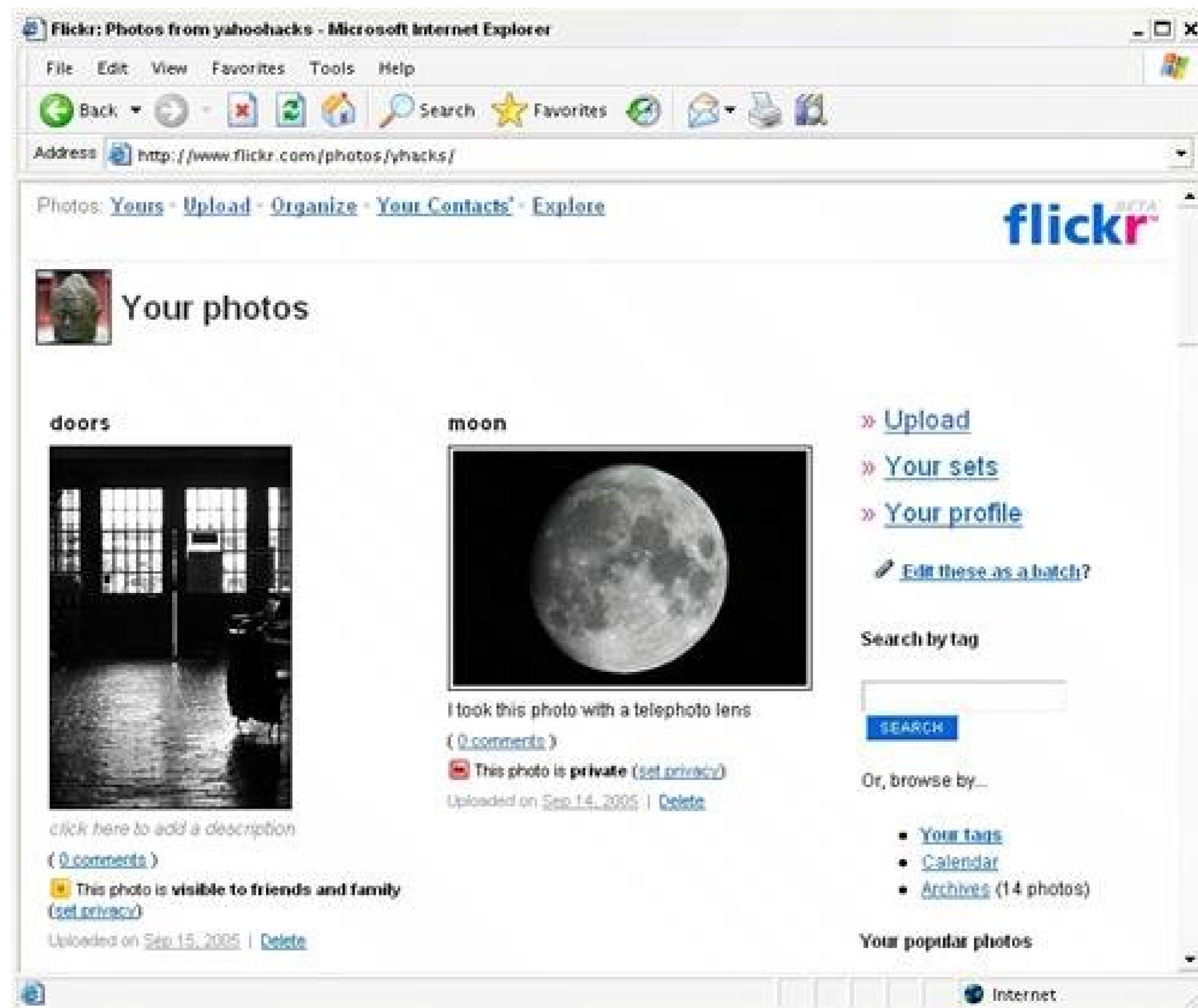


Even if you're using a desktop uploading tool [\[Hack #5\]](#), you'll find that they all offer a way to set the privacy level for the batch of photos you're uploading.

Be aware that if you add a photo to a Flickr group pool, any member of the group will be able to see that photo, regardless of its privacy setting.

You can always see how a photo is marked in Flickr by checking the settings underneath the photo. Browse to your photostream and look for a square icon directly underneath the photo. The color of the icon indicates its privacy status. Green means the photo is Public, yellow means the photo is Private but friends or family members can view it, and red means you're the only user that can view the photo. You'll also find a phrase next to the icon that indicates who can see the photo, as shown in [Figure 1-13](#).

Figure 1-13. Private photos on Flickr

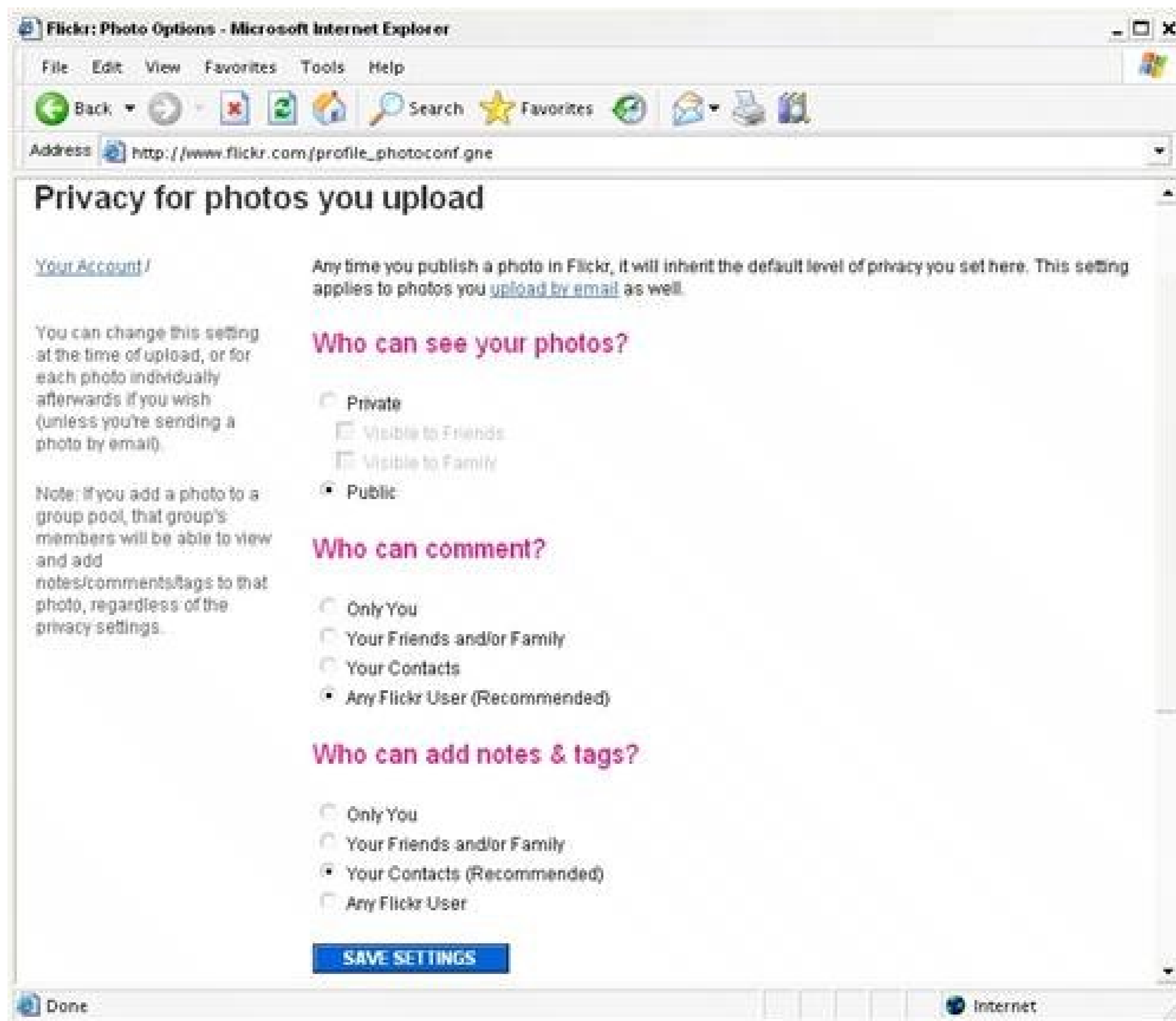


You can click the "set privacy" link at any time to change the privacy of a photo.

To publish a photo to your weblog with the Blog This feature at Flickr, the photo will need to be marked as Public. If you publish a Public photo and then change its status later, the photo will still be visible on your weblog, but people clicking through to the photo at Flickr will not be able to see the photo detail page.

If you find that you're marking every photo you upload to Flickr as Private, you can set this as the default privacy setting. At the bottom of any Flickr page, under the Your Account heading, click the Photo Privacy link to set your privacy preferences, as shown in [Figure 1-14](#).

Figure 1-14. Global privacy settings

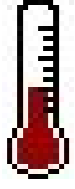


As you can see, you can set a default privacy value for your photos, and you can set the level of participation you'd like other Flickr users to have with your photos.



[← PREV](#)

## Hack 3. Manage Image Metadata



Flickr will display the information that most digital cameras embed inside a photo, and with the right tools, you can control this data.

If you take photos with a digital camera, chances are good that the original files that come from the camera contain information about the camera settings when you snapped the photos. This information can include the date and time, how long the shutter was open, the settings you chose for the shot, and whether your lens was zoomed in or out. This type of information is called *metadata*, which literally means data about data.

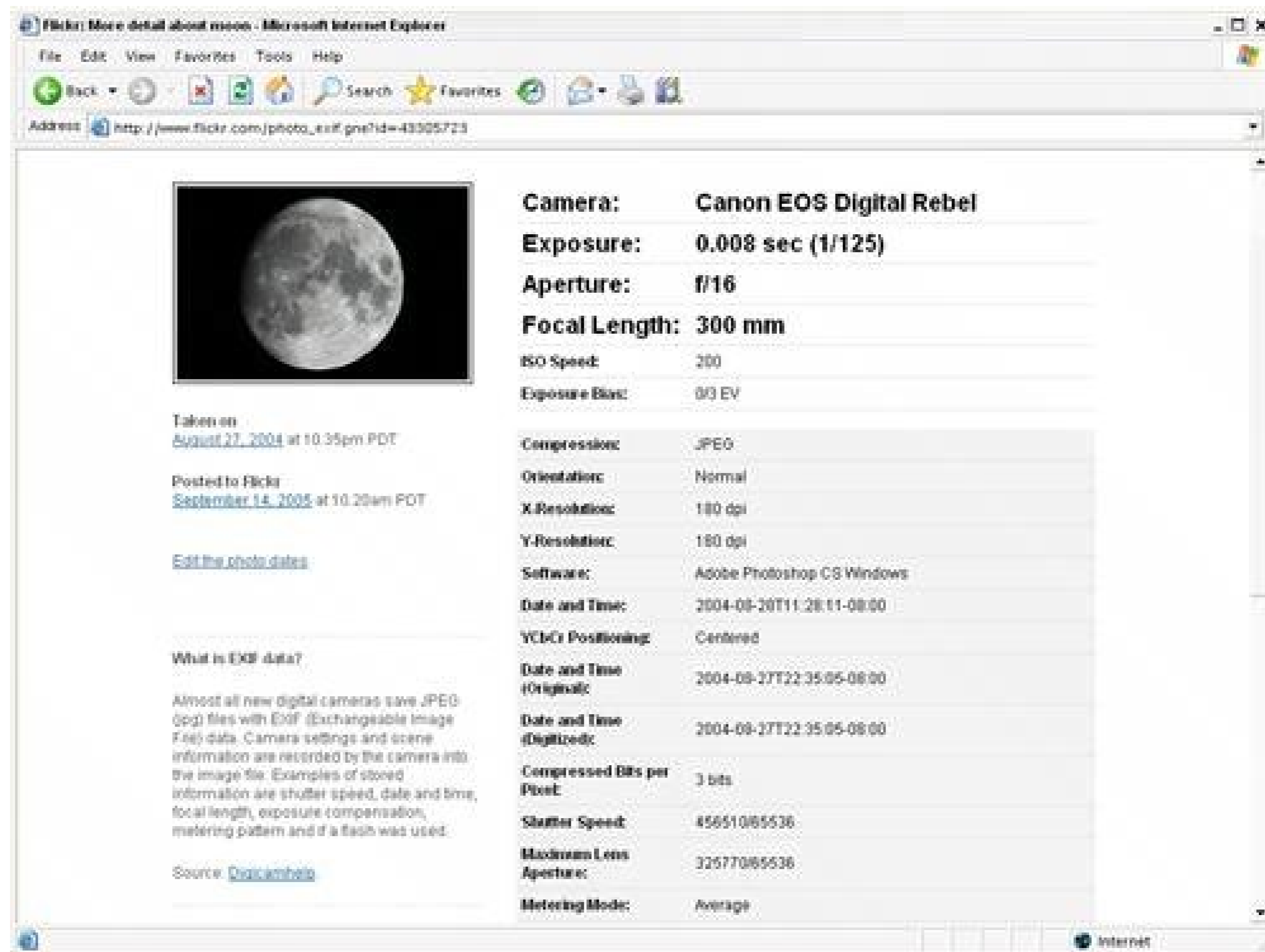
In the days before digital cameras, one of the best ways to store information about a photo was by flipping over a print and physically writing on it. In the digital world, information about a photo can be embedded within the image file itself. Viewing the info can help you remember how you got a great shot, or tell others how they can achieve a similar effect.

If metadata is present in your photo when you upload it to Flickr, you'll find your camera make and model along with a "More properties" link on the photo detail page, as shown in [Figure 1-15](#).

Figure 1-15. The "More properties" link on a photo detail page

Clicking the "More properties" link takes you to a page like the one in [Figure 1-16](#), with many more details about the photograph.

Figure 1-16. "More properties" page on Flickr



As you can see, Flickr has chosen to highlight certain properties and include others in a grey box. All of this data that Flickr can display comes from a few different sources, and it helps to be familiar with some of the terms before you start editing and refining your photo metadata. The exact metadata will differ by camera and software, but here's a look at some common metadata properties you'll find:

### *Camera*

This property shows the manufacturer and model of camera that was used to take the photograph.

### *Exposure*

This is the length of time in seconds that the shutter was open on the camera.

### *Aperture*

The aperture controls light coming into a camera, and this property shows the aperture setting in its standard f-stop measurement.

### *Focal Length*

This property shows the focal length (in millimeters) when the photo was taken. If the camera has a fixed lens, this will be a fixed value. A zoom lens will show differences between shots as the lens is zoomed in and out.

### *ISO Speed*

Many digital cameras allow adjustments for light sensitivity, and this property shows the ISO speed set on the camera when the photo was taken.

### *Exposure Bias*

If the photographer set the camera to under- or overexpose a photograph, this property will show how far the setting was pushed in either direction.

### *Orientation*

If available, this property shows how the camera was positioned when the photo was taken.

### *Software*

Image-production software such as Photoshop usually embeds its stamp on any metadata, letting others know the software used to produce the image.

### *Dates and Times*

Several dates and times can be embedded in a photo, including when the photo was taken, when the photo was opened in production software, and when the photo was last modified.

### *Exposure Mode*

This property can let you know what type of exposure mode the camera was in when the photo was taken, including automatic, manual, or aperture priority.

### *Artist Name*

This property can be set to the name of the photographer.

### *Copyright*

Photographers can add specific copyright information to a file, and that info is shown in this property.

### *Keywords, Title, and Description*

Much like titles, descriptions, and tags at Flickr, these properties, embedded as metadata by the photographer, can help identify the subject of the photo.

The most common metadata format is called EXchangeable Image File (EXIF) data, and it contains most of the camera settings. In addition, some cameras and programs embed metadata in the International Press Telecommunications Council (IPTC) format, which includes detailed artist information, and the more recent XML-based eXtensible Metadata Platform (XMP) format endorsed by Adobe. You'll see these acronyms used quite a bit (and often interchangeably) in different image software programs; just be aware that when you see them, you're dealing with image metadata.

You can use Flickr and your digital camera without ever knowing that image metadata exists, and you won't be missing much. But if you're interested in the craft of photography and want to see the technical details behind your favorite photos, this metadata can be a great learning tool. And, in turn you can share your technical details with others so they can learn from your photos.

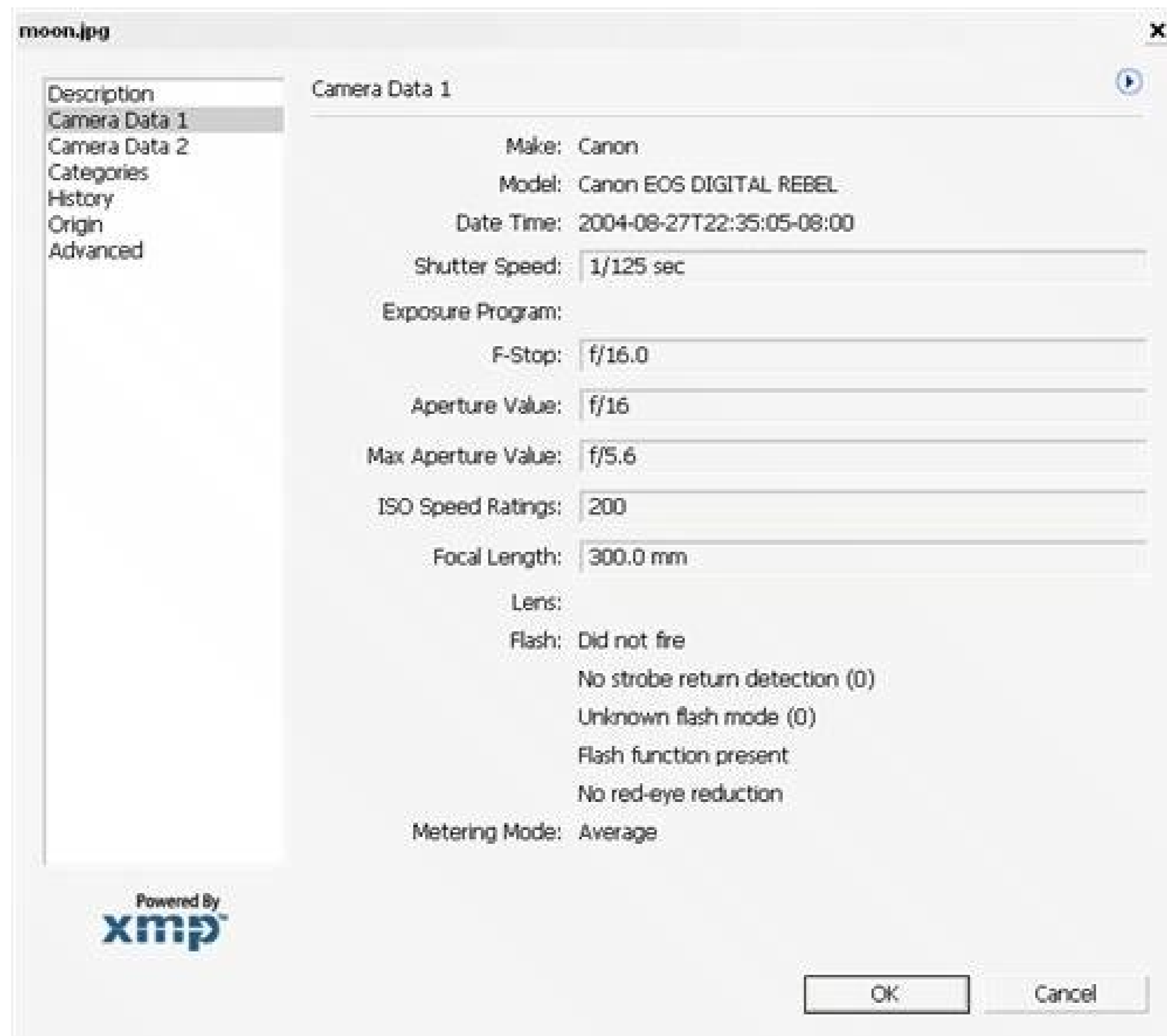
## **Viewing Metadata**

The first step to understanding image metadata is simply to take a look at the data embedded in your photographs. Here are a few image tools that can both read and edit metadata in your images.

### **Photoshop CS**

Open a photo in Photoshop and choose File → File Info... from the menu to display the metadata window shown in [Figure 1-17](#).

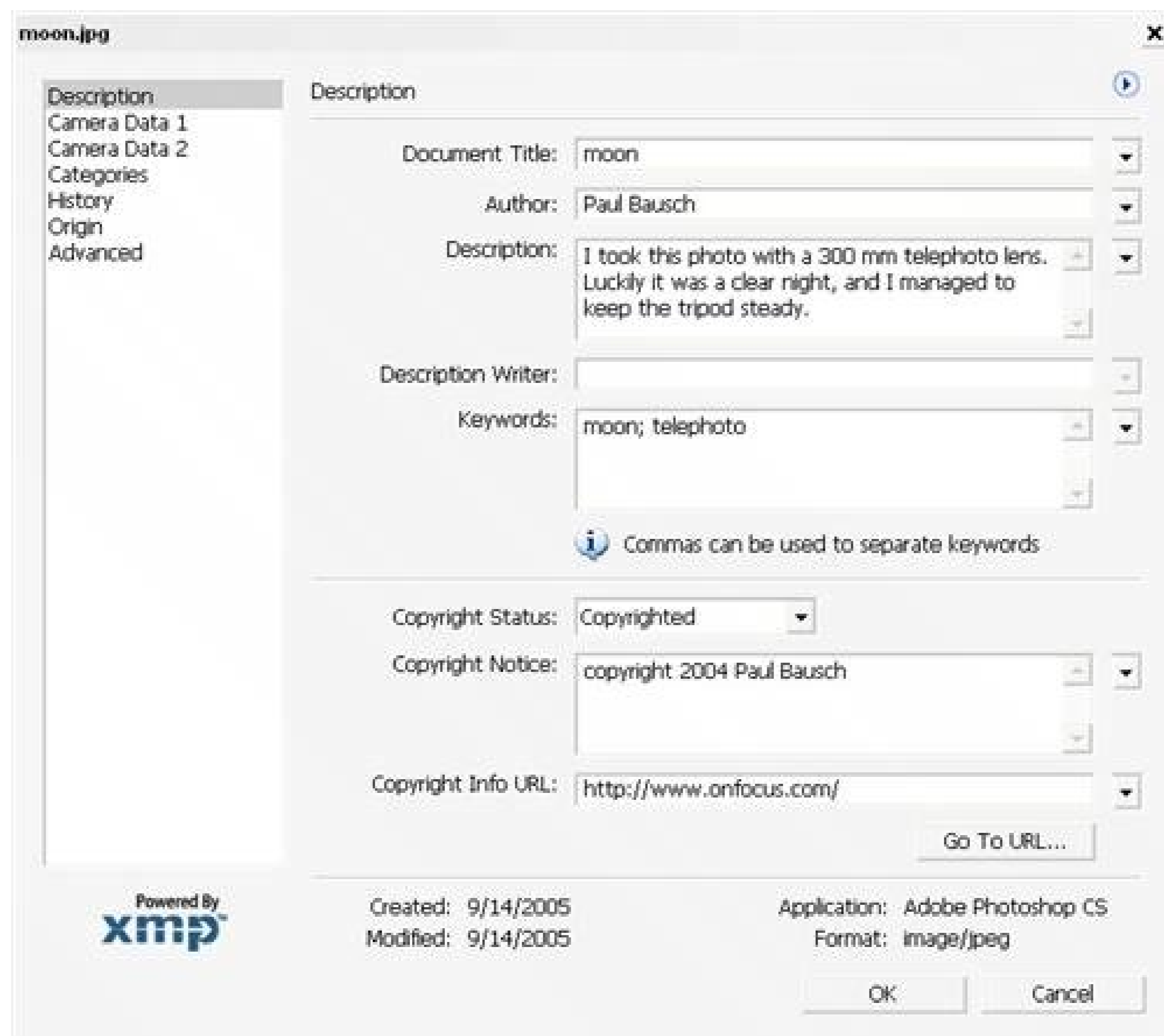
Figure 1-17. Viewing camera metadata in Photoshop CS



Choose a page of data on the left, and you'll see the details on the right. The Camera Data 1 and 2 pages show the technical info about the photo embedded in the file. You can't edit this information within Photoshop, but you can view the info so you'll know what others will see once you've added the image to Flickr.

If you click the Description page, though, you have the option to add a title, author, description, keywords, and copyright information to the image metadata. [Figure 1-18](#) shows the metadata entry form.

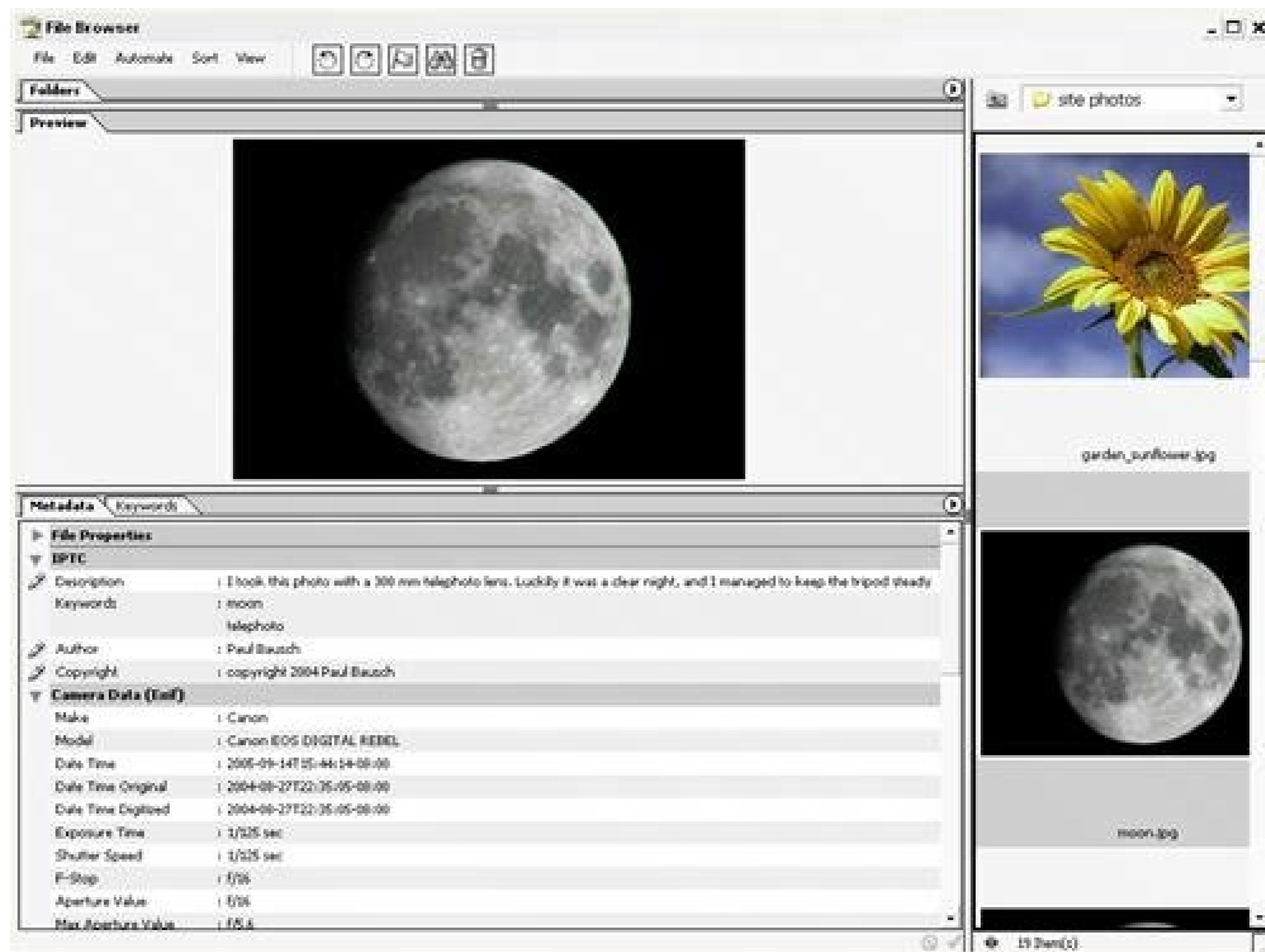
Figure 1-18. Adding a title and description and other metadata to an image file with Photoshop



Once you've added the data, click OK. Back in the main Photoshop window, save the image to be sure the metadata is added. It's always a good idea to use the File → Save As... feature to make a copy of the file; that way, no matter what changes you make to the image metadata, you'll always have the original file with the original metadata intact.

In addition to the File Info metadata window, you can edit metadata within Photoshop from the File Browser. Choose File → Browse from the menu and navigate to a folder with images. Highlight an image on the right, and open the metadata palette in the lower-left corner of the browser. Fields that you can edit are noted with a pencil, as shown in [Figure 1-19](#).

Figure 1-19. Photoshop File Browser metadata palette

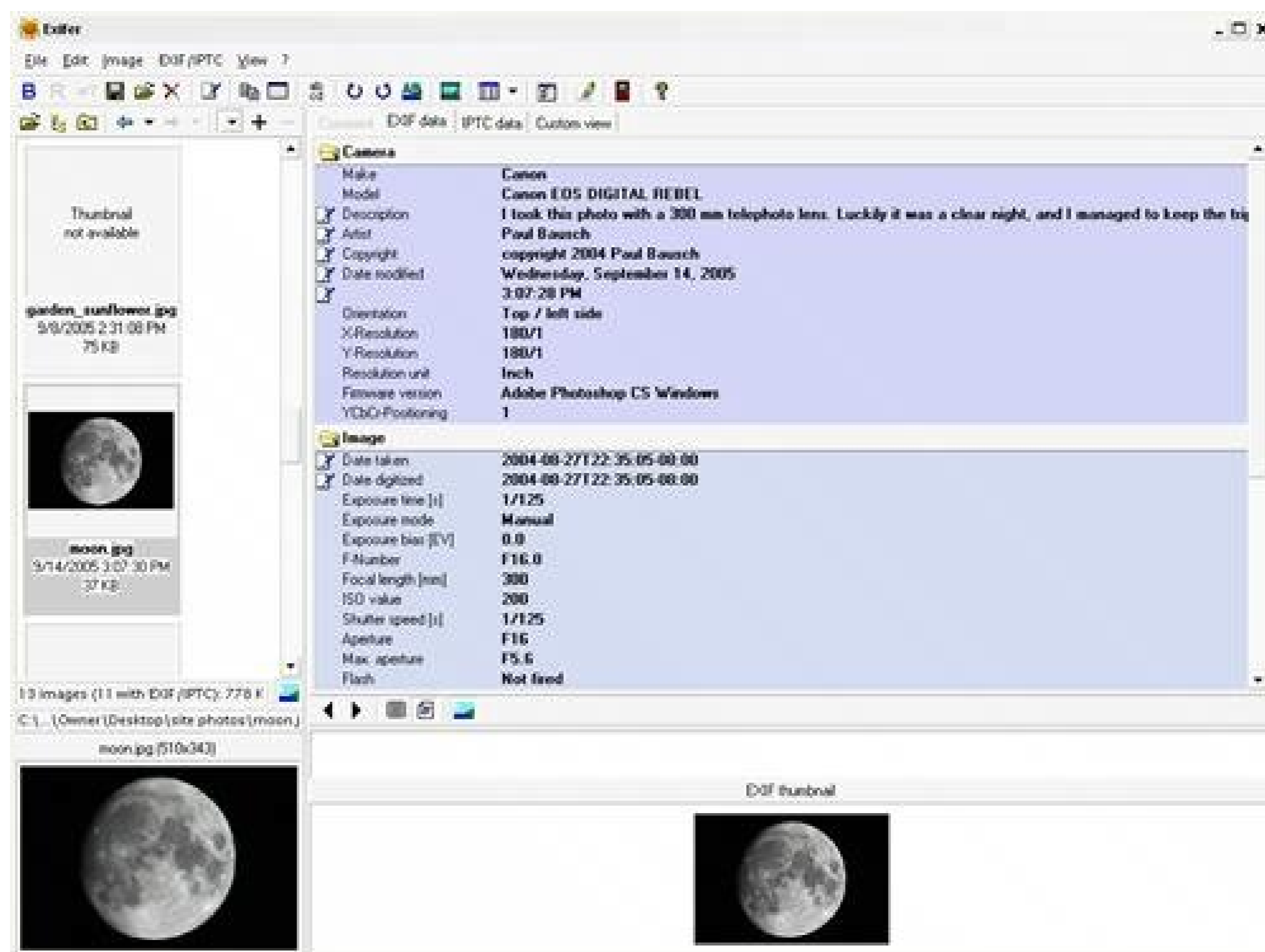


Using the File Browser is a quick way to add titles and descriptions to photos before you upload them to Flickr. Flickr will automatically extract the title, description, and keyword information from the image file if it exists in the image metadata.

## Exifer

Exifer (<http://www.friedemann-schmidt.com/software/exifer/index.htm>) is a free program specifically designed to read and edit image metadata. Once you open Exifer, browse to a folder with images and highlight a specific image to see the metadata in the right pane, as shown in [Figure 1-20](#).

Figure 1-20. Viewing metadata with Exifer



Data that you can edit in Exifer is noted with the paper-and-pencil icon. Double-click an editable field to change the value. Unlike Photoshop, Exifer will let you adjust the time an image was taken; this is especially handy for correcting the timestamp set by a camera with the wrong time setting, or if you took photos in a different time zone without adjusting the setting.

Flickr does not set the date and time the photo was taken based on the EXIF data. If you upload a photo that was taken years ago, you'll have to update the "taken on" date by hand, even if the EXIF data is accurate.

Exifer will give you the option to save the original metadata in a separate file. You may want to do this, because there's no Save As... option in Exifer, and any metadata changes are written into the file.

## jhead

Another free program that can read and write some image metadata is [jhead](http://www.sentex.net/~mwandel/jhead/) (<http://www.sentex.net/~mwandel/jhead/>). [jhead](http://www.sentex.net/~mwandel/jhead/) is a command-line program, so once you've downloaded the version for your operating system, you'll need to open up a command prompt to use it.

On Windows, you can find the command prompt at Start > Programs > Accessories > Command Prompt. Mac users can simply open the Terminal app.



From the command prompt, call the program and include an image file to analyze, like so:

```
jhead moon.jpg
```

The output will include common EXIF data, like this:

```
File name      : moon.jpg
File size      : 38366 bytes
File date      : 2005:09:14 15:07:28
Camera make    : Canon
Camera model   : Canon EOS DIGITAL REBEL
Date/Time      : 2004-08-27T22:35:05
Resolution     : 510 x 343
Flash used     : No
Focal length   : 300.0mm (35mm equivalent: 2871mm)
CCD width      : 3.76mm
Exposure time  : 0.0080 s (1/125)
Aperture       : f/16.0
ISO equiv.     : 200
Jpeg process   : Progressive
```

You have a number of options for changing the metadata with `jhead`. You can adjust for time-zone problems by moving the time forward or backward. Use the `-ts` switch to change the date and time of a photograph, like this:

```
jhead -ts2003:08:27-22:35:05 moon.jpg
```

Even though the camera noted that the photo was taken in 2004, editing the metadata will tell Flickr and the world that the photo was really taken in 2003. To see all of the metadata editing options in `jhead`, bring up the help documentation, like this:

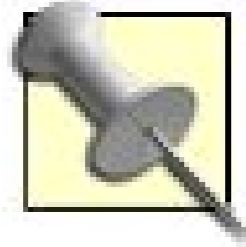
```
jhead -h
```

While not as friendly as the other programs, you might find `jhead` useful for editing the image metadata of entire folders of photos at a time.

## Hiding Metadata

If you'd rather not share your image metadata with the world, there are some steps you can take to keep the info to yourself. First, Flickr provides a way to turn off the "More properties" link on your photo detail pages.

To hide this link, browse to Flickr and choose the Profile Privacy link under Your Account at the bottom of the page. Check the box next to "Hide my EXIF data?" and click Save Changes. Keep in mind, though, that while the EXIF properties page will be hidden from other Flickr users, a determined user will still be able to download the original file and extract the metadata.



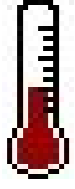
Removing metadata from image files will reduce the file size by 5 to 10 kilobytes, so if you're really trying to squeeze every extra byte from your photos, removing EXIF data will help. You won't notice a difference in upload times or Flickr bandwidth usage with a change that small, though many programs (including Photoshop) remove the data if you use the "Save for Web" option.

To remove image metadata completely, you can use any of the programs mentioned for editing image metadata. In Photoshop, open the File Info window and click Advanced on the left. Highlight EXIF Properties on the right and click Delete. Do the same for any other metadata you'd like to delete, and then be sure to save a copy of the file. With Exifer, click EXIF/IPTC → Remove from the menu, and with *jhead*, use the `-de` switch. For example, the following command would remove all of the image metadata from a file called *moon.jpg*.

```
jhead -de moon.jpg
```

The choice to use metadata and share it with others is up to you, but be aware that even if you do nothing, some of your data might be available inside your photographs.

## Hack 4. Resize Photos for Flickr



Images coming directly from a digital camera or scanner are often quite large. Resizing them before sharing them can save your Flickr bandwidth.

Digital photos come in all shapes and sizes, because they're taken by devices with varying capabilities and used for a number of different purposes. If you're going to print a digital photo, you want the highest resolution possible—the more pixels there are in a photo, the better the print quality will be when translating that photo to paper. If you're just going to display an image on a computer screen, on the other hand, you can use a smaller image, because the screen doesn't need as many pixels to display a sharp image. Because Flickr images are primarily used for display on computer screens, you can take advantage of that fact and tailor your images just for Flickr by resizing them.

### Why Size Matters

When you're using Flickr, you don't need to think about the size of an image. However, there are several reasons why you should keep image size in mind. Possibly the most important reason is conserving bandwidth. The free version of Flickr allows 20 megabytes of transfer each month, and larger image dimensions usually mean a larger file (in megabytes) to upload. It takes longer to upload larger photos, and you can upload fewer photos per month at the large size.

If you don't pay attention to your bandwidth you might not ever know you're uploading extremely large images, because Flickr automatically resizes them to a number of different standard sizes. For example, all photos in your photostream will be displayed at a maximum of 240 pixels wide (or high, depending on their orientation), allowing people to view many of your photos at once. Each image is displayed at a maximum of 500 pixels at the longest dimension on its detail page, so that viewers can see a bit more detail than was available in the photostream listing. In fact, if you upload a photo that's 1,000 pixels wide, no viewers will see it at its full size unless they click the All Sizes button on the photo detail page.

This means that 500 pixels is as wide or tall as an image ever needs to be for normal browsing at Flickr. If you cut that 1,000-pixel image in half, you'll save some time uploading, and you'll save your Flickr bandwidth for more images.

Another reason for resizing your images is that you might not want other Flickr users to have access to larger versions of your photographs. Large (high-resolution) versions of photos not only show more detail on the screen, but are also better for printing. So, if you'd rather not give other Flickr members print-quality versions of your photos, resizing them before you upload will make sure that people have access only to versions that look good on a computer screen. This will allow you, for example, to give everyone access to screen-quality versions of your photos, but charge for print-quality versions at your own web site.

## Programs to Resize Photos

To resize an image, you'll need a program that can handle the task, and there are probably several hundred available. This hack shows how to resize images with five different programs. You might have one of these programs installed on your computer already; if not, you'll probably want to acquire one of these or any of the numerous other offerings.

### Photoshop CS

Adobe Photoshop (<http://www.adobe.com/photoshop/>) is the standard for image professionals, and it's available for both Macs and PCs. At \$599 (at the time of this writing) it's not cheap, but Photoshop will give you a full-featured digital photo lab that lets you adjust images in many different ways, including resizing them. Adobe also offers a light, less-fully-featured version of Photoshop called Photoshop Elements for \$99.

Open the image you want to resize in Photoshop and choose Image → Image Size from the top menu to bring up the Image Size dialog. (Or, in Photoshop Elements, choose Image → Resize Image Size.) Change the units to pixels in the top drop-down menu, and enter your desired width, as shown in [Figure 1-21](#).

Figure 1-21. Resizing a large image with Photoshop CS

Photoshop will automatically calculate the proper height in pixels. (If your image is oriented vertically

change the height instead and Photoshop will calculate the proper width.) At the top of the Pixel Dimensions section of the Image Size dialog, you'll see an estimate of the new file size. In [Figure 1-21](#), resizing the image reduces the photo of a flower from 18 megabytes to less than 1 megabyte. Uploading this photo will now use up only a fraction of your bandwidth, instead of consuming practically your entire month's allocation.

With the new width and height set, click OK to resize your image. Choose File → Save As... from the menu, and give your newly resized image a new name that you'll recognize. (It's always a good idea to keep a copy of your original photo, rather than overwriting it, so you can go back and print the file or use it for some other reason down the road.)

## Paint Shop Pro X

Paint Shop Pro X (<http://www.corel.com/paintshoppro/>) is an alternative to Photoshop offered by Corel for \$129. You can bring up the Resize dialog, shown in [Figure 1-22](#), by choosing Image → Resize from the menu or using the keyboard shortcut Shift-S.

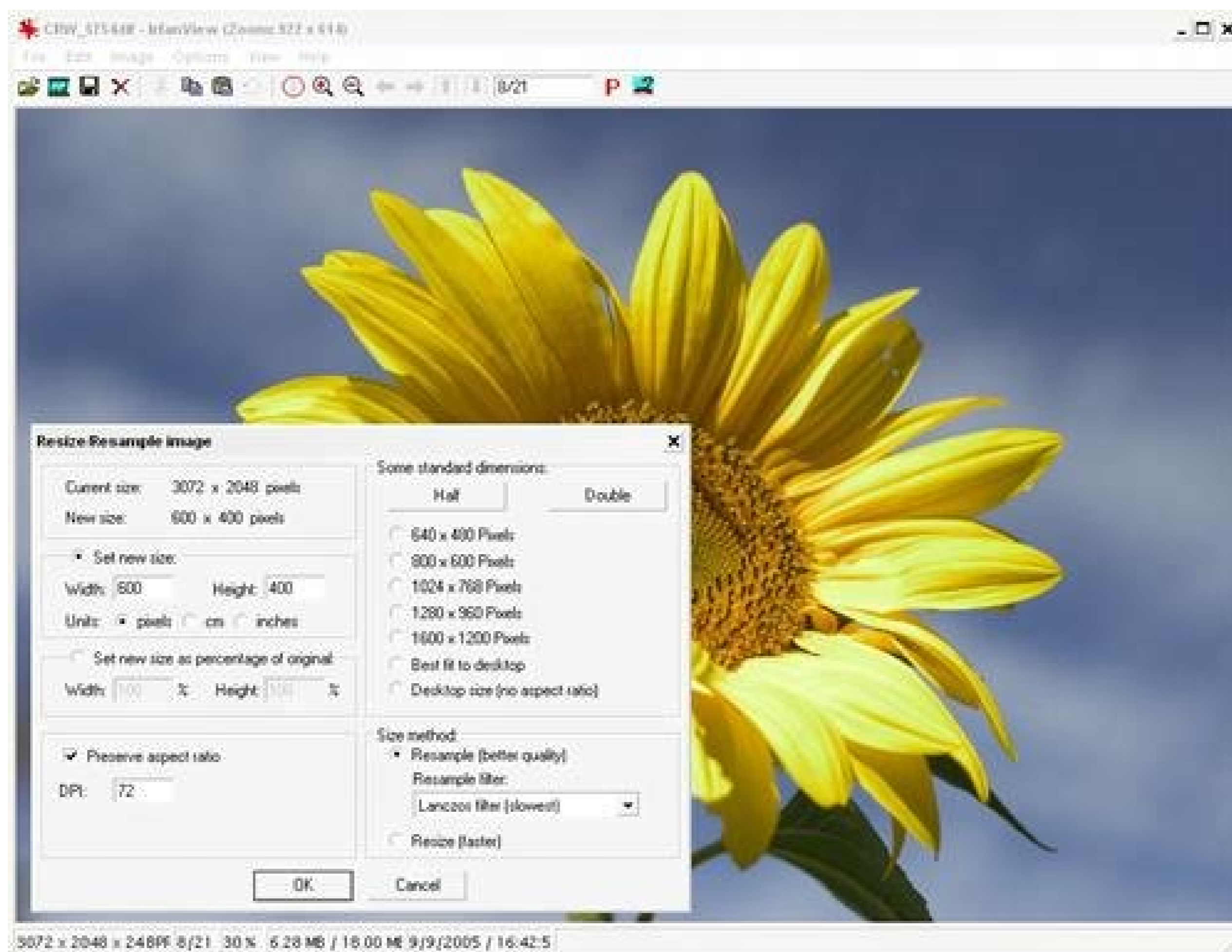
Figure 1-22. Resizing an image with Paint Shop Pro X

Enter a new width or height, and Paint Shop Pro will automatically calculate the other dimension. Click OK and save the new file under a new name, preserving the original.

## IrfanView 3.97

IrfanView (<http://www.irfanview.com>) is a lightweight image-editing tool that's free for noncommercial use. To bring up its "Resize/Resample image" dialog, press Ctrl-R or choose Image → Resize/Resample from the menu. Enter the new size, as shown in [Figure 1-23](#).

Figure 1-23. Resizing an image with IrfanView



You can also choose an alternate size from the "standard dimensions" list on the right side of the window. Once you've entered the new size, click OK, and then save the file as a new image.

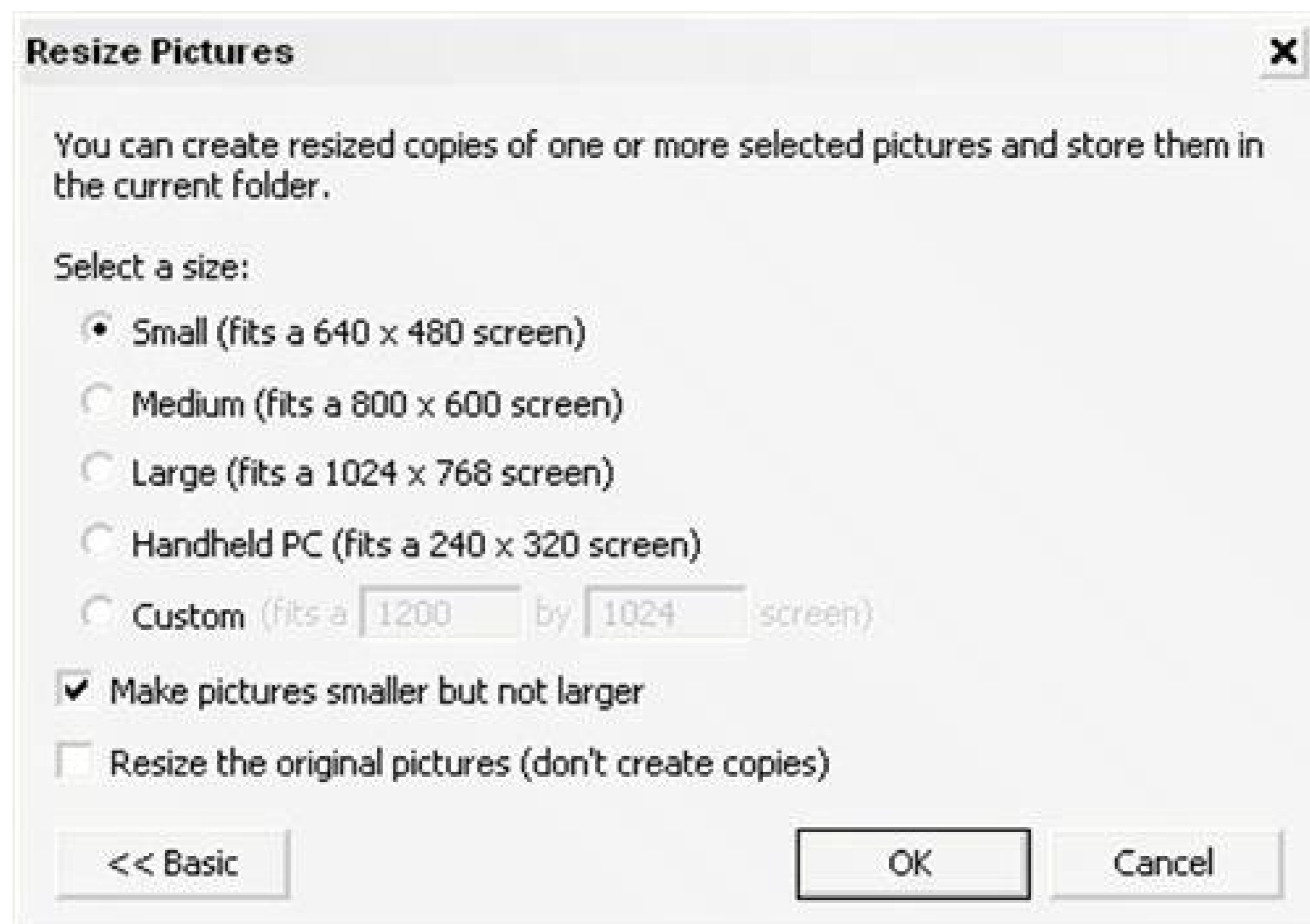
## Windows XP Image Resizer PowerToy

Microsoft offers a series of small, free applications that you can add to Windows XP, called "PowerToys." Each PowerToy performs some specific task that's not included with the basic operating system installation, and the Image Resizer PowerToy does just what you'd expect. To get a copy, browse to <http://www.microsoft.com/windowsxp/downloads/powertoys/xppowertoys.msp> and search for "image resizer" on the right side of the page.

Once the PowerToy is installed, you can resize any image by right-clicking the image file and choosing Resize Pictures from the menu. You can also resize a whole batch of images at once with this program, and it's a quick way to resize an entire folder of images.

When you click Resize Pictures, you'll see a window like the one shown in [Figure 1-24](#).

Figure 1-24. The options available in the Image Resizer PowerToy



You can choose a size from the options available, or click Custom and enter your own size. Unfortunately, the Image Resizer won't automatically calculate the corresponding height or width, so you'll need to do some math on your own if you go with a custom size.

Once you've made your choice, be sure that the "Resize the original pictures" option is not checked, and click OK. The Image Resizer will create new images with the same names, but you'll find the words Small, Medium, Large, WinCE, or Custom added to the new filenames. For example, a file called *sunflower.jpg* would be copied, resized, and saved as *sunflower (small).jpg* if you chose the small image size from the menu.

## iPhoto

Mac OS X users can rely on iPhoto, an image-organizing program that is included with OS X by default. To resize photos in iPhoto, simply select the photos you'd like to resize and choose Share Export... from the menu. Choose the File Export tab and set your maximum width or height in the "Scale images no larger than" boxes shown in [Figure 1-25](#).

Figure 1-25. Resizing images in iPhoto



Be sure to change the format to JPG in the drop-down menu, and make sure the "Use extension" option is checked. Click Export and choose a memorable location for your resized photos.

## Thinking Small

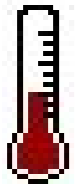
You can now upload your newly resized images to Flickr, using your favorite method [\[Hack #5\]](#). You should notice that it takes less time to transfer the files, and you'll have more room in your Flickr account to upload files.

Also note that many Flickr upload tools will automatically resize photos for you, so be sure to check the options available to you in your uploading tool of choice.

The tools discussed here are just a few of the available image programs that you can use to resize your photographs. A quick search for "image resizing program" on Google will return dozens and dozens of potential candidates.



## Hack 5. Add Photos Quickly



Flickr uploading tools can speed up the process of adding photos to Flickr.

Adding a photo to Flickr isn't hard. If you browse to Flickr, log in, and choose Upload from the menu, you'll find the upload page [\[Hack #1\]](#), with six empty fields waiting for photos. Click the Browse... buttons next to the fields and choose some local files, and your photos will soon make their way from your desktop to Flickr.

If you want to add more than six photos at a time, though, the upload page begins to look like an awfully slow way of transferring files. You have to upload in batches of six, and wait for each group to transfer before starting the next group. Uploading 30 photos would require 5 trips to the upload page, and constant monitoring to find out when the last batch of photos was done transferring.

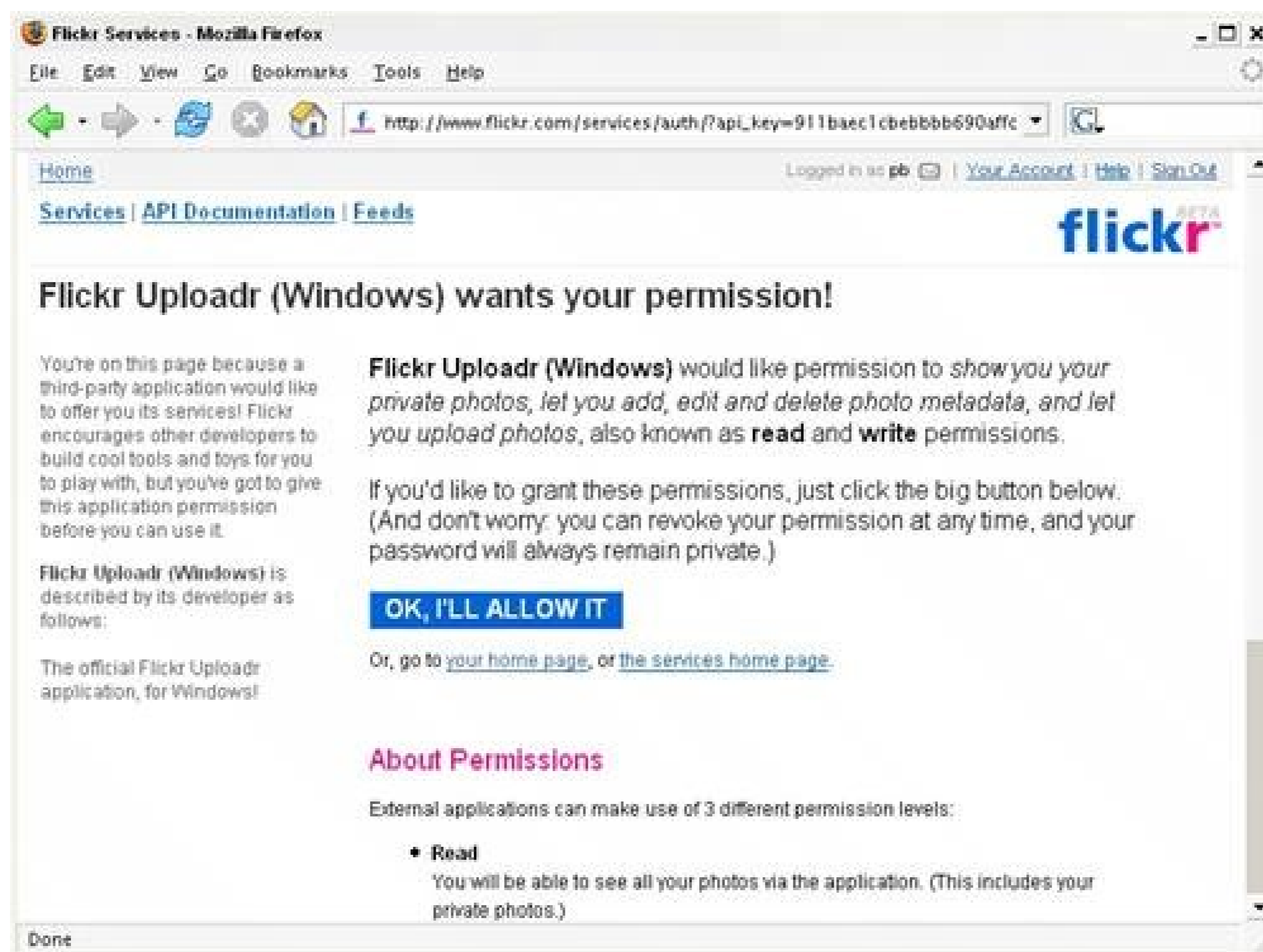
Another factor to consider when uploading photos is the size of the photos themselves. A larger image file will take longer to transfer, so you might want to resize your photos [\[Hack #4\]](#) before adding them to Flickr.

Luckily, Flickr has provided several tools to make uploading easier. An uploading tool is simply a program you can install on your computer that communicates with Flickr. You can find a list of uploading tools created by Flickr developers at <http://www.flickr.com/tools/>, along with some tools written by outside developers. This hack discusses how to use some of the available Flickr upload tools.

### Granting Your Permission

Any tool that uses the Flickr API to add photos to your photostream needs your explicit permission. As you install software that communicates with Flickr, you'll likely encounter a Flickr permissions page like the one shown in [Figure 1-26](#).

Figure 1-26. The Flickr permissions page



This process ensures that you give access only to programs that you're aware of, and you can view a list of the applications you've approved at any time by logging into Flickr and browsing to the Authentication List page (<http://www.flickr.com/services/auth/list.gne>). If you see the permissions page while using an upload tool, you'll need to click the OK, I'll Allow It button; otherwise, the upload tool won't be able to add your photos to Flickr.

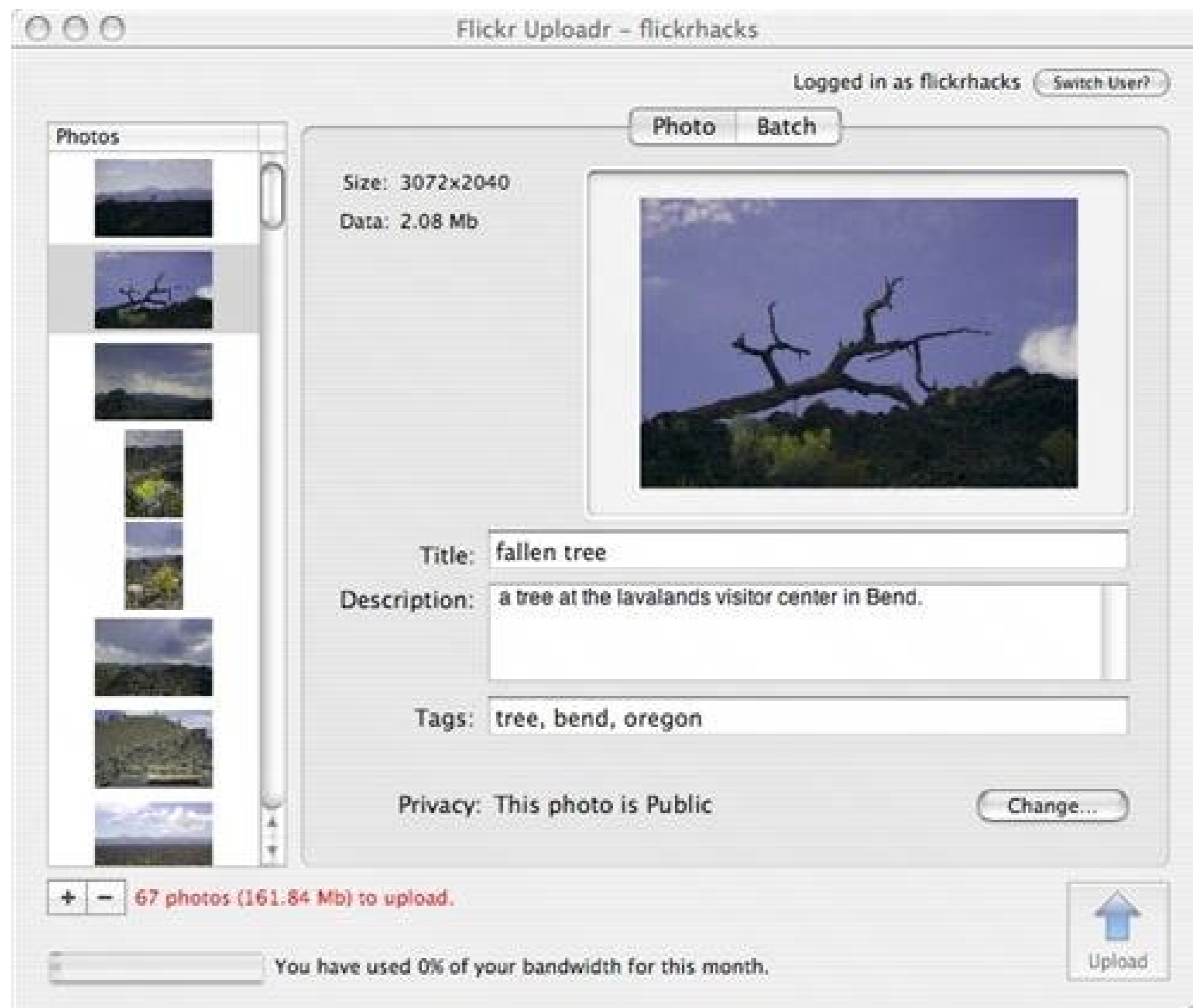
## Batch Uploading Tools

Batch uploading tools save you time by letting you upload entire groups of photos at once. Let's take a look at some of the available options.

### Uploadr for Mac

The official uploading tool for Mac OS X users is called Uploadr. Download the program from the Flickr Tools page (<http://www.flickr.com/tools/>), and double click the *.dmg* file to mount it. Drag the Flickr Uploadr application icon from the Flickr Uploadr window to your desktop or *Applications* folder to install it. Once it's installed, double-click the Uploadr icon and grant your permission to the application. After you're logged in, you can start dragging and dropping photos into the left pane of the Uploadr, as shown in [Figure 1-27](#).

Figure 1-27. Flickr Uploadr for Mac



You can set titles, descriptions, and tags for each individual photo, or you can click the Batch tab to set global privacy attributes and tags for the entire group of photos. You can also set the Uploadr to automatically resize your photos before sending them to Flickr, saving transfer time and bandwidth. Choose Flickr Uploadr Preferences from the menu to set your preferred maximum photo size.

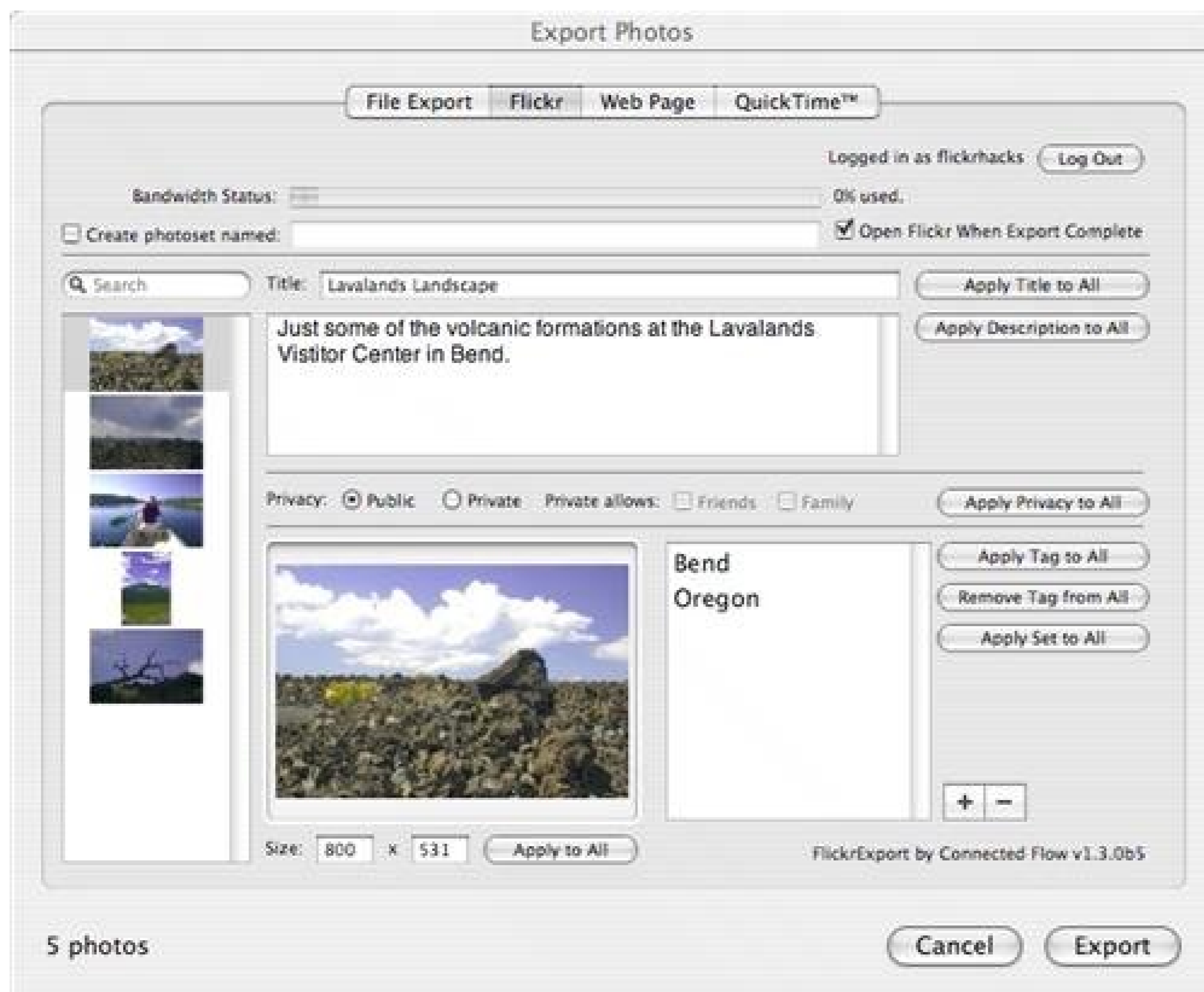
Once your photo attributes are set, you can click Upload to send your photos to Flickr, and they'll be transferred in the background.

## FlickrExport for iPhoto

If you manage your photos with iPhoto on your Mac, you might want to try the FlickrExport plug-in written by Fraser Speirs (<http://www.connectedflow.com/blog/>). The plug-in lets you use the iPhoto interface to select photos to send to Flickr.

Download the plug-in from <http://www.connectedflow.com/flickrexpert/>, and follow the installation instructions once it's on your desktop. Once the plug-in is installed, open up iPhoto and select a batch of photos from your Library. Choose Share Export from the iPhoto menu, and click the Flickr button at the top of the page. You'll see the Flickr Export dialog shown in [Figure 1-28](#).

Figure 1-28. FlickrExport for iPhoto



As with Uploadr, you can set titles, captions, tags, and privacy settings for each photo, or you can use the "Apply to All" buttons to set attributes for the entire batch. Once your settings are in place, click Export to send the photos to Flickr.

## Uploadr for Windows

Mac users aren't the only ones who can benefit from official Flickr tools, and there's a version of Uploadr for Windows available at the Flickr Tools page (<http://www.flickr.com/tools/>). Be sure to choose the proper version of Uploadr for your version of Windows; download the program and double-click the icon to start the installation.

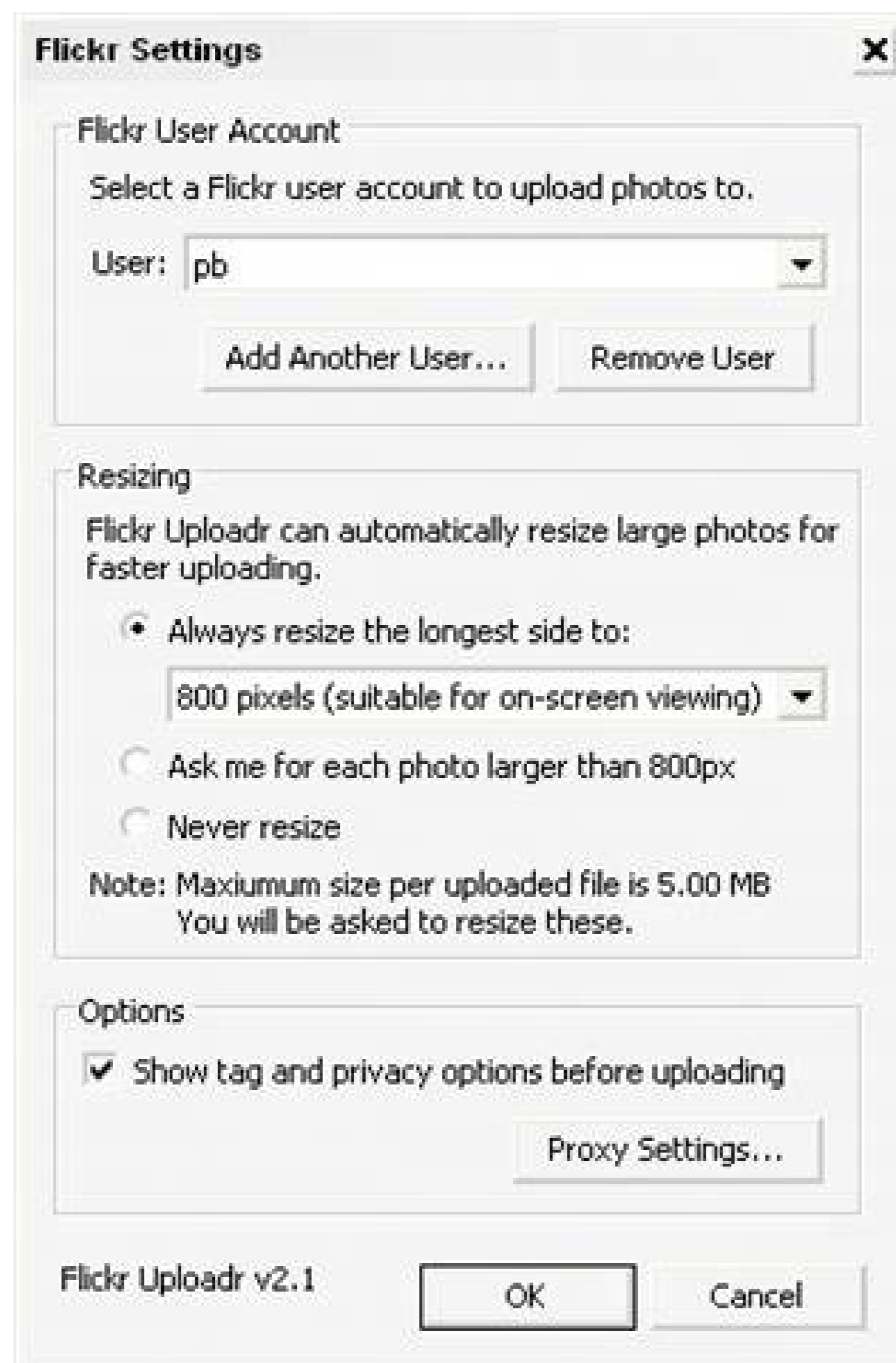
Uploadr for Windows is a bit more simplistic than its Mac cousin, and you won't be able to add titles, captions, or tags until you've transferred the photos to Flickr. To transfer photos, simply drag the images to the Uploadr window, as shown in [Figure 1-29](#), and click the Upload... button.

Figure 1-29. Flickr Uploadr for Windows



Uploadr will automatically resize your photos if you'd like, and you can set that preference by clicking the light switch icon in the main Uploadr window. [Figure 1-30](#) shows the Flickr Settings window.

Figure 1-30. The Flickr Settings window in Uploadr for Windows



## Windows XP Import Wizard

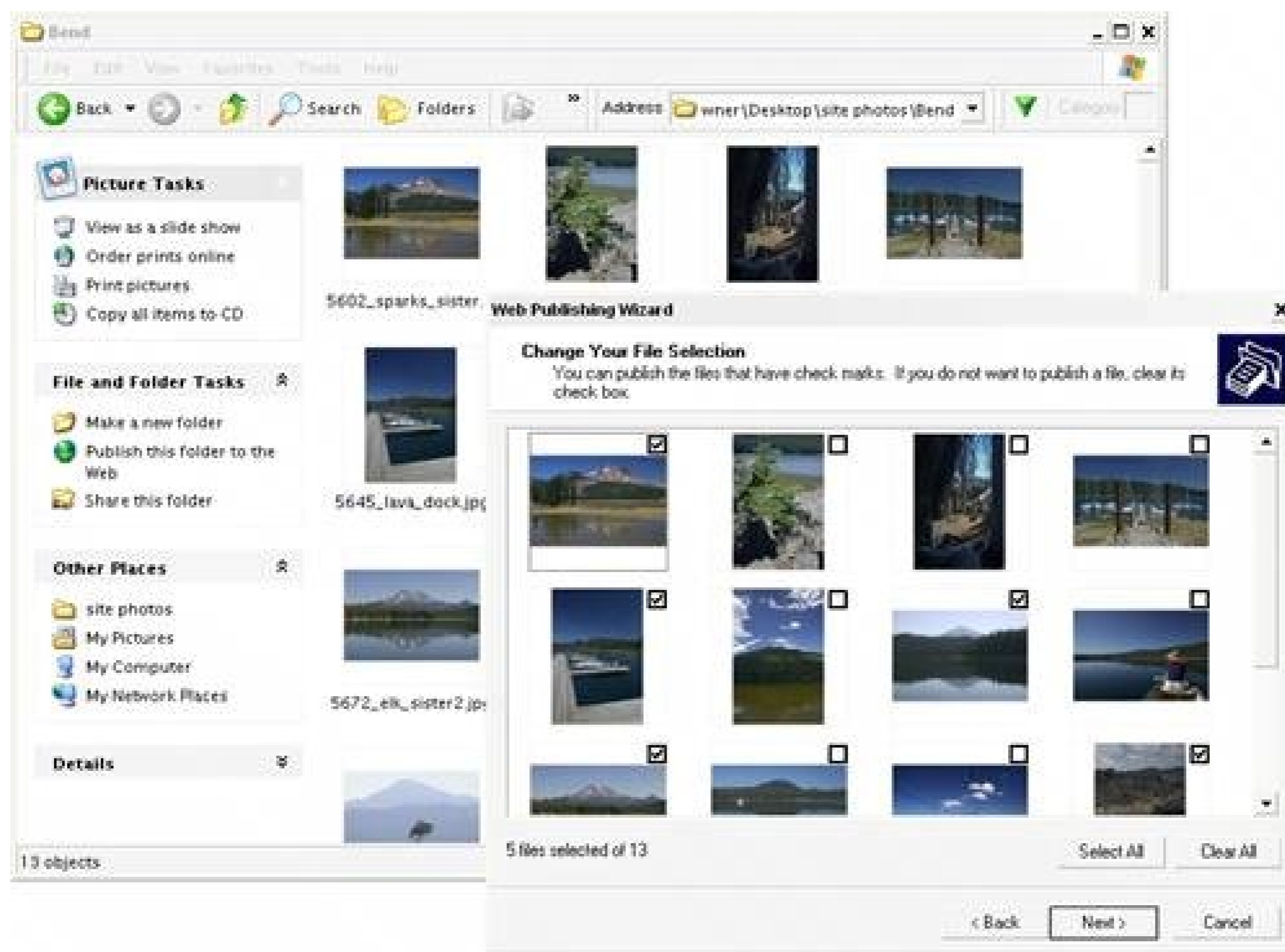
Windows XP has some nice built-in features for working with photos, and Flickr has a tool that extends the publishing features to send photos directly to Flickr. On the Tools page, look for a link titled Download "Send To Flickr" Windows XP Explorer Wizard, right-click the link, and choose Save As... to save the file *wizard.reg* to your computer. Double click *wizard.reg*, and approve the additions to your Registry. This will install the necessary settings to export images to Flickr.

To try out the wizard, browse to any folder that contains pictures with the Windows file explorer. Choose "Publish this folder to the Web" to start the wizard. If you don't see the Publish option, choose Tools → Folder Options... from the menu and make sure the "Show common tasks in folders" option is selected.

After you click "Publish this folder to the Web," you can select the photos from the folder that you want to add to Flickr. [Figure 1-31](#) shows the selection process.

Figure 1-31. Selecting photos to upload with the Windows XP Import

## Wizard



Once you've made your selections, click Next and choose Flickr from the list of options. The first time you run the wizard, you'll need to grant permission to the program. Once you grant permission, you'll get an authorization code to enter into the wizard. Enter the code into the application, click Next, and you'll be set to send your photos.

You can't add titles or captions to photos before sending them, but you can set tags and privacy options for the batch. You also have the option of resizing the photos automatically before they're sent. Once your photos are available at Flickr, you'll have the option to add titles and descriptions, and you can use batch editing [\[Hack #35\]](#) to speed things up.

## Desktop Uploading Widgets

Desktop uploading *widgets* are small applications that run on your desktop and transfer images to Flickr. They won't help you upload images in large batches, but you can drag and drop a single photo onto the widget to send it to Flickr. This can save you the steps of opening your browser, finding the upload page, and browsing around for the photo you'd like to send. Instead, you simply drag the photo onto the widget, drop it, specify your tags, and click Upload. (Unfortunately, you can't specify title and description while uploading the widget is built for speed, so it's tags only.)

## Flidget

If you're running Mac OS X Tiger (Version 10.4) with Dashboard, you can use Flidget ([http://www.apple.com/downloads/dashboard/blogs\\_forums/flidget.html](http://www.apple.com/downloads/dashboard/blogs_forums/flidget.html)). Download the widget and double-click it to add it to your dashboard. Click the "i" icon in the lower-right corner to set your Flickr login and password.

You'll need to be sure you have an Active Screen Corner set for Dashboard so that you can drag a file to the widget. To set an active corner, click and hold Dashboard in your Mac Dock and choose Dashboard Preferences... from the menu. Choose Dashboard from one of the Active Corners.

Once you're set to go, grab a photo you'd like to send to Flickr and drag it to the active corner you set up. You should see Flidget appear on the screen. Drop the file onto Flidget. You'll see a thumbnail of the image, and you can add tags to the photo, as shown in [Figure 1-32](#).

Figure 1-32. Flidget Dashboard Widget for Mac OS X



Click Upload, and Flidget will send your photo to Flickr.

## Konfabulator

If you don't have the latest version of Mac OS X, or if you're on a Windows machine, you can still play along by using widget engine Konfabulator (<http://www.konfabulator.com>). Once you have Konfabulator installed, you can grab the Flickr Upload Widget from <http://flagrantdisregard.com/flickr/uploader.php>.

As with Flidget, you can simply drag and drop an image file onto the Flickr Upload Widget. In addition to tags, you can add a title and a description and set your privacy preferences before clicking Upload to transfer the file, as shown in [Figure 1-33](#).

Figure 1-33. Flickr Upload Widget for Konfabulator





If you find yourself posting one or two photos at a time rather than large sets, these desktop widgets might speed up your routine.

## Beyond the Tools

If the tools mentioned here aren't quite right for your Flickr-flow, you might want to investigate rolling your own [\[Hack #42\]](#). The Flickr API gives you programmatic access to all of Flickr's features, including uploading photos, so with a bit of development you might be able to build your perfect uploading tool. Also, be sure to look at the official Tools page <http://www.flickr.com/tools/> at Flickr to find the latest available tools.

## Hack 6. Post Pictures from Your Cell Phone



Using Flickr's post via email feature, you can send photos directly from your cell phone while you're out and about.

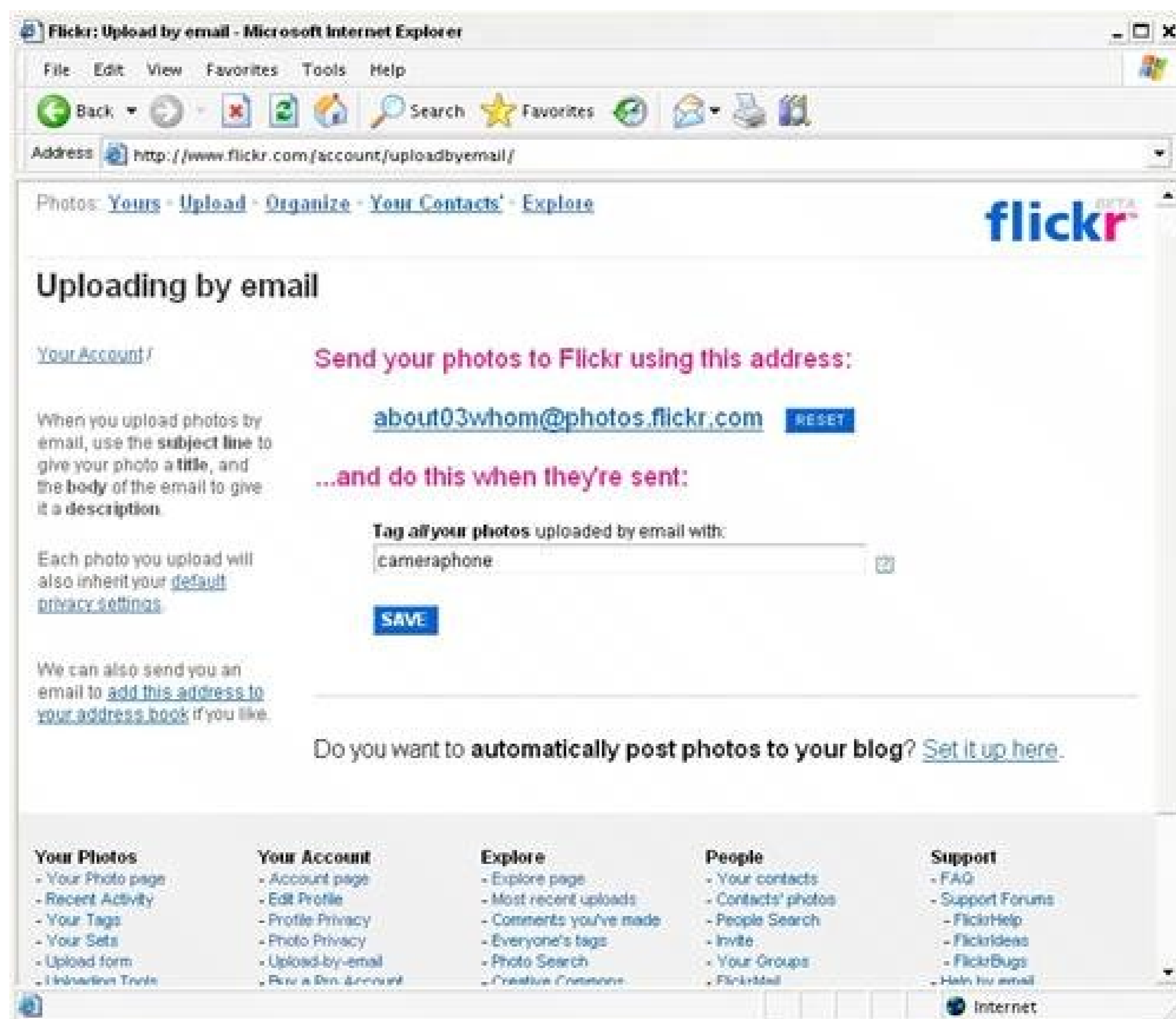
Imagine you're out walking around your city, and you notice that the annual fair is setting up for its week-long extravaganza. You'd like to share the news with your friends and family. You could take a picture of the newly unloaded carousel with your digital camera, walk home, transfer the photo to your computer, and then upload it to Flickr. If you have a cell phone with a built-in camera, however you can take the picture and post it to Flickr on the spot. Hooray for convergence!

To post from your cell phone, you'll need a cellular plan that lets you send photos via email. The data-transfer plans are usually \$5 to \$10 more per month than standard plans, or you might have a pay-per-use option that lets you pay for the number of messages you send. Check with your cellular service provider to get details about sending email from your phone. Once your plan is in place, posting from your cell phone relies on Flickr's "Upload-by-email" feature. Most camera phones can send any of their photos via email. With the proper phone and plan, you simply need a Flickr email address.

### Uploading by Email

Every user at Flickr has a unique email address for uploading pictures. You can find out yours by looking under Your Account at the bottom of any Flickr page and clicking the appropriately titled "Upload-by-email" link. You'll see a page like the one in [Figure 1-34](#), which lets you in on your secret address.

Figure 1-34. A Flickr email address



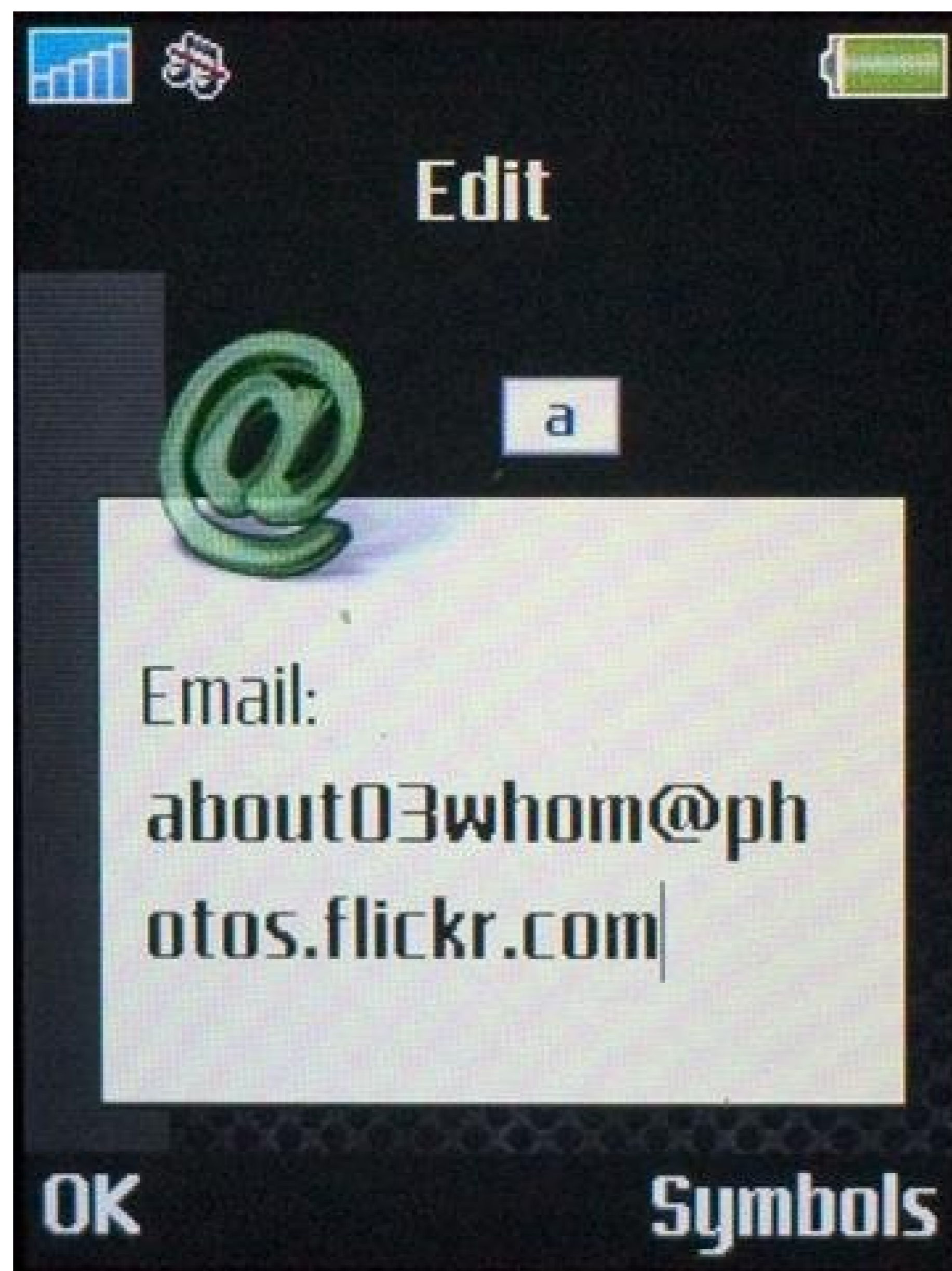
Notice that the email address is made up of random words and numbers before the @symbol, followed by *photos.flickr.com*. Keep in mind that the domain is not simply *flickr.com*, because without the *photos* prefix, your photos will be sent into the void.

The "Uploading by email" page also lets you specify any tags to automatically add to a photo when it's uploaded via email. Popular tags for cell phone users include *cameraphone*, *mobile*, and *moblog* (short for *mobile blog*). If you're going to be taking photos from a specific location with your mobile phone, you could include the location name as an auto-tag as well.

Every cell phone has a different way of taking pictures and entering contacts, so you might have to consult your cell phone manual for some of these procedures. The screenshots in this hack show a Sony Ericsson S710aan excellent phone for mobile photos.

While the page is still up on your computer, grab your cell phone and start a new entry in your phone's contacts list. If you enter your private Flickr address now, you won't have to remember it while you're out and about. [Figure 1-35](#) shows how entering the address looks on a cell phone; be sure to add it to the email field of a contact.

Figure 1-35. Entering the Flickr address into a phone



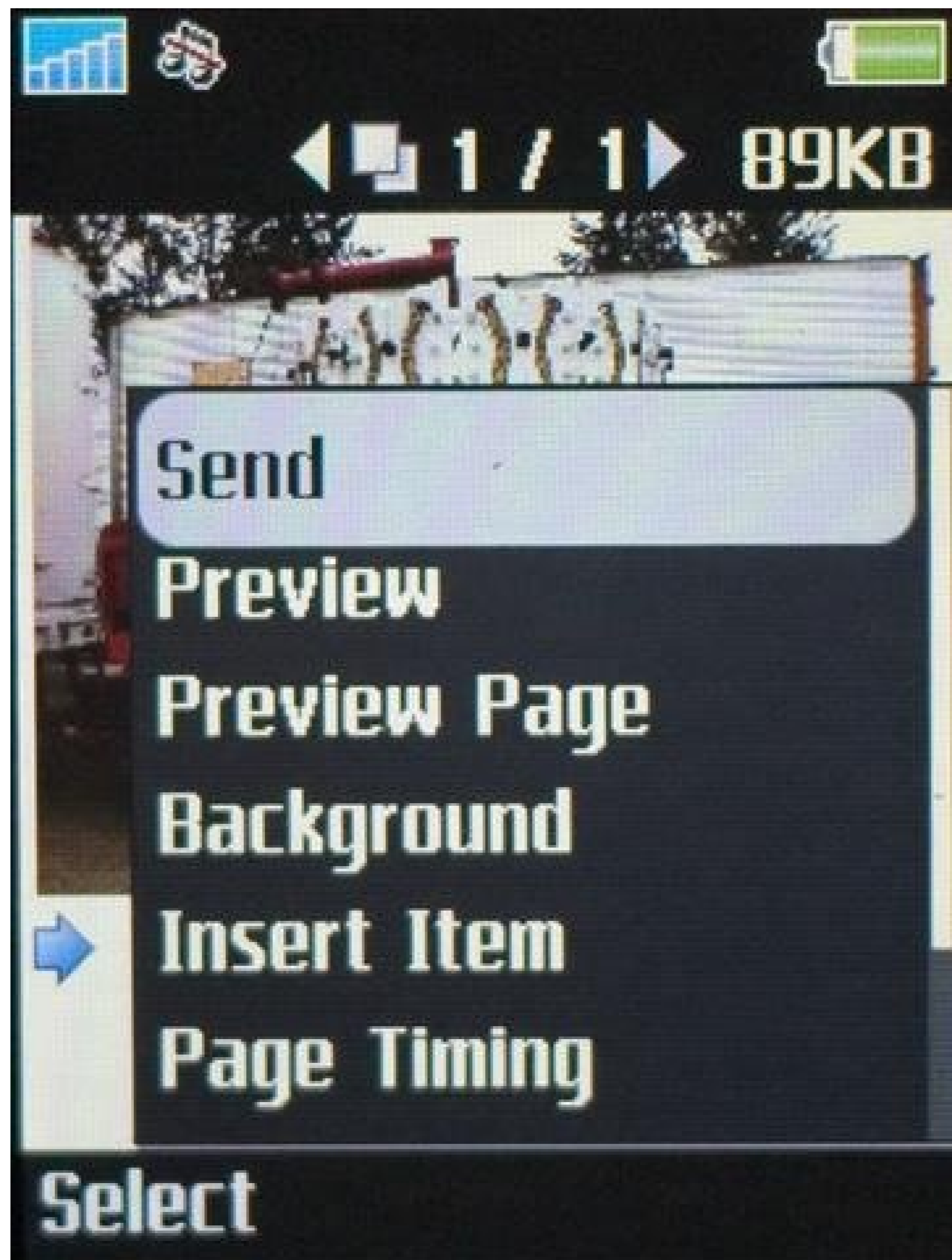
Give the contact a name you'll recognize, like *Flickr*, and you'll be all set for easy uploading from the field. Be sure to click Save on the "Uploading by email" page at Flickr to associate your Flickr email address with your account.

## Sending a Photo

So, you're out about town, armed with a camera phone and a Flickr address stored as a contact. When you capture the perfect image, you'll be set for sharing it with the world.

Every cell phone has a different method of sending a photo, but generally, the rule is to push buttons until you see an option called Send (see [Figure 1-36](#)).

Figure 1-36. Choosing Send from picture options



Once you select Send, you'll usually have the option to review the email before you send it. If you have great cell-phone-keypad dexterity, you can set a Subject line for your email like the one shown in [Figure 1-37](#), and Flickr will use the subject as the title of the photo.

Figure 1-37. Editing a message subject



If you don't set a subject, most cell phones use the internal filename of the photo as the subject of the messagesomething along the lines of *DSC00025*. Of course, you can always change the title of a Flickr image once you're back at your home computer.

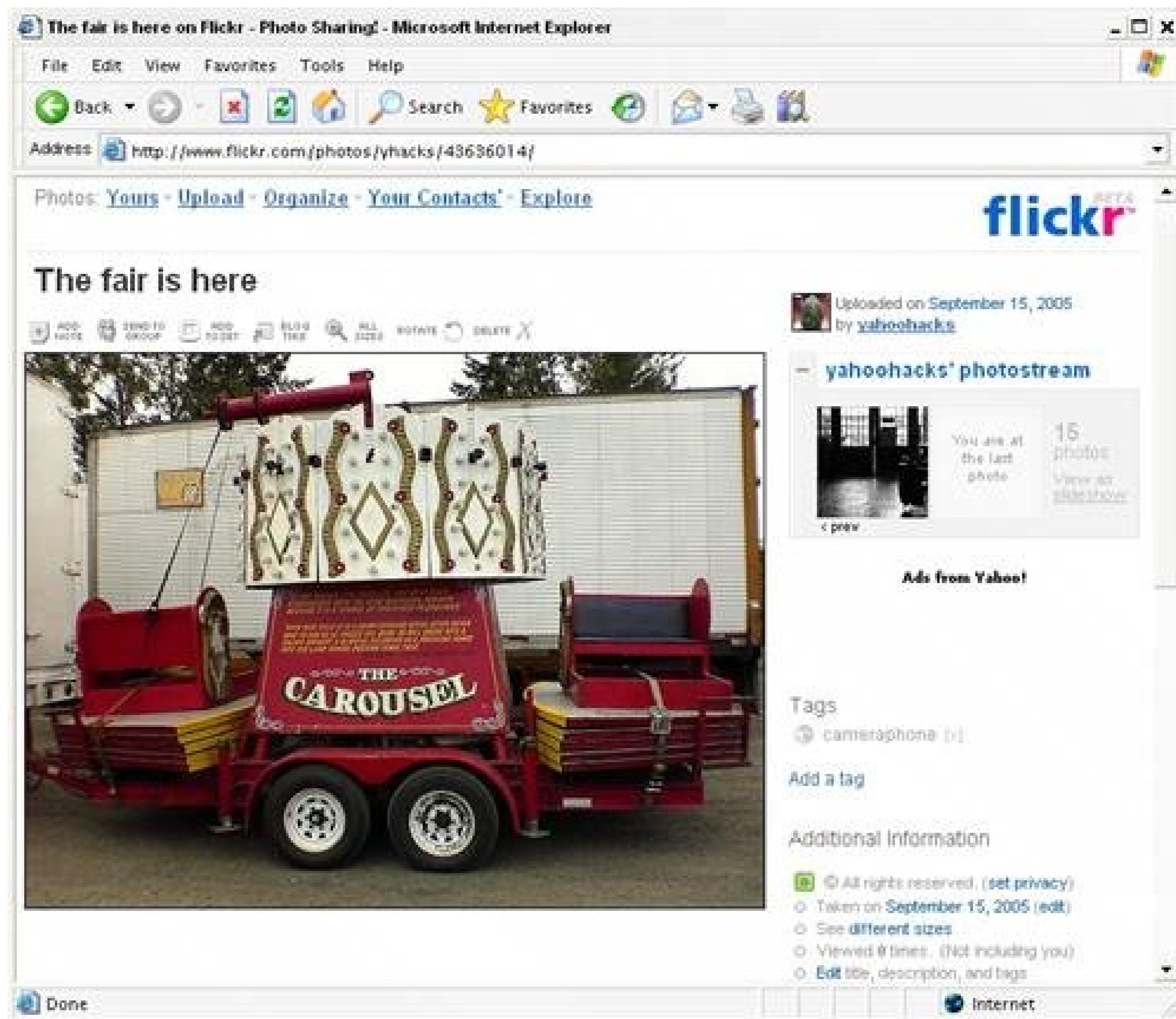
When the message is ready to go, click Send, and your phone will send the message through powerful cell networks directly to Flickr. Your phone might even provide a Sending Message graphic like the one shown in [Figure 1-38](#) to let you know the message is on its way.

Figure 1-38. Sending email via a cell phone



A minute or two later, your photo will appear on Flickr with your subject and preselected tags, as shown in [Figure 1-39](#).

Figure 1-39. A cell phone picture posted via email on Flickr



The entire process of sending a photo takes about a minute, and then you can slip the phone back into your pocket. Once you're back at your computer, you can log into Flickr and add any additional information, such as a description or more detailed tags. The hurdle of transferring the photo will be a distant memory.



## Hack 7. Feed Your Latest Photos to Your Web Site



Flickr provides a number of ways to syndicate your photos to another web site .

Adding photos to an existing web site can be a complex chore. You have to upload each photo to your site, add a photo on a page, and create duplicate, resized images if you want to show thumbnails of the photos. For your convenience, there is a tool that simplifies the process of sharing your photos on a remote web site.

Even though you upload your photographs to Flickr and they're stored on Flickr's servers, your photos are part of a system that allows you to access your photos in a number of ways and display them anywhere you'd like. One way to display photos on another site is with a Flickr badge.

### Flickr Badges

Though it sounds like something you might wear on your uniform, a Flickr *badge* is simply a bit of code that you can place on your web site. Figure 1-40 shows a simple Flickr badge with three photos on a remote web site.

Figure 1-40. A Flickr badge on a remote site

You can create your own Flickr badge in a simple five-step process. Browse to the "Create your own Flickr badge" page ([http://www.flickr.com/badge\\_new.gne](http://www.flickr.com/badge_new.gne)), and log in if you haven't already. Creating a Flickr badge is the

decisions about the badge. Here are the steps:

### *Choose the type*

You can decide between basic static HTML, or an animated Flash-based badge. The animated badge thumbnails in and out. Choosing Flash will mean your visitors will need the Macromedia Flash plug-in to see your photos.

### *Choose the photos*

You can choose to display your latest photos, or any of your photos that are tagged with a specific tag, photos from a group you're a member of, all Public photos with a certain tag, or, if you're feeling creative,

### *Set the layout (HTML only)*

When you're building an HTML badge, you have a number of options for the layout. You can choose whether the badge links to your Flickr profile page. You can choose the number of photos you'd like to show, the orientation of the badge (horizontal or vertical). Finally, you can choose to show the latest photos or a specific set of photos.

### *Choose colors*

If you want the badge to fit in seamlessly with your remote site's design, you can adjust the background color and font color. A live preview at the bottom of the page will show your changes in progress.

### *Copy and paste code*

On the last page, you can preview your badge, and copy the code for your unique badge by highlighting the code. The code for a static HTML badge is a combination of CSS, HTML, and JavaScript. It should look something like this:

```
<!-- Start of Flickr Badge -->
<style type="text/css">
#flickr_badge_source_txt {padding:0; font: 11px Arial, Helvetica, Sans serif;
    color:#666666;}
#flickr_badge_icon {display:block !important; margin:0 !important;
    border: 1px solid rgb(0, 0, 0) !important;}
#flickr_icon_td {padding:0 5px 0 0 !important;}
.flickr_badge_image {text-align:center !important;}
.flickr_badge_image img {border: 1px solid black !important;}
#flickr_www {display:block; padding:0 10px 0 10px !important;
    font: 11px Arial, Helvetica, Sans serif !important; color:#3993ff !important;}
#flickr_badge_uber_wrapper a:hover,
#flickr_badge_uber_wrapper a:link,
#flickr_badge_uber_wrapper a:active,
#flickr_badge_uber_wrapper a:visited {text-decoration:none !important;
    background:inherit !important;color:#3993ff;}
#flickr_badge_wrapper {background-color:#ffffff;border: solid 1px #000000}
```

```
#flickr_badge_source {padding:0 !important;
  font: 11px Arial, Helvetica, Sans serif !important; color:#666666 !important;}
</style>
<table id="flickr_badge_uber_wrapper" cellpadding="0" cellspacing="10" border="0">
  <tr>
    <td>
      <a href="http://www.flickr.com" id="flickr_www">
        www.<strong style="color:#3993ff">flick
        <span style="color:#ff1c92">r</span></strong>
        .com</a>
      <table cellpadding="0" cellspacing="10" border="0" id="flickr_badge_wrapper">
        <script type="text/javascript"
src="http://www.flickr.com/badge_code_v2.gne?count=3&display=latest&size=t&layout=v&sour
        </script>
      </table>
    </td>
  </tr>
</table>
<!-- End of Flickr Badge -->
```

The Cascading Style Sheet (CSS) style definitions at the top of the code format how the badge looks. You can change how the badge looks on your site. Immediately after the `<style>` tags, the standard HTML `<table`

The `<script>` tag does the work of displaying the photos. As you can see in the `src` attribute, the JavaScript code on `http://www.flickr.com` and displays photos based on the parameters passed in the URL. Many of the details of the badge-creation process are encapsulated in this URL. For example, the `count` variable will be set to `3` to display, and the `layout` variable will be set to `v` or `h`, depending on your choice of vertical or horizontal.

If you need to change your badge, try studying the fairly self-explanatory variables in the URL and then make changes quickly without running through the whole badge-creation process again.

## Flickr Feeds

Another way that Flickr makes photos available for use on other sites is through standard XML syndication news feeds at the bottom of many Flickr pages that relate to the content you see on those pages.

Each Flickr feed contains the 10 most recently added photos for a particular user, group, or tag. The item details you need to display the photo on a remote site: the title, a link to the photo on Flickr, and a bit of caption. Here's a look at an item in a Flickr RSS feed (this example has been formatted for readability; tags such as `<p>` rendered as the escaped `&lt;p&gt;`):

```
<item>
  <title>Ultimate Championships</title>
  <link>http://www.flickr.com/photos/pb/16469233/</link>
  <description>
    <p><a href="http://www.flickr.com/people/pb/">pb</a> posted a photo:</p>
    <p><a href="http://www.flickr.com/photos/pb/16469233/"
      title="Ultimate Championships">
      </a></p>
        <p>the women's championship game was washington vs. stanford</p>
</description>
<pubDate>Mon, 30 May 2005 11:01:15 -0700</pubDate>
<author>nobody@flickr.com (pb)</author>
<guid isPermaLink="false">tag:flickr.com,2004:/photo/16469233</guid>
</item>

```

The `<title>` and `<link>` elements hold the title of the photo and a link to the photo, as you'd expect. The `<description>` element holds the description of HTML that you can use on a remote site.

The most common use of RSS is viewing new items in a newsreader, but there's no reason you can't use a Flickr badge. Parsing XML is the perfect job for Perl, and with a few lines of code, you can build your own.

## The code

This Perl script uses the `LWP::Simple` module to fetch a Flickr feed and the `XML::RSS` module to parse the feed. Be sure you have these modules on your server, and then add this code to a file called `flickr_feed.pl`. Be sure the file contains the photos you want to syndicate.

```

#!/usr/bin/perl
# flickr_feed.pl
# Transforms a Flickr Feed into HTML
# Usage: flickr_feed.pl

use strict;
use XML::RSS;
use LWP::Simple;

# Grab the feed.
my $flickr_feed = 'insert Flickr feed URL';
my $feed = get($flickr_feed);

# Start RSS Parser
my $rss = new XML::RSS;

# parse the feed
$rss->parse($feed);

# initialize item counter
my $i;

# print the title, link, and description of each RSS item
foreach my $item (@{$rss->{'items'}}) {
    $i++;
    my $desc = "$item->{'description'}\n";

    # remove the "posted by" text
    $desc =~ s!<p>.*?posted a photo:</p>!;
}

```

```

# use thumbnails instead of medium images
$desc =~ s!_m!_t!;

# remove the width and height attributes from image tags
$desc =~ s!width=".*?" height=".*?"!!;

# remove the paragraph tags
$desc =~ s!</?p>!!g;

# print the item
print "$desc<br />";
print "<a href=\"\$item->{'link'}\">";
print "\$item->{'title'}</a><br /><br />";

# set the number of photos
last if ($i == 3);
}

```

This code downloads the Flickr feed and massages the HTML in the `<description>` tag, removing some text until it hits the number specified in the last line of the script.

## Running the hack

You can run this code from the command line by calling the script like this:

```
perl flickr_feed.pl
```

You'll probably want to set the script to run on a regular schedule with the Windows Task Scheduler, or

Using an XML feed instead of a preprogrammed Flickr badge requires a bit more work, but it gives you more control. You can create your own CSS styles and classes to make the photos appear exactly as you want them to. Figure 1-41 shows a badge created with the script provided in this hack, viewed on a remote site.

Figure 1-41. A custom Flickr badge

## Hacking the Hack

Even though the Flickr feeds contain most of the information associated with each photo, you can still do more. Flickr provides programmatic access to anything at Flickr, not just photos. (You can read the full documentation at <http://www.flickr.com/services/api/>.)

In addition to titles and captions, you can get access to everything from the number of comments people have made by others to technical data (EXIF tags) from the camera that took the photo. Building a custom badge will be more complex than parsing an RSS feed, but if you really want access to all of the data you have stored at Flickr,

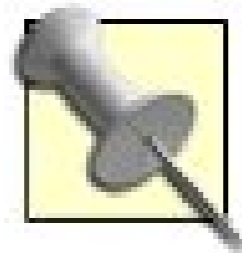
← PREV

## Hack 8. Make a Photo Gallery in 30 Seconds or Less



This online form will create ready-to-paste HTML code for your next photo gallery .

There are a number of tools available for building galleries or albums from your Flickr photos. One of my



CK is a Taiwanese Flickr Hackr who has made an excellent collection of code gene

CK's Flickr Album Maker presents an online form in which you're requested to fill out a few fields. It then generates the HTML code and you can copy and paste it into your own web site.

Since CK's code talks to the Flickr API to get information about your photos, you don't need to actually k

### Making an Album

To begin making an album, go to CK's site at <http://webdev.yuan.cc> and click on the Flickr Album Maker

Figure

After filling out the form with the personal information needed to access your Flickr photos, press the su  
Figure 1-43 .

Figure 1-



If you want to tweak the result, you can modify the embedded stylesheet.

## Making a Slideshow

If you select the Slideshow option at the top of CK's form, it will produce source code for a very spiffy in

Fig

If the slideshow interface looks familiar, it's because you've probably seen it before. This is the same Flash slideshow interface that Flickr uses. We'll take Flickr's slideshow and putting it into an `iframe` :

```
<iframe width="500" height="500" frameborder="0" scrolling="no" src = "http://www.flickr.com/photos/your_username/slideshows/your_slideshow_id/" />
```

Another nice tool for adding a Flash slideshow to your web site is the \$20 Slideshow Generator.

## Rolling Your Own

There are a few other web sites that work in a similar way. A lot of CK's stuff either uses or is inspired by Oberkampf (http://www.entrauge.com/tools/oberkampf/index.php) also employs an online form to collect your personal information.

Armed with Oberkampf, you can reduce the task of producing a strip of your thumbnail images to a single click.

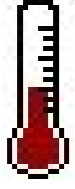
## See Also

- CK provides excellent support for the Album Maker and other tools he makes. He has created a Flic



← PREV

## Hack 9. Post Photos to Your Blog



If you take a few minutes to enter some information about your weblog at Flickr, you can post with a single click .

Many weblog systems offer tools to help you upload and include images with your posts, but you might find an alternative to the standard photo tools. Once you upload a photo to Flickr [Hack #1] , you have several options to post the photo in your weblog posts.

### Blog This

The most direct way to send a photo from Flickr to your weblog is through the Blog This button that you see above photos, as shown in Figure 1-45 .

Figure 1-45. The Blog This button above a photo at Flickr

To enable the Blog This button, you need to give Flickr some information about your weblog.

## Configuring a weblog

Setting up Flickr to post to a weblog is a simple three-step process. Click Your Account at the top of any Your Blogs under the section labeled Blogging. You'll find a list of any weblogs you've set up; to add a w "Set up a new blog."

The first step to setting up a new weblog is telling Flickr which weblog tool you use. Flickr supports the f

### *Blogger*

<http://www.blogger.com>

### *TypePad*

<http://www.sixapart.com/typepad/>

### *Movable Type*

<http://www.sixapart.com/movabletype/>

### *LiveJournal*

<http://www.sixapart.com/livejournal/>

### *WordPress*

<http://www.wordpress.org>

### *Manila*

<http://www.manilasites.com>

If you use a weblog tool that's not listed, check your tool's documentation to see if it uses one of the sup programming interfaces (APIs). An API allows a third-party tool such as Flickr to add posts to your weblo following APIs:

### *Atom*

This API is an emerging independent standard for programmatic weblog access and is supported k Blogger and the latest versions of Movable Type. You can see the details of the API at <http://www>

### *BloggerAPI*

This was the first weblog API implemented by Blogger. It's no longer actively developed, but some

### *MetaWeblogAPI*

This is another older API that some tools, including WordPress, support. You can read more about <http://www.xmlrpc.com/metaWeblogApi>.

If your weblog tool supports one of these APIs, you just need to know the *API Endpoint*: a URL to which requests. The documentation should give you the API Endpoint URL, and with that in hand, you can move on.

Once you've chosen your tool or supported API, you'll need to enter the username and password you will use this information to contact the weblog tool and fetch information about your weblog (or the multiple weblogs there).

Choose your weblog from the list, click Next, and verify the information on the following page. If you do not want to store your weblog tool's password with Flickr, you can uncheck the box labeled "Store your password?" Click Next when ready to start posting pictures!

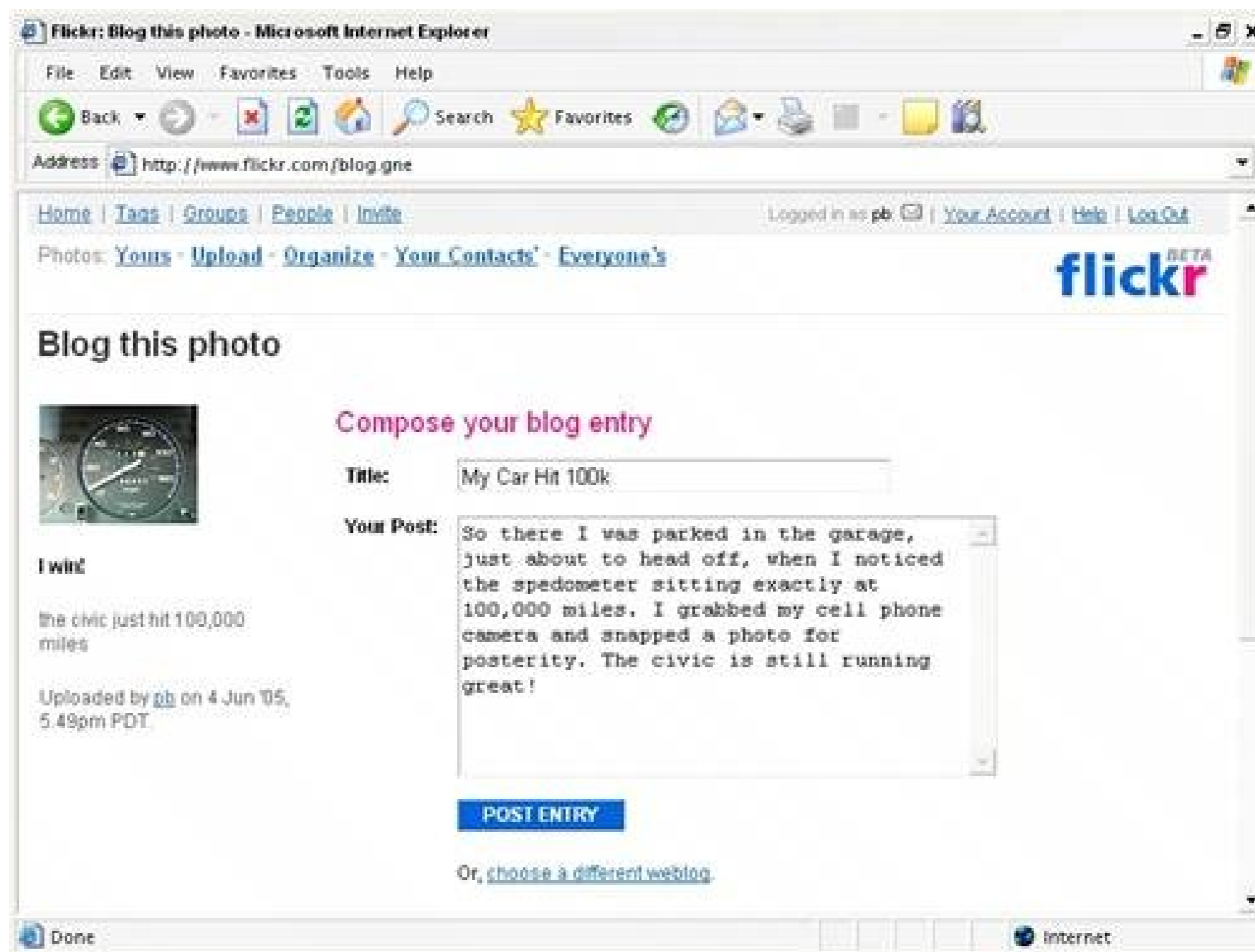
### **Posting to your weblog**

With your weblogs set to go at Flickr, browse to one of your photos that you'd like to post to a weblog. Click the Blog This button above the photo and choose one of your weblogs from the list, as shown in Figure 1-46.

Figure 1-46. Choosing a blog with the Blog This button

Once you choose your weblog, you'll have the option to compose your post at Flickr (Figure 1-47).

Figure 1-47. Composing a weblog post at Flickr



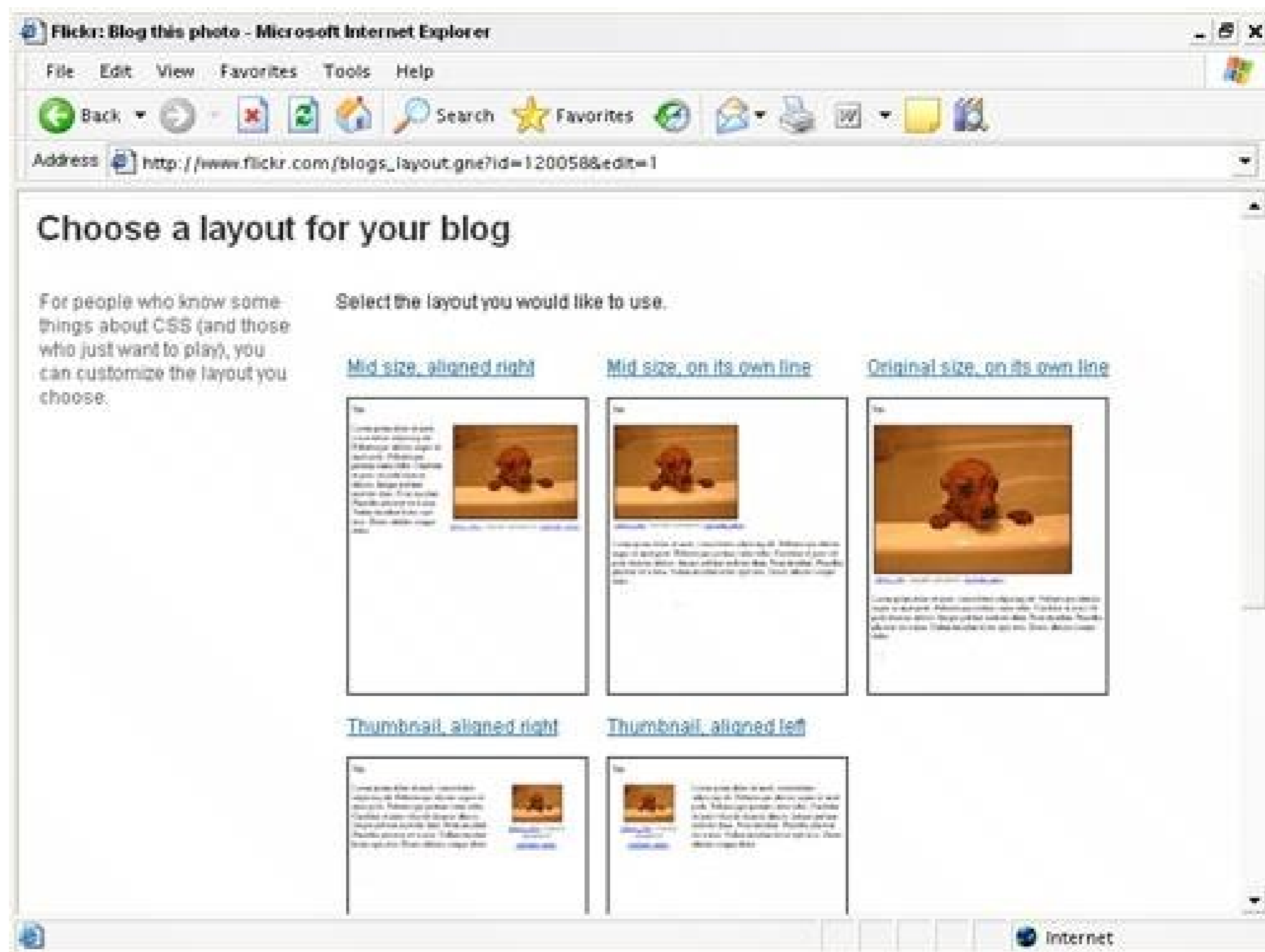
Click Post Entry, and Flickr will automatically send the text and photo to your weblog. Figure 1-48 shows Blogger-powered weblog.

Figure 1-48. A weblog post via Flickr

The nice thing about using Flickr's Blog This feature is that you don't have to write the HTML necessary—simply point and click to add a post with a photo to your weblog, and Flickr assembles the necessary HTML for you.

If you want to change the HTML that Flickr uses, you can alter the way Flickr lays out the photo and text. To customize a post layout for one of your weblogs, browse to the Your Blogs page at Flickr and click Layout options, as shown in Figure 1-49.

Figure 1-49. The weblog post layout options at Flickr



You can even create a custom post layout template, if you want to go beyond the existing options.

## Roll Your Own Post

While the Blog This feature at Flickr works well for posting a single photo along with some text, it doesn't support multiple photos within a single post. And you might find that your post layouts are so unique that a single layout doesn't work for either of these cases, you'll need to write your own HTML to display images in your weblog posts. Even if you do some of the work on your own, Flickr can still make your life easier by hosting and processing your images for you.

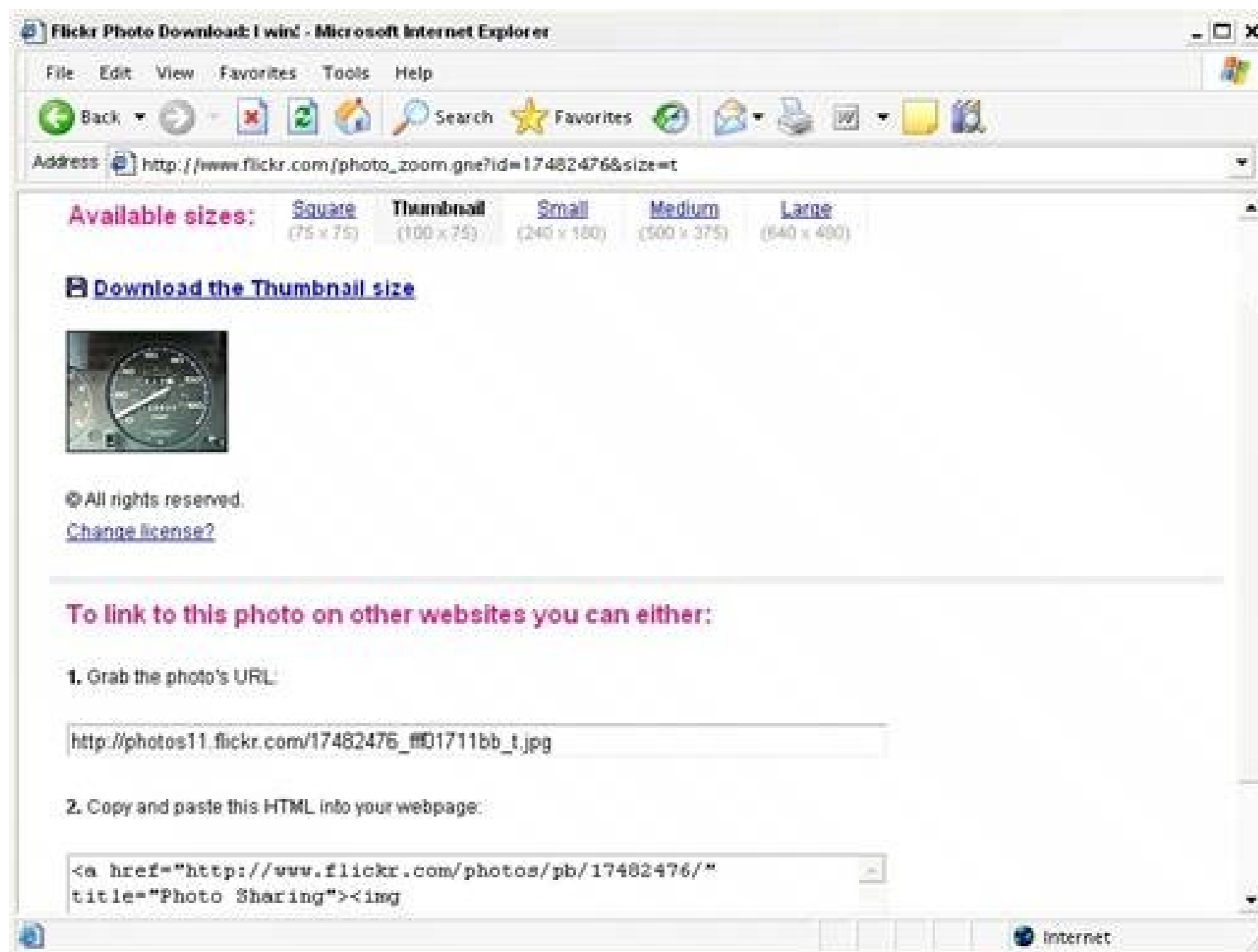
The key to writing your own HTML to display images is finding direct URLs for the images you upload. But instead of just one URL for every image you upload to Flickr, there are five image sizes available, each with its own URL. You can choose the appropriate image size for the post, or use a thumbnail instead of a full image.

Keep in mind that the larger your photo is, the longer it will take your readers to download. Also, photos won't always fit within the design constraints of a standard weblog. If your weblog has a 400-pixel-wide column, posting an 800-pixel-wide photo will break the design.



To find URLs for each of the image sizes available, click the appropriately titled All Sizes button above and return to Flickr. This will take you to the All Sizes page (Figure 1-50), which includes the size options listed across the top along with the dimensions of the photo in each size.

Figure 1-50. The All Sizes page for an image at Flickr



As you click each image size in the menu, you'll find a unique URL listed underneath the photo. Each URL looks something like this:

[http://photos11.flickr.com/17447365\\_fff01711bb\\_o.jpg](http://photos11.flickr.com/17447365_fff01711bb_o.jpg)

Notice that the URL starts with a Flickr domain and that the filename includes two alphanumeric IDs separated by a final letter (again separated by an underscore) before the `.jpg` extension. That final letter represents the size of a Flickr photo; understanding the codes can help you create or change links to different sizes. Here's a quick look at the different photo sizes available at Flickr:

### *Large*

This size is the original size of the photo before it was uploaded to Flickr. If you uploaded a photo by 600 pixels high, you can access the original by clicking the Large size. The URL code for this size stands for *original*. If the original image you uploaded was extremely large (more than 1024 pixel dimension), an Original photo size will also be available at Flickr. In this case, the Large size will have the Original size will have the code `o`.

### *Medium*

The Medium size is what you see on a Flickr photo detail page. This size will be 500 pixels at its longest dimension depending on the orientation of the photo. There is no URL code for Medium photos, because this

### *Small*

Small photos are 240 pixels at the longest dimension and are used on photostream pages as thumbnails. The URL code for small photos is `m`.

### *Thumbnail*

This size is 100 pixels at its longest dimension and can be used to link to a larger version of the photo. The URL code for thumbnail-sized photos is `t`.

### *Square*

A Square photo is a version of the original cropped to a 75x75-pixel square. You'll find this size photo on the Flickr homepage when you're logged in. It's a handy size to use if you need to know the exact width and height. The URL code for square photos is `s`.

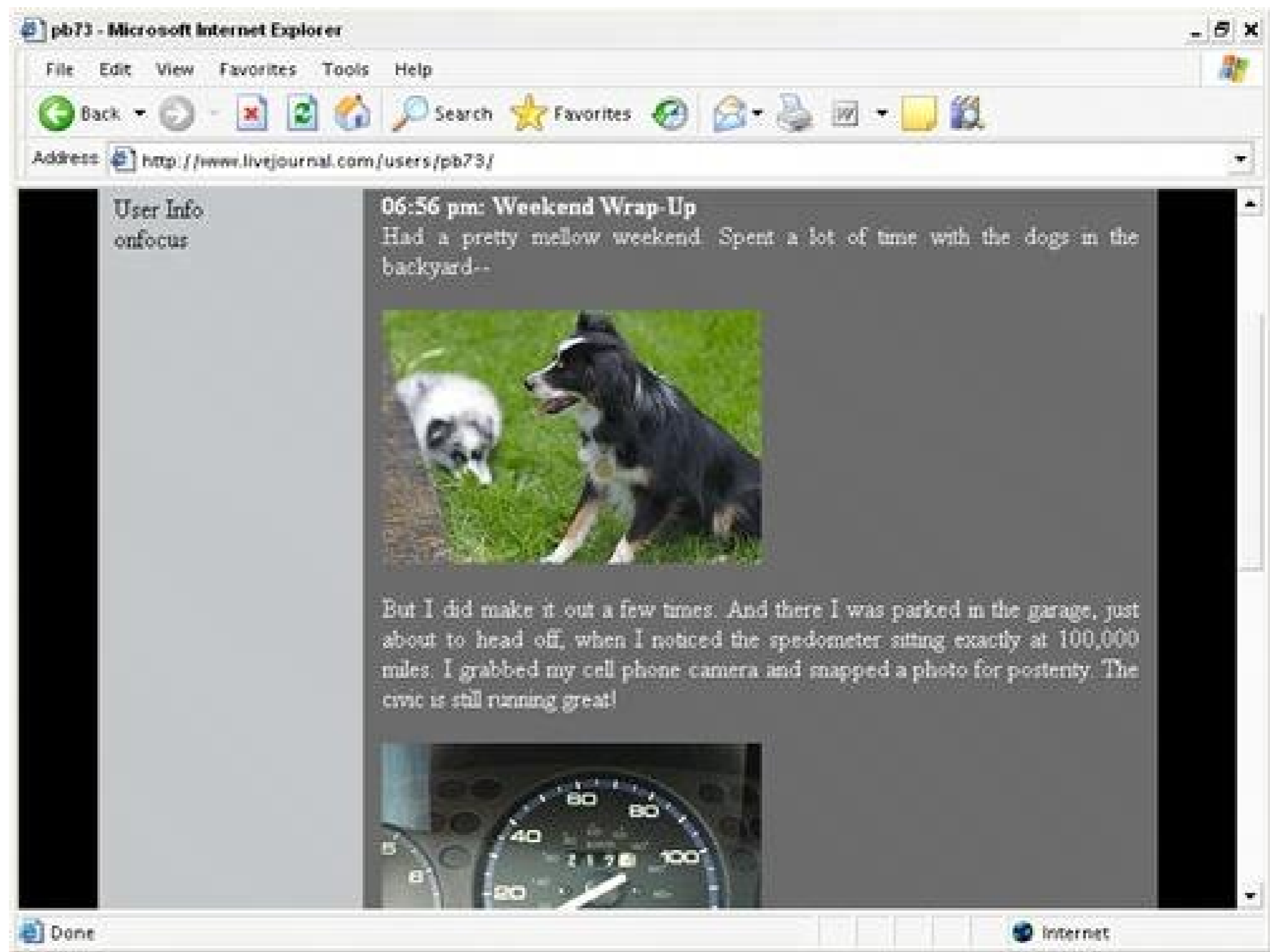
Once you've determined the size of the photo you'd like to display in your post, copy its URL. Then, you can use the HTML image tag to display the photo, like this:

```

```

When you're writing your own HTML, you can combine multiple images, link images to unique web pages, and create layouts that are more complex than are possible with Flickr's Blog This feature. Figure 1-51 shows a single post at LiveJournal with images hosted at Flickr.

Figure 1-51. A post at LiveJournal with images hosted at Flickr



While you might not need this level of control for every post you make, knowing what's available to you to get creative with your weblog posts.

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## Chapter 2. Tagging Photos

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[Hack 10. Describe Your Photos](#)

[Hack 11. Play with Tags](#)

[Hack 12. Geotag Your Photos](#)

[Hack 13. Exploit Compound Tags](#)

[Hack 14. Make a Flickr-Style Tag Cloud](#)

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## Hacks 10-14

Before web applications borrowed the term *tags* to mean keywords about pieces of digital information, we thought of tags as something you added to a product to give a bit more information. For example, you might add a sale tag to a shirt to let everyone know its new price.

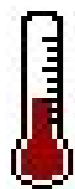
Photo tagging isn't much different, in the sense that you're adding keywords to a photo to let everyone know a little more about that photo (and to provide terms that people can search for to find photos of specific subjects). You can think of tagging as a way of describing your photos [\[Hack #10\]](#) for a larger audience, while organizing them for your own use.

Imagine you have a picture of a shirt, and you'd like to be able to find that picture in the future. If you add a few tags to the photo, such as *shirt*, *clothes*, or *fashion*, when you want to see that picture in the future you can simply browse your tags and view all of your photos tagged with *shirt* as a separate collection of photos. Also, anyone else interested in pictures of shirts will be able to see your photo as part of the larger, global collection of photos tagged with *shirt*.

Flickr was one of the first applications on the Web to allow tagging of content, and Flickr members have come up with many ways to use tagging to their advantage. Some have created alternate interfaces and games [\[Hack #11\]](#) for browsing global tag collections. Others have found a way to use tags to indicate the location a photo was taken [\[Hack #12\]](#). You can also use Flickr's tags to create your own visualizations of how people are using tags [\[Hack #14\]](#).

Whether you're tagging photos for personal organization or to take part in the larger Flickrverse, you'll find you can improve the way you tag by seeing how others are using tags to create new spaces for sharing photos.

## Hack 10. Describe Your Photos



Taking some time to think about how you describe your photos on Flickr might help you find a wider audience for your pictures.

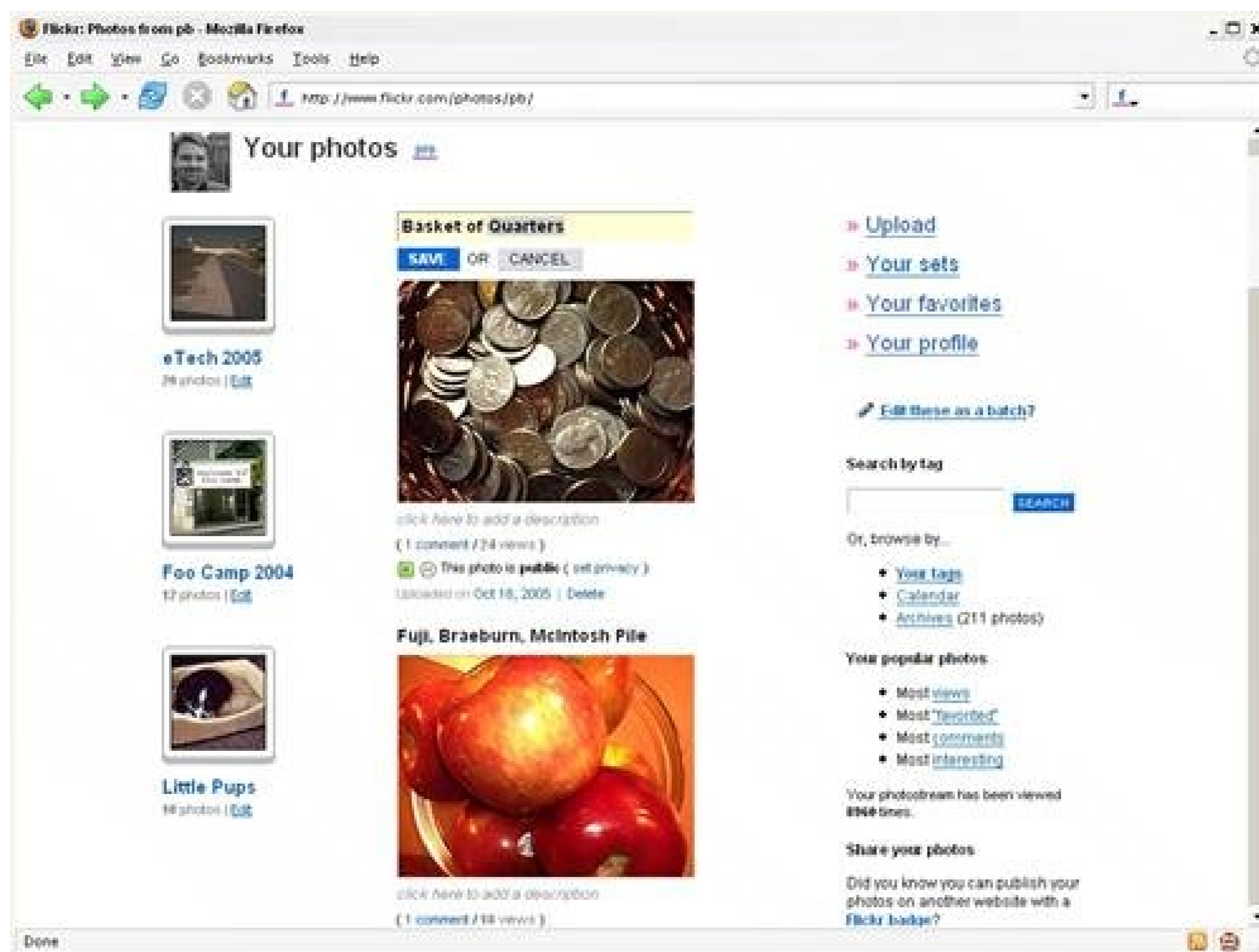
A photo might be worth a 1,000 words, but you can't extract those words from a photo automatically. To pool like photos together, Flickr needs your words, and there are several ways to describe your photos so that you can organize them and place them within their proper spaces in the larger Flickr ecosystem.

### Titles and Descriptions

The most obvious photo descriptors you can use in Flickr are photo *titles* and *descriptions*. Titles are listed above photos and are usually just a few words long. Descriptions appear under photos and can be anything that won't fit into a short title. You can describe the photo in a few sentences, or tell an entire story about the photo in a few paragraphs.

You can add titles and descriptions when you upload a photo, or later (simply click the "Edit title, description, and tags" link to the right of the photo on the detail page). You can also edit them at any point by simply clicking the title or description. [Figure 2-1](#) shows what editing a title looks like.

Figure 2-1. Editing a photo title



Click Save once you've made your changes, and your new title or description will be set.

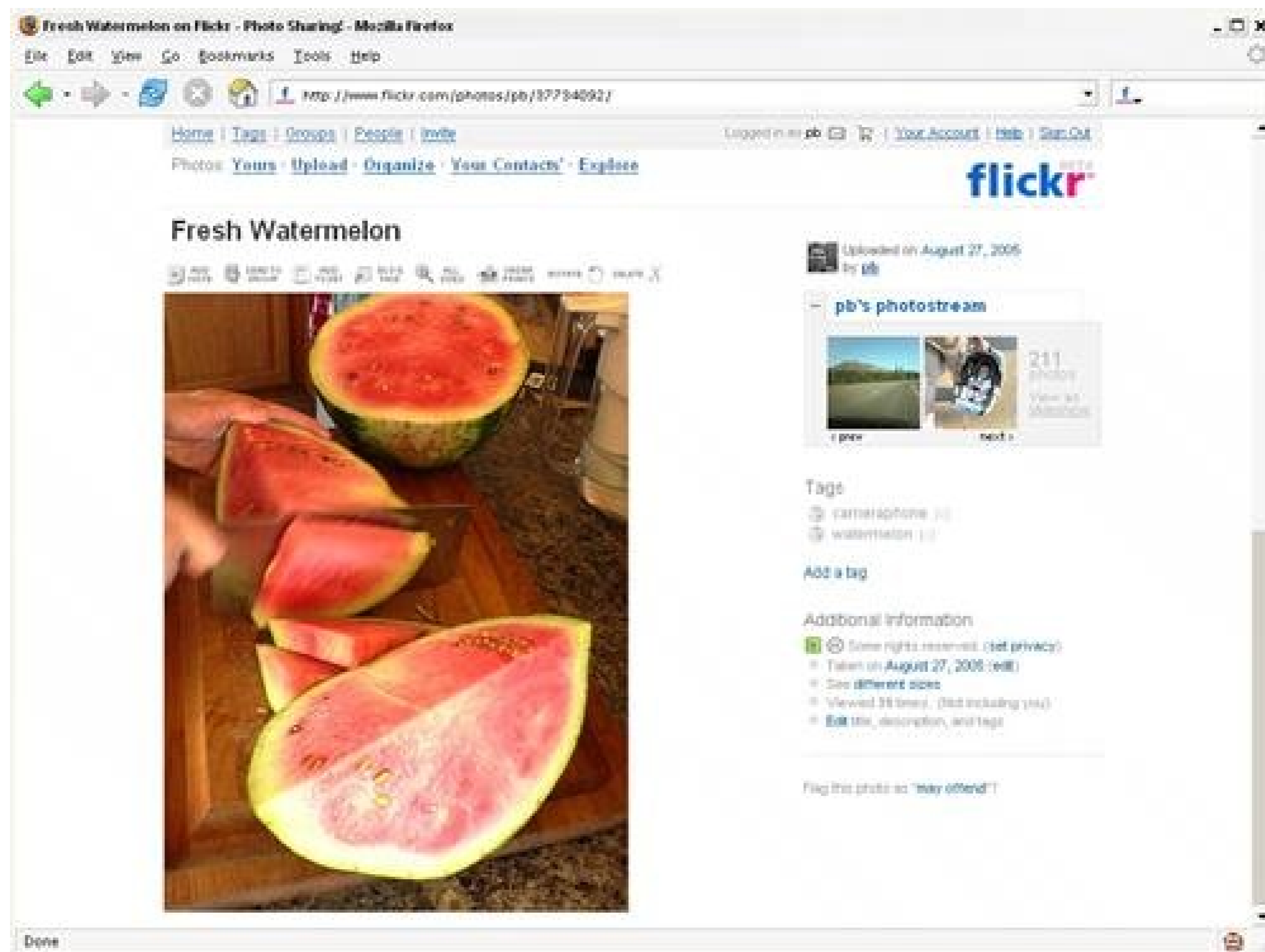
In addition to appearing with the photo in your Flickr photostream, keep in mind that the photo title will be available in group photo pools, on your contacts' photo pages as they hover over a thumbnail of the photo, and anyplace on Flickr where your photo is shown. In other words, the title will be associated with your photo in many ways. Your descriptions will also appear in Flickr news feeds [\[Hack #17\]](#).

## Tags

*Tags* are keywords you can add to your photos. There are two main reasons to add tags to your photos. The first is for your own categorization. If you tag every photo of your cat that you post to Flickr with the word *cat*, you can instantly view all of those photos in a group by clicking on your *cat* tag. The other reason to tag photos is to take part in the larger community of Flickr users. By clicking the global *cat* tag, you can see other photos that people have tagged with that keyword.

Tags appear to the right of a photograph, and you can add them to your own photos at any time by clicking the "Add a tag" link. [Figure 2-2](#) shows a photo tagged with the words *cameraphone* and *watermelon*.

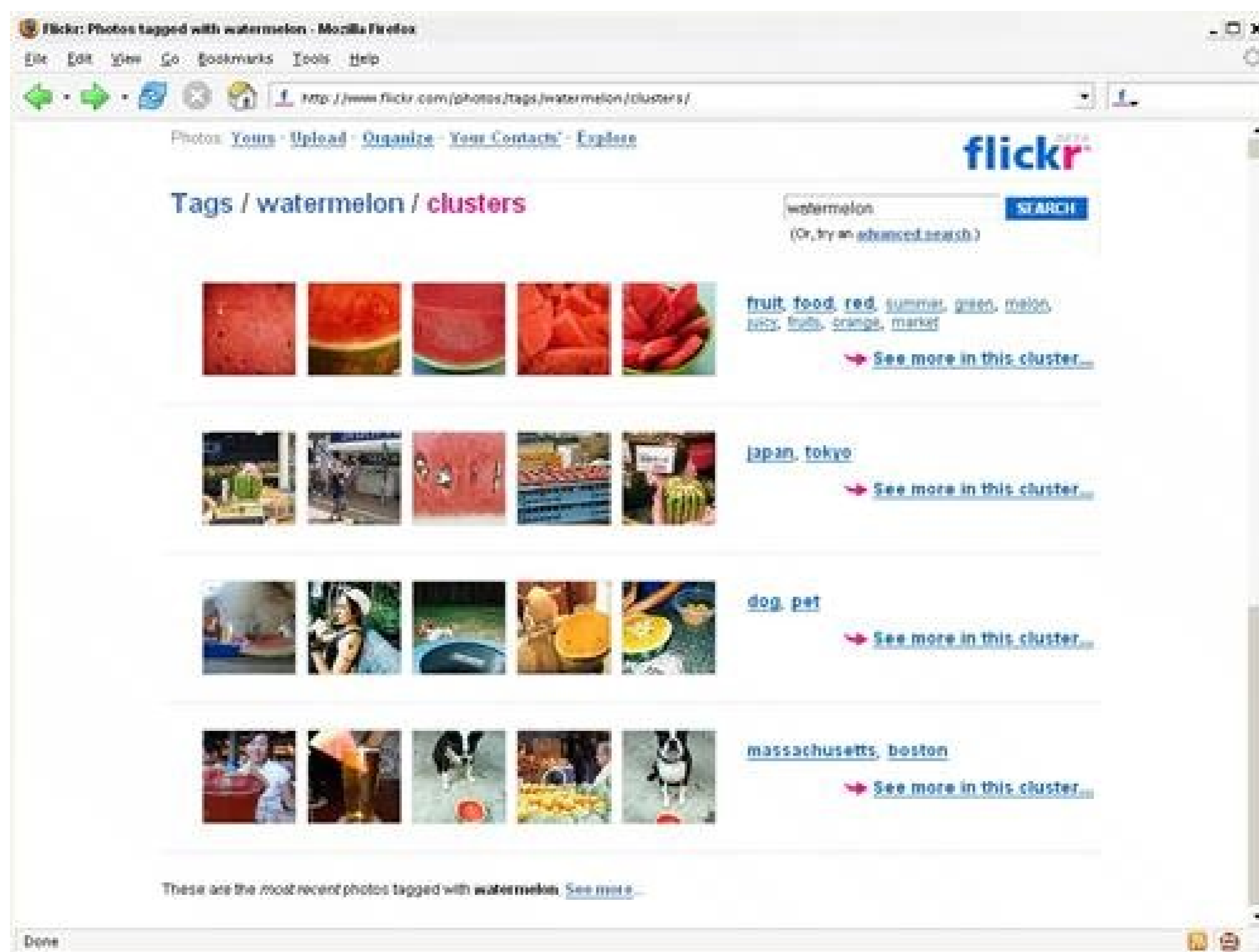
Figure 2-2. Tags on a photo at Flickr



As described above, tags are also links. Click one to see all of your photos that you've tagged with that word or phrase, and click the globe icon to see all the Flickr users' photos that share that tag. Or the global tag page, you'll see the latest photos tagged with that particular word or phrase, and *clusters*, or groups of related tags. [Figure 2-3](#) shows the clusters page for the *watermelon* tag.

Figure 2-3. A tag clusters page at Flickr





Once you get into the habit of tagging your photos, you'll find that tags can help you navigate your own collection of photos. But the art of tagging can be awkward at first, so here are some rules to keep in mind.

### Tag selfishly, think globally

Though you can tag for the completely selfish reason of organizing your own collection of photos, keep in mind that others might be interested in your photos. If your tags are completely unique or made-up words, it might be hard for others to find your photos. If you use fairly generic words, you can be sure they'll be included on related global tag pages.

If you *don't* want your photos to be found, you should tag carefully or skip the tagging altogether. Tagging is a way of drawing attention to your photos, and if you want to share your photos with the world but don't want them to show up on global tagging pages, you should leave off the tags. (Of course, you can always mark your photos Private [\[Hack #2\]](#), and tag for yourself without attracting any attention to your photos.)

### Describe what you see in the photo (mostly)

Tags are most often used to describe what appears in a photograph, but not necessarily *everything* that appears. For example, [Figure 2-2](#) shows someone slicing a watermelon. In addition to the watermelon, the photo includes hands, a large knife, a cutting board, and a kitchen counter, but the only tag that's needed to capture the essence of the photo is *watermelon*. The photo might

disappoint someone looking for pictures of kitchen counters, but not someone looking for pictures of watermelon.

## Describe how you took the photo

In addition to the main subject of a photo, many people include details about the photo that aren't immediately apparent. The photo in [Figure 2-2](#) also includes the tag *cameraphone*, which indicates something about the camera used to take the photo. If someone were looking for pictures of cameraphones, this photo wouldn't fit the bill, but there's no reason you can't tag your photos with a keyword indicating the type of camera you used to take the photo.

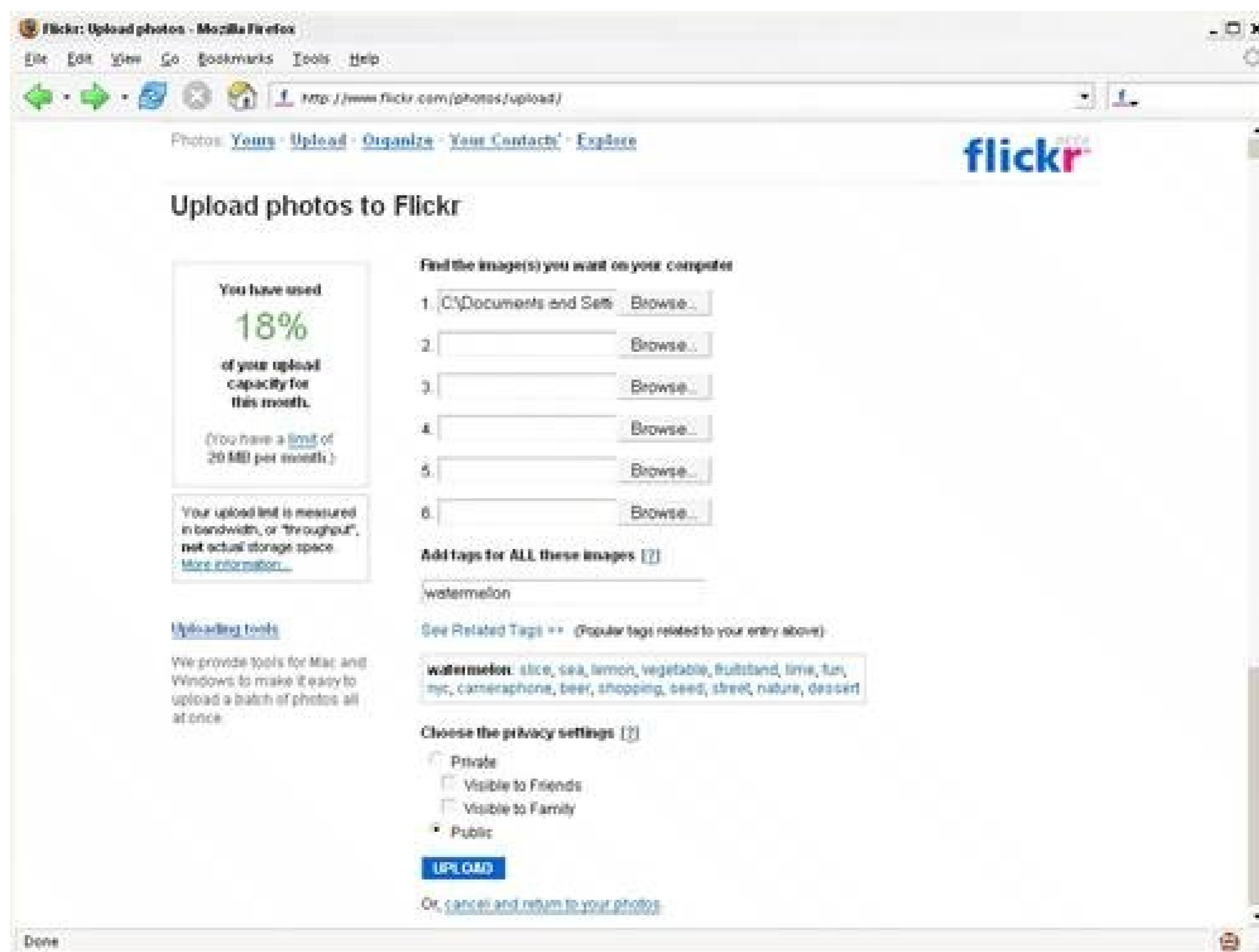
You'll also find many photos tagged with the name of the location where the photo was taken; it might make sense to tag a photo with a place name, especially if the photo is a shot of a specific area. (The photo in [Figure 2-2](#) was taken in Oregon, but as the photo is not specifically related to Oregon in any way, an *Oregon* tag wasn't included.)

## Get suggestions

One way to improve your tagging skills is to look at suggestions for related tags. Flickr doesn't suggest related tags, but if you use the Firefox browser, a Greasemonkey script by Alan Taylor (Flickr member kokogiak) can help you tag your photos.

Make sure you have the Greasemonkey plug-in (<http://greasemonkey.mozdev.org>), and then install the script by browsing to <http://www.kokogiak.com/webtools/greasemonkey/flickrelatedtags.user.js> and choosing Tools → Install This User Script... from your browser's menu. With the script installed, browse to the photo upload page at Flickr, enter a tag, and click the new See Related Tags link pictured in [Figure 2-4](#).

Figure 2-4. See Related Tags on the Flickr upload page



Seeing related tags can often spark ideas for tags you can add to your photos.

## Browse tags regularly

One of the best ways to learn how to tag photos is to see how others are using tags. Click the Tags link at the top of any Flickr page to see the most popular tags in use across Flickr. With a bit of scripting, you can also see which tags are most popular among your friends [[Hack #26](#)].

Once you add a tag to one of your photos, click the globe icon for that tag and see if your photo makes sense within the larger set. Watching the global pages for the tags you use is another great way to get a sense for what to tag and what not to tag.

## Don't spam

A completely open tagging system such as Flickr's is extremely flexible, but it can also be abused. If you want to be a good Flickr citizen, you should keep your tags related to your photos. If your photo isn't remotely related to a sunset, why tag your photo with *sunset*? If you think in terms of what's useful for your own categorization, chances are your tags will blend perfectly with the larger Flickr community and you won't be tag-spamming.

## Notes

Pointing out a specific part of a photograph is something we do all the time when we're sharing print photos with people face to face. We point out specific people in a photo that someone else doesn't know, or a critical portion of the photo that someone should study more closely. But when we're sharing photos on the Web, it's not as easy to point out just a portion of a photo. That's where Flickr notes come in handy.

*Notes* are one of the most unique features of Flickr—they provide the ability to annotate photos by highlighting a portion of the photo and including brief text notes about that section. As visitors hover their mouse pointers over a photograph, they can see the note for a particular region of the photo. It might not be immediately apparent why you'd need to annotate a specific section of a photo when you can include extended descriptions and tags with each photo, so let's look at some of the reasons you might want to do so.

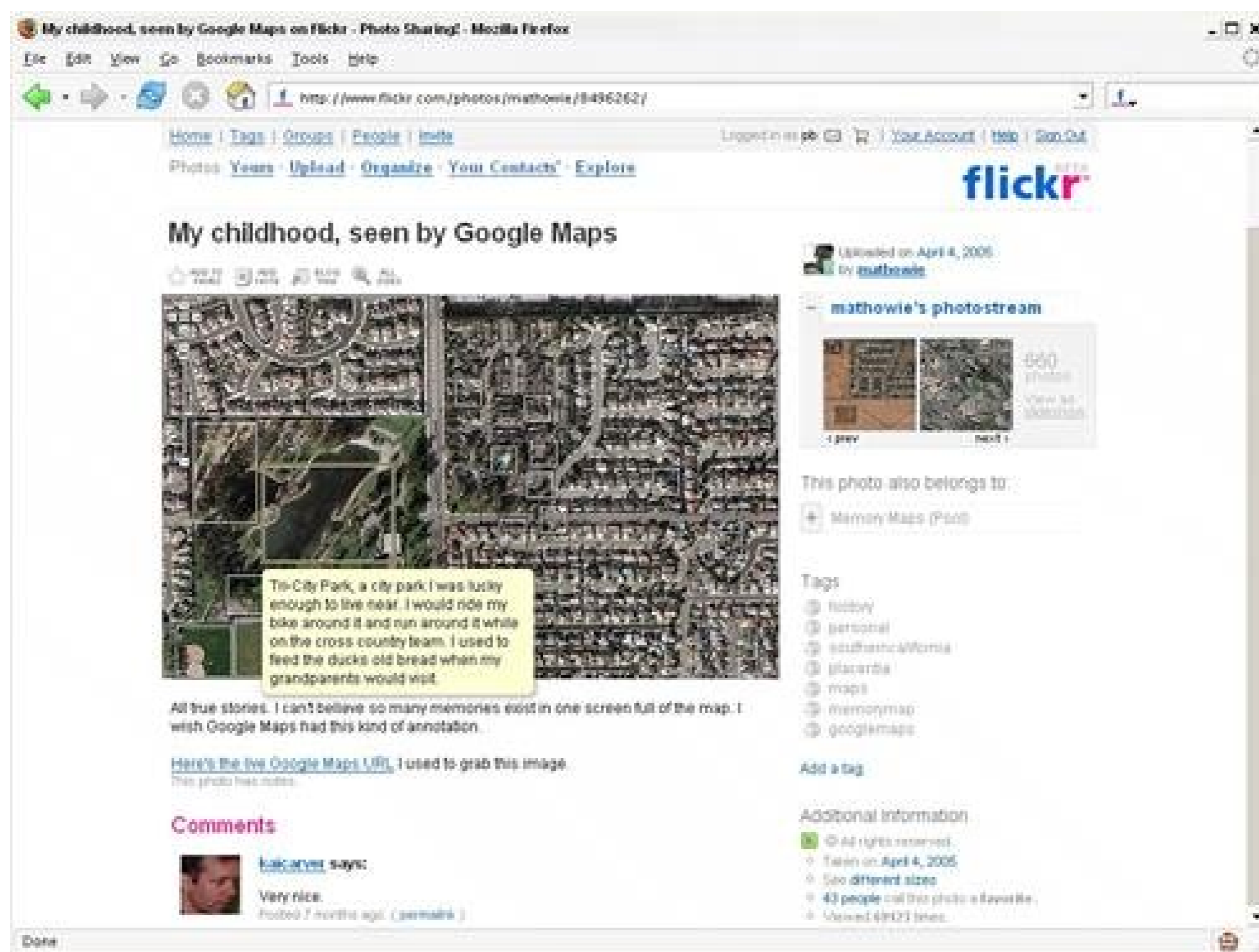
## **Describe everyone in a photo**

If you have a group photo, you can use notes to highlight everyone in the photo and include their names. You could do the same with a photo description, but the notes provide a more immediate way for viewers to see who's who, rather than going back and forth between the photo and caption and counting people in a list of names.

## **Make personal maps**

Another interesting use of notes is for annotating maps with personal stories. In April 2005, Matt Haughey (Flickr member mathowie) posted a satellite image of his childhood neighborhood and used the notes feature to highlight areas and tell stories about them. [Figure 2-5](#) shows the original image.

Figure 2-5. Using notes on a map at Flickr



The resulting *memory map* was very popular, and numerous Flickr users have done the same since. You can find hundreds of memory maps by looking at the global *memorymap* tag page (<http://www.flickr.com/photos/tags/memorymap/>). In addition to childhood memories, you could use Flickr to annotate maps in this way for planning or recounting the details of a trip, sharing your favorite walk in your hometown, or discussing locations with others.

## Link photos together

Because you can use HTML links within notes, it's possible to string a series of photos together using links in notes. For example, you could take a wide-angle photo of a landscape in one photo, and use a note to highlight a specific element of the landscape. Within that note, you could link to a close-up photo of that element, as a way of zooming in on the element you want to highlight.

Flickr member GustavoG used linking notes to build a "walkthrough" of a part of Seattle. You can see the results at <http://www.flickr.com/photos/gustavog/22054241/>.

## Collaborate

Notes can also be a collaborative activity, and you can use them to share thoughts with others. You can specify whether or not other Flickr users can add notes to your photos by clicking the Photo Privacy link under Your Account at the bottom of any Flickr page. If you allow others to post notes, you could end up with something like the annotated version of the Merode Altarpiece that a group of Art History students put together (<http://flickr.com/photos/ha112/901660/in/set-129006/>).

## Summary

Effectively describing your photos at Flickr is a fairly easy task, but it's one that can benefit from some forethought. Thinking about how your photos fit with the larger community will help you connect with other Flickr members and organize your photos more efficiently.



## Hack 11. Play with Tags



Photo tags let you explore photos around a specific theme at Flickr, and thanks to the Flickr API, several applications let you explore Flickr photos interactively.

The Flickr API gives developers access to the photos stored there, and many developers have imagined new ways to view photos. Photo tags have given developers a new way to arrange photos in third-party applications.

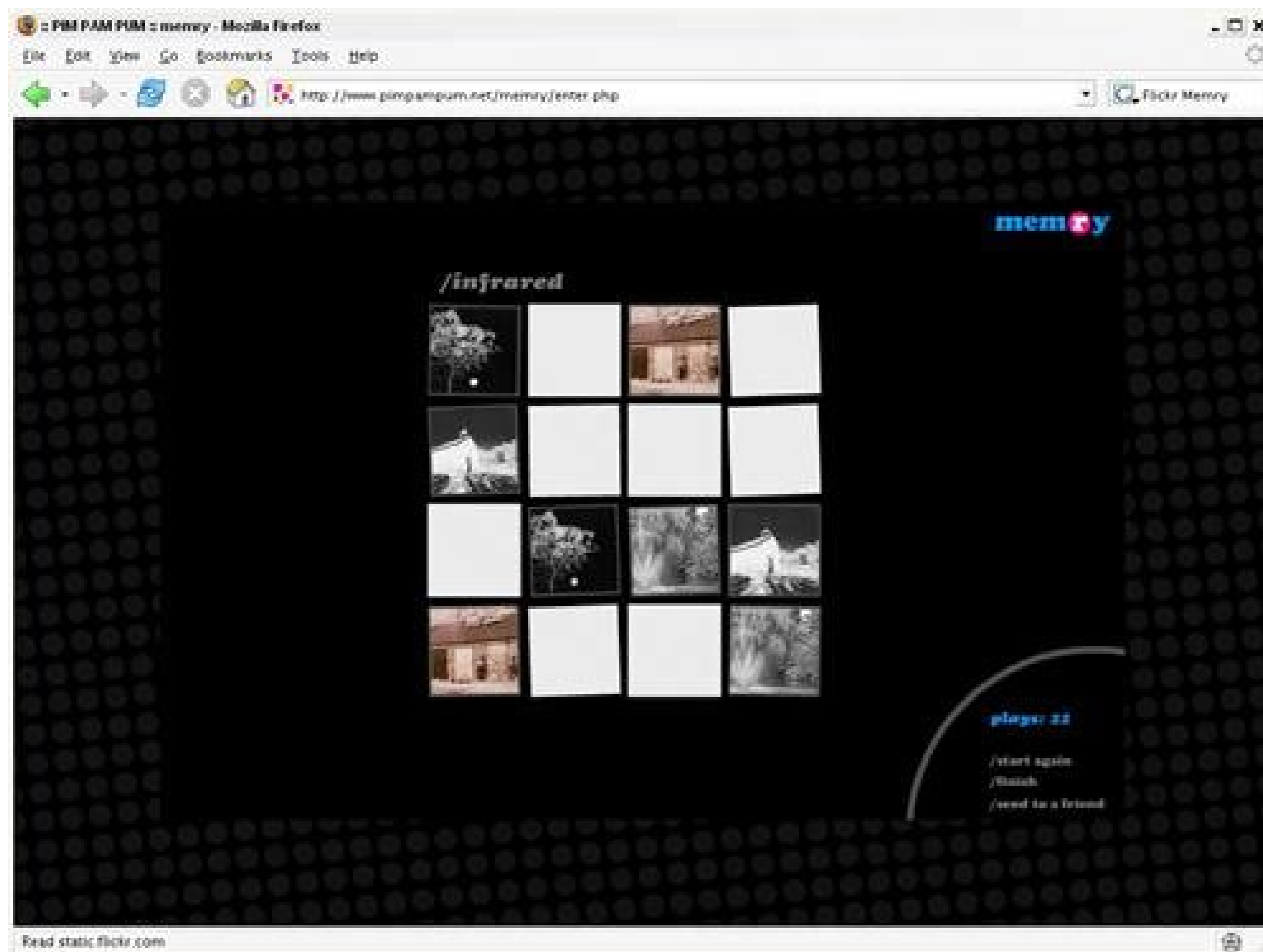
Here are a few interactive examples that will give you a sense of how others are reusing Flickr images. By playing some of these games, you'll see how Flickr images can be used in new ways (and probably have some fun in the process).

### Memry

Remember those memory games you played as a kid, where you had to turn over cards of matching pictures? Spanish developer Anna Fuster Fabre has recreated the game with Flickr images and Flash. To play, you'll need the Flash Player, which you can download from <http://www.macromedia.com/flashplayer/> if you don't already have it. With Flash in place, browse to <http://www.pimpampum.net/memry/enter.php>, enter any tag, and click "play!" to start your game.

You'll see a 4 x 4 block of white tiles. Clicking a tile reveals an image that has been gathered from the Flickr API. Somewhere under another tile is the same image, and it's your mission to find all of the matches in as few plays as possible. The blue plays count lets you know how many times you've clicked on tiles. [Figure 2-6](#) shows a game in progress for the tag *infrared*.

Figure 2-6. Memry game using the tag "infrared"



If you get frustrated and want to see what's under the tiles, click the "finish" link on the right side of the page. For a more challenging game, reload the page or click the "start again" link, and choose the 6 x 6 option.

You can use any tag you like, but patterns make for particularly difficult matching. If you can't think of any tags, try *bricks*, *leaf*, *fractal*, or *texture*.

When you're finished with a game, you can click on any of the photos to view the full photo on Flickr. And if you want to share a particular game, you can add a tag to the URL to bring up that tag immediately, like this:

<http://www.pimpampum.net/memry/enter.php?tag=infrared>

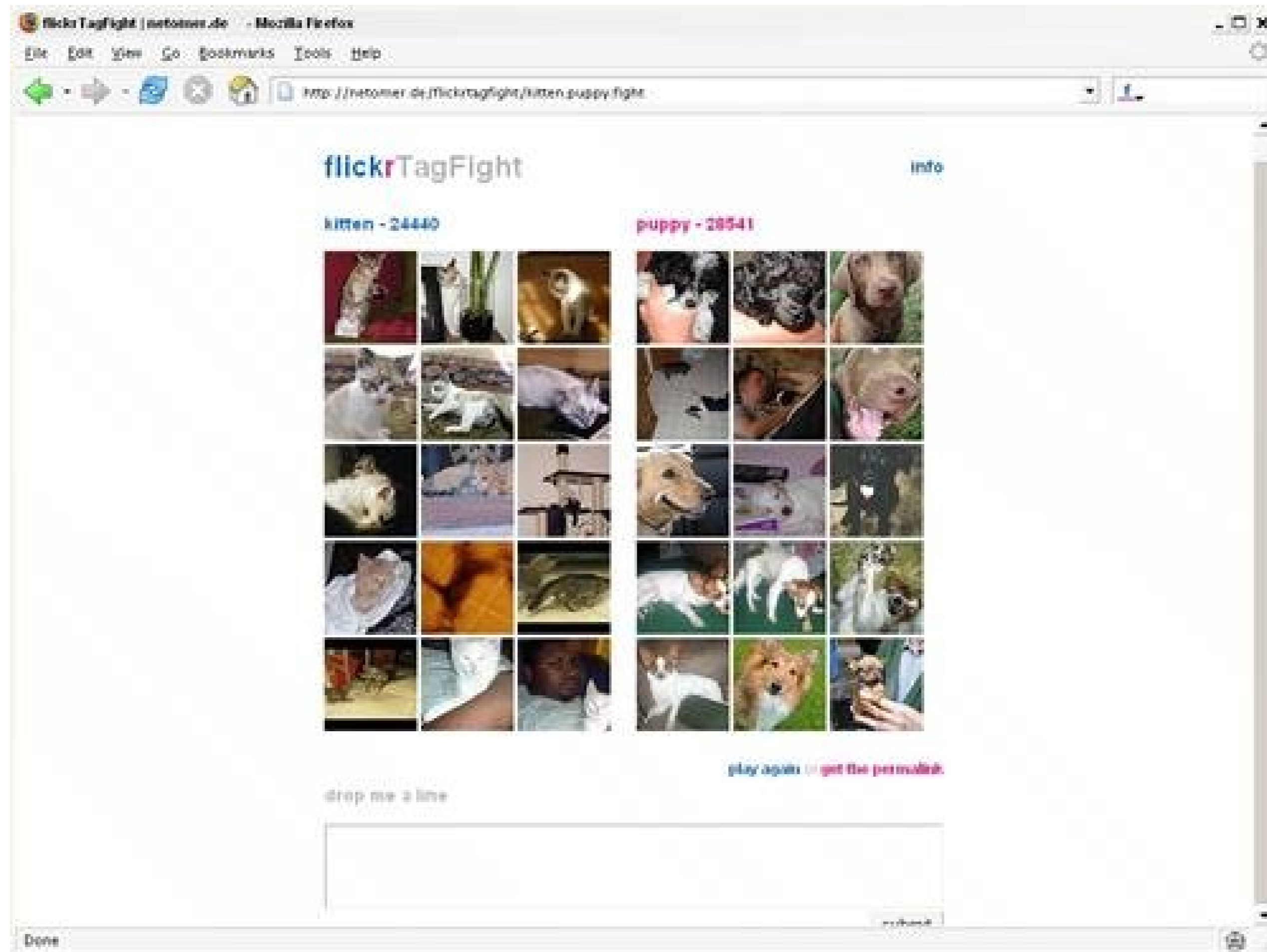
Replace *infrared* in this example with any tag of your choice. After a few games, you might even begin to remember where you've left your keys.

## flickrTagFight

German developer Nils K. Windisch (Flickr member netomer) thought it would be fun to pit two tags against each other to see which is used most often across Flickr. When you browse to flickrTagFight (<http://www.netomer.de/flickrtagfight/>), you'll find two blank fields. Fill them in with any two tags and click "fight" to see which tag is more popular. [Figure 2-7](#) shows *kitten* and *puppy* going to head to head.



Figure 2-7. "Kitten" vs. "puppy" at flickrTagFight



Beside each tag is the total number of times photos have been tagged with that particular word. The winner is shown in pink, the loser in blue. You'll also see the last 15 photos tagged with each tag. Click a photo to see the larger version at Flickr.

If you'd like to link to a particularly interesting battle to share with others, you can use the following format:

<http://netomer.de/flickrtagfight/kitten.puppy.fight>

Replace the words *kitten* and *puppy* in this example with the two tags you'd like to see instead.

## Related Tag Browser

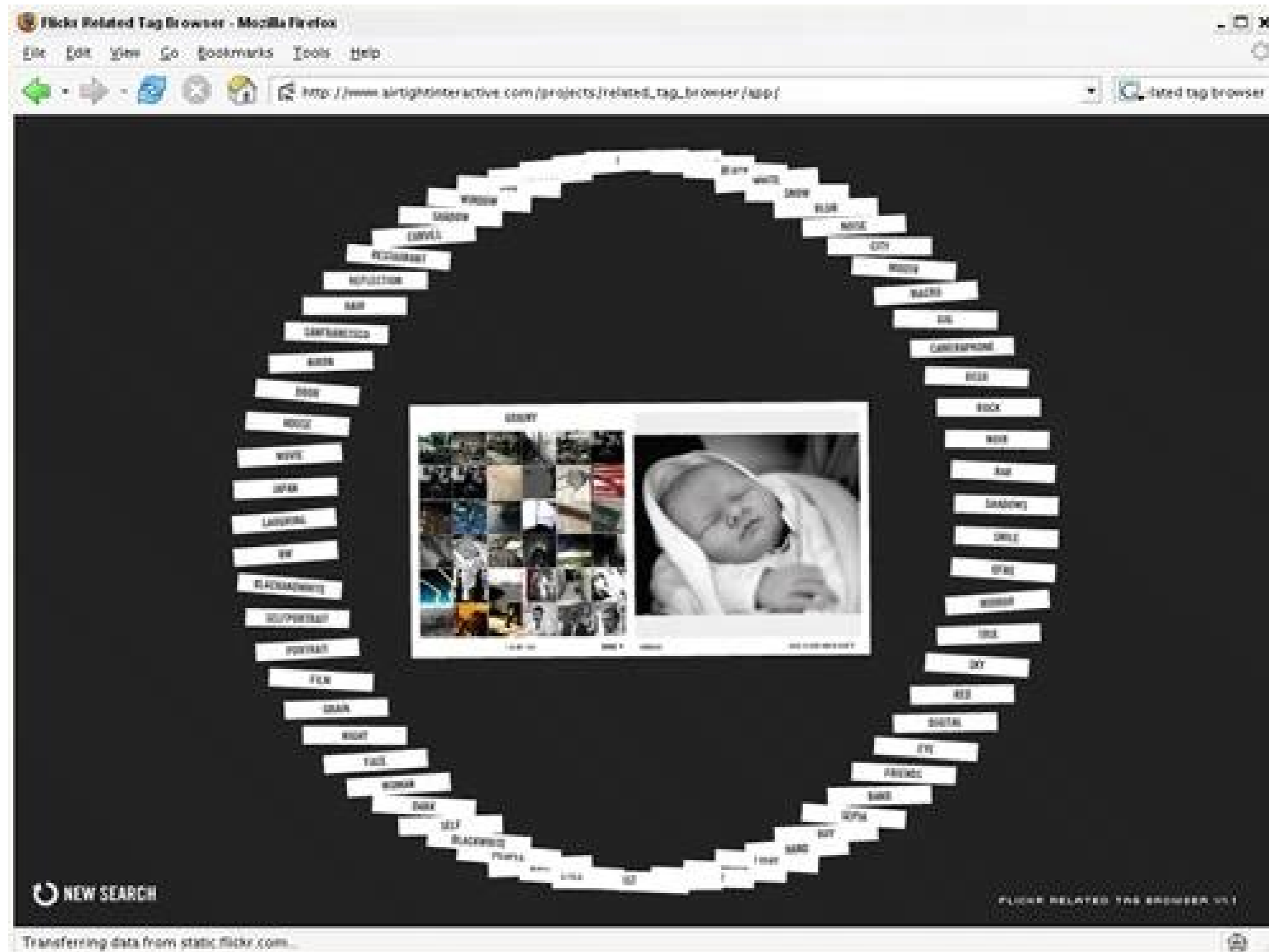
The Flickr Related Tag Browser is an interactive Flash application by Airtight Interactive (<http://www.airtightinteractive.com>). To use it, make sure the Flash Player is installed for your browser, and go to [http://www.airtightinteractive.com/projects/related\\_tag\\_browser/app/](http://www.airtightinteractive.com/projects/related_tag_browser/app/). You'll find a blank field; type any tag and click Go.

When the Browser starts, you'll see the tag you chose in the center surrounded by a circle of around 50 related tags. For example, if you typed in the tag *water*, you'll find related tags such as *waves*,

*pool, waterfall, ocean, and river.* Clicking a related tag will put that tag in the center and show further related tags in the circle.

Any tag in the center includes a block of 36 recently added photos that have that tag. Clicking on a photo will bring up a larger version of the photo, as shown in [Figure 2-8](#).

Figure 2-8. Browsing "grainy" with the Related Tag Browser



If you want to see a particular photo at Flickr, bring up the larger size and click the View Flickr Photo Page link. You'll go to that photo's detail page at Flickr in a new browser window. As you move the pointer around the application, you'll see the tags or photos zoom in or out following your focus, giving the application a very interactive feel.

Using the Related Tag Browser is a radically different experience from browsing tags at Flickr, and the Flickr API has made reinventing its interface possible. These games could never replace Flickr for browsing photos, but they show what's possible with the combination of tagging and an open platform like Flickr.

## Hack 12. Geotag Your Photos



You can use Flickr tags to describe the exact location where you took a photo, and then display your geographically precise photos on a map.

Any location on Earth can be addressed with a set of two-number coordinates called *latitude* and *longitude*. While you probably learned about coordinates in school, chances are you haven't had much need for reading them, unless you make maps or go hiking in the wilderness. With the proliferation of handheld GPS units and online maps, though, latitude and longitude have wandered back into our everyday vocabulary and into the world of Flickr photos.

Using Flickr's tagging features [[Hack #10](#)], some members describe the exact latitude and longitude of their positions on Earth when they took particular photos. This practice is called *geotagging*, and it can lead to fun activities such as viewing your photos on a map and finding other photos that were taken in specific locations.

The recipe for geotagging your photos is simple. Note the locations where you take your photos, upload them to Flickr, and add three specific tags to the photos with the following formats:

```
geo:lat=latitude  
geo:lon=longitude  
geotagged
```

The *geotagged* tag lets others know that the photo has been given a specific location, and the other two tags describe that location. As you know, latitude and longitude aren't exactly found on every street sign, so the work involved with geotagging is finding out your coordinates.

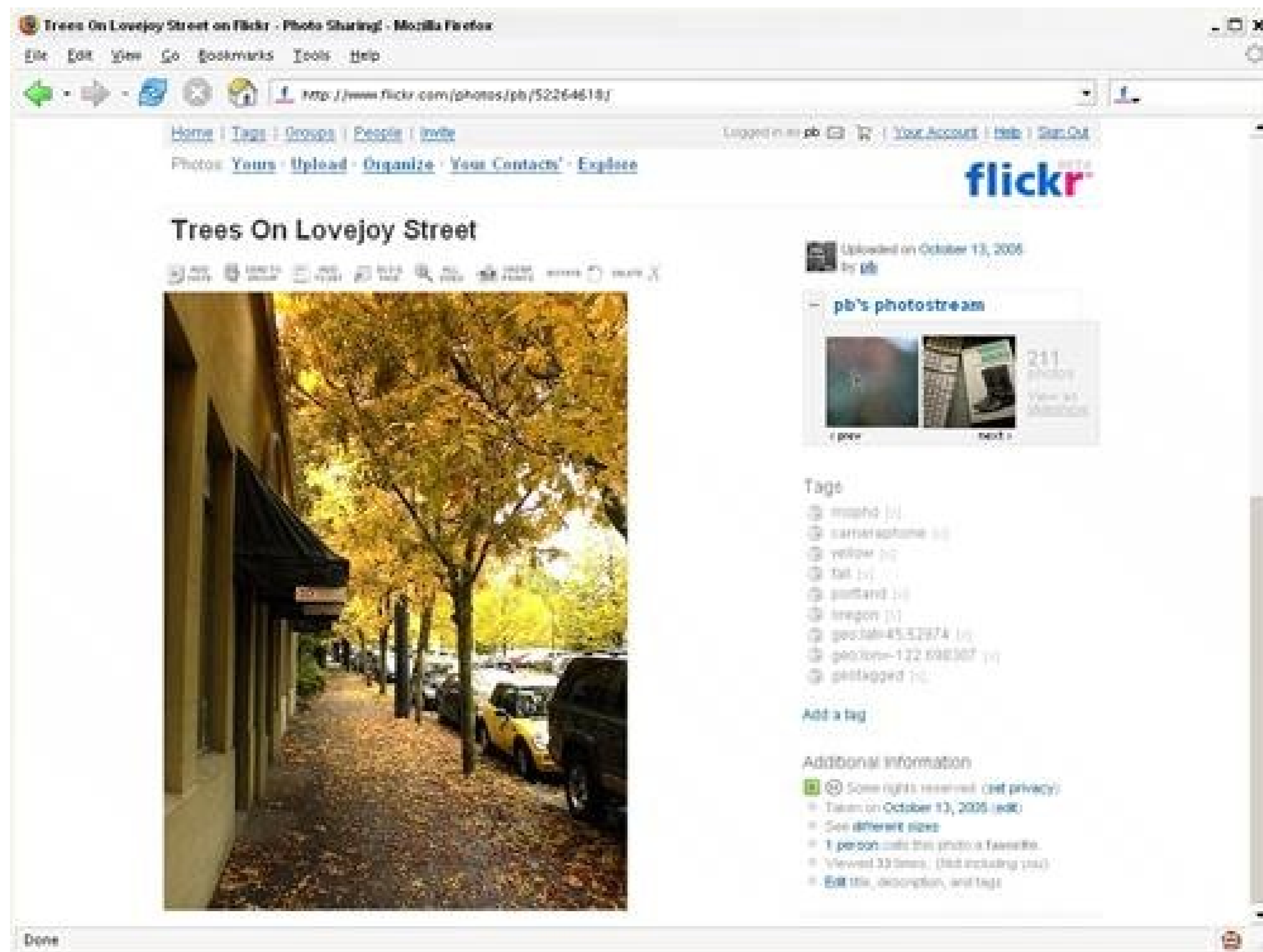
### Without a GPS Unit

Your first thought might be to rush out and buy a handheld GPS unit or a cutting-edge camera with GPS built in, and those are indeed great ways to find out your latitude and longitude at any given moment. However, there are also some free mapping tools on the Web, such as [Geocoder.us](http://Geocoder.us), that you can use to find out where you are or where you've been.

If you're taking photos in a city, your task is fairly simple: take a notebook with you and write down cross streets or addresses as you take photos. You can easily find the coordinates for just about any address or intersection to try it out, simply browse to <http://geocoder.us> and type in an address or intersection, along with the city and state.

For example, entering the phrase "23rd and Lovejoy ST, Portland OR" will give you a map of Portland, and the latitude and longitude for that location: 45.52974, -122.698307. Once you have the coordinates, you can add your three tags to your photo taken in that location, as shown in [Figure 2-9](#).

Figure 2-9. A geotagged photo at Flickr



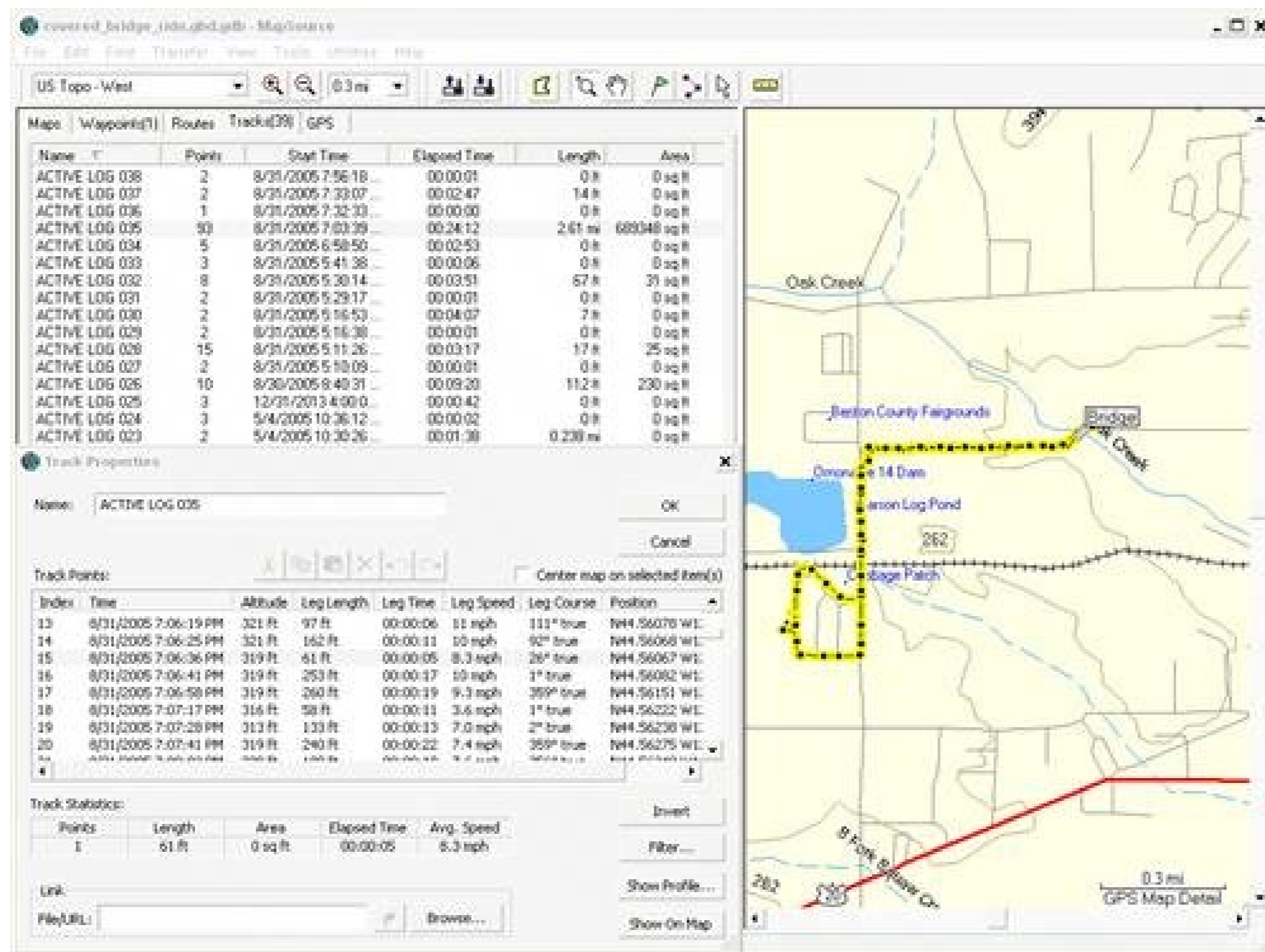
If you're taking photos in the Oregon backcountry, or at any location without a street address, you'll probably need to turn to GPS if you want to include precise coordinates.

## With a GPS Unit

The only trick to coordinating a handheld GPS unit and a digital camera is synchronizing their clocks. By looking at EXIF data [\[Hack #3\]](#) embedded in your photos and coordinating it with your GPS track logs, you'll be able to tell exactly where you were when you took any of your photos.

Each GPS unit will have its own method for looking at track logs from an outing, so you'll need to consult your manual to see how you can find your tracks. [Figure 2-10](#) shows a track log from a Garmin eTrex Vista in the MapSource software that comes with the unit. As you can see, each log includes precise points along the way and the time when the device was at each of those points.

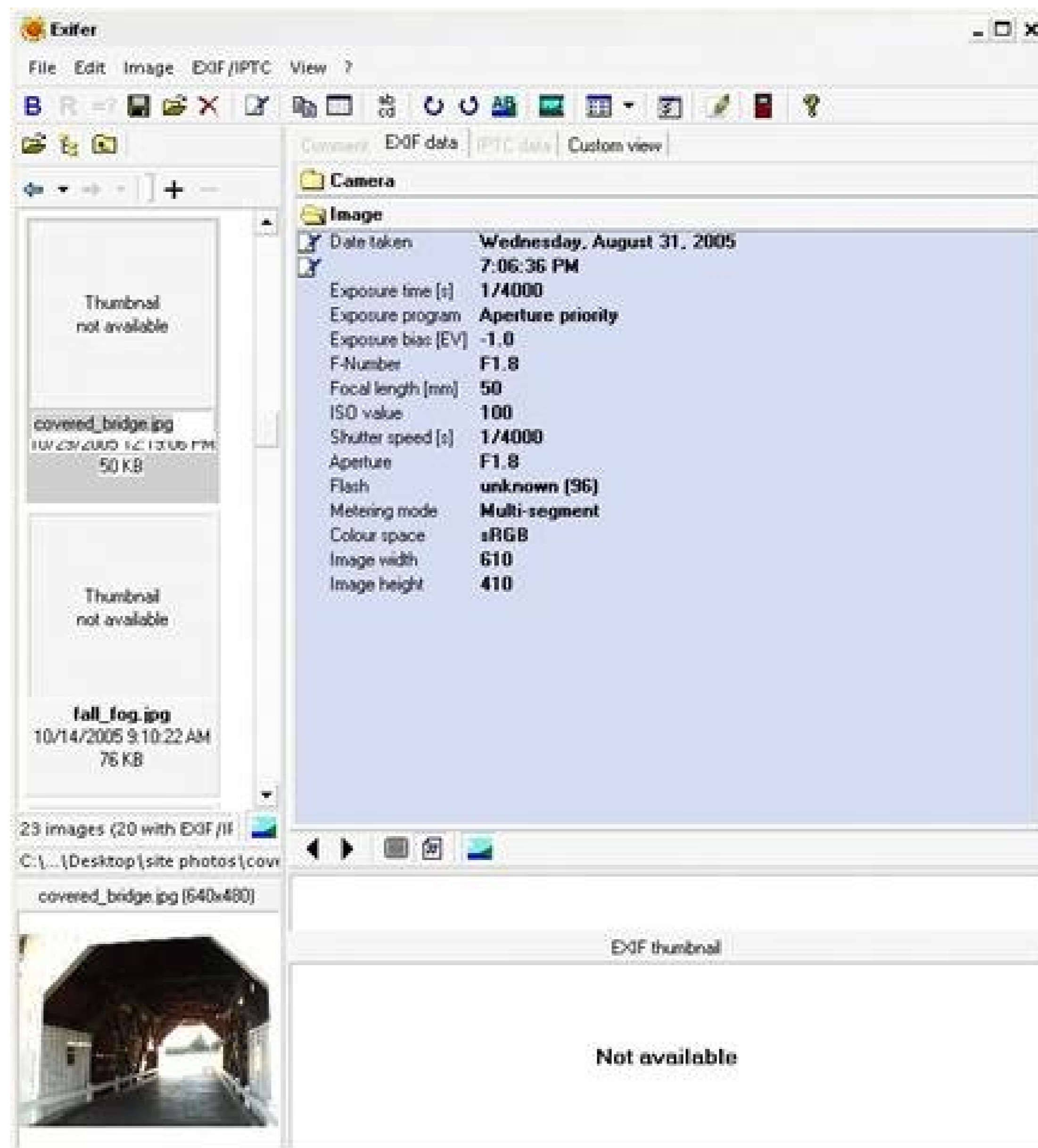
Figure 2-10. Viewing a GPS track log with time and coordinates



As you can see, each log includes precise points along the way and the time the device was at that point.

You can then view the EXIF data for the photos you took with a program such as Exifer (<http://www.friedemann-schmidt.com/software/exifer/>), as shown in Figure 2-11, to see exactly when you took a particular photo.

Figure 2-11. Viewing the time a photo was taken with Exifer

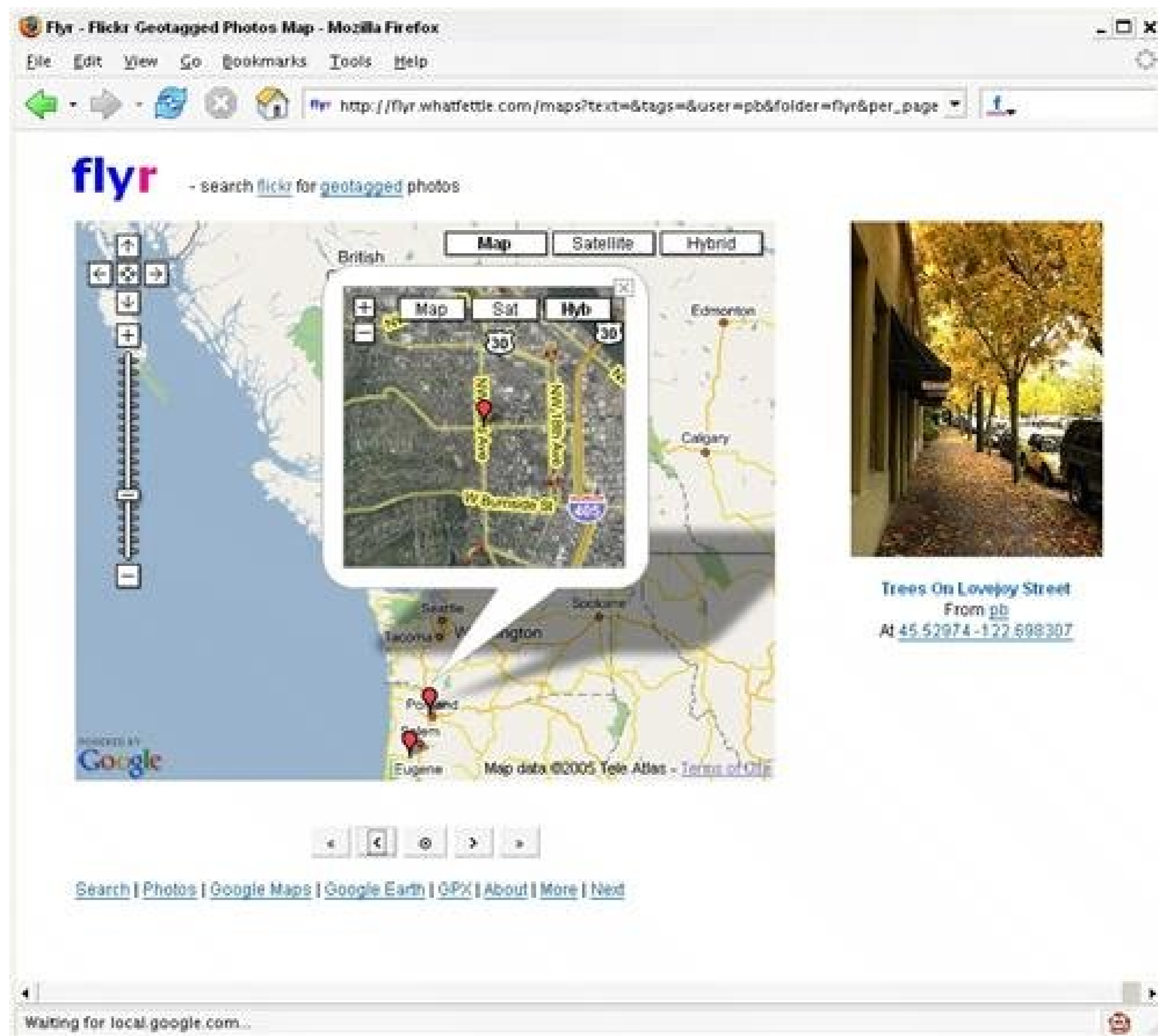


Once you have the time when a particular photo was taken, you can easily match it to your coordinates at that specific time. Then, simply add your three geotags to the photo at Flickr.

## Mapping Your Photos

Once you have a number of your photos geotagged, you can view those photos on a map with a couple of different applications. One quick way to see your photos displayed on a Google Map is with an application called Flyr, by Paul Downey (Flickr member psd; <http://www.flickr.com/photos/psd/>). Browse to <http://flyr.whatfettle.com> and type your Flickr username in the field labeled "within this user's photos." Click the Google Maps button, and you should see your geotagged photos appear on a map, as shown in [Figure 2-12](#).

Figure 2-12. Geotagged photos on a map with Flyr



You can use the arrow buttons below the map to navigate between your geotagged photos, or return to the main form to search for geotagged photos by others in your area.

Another project, called Geobloggers (<http://www.geobloggers.com>), also displays geotagged Flickr photos on a large Google Map, and you can find geotagged photos taken around the world.

This hack has just scratched the geotagging surface. In the future, as our cell phones and cameras become location-aware, the process of geotagging photos is bound to become more automated. Until then, a bit of manual gluing between camera, coordinates, and Flickr can tie your photos to the locations where they were taken.

## Hack 13. Exploit Compound Tags



Compound tags make it easier to embed application-specific data into photos.

My friend Leo created a new group called One Word (<http://www.flickr.com/groups/one-word/>), which collects photos of single words. This is similar to the groups One Letter (<http://www.flickr.com/groups/oneletter/>) and One Digit (<http://www.flickr.com/groups/onedigit/>), which collect photos of individual letters and digits.

"Help!" Leo wrote to me, "What is a good way to tag the photos so they can be used for scripting purposes?"

Leo would like to enable people to make nice ransom notes [[Hack #47](#)] out of these photos, by identifying them with tags. Unfortunately, simply adding tags that match the words in the photos is not enough.

Why not? Consider the problem here. Let's say Leo adds the photo shown in [Figure 2-13](#), of a gravestone containing the word *PEACE*, and tags the photo *peace*.

Figure 2-13. Leo's photo of a gravestone



There are lots of other photos on Flickr tagged with *peace*, and finding the one of the gravestone is going to be nigh on impossible unless you plan to write some fancy image-recognition software. And we really don't want to be wasting our computer cycles like that, do we?

"Aha!" you say, we can collect just the photos that are in the One Word group, using group membership as a filter. This will reduce the list to just photos that contain words. Or, we can add an additional tag to the photo, *word*, which will identify it as containing a word.

Certainly, we can use either of these filtering methods. However, it is probable that many of these photos will have multiple tags. Consider Leo's gravestone. It contains the following tags:

```
leo/30
word
cemetery
peace
```

With multiple tags, it's difficult to know which one represents the actual word in the photo. Does the gravestone say *peace*, or does it say *cemetery*?

The trick to embedding application-specific data is to use a compound tag, such as this:

```
oneword:peace
```

The tag contains a unique prefix, *oneword*, which is unlikely to collide with other tags. The colon separates the prefix from the embedded tag content.

Unfortunately, Flickr does not currently do wildcard matching on tag searches, so retrieving the embedded data from such a compound tag is a little more time-consuming than doing a tag search, because we have to retrieve them individually for each photo. Therefore, an additional grouping method, such as keeping the photos all in one group or using an additional grouping tag, is still needed.

This hack demonstrates a PHP 4 script that retrieves data from photos with compound tags. You'll need to host it on a web server.

If you haven't used the Flickr API before, check out the first few sections of [Chapter 6](#). You might want to try some of the hacks in that chapter before using this particular script.

## What You'll Need

To use the PHP script, you'll need your own Flickr API key. (See [\[Hack #40\]](#) for information on how to get an API key.)

You'll also need the phpFlickr scripts [\[Hack #41\]](#). These scripts also make authenticating other people a snap, but you won't need authentication for this hack. You can download these scripts from <http://www.phpflickr.com>.

## The Code

To retrieve all the "one-word" photos and their corresponding words, this script performs the following steps:

1. Download the list of photos that are in the One Word group.
2. For each photo, issue the `flickr.photo.getInfo` API method, which will produce XML containing the photo's tags, among other information.
3. Walk through the tags and find the ones with the matching prefix; then, extract the data using string manipulation.

Here's the PHP script that performs these tasks, producing a list of photos from the One Word group and their embedded words. In your favorite text editor, create a file called *retrieveTags.php*, and add the following code:

```
<?php
// retrieveTags.php
ini_set("error_reporting ", E_ALL);

// Configuration stuff
$flickrAPIKey = "your API key";
$cachingenabled = true;
$dbUser = "user"; //database user here
$dbPass = "pass"; //database password here
$dbAddress = "localhost"; //location of database
$dbTable = "table"; //location of table, will create one if it doesn't exist

// Create new phpFlickr object
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey);
if ($cachingenabled == true)
{
    $f->enableCache("db", "mysql://$dbUser:$dbPass@$dbAddress/$dbTable");
}

// By default, we use the group_id of the One Word group
// You may pass in other group_ids as parameters
$group_id = '79664019@N00';
if (isset($_GET['group_id']))
    $group_id = $_GET['group_id'];

$photos = $f->groups_pools_getPhotos($group_id);
?>

<html>
<head>
<title>retrieve tags</title>
</head>
<body>
```

```

<table><tr>

<?php
$n = 0;
foreach ($photos['photo'] as $photo) {
    if ($n && $n % 6 == 0)
        echo "</tr><tr>";

        $photos_url = $f->urls_getUserPhotos($photo['owner']);

echo "<td><a href=$photos_url$photo[id]>";
echo "";
echo "</a><br>";

    $info = $f->photos_getInfo($photo['id'], $photo['secret']);
    foreach ($info['tags']['tag'] as $tag => $tag)
    {
        if (strncmp(strtolower($tag['raw']), 'oneword:', 8) == 0)
        {
            $embeddedData = substr($tag['raw'], 8);
            echo "$embeddedData</td>\n";
        }
    }
    ++$n;
}

?>
</td></tr></table>
</body>
</html>

```

Before uploading the script, edit the following line to use your own API key:

```
$flickrAPIKey = "your API key";
```

The `phpFlickr` wrapper has an optional cache feature. If you wish to use it, modify these lines to provide access information for a database on your server:

```

$cachingenabled = true;
$dbUser = "user";//database user here
$dbPass = "pass";//database password here
$dbAddress = "localhost"; //location of database
$dbTable = "table";//location of table, will create one this is it doesn't exist

```

If you do not wish to use caching, turn it off by replacing this line:

```
$cachingenabled = true;
```

with this:

```
$cachingenabled = false;
```

## Running the Hack

To run the hack, upload the edited script to your web server and invoke it by typing its address into your web browser:

```
http://www.yourwebsite.com/retrieveTags.php
```

You should see a list of photos from the One Word group, each with its associated word, as shown in [Figure 2-14](#).

Figure 2-14. Photos from the One Word group, as displayed by retrieveTags.php

If no words show up beneath the photos, check the photos to make sure they have been tagged correctly.

Compound tags are used for many of the more sophisticated applications on Flickr. One of the more well-known uses is geotagging [\[Hack #12\]](#). Longitude and latitude coordinates are attached to photos using the tags *geo:lon=longitude* and *geo:lat=latitude*, respectively. Since these photos are not all contained in a group pool, the additional grouping tag *geotagged* is also applied to each geotagged photo, so that they can be collected using a simple tag search.

## See Also

- [\[Hack #40\]](#)

- [\[Hack #41\]](#)
- [\[Hack #47\]](#)
- [\[Hack #12\]](#)

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## Hack 14. Make a Flickr-Style Tag Cloud



Adding a tag cloud to your web site is easier than getting a bad haircut!

If the illustrations in these next few pages look familiar, you've seen tag clouds before. *Tag clouds* are clusters of tags rendered with differently sized fonts to indicate the relative popularity of the tags in a dataset. Click on any of the tags to retrieve data matching that tag (such as photos).

Flickr used tag clouds first, followed by other Web 2.0 sites such as Technorati. Now, tag clouds seem to be ubiquitous, appearing on nearly every new web site that wants to join the Web 2.0 party. Perhaps that's why Jeffrey Zeldman proclaimed tag clouds "the new mullets."

Fortunately for those of us who are still mulletless, Dan Steingart has written a script that makes a tag cloud from the tags associated with your Flickr photos. The script is nearly ready to go and requires just a few minor modifications.

### What You'll Need

To use Dan's script, you'll need your own Flickr API key [\[Hack #40\]](#).

You'll also need the phpFlickr scripts [\[Hack #41\]](#) (which also make authenticating other people a snap, although you won't need authentication for this hack). You can download these scripts from <http://www.phpflickr.com>.

To get started, install the `phpFlickr` scripts on your web site, as described in [\[Hack #41\]](#). Then download and unpack Dan Steingart's `cloudTagFlickr` script, which is available from <http://www.allthingsalceste.com/cloudtagflickrphp/>.

### The Code

In the `cloudTagFlickr.php` script, edit the following two lines to use your own username and API key:

```
$username = "flickruser"; //flickr user name here
$flickrapikey = "flickrapiskey"; //key in here
```

The `phpFlickr` wrapper has an optional cache feature. If you want to use it, modify these lines to provide access information for a database on your server:

```
$cachingenabled = true;
$dbUser = "user"; //database user here
```

```
$dbPass = "pass"; //database password here
$dbAddress = "localhost"; //location of database
$dbTable = "table"; //location of table, will create one if it doesn't exist
```

If you do not want to use caching, turn it off by replacing this line:

```
$cachingenabled = true;
```

with this:

```
$cachingenabled = false;
```

Now, prepare a second file that makes use of *cloudTagFlickr.php* as part of a more complex web page. Call the file *testCloudTag.php* and add the following code:

```
<? require_once("phpFlickr/phpFlickr.php"); ?>

<html>
<head></head>
<body>
```

This is a tag cloud.

```
<center><table width=50%><tr><td>

<? include "cloudTagFlickr.php"; ?>

</td></tr></table></center>
```

That was a tag cloud.

```
</body>
```

Upload both files (*cloudTagFlickr.php* and *testCloudTag.php*) to your web server.

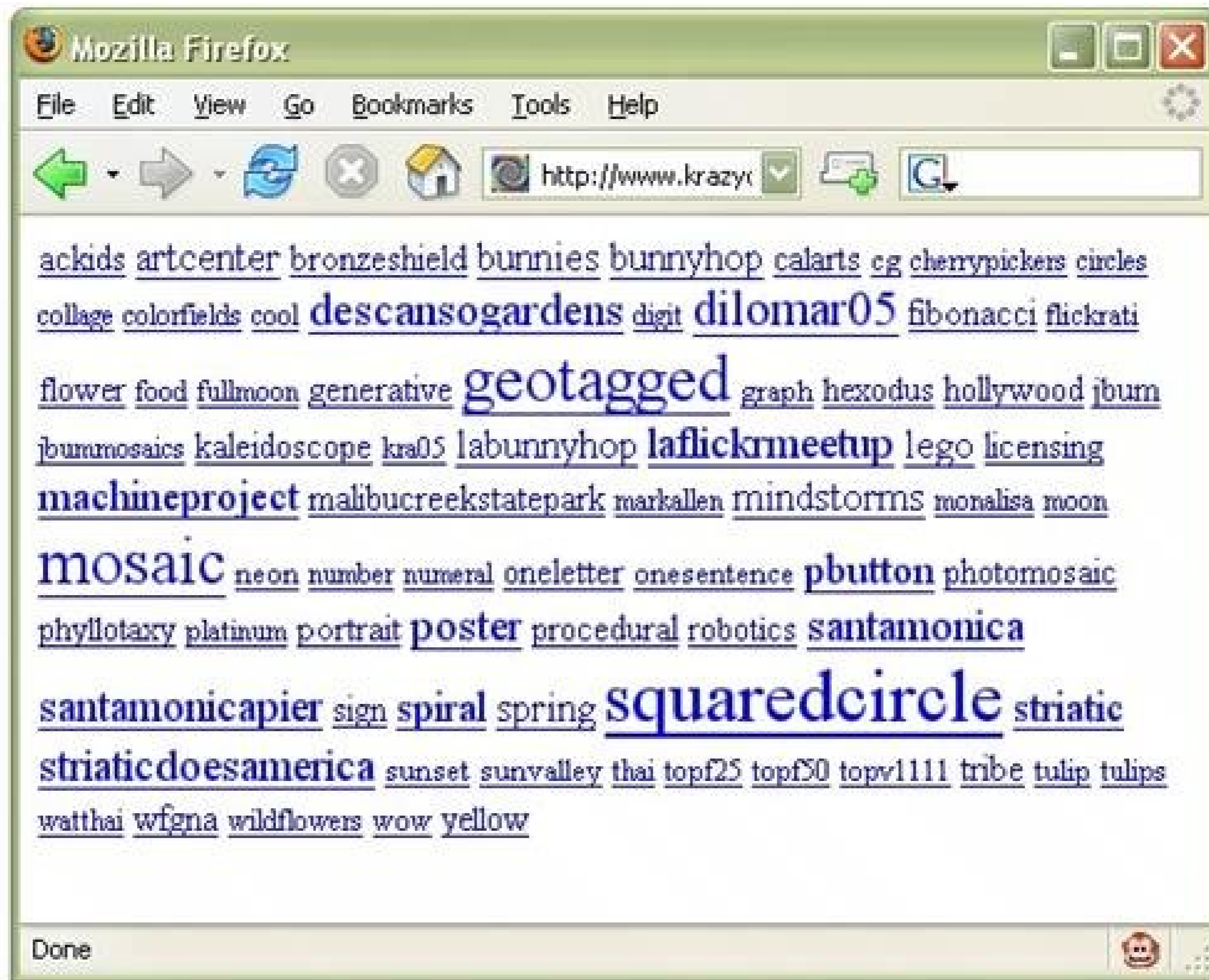
## Running the Hack

First we'll test just the *cloudTagFlickr* script, to make sure everything is copasetic. Invoke the script by typing its address into your browser:

```
http://www.yourwebsite.com/cloudTagFlickr.php
```

If all is right with the world and your karma, you should see something like [Figure 2-15](#).

Figure 2-15. Testing cloudTagFlickr.php



If you have problems, you might need to turn on PHP error reporting to allow you to see what's going on. I would suggest turning off the caching feature first and getting it working without caching, since that's simpler.

Once you get it working, try the second script, which includes the tag cloud as part of a more complex web page:

<http://www.yourwebsite.com/testTagCloud.php>

The result looks something like [Figure 2-16](#).

Figure 2-16. Testing testTagCloud.php



This is a tag cloud.

ackids artcenter bronzeshield bunnies bunnyhop calarts eg  
 cherrypickers circles collage colorfields cool **descansogardens**  
 digit **dilomar05** fibonacci flickrati flower food fullmoon  
 generative **geotagged** graph hexodus hollywood jbum  
 jbummosaics kaleidoscope kra05 labunnyhop **laflickrmeetup**  
 lego licensing **machineproject** malibucreekstatepark  
 markallen mindstorms monalisa moon **mosaic** neon number  
 numeral oneletter onesentence **pbutton** photomosaic phyllotaxy  
 platinum portrait **poster** procedural robotics **santamonica**  
**santamonicapier** sign spiral spring  
**squarecircle** striatic **striaticdoesamerica**  
 sunset sunvalley thai topf25 topf50 topv1111 tribe tulip tulips wathai  
 wfigna wildflowers wow yellow

That was a tag cloud.

For both of these scripts, you can pass a few options to modify the appearance of the tag cloud. Here are a few examples:

- You can specify the name of some other user, like my friend Special:

<http://www.yourwebsite.com/testTagCloud.php?name=special>

- You can use the `minsize` and `maxsize` parameters to specify the range of font sizes:

<http://www.yourwebsite.com/testTagCloud.php?minsize=10&maxsize=64>

- By default, the tags are sorted alphabetically by tag name, but you can also get a random sort:

<http://www.yourwebsite.com/testTagCloud.php?sort=random>

- or an ascending sort by size, which looks nice:

<http://www.yourwebsite.com/testTagCloud.php?sort=asc>

- or a descending sort by size, which looks even nicer ([Figure 2-17](#)):

Figure 2-17. Tag cloud with descending sort

[squarecircle](#) [mosaic](#) [geotagged](#)  
[dilomar05](#) [descansogardens](#) [poster](#)  
[striaticdoesamerica](#) [santamonicapier](#) [santamonica](#)  
[laflickrmeetup](#) [striatic](#) [spiral](#) [machineproject](#) [pbutton](#) [spring](#)  
[lego](#) [mindstorms](#) [labunnyhop](#) [bunnyhop](#) [bunnies](#) [artcenter](#) [tribe](#)  
[portrait](#) [bronzeshield](#) [wfgna](#) [generative](#) [fibonacci](#) [oneletter](#)  
[malibucreekstatepark](#) [licensing](#) [kaleidoscope](#) [hollywood](#) [sign](#) [procedural](#)  
[photomosaic](#) [ackids](#) [yellow](#) [robotics](#) [phyllotaxy](#) [jbum](#) [flower](#) [calarts](#)  
[hexodus](#) [wow](#) [tulip](#) [sunvalley](#) [sunset](#) [onesentence](#) [neon](#) [graph](#) [flickrati](#) [cg](#)  
[wildflowers](#) [watthai](#) [tulips](#) [topv1111](#) [topf50](#) [topf25](#) [thai](#) [platinum](#) [numeral](#) [number](#)  
[moon](#) [monalisa](#) [markallen](#) [kra05](#) [jburumosaics](#) [fullmoon](#) [food](#) [digit](#) [cool](#) [colorfields](#)  
[collage](#) [circles](#) [cherrypickers](#)

<http://www.yourwebsite.com/testTagCloud.php?sort=desc>

Dan has also added some nice coloring options, such as grayscale:

<http://www.yourwebsite.com/testTagCloud.php?color=greyscale>

and a hot/cold color gradient:

<http://www.yourwebsite.com/testTagCloud.php?color=hotcold>

[Figure 2-18](#) shows a final cloud tag with a random sort and hot/cold coloring.

Figure 2-18. Tag cloud with random sort and hot/cold coloring

[topf25](#) [santamonica](#) [oneletter](#) [kra05](#) [striaticdoesamerica](#) [wow](#)  
[jbummosaics](#) [artcenter](#) [graph](#) [portrait](#) [tulips](#) [platinum](#) [hexodus](#)  
[dilomar05](#) [santamonicapier](#) [numeral](#) [sunvalley](#) [onesentence](#)  
[mindstorms](#) [licensing](#) [poster](#) [bunnies](#) [neon](#) [striatic](#) [digit](#)  
[kaleidoscope](#) [wfgna](#) [thai](#) [squaredcircle](#) [circles](#) [yellow](#)  
[sunset](#) [mosaic](#) [topf50](#) [phyllotaxy](#) [sign](#) [photomosaic](#) [monalisa](#)  
[bronzeshield](#) [pbutton](#) [descansogardens](#) [fullmoon](#) [moon](#) [number](#)  
[tribe](#) [food](#) [procedural](#) [cg](#) [collage](#) [hollywood](#) [generative](#) [robotics](#) [jbum](#)  
[fibonacci](#) [calarts](#) [topv1111](#) [machineproject](#) [laflickrmeetup](#) [flower](#)  
[markallen](#) [cherrypickers](#) [malibucreekstatepark](#) [colorfields](#) [geotagged](#)  
[labunnyhop](#) [cool](#) [lego](#) [watthai](#) [bunnyhop](#) [ackids](#) [flickrati](#) [spiral](#) [spring](#)  
[wildflowers](#) [tulip](#)

More recently, Dan has added a new option, `threshold`, that allows you to filter for more common tags. For folks who have posted enormous numbers of photos, this makes the tag clouds much more manageable.

[Figure 2-19](#) shows an example using Fubuki's rather large photostream, which contains far too many tags to be shown without a tag threshold:

Figure 2-19. Essence of Fubuki, tags matching over 40 photos

<http://www.yourwebsite.com/testTagCloud.php?name=fubuki&threshold=40>

Now that's a pithy tag cloud!

## See Also

- [\[Hack #40\]](#)
- [\[Hack #41\]](#)



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## Chapter 3. Viewing Photos

[Hacks 15-23](#)

[Hack 15. Add Flickr Search to Firefox](#)

[Hack 16. Find Pictures You Can Reuse Legally](#)

[Hack 17. Subscribe to Flickr](#)

[Hack 18. Rate Photos](#)

[Hack 19. Travel with Flickr](#)

[Hack 20. Build a Custom Flickr Feed](#)

[Hack 21. Set Random Desktop Backgrounds](#)

[Hack 22. Build a Flickr Screensaver](#)

[Hack 23. View Flickr Photos on TiVo](#)

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## Hacks 15-23

One of the most fun aspects of using Flickr is discovering amazing photographs. Clicking through the pages of Flickr is like walking through an enormous public gallery where anyone can hang a photo and have a conversation about that photo with someone else. You'll find several ways to view photos on Flickr, and getting to know the basic page layouts will help you navigate this gallery and find photos that you connect with.

One basic page you'll encounter frequently is a Flickr *photostream*. A photostream is all of the photos that belong to a specific photographer, displayed in order from newest to oldest. For example, [Figure 3-1](#) shows a Flickr photostream for one of the authors of this book, with the most recently added photo at the top and the rest following in reverse-chronological order.

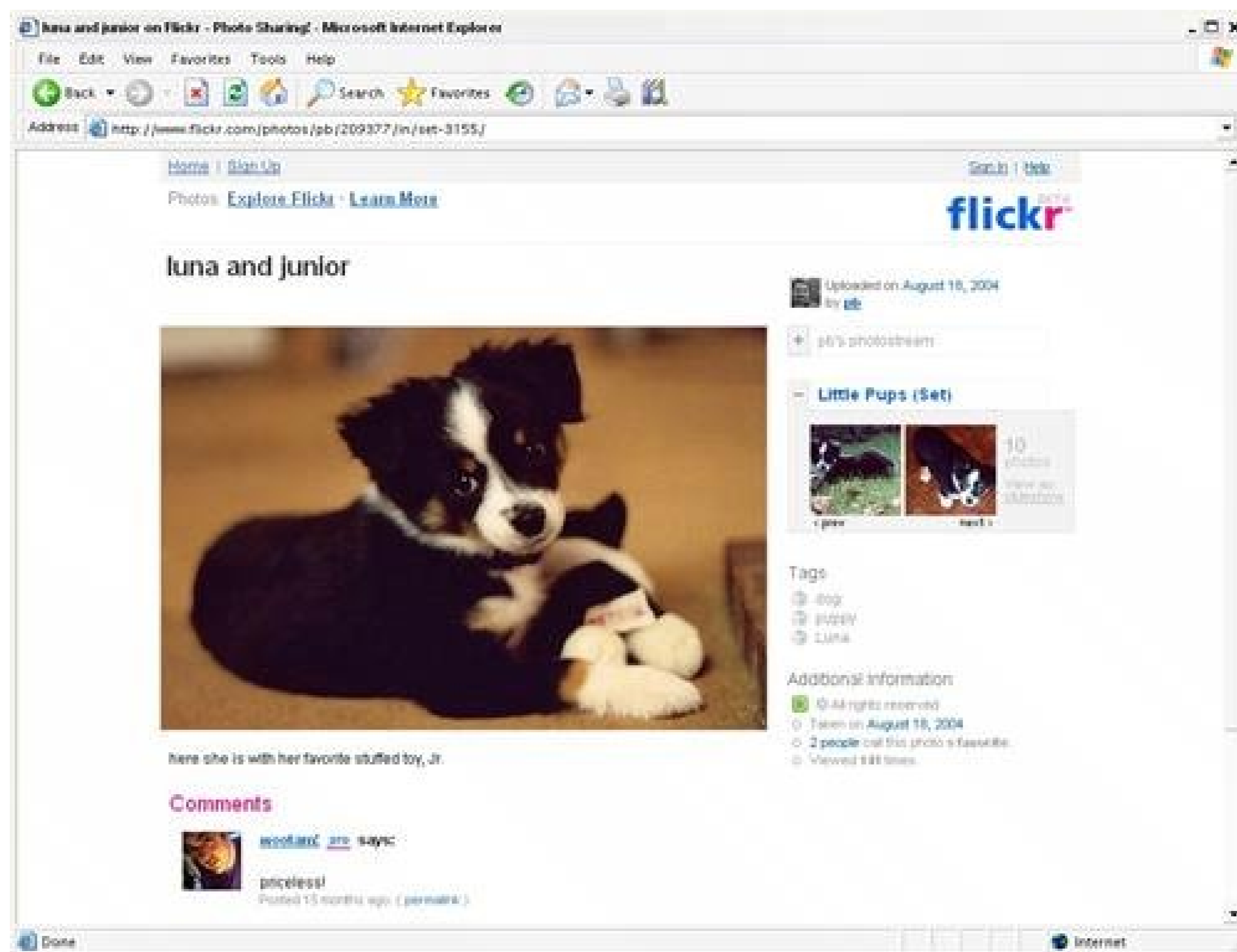
Figure 3-1. Flickr photostream

From the photostream page, you can navigate to other Flickr areas related to a particular

photographer. Clicking the Profile link will reveal more information about the photographer; the Favorites link will show you photographs by other members that this user has marked as favorites, and the Sets link will show you all of the photographer's groups of photographs.

Clicking a photo in the photostream will take you to a larger version of the photograph on a photo detail page, as shown in [Figure 3-2](#).

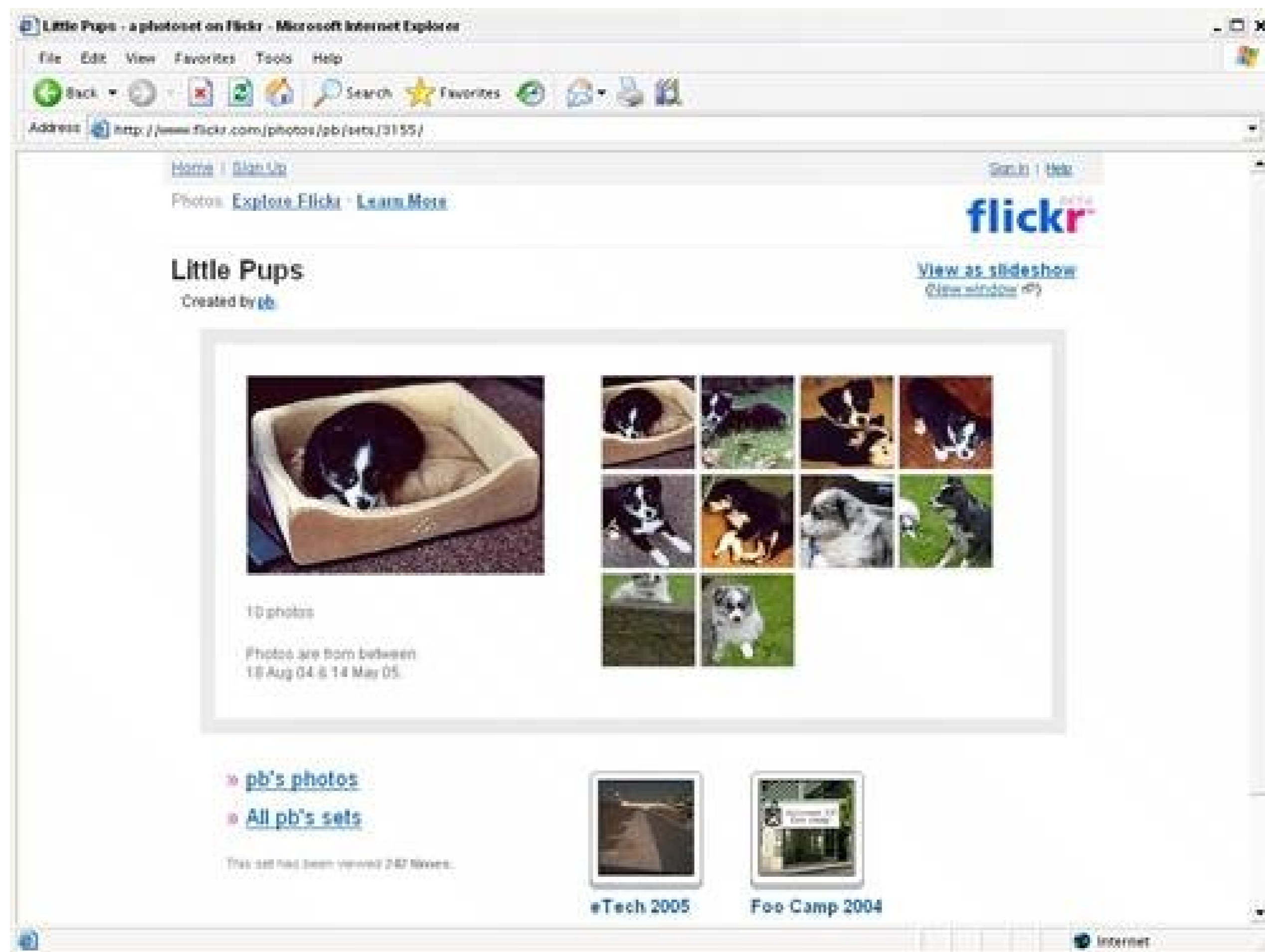
Figure 3-2. Flickr photo detail page



You can end up at a photo detail page from many locations across Flickr, and it's probably where you'll spend most of your time at Flickr. From the photo detail page, you can find all of the information related to a photo, including the title, description, tags, copyright details, date taken, and number of times the photo has been viewed. You'll also be able to see which photo sets the photo belongs to, which groups the photo has been added to, and a link to the photographer's photostream. Any comments related to the photo will be displayed below the description on the photo detail page.

*Sets* are another important type of page at Flickr. Sets are groups of photographs that a photographer has put together for easy viewing. [Figure 3-3](#) shows a set called "Little Pups" by one of the authors.

Figure 3-3. Flickr set page

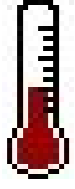


A set can be used to display a group of photos often around a specific theme even if they weren't all uploaded at the same time.

This chapter will take you beyond the basics of Flickr photo viewing, into more advanced ways of enjoying photos available at Flickr. From integrating Flickr photo search with your browser [[Hack #15](#)] to using Flickr photos as a screensaver [[Hack #22](#)], you'll find ways to connect with photos you might not have found by simply wandering the gallery.



## Hack 15. Add Flickr Search to Firefox



To find photos quickly at Flickr, you can add a Flickr option to your Firefox quick search box.

If you use the Firefox web browser (<http://www.mozilla.org/products/firefox/>), you're probably already aware of the useful search box in the upper-right corner. From any page, at any time, you can simply type a search term into the box and press Enter, and the results page will come up in the browser.

Though Google is the default search engine, you can click the arrow to choose another search engine via the search box's handy drop-down menu, as shown in [Figure 3-4](#).

Figure 3-4. Firefox quick search options



The nice thing about this list of potential search engines is that you can add any search engine of your choice. In the drop-down list is an Add Engines... option that takes you to a page with more search choices, which you can install with a few clicks. The New Search Engines section of the Mozilla site contains a page with seven different Flickr-related searches you can add to the Firefox search box (Mozilla is the technology behind Firefox). These searches are primarily for searching through Flickr forums, groups, and tags.

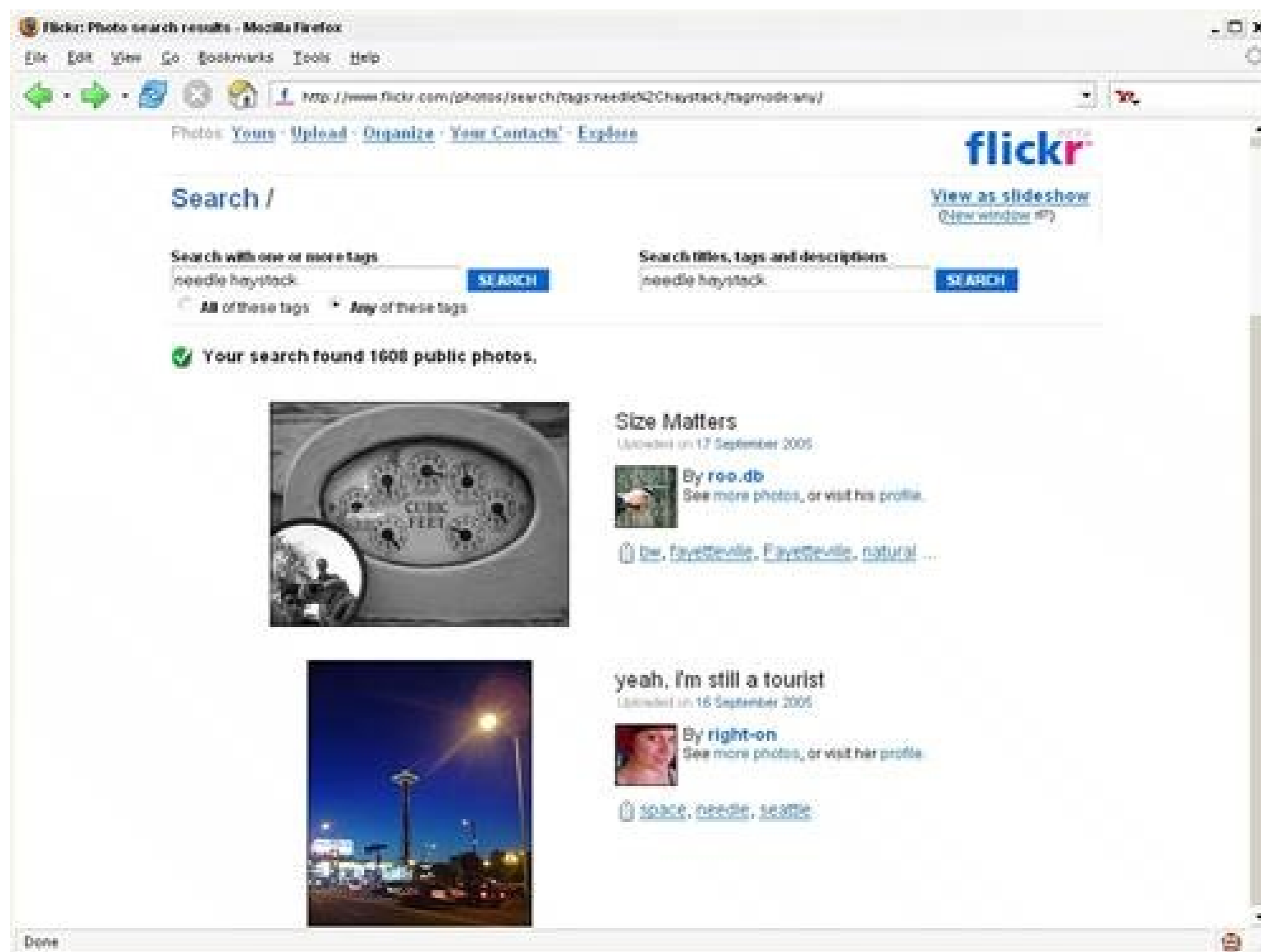
To add a Flickr search engine, simply go to <http://mycroft.mozdev.org/download.html?name=Flickr> and click the name of the search engine you'd like to add. A pop-up box will ask you to confirm your choice; click OK, and the new choice will be available in the Firefox search box menu. Behind the scenes, Firefox has copied a small *.src* file and icon to the *searchplugins* directory of the Firefox installation. This text file defines how the search works.

If you don't find the perfect Flickr search at the Mozilla page, it's fairly easy to build your own specialty Flickr search and add it to your list of available search engines. This hack shows you how.

## Flickr Search

To search for photos at Flickr by a specific tag, a set of tags, or words in the titles and descriptions, browse to the Flickr Search page (<http://www.flickr.com/photos/search/>). Enter some words into the tags field or the titles, tags, and descriptions field, and click Search. You'll see results like the ones shown in [Figure 3-5](#).

Figure 3-5. Flickr photo search



To integrate this search into the browser, you'll first need to note the URL. A search for photos with the tags *needle* or *haystack* has this URL:

```
http://www.flickr.com/photos/search/tags:needle%2Chaystack/tagmode:any/
```

Notice that the tags are separated by the symbol `%2C`, the URL-encoded version of a comma.

`tagmode:any` lets the search know you want to match any of the tags mentioned instead of all of the tags mentioned. Armed with this knowledge, you can put together your own Firefox quick search.

## The Code

Because Flickr search result URLs are formatted a bit differently from the result URLs of many other search engines, the Firefox quick search format can't send queries to Flickr directly. But that shouldn't stop a Flickr hacker from adding a quick search entry. A bit of JavaScript can do some

translating, but for that you'll need a quick Flickr search proxy script.

Create a text file called *flickr-search.htm* and add the following code:

```
<html>
<head>
  <title>Flickr Proxy</title>
</head>

<body>
<script language="JavaScript" type="text/javascript">
  // Find the tags
  var esign = document.URL.lastIndexOf('=');
  var tags = document.URL.substring(esign+1);

  // Convert spaces to URL-encoded commas
  tags = tags.replace(/%20/g,"%2C");
  tags = tags.replace(/\+/g,"%2C");

  // Build the search results URL at Flickr
  var action = "http://www.flickr.com/photos/search/";
  var query = "tags:"+tags+"/tagmode: any/";

  // Send the user to Flickr with the formatted URL
  document.location = action + query;
</script>
</body>
</html>
```

This code grabs the incoming query from a Firefox search and formats a proper search response URL for Flickr. Spaces in the search are transformed into commas, just as they are on Flickr, and the search mode (match *any* or *all*/tags) is set here as well.

Note that the variable `query` holds the tags coming in on the command line and the search mode, `tagmode: any`. You can change `tags:` to `text:` if you'd rather search titles, descriptions, and tags, but if you do, be sure to also change the mode to one of the text options: specify `sort:relevance` or `sort:interesting`, or leave out the `sort` option to sort by most recent.

Upload *flickr-search.htm* to a publicly available web server and note the URL, which should look something like this:

```
http://www.example.com/flickr-search.htm
```

Now that you have a quick Flickr-URL proxy set up, you can write the file that will tell Firefox where to send search requests. Create a file called *flickr-tags.src* in a text editor such as Notepad and add the following code:

```
# Flickr Tag Search
#
# Created September 17, 2005
```

```
<SEARCH
  version="7.1"
  name="Flickr Tags Search"
  description="Search for photos by tag at Flickr!"
  method="GET"
  action="http://www.example.com/flickr-search.htm" >

<input name="q" user>

</search>
```

As you can see, this file begins with an opening `<SEARCH>` tag that holds the name of the search and a brief description. Be sure to point the `action` attribute to your Flickr proxy URL. The `<input>` tag lets Firefox know that the value should come from user input, and that it should be added to the action URL.

## Running the Hack

Save *flickr-tags.src* and add it to the Firefox *searchplugins* directory (on Windows, usually located at *C:\Program Files\Mozilla Firefox\searchplugins*). When you restart Firefox, you'll find a new option in the search list called Flickr Tags Search. Choose this option, and type a query such as *needle haystack* in the search box. If all goes well, you should see the same page of images shown in [Figure 3-5](#).

To go the extra mile, you'll want to create a Flickr icon to accompany the search engine in the drop-down list. A good candidate is the Flickr favicon, available at <http://www.flickr.com/favicon.ico>. Copy the icon to your desktop, and transform it into a GIF or PNG file. (You can use the ICO plug-in for Photoshop, available at <http://www.telegraphics.com.au/sw/>.)

Name the file *flickr-tags.gif* or *flickr-tags.png*, and copy it to the *searchplugins* directory. The next time you start Firefox, you should see the Flickr icon next to the new search engine.

By taking some time to examine the different search options at Flickr you can usually find a way to integrate those searches into Firefox, giving you quick access to information you use frequently.

## Hack 16. Find Pictures You Can Reuse Legally



Use the Flickr Creative Commons tools to find photos with special licenses or let others know how they can use your photographs.

Most of the photos you see at Flickr are copyrighted. The default license setting at Flickr is a standard copyright, which means the original photographer controls how the photo can be used. Unfortunately you can never be sure how a particular photographer will react if you use part or all of her work in your own project.

Say you're preparing a public presentation and you'd like to use a photo of the Liberty Bell to illustrate a point. Unless you specifically obtain permission (and possibly pay a fee), you can't be sure the creator of a photo you find on the Web won't sue you for copyright violation. While there is a legal term called *fair use* that protects some use of copyrighted materials especially for educational purposes it's hard to know exactly what uses fall under this legal definition, because the concept of fair use is only vaguely defined. Without contacting the photographer or owner of the copyright, there's no way to know what they'll consider a fair use of their materials.

This legal ambiguity is one of the reasons that the nonprofit group Creative Commons (CC) has made several alternative licenses available to artists who want to license their work in more specific ways than a general copyright provides. For example, you can make your work available to anyone who wants to use your photos on the condition that they're used for noncommercial purposes, but you can still require payment for any commercial use. This means someone can freely use one of your photos licensed in this way for, say, a school report, but he'd need to pay you for your photo if you he were compiling a book he intended to sell. With a Creative Commons license, everyone knows exactly how you would like your work to be used or not used.

Using photos under a CC license is just as easy as sharing them. One compelling aspect is that as long as you're following the conditions set forth in the license, you don't need to pay a photographer to use her work or even contact her to ask permission. If for any reason you'd like to use the work in a way that's not covered by the license, however, you'll need to get in touch with the photographer. Basically, you just need to know how the Creative Commons licenses work to make sure you're playing by the rules.

### Understanding CC Licenses

Creative Commons offers four primary conditions in its licenses, in different combinations:

#### *Attribution*

No matter how you use the work, you must give the author credit. All licenses include this

condition.

### *No Derivatives (NoDerivs)*

You can use only exact copies of the work in its entirety, not pieces of the work arranged in a different way.

### *Non-Commercial*

The work can be used for a noncommercial project only.

### *Share Alike*

You can use the work as long as your work is licensed in the same way.

Here are the six licenses offered:

- Attribution
- Attribution-NoDerivs
- Attribution-NonCommercial-NoDerivs
- Attribution-NonCommercial
- Attribution-NonCommercial-ShareAlike
- Attribution-ShareAlike

So, if you spot a photograph of the Liberty Bell with an *Attribution-NoDerivs* Creative Commons license on Flickr, you know that the photographer has made the photo available to anyone who wants to use it for any purpose, provided that credit is given and that the photo is used in its entirety, rather than being cropped or blended with other images.

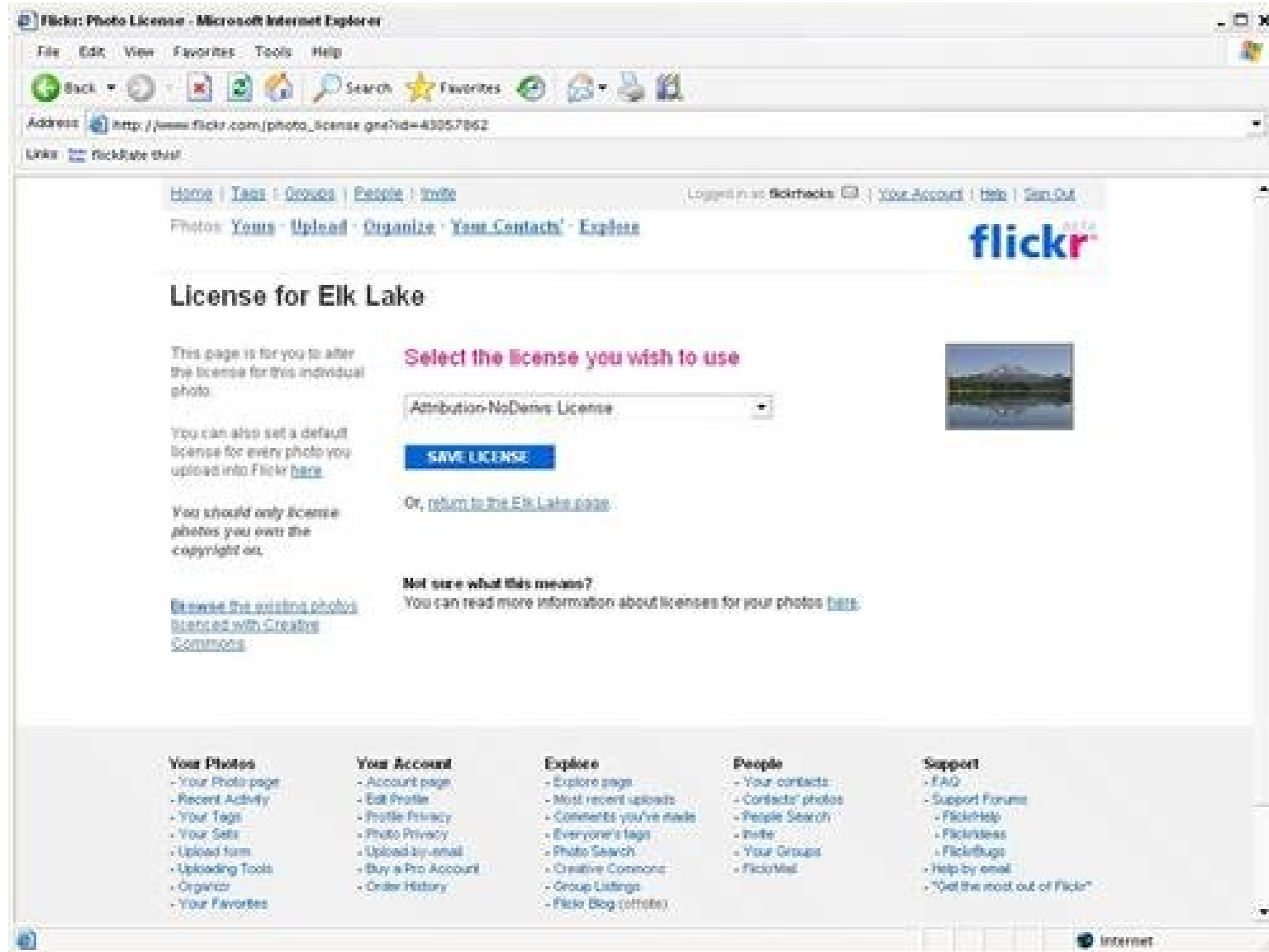
The other licenses work in a similar way. Once you know the four conditions, you can quickly determine how the photographer would like you to use her work by looking at the license.

## Licensing Your Photos

By default, any images you upload to Flickr will be under the standard copyright license. However, you can switch any Public image to a Creative Commons license at any time.

To apply a license to a photo, browse to the photo's detail page and note the copyright statement "All rights reserved" under the Additional Information heading to the right of the photo. Click the "set privacy" link, and you'll be taken to the "Privacy and control" page [\[Hack #2\]](#) for that photo. On the lower-left side of the page, click the "Add a license for your photo" link to bring up the License page, shown in [Figure 3-6](#).

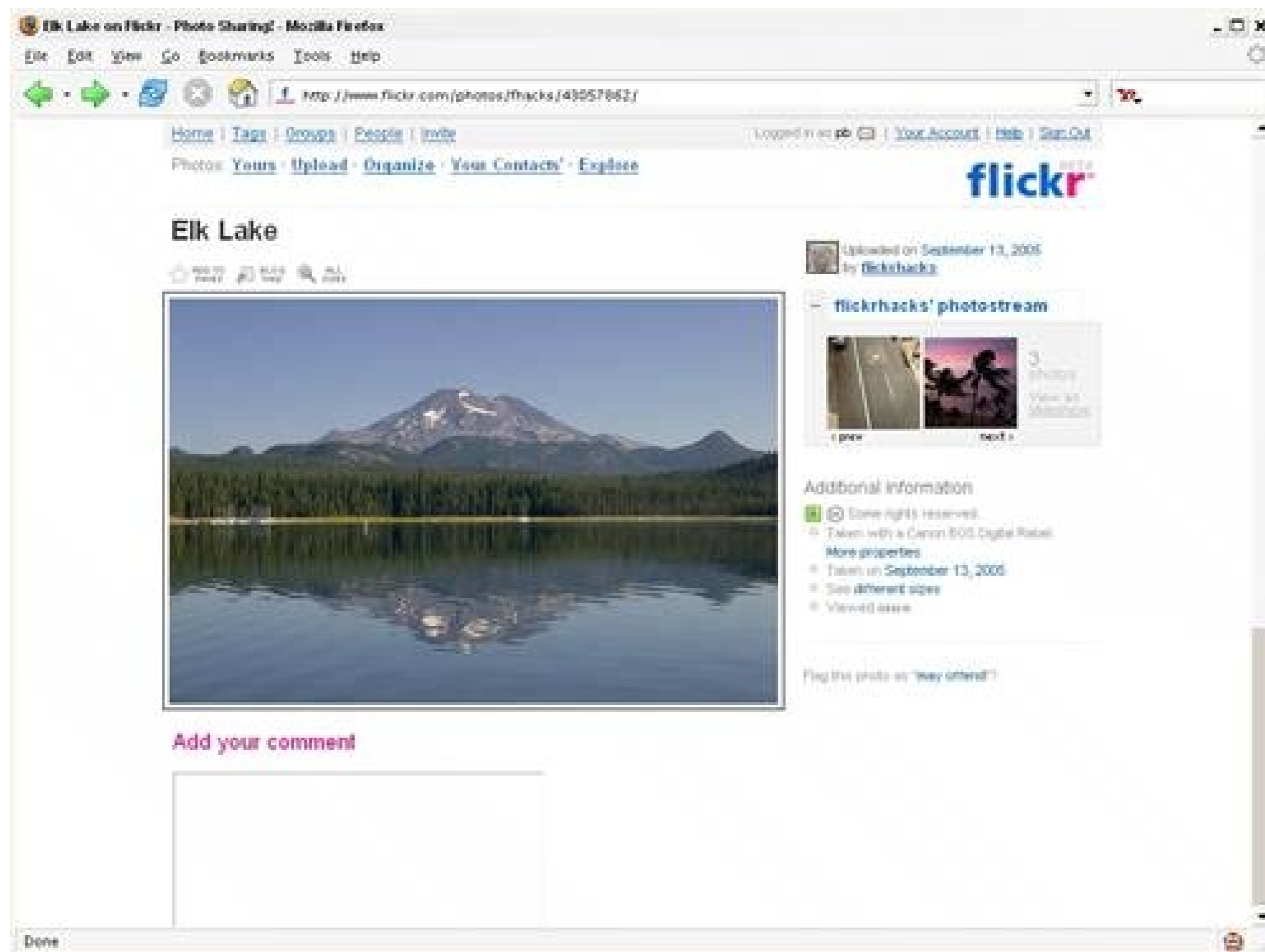
Figure 3-6. Flickr License page for a single image



Choose the license you'd like to use for the image, and click Save License. Once you've set the license, others will be able to tell which license you've selected by looking at the new copyright statement "Some rights reserved" under Additional Information, as shown in [Figure 3-7](#).

Figure 3-7. Creative Commons license on a photo detail page





If you click the "cc" logo, you'll go directly to the license page for that photo, where you can switch to a different Creative Commons license or back to the traditional copyright. Other viewers who click the "cc" logo on your photo's detail page will be taken to the Creative Commons page for that particular license, which explains how the photo can legally be used. [Figure 3-8](#) shows the *Attribution-NoDerivs* license page at Creative Commons.

Figure 3-8. The Attribution-NoDerivs license explanation



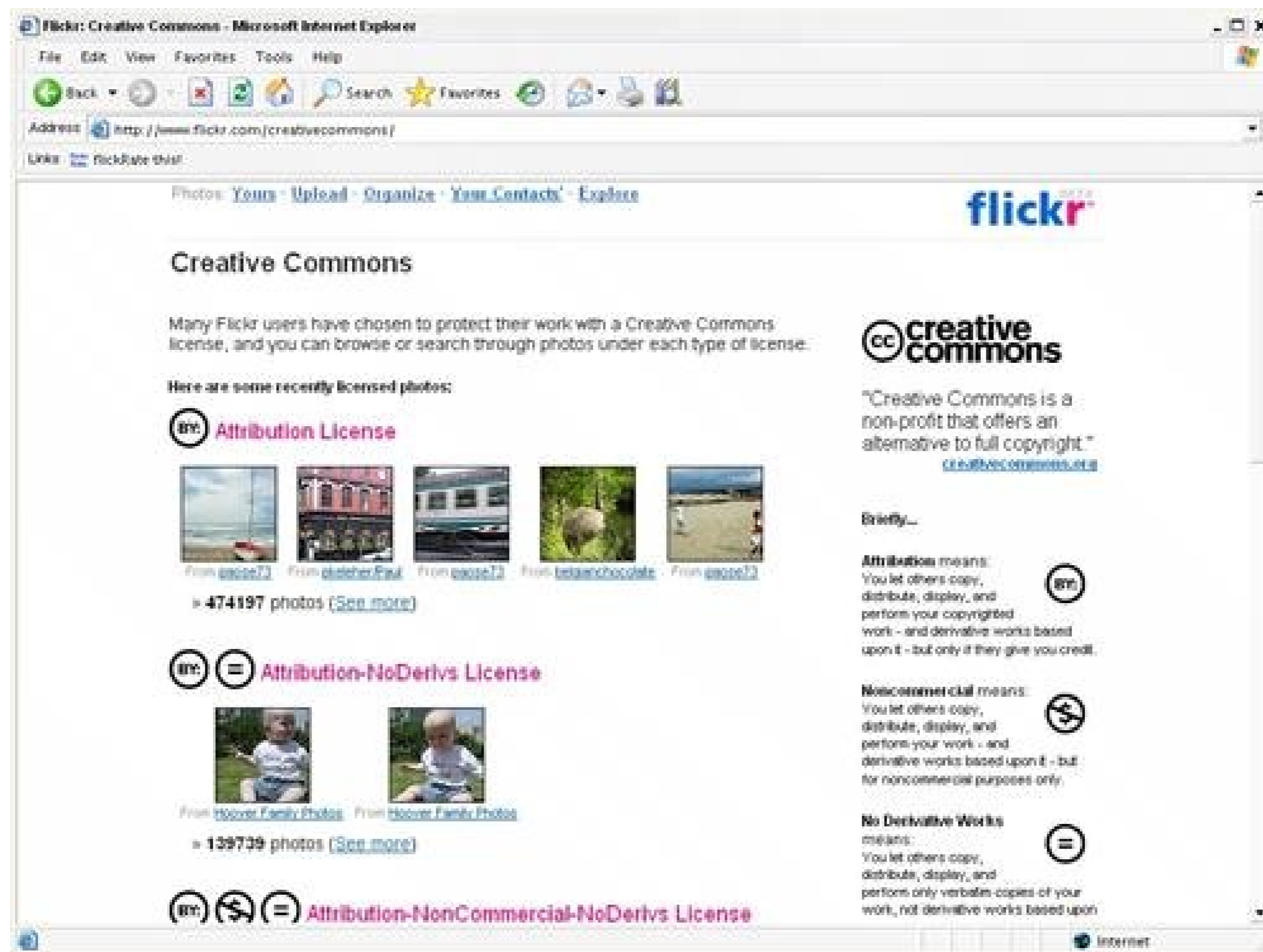
If you'd like to make all of your photos available under a particular Creative Commons license, you can set a global licensing preference. Under Your Account at the bottom of any Flickr page, click the "Account page" link. From your account page, click Photo Licensing under the Photo Settings heading. You'll find more information about Creative Commons licensing on this page, and a form that will let you set a default license for any photos you add to Flickr.

## Finding CC-Licensed Content

As you browse photos on Flickr, you're bound to run into some of the thousands of images that are CC-licensed. Keep your eye out for the Creative Commons logo on photo detail pages.

If you're specifically looking for photos you can use in your own projects, browse to the Flickr Creative Commons page (<http://www.flickr.com/creativecommons/>). You'll find recently added photos listed by license type, as shown in [Figure 3-9](#).

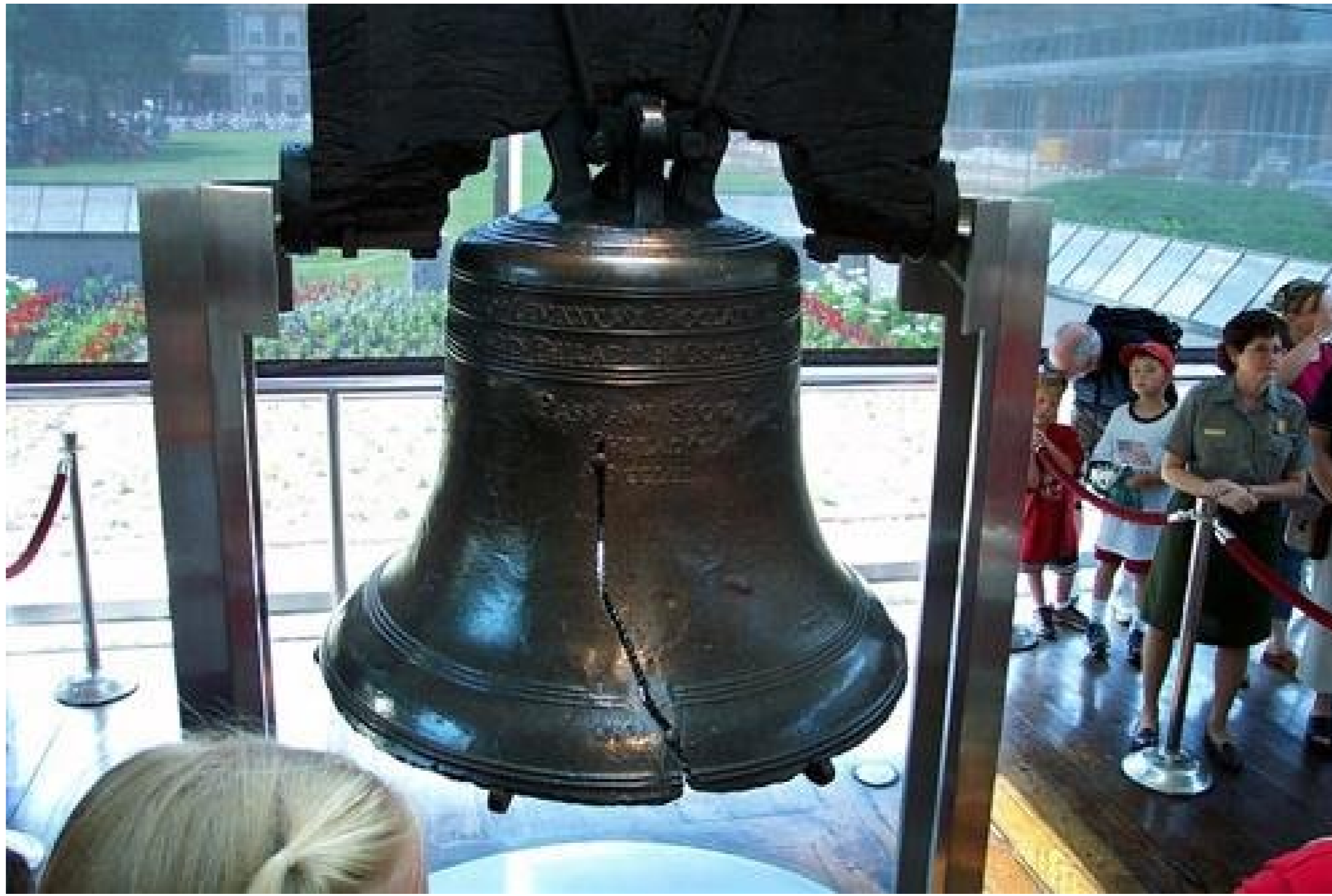
Figure 3-9. Flickr Creative Commons page



To search for images with a certain license, click the "See more" link under any of the license headings. From there, you can use the search form at the top of the page to find specific images under that particular license.

So, the next time you're looking for supporting text or photographs, you can use the Flickr Creative Commons search to find something appropriate, such as the photograph of the Liberty Bell in [Figure 3-10](#) by Flickr member rdesai (<http://www.flickr.com/people/picdrop/>).

Figure 3-10. CC-licensed image of the Liberty Bell



rdesai published the photo under an *Attribution* license, which means this member simply wants credit in exchange for use of the photo. Targeting CC-licensed material takes the ambiguity out of the standard copyright system and lets you know how you can use some of the photos you find on Flickr.

## Hack 17. Subscribe to Flickr



Flickr offers RSS and Atom news feeds of much of its data, making it easy to keep track of your tags.

News feeds have revolutionized the way people read sites on the Web. Instead of browsing hundreds of pages, you can use software called *newsreaders* to subscribe to news feeds and display any new information in a friendly format.

The folks at Flickr have recognized the demand for news feeds and have made most of the data you see available through news feeds of different feeds. For example, if you want to track a particular photographer, you can add that person's name to your newsreader and see any new photos he posts without ever visiting Flickr.

The first step to subscribing to a Flickr feed is finding a feed URL that you can copy and paste into a newsreader. You can find a Flickr feed by looking at the bottom of the page for feed options like the ones shown in Figure 3-11.

Figure 3-11. The feed options found at the bottom of many Flickr pages.

News feeds are structured XML documents intended to be read by machines rather than humans. Flickr offers two formats (RSS 2.0 and Atom Syndication) and Atom formats; you won't notice a difference between the two, and you can use either format. To get a feed URL, right-click (Command-click on a Mac) on either the RSS 2.0 link or the Atom link and choose Copy Link Address. The feed URL will then be available on your virtual clipboard.

In addition to links to the feed URLs, you'll notice an "Add to My Yahoo!" button that lets you automatically add a feed to My Yahoo! (available at <http://my.yahoo.com>). Click the button to add that particular feed to My Yahoo!

### Flickr Feeds

By far, the easiest way to add a feed to your newsreader is by copying the URL from the bottom of a Flickr page. However, if you know how to construct feed URLs, though, you may be able to construct your own Flickr feed URLs in less time than it would take to find and copy the links.

Every feed URL starts with the base [www.flickr.com](http://www.flickr.com) domain. From there, the feeds vary widely, but they all follow a similar pattern. The feed URL is constructed with the `format` attribute. The format can be set to `rss_200`, indicating the RSS 2.0 format, or `atom_10` format. Changing the `format` setting of a URL changes the format of the feed.

Another important component of many Flickr feeds is an internal ID called an *NSID*. Every member and group has a unique alphanumeric ID that represents that particular entity in the Flickr database. Many feed URLs use the NSID. If you see a group of 12 to 15 characters that contains an @ symbol, you know you're looking at a Flickr NSID.

You can often change the contents of the feed by tweaking the attributes in the URL, either by swapping attribute. Here's a look at the feeds available at Flickr, along with the URL format for each type of feed.

## Members

To see every new public photo by a particular photographer at Flickr, you can subscribe to her photostream by a member NSID and looks like this:

[http://www.flickr.com/services/feeds/photos\\_public.gne?id=insert\\_member\\_NSID&format=rss](http://www.flickr.com/services/feeds/photos_public.gne?id=insert_member_NSID&format=rss)

You can find the NSID for any particular member (including yourself) with just a little bit of worksee[Hack]

You can also keep tabs on your contacts' photos with a Flickr feed. If you'd rather see photos from your contacts going to your contacts page (<http://www.flickr.com/photos/friends/>), you can subscribe to a URL of the

[http://www.flickr.com/services/feeds/photos\\_friends.gne?user\\_id=insert\\_your\\_NSID&friend](http://www.flickr.com/services/feeds/photos_friends.gne?user_id=insert_your_NSID&friend)

To keep track of comments people are posting about your photos, subscribe to the recent comments feed

[http://www.flickr.com/recent\\_comments\\_feed.gne?id=insert\\_your\\_NSID&format=rss\\_200](http://www.flickr.com/recent_comments_feed.gne?id=insert_your_NSID&format=rss_200)

Substituting your contacts' NSIDs in a URL of this format provides even more tracking fun.

## Groups

Flickr groups give members a chance to congregate and discuss and share photos. There are two types of feeds: the first feed is the discussion associated with the group. The discussion feed contains all new posts and replies in `rss_200` format:

[http://www.flickr.com/groups\\_feed.gne?id=insert\\_group\\_NSID&format=rss\\_200](http://www.flickr.com/groups_feed.gne?id=insert_group_NSID&format=rss_200)

One easy way to get the NSID for a particular group is to copy the NSID from a feed link at the bottom of the group page. If you have the feed URL, you don't need to worry about finding the NSID to build your own!

You can subscribe to the group photo pool for any given group with a URL like the following:

[http://www.flickr.com/groups/insert\\_group\\_URL\\_name/pool/feed/?format=rss\\_200](http://www.flickr.com/groups/insert_group_URL_name/pool/feed/?format=rss_200)

Notice that instead of the group NSID, the photo pool feed uses the group name. You can find the group name on the group home page. For example, the Flickr Hacks group is available at:

<http://www.flickr.com/groups/flickrhacks/>

You'll find the group name (in this case, `flickrhacks`) at the end of the URL, after `/groups/`.

## Tags

To subscribe to all photos tagged with a particular keyword, you can use the following URL format:

```
http://www.flickr.com/services/feeds/photos_public.gne?tags=insert_tag&format=rss_200
```

Imagine you're interested in photos of the moon and you want to keep track of any photos that flow through. You can simply insert the tag and subscribe to the feed, and you won't miss any new photos.

To subscribe to multiple tags in the same feed, separate the tags with commas. For example, if you want the sun, you could build the following URL:

```
http://www.flickr.com/services/feeds/photos_public.gne?tags=moon,sun&format=rss_200
```

Note that multiple tags are an *OR* match, meaning the feed will show photos tagged with *moon* or *sun*. It matches in this feed, but you can always build your own feed [Hack #20] with the API.

## Flickr news

While not directly related to Flickr photos and discussion, you can also subscribe to news sources about Flickr Blog (<http://feeds.feedburner.com/Flickrblog/>), the Flickr Help Forums (<http://www.flickr.com/forums/>), the Flickr News and Development Change Log ([http://flickr.com/news\\_feed.gne?dev=1&news=1&format=rss\\_200](http://flickr.com/news_feed.gne?dev=1&news=1&format=rss_200))

## Reading Feeds

If you don't already have a favorite newsreader, you'll need to choose one before you can subscribe to a feed. You can download an application or visit a web site you visit. Here's a look at some popular newsreaders and how they work.

### My Yahoo!

My Yahoo! (<http://my.yahoo.com>) is one of the most widely used newsreaders, though you might not expect it. You can add any RSS feed to My Yahoo! by clicking the Add Content link at the top of the page. From the Add Content link next to the Find button. Paste the feed URL into the form and click Add. Figure 3-12 shows how the feed looks at My Yahoo!

Figure 3-12. Flickr photo feed at My Yahoo!

The Flickr photo feed will be added to the narrow column of My Yahoo! content on the side of the page. photos from the photographer using the arrow keys in the upper-right corner of the box. Alternately, you can view five photos at once, as shown in Figure 3-13.

Figure 3-13. Showing all photos in a feed at My Yahoo!



As you can see, the photos are smaller, but you can see them all at a glance. You can click the edit button to change the number of photos you see, or click any of the photos to go directly to that photo's detail page at Flickr.

## Bloglines

Bloglines (<http://www.bloglines.com>) is a free web-based newsreader. To add feeds, click the Add link at the top of the page, go to the Subscribe page, paste in the URL, click Subscribe, and follow the prompts for adding a feed. Once the feed is added, it will appear in the feed list on the left side of the page, as shown in Figure 3-14.

Figure 3-14. Flickr tag feed at Bloglines

Bloglines will show the title of the photo, a thumbnail, the description, and the Flickr member name of the photo. You can click the photo or title to browse to that photo's detail page at Flickr.

## NetNewsWire

Mac users can install and download a newsreader called NetNewsWire (<http://www.ranchero.com/netnews>) available, but at the time of this writing if you want to keep it past that it will cost you \$24.95. To add a feed, you can click the plus sign and paste in the feed. You'll find a link to the feed in the left pane, as shown in Figure 3-15.

Figure 3-15. Flickr tag feed in NetNewsWire

Entries in the feed are shown at the top right, and the entry details are shown in the bottom-right pane, with titles, descriptions, and member names.

## Email and browser solutions

News feeds are being baked into the fabric of many applications, and you might be able to subscribe to web browser or email client. For example, the Firefox web browser (<http://www.mozilla.org/products/firefox/>) you browse around Flickr with Firefox, look for an orange Live Bookmarks icon in the lower-right corner to see your subscription options. Once subscribed, you'll see the titles of new posts or photos in your Bookmarks.

Outlook users might want to try the Newsgator (<http://www.newsgator.com>) plug-in, which lets you view email messages. Thunderbird (<http://www.mozilla.org/products/thunderbird/>) users have RSS subscription writing, there's no HTML support, so you won't see Flickr photos.

## Beyond the Basics

Flickr feeds don't cover every conceivable combination of data available at Flickr, but you can keep track of built-in feeds. However, if there's some piece of data you want to track in your newsreader that isn't included, are good that you can roll your own feed [Hack #20] with the Flickr API. Once you're subscribed to the feed, you have to visit the site again!

## See Also

- [Hack #20]



[← PREV](#)

## Hack 18. Rate Photos



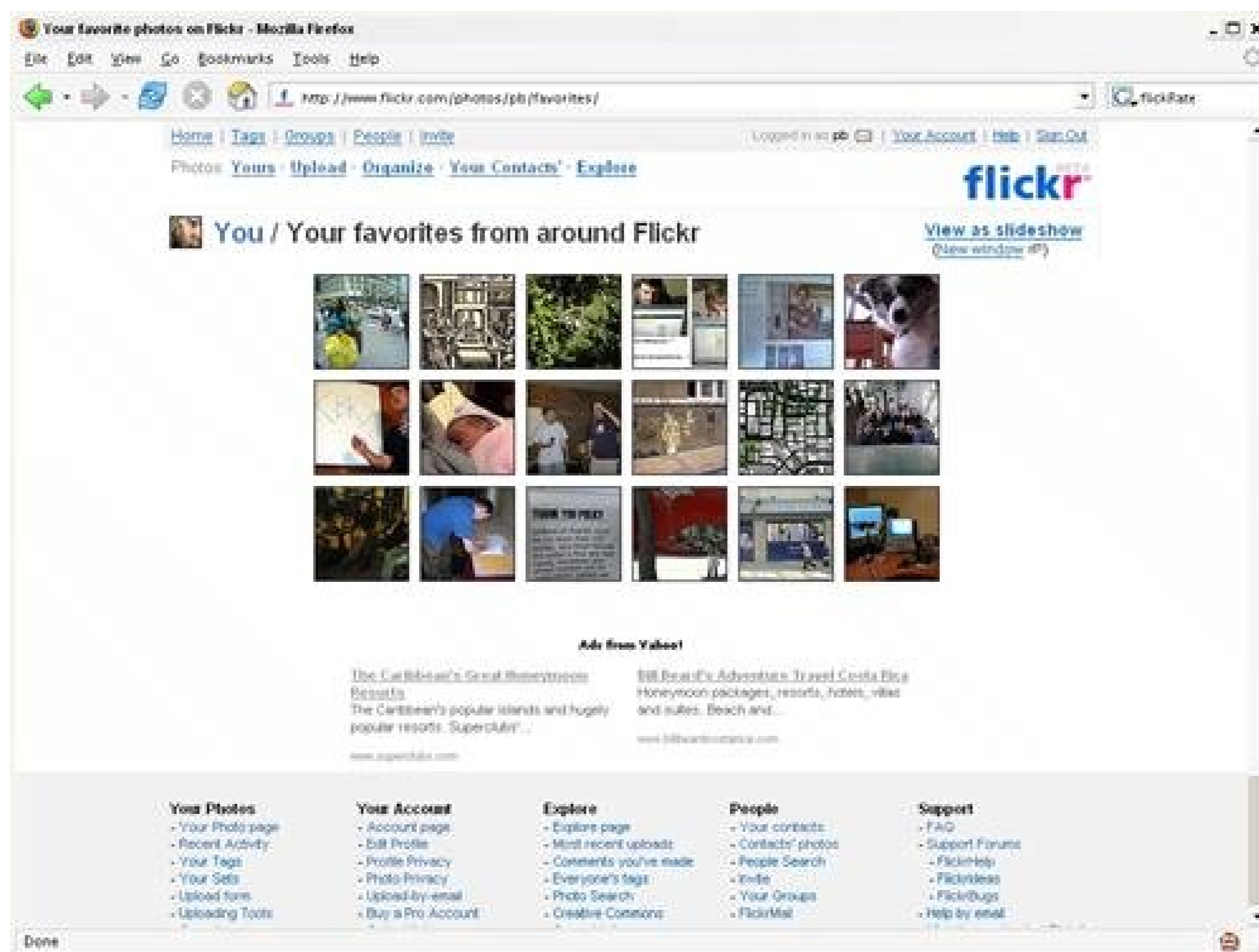
An independent application called flickRate adds a rating system to Flickr, allowing you to judge which photos are funny, original, or beautiful.

A puzzling aspect of Flickr is that there's no way to rate the photographs you see. Amazon lets you rate any of its products, eBay lets you rate sellers, Netflix lets you rate movies, and there are hundreds of other sites that let you use a star or other rating system to voice your opinion about products on offer or elements of the site.

Flickr's creators have distinctly chosen not to include ratings possibly to avoid turning it into a competition. Every photo has value to someone, and they might have felt that a ratings system wasn't the atmosphere they wanted to provide. Instead of ratings, Flickr provides a way for you to mark certain photographs you see as "favorites."

Above any photo on the photo detail page, you'll find a button that says "Add to Favorites." Click the button, and you'll essentially bookmark that picture so that you can view it anytime in the future. To see all of your favorites on one page, as shown in [Figure 3-16](#), click the "Your favorites" link on your Flickr home page.

Figure 3-16. Flickr favorites page



Even though thousands of Flickr users are adding favorites day in and day out, there's no way to see global patterns to answer this question: "Which photos across Flickr are most often added as favorites?"

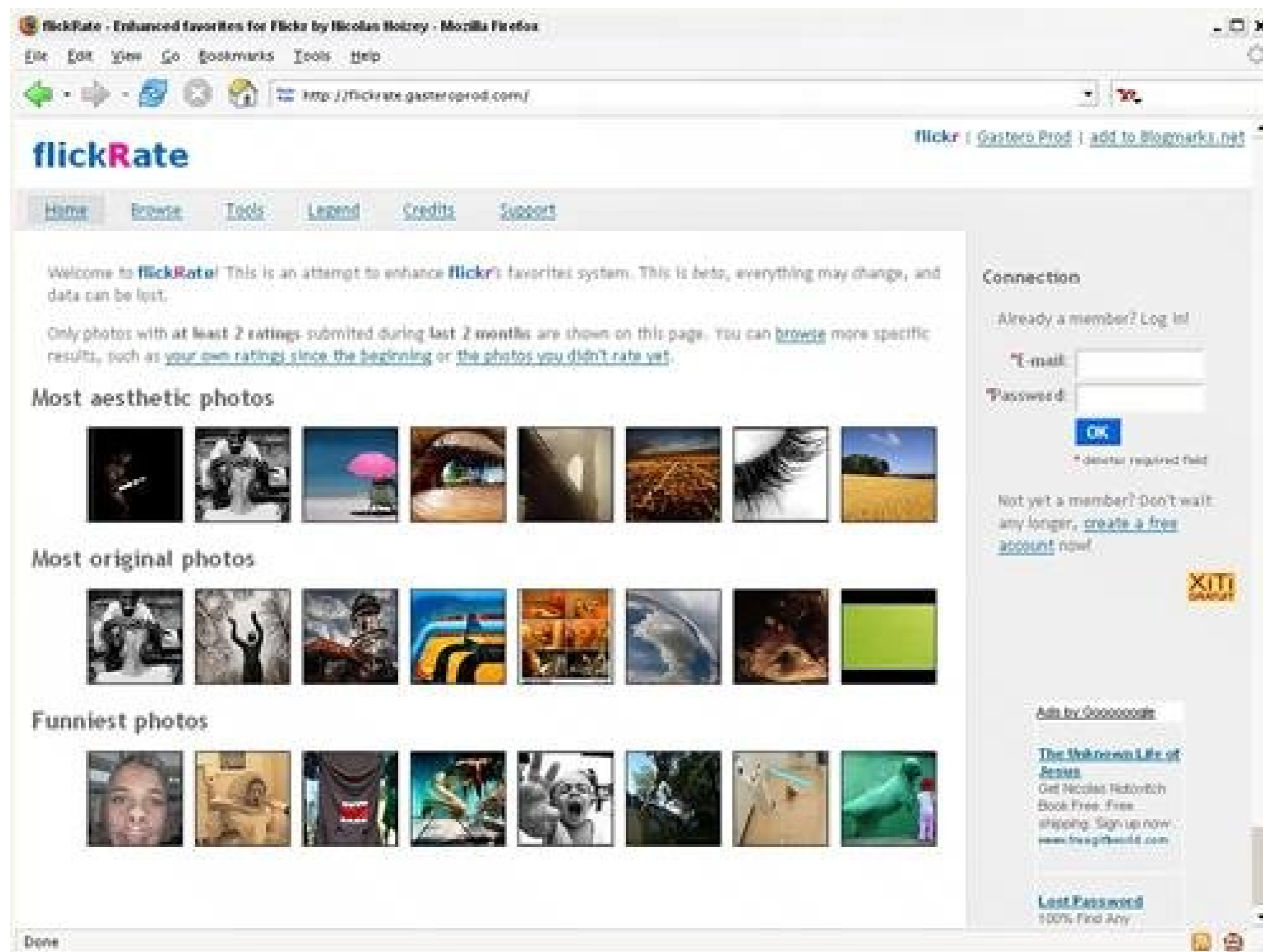
Just because Flickr doesn't offer ratings doesn't mean that you can't take part in a ratings system, though. An application called flickRate by Nicolas Hoizey lives a parallel life alongside Flickr and gives Flickr users a way to rate the photos they see. flickRate also gives you a look at the highest-rated photos, determined by people using flickRate.

## Rating Photos

flickRate lets you rate photos based on three criteria: Aesthetics, Originality, and Fun. Instead of giving a photo a simple star rating, you rate based on these three criteria on a scale of 1 to 7. If you think a photo is beautiful but lacks originality or a sense of fun, you could rate it high for Aesthetics, but low for Originality and Fun. Similarly, a photo that's very funny and unique might not be all that attractive. In this case, you could give high marks for Fun and Originality, but low marks for Aesthetics.

To start rating photos, you'll need a free flickRate account. Browse to the flickRate site (<http://flickrate.gasteropod.com>) and enter your email address and a password for your account in the form on the right side of the page. [Figure 3-17](#) shows the flickRate home page at the time of this writing.

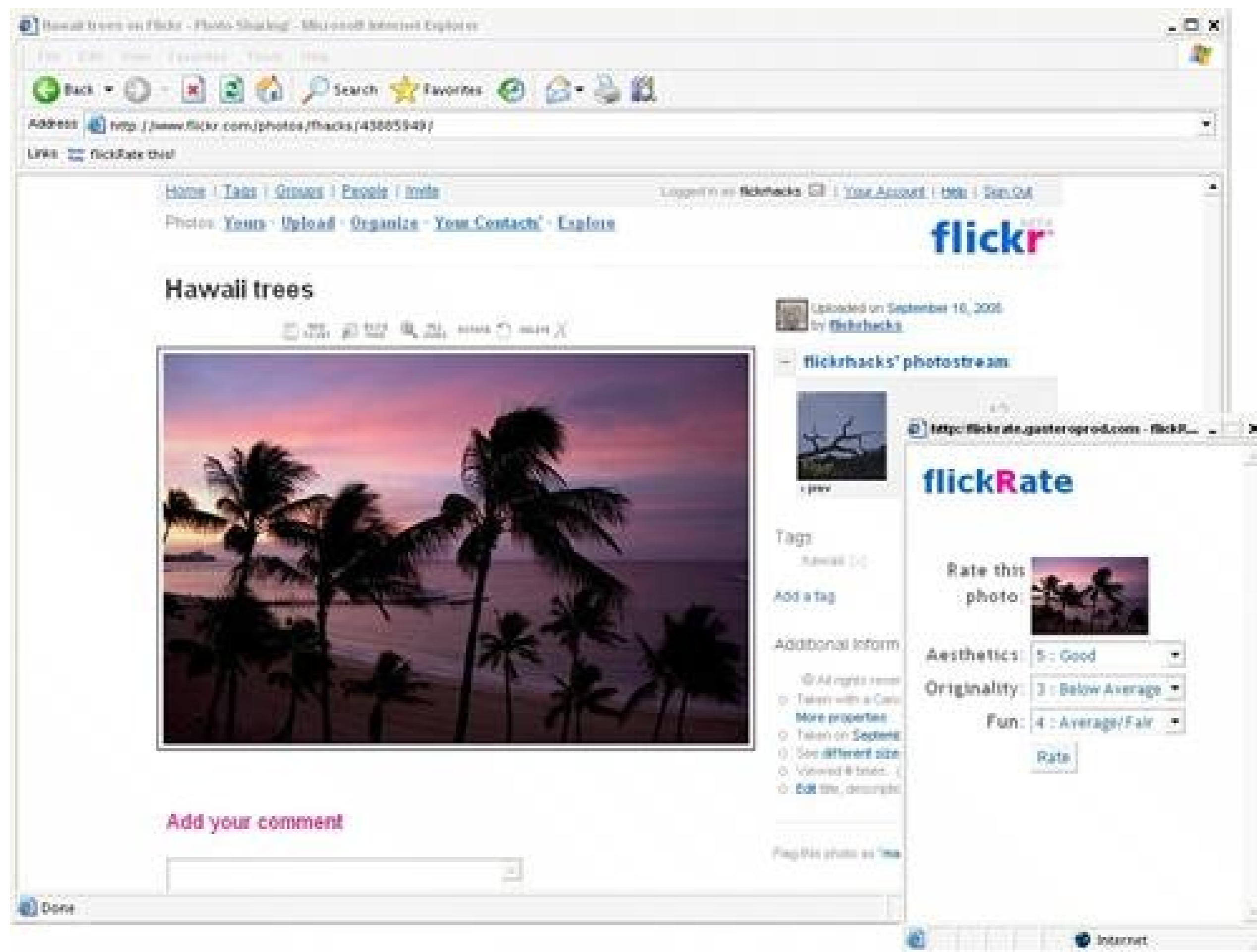
Figure 3-17. The flickRate home page



You'll need to validate your account by following a link sent to your email address, and then you'll just need one of the flickRate tools available on the site. These flickRate tools let you browse the Flickr site as you normally would, but they put the rating features close at hand so that you can rate any photos you see. To install one of the tools, click the Tools link at the top of the flickRate home page to browse to the tools page.

A simple option that will work for any browser is the "flickRate this!" bookmarklet. Drag the "flickRate this!" link to the links toolbar on your browser to install the bookmarklet. Then, click the bookmarklet from any Flickr photo detail page to open a flickRate pop-up window like the one shown in [Figure 3-18](#). In the new window, choose your ratings and click Rate, and your ratings will be saved at the flickRate web site.

Figure 3-18. flickRate bookmarklet window

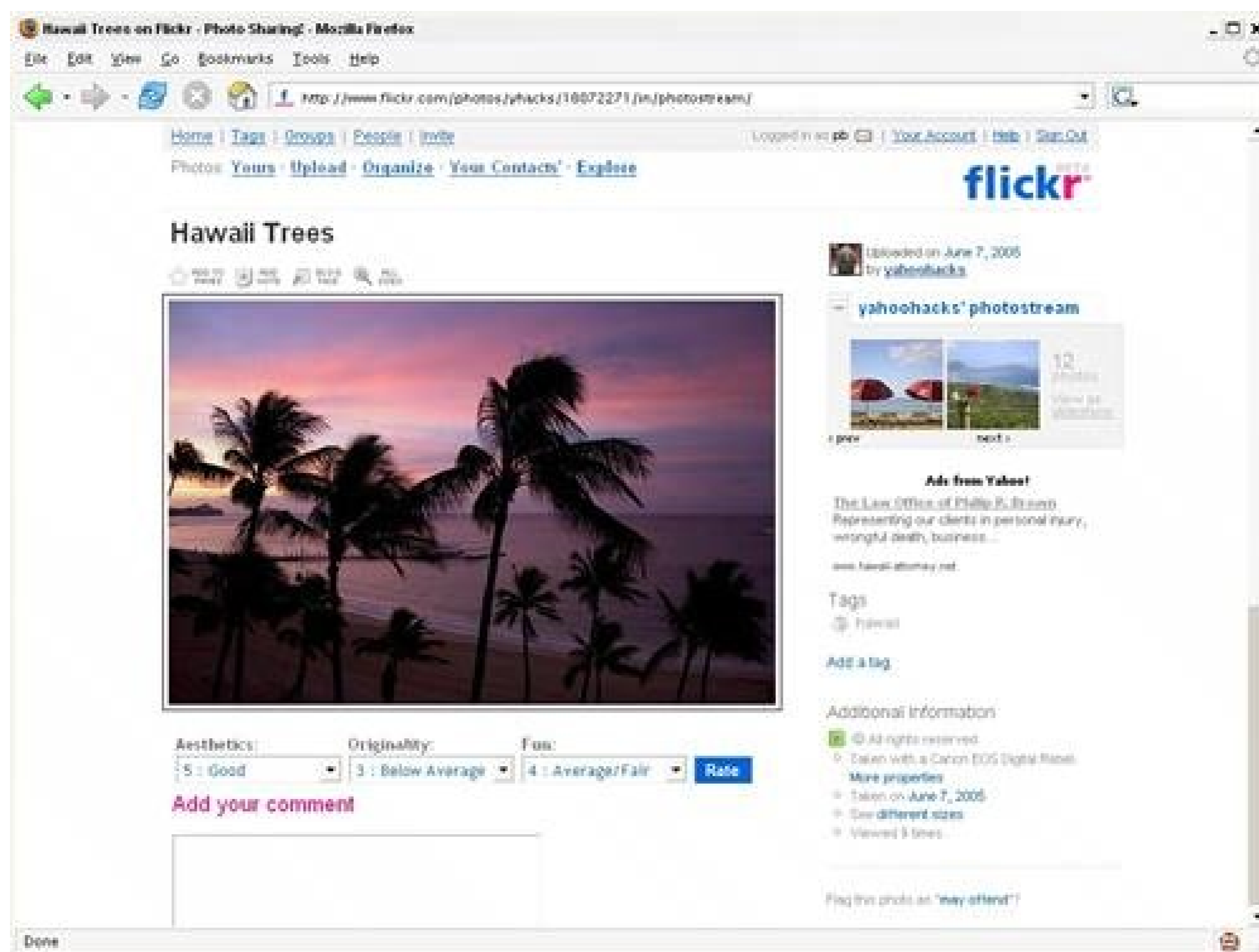


Because many browsers block pop-up windows (Firefox does by default), you might need to set your browser to allow pop-ups for the *www.flickr.com* domain in order to use the "flickRate this!" bookmarklet.

If you use the Firefox web browser and have the Greasemonkey plug-in (<http://greasemonkey.mozdev.org>) installed, you can use the flickRate Greasemonkey script, which integrates ratings directly into Flickr. Click the Greasemonkey script link from the flickRate tools page and choose Tools → Install This User Script... from the Firefox menu. With the script installed, browse to any Flickr photo detail page, and you'll see the flickRate form underneath the photo, as shown in [Figure 3-19](#).

Figure 3-19. flickRate Greasemonkey rating form





Once you've chosen your rating, click Rate to send the rating to flickRate, all without leaving your main browsing window.

## Browsing Ratings

Half the fun of using flickRate is seeing how other users have rated photographs. As you can see on the flickRate home page in [Figure 3-17](#), the site lists the top-rated photos in the three rating categories. You can also click the Browse link at the top of the home page to see photos that have been rated by other users.

Keep in mind that flickRate is a completely independent program and is not affiliated with Flickr or Yahoo! in any way. In addition, flickRate is a new program that's still being tested, and there's no guarantee that it will be here tomorrow. Use flickRate for fun, but don't count on your ratings being around forever.

To see just the photos you've rated, change the value in the second drop-down box to "with only my ratings," and click OK. You'll see just the photos you've rated (which can act as a second "favorites" page to bookmark photos you'd like to view again).

Unfortunately, at the time of this writing, there's no way to look up a specific photograph to see how it's been rated, but the application is new and this feature might be added in the future. And you can always help the author develop his application by joining in the discussion at the flickRate group

(<http://www.flickr.com/groups/flickrate/>).



← PREV

## Hack 19. Travel with Flickr



Flickr Mobile puts Flickr on your cell phone, and once it's in your hand, you can use Flickr on t

You probably know the feeling of arriving home from traveling to find a pile of unread mail, hundreds of dozens of web sites to catch up with. Without access to your home computer, you might not be able to l you at least drop in on Flickr once in a while to keep tabs on your friends.

To use Flickr Mobile, you'll need a cell phone that can browse the Web and a phone plan that allows data: made within the past few years can browse the Web, but you might need to activate the ability with you

Once you've got things working, fire up your mobile web browser, point your phone to <http://www.flickr> should see the Flickr Mobile home page shown in Figure 3-20.

Figure 3-20. Flickr Mobile home page

Of course, viewing the standard Flickr web site on your phone could be a chore because of the large images. Flickr Mobile shows you small thumbnails only. It's not an ideal environment for viewing pictures, but it's great for keeping up on comments when you're on the go. Figure 3-21 shows the photo size available at Flickr Mobile.

Figure 3-21. Flickr Mobile friends' photos page

Only a few of the features from the standard web site are available on Flickr Mobile. You'll find you and your comments, and you can browse photos from everyone. You can also upload photos from your phone [How? Well, if you're dexterous enough to use the keypad.

The features might be limited at Flickr Mobile, but thanks to the Flickr API, with some scripting you can add some new features.

## Visual Dictionary

Images transcend language. A picture of a French tree is still a picture of a tree, and we all know the word for tree in any language. This is the idea behind the Flickr Visual Dictionary, a mobile phone application by Flickr member [steeev](http://www.flickr.com/photos/steeev/) (http://www.flickr.com/photos/steeev/) that lets you search for photos with specific tags and acts as a visual dictionary.

Imagine you find yourself in Tokyo, no cabs in sight, and you need to get across town. If you knew Japanese, you could ask someone where you could catch a cab, but with the language barrier, you could be stuck in a tough spot. Flickr Visual Dictionary on your phone by firing up its web browser and pointing it to <http://steeev.f2o.com/mode=mobile>. Type in the word `taxi`, and you'll find a number of images on Flickr tagged with the word `taxi`. With a picture of a taxi in your hand, chances are you can get your message across.

## Figure 3-22. Flickr Visual Dictionary by Steev

If you'd like to build your own Flickr Translator so that you can customize the look and feel, the Flickr API you need.

### The Code

The following code is a simple Flickr Translator written with PHP 5. Copy the following code to a file called `t.php`, and be sure to include your own Flickr API key:

```
<?php
// t.php
// A quick mobile search for Flickr that you can use
// as a universal translator while traveling. Search
// for a word you don't know how to say in a foreign
// language on Flickr, and point to a picture of it.
//
// You can get an API key and read the full documentation
```

```

// for the Flickr API at http://www.flickr.com/services/api/

// Set your unique Flickr API key
$api_key = "insert your Flickr API key";

// Get the query
if (isset($_GET['q'])) {
    $query = $_GET['q'];
    $query = urlencode($query);
} else {
    $query = "";
}

// Get the page
if (isset($_GET['p'])) {
    $page = $_GET['p'];
} else {
    $page = 1;
}

print '<?xml version="1.0"?>';
?>
<!DOCTYPE html PUBLIC "-//WAPFORUM//DTD XHTML Mobile 1.0//EN" "http://www.wapforum.org/I
<html>
<head>
    <title>Flickr Translator</title>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
</head>
<body>
<h1>Flickr Translator</h1>
<?
if ($query == "") {
?>
<form action="t.php" method="get">
    <input type="text" name="q"/><br />
    <input type="submit" value="Search"/>
</form>
<? } else {
// Construct a Flickr query to grab contacts
$req_url = "http://www.flickr.com/services/rest/";
$req_url .= "?method=flickr.photos.search";
$req_url .= "&api_key=$api_key";
$req_url .= "&tags=$query";
$req_url .= "&tag_mode=all";
$req_url .= "&per_page=5";
$req_url .= "&page=$page";

// Make the request
$response = file_get_contents($req_url);

// Parse the XML
$xml = simplexml_load_string($response);

```

```

// Loop through the photos returned, printing them out
foreach ($xml->xpath('//photo') as $photo) {
    $id = $photo['id'];
    $secret = $photo['secret'];
    $server = $photo['server'];
    $baseUrl = "http://static.flickr.com/";
    $thumbURL = "$baseUrl$server/$id" . "_$secret" . "_t.jpg";
    $mURL = "$baseUrl$server/$id" . "_$secret" . "_m.jpg";
    print "<a href=\"$mURL\">";
    print "<img src=\"$thumbURL\" />";
    print "</a><br />";
}

// Add navigation for next page, last page, home
$page = 1;
$nextpage = $page + 1;
print "<a href=\"t.php?q=$query&p=$nextpage\">next 5</a>";
if ($page > 1) {
    $lastpage = $page - 1;
    print "<br /><a href=\"t.php?q=$query&p=$lastpage\">last 5</a>";
} ?>
<br /><a href="t.php">new search</a>
<? } ?>

</body>
</html>

```

This script presents a single form field where you can type a single tag, or a number of tags separated by spaces. The script contacts the Flickr API using the `flickr.photos.search` method and displays the photos in the response. Each image is linked to a larger version of the image, so you can zoom in if you find the perfect picture.

## Running the Hack

To run the script, upload `t.php` to a web server. Open your phone's browser and type in the URL, which will be

```
http://www.example.com/t.php
```

You should see a blank form that you can use to enter a search term. Choose Search, and the script will display the results shown in Figure 3-23.

Figure 3-23. Flickr Translator search for "bus"



Flickr photos might not be able to form complete sentences in another language for you, but you'll at least use when traveling.

[← PREVIOUS](#)

## Hack 20. Build a Custom Flickr Feed



Subscribe to any data available at Flickr by using the Flickr API to build a custom RSS feed with Flickr photos.

If you already use an RSS newsreader, you know how convenient it is to have information come to you via RSS rather than seeking it out. You can have Flickr content delivered to you via a news feed [[Hack #17](#)], and you can also use Flickr RSS feeds to publish photos on other web sites [[Hack #1](#)]. The RSS format is so popular that you'll find many existing tools that can consume the format.

### Custom Feeds

Flickr offers a number of news feeds for most of the data you'll find on the site, but you might run into times when you want to build a custom RSS feed that Flickr doesn't provide. Here's a quick look at some situations where you might want a custom feed:

#### *To view a different image size*

Flickr offers small thumbnails in its news feeds if you'd rather see large images or the smaller square thumbnails in your newsreader, you can build your own feed.

#### *To add extended data to a feed*

If you're interested in the extended camera data [[Hack #3](#)] that is stored with some photos, you might want a feed that includes this data (it's not available in the default Flickr feeds). You can also add bits of information, such as member icons, license information, and details about the sets to which a photo belongs.

#### *To control the number of items*

Flickr provides the 10 most recent photos in its photo-related news feeds, but in a custom feed you can include any number you'd like by specifying a different number of photos as you make your API call.

#### *To control the look and feel*

A custom feed gives you complete control over how titles, descriptions, and photographers' names appear in the feed. If you want to show a photo's tags in the feed description, you can.

If you'd like to view photos in a particular way in your newsreader, you'll need to create a custom feed.

### *To follow nonfeed data*

Flickr doesn't provide information about photos marked as favorites [\[Hack #25\]](#) in an RSS feed. If you'd like to subscribe to someone's favorites or follow other types of data that aren't available in the default news feeds, you can build your own.

This hack presents a very basic way to build a custom Flickr feed with Perl. You can use the code as a starting point for creating your own custom feeds to track your favorite Flickr data.

## The Code

The following script contacts the Flickr API with the `flickr.photos.getContactsPublicPhotos` method and creates an RSS feed with the list of photos. The result is similar to the feed associated with the 'Your Contacts' page (<http://www.flickr.com/photos/friends/>), but this custom feed displays large images instead of the standard small thumbnails.

You'll need to make sure you have two nonstandard Perl modules before you begin: `LWP::Simple` (<http://search.cpan.org/~gaas/libwww-perl-5.803/lib/LWP/Simple.pm>) contacts the API, and `XML::Simple` (<http://search.cpan.org/~grantm/XML-Simple-2.14/lib/XML/Simple.pm>) parses the response. You'll also need to add your NSID and Flickr API key, both of which you can find at the Flickr API site (<http://www.flickr.com/services/api/>).

Once the prerequisites are in place, copy the following code to a file called `flickr_contact_feed.pl`.

```
#!/usr/bin/perl
# flickr_contact_feed.pl
# Builds a custom RSS feed of contacts' photos for a
# given Flickr user NSID.
#
# You can get an API key, find your NSID, and read the
# full documentation for the Flickr API at:
#
# http://www.flickr.com/services/api/

use strict;
use LWP::Simple;
use XML::Simple;

# Set your NSID and API key
my $nsid = 'insert your NSID';
my $api_key = 'insert your Flickr API key';

# Start the RSS file
print <<"END_HEADER";
<?xml version="1.0"?>
<rss version="2.0">
<channel>
```

```

<title>My Contacts' Photos</title>
<link>http://www.flickr.com/photos/friends/</link>
<description>Photos from my contacts at Flickr</description>
<language>en-us</language>
END_HEADER

# Construct a Flickr Query with only required options
my $language = "en";
my $req_url = "http://www.flickr.com/services/rest/";
    $req_url .= "?method=flickr.photos.getContactsPublicPhotos";
    $req_url .= "&api_key=$api_key";
    $req_url .= "&user_id=$nsid";

# Make the request
my $flickr_response = get($req_url);

# Parse the XML
my $xmlsimple = XML::Simple->new( );
my $flickr_xml = $xmlsimple->XMLin($flickr_response);
my $photolist = $flickr_xml->{photos}->{photo};

# Loop through the items returned, adding as items to feed
foreach my $id (keys %{$photolist}) {
    my $secret = $photolist->{$id}->{secret};
    my $server = $photolist->{$id}->{server};
    my $owner = $photolist->{$id}->{owner};
    my $username = $photolist->{$id}->{username};
    my $title = $photolist->{$id}->{title};
    my $img_src = "http://static.flickr.com/$server/$id\_secret\_m.jpg";
    my $img_tag = "&lt;img src=\"$img_src\" /&gt;";
    my $link = "http://www.flickr.com/photos/$owner/$id/";
    print "&lt;item>\n";
    print "    &lt;title>$title</title>\n";
    print "    &lt;link>$link</link>\n";
    print "    &lt;description>$img_tag &lt;br&gt; photo by $username</description>\n";
    print "&lt;/item>\n";
}
print "&lt;/channel>\n";
print "&lt;/rss>";

```

The five `print` commands toward the end of the script determine how RSS items will appear in your newsreader. As you can see, each RSS item includes a title, link, and description. This script sets the photo title as the item title and a link to the photo as the RSS item link. The description includes the HTML necessary to display the photo and a line that indicates who took the photo.

It's important to note that the HTML is escaped for RSS. This basically means that HTML brackets have been turned into their HTML entity equivalents: `<` becomes `&lt;` and `>` becomes `&gt;`, which means that, for example, a standard `<br>` tag is represented as `&lt;br&gt;`. Escaping HTML makes for some confusing code, but it ensures that most RSS readers will be able to display the HTML properly.

## Running the Hack

You can run the code from a command prompt, piping the results to an XML file:

```
flickr_contact_feed.pl > flickr_contact_feed.xml
```

Upload the output file to a publicly addressable web site and note the URL, which should look like this:

```
http://www.example.com/flickr_contact_feed.xml
```

With your URL in hand, you can add the new feed to your favorite newsreader. [Figure 3-24](#) shows the feed in the Bloglines web-based newsreader.

Figure 3-24. Viewing a custom Flickr feed with Bloglines

To keep the custom feed up to date, you'll want to generate the file on a regular schedule. You can use *cron* on Unix-based machines or the Windows Scheduler for Windows.

This hack should give you a starting point for building your own feeds based on data from the Flickr API. With a few minutes of scripting, you can have much more control over your Flickr subscriptions.

## See Also

- [\[Hack #17\]](#)
- [\[Hack #7\]](#)



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## Hack 21. Set Random Desktop Backgrounds



Use the Flickr API to spin a virtual roulette wheel, and let fate choose your desktop background a Flickr tag you specify.

People love to change their desktop backgrounds. It's one of the first skills that new computer users learn. Computer pros tend to fiddle with their desktop background images on a fairly regular basis. Browsing through your local computer shop, you'll find CDs full of scenic imagery that you can use as desktop background images. You'll shell out money for custom backgrounds when you can use Flickr as your source for background images.

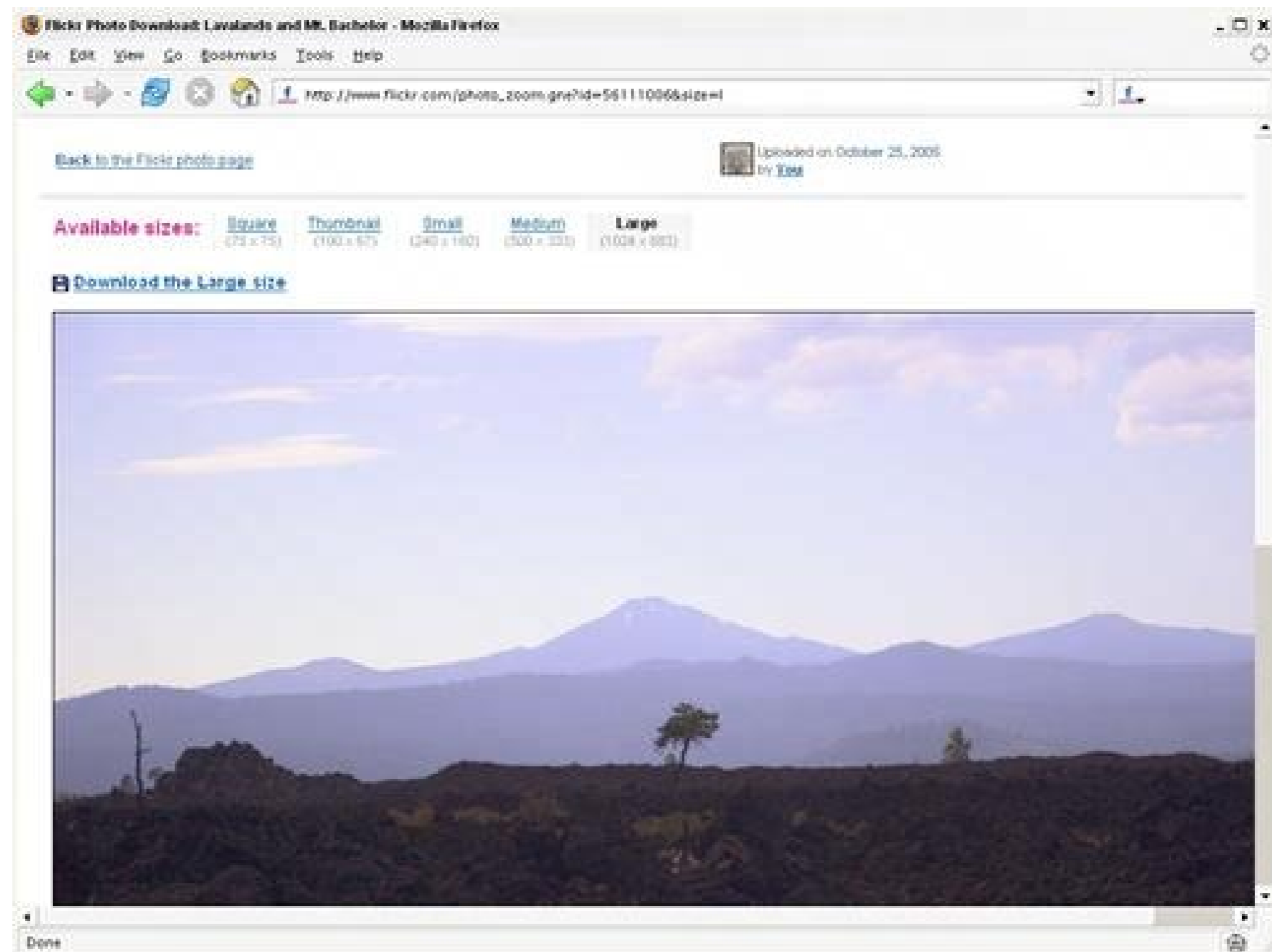
As you're browsing around Flickr, you might spot an image you'd like to use as a desktop background. For most people, your desktop is set at a resolution of 1024 x 768 pixels or higher, quite a bit bigger than the 500-pixel-wide images you see at Flickr. If you stretch the image to fit your desktop, you may end up with a blurry, distorted scenic vista you were hoping for.

Luckily, many people don't resize their images [Hack #4] before they upload them to Flickr, and you can view larger versions of the images you see at Flickr by clicking the All Sizes button on a photo detail page (Figure 3-

Figure 3-25. The All Sizes button on a Flickr photo page

Clicking the All Sizes button takes you to the "Available sizes" page, which defaults to showing you a large image, as shown in Figure 3-26.

Figure 3-26. The All Sizes page showing a larger version of a ph



If you're lucky, you'll find an image as big as or bigger than your current desktop size. Right-click anywhere on the image and choose "Set as Wallpaper" in Firefox or "Set as Background" in Internet Explorer. Minimize the browser and check out your new background image.

This process is easy to follow anytime you're ready for a new background, but with a little scripting, you can automate this. This hack automatically sets a random desktop background image based on a Flickr tag you provide.

## Backgrounds for Windows

This hack contacts Flickr via its web services API, performs an image search, chooses one of the photos, and downloads the image, and sets the photo as your desktop background. Because Windows expects desktop background images to be bitmap (.bmp) images and Flickr images are JPEGs, the script will also have to convert the image from JPEG to bitmap.

This conversion process is beyond the scope of the Windows scripting environment, and this hack uses the software ImageMagick to convert JPEG files to bitmaps. To install ImageMagick, browse to <http://www.imagemagick.org/> and click the Binary Releases link on the left side of the page. Scroll down to the section labeled Windows Binary Releases and choose the latest version. Download the file, follow the installation prompts, and be sure to check the option to install ImageMagick control for Windows scripting. Once you're finished installing the program, you'll be set to go.

## The code



Add the following code to a file called *Flickr\_Background.vbs*:

```
'-----  
' Flickr_Background.vbs  
'  
' Finds a random image via the Flickr API and  
' sets it as the desktop background image.  
'  
' This script depends on Image Magick, which you  
' can download here:  
'  
' http://www.imagemagick.org  
'  
' Edit the following line to change the "theme" of  
' your background. Double-click this file to run it.  
'-----  
strTag = "cityscape"  
  
'-----  
' Your Flickr API key  
'-----  
Const API_KEY = "insert your Flickr API key"  
  
'-----  
' Using the query, find a random image via Flickr  
'-----  
'Construct a Flickr search query  
strReqURL = "http://www.flickr.com/services/rest/" & _  
            "?method=flickr.photos.search" & _  
            "&api_key=" & API_KEY & _  
            "&tags=" & strTag & _  
            "&tag_mode=all" & _  
            "&per_page=200"  
  
'Start the XML Parser  
Set MSXML = CreateObject("MSXML.DOMDocument")  
  
'Set the XML Parser options  
MSXML.Async = False  
  
'Make the request  
strResponse = MSXML.Load(strReqURL)  
If MSXML.parseError.errorCode <> 0 Then  
    WScript.Echo("Error! " + MSXML.parseError.reason)  
End If  
  
'Make sure the request loaded  
If (strResponse) Then  
  
    'Find the total available  
    Set Photos = MSXML.SelectSingleNode("//photos")  
    intTotal = Photos.getAttribute("total")
```

```

intPerPage = Photos.getAttribute("perpage")
intMax = intPerPage
If CDb1(intTotal) < CDb1(intMax) Then
    intMax = intTotal
End If

'Pick a random number
Randomize
RandomNumber = Int(intMax * Rnd + 1)

'Load the results
Set Results = MSXML.SelectNodes("//photo")

'Loop through the results
For x = 0 to Results.length - 1
If x = RandomNumber Then
    strImageID = Results(x).getAttribute("id")
    strImageSecret = Results(x).getAttribute("secret")
    strImageServer = Results(x).getAttribute("server")
    strImageTitle = Results(x).getAttribute("title")
    strImageURL = "http://static.flickr.com/"
    strImageURL = strImageURL & strImageServer & "/"
    strImageURL = strImageURL & strImageID & "_"
    strImageURL = strImageURL & strImageSecret & "_"
    strImageURL = strImageURL & ".jpg"
End If
Next

'Unload the results
Set Results = Nothing
Set ResultSet = Nothing

End If

If strImageURL = "" Then
    WScript.Echo "No image found! Try again."
    WScript.Quit
End If

'-----
' Save the image locally to the root c:\ folder
'-----
' MsgBox("Downloading " & strImageTitle & "...")

strImageFile = Replace(strTag, ",", "_")

Set fs = CreateObject("Scripting.FileSystemObject")
Set xmlhttp = CreateObject("Msxml2.SERVERXMLHTTP")
xmlhttp.Open "GET", strImageURL, false
xmlhttp.Send(Now)

fs.CreateTextFile "c:/" & strImageFile & ".jpg"

```

```

' Create a Stream instance
Dim objStream
Set objStream = CreateObject("ADODB.Stream")

' Open the stream
objStream.Open
objStream.Type = 1 'adTypeBinary
objStream.Write xmlhttp.responseBody
objStream.SaveToFile "c:/" & strImageFile & ".jpg", 2 'adSaveCreateOverwrite
objStream.Close
Set objStream = Nothing

Set xmlhttp = Nothing
Set fs = Nothing

'-----
' Convert the JPEG to a bitmap
'-----
Set Converter = CreateObject("ImageMagickObject.MagickImage.1")
Converter.Convert "c:/" & strImageFile & ".jpg", "c:/" & strImageFile & ".bmp"
Set Converter = Nothing

'-----
' Set the newly created bitmap to background
' and refresh
'-----
strRegRoot = "HKEY_CURRENT_USER\Software\Microsoft\" & _
            "Internet Explorer\Desktop\General\"
strRegRoot2 = "HKEY_CURRENT_USER\Control Panel\Desktop\"

Set Shell = WScript.CreateObject("Wscript.Shell")
Shell.RegWrite strRegRoot & "BackUpWallpaper", "c:\" & strImageFile & ".bmp"
Shell.RegWrite strRegRoot & "Wallpaper", "c:\" & strImageFile & ".bmp"
Shell.RegWrite strRegRoot2 & "Wallpaper", "c:\" & strImageFile & ".bmp"
Shell.Run "%windir%\System32\RUNDLL32.EXE user32.dll,UpdatePerUserSystemParameters",1,T
Set Shell = Nothing

```

Note that the first line of the script sets the theme of your desktop background. If you'd like something tagged with *cityscape*, simply edit this line to whatever you'd like to see.

## Running the hack

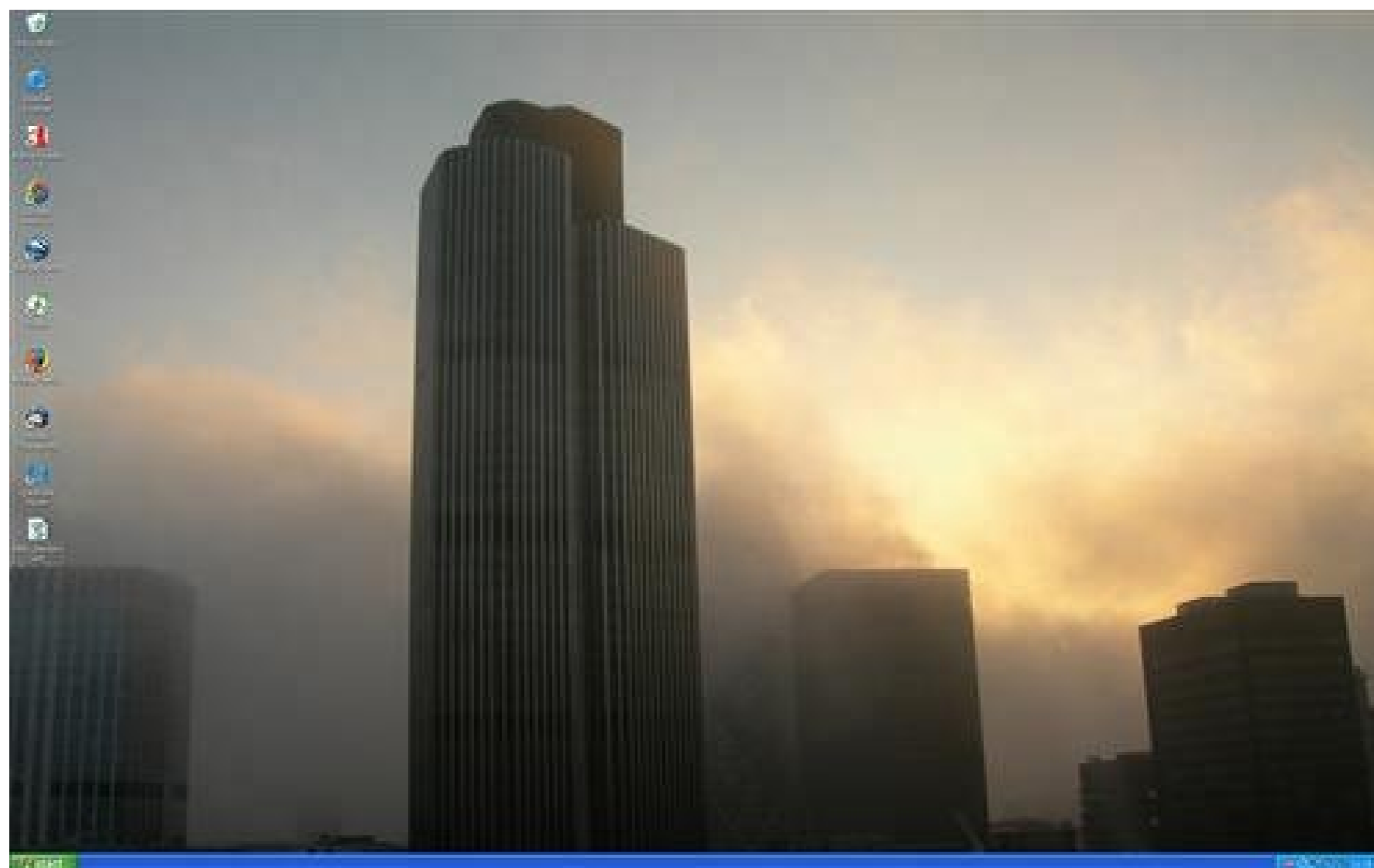
Before you run the script, make sure you understand the risks. This will replace your current desktop background with a random image from Flickr, so be sure you have a backup of your current desktop background image before otherwise, you might lose it forever.

When you're ready to run the script, double-click the script file or run it from the command line:

**Flickr\_Background.vbs**

You should see your desktop background change. If you're not happy with the image, run the script again until you settle on something you like—for example, the cityscape in Figure 3-27.

Figure 3-27. A random image tagged with "cityscape" as a background



If you want the random fun to continue, you can place this script in your *Startup* folder, and you'll find a new background every time you log into your machine. You can find your *Startup* folder at `C:\Documents and Settings\[Your Name]\Menu\Programs\`.

## Backgrounds for Macs

Windows users aren't the only ones who can experience the fun that is random desktop backgrounds. If you use Mac OS X to browse the Web and do a bit of word processing, you might not be aware that there's a powerful UI system under the hood. In fact, in addition to the Mac scripting language, AppleScript, Mac OS X ships with a Perl-based hack that takes advantage of both Perl and AppleScript to bring some randomness to your desktop.

### The code

Perl is a great language for making HTTP requests and working with the responses. But it's not as good at performing Mac system tasks, such as setting a desktop image. Luckily, a Perl module called `Mac::AppleScript` can execute AppleScript code from within your Perl scripts. To install this module, you'll need to have the Mac OS X Developer Tools (http://developer.apple.com/tools/download/) installed. Once it's installed, open a Terminal window and enter the following command:

```
sudo cpan Mac::AppleScript
```

Before you begin, you'll need to install a couple more Perl modules. As with many other Perl examples in `LWP::Simple` (<http://search.cpan.org/~gaas/libwww-perl-5.803/lib/LWP/Simple.pm>) and `XML::Simple` (<http://search.cpan.org/~grantm/XML-Simple-2.14/lib/XML/Simple.pm>) to make Flickr API requests and responses.

Once the prerequisites are installed, add the following code to a file named `flickr_background.pl`:

```
#!/usr/bin/perl
# flickr_background.pl
# Accepts a tag and sets a Mac desktop background
# with an image from Flickr that has that tag.
# Usage: flickr_background.pl <tags>

use strict;
use LWP::Simple;
use XML::Simple;
use Mac::AppleScript qw(RunAppleScript);

# Insert your Flickr API key
my $api_key = "insert your Flickr API key";

# Grab the incoming search query
my $tags = join(' ', @ARGV) or die "Usage: flickr_background.pl <query>\n";

# Construct a Flickr search query
my $req_url = "http://www.flickr.com/services/rest/";
    $req_url .= "?method=flickr.photos.search";
    $req_url .= "&api_key=$api_key";
    $req_url .= "&tags=$tags";
    $req_url .= "&tag_mode=all";
    $req_url .= "&per_page=200";

# Make the request
my $response = get($req_url);

# Parse the XML
my $xmlsimple = XML::Simple->new( );
my $xml = $xmlsimple->XMLin($response);

# Grab a random image ID from the results
my @IDs;
my $photolist = $xml->{photos}->{photo};
foreach my $id (keys %{$photolist}) {
    push @IDs, $id;
}
my $index = rand @IDs;
my $id = @IDs[$index];

# Use the random ID to build a photo URL
my $server = $photolist->{$id}->{server};
my $secret = $photolist->{$id}->{secret};
my $url = "http://static.flickr.com/";
```

```

$url .= "$server/$id" . "_$secret";
$url .= "_o.jpg";

# Save the image locally
my $time = time;
my $image = get($url);
open IMAGE, ">$tags-$time.jpg";
print IMAGE $image;
close IMAGE;

# Set the image as the current desktop background
RunAppleScript(qq(
tell application "Finder"
    set desktop picture to document file "Aqua Blue.jpg" of folder "Desktop Pictures" of
end tell));
RunAppleScript(qq(
tell application "Finder"
    set desktop picture to document file "$tags-$time.jpg"
end tell));

```

As you can see, the last few lines of the script are AppleScript inside of Perl. The first line of AppleScript image as the background, and the second line sets the newly created file as the background. This ensures background will refresh when you run the script.

## Running the hack

You can run the script from the command line, adding a desktop theme, like this:

```

perl flickr_background.pl
tags

```

Running the script with the *countryside* tag, for example, will set your background to something that loo

Figure 3-28. A random image tagged with "countryside" as a backg



While the idea of leaving your desktop background to chance might seem frightening, you might be surprised and truly background-worthy images people have posted to Flickr. This hack is a great way to spice up y

## Hack 22. Build a Flickr Screensaver



With a bit of Perl and the built-in photo screensavers available in Mac OS X or Windows XP, you can create your own screensaver that shows photos from Flickr.

Along with desktop backgrounds [Hack #21], screensavers have always been a feature of personal computers. People feel comfortable changing, tweaking, fiddling with, and hacking for fun. And with a bit of scripting, you can create a slideshow screensaver with more meaningful images than flying toasters.

This hack relies on the photo screensavers that ship with Windows XP and Mac OS X. Each screensaver looks for a directory on your computer that contains images, and displays those images on your screen during your idle moments. This hack uses Perl and the operating system's scheduling features to subscribe to a Flickr RSS feed with images. At regular intervals, the script downloads all of the images from a specific feed into a specific directory that the screensaver can use.

### The Code

This code works on both Windows XP and Mac OS X systems, but you'll need a couple of components that are not in the default Perl distribution: `LWP::Simple` (<http://search.cpan.org/~gaas/libwww-perl-5.803/lib/LWP/Simple.pm>) handles web requests, and `XML::Simple` (<http://search.cpan.org/~grantm/XML-Simple-2.14/lib/XML/Simple.pm>) parses the Flickr RSS feed.

Copy the code to a file called *flickr\_screen.pl*, and put it in a local folder path where the images will be saved. On Windows, you should specify a drive and folder, such as *C:\FlickrScreen*. On Mac OS X, you'll want to specify a full path, such as */Users/pb/Photos/FlickrScreen*.

You'll also need to specify one of the many Flickr RSS feeds available on the site. Group photo pools work well. To test, try the Kite Aerial Photography group pool feed at [http://www.flickr.com/groups/kiteaerialphotography/pool/feed/?format=rss\\_200](http://www.flickr.com/groups/kiteaerialphotography/pool/feed/?format=rss_200). Remember that the code only works with RSS 2.0 feeds only, so be sure to choose the correct format as you're scouting feeds across Flickr.

```
#!/usr/bin/perl
# flickr_screen.pl
# Downloads images in a Flickr RSS feed into a local folder
# you can use for a screensaver.

use strict;
use LWP::Simple;
use XML::Simple;

# Set screensaver directory
my $dir = "insert path to a local folder";

# Set Flickr RSS feed (with photos)
```



```

my $rss_feed = "insert Flickr RSS feed URL";

# Make the request
my $response = get($rss_feed);

# Parse the XML
my $xmlsimple = XML::Simple->new( );
my $rss = $xmlsimple->XMLin($response);

# Loop through results
foreach my $item (@{$rss->{channel}->{item}}) {
    my $title = $item->{title};
    my $photourl = $item->{'media:content'}->{url};
    my $link = $item->{link};
    my $photog = $item->{'media:credit'}->{content};
    my $guid = $item->{guid}->{content};
    if ($guid =~ m!photo/(\d{7,10})!) {
        $guid = $1;
    }
    my $file = "$dir/$guid.jpg";
    # If the file doesn't already exist, write it
    unless (-e $file) {
        getstore($photourl,$file);

        # And print out the photo info for later reference
        print "Saved $title by $photog\n$link\n\n";
    }
}
}

```

This code reads the feed you specified and downloads the images specified by each URL in the `<media:co:` each `<item>` in the feed. This is the largest size for the image available at Flickr. As it downloads each photo the photo title, the photographer name, and a link to the photo detail page to standard output. You can download and go back to find and perhaps comment on particularly interesting photos you see.

## Running the Hack

How to run the script is dependent on which operating system you're using.

### On Mac OS X

To set up your screensaver on Mac OS X, first create your Flickr screensaver photo folder. It can be any *Pictures* directory is a memorable place. Call the new folder *FlickrScreen*, and be sure to set the full path *flickr\_screen.pl*.

To get the ball rolling, open up a Terminal window (Applications → Utilities → Terminal), change to the *flickr\_screen.pl* is located (using the `cd` command), and run the script from the command line, like this:

```
perl flickr_screen.pl
```

This will download and add several photos to your *FlickrScreen* folder. You can now set up your screensaver Preferences from the Apple menu, and choose Desktop & Screen Saver. Click the Screen Saver button, and Choose Folder... option. Select your *FlickrScreen* folder in your *Pictures* directory, and you should see the downloaded appear in the preview window, as shown in Figure 3-29.

Figure 3-29. Setting a Mac screensaver folder



Your screensaver is now set, and it will display the photos you downloaded. To keep the photos fresh and you'll want to run *flickr\_screen.pl* on a regular schedule. To set a schedule, you can use the command-line. Keep your Terminal window open, and type the following command:

```
crontab -e
```

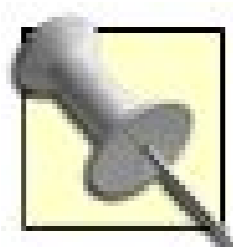
This opens your scheduled tasks for editing. To run the script every day at 8 a.m. and keep a log of the downloads, you could enter something like this:

```
0 8 * * * perl /Users/pb/Desktop/flickr_screen.pl >> /Users/pb/Desktop/screenlog.txt
```

Keep in mind, though, that the log file will fill up as the script runs every day. You might want to periodically delete old entries.

Be sure to include your own paths for the files. *cron* is a bit cryptic, but it works well for setting recurring

Now that the job is set, you can forget about the scripting and let *flickr\_screen.pl* download photos from basis.



The default command-line editor on Mac OS X is *vim*, and it can be an intimidating interface if you're not familiar with it. To save your *cron* entry, hit the Esc key and then press **i** to insert **s** for **s**ave your *cron* entry, and when you're done, hit Esc again. Then type **:wq** to save (write) the

When the script runs, it will save information about the photos it finds to *screenlog.txt*, and you can use that to trace an interesting photo back to its detail page at Flickr.

## On Windows XP

The process for setting up the screensaver on Windows is almost identical to the Mac OS X version. Unlike Mac OS X, Windows XP does not come with Perl installed, so you might need to do a bit more work to get started. On Windows, you can download the free ActivePerl for Windows by ActiveState from <http://www.activestate.com/Products/ActivePerl/>.

Once Perl is installed, create your new screensaver folder somewhere in your filesystem; *C:\FlickrScreen*. Then run *flickr\_screen.pl* from a command line (Start > Programs > Accessories > Command Prompt) to do

```
perl flickr_screen.pl
```

Now that some photos exist in the folder, set your screensaver by right-clicking any empty space on your desktop and selecting Properties. Choose the Screen Saver tab, and select My Picture Slideshow from the list of screensavers. Click the button, and you should see the options pictured in Figure 3-30.

Figure 3-30. Windows XP Screen Saver options



Under the "Use pictures in this folder" heading, click Browse and choose the Flickr screensaver folder y and your screensaver will now show the photos you just downloaded from Flickr.

To run the script on a regular schedule, you can use the Windows version of *cron*, called *schtasks*. Go to a command prompt, and type the following command:

```
schtasks /create /tn "FlickrScreen" /tr "perl c:\flickr_screen.pl >> c:\screenlog.txt" /
```

This command tells Windows to run *flickr\_screen.pl* every day at 8 a.m. and save the output to a file called *screenlog.txt*.

It takes a bit of work on either system to set up a custom Flickr screensaver, but you'll be rewarded with daily basisthough, sadly, no flying toasters. However, the Toaster Group pool (<http://www.flickr.com/groups/toaster/>) might come close.

## Hack 23. View Flickr Photos on TiVo



Flickr Central for TiVo's Home Media Engine lets you view Flickr photos on your television.

More and more, we share digital versions of the pictures we take. While it's easy to pass around printed photos in any setting, showing digital photos to friends and family can be trickier. Most computers are set up for one user at a time, and it's not always easy to crowd a bunch of people around the monitor.

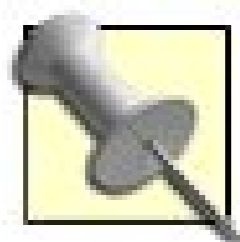
However, our televisions are almost always set up to accommodate a good number of comfortable viewers. And if you've already joined the digital television age with TiVo, with a bit of setup you can browse Flickr photos on your TV.

### What You Need

Flickr on TV is possible thanks to TiVo's release of the Home Media Engine (HME), a way for outside developers to create little programs that run on TiVo. Developers have created games, weather applications, and even RSS readers that you can use through your TV. The HME system uses your home PC to run the applications and a home network to transfer data, and the TiVo displays the applications on your television.

To run HME, you'll need a TiVo Series 2 that's connected to your home network. If you're using the phone line to update your program data, you'll need to add a network adapter to your TiVo setup. You'll find a list of compatible adapters at <http://customersupport.tivo.com/knowledge/root/public/tv2006.htm>. [Figure 3-31](#) shows a TiVo Series 2 with a Linksys WUSB12 wireless network adapter.

Figure 3-31. A Series 2 TiVo with a wireless network adapter



In addition to running HME applications, a network adapter will allow you to download the television schedule over your Internet connection instead of your phone line. That means no more battles with TiVo over who gets to use the phone!

Once your TiVo is on your home network, you'll want to be sure you can run HME applications. Browse to the HME project page (<http://tivohme.sourceforge.net>), and click the HME Quick Start link under the For Hobbyists heading. Take a look at the system requirements, download HME Quick Start, and follow the instructions. If you run HME Quick Start and see a new option under your TiVo Music, Photos & More menu, you'll know you have everything set to run Flickr Central.

## Starting Flickr Central

Once you've confirmed that your TiVo can run HME applications, download the Flickr Central application from [http://home.comcast.net/~major\\_clanger/TiVo/](http://home.comcast.net/~major_clanger/TiVo/). Unzip the file, open the new *FlickrCentral* directory, and double-click *run.bat*. You should see the Flickr Central launcher shown in [Figure 3-32](#).

Figure 3-32. Flickr Central launcher



To use all of the features available, choose the Authenticate User option and add Flickr Central to your list of approved applications. To have a few more features, you can enter your Flickr username, or, for a bare-bones version, choose the "No login" option (but be aware that with this option you'll be able to view only a couple of public photo sets).

Once Flickr Central is running, you should see "Welcome to Flickr Central" with a note that the application is running. Now, leave your PC, turn on your TV, and hit the TiVo button on your remote.

## Navigating Flickr Central

From the main TiVo menu, choose Music, Photos & More. You should see the option for Flickr Central at the top of the page. Select Flickr Central to bring up the initial menu shown in [Figure 3-33](#).

Figure 3-33. Flickr Central main menu



You can access much of what you find on the Flickr web site through Flickr Central, though navigation is much different. Click Photos to see the options for viewing photos, as shown in [Figure 3-34](#).

Figure 3-34. The Flickr Central Photos menu





The Everyone's option will show you the photos found at <http://www.flickr.com/photos/> (i.e, the most recent photos from anyone posting to Flickr). The Contacts' option will show you photos from your contacts, like you'd find at <http://www.flickr.com/photos/friends/>.

You can also view your own photos in order or at random and browse photos you've marked as favorites. Choosing the Tags option will take you to a menu where you can enter any tag you'd like to search for, as shown in [Figure 3-35](#).

Figure 3-35. Entering a tag at Flickr Central



Each photo that you view takes up the entire television screen; there are no thumbnail views of photos in Flickr Central. While you're browsing a photostream or set, you can click the right or left arrow on the remote control to change the direction of browsing. The up arrow ends your trip through the photos.

If you click the info button, you'll get a screen that includes the title, the description, and the name of the Flickr member who posted the photo, as shown in [Figure 3-36](#).

Figure 3-36. Viewing photo details with Flickr Central



From the main menu, you can also view the latest photos posted to your groups, view your photo sets, or browse a list of your contacts, as shown in [Figure 3-37](#).

Figure 3-37. Browsing Flickr contacts at Flickr Central



You can use Flickr Central to monitor any new Flickr activity, but it doesn't work well for participation. For example, you can't post photos, comment on others' photos, or add notes or tags to any photos.

Despite these limitations, Flickr Central is a great way to view what's happening on Flickr on TV, and it might be handy for family gatherings as a new way to share your photos.

 PREVIOUS

# Chapter 4. Community

[Hacks 24-29](#)

[Hack 24. Add and Track Contacts](#)

[Hack 25. Track Your Friends' Favorites](#)

[Hack 26. Find Your Friends' Favorite Tags](#)

[Hack 27. Map Your Contacts](#)

[Hack 28. Find Flickrites in Your Mac Address Book](#)

[Hack 29. Surf Your Contacts](#)

← PREV

## Hacks 24-29

Flickr is part of a new category of web applications called *social software*. It's considered social because Flickr lets you connect with other members in a number of ways. Sharing is built into the fabric of Flickr. Instead of posting your photos to a personal, isolated gallery, you can share them with friends by passing around your URL. By inviting people [\[Hack #24\]](#) to participate at Flickr, you can build a contact list, and by posting comments and adding other members to your contact list you can meet other photographers and have conversations about photos across Flickr.

This chapter will show you how to add contacts at Flickr and follow their activity both on and off Flickr. You'll find out how to track your friends' favorite photos [\[Hack #25\]](#), visualize where your Flickr friends are located [\[Hack #27\]](#), and even compile a list of your Flickr contacts' web sites [\[Hack #29\]](#).

By extending the social features of Flickr, you'll discover some new things about your Flickr contacts and see their photos in a new light.

## Hack 24. Add and Track Contacts



Half the fun of using Flickr is staying in touch with friends and family by watching their photographs.

Your Flickr contact list represents the other Flickr members that you want to keep track of. If you add your friends, family, and other photographers you admire to your list, keeping up with their new photos is a snap.

### Adding Contacts

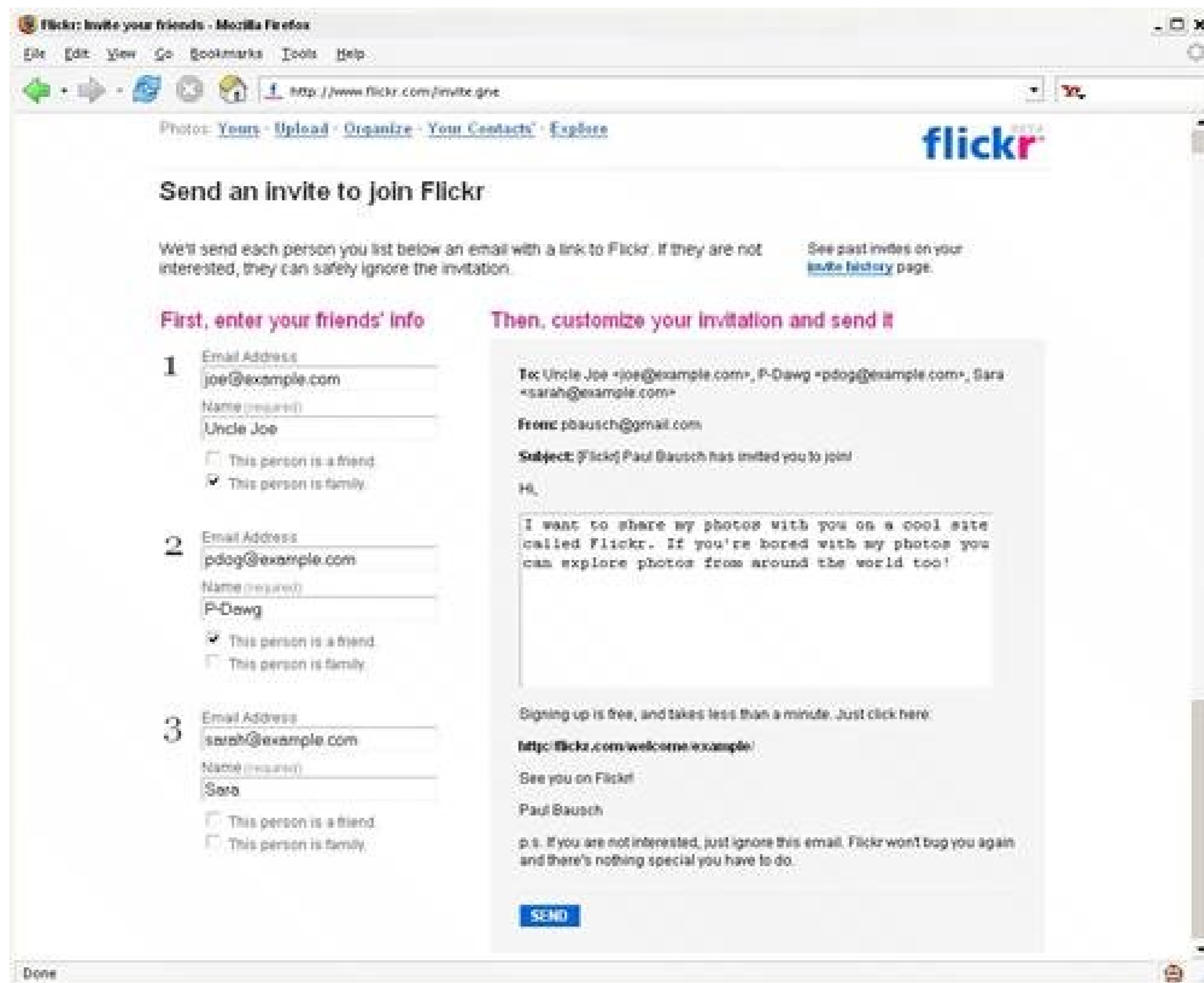
As you explore photos on Flickr, you might spot a particular photographer whom you'd like to keep up with as she adds new photos. To add any Flickr user to your contact list, you first need to get to that user's photostream.

From any photo's detail page, look for a byline in the upper-right corner. The byline will say, "Uploaded on [date] by [member]." Clicking the member's name brings you to her photostream. At the top of the photostream you'll see a link to add that member as a contact. Click the link, mark her as a friend or family member if you want, and then click OK. That member will now be listed among your contacts.

Keep in mind that adding someone as a Flickr contact is a one-way operation. If you add someone to your contact list, you won't automatically appear on her contact list; she'll receive a notification that you've added her, but she'll have to manually add you as a contact if she wants to.

If you want to add someone to your contact list who isn't yet a member, you can send an email invitation. Click Invite from the top of any Flickr page to bring up the Invitation page shown in [Figure 4-1](#).

Figure 4-1. Inviting contacts via email



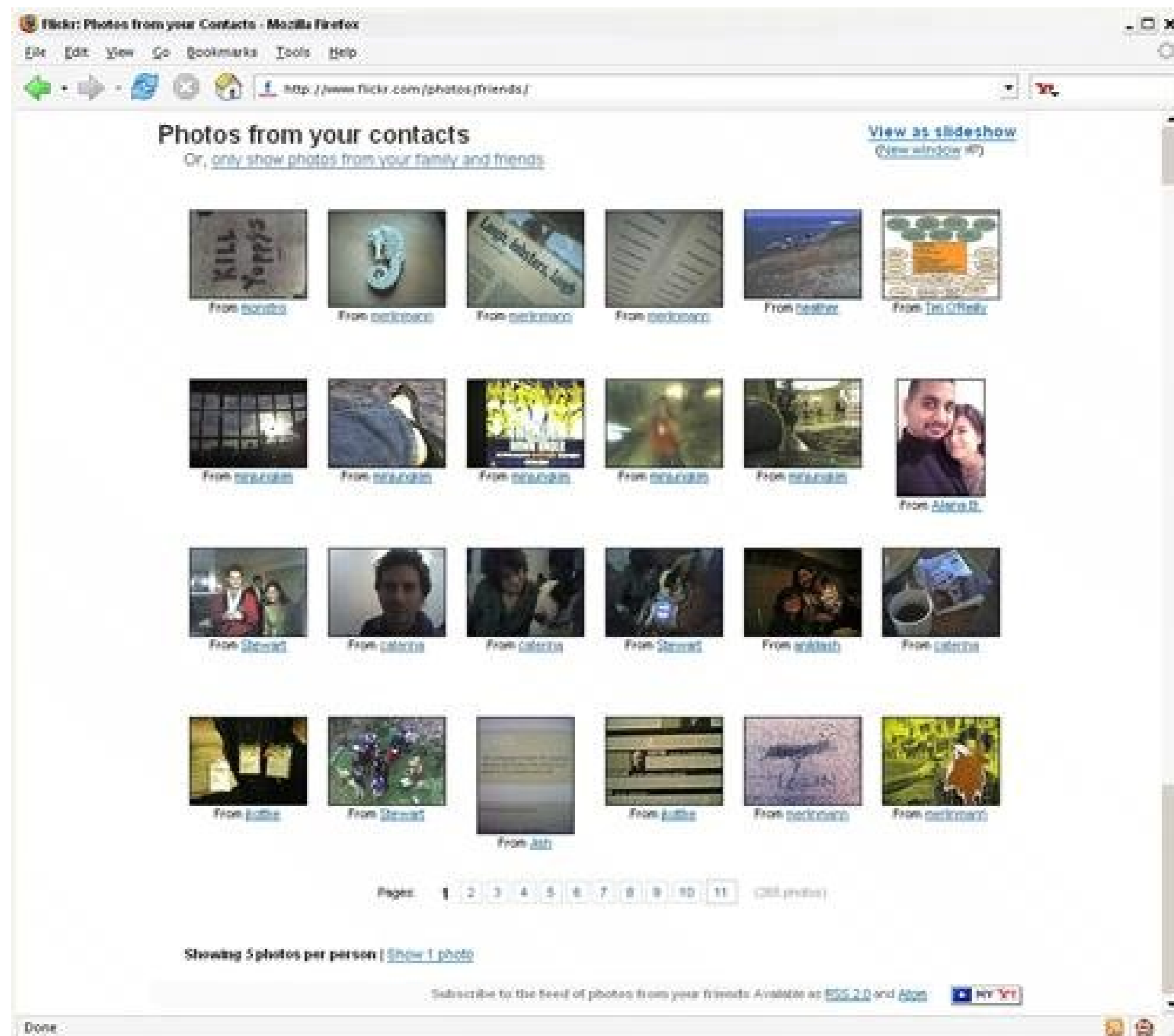
Enter up to three email addresses (and their Friend or Family status, if applicable), customize the message, and click Send. The people you listed will receive emails from Flickr asking them to join. Once they join, they'll be added to your contact list with the relationships you specified. Specifying people as Friend or Family means they'll be able to see photos that are just for them [[Hack #2](#)].

## Watching Contacts' Photos

Once you have a list of contacts, you can keep up with their daily postings on your contacts page ([Figure 4-2](#)).

Figure 4-2. All of your contacts' recent photos appear on one page

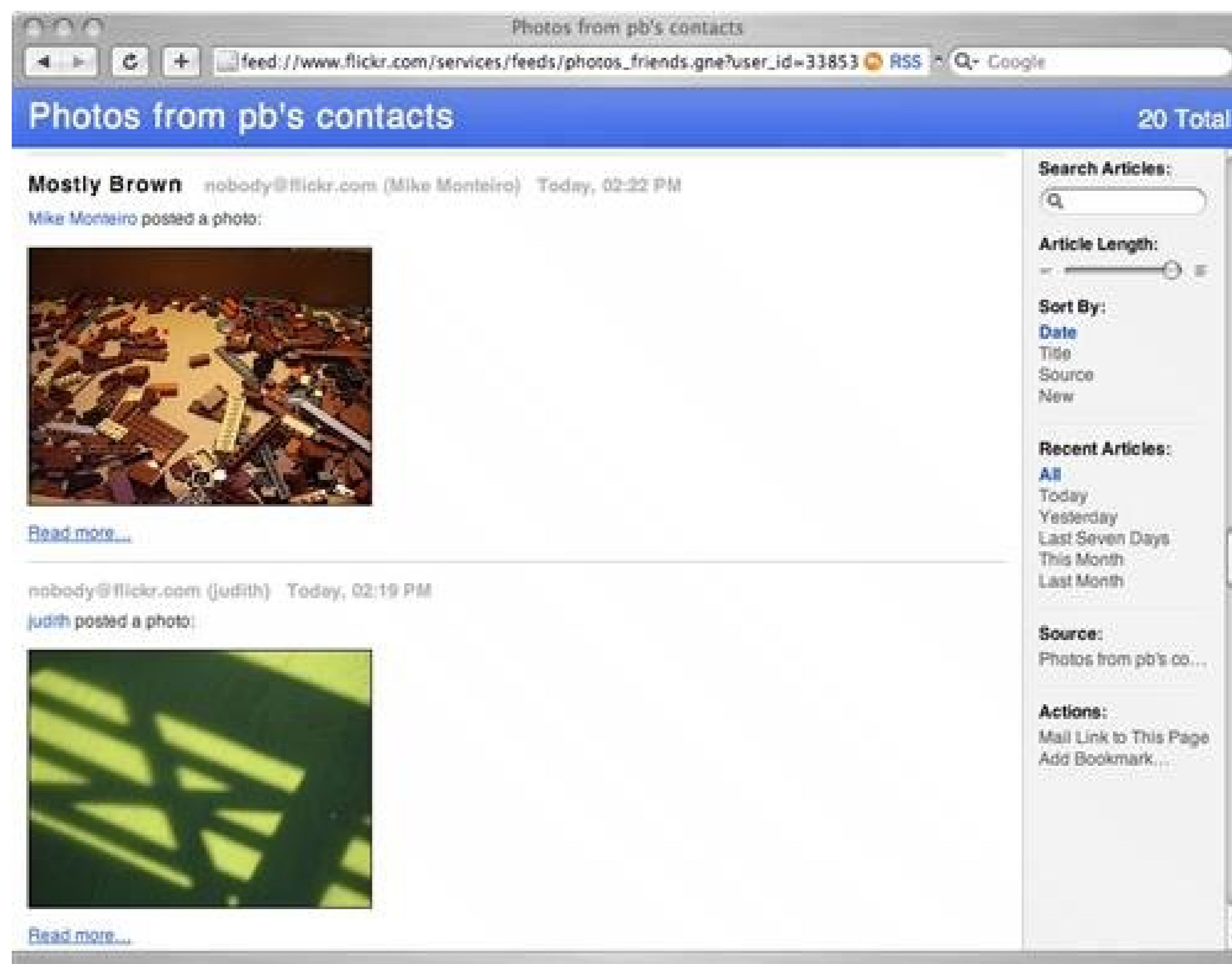




Click 'Your Contacts' at the top of your Flickr home page to see recent photos. You can choose to limit the page to contacts you've designated as friends or family members, or to limit the page to one photo per contact. Viewing your contacts' recent photos is a great way to see what your friends and relations have been up to lately.

If you'd rather not have to visit Flickr to keep up with your contacts, you can use the RSS and Atom links at the bottom of the contacts page to keep up with their photos in a newsreader [\[Hack #17\]](#). [Figure 4-3](#) shows the contacts feed in the Safari web browser, which doubles as an RSS newsreader.

Figure 4-3. Viewing contacts' photos via RSS



Clicking on any of the photos in the feed will take you to that photo's detail page.

## Watching Contacts' Activity

Friends, family, and other Flickr members can interact with your photos by leaving comments. Click the "Recent activity" link next to the "Your photos" link on your Flickr home page to see the latest comments on your photos. As with many other spaces around Flickr, you can also subscribe to your recent activity via RSS or Atom [[Hack #17](#)], so you can keep up with comments in your preferred newsreader.

Recent activity feeds are typically used to keep tabs on one's own photos, but you can use those feeds to see recent activity with your contacts' photos, too. This will let you know which of your contacts' photos are getting the most comments, and what people are saying about them.

To start reading others' recent activity feeds, you need to know a bit about Flickr member IDs. In addition to the member ID you see on a user's photostream (e.g., *pb*), every Flickr member has an internal NSID an alphanumeric string that represents that user behind the scenes (e.g., *33853652177@N01*). Once you have an NSID in hand, you can build your own recent activity feed URL.

A quick way to find your own NSID is to browse to your Flickr home page, choose View Page Source on your browser's menu, and search for the variable `global_nsid` toward the top of the page. Whatever this variable is set to is your Flickr NSID.

To find someone else's NSID, browse to his photostream and click on the Profile link on the right side of the page. From the Profile page, you'll find a link that says, "Send [member] a message." Right-click the link, choose Copy Link Location or Copy Shortcut from the menu, and paste the link into a text editor such as Notepad. You should see a URL like this:

```
http://www.flickr.com/messages_write.gne?to=33853652177@N01
```

Everything after the equals sign is the member's NSID. Jot down the member's name and the NSID, and go to your favorite RSS newsreader. Here's the format for recent activity feed URLs:

```
http://www.flickr.com/recent_comments_feed.gne?id=insert NSID&format=rss_200
```

Insert the NSID, and add the URL to your newsreader. Repeat the process for as many of your contacts as you want to watch. If possible, group the feeds together so you can browse them all at once. [Figure 4-4](#) shows a group of contact activity feeds in the RSS reader Bloglines (<http://www.bloglines.com>).

#### Figure 4-4. Watching contacts' activity at Bloglines

The feeds will still be titled "Comments on your photos," but don't let the title fool you—you'll see

seeing your contacts' photos and recent comments people have left about them. It's a good way to see which of your contacts' photos are generating the most conversation.

## See Also

- [\[Hack #17\]](#)



[← PREVIOUS](#)

## Hack 25. Track Your Friends' Favorites



With a weblog tool called Blossom and some extra Perl, you can set up a page to show your Flickr photos.

Flickr makes it easy to see new photos posted by your contacts simply log in and click the Your Contacts' browse directly to <http://www.flickr.com/photos/friends/> ) to keep up with your friends' photos. Flickr also lets you mark your favorite photos by clicking the "Add to Favorites" button above any photo. It's not easy to see which photos your contacts have marked as favorites, though you have to view each of your contacts' favorites lists individually by going to each contact's page and clicking the Favorites link at the top right.

If you find this a bit cumbersome, instead of viewing all of your friends' favorites pages individually and clicking on each one, you can let some scripting assemble them for you. You'll need to do some work to put the pieces into place, but the result is a page that automatically shows any photos your contacts mark as favorites. Watching your friends' favorites is interesting to your circle of contacts, and you can use the page to be sure you're not missing great photos.

This hack uses the Flickr API to gather a list of contacts and find those contacts' favorite photos. The weblog (<http://www.blossom.com> ) then displays the latest photos in reverse-chronological order, like posts on a weblog.

### What You Need

The first step to implementing this hack is setting up Blossom to run on your server. Blossom is an extremely simple weblog tool; in fact, it's only one Perl script (so, of course, you'll need web space that can run Perl CGI scripts).

To set up Blossom, grab a copy of the script *blossom.cgi* from <http://www.blossom.com> and modify the settings to match your environment. You'll find the settings under the "Configurable variables" heading. Be sure to save the file in the location where the script is installed.

You also might want to reduce the default number of entries shown on the home page from 40 to 25; because each entry is a photograph, a lower number will help the page load faster. With those settings configured, copy *blossom.cgi* to your server. If you run into trouble, click the Install link on the left side of the Blossom home page for details on installing on various operating systems.

One key to Blossom's simplicity is that the system stores posts as text files in the filesystem. There's no database or need to understand how to access a database.

To add posts to a Blossom weblog, you simply create a text file in the proper location. Blossom recognizes the contents of the file at the top of the weblog. Thus, to create an automated weblog, you need a script that creates these files.

### The Code

This Perl script finds all of the contacts for a specific Flickr user, finds those contacts' favorite photos, and

photos as text files.

You'll need a few nonstandard Perl modules before you can run the script. The first is `Flickr::API` (<http://API/lib/Flickr/API.pm>), a module that makes working with the Flickr API a snap. The second is `XML::Parser` (<http://search.cpan.org/~iamcal/XML-Parser-Lite-Tree-XPath-0.02/XPath.pm>), a module that helps nav XML.

Create a text file called *getFavorites.pl* and add the following code. Be sure to include your own Flickr NS (<http://www.flickr.com/services/api/>) and the absolute path to your Bloxom directory, including a trailir

```
#!/usr/bin/perl
# getFavorites.pl
#
# Find out which photos your Flickr contacts are
# marking as favorites. This script contacts the
# Flickr API, gets a list of your contacts, and
# finds their favorite photos. You can get a Flickr
# API key and look up your Flickr NSID at:
#
# http://www.flickr.com/services/api/
#
# This script works in conjunction with the weblog
# system Bloxom to display the photos. You can
# download Bloxom and find out how to install it at:
#
# http://www.bloxom.com/
#
# Usage: getFavorites.pl

use strict;
use Flickr::API;
use Flickr::API::Response;
use XML::Parser::Lite::Tree::XPath;

# --- Configurable variables -----
my $nsid = 'insert your Flickr NSID';
my $api_key = 'insert your API key';
my $dir = 'insert path/to/bloxom/directory/';

# --- Script begins -----
# Get list of your contacts
my $api = new Flickr::API({'key' => $api_key});

my $response = $api->execute_method('flickr.contacts.getPublicList', {
    'user_id' => $nsid,
});

# Make sure there's a response
if (!$response->{success}) {
    die "Contact list not found! $response->{error_message}";
}
```

```

# Parse the response and loop through contacts
my $xpath = new XML::Parser::Lite::Tree::XPath($response->{tree});
my @contacts = $xpath->select_nodes('/contacts/contact');
foreach (@contacts) {
    my $username = $_->{attributes}->{username};
    my $usersid = $_->{attributes}->{nsid};
    my $userdir = $username;
    $userdir =~ s/^\s+//g; # trim leading spaces
    $userdir =~ s/\s+$//g; # trim trailing spaces
    $userdir =~ s/://g; # transform other spaces
    $userdir =~ s/'//g; # transform apostrophes
    $userdir =~ s/\\//g; # transform slashes
    $userdir =~ s/\\/g; # transform question marks
    $userdir =~ s/\*//g; # transform asterisks
    $userdir =~ s/\\.//g; # transform periods
    $userdir =~ s/\\s/_/g; # underscore spaces, etc.

    my $full_dir = $dir . "/" . $userdir;
    unless (-d $full_dir) {
        mkdir($full_dir);
    }

    # Find this contact's favorites
    my $user_res = $api->execute_method('flickr.favorites.getPublicList', {
        'user_id' => $usersid,
        'extras' => 'owner_name',
    });

    # Make sure there's a response
    if (!$user_res->{success}) {
        warn "Favorite photos not found! $user_res->{error_message}";
    }

    # Parse the response and loop through photos
    my $userxpath = new XML::Parser::Lite::Tree::XPath($user_res->{tree});
    my @photos = $userxpath->select_nodes('/photos/photo');
    my $cntPhoto = 0;
    foreach (@photos) {
        my $id = $_->{attributes}->{id};
        my $title = $_->{attributes}->{title};
        my $server = $_->{attributes}->{server};
        my $secret = $_->{attributes}->{secret};
        my $owner = $_->{attributes}->{owner};
        my $ownername = $_->{attributes}->{ownername};
        my $img_src = "http://static.flickr.com/$server/$id\_$secret\_m.jpg";
        my $href = "http://www.flickr.com/photos/$owner/$id/";
        # Make sure there's a title
        if (!$title) {
            $title = $id;
        }

        # Write post file with image HTML

```

```

my $file = "$full_dir$id.txt";

unless (-e $file) {
    open FILE, ">$file" or warn "Can't open $file\n";
    print FILE <<"END_POST";
}

$title

<a href="$href"></a><br />
<div class="clsByline">photo by <a href="http://www.flickr.com/photos/$owner/">$owner's
<div class="clsFavline">favorite of <a href="http://www.flickr.com/photos/$usersid/fav
END_POST
        close FILE;
    }
    $cntPhoto++;
    last if ($cntPhoto == 5);
}
}

```

This script creates a directory for every Flickr member in your contact list. Be aware that if you have 300 contacts, you'll have 300 directories on your server. In each directory, the script will write one text file for every favorite photo. Each file includes the title of the photo and a bit of HTML to display the photo. Each bit of HTML includes a link to the photo's photostream, and to the complete list of favorites by the person who marked the photo as a favorite. By running the script regularly, you can keep your weblogs organized by organizing the mass of folders and text files into something coherent.

## Running the Hack

To run the script, simply call it from a command line like this:

```
perl getFavorites.pl
```

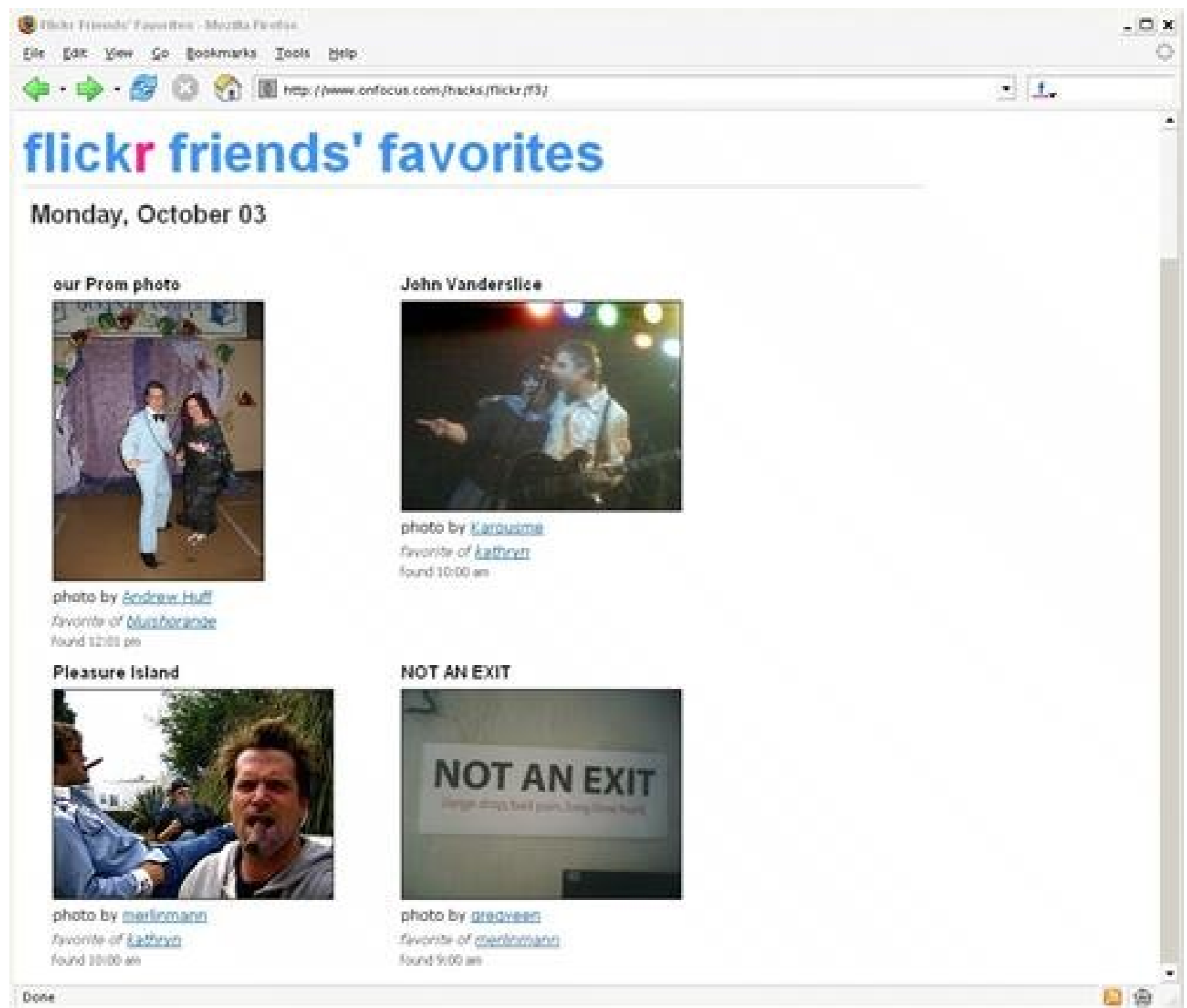
The first time you run the script, it will generate text files for every favorite photo it can find. Flickr does not allow photos to be marked as favorites on a certain date, so there's no way to backdate photos as marked as favorites on a certain date. When the script initially displays the list, it won't be very meaningful. You'll simply see potentially hundreds of photos. When you run the script in the future, any new favorite that's displayed will be noted with the time it was found.

To take advantage of the script, you'll want to run it on a regular schedule every hour or two. You can do this with cron on Unix systems, or with the Windows Scheduler on Windows systems.

Visit the Bloxom script in a web browser to see the photos. With the script up and running regularly, you'll see a listing of any photos your contacts mark as favorites, as shown in Figure 4-5.

Figure 4-5. Friends' favorites weblog





You'll probably need to tweak the default templates in Blossom to change the look and feel of your friend's robust template system that lets you control every aspect of the display. In fact, Blossom includes a built-in RSS feed of your friends' favorites available at:

<http://www.example.com/blossom.cgi?flav=rss>

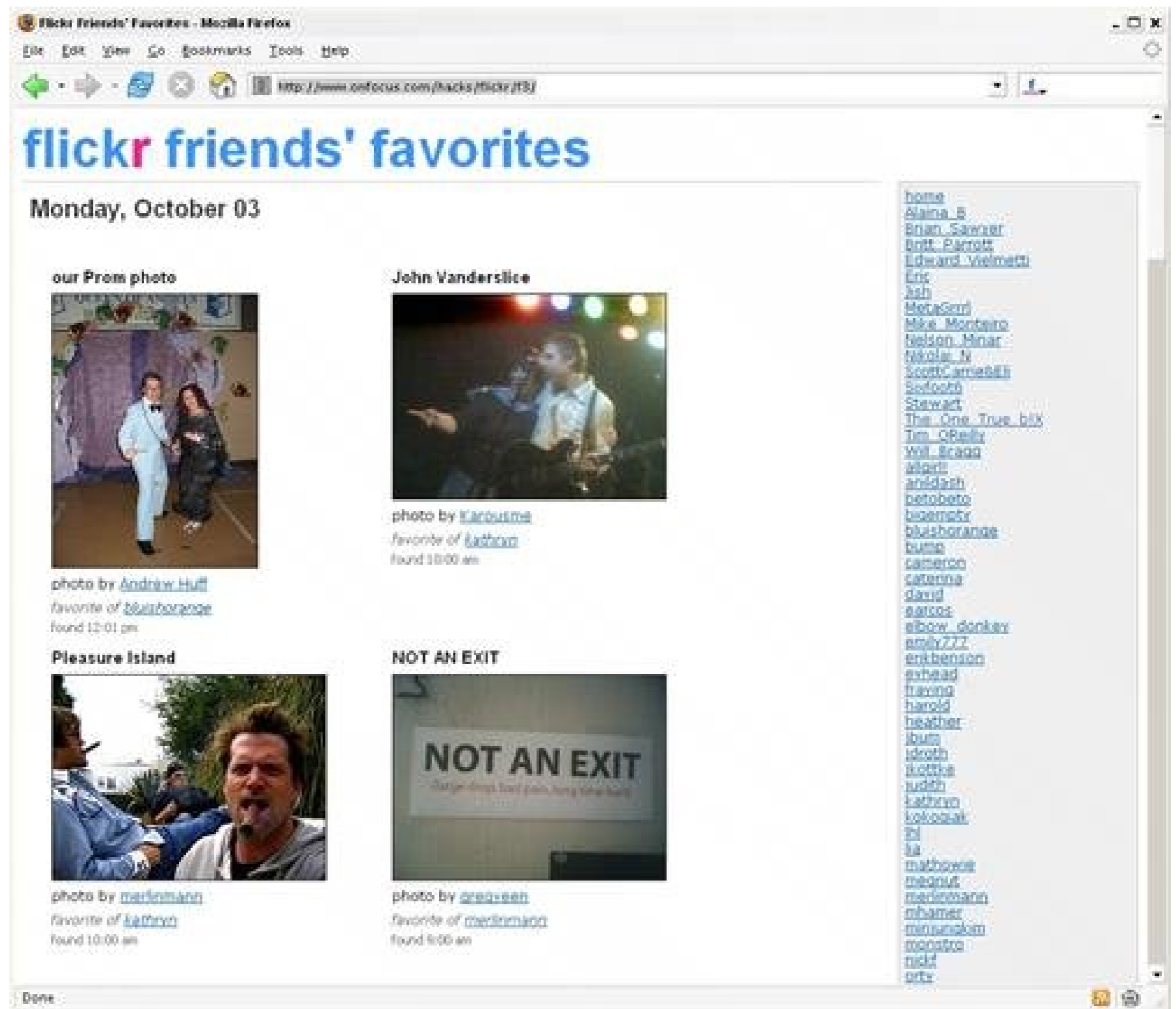
You'll also find a number of prebuilt templates you can choose from at the Blossom web site.

As you watch your friend's favorites, you'll see a number of photos that you wouldn't have otherwise, as a random sampling of photos across Flickr.

## Hacking the Hack

Blossom is a very hackable system, and there are dozens of plug-ins available that can add even more features to your weblog. For example, a plug-in called *categorylist* can print a list of all the folders under the Blossom directory. You could have a list of all your contacts running down the side of the page, and clicking one contact's name would show that person's favorites on one page, as shown in Figure 4-6.

Figure 4-6. Flickr friends' favorites sidebar



Visit the Bloxom plug-in registry at <http://www.bloxom.com/plugins/> for a look at some of the other av

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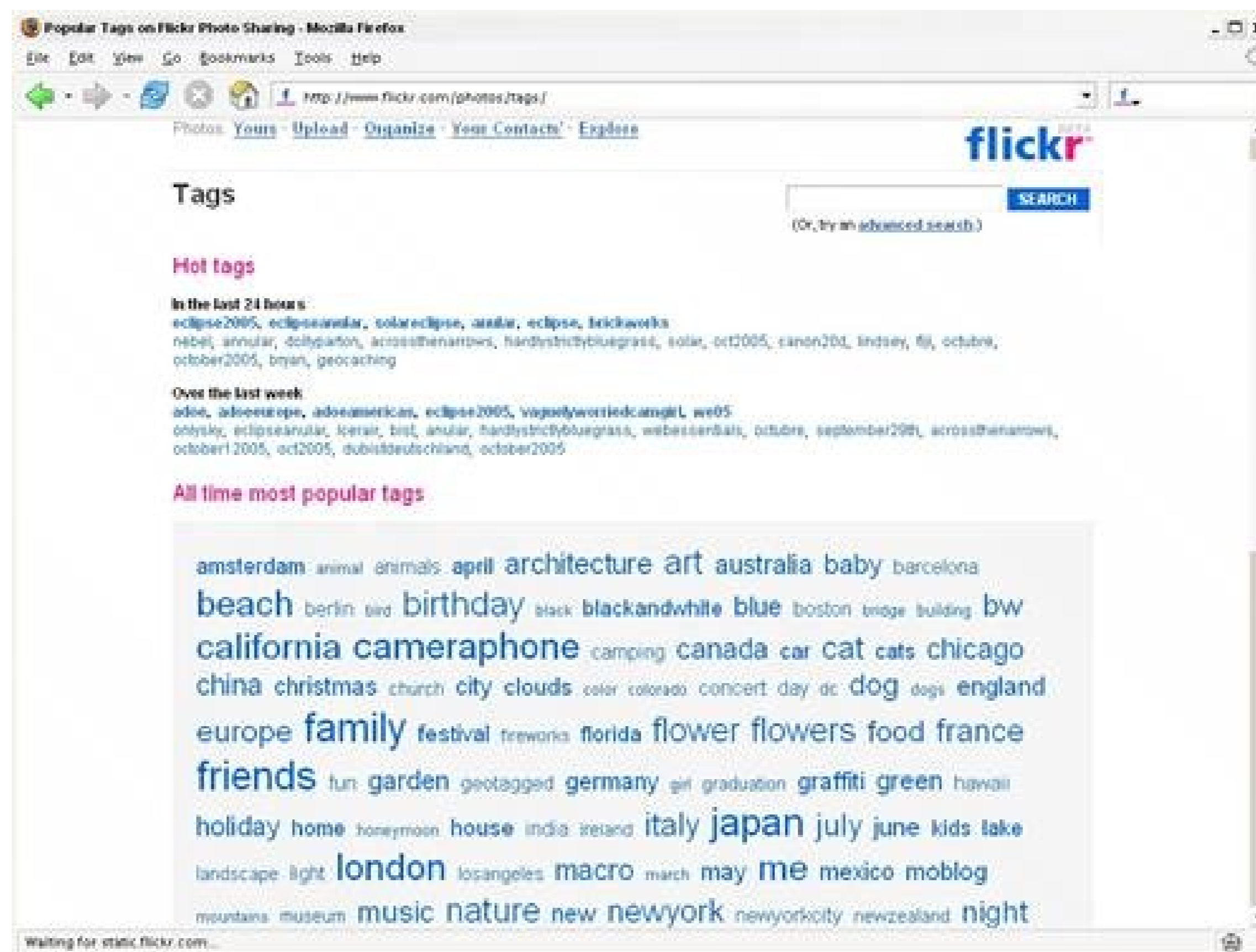
## Hack 26. Find Your Friends' Favorite Tags



With some Perl and the Flickr API, you can see which tags are most popular among your contacts.

Tagging individual photos [Hack #10] on Flickr can help you organize your own photos. It also means Flickr can show interesting group patterns, like the Tags page shown in Figure 4-7.

Figure 4-7. Popular tags page



With this page, at a glance you can see which tags are being used most often by all Flickr members. With scripting, you can narrow down this list and find out which tags are being used most by just your Flickr contacts. A list of contacts' tags is a good way to visualize what your friends are interested in, and it's a bit more precise than the overall tags page.

### The Code

To run this hack, you'll need a couple of nonstandard Perl modules. Make sure you have `Flickr::API` (<http://search.cpan.org/~iamcal/Flickr-API/lib/Flickr/API.pm>) for working with Flickr, and

XML::Parser::Lite::Tree::XPath (<http://search.cpan.org/~iamcal/XML-Parser-Lite-Tree-XPath-0.02/XPc>) sorting through the API responses.

With those two modules in place, copy the following code to a file called *friends\_tags\_list.pl*. Add your NSID and Flickr API key (both of which you can find at the Flickr API site, <http://www.flickr.com/services/api/>) to the code.

```
#!/usr/bin/perl
# friends_tags_list.pl
#
# Find out which tags your Flickr contacts are
# using most often. This script contacts the
# Flickr API, gets a list of your contacts, and
# finds their most popular tags. The script then
# adds up the totals and lists the tags by the
# most popular. You can get a Flickr
# API key and look up your Flickr NSID at:
#
# http://www.flickr.com/services/api/
#
# Usage: perl friends_tags_list.pl

use strict;
use Flickr::API;
use Flickr::API::Response;
use XML::Parser::Lite::Tree::XPath;

# Set your NSID
my $nsid = 'insert your NSID';
my $api_key = 'insert your Flickr API key';
my @tags;
my @sortTags;

# Get your list of contacts
my $api = new Flickr::API({'key' => $api_key});

my $response = $api->execute_method('flickr.contacts.getPublicList', {
    'user_id' => $nsid,
});

# Make sure there's a response
if (!$response->{success}) {
    die "Contact list not found! $response->{error_message}";
}

# Parse the response and loop through contacts
my $xpath = new XML::Parser::Lite::Tree::XPath($response->{tree});
my @contacts = $xpath->select_nodes('/contacts/contact');
foreach (@contacts) {
    my $usersid = $_->{attributes}->{nsid};

    # Find this contact's tags
    my $user_res = $api->execute_method('flickr.tags.getListUserPopular', {
```

```

        'user_id' => $usersid,
    });

# Make sure there's a response
if (!$user_res->{success}) {
    warn "Tags not found! $user_res->{error_message}";
}

# Parse the response and loop through photos
my $userxpath = new XML::Parser::Lite::Tree::XPath($user_res->{tree});
my @utags = $userxpath->select_nodes('/who/tags/tag');
foreach (@utags) {
    my $match_index = 0;
    my $usertagcount = $_->{attributes}->{count};
    my $usertag = $_->{children}[0]->{content};

    # Make sure there's only one entry for each tag
    for my $i ( 0 .. $#tags) {
        if ($tags[$i]->{tag} eq $usertag) {
            $match_index = $i;
        }
    }

    # If a tag already exists, add to the total
    # otherwise, add the new tag to the hash
    if ($match_index > 0) {
$tags[$match_index]->{tagcount} = $tags[$match_index]->{tagcount} + $usertagcount;
    } else {
        my $thisTag = {
            tag => $usertag,
            tagcount => $usertagcount,
        };
        push @tags, $thisTag;
    }
}
}

# --- Begin Output -----

# Sort the hashes numerically to put popular tags first
@sortTags = sort { $b->{'tagcount'} <=> $a->{'tagcount'} } @tags;

# Print the tags in a simple text list
foreach (@sortTags) {
    my $tagcount = $_->{tagcount};
    my $tag = $_->{tag};
    print "$tag ($tagcount)\n";
}

```

The script fetches a list of contacts for the given NSID and uses the `flickr.tags.getListUserPopular` API find the 10 most popular tags for each contact. The script also adds the totals of the tags to see which t

most popular across all of your contacts.

## Running the Hack

To run the script, call it from a command prompt, piping the output to a text file, like so:

```
perl friends_tags_list.pl > friends_tags.txt
```

Take a look at *friends\_tags.txt* and you should see something like the following list of tags:

```
cameraphone (7676)
sanfrancisco (3345)
archive (2999)
7610 (2628)
nyc (1765)
sxsw (1608)
2001 (1512)
sxswi (1259)
travel (1248)
sf (1212)
moblog (1198)
europe (1109)
sxswinteractive (1018)
livemusic (986)
austintx (945)
oregon (733)
sharptm150 (636)
dog (606)
2005 (570)
s700i (559)
lifeblog (523)
nokia6630 (522)
seattle (479)
...
```

You'll see your contacts' most popular tags, along with the number of times each tag has been used by you. You might learn some things about your friends that you didn't know already, and you might find some tags you can start using as well.

## Hacking the Hack

If you want to display your contacts' tags in a tag map with relative font sizes similar to the Tags page, you can tweak this script a bit to output HTML instead of text. Replace everything after the `# --- Begin Output` comment with the following code:

```
# --- Begin Output -----
# Sort the hashes alphabetically
```

```

@sortTags = sort { $a->{'tag'} cmp $b->{'tag'} } @tags;

# Print the top of the page
print <<"END_HEADER";
<html>
<head>
  <style type="text/css">
    body { font-family:arial; width:760px;}
    h3 { font: normal 18px Arial, Helvetica, sans-serif; color: #FF0084; margin-bott
  </style>
</head>
<body>
<h3>My Contacts' Tags</h3>
END_HEADER

# Print the tags as an HTML Tag Map with relative sizes
foreach (@sortTags) {
  my $fontsize;
  my $tagcount = $_->{tagcount};
  $tagcount /= 10;
  my $tag = $_->{tag};
  my $minfontsize = 9;
  my $fontsize = 9 + $tagcount;
  if ($fontsize >= 60) {
    $fontsize = 60;
  }
  $fontsize = sprintf("%.0f", $fontsize);
  print "<a href=\"http://www.flickr.com/photos/tags/$tag\"";
  print "style=\"font-size:$fontsize";
  print "px;font-weight:normal;text-decoration:none;";
  print "line-height:110%;\">$tag</a>&nbsp; \n";
}

# Print the bottom of the page
print <<"END_FOOTER";
</body>
</html>
END_FOOTER

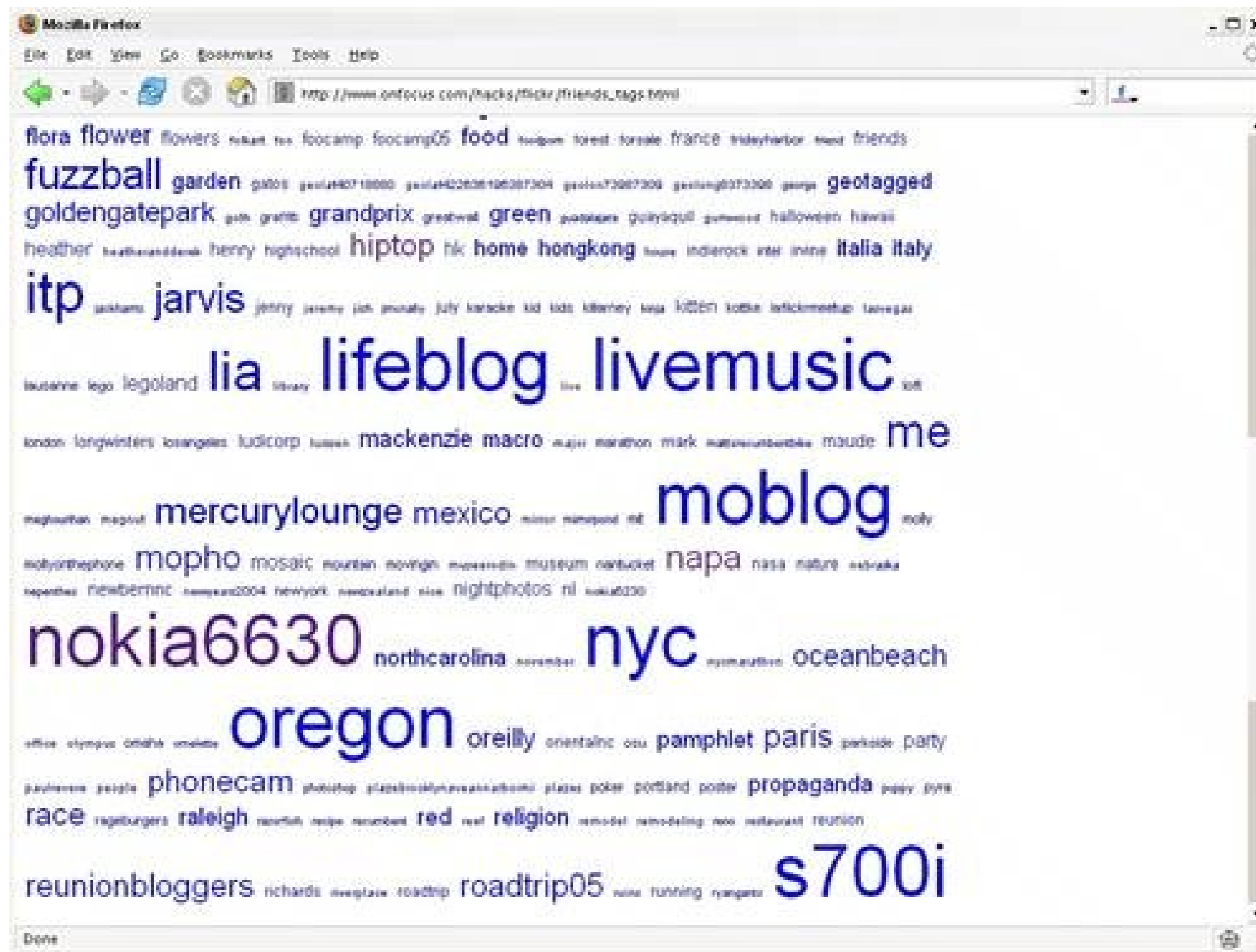
```

This new code sorts the tags alphabetically instead of by the number of times each tag has been used by contacts. The script then generates an HTML page, giving each tag a font size based on the number of times it has been used. Run the code in the same way, but send the output to an HTML file, like this:

```
perl friends_tag_list.pl > friends_tags.html
```

Open *friends\_tags.html* in a browser, and you'll see a list of tags like the one in Figure 4-8.

Figure 4-8. Viewing friends' tags as a tag map

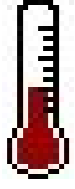


Each tag links to the public tag page for that particular tag, so you can see how Flickr members across t used the tag. With some more Flickr API work, you could probably find a way to link to your contacts' pt given tag, but that's another hack! In the meantime, you can get a quick glance at your friends' tagging you've mastered your friend's tags, you might want to try your hand at other ways to make tag clouds[1



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## Hack 27. Map Your Contacts



By combining the Flickr API and the Google Maps API, you can see how your Flickr contacts are dispersed throughout the world.

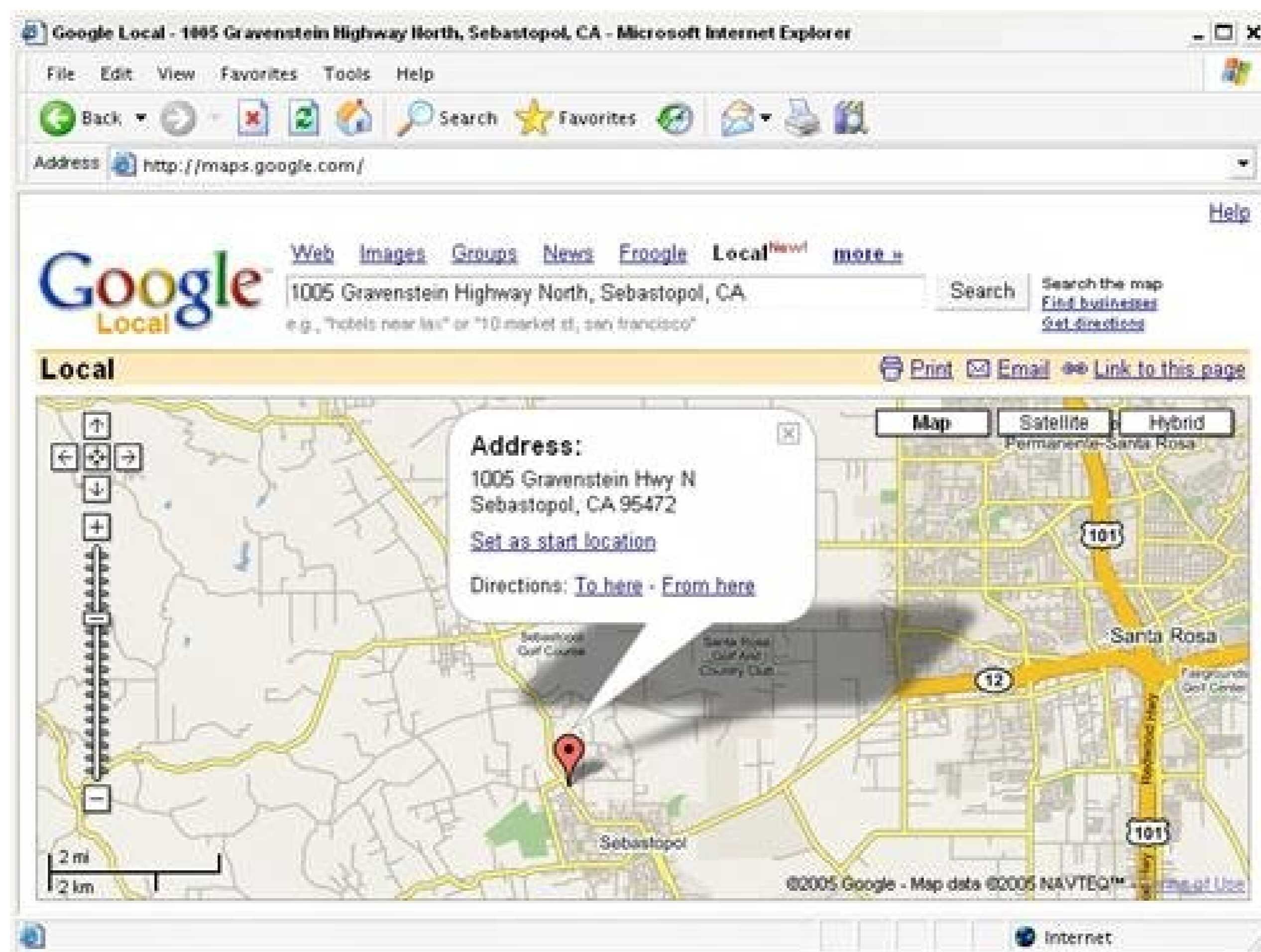
As you connect with other Flickr members, you'll notice that they can be anywhere in the world. You might admire a photographer who lives in a far-off country, and find another photographer who lives just down the street. Even though Flickr makes geography irrelevant, it's still an important part of our lives. Learning where your Flickr contacts are based can tell you more about them and help you visualize just how geographically dispersed your virtual contacts really are.

As part of its member profiles, Flickr allows any member to include his location. The location can range from something very specific, like a city and state, to something general, like a country. [Figure 4-9](#) shows my own Flickr profile, with the location "Corvallis, OR" listed directly under my web site.

Figure 4-9. Flickr profile page with a location set

To find out where a particular location is, you can go to Google Maps (<http://maps.google.com>) and type in the full address. [Figure 4-10](#) shows a Google Map with a point for the O'Reilly headquarters in Sebastopol, CA.

Figure 4-10. An address plotted on a Google Map



Clicking on the point brings up an information window that includes more Google Maps options and the full address.

Google also provides a way for developers to create their own maps with their own points and information windows, called the Google Maps API (<http://www.google.com/apis/maps/>). Using this API, you can take a data source such as your list of Flickr contacts and build a map based on the location information they've provided.

## Geocoding a Location

The Google Maps API needs information about points on a map in the form of *coordinates*, or listings of latitude and longitude that represent specific geographic points. Most of us don't know our current longitude and latitude, and Flickr doesn't expect us to. That's why the simple city/state/country location information that people enter into Flickr needs to be *geocoded* before you can build your map that is, a listing like Corvallis, OR, needs to be translated into its latitude and longitude pair: 44.564722, -123.260833.

Unfortunately, at the time of this writing, Google doesn't explicitly offer a geocoding service. However, you can use Google Maps to get the longitude and latitude of a place name by tweaking a Google Maps URL. A Google Maps URL like the following will return a bit of JavaScript that's intended to be used in some Google Maps applications:

```
http://maps.google.com/maps?q=insert location &output=js
```

The URL for our example location would be:

```
http://maps.google.com/maps?q=Corvallis,%20OR&output=js
```

Note that the space in the location has been encoded as%20 because spaces aren't allowed in URLs. Inside this page, you'll find some code and a bit of structured XML that looks like this:

```
...
  <locations>
    <location infoStyle="/maps?file=li&hl=en" id="A">
      <point lat="44.564722" lng="-123.260833"/>
      <icon class="noicon"/>
      <info>
        <address>
          <line>Corvallis, OR</line>
        </address>
        <description></description>
      </info>
    </location>
  </locations>
  ...
```

As you can see, you can enter a location and get back coordinates. With some simple scripting, you can automate this process and geocode a large number of place names. With this hurdle out of the way, you can simply assemble your list of places and plot them on a map. However, you'll need to make sure you have what you need before you begin.

## What You Need

The most difficult part of assembling this hack is making sure you have the prerequisites in place. You might have to spend some time gathering the pieces you need, but once your environment is set, building the map takes only a few minutes.

As with any of the hacks in this book that use the Flickr API, you'll need an API key. You'll also need your own Flickr user ID (NSID) so you can request a list of your contacts from the Flickr API. You can find both of these at the Flickr API page (<http://www.flickr.com/services/api/>).

To build your own Google Map, you'll need a Google Maps API key associated with a public domain. For example, if you're going to view your map at a specific web address such as *http://www.example.com*, you'll need to register that domain with Google when you request your

key. And if you're going to view your map at a subdirectory such as `http://www.example.com/path/to/map/`, you'll need to specify the path as well when you register for a key. The requirement for a specific domain is a limitation of Google Maps, but it's a free service and you'll need to play by their rules. You can register your domain and get an associated key at <http://www.google.com/apis/maps/>.



If you're not planning to make your Flickr contacts map public, you can associate your Google Maps API key with the URL `http://localhost/`. That way, you can access the map on a web server running on your local machine.

The Perl script for this hack that writes the JavaScript requires several Perl modules that aren't usually preinstalled on most systems. `Flickr::API` (<http://search.cpan.org/~iamcal/Flickr-API-0.07/lib/Flickr/API.pm>) handles working with the Flickr API, and `XML::Parser::Lite::Tree::XPath` (<http://search.cpan.org/~iamcal/XML-Parser-Lite-Tree-XPath-0.02/XPath.pm>) helps parse the Flickr responses. You'll also need `URI::Escape` (<http://search.cpan.org/~gaas/URI-1.35/URI/Escape.pm>) for encoding locations for use in a URL and `LWP::Simple` (<http://search.cpan.org/~gaas/libwww-perl-5.803/lib/LWP/Simple.pm>) for passing those locations to Google Maps for geocoding.

## The Code

The following Perl script does the heavy lifting for the hack by finding the locations associated with your Flickr contacts, looking up the coordinates for those locations at Google, and writing the necessary JavaScript to display the points on a map. The script also assembles the HTML necessary to display your contacts' buddy icons in the map itself.

Copy the following code to a file called `gmap-contacts.pl`, and be sure to include your own Flickr NSID and API key in the code:

```
#!/usr/bin/perl
# gmap-contacts.pl
# This script creates a JavaScript file that plots points
# on a Google Map for a given Flickr member's contacts.
#
# You can get a Flickr API key, find your NSID, and read the
# full documentation for the Flickr API at:
#
# http://www.flickr.com/services/api/
#
# You can get a Google Maps API key and read the full
# documentation for the Google Maps API at:
#
# http://www.google.com/apis/maps/

use strict;
use Flickr::API;
use Flickr::API::Response;
use LWP::Simple;
use XML::Parser::Lite::Tree::XPath;
```

```

use URI::Escape;

# Set your NSID
my $nsid = 'insert your Flickr NSID ';
my $api_key = 'insert your Flickr API key ';

# Start the API
my $api = new Flickr::API({'key' => $api_key});

my @users;
my @locations;

# Start the JavaScript file, and set the initial center point
# for the Google Map
print <<JSHEADER;
function addMapPoints( ) {
    map.addControl(new GSmallMapControl( ));
    map.centerAndZoom(new GPoint(-96.66, 40.817 ), 13);
JSHEADER

# Get a list of contacts
my $response = $api->execute_method('flickr.contacts.getPublicList', {
    'user_id' => $nsid,
});

# Make sure there's a response
if (!$response->{success}) {
    die "Contact list not found! $response->{error_message}";
}

# Parse the response and loop through contacts
my $xpath = new XML::Parser::Lite::Tree::XPath($response->{tree});
my @contacts = $xpath->select_nodes('/contacts/contact');
foreach (@contacts) {
    my ($location,$lat,$lon,$lonlat,$near);
    my $usersid = $_->{attributes}->{nsid};

    # Find this contact's location
    my $user_res = $api->execute_method('flickr.people.getInfo', {
        'user_id' => $usersid,
    });

    # Make sure there's a response
    if (!$user_res->{success}) {
        warn "\nLocation for user $usersid not found! $user_res->{error_message}";
    }

    # Grab location w/ regex
    if ($user_res->{_content} =~ m!<location>(.*?)</location>!gis) {
        $location = $1;
    } else {
        warn "\nNo location found for user $usersid";
    }
}

```

```

}

# Find Lat/Lon for location at Google
if ($location ne "") {
    my $esc_location = uri_escape($location);
    my $url = "http://maps.google.com/maps?q=$esc_location&output=js";
    my $response = get($url);
    # Note if the location has a related longitude/latitude
    if ($response =~ m!<point lat="(.*?)" lng="(.*?)">!gis) {
        $lat = $1;
        $lon = $2;
        $lonlat = "$lon,$lat";
    } else {
        warn "\nNo coordinates found for location $location";
    }
    # Normalize the name, if possible
    while ($response =~ m!<line>(.*?)</line>!gis) {
        $near = $1;
        $near =~ s! \d{5}!!gs; #Remove Zips
    }
}

# Save location to the locations array
my $exists = grep $locations[$_]{lonlat} eq $lonlat, 0 .. $#locations;
if (($exists eq 0) && ($lonlat ne "")) {
    my $thisLoc = {
        lonlat => $lonlat,
        lon => $lon,
        lat => $lat,
        near => $near,
    };
    push(@locations, $thisLoc);
}

# Save user to the user array
my ($iconserver,$username,$realname,$photosurl);
if ($user_res->{_content} =~ m!iconserver="(\\d{1,2})"!s) {
    $iconserver = $1;
}
if ($user_res->{_content} =~ m!<username>(.*?)</username>!s) {
    $username = $1;
}
if ($user_res->{_content} =~ m!<realname>(.*?)</realname>!s) {
    $realname = $1;
}
if ($user_res->{_content} =~ m!<photosurl>(.*?)</photosurl>!s) {
    $photosurl = $1;
}
my $thisUser = {
    nsid => $usersid,
    iconserver => $iconserver,
}

```

```

        username => $username,
        realname => $realname,
        photosurl => $photosurl,
        lonlat => $lonlat,
    };
    push(@users, $thisUser);
}

# Loop through the locations, adding users for that location
# to info window HTML
for my $i ( 0 .. $#locations) {
    my $lonlat = $locations[$i]{lonlat};
    my $near = $locations[$i]{near};

    # Start HTML for info window
    my $html = "<b>$near</b><div style=\"width:200px;\">";

    # Find users for this location
    for my $j ( 0 .. $#users) {
        my $user_lonlat = $users[$j]{lonlat};
        if ($lonlat eq $user_lonlat) {
            my $nsid = $users[$j]{nsid};
            my $username = $users[$j]{username};
            my $realname = $users[$j]{realname};
            $realname = s!'!\'!g; #Escape apostrophes for JavaScript
            my $photosurl = $users[$j]{photosurl};
            my $iconserver = $users[$j]{iconserver};
            my $iconsrc;
            # If no buddy icon is found, use the standard default
            if ($iconserver eq 0) {
                $iconsrc = "http://www.flickr.com/images/buddyicon.jpg";
            } else {
                $iconsrc = "http://photos$iconserver";
                $iconsrc .= ".flickr.com/buddyicons/$nsid";
                $iconsrc .= ".jpg";
            }
            $html .= "<div style=\"float:left;padding:3px;\">";
            $html .= "<a href=\"$photosurl\" title=\"$realname\">";
            $html .= "<img src=\"$iconsrc\" width=\"48\" height=\"48\"";
            $html .= " border=\"0\" />";
            $html .= "</a>";
            $html .= "</div>";
        }
    }
    $html .= "</div>";

    # Print out the line of JavaScript for this point
    if ($lonlat ne "") {
        print "\tcreateMarker(new GPoint($lonlat), '$html');\n";
    }
}

```

```
# Print the last character to close the JavaScript function
print "}\n";
```

As you can see, the code is fairly complex, but it assembles everything you need for your map quickly. Because many Flickr users can be from the same location, the script stores both locations and Flickr member information in the arrays `@locations` and `@users`. At the end of the script, the last loop runs through the locations, building the HTML necessary to display buddy icons from members in each location.

## Running the Hack

Once the script is ready to go, run it from the command line and specify a descriptive name for the JavaScript file, such as *addMapPoints.js*, like this:

```
gmap-contacts.pl > addMapPoints.js
```

The script will build the JavaScript file and note any locations it couldn't translate into coordinates. Next, you'll need to put together the standard HTML file that will hold the map. Create a text file called *contacts-map.html* and add the following HTML, making sure to include your Google Maps API key and the JavaScript file you just created in the header:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
  <title>Flickr Contacts, Mapped</title>
  <script src="addMapPoints.js" type="text/javascript"></script>
  <script src="http://maps.google.com/maps?file=api&v=1&key=insert key"
    type="text/javascript"></script>
  <style type="text/css">
  body {
    font-family:arial, helvetica, sans-serif;
  }
  </style>
</head>

<body onload="addMapPoints( );">
<h1>Flickr Contacts, Mapped</h1>
<div id="map" style="width:800px;height:600px;border:solid #C3CEAE 1px;"></div>
  <script type="text/javascript">
  //<![CDATA[
  // Create a "tiny" green marker icon
  var icon = new GIcon( );
  icon.image = "http://labs.google.com/ridefinder/images/mm_20_green.png";
  icon.shadow = "http://labs.google.com/ridefinder/images/mm_20_shadow.png";
  icon.iconSize = new GSize(12, 20);
  icon.shadowSize = new GSize(22, 20);
```



```
icon.iconAnchor = new GPoint(6, 20);
icon.infoWindowAnchor = new GPoint(5, 1);

var map = new GMap(document.getElementById("map"));

// Creates a tiny green marker at the given point
function createMarker(point,html) {
    var marker = new GMarker(point, icon);
    map.addOverlay(marker);
    GEvent.addListener(marker, "click", function( ) {
        marker.openInfoWindowHtml(html);
    });
}

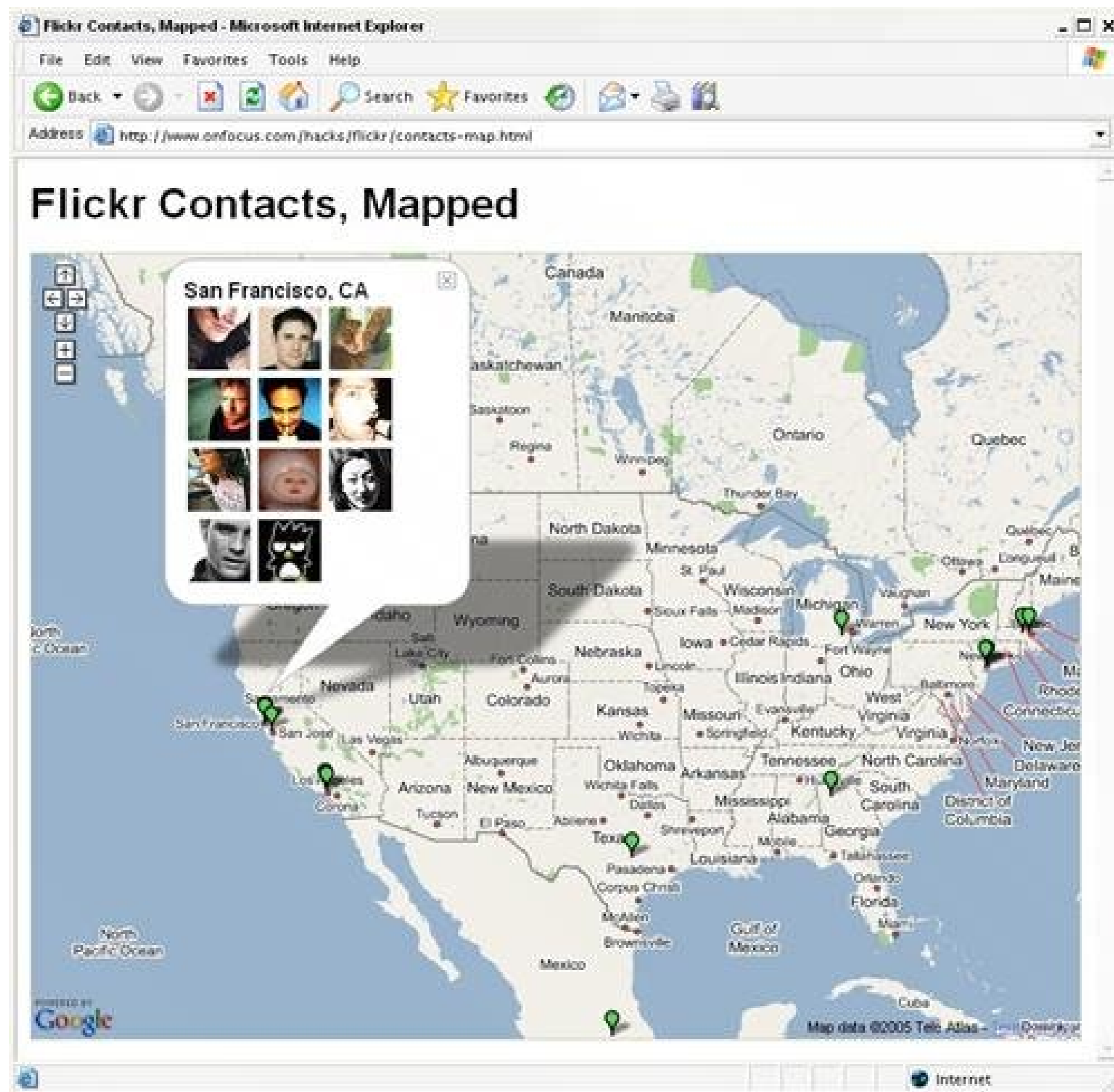
//]]>
</script>
</body>
</html>
```

Note in the `<body>` tag that the page will run the `addMapPoints()` function once the page has loaded. This function generated by *gmaps-contacts.pl* and stored in *addMapPoints.js* initializes the Google Map and adds all of the points and contact information.

Also note that, in this example, the initial center of the map is set to -96.66, 40.817 roughly the middle of the United States. If most of your Flickr contacts are in the UK, you might want to change this value so that you don't have to drag the Google Map to a new location to see your contacts' locations. You can change this value by editing the third line of *addMapPoints.js* or by changing the coordinates in the *gmaps-contacts.pl* script that writes that file.

Once both files are in place on your server, bring up *contacts-map.html* in a web browser, and you should see a map like the one shown in [Figure 4-11](#).

Figure 4-11. Flickr contacts on a Google Map



Click any of the green points on the map, and you'll see an info window containing the Flickr buddy icons that represent your contacts from that location. You can hover over a buddy icon to see the member's real name, or click the icon to view that member's photostream at Flickr.

And, of course, you can zoom or click and drag the map, just as you can with any Google Map. You can even drag the map to other countries and see if you have contacts there. Most importantly, you'll see how your Flickr contacts are dispersed, which might help you realize that Flickr really is a way to share photos with people throughout the world.

 PREVIOUS

## Hack 28. Find Flickrites in Your Mac Address Book



Find anyone in your Address Book that has a Flickr photostream .

If you use the Mac Address Book to organize your contacts, you probably have dozens of entries for friends and acquaintances. With a large list, the odds are good that at least a few of them have Flickr members. Your closest contacts on Flickr already, but finding out who else in your list of personal contacts is on Flickr to connect with.

You could copy and paste each of your contacts' email addresses into the People Search page at Flickr (but some quick scripting can save you time. Mac OS X is a highly scriptable environment, and this hack uses AppleScript and the underlying Unix tool called *curl* to find people in your Address Book that also have Flickr accounts.

### The Code

Open the AppleScript Script Editor in */Applications/AppleScript* and enter the following code. Be sure to edit the API key and save the script with a memorable name, such as *Find Flickerites*.

```
(*
Find Flickr Members in Address Book

The script loops through people in your Address Book, checking Flickr
to see if they're members. If a photostream is found, you
have the option to view it in your default browser. You can get a
Flickr API key at http://www.flickr.com/services/api/.

by Paul Bausch
*)

-- set your Flickr API key

set apiKey to "insert your API key"

-- set some variables for the curl command

set userAgent to "Mozilla/5.0 (Macintosh; U; PPC Mac OSX; en-us)"
set curlCommand to "curl -i -b -A -L \"\" & userAgent & \"\" \"

-- open Address Book and loop through people

tell application "Address Book"
    repeat with thisPerson in the people
        set thisName to name of thisPerson
```

```

repeat with thisAddress in email of thisPerson
    set thisEmail to value of thisAddress

    -- build the URL that will search for the Wish List

    set baseURL to "http://www.flickr.com/services/rest/?method="
    set thisURL to baseURL & "flickr.people.findByEmail\\&api_key=" & apiKey
    set thisURL to thisURL & "\\&find_email=" & thisEmail
    -- use curl to fetch the search page

    set thisResponse to do shell script curlCommand & thisURL

    -- if the Wish List URL is found in headers, prompt user for action
    if thisResponse contains "nsid=" then
        set theAction to display dialog thisName & " has a Flickr photostream."
        if button returned of theAction is "View" then

            -- build Flickr URL based on returned NSID, and bring it up

            set beginID to (offset of "nsid=" in thisResponse) + 6
            set thisNSID to get text beginID thru (beginID + 15) of thisResponse

            set beginID to 1
            set endID to (offset of "\"" in thisNSID) - 1
            set thisNSID to get text beginID thru endID of thisNSID

            tell application "Safari"
                activate
                open location "http://www.flickr.com/photos/" & thisNSID
            end tell
        end if
    end if
end repeat
end repeat
end tell

```

The top of the script sets some variables for *curl* that will be used later.

If you'd like to learn more about *curl* and what the settings in the script mean, open a terminal window (in *Applications/Utilities/*) and type `man curl`. You'll get the complete documentation that the command switches do, and a list of all of the options available.

With the variables set, the script loops through all of the entries in the Address Book, looking for email addresses. If an address found is used to build a Flickr API request URL with the `flickr.people.findByEmail` method. Once the `script` command uses *curl* to fetch the response, and the `contains` command looks for a Flickr NSID associated with the email address.

If a Flickr NSID is found, the script uses `display dialog` to bring up a window with View and Ignore options. If the View button is clicked, the script will open the Safari browser, which will take you to that Flickr member's photostream. From there, you can take a look at her profile details, or add her as a contact.

## Running the Hack

You can run the script by clicking the Run button in the Script Editor. As you find people in your Address Book you'll have the option to view their photostreams, as shown in Figure 4-12.

Figure 4-12. AppleScript prompt to view a contact's photos



To keep this script one click away from your Address Book, move the script to the */Library/Scripts/Address Book* folder. You can access the script from your Address Book's Scripts menu. Run the script at any time by selecting *Flickerites* from the Address Book application's menu bar.

Finding fellow Flickr users via your Address Book may help you learn more about some people you know of contacts at Flickr.

## Hack 29. Surf Your Contacts



Find out what your contacts are up to outside of Flickr.

Most of your Flickr contacts really do have lives outside of Flickr, and you can often find a link to a friend's other life on his Flickr profile page. When you create a Flickr profile, you have the option to enter your web site URL and web site name, which will show up in your profile just above your location. Most Flickr members use this space to point to their home pages or weblogs.

If you don't already regularly visit your Flickr contacts' external sites, you might learn something more about your acquaintances and the photographers you admire by taking a look. If you have just a handful of contacts, you could visit each of your contacts' profile pages one by one and make a list of URLs you'd like to visit; but if you have more than a dozen contacts, a bit of PHP scripting can help you put together a master surfing list in a few minutes.

This hack compiles a list of your contacts, assembles their profile page URLs, and visits each one, looking for a web site. You'll need a free Flickr API key and your Flickr NSID, both of which can be found at the Flickr API documentation page (<http://www.flickr.com/services/api/>). This hack also relies on the simple XML tools built into PHP 5, which make working with Flickr API responses a snap.

### The Code

Copy the following code to a file called *flickr\_surf.php*, and be sure to put in your own Flickr API key and Flickr NSID:

```
<?php
// flickr_surf.php
// Finds web sites of Flickr contacts for given
// Flickr NSIDs. Use it to gather your Flickr
// contacts' web sites onto one page for easy
// surfing.
//
// You can get an API key and read the full documentation
// for the Flickr API at http://www.flickr.com/services/api/

// Set your Flickr API key and your user NSID
$api_key = "insert your Flickr API key";
$my_nsid = "insert your Flickr NSID";

// This is a greedy script requiring lots of time
set_time_limit(0);
```

```

// Construct a Flickr query to grab your contacts
$req_url = "http://www.flickr.com/services/rest/";
$req_url .= "?method=flickr.contacts.getPublicList";
$req_url .= "&api_key=$api_key";
$req_url .= "&user_id=$my_nsid";

// Make the request
$flickr_contacts = file_get_contents($req_url);

// Parse the XML
$fc_xml = simplexml_load_string($flickr_contacts);
?>
<html>
<head>
  <style type="text/css">
  BODY {
    font-family:verdana,arial;
    font-size:10pt;
    line-height:130%;
  }
  </style>
</head>
<body>
<h2>Surf Flickr Friends</h2>
<ul>
<?php
// Loop through the contacts
foreach ($fc_xml->xpath('//contact') as $contact) {
  $nsid = $contact['nsid'];
  $username = $contact['username'];

  // Construct a Flickr query to grab contact info
  $req_url = "http://www.flickr.com/services/rest/";
  $req_url .= "?method=flickr.people.getInfo";
  $req_url .= "&api_key=$api_key";
  $req_url .= "&user_id=$nsid";

  // Make the request
  $contact_info = file_get_contents($req_url);

  // Parse the XML
  $ci_xml = simplexml_load_string($contact_info);

  // Get contact info
  $iconserver = $ci_xml->person[0]['iconserver'];
  $realname = $ci_xml->person[0]->realname;
  $profile_url = $ci_xml->person[0]->profileurl;

  // See if a web site exists on the member's profile page
  // with screen-scraping
  $profile_html = file_get_contents($profile_url);
  $regex = '!<p style="font-size: 14px;">.*?<a ' ;

```

```

$regex .= 'href="(.*?)"><strong>(.*?)</strong></a>!is';
if (preg_match($regex,$profile_html, $matches)) {
    $contact_siteurl = $matches[1];
    $contact_sitename = $matches[2];

    // If a web site is found, print out the web site URL
    // and contact info
    print "<li style=\"margin-bottom:10px;\"><a href=\"\$contact_siteurl\">";
    print "\$contact_sitename</a><br />";
    print "<span style=\"font-size:8pt;color:#666;\">";
    print "by <a href=\"\$profile_url\">\$username</a> /";
    print " \$realname</span></li>\n";
}
$matches = "";

// Sleep for 3 seconds to give the Flickr
// servers a break
sleep(3);
}
?>
</ul>
</body>
</html>

```

You'll notice that the script contacts the Flickr API to find your list of contacts, and then contacts the API again for each contact to find the user's real name and profile URL. Flickr doesn't make site information available via the API, so the script relies on *screen-scraping* the profile pages to find that data. Screen-scraping involves downloading the HTML of the page and picking through it with regular expressions to cherry-pick the required information. It's a notoriously brittle process, and if Flickr changes the HTML of the profile page, the script won't be able to find the information you want. Be aware that you may need to tweak the regular expression set as `$regex` to find the web site name and URL.

Note also that the script is fairly request-intensive. For every person in your contact list, this script will make two requests of the Flickr servers. To give the Flickr servers a bit of a break, the script then rests for three seconds by calling `sleep(3)`. This will give the Flickr servers a small rest between each contact, but it also means you'll need to be patient while the script is compiling your list.

## Running the Hack

To run the code, upload the script to your web server and browse to the page. The URL should look something like this:

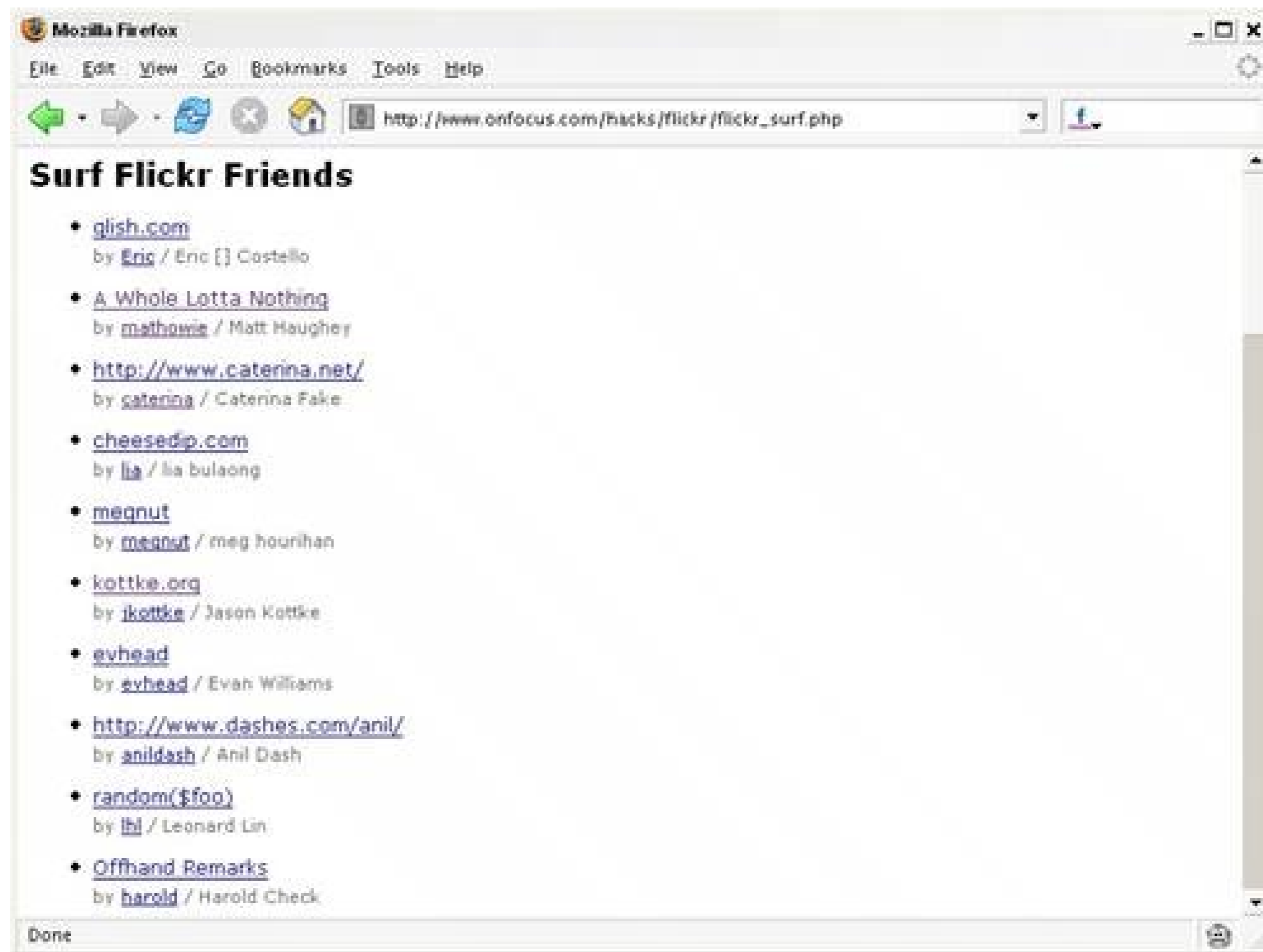
```
http://www.example.com/flickr_surf.php
```

Because of the numerous HTTP requests and the built-in delay, expect your script to take several minutes to execute. And, of course, the more contacts you have, the more time the script will need to compile the list. When it's finished, you should see a list of web sites from your Flickr contacts like



the one in [Figure 4-13](#).

Figure 4-13. A list of the author's Flickr contacts' web sites



If you want to visit the page over and over again, you'll want to save the HTML the script generated rather than rebuilding the list each time you visit the page. To save the HTML, choose File → Save As... (or File → Save Page As...) from your browser's menu. Your contacts' web sites shouldn't change too often, and when you add or remove contacts you can visit `flickr_surf.php` again to recompile the list and bring it up to date.

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# Chapter 5. Maintenance

[Hacks 30-36](#)

[Hack 30. Back Up Your Photos](#)

[Hack 31. Back Up Photo Comments](#)

[Hack 32. Make a Contact Sheet](#)

[Hack 33. Download a List of Photos](#)

[Hack 34. Cache Photos Locally](#)

[Hack 35. Edit Photos as a Batch](#)

[Hack 36. Clean the \(Group\) Pool](#)

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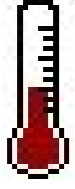
## Hacks 30-36

Once you're a Flickr power user, you'll find that if you want to keep your photo collection in top shape, it helps to go beyond the existing tools on Flickr. While maintenance can be a chore, there are some ways to speed things up so you can get back to the more fun features of Flickr.

This chapter will show you some tips and tricks for managing a large collection of photos on Flickr, including editing several photos at once [\[Hack #35\]](#) and downloading a complete list of your photos [\[Hack #33\]](#). If you have a large collection of photos on Flickr, you'll find out how to back up your photos [\[Hack #30\]](#) and comments [\[Hack #31\]](#) to your local computer for safekeeping. And if you've started a Flickr group, you'll find out how to extend the management features by creating a maintenance bot [\[Hack #36\]](#) to help you keep the group running smoothly.

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## Hack 30. Back Up Your Photos



A Java application called FlickrBackup can snag copies of all of your Flickr photos so you have local backups.

If you use your computer to upload photos to Flickr, chances are you already have local copies of all of your original images (especially if you follow the instructions in [\[Hack #4\]](#) before sending them). But if you use Flickr to store photos taken with your mobile phone [\[Hack #6\]](#), the photos at Flickr might be your only copies. In this case, you'll definitely want to back up your photos once in a while by saving copies of your Flickr photos locally.

You could write your own Flickr API script to grab all of your photos, but luckily, Andrew Serff has saved you the trouble by writing a free Java program called FlickrBackup (<http://www.sunkencity.org/flickrbackup/>). The program runs on both Macs and PCs, and it provides a visual interface for backing up your Flickr photos. You can download a copy of FlickrBackup from its SourceForge project page at <http://www.sourceforge.net/projects/flickrbackup>.

Once you've downloaded the file, unzip the contents. To start the program on Mac OS X, open the folder and double-click *FlickrBackup.jar*. On Windows, open a command prompt (Start → Programs → Accessories → Command Prompt), change directory (`cd`) to the *FlickrBackup* folder, and type the following command:

```
$ java -jar FlickrBackup.jar
```

This command will start the program, and you'll be greeted with the authentication request shown in [Figure 5-1](#).

Figure 5-1. FlickrBackup authentication request

Once you've authenticated at Flickr in your browser, return to the request window and click OK. The program will save your authentication information, so you'll have to authorize it only once.

FlickrBackup will download thumbnails of all of your photos, and you'll see a grid of your photos like the one shown in [Figure 5-2](#).

Figure 5-2. Flickr Backup photo selection window

## Testimonials

### [Write a testimonial about Hipbot](#)

#### [ZenOptic](#) says:

"He is square, but : hip to be sure! Ever diligent in his duty to patrol the square circle group. Assuring continuity and conformity. Makes a great friend, never trys to borrow money!!"



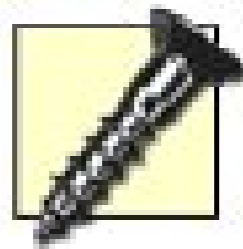
#### [ocherdraco](#) says:

"Hipbot has got it goin on! He cleans the place like nobody's business, clearin' out the riff raff and making it safe for the citizens of Squircle City to walk in the streets again. We salute you, Hipbot, valiant protector of all that is square."



From here, you can select which photos to back up. At the time of this writing there's no way to select all photos at once, so you'll need to click each photo individually. Alternately, you can choose to back up complete photo sets at Flickr by clicking the Sets tab.

Once you've made your selection, click Backup Selected, and you'll see the Flickr Backup Wizard window. Click the Browse button and choose a local folder to store images in, and Start Backup will begin the process. A status bar will let you know how the program is doing.



FlickrBackup doesn't store titles, descriptions, tags, notes, or comments just photos. It's a quick way to copy your Flickr photos, but keep in mind that it won't give you backups of the associated data stored at Flickr. If you'd like to save backups of comments about your photos, check out the next hack.

Photos will be stored with their Flickr IDs, and when the operation is complete you should find a series of JPEGs in your backup folder with names like *4574244\_ff80b1164f\_o.jpg*. You can leave the backups on your hard drive, or copy your photos to a CD or DVD for long-term storage. FlickrBackup is a quick way to copy a large number of photos without writing a line of code.

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## Hack 31. Back Up Photo Comments



Flickr photo comments are usually light chit-chat, but you might want to save them for posterity.

One of the key features of Flickr is that it enables its users to have conversations about photos on the site. When you post photos on Flickr, you're posting them not into an empty space, but into a space with lots of other people. Because Flickr is an interactive environment, your contacts and other viewers can not only view your photos but also post comments about them, perhaps asking questions, offering praise, observations, or providing useful information. Figure 5-3 shows three comments under a photo.

Figure 5-3. Photo comments

Even though Flickr will be around for the foreseeable future, you might want to have your own personal archive of the comments that have been generated around your photos. The conversations about a photo are often more than idle chit-chat, but as with any conversations, there may be times when you'll wish you had a way to go back to or search through, or just to have a record of what was said.

With a bit of Perl, some queries to the Flickr API, and some screen-scraping, you can create an archive of photo comments. With the conversations stored on your own hard drive, you can search them and refer back to them as much as you'd like.

### The Code

Unfortunately, Flickr doesn't give access to comments via its API, so this code relies on *screen-scraping* the HTML of the relevant pages and picking through it with regular expressions to gather comments. Screen

is a notoriously brittle process. Keep in mind that if Flickr changes the HTML of its pages even slightly, things no longer work.

You'll need several Perl modules installed on your system for this script to work. `Flickr::API` (<http://search.cpan.org/~iamcal/Flickr-API-0.07/lib/Flickr/API.pm>) is used to find a list of photos for a given user and `XML::Simple` (<http://search.cpan.org/~grantm/XML-Simple-2.14/lib/XML/Simple.pm>) parses through the response. `LWP::Simple` (<http://search.cpan.org/~gaas/libwww-perl-5.803/lib/LWP/Simple.pm>) grabs the HTML from Flickr to scrape comments for a specific photo.

To get started, create a file called `comments-backup.pl` and add the following code. Be sure to include your NSID and API key (available at <http://www.flickr.com/services/api/>). You'll also want to specify a directory to store the backups. In this example, the directory is set to the local folder `flickr-comments`, but you can change this to any location.

```
#!/usr/bin/perl
# comments-backup.pl
# Creates a text file for each photo with comments
# at Flickr, and saves the comments to the file
#
# You can get an API key, find your NSID, and read the
# full documentation for the Flickr API at:
#
# http://www.flickr.com/services/api/

use strict;
use Flickr::API;
use Flickr::API::Response;
use LWP::Simple;
use XML::Simple;

# Set your variables
my $nsid = 'insert your NSID';
my $api_key = 'insert your API key';
my $dir = "flickr-comments";

# Create the directory if necessary
unless (-d $dir) { mkdir($dir); }

# Start the API
my $api = new Flickr::API({'key' => $api_key});

# Get a list of photos
my $response = $api->execute_method('flickr.people.getPublicPhotos', {
    'user_id' => $nsid,
    'per_page' => 500,
    'extras' => 'date_taken'});

# Parse the XML
my $xmlsimple = XML::Simple->new( );
my $flickr_xml = $xmlsimple->XMLin($response->{_content});
my $photolist = $flickr_xml->{photos}->{photo};
```



```

# Sort the hash numerically, with largest IDs first
my @photos = sort { $b <=> $a } keys %{$photolist};

# Loop through the items returned, adding as items to feed
foreach my $id (@photos) {
    my $secret = $photolist->{$id}->{secret};
    my $server = $photolist->{$id}->{server};
    my $owner = $photolist->{$id}->{owner};
    my $username = $photolist->{$id}->{username};
    my $title = $photolist->{$id}->{title};
    my $datetaken = $photolist->{$id}->{datetaken};
    my $img_src = "http://static.flickr.com/$server/$id\_secret.jpg";
    my $img_tag = "&lt;img src=\"$img_src\" /&gt;";
    my $link = "http://www.flickr.com/photos/$owner/$id/";

    my $page = get($link);
    if ($page =~ m!<h3>Comments</h3>!mgis) {
        print "Backing up comments for photo $id: $title\n";
        my $section;
        my $file = "$dir$id.txt";
        open FILE, ">$file" or warn "Can't open $file\n";
        print FILE "$title\n$datetaken\n$link\n\n";
        ($section) = $page =~ m!<h3>Comments</h3>(.*?)</table>!s;
        while ($section =~ m!<tr valign="top">.*?<h4>(.*?)</h4>.*?<p>(.*?)<span class=.*?<
            my $commenter = $1;
            my $comment = $2;
            $comment =~ s!<.+?>!gs;
            ($commenter) = $commenter =~ m!<a href.*?>(.*?)</a>!gis;
            print FILE "$commenter: $comment\n";
        }
        print FILE "\n\n";
        close FILE;
    }
}

```

Once the script has a list of photos, it downloads each photo's detail page from Flickr and extracts any c with regular expressions. For each photo that has comments, the script creates a text file with the photo to it the title, date, URL, and, of course, comments.

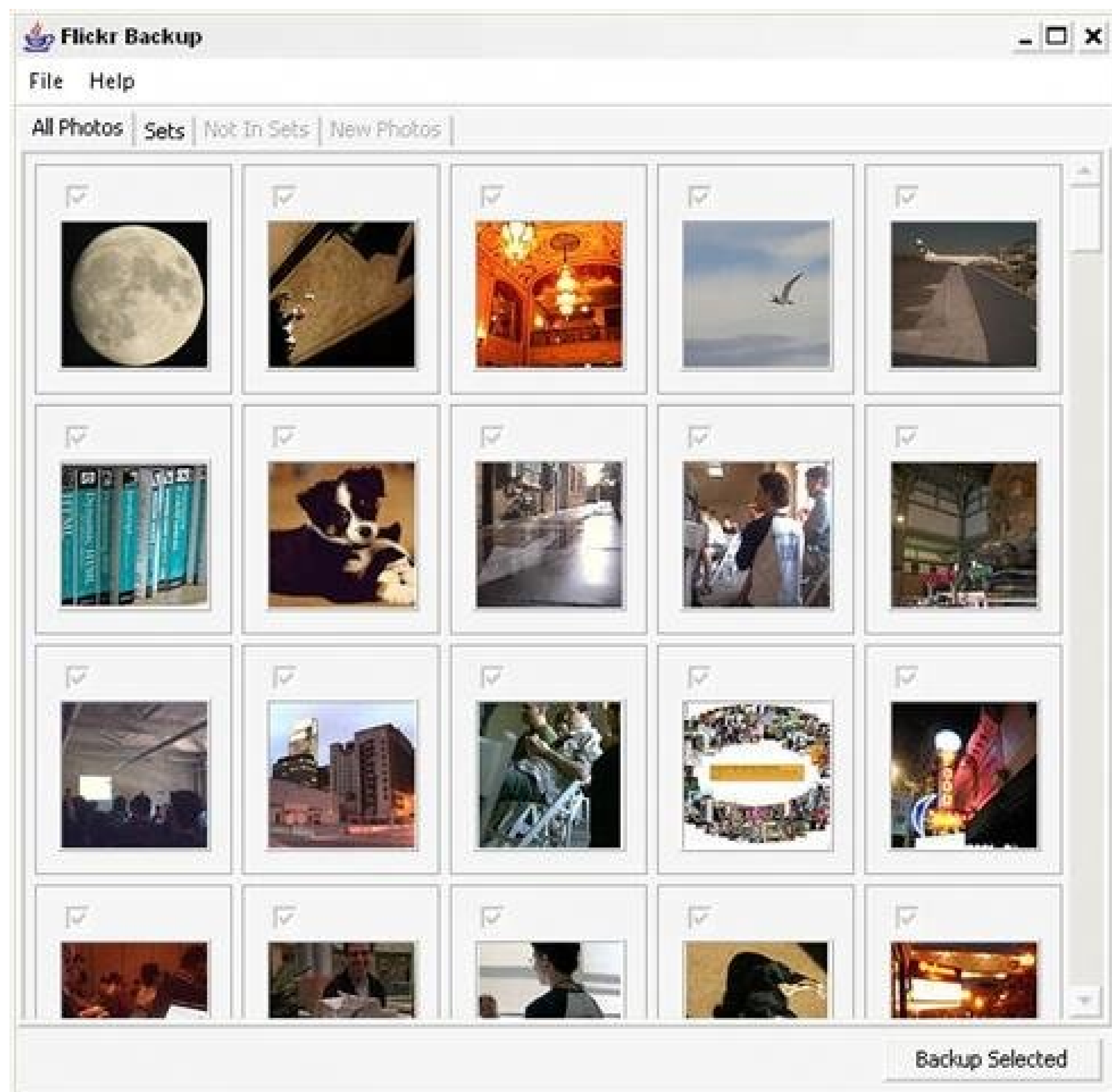
## Running the Hack

To start your backup, run the script from a command prompt like this:

```
perl comments-backup.pl
```

The script will report its activity as it goes along, indicating which photos it's creating text files for. In th should have one text file in your specified backup directory for each of your Public photos on Flickr that comments. Figure 5-4 shows the backup text file for the conversation pictured in Figure 5-3.

Figure 5-4. Flickr comments backup file



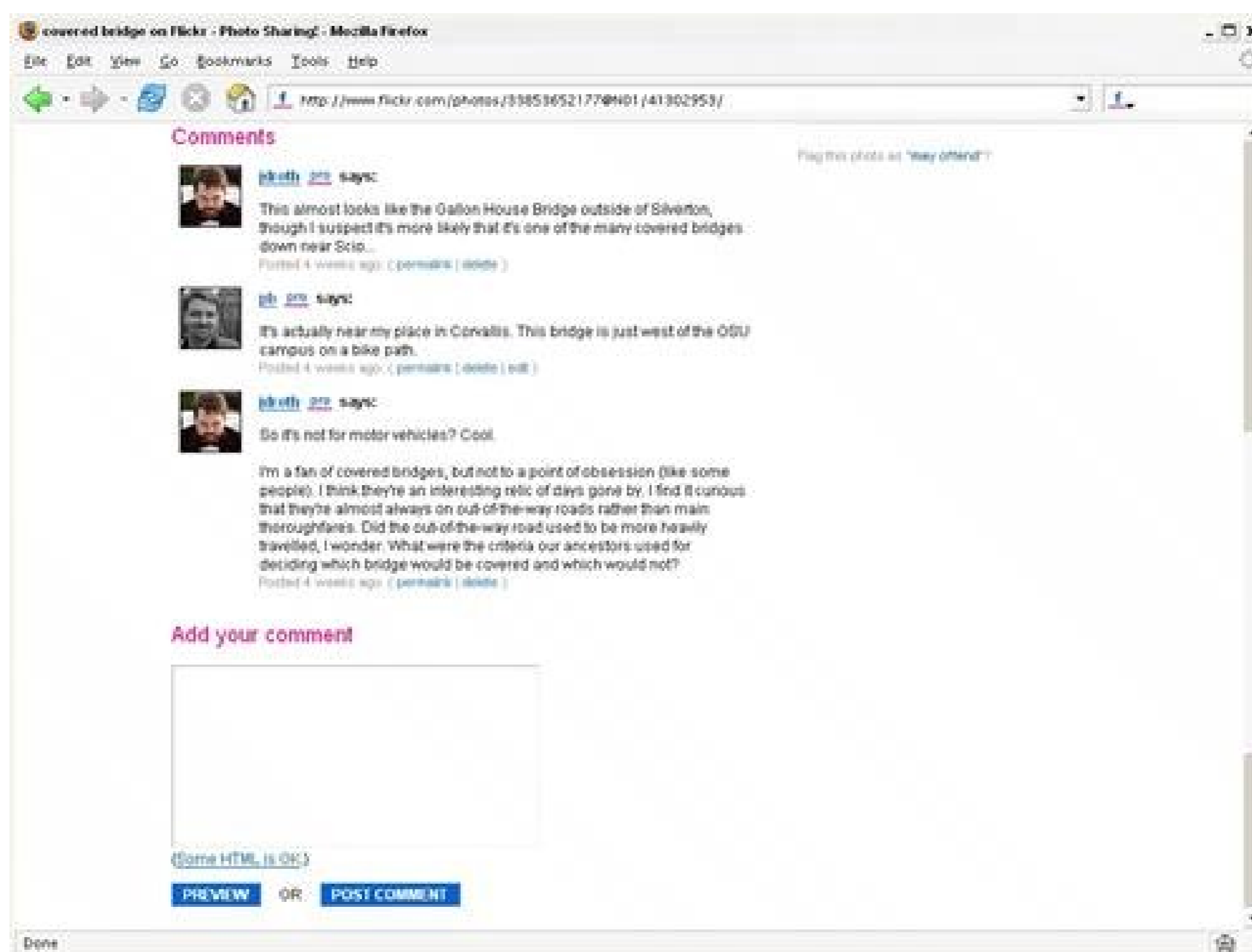
These text files aren't a particularly structured format for the data, but the script should be easy to tweak rather than store the backups as XML or CVS. A more structured format could be helpful if you plan to import into a database, for example.

## Hacking the Hack

One of the big advantages of having local copies of your conversations on Flickr is the ability to search through them. For example, for instance, if you couldn't quite remember where those other covered bridges were you could search through the mentions of the phrase "covered bridge" to find relevant matches.

Google Desktop Search (<http://desktop.google.com>) does a fine job of searching through local files for specific phrases. Figure 5-5 shows the results of a Google Desktop Search for the phrase "covered bridge," which found several matches in the Flickr comments backup file.

Figure 5-5. Google Desktop Search results



Click the file to see the full conversation; to see it in its original context, copy the URL in the file and paste it into your browser's address bar.

Backing up comments isn't a necessity, but if you want to know that your comments are going to be available years to come and give yourself the ability to search through them you might want to try it.

## Hack 32. Make a Contact Sheet



You want to see your photos. Lots of them. In an attractive grid. But how do you do it?

People have lots of names for these things: contact sheets, proofs, galleries, enormous grids of doom. Basically, we're talking about a bunch of photos, all on one page. There are a number of ways to produce this result:

### *Photo-management software*

Chances are, the software that came with your digital camera or the software you use to manage your photos on your computer has a feature to produce contact sheets. In Picassa, for example, this feature is available on the folder menu as Print Contact Sheet. But if you want to print a contact sheet of Flickr photos tagged with *bunnies*, which don't necessarily reside on your hard drive (yet), this solution might not seem ideal.

### *QOOP*

The QOOP photo printing service has a service geared toward Flickr users ([http://www.qoop.com/photobooks/flickr\\_user/](http://www.qoop.com/photobooks/flickr_user/)). QOOP will print books or posters containing hundreds of photos and ship to them to you for a pretty reasonable price. This is a good way to produce gift books, or to impress the folks sitting at your coffee table.

### *ImageMagick*

ImageMagick (<http://www.imagemagick.org>) is a free suite of image-processing software that comes with a set of powerful command-line applications. These apps will let you slice and dice photos to your heart's content. The software is available as a binary install for Windows, Mac OS X, and most flavors of Unix/Linux.

The most flexible of the three options is ImageMagick. Other hacks in this book, such as [\[Hack #44\]](#), show how to use the ImageMagick API with your favorite scripting language (okay, *my* favorite scripting language), Perl, to produce stunning mosaics and collages, but you can use ImageMagick to build a contact sheet without any scripting at all.

ImageMagick comes with a large collection of powerful command-line tools. Here are the two that I use the most:

`convert`

Converts between image formats, such as PNG, GIF, or JPG. You can also use it to resize photos, blur or sharpen them, crop them, perform noise reduction, and do many other things that you might otherwise do with a program such as Photoshop or Gimp.

### montage

Offers various options for compositing multiple images together into a single large image. It makes a great all-purpose contact sheet generator.

## What You Need

You'll need a couple of things for this hack:

### *ImageMagick*

You can download ImageMagick from <http://www.imagemagick.org/script/binary-releases.php>; binary releases are available for all the major platforms. You'll also need to install PerlMagick, the ImageMagick API for Perl.

### *Photoslots of `em*

You can use the downloading scripts developed in [\[Hack #34\]](#) to grab the photos you're interested in. With these scripts in place, you can get a bunch of pictures of bunnies by typing the following commands.

This command will produce a text file named *bunnies.ph* that contains a list of all the images tagged with *bunnies*:

```
$ getPhotoList.pl bunnies
```

This command downloads all the images in the *bunnies.ph* file and puts them into a similarly named directory:

```
$ getSnaps.pl bunnies
```

## Running the Hack

Get to the command line and change directory (*cd*) to where your images reside. Then invoke the *montage* command, as follows:

```
$ montage *.jpg montage.png
```

If the directory in which you've invoked the command contains a few hundred very large images, go out for doughnuts (or maybe a new CPU). When you get back, you'll find a new image file

(*montage.jpg*) waiting for you that looks like [Figure 5-6](#).

Figure 5-6. A contact sheet made with the montage command



In the above example, the *.png* extension is used to specify the output file, giving it the PNG file format. You can also use *.jpg* (JPEG), *.gif* (GIF), *.tif* (TIFF), and many other extensions. I prefer PNG for two reasons: it is a lossless format that looks nice, and it prevents the `montage` output from having the same extension as the JPEG images I'm working with. This way, I can continue to use *\*.jpg* to create new montages without accidentally incorporating the previous montage images.

Be sure to specify an explicit output image name on the command line! The last image name you specify is assumed to be the output image, and it's a little too easy to accidentally overwrite one of your input images by accidentally omitting this parameter.

## Hacking the Hack

The `montage` command has a huge amount of options for tweaking the output. If you enter the command `montage`, without any arguments, it'll spit out the following list (or you can read about them at <http://www.imagemagick.org/script/montage.php>):

```

-adjoin          join images into a single multi-image file
-affine matrix   affine transform matrix

```

```

-authenticate value  decrypt image with this password
-blue-primary point  chromaticity blue primary point
-blur factor         apply a filter to blur the image
-border geometry     surround image with a border of color
-channel type        Red, Green, Blue, Opacity, Index, Cyan, Yellow,
                    Magenta, Black, or All
-clone index         clone an image
-colors value        preferred number of colors in the image
-colorspace type     alternate image colorsapce
-comment string      annotate image with comment
-compose operator    composite operator
-compress type       image compression type
-crop geometry       preferred size and location of the cropped image
-debug events        display copious debugging information
-define format:option
                    define one or more image format options
-density geometry    horizontal and vertical density of the image
-depth value         image depth
-display server      query font from this X server
-dispose method      Undefined, None, Background, Previous
-dither             apply Floyd/Steinberg error diffusion to image
-draw string         annotate the image with a graphic primitive
-encoding type       text encoding type
-endian type         LSB or MSB
-extract geometry    extract area from image
-fill color          color to use when filling a graphic primitive
-filter type         use this filter when resizing an image
-flip               flip image in the vertical direction
-flop              flop image in the horizontal direction
-frame geometry     surround image with an ornamental border
-gamma value        level of gamma correction
-geometry geometry  preferred tile and border sizes
-gravity direction  which direction to gravitate towards
-green-primary point chromaticity green primary point
-interlace type     None, Line, Plane, or Partition
-help              print program options
-label name         assign a label to an image
-limit type value   Area, Disk, Map, or Memory resource limit
-log format         format of debugging information
-matte             store matte channel if the image has one
-mode type          Frame, Unframe, or Concatenate
-monochrome         transform image to black and white
-page geometry      size and location of an image canvas (setting)
-pointsize value    font point size
-profile filename    add, delete, or apply an image profile
-quality value      JPEG/MIFF/PNG compression level
-red-primary point  chromaticity red primary point
-repage geometry    size and location of an image canvas (operator)
-resize geometry    resize the image
-rotate degrees     apply Paeth rotation to the image
-sampling-factor geometry
                    horizontal and vertical sampling factor

```

```

-scenes range      image scene range
-shadow           add a shadow beneath a tile to simulate depth
-size geometry    width and height of image
-strip           strip image of all profiles and comments
-stroke color     color to use when stroking a graphic primitive
-support factor   resize support: > 1.0 is blurry, < 1.0 is sharp
-texture filename name of texture to tile onto the image background
-thumbnail geometry create a thumbnail of the image
-tile geometry    number of tiles per row and column
-transform        affine transform image
-transparent color make this color transparent within the image
-treedepth value  color tree depth
-trim            trim image edges
-type type        image type
-verbose         print detailed information about the image
-version         print version information
-virtual-pixel method Constant, Edge, Mirror, or Tile
-white-point point chromaticity white point

```

Here are a few of the more useful options in action.

This produces a montage with a sky-blue background color:

```
montage -background #87CEEB *.jpg montage.png
```

This does the same thing:

```
montage -background SkyBlue *.jpg montage.png
```

For a list of color names that ImageMagick recognizes, check the table on this page: <http://www.imagemagick.org/script/color.php>.

This produces a montage with only three tiles per row, instead of the default five:

```
montage -tile 3 *.jpg montage.png
```

This command includes the filename beneath each image and resizes each image to 200 pixels on the longest side:

```
montage -label %f -size 200 *.jpg montage.png
```

This gives each color a two-pixel black border:



```
montage -border 2 -bordercolor black *.jpg montage4.jpg
```

This one is just plain annoying:

```
montage -blur 5 -rotate 45 -border 5 -bordercolor DeepPink *.jpg montage
```

Try it and see. Of course, for a tool to be truly useful, it also has to have the potential to be truly annoying.

If you enter the filenames separately, you can add individual options for each file. This allows you to rotate specific images that are flopped over, or give them other special treatments, such as individual border highlights.

## See Also

- [\[Hack #34\]](#)
- [\[Hack #43\]](#)
- [\[Hack #49\]](#)

[← PREVIOUS](#)

## Hack 33. Download a List of Photos



Obtaining a list of photos is the first step in many projects .

If you poke around Flickr for more than a few minutes, one thing becomes evident: there are *a lot* of photos there were nearly 3,000 photographs of circular objects in the group pool. At the time of this writing, there were approximately 2,300 photos that contain the tag *pie*; 21,000 photos that contain the tag *apple*; and 11

As a human with a limited capacity to process information, these numbers are overwhelming. Few people explore the entire group pool of one of the larger groups or more popular tags, and most people don't bother.

Flickr provides various means to help you find the good stuff, such as the "interestingness" feature, but it spits them out in various ways. We'll start with a set of Perl scripts for downloading lists of photos. These are along with other scripts that operate on these lists of photos.

It might be tempting to try to build a big monolithic application that does everything you might possibly want to work with a set of small modular command-line scripts that are designed to work together. This is the way of the utilities in Unix. If you're comfortable with the command line, you'll like this approach.

### Useful API Methods

Many Flickr API methods (discussed in Chapter 6) return lists of photos. These methods include:

`flickr.photos.search`

Returns a list of photos matching a tag or other search criteria.

`flickr.people.getPublicPhotos`

Returns a list of Public photos belonging to a particular person. Note that if you wish to filter these results, you'll need to use appropriate filters.

`flickr.groups.pools.getPhotos`

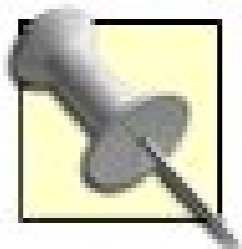
Returns a list of the photos in a group pool.

For each of these methods, the data returned looks pretty similar. Here is a typical result from `flickr.photos.search` for the tags *zipper* and *ride*:

```

<rsp stat="ok">
<photos page="1" pages="1" perpage="100" total="7">
<photo id="41865069" owner="26084283@N00" secret="ccb3eed603" server="31" title="spinnir
<photo id="40147327" owner="28226466@N00" secret="2388324058" server="22" title="Zipper'
<photo id="35777919" owner="43091440@N00" secret="78cd0de7c7" server="31" title="at the
<photo id="33824150" owner="10202855@N00" secret="6368d0a654" server="23" title="carniva
<photo id="33824088" owner="10202855@N00" secret="1aeed42f5f" server="21" title="carniva
<photo id="24152735" owner="35294562@N00" secret="b3766cfdd7" server="18" title="The Zig
<photo id="1465720" owner="44146188@N00" secret="2d5487bbe5" server="2" title="The Zippe
</photos>
</rsp>

```



I produced this list by using Flickr's API Explorer. You can find the API Explorer for ar <http://www.flickr.com/services/api/> and clicking on the name of the method you are method is an API Explorer link. The API Explorer is a web-based app in which you can XML results a great way to familiarize yourself with each API method. In this case, I e all .

For each photo, the following fields are provided:

`photo_id`

A unique ID string for tracking the photo. Flickr represents these as 64-bit integers, but you should

`secret`

A hexadecimal string used to construct URLs to the photo.

`server`

The server or directory on/in which the photo resides (also used to construct URLs to the photo).

`owner`

The `user_id` of the person who uploaded the photo.

`title`

The photo's title.

`ispublic`

Indicates whether the photo is visible to the general public.

`isfriend` and `isfamily`

Indicate whether the photo is visible to friends or family members on the owner's contact list. If it is irrelevant.



The fields I am usually the most interested in are `photo_id`, `secret`, and `server`. As you have the information you need to construct a URL to the photo, so you can download the image.

For you to be able to access the photo, either `ispublic` must be set or you must be on the owner's friend list (or a friend of a friend photo). Most of the methods mentioned earlier return lists of Public photos only, so usually `ispublic` will be set.

## What You Need

To talk to the Flickr API, you'll need an API key and its associated shared secret. If you don't already have one, you can get one from <http://www.flickr.com/services/api/key.gne> (see "API Keys and Secrets" in Chapter 6 for more information).

The Perl scripts in this hack require that you have access to Perl on the command line (Mac OS X ships with Perl, and you can get ActivePerl from <http://www.activestate.com/Products/ActivePerl/>). The scripts make use of the following modules:

`Flickr::API`

This is an interface to the Flickr API for Perl, written by Cal Henderson, one of Flickr's employees. It is available from <http://search.cpan.org/~iamcal/Flickr-API/>.

`XML::Simple`

Although `Flickr::API` performs XML parsing, it uses the `XML::Parser::Lite::Tree` parser, which produces XML as a raw string. Fortunately, it also retains the data as a raw string, so you can use any of the myriad XML parsers available. `XML::Simple` is a good choice.

`Data::Dumper`

These scripts produce output in the form of a text file that can be parsed by other Perl scripts. An easy way to parse the output is to use `Data::Dumper` to dump it out into a text file. `Data::Dumper` is also a great tool for exploring the contents of a Perl data structure.

If you're missing any of these modules, you can install each of them from CPAN, like this:

```
perl -MCPAN -e shell
cpan> install
package name
```

In Windows, particularly with ActiveState Perl, it is easier to use the `ppm` utility. For example:

```
ppm install
package name
```

With the modules in place, you're ready to move on to the script.

## The Code

Create a file called *getPhotoList.pl* and type or paste in the following code:

```
#!/usr/bin/perl -s
#
# getPhotoList.pl - Jim Bumgardner
#

use Flickr::API;
use XML::Simple;
use Data::Dumper;
$Data::Dumper::Terse = 1; # avoids $VAR1 = * ; in dumper output
$Data::Dumper::Indent = $verbose? 1 : 0; # more concise output

# You will need to create this file...
# it supplies the authentication-related vars
# $api_key and $sharedsecret
require 'apikey.ph';

print "verbose = $verbose\n" if $verbose;

$syntax = <<EOT;

    getPhotoList.pl [options] <tags> [<tags...>]
    getPhotoList.pl [options] -g group_id [<tag>]
    getPhotoList.pl [options] -u username [<tags>]

Options:
  -all           Photos must match all tags (tag search only)
  -recent=X     Only provide photos posted within the last X days (tag searches only)
  -limit=X      Provide no more than X photos
  -license=X    Provide photos with license X
EOT

die $syntax if @ARGV == 0;

my $api = new Flickr::API({'key' => $api_key, secret => $sharedsecret});

# determine method to use
$method = 'flickr.photos.search';
if ($g) {
    $group_id = shift;
    $tags = shift;
    $method = 'flickr.groups.pools.getPhotos';
    print "Searching for photos in group $group_id\n";
```

```

    # determine output filename
    $ofname = $group_id . '.ph';
}
elsif ($u) {
    $username = shift;
    $tags = join ',', @ARGV;
    $method = 'flickr.people.getPublicPhotos' if !$tags;
    print "Searching for photos by user $username using $method\n";
    # determine output filename
    $ofname = $username;
    $ofname .= '_' . $tags if $tags;
    $ofname =~ s/, \s*/_/g;
    $ofname .= '.ph';
}
else {
    $tags = join ',', @ARGV;
    print "Searching for photos with tags=$tags ...\n";
    # determine output filename
    $ofname = $tags . '.ph';
    $ofname =~ s/, \s*/_/g;
}

$nbrPages = 0;
$photoIdx = 0;

$limit = 5000 if $limit;

open (OFILE, ">$ofname");

print OFILE "\@photos = (\n";

$user_id = '';
$min_taken_date = '';
$max_taken_date = '';

$xmlp = new XML::Simple ( );

if ($recent)
{
    die "-recent option only valid for tag search\n" if $method ne 'flickr.photos.search';
    ($sec,$min,$hour,$mday,$mon,$year,$wday,$yday,$isdst) =
        gmtime(time - $recent*24*60*60);
    $min_taken_date = sprintf "%04d-%02d-%02d 00:00:00",1900+$year,$mon+1,$mday;
    ($sec,$min,$hour,$mday,$mon,$year,$wday,$yday,$isdst) =
        gmtime(time);
    $max_taken_date = sprintf "%04d-%02d-%02d 00:00:00",1900+$year,$mon+1,$mday;
}

if ($username)
{
    # look up user ID if a username was provided
    #

```

```

my $response = $api->execute_method('flickr.people.findByUsername', {
    username => $username } );
die "Problem determining user_id: $response->{error_message}\n" if !$response->{success};

print Dumper($response) if $verbose; # explore results of call using -verbose

my $xm = $xmlp->XMLin($response->{_content});
$user_id = $xm->{user}->{id};
print "Userid: $user_id\n";
}

do
{
my $params = { per_page => 500,
               page => $nbrPages+1};

$params->{tags} = $tags if $tags;
$params->{user_id} = $user_id if $user_id;
$params->{group_id} = $group_id if $group_id;
$params->{min_taken_date} = $min_taken_date if $min_taken_date;
$params->{max_taken_date} = $max_taken_date if $max_taken_date;
$params->{license} = $license if $license;
$params->{extras} = $extras if $extras;
$params->{tag_mode} = 'all' if $all;

my $response = $api->execute_method($method, $params );
die "Problem: $response->{error_message}\n" if !$response->{success};

print Dumper($response) if $verbose; # explore results of call using -verbose

my $xm = $xmlp->XMLin($response->{_content},forcearray=>['photo']);

$photos = $xm->{photos};
print "Page $photos->{page} of $photos->{pages}\n";

# loop thru photos
$photoList = $xm->{photos}->{photo};
foreach $id (keys %{$photoList})
{
    my $photo = $photoList->{$id};
    $photo->{id} = $id;
    print OFILE ($photoIdx++? ",\n" : "") . Dumper($photo);
}
++$nbrPages;
} while ($photos->{page} < $photos->{pages} && (!$limit || $photoIdx < $limit));

print OFILE "\n);\n1;\n";
close OFILE;

print "$photoIdx photos found matching tags $tags written to $ofname\n";

```

Also create a file called *apikey.ph*, and add code like the following:

```
$api_key = '12345';
$sharedsecret = '6789';
```

Replace *12345* with your actual API key, and replace *6789* with your actual shared secret. (See Chapter 6)

## Running the Hack

To test the script, try running the following command:

```
getPhotoList.pl aardvark
```

This will produce a file called *aardvark.ph*, which contains a list of the photos matching the tag *aardvark*

```
@photos = (
{ 'owner' => '24512271@N00', 'isfriend' => '0', 'ispublic' => '1', 'secret' => '4551f2be',
'title' => 'Groupportrait', 'server' => '3', 'id' => '5024662', 'isfamily' => '0' } ,
{ 'owner' => '66208233@N00', 'isfriend' => '0', 'ispublic' => '1', 'secret' => 'fef397cc',
'title' => 'Grooming is important', 'server' => '8', 'id' => '11999049', 'isfamily' => '0' } ,
{ 'owner' => '44124388719@N01', 'isfriend' => '1', 'ispublic' => '1', 'secret' => 'bee451f2be',
'title' => 'The Night Visitor', 'server' => '4', 'id' => '5043567', 'isfamily' => '1' } ,
{ 'owner' => '66208233@N00', 'isfriend' => '0', 'ispublic' => '1', 'secret' => '94ae5c70',
'title' => 'Buffy_close', 'server' => '7', 'id' => '6883675', 'isfamily' => '0' } ,
...
)
```

To use the script with multiple tags, separate the tags with spaces, like so:

```
getPhotoList.pl rose americanbeauty
```

If you want to require that each photo match *all* the tags, use the optional `-all` argument.

```
getPhotoList.pl -all rose americanbeauty
```

If you don't provide the `-all` argument, the script defaults to doing an OR-style search (i.e., photos mat

To get all of Fubuki's photos, use the `-u` (user) option, like so:

```
getPhotoList.pl -u fubuki
```

Add additional arguments to restrict Fubuki's photos to those matching a particular tag or set of tags. To use this command:

```
getPhotoList.pl -u fubuki macro
```



To produce a list of photos that are in a group pool, you'll need to determine the `group_id`. You can get it from the `flickr.groups.pools.getGroups` method or from the Flickr API Explorer web page, located at <http://www.flickr.com/api/explorer/groups.pools.getGroups.html>.

Once you know the `group_id`, use the script with the `-g` (group) option, like so:

```
getPhotoList.pl -g
group_id
```

Other scripts described in this book can use the files produced by this script. For example, to download the `getSnaps.pl` script from [Hack #34], like so:

```
getPhotoList.pl -u fubuki
getSnaps.pl fubuki
```

The first command downloads a list of Fubuki's photos and saves the information to the file `fubuki.ph`. Then you can use the script to download the photos.

Other hacks in this book demonstrate how to use these lists for projects that involve large-scale image retrieval pickers [Hack #45].

To use one of these photolist files in your own Perl scripts, get the filename from the command line and

```
$photoList = shift;
require "$photoList";
```

My own scripts usually automatically add the `.ph` extension if it hasn't already been provided:

```
$photoList = shift;
$photolist .= '.ph' if !($photolist =~ m/\./);
require "$photoList";
```

Here's a basic loop that walks through the images and converts them into URLs to thumbnails:

```
$suffix = "_t"; # thumbnail suffix
foreach $photo (@photos)
{
    sprintf "http://static.flickr.com/%d/%d_%s%s.jpg",
        $photo->{server}, $photo->{id}, $photo->{secret}, $suffix;
}
}
```

Finally, here's a little script, `getSnap.pl`, that will download one of the photos contained in one of these photolist files:

```
#!/usr/bin/perl
use LWP::Simple;

$photolist = shift;
$photolist .= '.ph' if !($photolist =~ m/\./);
```

```
$photo_id = shift;
die "getSnap.pl [photolist_file] [photo_id#]\n" if !$photo_id;

require "$photolist";

foreach $p (@photos)
{
    if ($p->{id} eq $photo_id)
    {
        $photo = $p;
        last;
    }
}

die "image $photo_id not found in $photolist.\n" if !$photo;

$purl = sprintf "http://static.flickr.com/%d/%d_%s.jpg", $photo->{server},$photo_id, $p
$pimg = get $purl;
$fname = "${photo_id}.jpg";
open (OFILE, ">$fname ") || die ("can't open $fname\n");
binmode OFILE;
print OFILE $pimg;
close OFILE;
```

See [Hack #34] for a way to download all of them more efficiently.

## See Also

- [Hack #34]
- [Hack #43]
- [Hack #49]

## Hack 34. Cache Photos Locally



Flickr has tons of photos, but your hard drive is faster.

If you're working on a project that involves large numbers of Flickr photos, such as a mosaic [[Hack #49](#)], you will probably want to make local copies of the photos on your hard drive. Reading photos locally is much faster than downloading them from Flickr. I find that my scripts might download medium-sized photos as slowly as one per second, but they can process hundreds per second when reading them off my hard drive. If you end up running your script more than once, this hack will save you a huge amount of time.

When downloading photos from Flickr, please be a good Flickr citizen and follow these guidelines:

- Don't download photos that are larger than you need. For most of my projects, I require only small thumbnail images. These download faster from Flickr and put less of a strain on their servers.
- Don't download more photos than you need. If you are interested only in photos of lighthouses, don't download every single photo posted to Flickr Central. Use the various filtering options in the flickr.photos.search API method [[Hack #33](#)] to identify just the images you need.

### Constructing Flickr URLs

Downloading photos from Flickr involves taking the following three identifying fields that Flickr associates with each photo and converting them into a URL:

`photo_id`

This is a unique number associated with the photo. Flickr stores this internally as a 64-bit integer, but you might want to treat it as a string, in case Flickr changes the format in the future.

`secret`

This is a hexadecimal string that must be incorporated into the URL to obtain the photo. Secrets are not necessarily unique, but each `photo_id` has one and only one `secret`.

`server`

To handle the enormous load, Flickr divides the photos among a number of servers, each of which has a number. Each photo is assigned a `server` number when it is first uploaded to Flickr.

The photos themselves can be accessed using one of the following URL systems:

`http://static.flickr.com/<server>/<photo_id>_<secret>.jpg`

`http://static.flickr.com/<server>/<photo_id>_<secret>_<size>.jpg`

If the `<size>` qualifier is left out, as in the first variant, you'll get a medium-sized version of the image, which is 500 pixels on the longest side. This is the version people see on the photo's detail page.

The following values are available for the `<size>` qualifier:

`s`

Small square 75 x 75 pixels

`t`

Thumbnail 100 pixels on the longest side

`m`

Small 240 pixels on the longest side

*No qualifier*

Medium 500 pixels on the longest side (this is the default setting)

`b`

Large 1024 pixels on the longest side (exists only for very large original images)

`o`

Original original dimensions; either a JPEG, GIF, or PNG, depending on the source format (the vast majority are JPEGs)

For example, consider a photo with the following information:

photo_id	3263379
secret	21ee6ccacf
secret	3

You could access this photo using any of the following URLs:

[http://static.flickr.com/3/3263379\\_21ee6ccacf.jpg](http://static.flickr.com/3/3263379_21ee6ccacf.jpg)  
[http://static.flickr.com/3/3263379\\_21ee6ccacf\\_s.jpg](http://static.flickr.com/3/3263379_21ee6ccacf_s.jpg)  
[http://static.flickr.com/3/3263379\\_21ee6ccacf\\_t.jpg](http://static.flickr.com/3/3263379_21ee6ccacf_t.jpg)  
[http://static.flickr.com/3/3263379\\_21ee6ccacf\\_m.jpg](http://static.flickr.com/3/3263379_21ee6ccacf_m.jpg)  
[http://static.flickr.com/3/3263379\\_21ee6ccacf\\_b.jpg](http://static.flickr.com/3/3263379_21ee6ccacf_b.jpg)  
[http://static.flickr.com/3/3263379\\_21ee6ccacf\\_o.jpg](http://static.flickr.com/3/3263379_21ee6ccacf_o.jpg)

(Although, as it turns out, the URL with the `b` value for `<size>` doesn't work, because the original photo is only 700 pixels across.)

## What You Need

The Perl scripts in this hack require you to have access to Perl on the command line and make use of the publicly available `LWP::Simple` module. This module enables you to retrieve data from a web site by issuing a simple `get( )` command.

If you're missing the `LWP::Simple` module, you can install it from CPAN, like this:

```
perl -MCPAN -e shell
cpan> install LWP::Simple
```

The Perl scripts in this hack also require that you have the `getPhotoList.pl` script from [\[Hack #33\]](#) .

## The Code

Create a file called `getSnaps.pl` and enter the following code into it:

```
#!/usr/bin/perl -s

# getSnaps.pl - Jim Bumgardner
#
# grab tagged photos and put small thumbnails into a named folder
#
# use -med option for medium-sized photos

use LWP::Simple;
```

```

$photolist = shift;
$dirname = shift;
die "getSnaps.pl [-big] <photolist_file> [dirname]\n" if !$photolist;

$dirname = $photolist if !$dirname;
$dirname =~ s/\.ph// if $dirname =~ /\.ph$/;
$photolist .= '.ph' if !($photolist =~ /\../);

require "$photolist";

$nbrAdded = 0;

if (!( -e $dirname ))
{
    print "Making directory $dirname\n";
    `mkdir $dirname`;
}

$suffix = $big? '' : '_t';

foreach $photo (@photos)
{
    $purl = sprintf "http://static.flickr.com/%d/%d_%s%s.jpg",
        $photo->{server}, $photo->{id}, $photo->{secret}, $suffix;

    $fnam = "$dirname/$photo->{id}$suffix.jpg";

    $hasSmall = 0;

    print "Checking $fnam...\n" if $verbose;

    # printf "Checking $fnam...\n";
    if (!( -e $fnam ))
    {
        print "Adding $fnam...\n";
        foreach (0..5)
        {
            $pimg = get $purl;
            last if $pimg;
            print "Retry...\n";
            sleep 1;
        }
        die "Couldn't get image $purl\n" if !$pimg;
        open (OF, ">$fnam") || die ("can't open $fnam\n");
        binmode OF;
        print OF $pimg;
        close OF;
        print "$nbrAdded...\n" if ++$nbrAdded % 50 == 0;
    }
}

```

```
print "$nbrAdded added\n";
```

## Running the Hack

To use this code, you'll need the *getPhotoList.pl* script developed in [\[Hack #33\]](#) .

To download a set of images with a particular *tag*, use the following commands:

```
getPhotoList.pl  
tag
```

```
getSnaps.pl  
tag
```

Here is a sample run:

```
$ getPhotoList.pl aardvark  
Searching for photos with tags=aardvark ...  
Page 1 of 1  
31 photos found matching tags aardvark written to aardvark.ph  
  
$ getSnaps.pl aardvark  
Making directory aardvark  
Adding aardvark/5024662_t.jpg...  
Adding aardvark/11999049_t.jpg...  
Adding aardvark/5043567_t.jpg...  
(etc...)  
Adding aardvark/23418439_t.jpg...  
31 added
```

When the second script is done running, you'll find a new folder named *aardvark*, which contains all the thumbnails that are referenced the photolist file *aardvark.ph* that was created by the first script. If you wish to store the photos in a different directory, specify it on the command line, like so:

```
$ getSnaps.pl aardvark myAnimalPics
```

If the directory doesn't already exist, the script will create it.

## Hacking the Hack

There are two strategies you can use for caching images: you can put images used for a particular project into a single folder, as we did in the previous example; or you can keep all the images for all your projects in a central repository, which might consist of multiple folders. I use the second method, because I have a lot of projects and it puts less strain on Flickr; if a photo is used in more than one project I need to download it only once, which reduces the amount of time I spend

downloading images and the amount of space they take up on my hard drive.

I have downloaded hundreds of thousands photos to my local cache, so I have developed a subdivision system that ensures that no one folder holds more than a thousand photos. This makes it faster to traverse the directories and look at photos. Windows, in particular, can be quite slow to display the contents of a folder containing tens of thousands of files.

My cache resides in a root folder called *snaps*. This, in turn, contains one folder for each Flickr server (*snaps/1*, *snaps/2*, etc.). Each server folder contains a set of folders that hold up to 1,000 photos each. My example file from *server 3* with *photo\_id 3263379* gets the following local pathname: *snaps/3/3263/3263379.jpg*.

If you want to use this centralized storage strategy, replace the line that generates the output filename:

```
$fnam = "$dirname/$photo->{id}$suffix.jpg";
```

with this block of code:

```
$rootdir = "snaps"; # make this directory ahead of time
$servdir = "$rootdir/server$photo->{server}";
$kilodir = "$servdir/" . int($photo->{id}/1000);
$fnam = "$kilodir/$photo->{id}$suffix.jpg";
```

This constructs the (more complicated) path to the file, and makes the subdirectories, if necessary.

Before creating the file, you should make the directories leading up to the file, if necessary, like so:

```
`mkdir $rootdir` if !(-e $rootdir);
`mkdir $servdir` if !(-e $servdir);
`mkdir $kilodir` if !(-e $kilodir);
```

If you keep downloading photos, you'll eventually build up a huge local cache, which you can use as source material for giant photo collages and the other impressive projects in the hacks to come.

## See Also

- [\[Hack #33\]](#)
- [\[Hack #43\]](#)
- [\[Hack #45\]](#)
- [\[Hack #49\]](#)



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## Hack 35. Edit Photos as a Batch



Make changes to your photos en masse with batch editing.

Often, when you're browsing around Flickr you'll notice a way that someone else is using tags that you could apply to your own photos. For example, you might have tagged several of your photos taken in national parks with the words *Yosemite* or *Yellowstone*, but not included the tag *national park*.

You could browse to each photo's detail page and add the tag manually, or you could take advantage of Flickr's batch-editing features to add the tag to all the relevant photos in one fell swoop.

### Batch Editing in Flickr

Batch editing involves making a change to a collection of photos. That collection can be as simple as the first page of your photostream, or a more complex result set based on a multiple-tag search. The key to editing photos in a batch is keeping an eye out for the "Edit as a batch" links.

If you browse to your photostream, you'll see an "Edit these as a batch?" link on the right side of the page. Click the link and you can edit all of the photos on the first page of your photostream at once. You can also gather together a group of photos by tags. Enter a tag (or a group of tags separated by commas) into the "Search by tag" form on your photostream page, and you'll see a list of results like those shown in [Figure 5-7](#).

Figure 5-7. Tag search results with "Edit as a batch" link



At the top of the search results page, you'll see the number of results, along with a link to edit all of the photos in the results as a batch. Click the link to bring up the Title/Descriptions batch-editing page shown in [Figure 5-8](#).

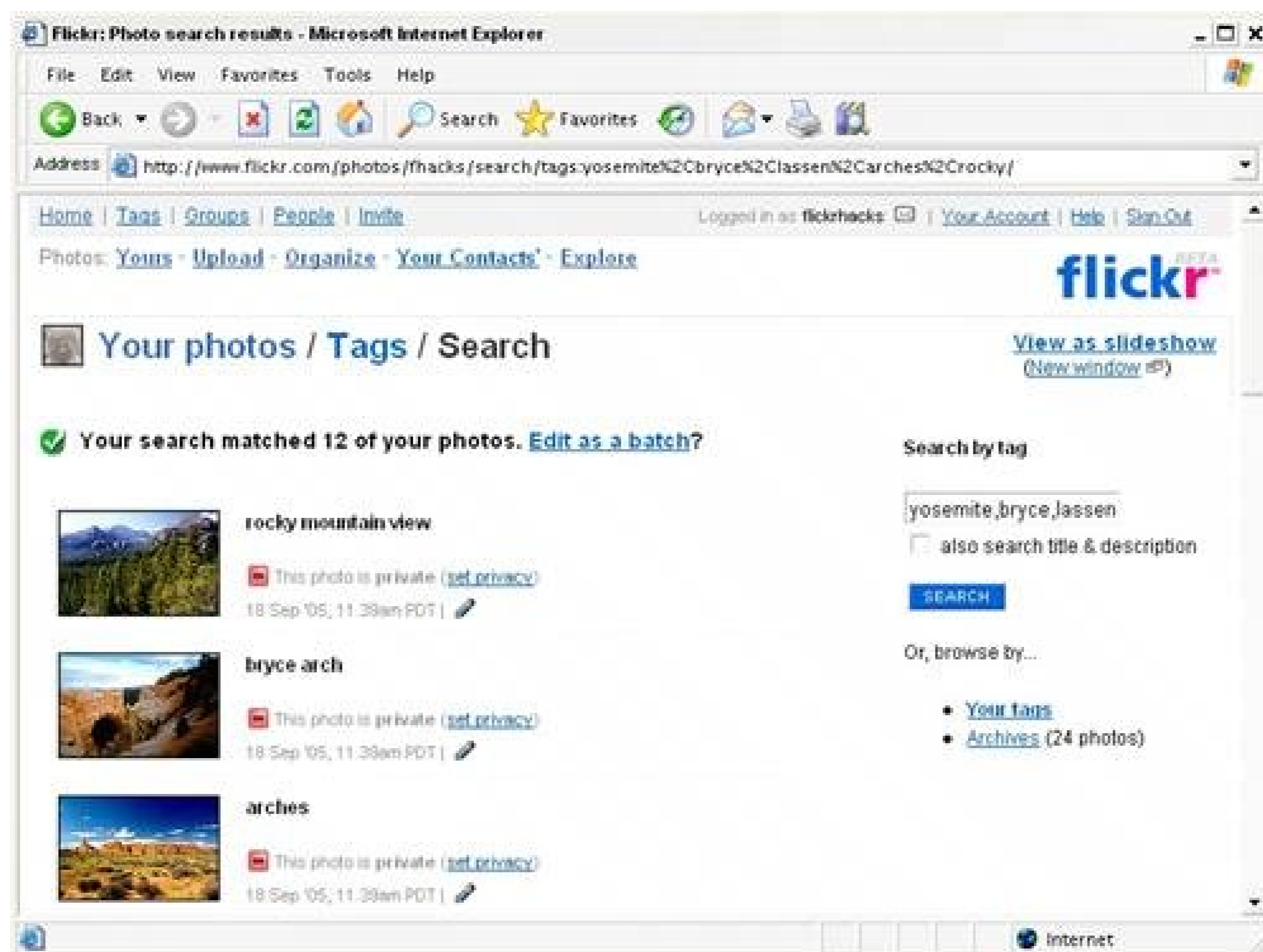
Figure 5-8. Batch editing titles, descriptions, and tags



On the Title/Descriptions batch-editing page, you'll see each of the photos in the batch, along with a form to change the title, description, and tags associated with each of the photos. You can go down the list and make your adjustments, saving you the time involved with visiting each photo's detail page. Click Save at the bottom of the page when you're finished, and all of the photos will be updated.

If you'd rather simply add a tag to all of the photos, you can click the Batch Operations tab at the top of the page for even more editing options, as shown in [Figure 5-9](#).

Figure 5-9. Adding a tag to a group of photos with batch editing



You can add a specific tag to all of the photos, change the privacy settings, or even delete all of these photos from your photostream. (Of course, deleting the photos means the photos will no longer be available at Flickr, so delete with caution!)

While these batch-editing features can handle most changes you'll want to make, some ingenious Flickr members have extended the batch-editing capabilities even further with some help from Greasemonkey.

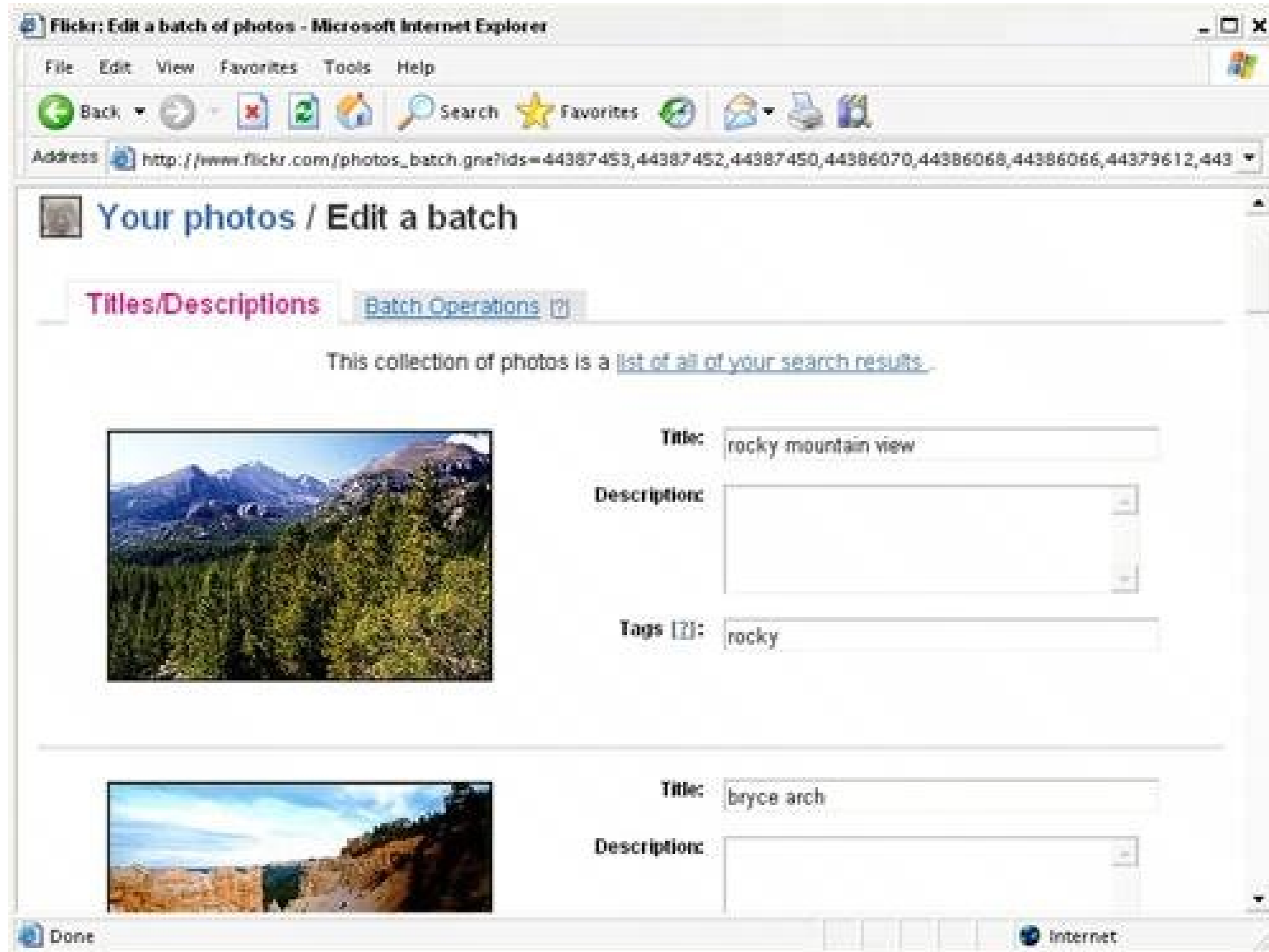
## Extending Batch Editing

Greasemonkey is a plug-in for the Firefox browser that lets users inject code into pages. A couple of Greasemonkey scripts add even more features to Flickr's batch-editing pages to enable users to edit other aspects of photos in a group. To get started, install Greasemonkey by visiting <http://greasemonkey.mozdev.org>. Once it's installed, you'll be set to use the following scripts.

The Flickr Batch Operations Enhancer by Flickr member Lachie (<http://www.flickr.com/photos/lachie/>) adds several options to the Batch Operations page. To install the script, point Firefox to [http://members.iinet.net.au/~lachie/greasemonkey/flickr\\_batch.user.js](http://members.iinet.net.au/~lachie/greasemonkey/flickr_batch.user.js).

Choose Tools → Install This User Script... from the menu, and then reload the Batch Operations page at Flickr. Click the Show Enhancements link under the standard options, and you'll see the new options available, as shown in [Figure 5-10](#).

Figure 5-10. Extended batch options with Lachie's Greasemonkey enhancement

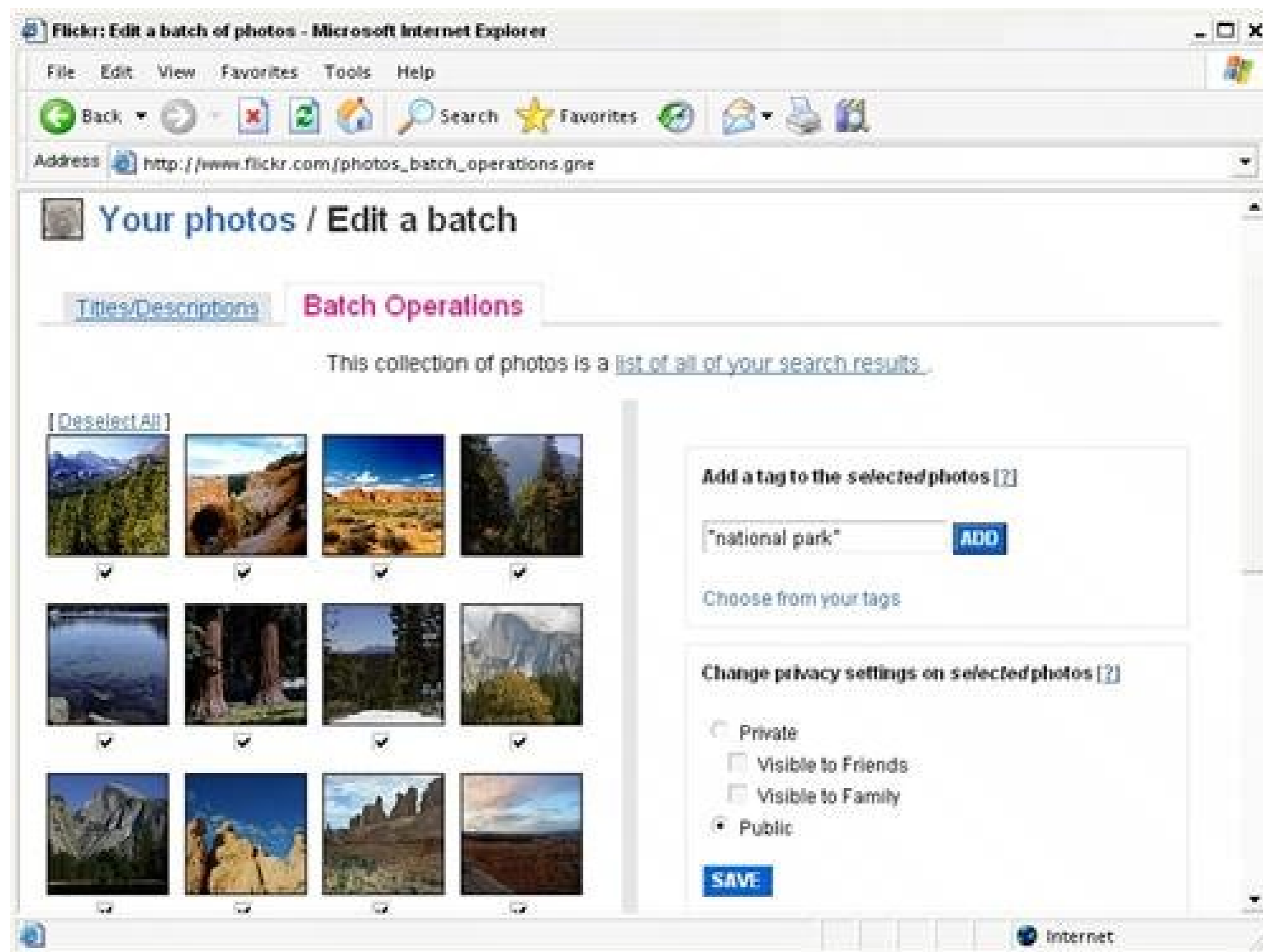


With the script installed, you can edit the date and time for each photo in the batch, adjust the photo licensing [[Hack #16](#)], and set extended permissions for each photo, including who can comment or add notes and tags.

Another Greasemonkey script, Flickr Title + Descriptions Batch Tools by Flickr member Steev (<http://www.flickr.com/photos/steev/>), adds some options to the Title/Descriptions batch-editing page. To install this Greasemonkey script, browse to <http://steev.f2o.org/flickr/flickr.title+desc.batch.user.js>.

Go through the script addition process and browse to the Flickr Title/Descriptions batch-editing page. You'll see the additions shown in [Figure 5-11](#).

Figure 5-11. Extended batch options with Steev's Greasemonkey script



Two new links at the top of the page let you append text to all titles or descriptions, saving the time of pasting text into each field by hand. The arrows to the right of the form fields in the first entry let you specify the initial field's value as the value for all fields on the page. Using the arrows will delete any value that was in the fields before, so be sure that you really want every photo in the batch to have exactly the same title, description, and tags before you use them.

Updating more than a handful of photos doesn't have to be a chore if you know how to use the built-in batch-editing tools. And the Firefox/Greasemonkey combination can provide even more options for changing your photos quickly.

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## Hack 36. Clean the (Group) Pool



Cleaning the pool is all in a day's work for this bot .

As moderator of some large groups on Flickr, such as the Squared Circle (<http://www.flickr.com/groups>), I had to make some power tools to assist with moderating them.

In a large group, several hundred new photos might be submitted to the group photo pool each day, so enterprising individuals might try to add huge batches of photos to a group's photo pool all at once. When it happens, it's an avalanche, and no one gets a chance to really appreciate them.

Some large groups deal with this problem by posting an upload limit in the group description, such as "No uploads, don't speak the language they are posted in, or simply don't care. Manually enforcing upload limits is tedious, and who has submitted what. And unfortunately, Flickr has no mechanism for limiting uploads to group pools.

The Flickr API, however, provides a method called `flickr.groups.pools.remove` that can be used as the basis for a script. As the group administrator's accounts, that automatically removes photos from the group pool. My bot Hipbot and I'm going to share one of the principal Hipbot scripts in this hack.

Figure 5-12. Hipbot

The script scans a collection of different groups that Hipbot administers and applies slightly different policies to each particular group.

If you haven't used the Flickr API before, we suggest you check out the first few sections of the book and the hacks in that chapter before using this script.

## What You Need

To run this script, you'll need an *API key*, a *shared secret*, and an *authorization token*, as explained in the chapter on permissions to delete photos from the group pool.

This script works only if you are an administrator of the group or groups whose pool you are deleting photos from.

This particular example is configured for Hipbot's groups. If you want to use this script with your own group IDs by visiting the API Explorer page for `flickr.groups.pools.getgroups`, which is located at <http://www.flickr.com/services/api/explore/flickr.groups.pools.getgroups/>

Click the Call Method... button on this page to see a list of your groups and their group IDs.



You'll also need the `Flickr::API` module, which is available from CPAN. This module simplifies communic

If you're missing this module, you can install it from CPAN, like this:

```
$ perl -MCPAN -e shell
cpan> install Flickr::API
```

You'll also need `XML::Simple`, which I commonly use to simplify parsing the data structures returned by

## The Code

First, create a file for storing the authentication information. Call it `bot_auth.ph`, and store the following

```
$api_key = '928c994908f02385d1d97a457003cb71';
$shared_secret = '8698bb062a08ca11';
$auth_token = '127122-92395db066e82035';
1;
```

Instead of the values shown here, use your own `api_key`, `shared_secret`, and `auth_token`.

Next, create the file for the main bot script, `cleanPool.pl`. I'll describe this code in sections, starting with `bot_auth.ph` file:

```
#!/usr/bin/perl -s

use Flickr::API;
use XML::Simple;

require 'bot_auth.ph'; # provides api_key, shared_secret, and auth_token
```

Next is a data structure, which describes the rules for each group we are administrating:

```
@groups = (
  {name=>'Flowers', id=>'13378274@N00', limit=>3,
    submitWindow=>7*60*60, cutoffTime => time - 1*24*60*60},
  {name=>'JPG Mag', id=>'52240402017@N01', limit=>1,
    submitWindow=>7*60*60, cutoffTime => time - 1*24*60*60},
  {name=>'Least Interesting', id=>'55489371@N00', limit=>1, keepNewest=>1,
    submitWindow=>0, cutoffTime => 0},
  {name=>'Your Favorites', id=>'74565724@N00', limit=>2, keepNewest=>1,
    submitWindow=>0, cutoffTime => 0},
  {name=>'Body Language', id=>'82402134@N00', limit=>3,
    submitWindow=>12*60*60, cutoffTime => time - 1*24*60*60},
  {name=>'Hand Signals', id=>'80263920@N00', limit=>3,
    submitWindow=>12*60*60, cutoffTime => time - 1*24*60*60},
  {name=>'Critique - Advanced',id=>'48467233@N00', limit=>0,
    submitWindow=>0, cutoffTime=>0},
  {name=>'Critique - For Starters',id=>'16162753@N00', limit=>0,
```

```

        submitWindow=>0, cutoffTime=>0},
{name=>'Critique - Intermediate',id=>'71433669@N00', limit=>0,
        submitWindow=>0, cutoffTime=>0}
);

```

The Flowers group allows posting of a maximum of three photos every seven hours. Other groups, such member to have only one photo in the pool; if a new photo is added, the old one gets deleted. The `cutoff`

Now, initialize the `Flickr::API` module, using the fields defined in the `bot_info.ph` file:

```

# Set up the Flickr::API
#
my $api = new Flickr::API({'key' => $api_key, secret => $shared_secret});

```

Then loop for each group, performing the following actions on each group:

```

# loop for each group
#
foreach $group (@groups)
{
    print "$group->{name}...\n";
}

```

This is the same technique used in [Hack #33] , and it will provide us with a list of the photos we're interested in, with the most recent photos listed first.

The script uses the `cutoffTime` variable to break the loop prematurely if we start seeing photos from a time

```

# Get list of photos
#
#
@photos = ( );
$nbrPages = 0;
$photoIdx = 0;
do
{
    $nbrAdded = 0;

    my $response = $api->execute_method('flickr.groups.pools.getPhotos', {
        group_id => $group->{id},
        per_page => 500,
        page => $nbrPages+1}
    );

    my $xml = $response->{_content};
    $xml =~ s/ownername="[^"]+"//g; # Get rid of stuff that
    $xml =~ s/title="[^"]+"//g; # may causing parsing problems...
    $xm = XMLin($xml);
    $photolist = $xm->{"photos"}->{"photo"};
    $maxTime = 0;
}

```

```

foreach $id (keys %{$photolist})
{
    $photo = $photolist->{$id};
    $photo->{id} = $id;
    push @photos, $photo;
    $maxTime = $photo->{dateadded} if $photo->{dateadded} > $maxTime;
    $photoIdx++;
    $nbrAdded++;
}
print "$photoIdx...\n";
++$nbrPages;
} while ($nbrAdded > 0 && $maxTime > $group->{cutoffTime});

```

The `cutoffTimes` variable can be used only for groups that have a "no more than  $N$  photos in  $N$  hours" ru

Next, the script sorts the photos by time. Some groups have a policy that newer submissions should ca  
Otherwise, we sort in chronological order:

```

# Collect photos by owner
#
%owners = ( );
@photos = sort {$a->{dateadded} <=> $b->{dateadded} } @photos;
@photos = reverse @photos if $group->{keepNewest};

```

The script then collects the photos that each person has submitted into a hash called `$owners` :

```

foreach $photo (@photos)
{
    $owner = $photo->{owner};
    $owners{$photo->{owner}} = {photos=>[]} if !(defined $owners{$photo->{owner}});
    push @{$owners{$photo->{owner}}->{photos}}, $photo;
}

```

It then walks through the `$owners` hash and identifies photos that need to be rejected, based on our rule

```

# Select photos to reject
#
@rejects = ( );
foreach $ownid (keys %owners)
{
    # print "Owner $ownid... SubmitWindow $group->{submitWindow}\n";
    $photoList = $owners{$ownid}->{photos};
    $n = 0;
    foreach $photo (@{$photoList})
    {
        if ($n >= $group->{limit} && (!$group->{submitWindow} || abs($photo->{dateadded} -
        {
            # print "$n exceeds $group->{limit} (dateadded: $photo->{dateadded})\n";
            push @rejects, $photo;
        }
    }
}

```

```

    }
    $n++;
  }
}

```

Next, the script rejects these photos using the API method `flickr.groups.pools.remove` :

```

# Reject photos
#
my $totRejected = 0;
my $totGroup = @photos;
foreach $photo (@rejects)
{
  print "Rejecting $photo->{id}...\n";
  my $res = $api->execute_method('flickr.groups.pools.remove', {
                                group_id => $group->{id},
                                photo_id => $photo->{id},
                                auth_token => $auth_token }
                                );

  if (!$res->{success})
  {
    print "Error rejecting $photo->{id}: $res->{error_message}\n";
  }
  else {
    $totRejected++;
  }
}

```

This is the only call that requires authentication, so we pass the authentication token here. As we reject

We then show the results for this group and loop onto the next one:

```

# Show results
#
print "$totRejected rejected of $totGroup for group $group->{name}\n";

# end of loop
}

```

And that's the script!

## Running the Hack

This script can (and should) be automated to run periodically by using a batch script or *cron* job, but first

```
$ cleanPool.pl
```

```

Flowers...
500...
1000...
0 rejected of 1000 for group Flowers
JPG Mag...
499...
999...
0 rejected of 999 for group JPG Mag
Least Interesting...
500...
731...
0 rejected of 731 for group Least Interesting
Your Favorites...
500...
1000...
1500...
2000...
2500...
3000...
3101...
0 rejected of 3101 for group Your Favorites
Body Language...
500...
1000...
0 rejected of 1000 for group Body Language
Hand Signals...
277...
0 rejected of 277 for group Hand Signals
Critique - Advanced...
0...
0 rejected of 0 for group Critique - Advanced
Critique - For Starters...
0...
0 rejected of 0 for group Critique - For Starters
Critique - Intermediate...
0...
0 rejected of 0 for group Critique - Intermediate

```

I run this script every 20 minutes, so there's usually little that needs cleaning; indeed, in this run, nothing

I should point out that technically, this script rejects photos that exceed some limit (such as three postir easier to detect. Since Flickr users come from all over the world, it's difficult to precisely define what "or

To give Hipbot a little extra personality, I created a separate Flickr account for him and gave him a snaz do the same with your bot. Pretty soon it'll start getting awesome testimonials, like the ones in Figure 5

Figure 5-13. Hipbot te

## See Also

- [Hack #40]

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# Chapter 6. API Basics

[Hacks 37-42](#)

[The API Page](#)

[API Methods](#)

[API Keys and Secrets](#)

[Identifying Users](#)

[Identifying Groups](#)

[Identifying Photos](#)

[Deconstructing Flickr URLs](#)

[Talking to the API](#)

[Hack 37. Talk to the API with Your Web Browser](#)

[Hack 38. Talk to the API with Perl](#)

[Hack 39. Talk to the API with PHP](#)

[Hack 40. Authenticate Yourself](#)

[Hack 41. Authenticate Users](#)

[Hack 42. Build a Custom Upload Script](#)

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## Hacks 37-42

There's an obvious reason why Flickr has a larger and more active community of hackers, tinkerers, and geeks than most other photo-sharing services. It's the incredible application programming interface (API), which lets you interact with Flickr in unique and powerful ways. The API makes it possible to perform Herculean tasks that would otherwise be impossible, or at least extremely tedious, for a human. For example, [Chapter 7](#) shows how to use the API to download thousands of photographs and build an elaborate and beautiful photo mosaic. In this chapter, you'll learn the fundamentals of communicating with the API, as well as the important kinds of information that the API traffics in.

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## The API Page

You can learn to use the Flickr API without memorizing anything, but there is one URL you might want to commit to memory:

<http://www.flickr.com/services/api/>

This is the location of Flickr's API documentation page (which we'll refer to as "the API page" for short). The API page contains a list of each of the API methods, which are services that Flickr can perform for you. Each method listed on the page is linked to a description of that particular method.

Some programmers, this one included, access the API page frequently enough that we can type the URL faster than we'd be able to find the bookmark.

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## API Methods

The Flickr API methods are organized into groups by functionality. This section provides a quick overview of API as a whole, but we recommend that you view the individual API information pages or Flickr for the particular calls that pique your interest. Also, bear in mind that Flickr's API is still rapidly growing and gaining in functionality. Check the current method list at <http://www.flickr.com/services/api/> to find new additions and changes.

## Authorization

These methods are used to *authenticate* (i.e., authorize) applications that use the Flickr API:

```
flickr.auth.checkToken  
flickr.auth.getFrob  
flickr.auth.getFullToken  
flickr.auth.getToken
```

You might need to use these methods if you intend to use other API methods that perform more invasive tasks, such as deleting photos or viewing your own private photos. However, we recommend that, if possible, you avoid using these methods by making use of one of the API kits that performs authentication internally. `phpFlickr` (for PHP users) and `Flickr::API` (for Perl users) are two excellent choices. See [\[Hack #40\]](#) and [\[Hack #41\]](#) for examples.

## Blogs

These methods permit you to interact with any blogs that you have configured to work with Flickr:

```
flickr.blogs.getList  
flickr.blogs.postPhoto
```

## Contacts

These methods permit you to produce lists of your contacts, or some other user's contacts:

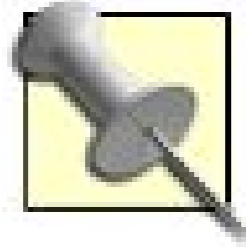
```
flickr.contacts.getList  
flickr.contacts.getPublicList
```

## Favorites

These methods permit you to manipulate and view favorites (photos that you or other people have marked for special attention):

```
flickr.favorites.add
```

```
flickr.favorites.getList
flickr.favorites.getPublicList
flickr.favorites.remove
```



At the time of this writing, it is not yet easy to determine with the API how many people have marked a particular photo a favorite, although this information is displayed on the photo's detail page.

## Groups

*Groups*, which are used both as discussion boards and as a means for disparate users to collect and interact with photos in interesting ways, are one of the great features of Flickr. The following methods permit you to obtain group IDs and to produce lists of groups and of the photos in group photo pools:

```
flickr.groups.browse
flickr.groups.getInfo
flickr.groups.search
flickr.groups.pools.add
flickr.groups.pools.getContext
flickr.groups.pools.getGroups
flickr.groups.pools.getPhotos
flickr.groups.pools.remove
```

## People

Flickr is a social web site, so it's important to be able to find out more about the people using it. These methods allow you to do so:

```
flickr.people.findByEmail
flickr.people.findByUsername
flickr.people.getInfo
flickr.people.getPublicGroups
flickr.people.getPublicPhotos
flickr.people.getUploadStatus
```

Some of the methods in this group, such as `flickr.people.findByUsername`, enable you to determine a user's ID number. You can then pass the user's ID to other API calls, such as `flickr.people.getInfo` to find out more info about the user or `flickr.people.getPublicPhotos` to obtain a list of the photos in that user's stream.

## Photos

Of course, photos are the bread, the butter, and the manna of Flickr, so the majority of the API calls are in the `flickr.photos` group:

```
flickr.photos.addTags
flickr.photos.getAllContexts
```

```
flickr.photos.getContactsPhotos  
flickr.photos.getContactsPublicPhotos  
flickr.photos.getContext  
flickr.photos.getCounts  
flickr.photos.getExif  
flickr.photos.getInfo  
flickr.photos.getNotInSet  
flickr.photos.getPerms  
flickr.photos.getRecent  
flickr.photos.getSizes  
flickr.photos.getUntagged  
flickr.photos.removeTag  
flickr.photos.search  
flickr.photos.setDates  
flickr.photos.setMeta  
flickr.photos.setPerms  
flickr.photos.setTags  
flickr.photos.transform.rotate  
flickr.photos.upload.checkTickets
```

The two calls you're likely to use most frequently are `flickr.photos.getInfo`, which retrieves information about a particular photo, and `flickr.photos.search`, which can retrieve lists of photos that match a particular tag, set of tags, or other criteria.

## Licenses

Flickr supports the Creative Commons licensing system [\[Hack #16\]](#), and these calls permit you to manipulate and query license information:

```
flickr.photos.licenses.getInfo  
flickr.photos.licenses.setLicense
```

Most other calls in the API that retrieve information about photos, such as `flickr.photos.search` and `flickr.groups.pool.getPhotos`, will also return license information for photos.

## Notes

You may have already noticed that on Flickr, you can place notes [\[Hack #10\]](#) directly on top of your photos, or other people's photos. These methods allow you to manipulate those notes:

```
flickr.photos.notes.add  
flickr.photos.notes.delete  
flickr.photos.notes.edit
```

Use `flickr.photos.getInfo` to list the notes and tags for a particular photo.

## Photo Sets

The photos in your stream can be organized into *sets*, which are collections of related photos (such as

all the photos you took on your vacation in Fresno). Use these methods to manipulate and access those sets of photos:

```
flickr.photosets.addPhoto  
flickr.photosets.create  
flickr.photosets.delete  
flickr.photosets.editMeta  
flickr.photosets.editPhotos  
flickr.photosets.getContext  
flickr.photosets.getInfo  
flickr.photosets.getList  
flickr.photosets.getPhotos  
flickr.photosets.orderSets  
flickr.photosets.removePhoto
```

## Reflection: API Information

These methods return information about the API methods themselves, producing a current list of the API methods and describing the information they provide:

```
flickr.reflection.getMethodInfo  
flickr.reflection.getMethods
```

You can also get this same information (in more human-readable form) by visiting the API documentation page at <http://www.flickr.com/services/api/>.

## Tags

Users can attach tags [[Hack #10](#)] to photos on Flickr, and these API methods enable you to view those tags:

```
flickr.tags.getListPhoto  
flickr.tags.getListUser  
flickr.tags.getListUserPopular  
flickr.tags.getRelated
```

You can also use `flickr.photos.getInfo` to list the tags, as well as copious other information, for a particular photo.

## Test

These methods are intended for hackers like us to test the API:

```
flickr.test.echo  
flickr.test.login
```

You might find it just as easy to use some of the other API calls, which is how we'll accomplish the first tests in this chapter.

## URLs

On Flickr, you can find users, photos, and groups at predictable and fixed URLs. It's simple enough to construct these URLs out of their constituent parts by conjoining strings, but you can also use the first three methods in this group:

```
flickr.urls.getGroup  
flickr.urls.getUserPhotos  
flickr.urls.getUserProfile  
flickr.urls.lookupGroup  
flickr.urls.lookupUser
```

The last two methods convert URLs to group IDs and user IDs, respectively.



You'll find that most of the hacks in this book use only a small subset of the entire collection of API methods. You can accomplish an extraordinary amount with just two API methods: `flickr.photos.search` and `flickr.groups.pools.getPhotos`.

## API Keys and Secrets

All of the API methods have one required parameter, `api_key`, which identifies your application to Flickr. Since all the methods require an API key, you should get one before you start experimenting with the API.

To get an API key, sign in to Flickr and go to the following URL (which should look familiar by now):

<http://www.flickr.com/services/api/>

Click the API Keys link (under "Read these first:"), and then click the "Apply for your key online now" link. Alternatively, just go directly to the following URL, which is where you'll end up:

<http://www.flickr.com/services/api/key.gne>

Fill out the form, and press the Apply button. You'll be presented with an API key, as shown in [Figure 6-1](#). You can record this information in a text file, or just return to the Flickr API page when you need to see it.

### Figure 6-1. An API key

You need only one API key for experimenting, but we recommend getting a unique API key for each application that you intend to share with other people. This way, people can assign different permissions to each of your apps.

Each API key is issued with an accompanying *shared secret*, an alphanumeric string that must be provided for the authentication process. You can view the shared secret that goes with your API key by visiting the API page and clicking the word "Yours" on the line that says "API Keys (Yours)." For more info about authentication, see [\[Hack #40\]](#).





## Identifying Users

Many of the API methods accept a few parameters relating to Flickr users (like yourself).

The `username` is the name other users see next to your buddy icon, such as when you post messages in Flickr groups. These are the names you see most commonly on Flickr.

The `user_id` is an alphanumeric string that uniquely identifies each user. It can be used in any URL that refers to the user, such as the user's photostream or profile page.



`user_ids` and `group_ids` are both instances of Network Service IDs (NSIDs): unique strings used to identify both users and groups on Flickr. A typical NSID is a string of numbers, followed by an at sign (`@`), an *N*, and two more numbers (often *00* or *01*). Here's a typical NSID: `94832693@N00`. If you learn to recognize this pattern, it'll be easier to pick it out of URLs.

Flickr is now beginning to integrate its services into Yahoo!, so the `user_id` and `group_id` strings might eventually deviate from the NSID format. Because of this, most API calls that return IDs provide both an ID and an NSID. At time of this writing, these two fields are always identical, but you should be careful to use one or the other consistently to avoid future problems with your scripts.

An easy way to discover your own `user_id` without using the API is to view the image properties of your Flickr icon and examine the URL of the image. My icon's URL reads as follows (my `user_id` is shown in bold):

[http://photos2.flickr.com/buddyicons/\*\*94832693@N00\*\*.jpg?1119657139](http://photos2.flickr.com/buddyicons/94832693@N00.jpg?1119657139)

The link to your RSS feed on your photostream page also contains your `user_id`.

Finally, the `alias` is a name you can choose to give your Flickr page a permanent, more readable URL, in addition to the URL that contains the `user_id`. This alias is not necessarily the same as your username, and unlike your username, once you create the alias you cannot change it. People sometimes start with aliases that are the same as their usernames but then change their usernames. For example, on Flickr, my username is *jbum*, but my alias is *krazydad*, so my photos can be found here:

<http://www.flickr.com/photos/krazydad/>

It's easier for other people to guess your Flickr web address if you make your alias the same as your username. I probably should have chosen *jbum* for my alias, but now it's too late. Oh well!

Not every user has an alias. You can tell if the user does by visiting her photo page. If the URL still contains an NSID, it means the user has not picked out an alias yet. However, even after the user

picks out an alias, the NSID will still work for constructing URLs to the user's pages. Thus, you can also reach my photos by using this URL:

<http://www.flickr.com/photos/94832693@N00/>

There are far more calls in the API that provide user IDs than aliases, so it's usually easier for programs to construct URLs using IDs.





## Identifying Groups

The `group_id` is an NSID that uniquely identifies a group and can be used in any URL that refers to the group.

The `poolname` is to a group what the `alias` is to a user. A poolname provides a permanent, readable web address for the group. Once assigned, a poolname cannot be changed. Like an alias, the poolname does not necessarily correspond to the group's name as it appears in the group listing. For example, the poolname of the Squared Circle group is just *circle*, as illustrated in the group's URL:

`http://www.flickr.com/groups/circle/`

Again, it's easiest for users if the poolname corresponds to the group name, but in actuality this doesn't happen that often, since there are often multiple groups that deal with the same kinds of subjects. If you want to create a group for collecting pictures of mushrooms, chances are you're not the first! Mushrooms, Fungi, and Fungus are already taken. At the moment, Mycology is still free. Grab it while you can!

[← PREVIOUS](#)

## Identifying Photos

Just about every API method that returns information about photos returns the following three pieces of information:

### `photo_id`

A decimal number that identifies a photo. Each photo gets a unique number, and the numbers have been rising since Flickr has been in existence. Like rings on a tree trunk, you can come up with a rough guess of when a photo was uploaded to Flickr by looking at how low its ID number is.

### `secret`

An alphanumeric string that is required to form a valid URL to a photo's image file.

### `server`

A number that, like the `secret`, is required to form a valid URL to a photo's image file. At one time, these numbers corresponded to individual Ludicorp servers, although that might now be a pleasant fiction. Nonetheless, the number is still necessary.

While the `photo_id` is often displayed publicly in the browser's address bar (as part of the URL for the photo's detail page), the `secret` and `server` are normally not visible to end users, making it slightly harder for casual browsers to swipe photos from Flickr. Fortunately for us, there's an easy way to retrieve this info without even using the API.

If you're on a photo's detail page, you can get the goods by invoking the photo's image properties and examining the URL. For example, I have a photo with the following URL:

```
http://www.flickr.com/photos/krazydad/16804205/
```

From this, we can see that the photo's ID is *16804205* and my alias is *krazydad*.

To access the image properties, right-click (Control-click on a Mac) the photo. You'll see the following URL to the photo's JPEG file:

```
http://static.flickr.com/13/16804205_814653c78b.jpg?v=0
```

Ignoring the shmutz after the question mark, the URL is constructed thusly:

```
http://static.flickr.com/server/id_secret.jpg
```

This tells us that the photo's `secret` is `16804205` and its `server` is `13`.



## Deconstructing Flickr URLs

You may have noticed in the previous section that Flickr uses consistent naming conventions for its URLs. This makes it easy to construct these URLs, given crucial bits of information such as `user_ids` and `photo_ids`. Here are some examples:

- URLs for photostreams:

```
http://www.flickr.com/photos/<user_id>  
http://www.flickr.com/photos/<alias>
```

- URLs for profiles:

```
http://www.flickr.com/people/<user_id>  
http://www.flickr.com/people/<alias>
```

- URLs for groups:

```
http://www.flickr.com/groups/<group_id>/  
http://www.flickr.com/groups/<poolname>/
```

- URLs for photo pages:

```
http://www.flickr.com/photos/<user_id>/<photo_id>/  
http://www.flickr.com/photos/<alias>/<photo_id>/  
http://flickr.com/photo.gne?id=<photo_id>
```

- URLs for photo image files:

```
http://static.flickr.com/<server>/<photo_id>_<secret>.jpg  
http://static.flickr.com/<server>/<photo_id>_<secret>_<size>.jpg
```

Note that the underscores between `<photo_id>` and `<secret>` and between `<secret>` and `<size>` in the preceding URLs are required. The underscores themselves are not part of the replaceable values.

If the `<size>` qualifier is left out, you'll get the medium-sized version of the image, which is 500 pixel on the longest side. For a list of `<size>` options, see [\[Hack #34\]](#).



## Talking to the API

You communicate with the Flickr API by sending it requests via the HTTP protocol and then parsing the results, which are returned as XML.

The simplest way to talk to the API is by typing these requests in your browser's address bar [[Hack #37](#)]. However, you will usually talk to it with a programming language, such as Perl [[Hack #38](#)] or PHP [[Hack #39](#)].

The Flickr API currently supports three different request/response protocols (or *formats*), corresponding to currently popular standards for communicating with services on the Internet. In each format the underlying data being communicated is the same, but the XML data is gift-wrapped in a different way:

### *REST*

REST is a rapidly growing informal "standard" that is the simplest (by far!) of the three protocols listed here. This simplicity is the reason for its popularity. Requests are made by issuing simple HTTP `GET` or `POST` actions, and responses are returned via XML with few additional trappings.

### *XML-RPC*

XML-RPC requests are specially formatted XML data posted to a URL. You can find out more about XML-RPC at <http://www.xmlrpc.com>.

### *SOAP*

SOAP is another popular standard protocol for communicating via XML. You can find out more about SOAP at <http://www.w3.org/TR/soap/>.

If trying to pick one of these protocols is wearing you out, might we suggest taking a REST? REST is the protocol that the majority of Flickr developers actually use, because it carries the least baggage and requires the smallest amount of overhead to parse the results. It is the only protocol that you can easily experiment with by typing requests in your web browser's address bar. The most compelling reason for using XML-RPC or SOAP is if you are integrating Flickr into an app that already uses one of these more complex formats. Most of the API examples in this book use the REST protocol.

So, now that you've gotten a glimpse of the different pieces of the API, let's start playing with it, shall we?





## Hack 37. Talk to the API with Your Web Browser



Making requests with your web browser is a great way to familiarize yourself with the Flickr ,

Before using a programming language (such as Perl [Hack #38] or PHP [Hack #39] ) to talk to the Flickr API, try using your web browser. If you are using a new API method, this is an excellent way to get used to it and to verify the call. If you are unfamiliar with the mechanics of REST and XML, it is also a good way to explore how the

There are two simple ways to talk to the API using your web browser: you can type REST URLs directly in your browser (the hard way), or you can use Flickr's API Explorer (the easy way).

### Using REST URLs

The first method, using your browser's address bar, is mainly of historical interest, because the second method shows how it works, for completeness's sake.

You can use any Flickr API method, such as `flickr.test.echo` , by entering its name and any required parameters in the Flickr REST format.

Here's an example. Try pasting this into your web browser's address bar:

```
http://www.flickr.com/services/rest/?method=flickr.test.echo&api_key=your_api_key&param1=param1&param2=param2
```

Substitute your own API key for `your_api_key` , and substitute the name of any Flickr API method for `flickr.test.echo` . Also substitute parameters that are required by the call, just as the above example uses `param1` and `param2` with `flickr.test.echo` .

If you use a valid API key, you'll get a result like this:

```
<rsp stat="ok">
<method>flickr.test.echo</method>
<api_key>81a8f5d6c402d26f425e4361d07f85ba</api_key>
<foo>bar</foo>
</rsp>
```

The main problem with typing API URLs directly is that you need a valid API key, and you might not have one.

You can apply for an API key at <http://www.flickr.com/services/api/key.gne>.

Also, it is often difficult to determine correct values for the various parameters you might want to use which creates a kind of chicken-and-egg problem when you want to test the API.

To solve this problem, the Flickr folks have come up with an excellent tool called the *API Explorer*, the "e" discussed in the following section.

## Using the API Explorer

The API Explorer generates a temporary Flickr API key and gives you the option of signing each call with helpful values, such as photo IDs, group IDs, and so on, which are quite useful for generating examples.

To use the API Explorer, visit the documentation page for the particular method you are interested in. You'll find a table of contents at the bottom of the page. The table of contents for all of the API methods is located at an address that's visible at the bottom of the page.

<http://www.flickr.com/services/api/>

From there, you can find the API Explorer for each method pretty quickly.

The next few hacks use `flickr.photos.getInfo` as an example. This is the API call that retrieves detailed information about a photo. The documentation page for `flickr.photos.getInfo` is located at <http://www.flickr.com/services/api/flickr.photos.getInfo.html>.

Clicking the API Explorer link at the bottom of this page will take you to the API Explorer form shown in Figure 6-2. The URL for the API Explorer form is <http://www.flickr.com/services/api/explore/?method=flickr.photos.getInfo>.

Figure 6-2. Flickr API Explorer for `flickr.photos.getInfo`

You'll notice that there is a required parameter for this call, which is the `photo_id` of the photo we're interested in. Since we don't particularly care about which photo we're getting info on, we can use one of the values in the "Your recent photo IDs" column on the right. A few values should be listed under "Your recent photo IDs."

Copying and pasting the ID of the photo labeled "All the cat toys on Amazon" (60147370) and then pres produces the following XML:

```
<rsp stat="ok">
<photo id="60147370" secret="0bdfee3691" server="30" dateuploaded="1131226468" isfavorit
<owner nsid="94832693@N00" username="jbum" realname="Jim Bumgardner" location="Burbank,
<title>All the cat toys on Amazon</title>
<description>
All the cat toys on Amazon.

Interactive version here:

<a href="http://www.coverpop.com/pop/cattoys/">http://www.coverpop.com/pop/cattoys/</a>

</description>
<visibility ispublic="1" isfriend="0" isfamily="0"/>
<dates posted="1131226468" taken="2005-11-05 13:34:28" takengranularity="0" lastupdate='
<permissions permcomment="3" permaddmeta="2"/>
<editability cancomment="1" canaddmeta="1"/>
<comments>1</comments>
<notes>
</notes>
<tags>
<tag id="197715539" author="94832693@N00" raw="cats">cats</tag>
<tag id="197715540" author="94832693@N00" raw="cat toys">cattoys</tag>
<tag id="197715541" author="94832693@N00" raw="amazon">amazon</tag>
<tag id="197715542" author="94832693@N00" raw="mosaic">mosaic</tag>
<tag id="197715543" author="94832693@N00" raw="coverpop">coverpop</tag>
</tags>
<urls>
<url type="photopage">http://www.flickr.com/photos/krazydad/60147370/</url>
</urls>
</photo>
</rsp>
```

It's also instructive to enter invalid information and see what kind of result you get. For example, enterin a valid `photo_id` ) returns the following result:

```
<rsp stat="fail">
<err code="1" msg="Photo not found"/>
</rsp>
```

The XML results from all the Flickr API methods exhibit this same rudimentary structure. There is an `<rsp>` `ok` or `fail` stat property. If the call is a failure, there will also be an `<err>` tag, which contains a helpful er the call succeeds, the `<rsp>` container will contain the result of the call, which varies from API method to

In the next couple of hacks, we'll see how to use `flickr.photos.getInfo` , as well as some other API met [Hack #39] . We'll also see different ways to parse the XML and make use of it. Before proceeding, get <http://www.flickr.com/services/api/key.gne> . You're going to need it very soon!

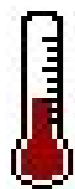
## See Also

- [\[Hack #38\]](#)
- [\[Hack #39\]](#)





## Hack 38. Talk to the API with Perl



Perl is a good choice for talking to the API from the command line .

This hack presents a few different Perl scripts that talk to the Flickr API. First, some simple examples show a simple method; the two different techniques that follow it accomplish a more useful task. The programs in this hack mirror the programs in this hack.

### What You Need

Talking to the Flickr API requires you to solve two fundamental problems. The first problem is how to issue requests to the API. To do this, this hack uses two different modules. The first few programs use the commonly available `LWP::Simple` module, and the final program uses `Flickr::API` , which is a higher-level module built on top of the `LWP::Simple` module.

The second problem you need to solve is how to interpret the result you get back specifically, how to parse the XML. In the Perl community, a bewildering number of XML parsers are available. `Flickr::API` actually does some parsing for you, but I don't particularly like the XML parser it uses, so this chapter uses `XML::Simple` , which produces a simpler and more elegant data structure than some of the other XML parsers.

Regardless of which XML parser you use, it is much easier to figure out how to use it if you examine the structures it produces using the `Data::Dumper` module.

So, to sum up, we're going to use these four Perl modules:

```
LWP::Simple
Flickr::API
XML::Simple
Data::Dumper
```

You can download all of these modules from CPAN. On Linux and Mac systems, you can install the modules from the command line using Perl. For example, here's how to install `Flickr::API` :

```
> perl -MCPAN -e shell
cpan> install Flickr::API
```

In Windows, particularly with ActiveState Perl, it is easier to use the `ppm` utility. For example:

```
> ppm install Flickr::API
```

Let's start with a program that does the bare minimum.

## Getting a User's ID

The first program uses `LWP::Simple` to talk to the API, converting a username into a Flickr user ID. Since Flickr API calls that return information about users require a `user_id` as a parameter, this is a useful call. Create a new text file called `testapi.pl` and enter the following code:

```
#!/usr/bin/perl -s

use LWP::Simple;

$username = shift;
die ("Please specify a Flickr username\n") if !$username;

$api_key = 'your_api_key'; # insert your API key here
$method = 'flickr.people.findByUsername';

$url = "http://www.flickr.com/services/rest/?method=$method&api_key=$api_key&username=$";
$xml = get $url;

print $xml;
```

You'll need to change the following line:

```
$api_key = 'your_api_key'; # insert your API key here
```

so that it includes your own API key, like this:

```
$api_key = 'e072dadf32c2a6da1b7b7592e88ebe9e';
```

You can apply for an API key at <http://www.flickr.com/services/api/key.gne>.

As you can see, this program basically constructs a REST URL that is the same as the URLs you can type into your web browser's address bar [Hack #37]. It retrieves the result using the `get()` function, which by `LWP::Simple`, and then displays the result as text.

Here's a sample run:

```
> testapi.pl jbum
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok">
  <user id="94832693@N00" nsid="94832693@N00">
    <username>jbum</username>
  </user>
</rsp>
```

If all you want to do is find out a user ID, this might be all you need. However, it would be nice to display in a more readable fashion. You can extract the user ID using Perl's pattern matching:

```
($id) = $xml =~ m/nsid="(.*?)"/;
print "User ID: $id\n";
```

But there's a more flexible way, which is to use an XML parser. This might seem a bit complicated now, but it will make parsing more complex XML easier. Here's a rewrite of the program using the `XML::Simple` parser and the `Data::Dumper` module:

```
#!/usr/bin/perl -s

use LWP::Simple;
use XML::Simple;
use Data::Dumper;

$username = shift;
die ("Please specify a Flickr username\n") if !$username;

$api_key = 'your_api_key'; # insert your API key here
$method = 'flickr.people.findByUsername';

$method = 'flickr.people.findByUsername';
$url = "http://www.flickr.com/services/rest/?method=$method&api_key=$api_key&username=$username";
$xml = get $url;
$xml = XMLin($xml);

print Dumper($xml), "\n" if $debug;

if ($xml->{err})
{
    print "Error getting user id: ", $xml->{err}->{msg}, "\n";
    exit;
}
$user_id = $xml->{user}->{id};
print "User ID: $user_id\n";
```

This program takes an optional option, `-debug`, which can be used to dump the contents of the data structure produced by `XMLin()`, the parsing function provided by `XML::Simple`. The program dumps it using the `Dumper` function provided by `Data::Dumper`, an incredibly helpful way to figure out what kind of data structures you are being confronted with. Here's a sample run with debugging turned on:

```
> testapi2.pl -debug jbum
$VAR1 = {
    'user' => {
        'nsid' => '94832693@N00',
        'id' => '94832693@N00',
        'username' => 'jbum'
```



```

        },
        'stat' => 'ok'
    };

```

User ID: 94832693@N00

You might have noticed that the `nsid` and `id` fields in the returned data structures are the same. At the r Flickr IDs and NSIDs are identical, and we'll tend to use them interchangeably in this book. It is possible that at some time in the future the two ID systems will diverge.

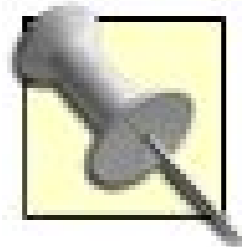


The `$VAR1 =` at the beginning of the `Dumper()` output is meaningless. `VAR1` is a placeholder for the variable you are dumping. I prefer to omit it by setting `Data::Dumper` to terse mode. You can accomplish this by adding this line near the top of the program:

```

$Data::Dumper::Terse = 1; # avoids $VAR1 = * ;
                        # in dumper output

```



You'll see this in use in the next example.

## Viewing a User's Latest Photo

The next program uses the same basic techniques but introduces two new API calls. The program takes a username, converts it into a `user_id`, and then uses that `user_id` to look up the most recent photo in the user's stream, using `flickr.people.getPublicPhotos`. It then gets a little more info about the photo using `flickr.photos.getInfo` and generates an HTML page that contains a view of the photo and the information retrieved.

Create a new file called `getUsersLatest.pl` and add the following Perl code:

```

#!/usr/bin/perl -s

use LWP::Simple;
use XML::Simple;
use Data::Dumper;
$Data::Dumper::Terse = 1; # avoids $VAR1 = * ; in dumper output

$api_key = 'your_api_key'; # insert your Flickr API key here

$username = shift;
die ("Please specify a Flickr username\n") if !$username;

#
# Get user's ID
#
$method = 'flickr.people.findByUsername';

```

```

$url = "http://www.flickr.com/services/rest/?method=$method" .
      "&api_key=${api_key}&username=${username}";
$xml = get $url;
$xml = XMLin($xml);

print Dumper($xml), "\n" if $debug;

if ($xml->{err})
{
    print "Error getting user id: ", $xml->{err}->{msg}, "\n";
    exit;
}
$user_id = $xml->{user}->{id};

#
# Get user's most recent photos
#

$method = 'flickr.people.getPublicPhotos';
$url = "http://www.flickr.com/services/rest/?method=$method" .
      "&api_key=$api_key&user_id=$user_id&per_page=1";
$xml = get $url;
$xml = XMLin($xml);
print Dumper($xml), "\n" if $debug;

if ($xml->{err})
{
    print "Error getting most recent photo: ", $xml->{err}->{msg}, "\n";
    exit;
}
$photo_id = $xml->{photos}->{photo}->{id};
$photo_secret = $xml->{photos}->{photo}->{secret};
$photo_server = $xml->{photos}->{photo}->{server};

#
# Formulate URL to the photo (image)
#
$imgUrl = sprintf "http://static.flickr.com/%d/%d_%s.jpg",
                $photo_server, $photo_id, $photo_secret;

#
# Formulate URL to the photo's Flickr page
#
$pageUrl = sprintf "http://www.flickr.com/photos/%s/%d/",
                $user_id, $photo_id;

#
# Get photo info

```

```

#
$method = 'flickr.photos.getInfo';
$url = "http://www.flickr.com/services/rest/?method=$method" .
      "&api_key=$api_key&photo_id=$photo_id";
$xml = get $url;
$xml = XMLin($xml);
print Dumper($xml), "\n" if $debug;

if ($xml->{err})
{
    print "Error getting most recent photo: ", $xml->{err}->{msg}, "\n";
    exit;
}

#
# Get title
#
$title = $xml->{photo}->{title};

#
# Get date uploaded
#
$dateuploaded = $xml->{photo}->{dateuploaded};
($sec, $min, $hour, $mday, $mon, $year, $yday, $isdst) = localtime($dateuploaded);
$datestr = sprintf '%4d-%02d-%02d %2d:%02d', $year+1900, $mon+1, $mday, $hour, $min;

#
# Join tags into a single string
#
$tags = $xml->{photo}->{tags}->{tag};
$taglist = join ', ', map {$tags->{$_}->{content}} keys %{$tags};

#
# Output HTML page containing URL to photo, image, and tags.
#
print <<EOT;
<html>
<head>
<title>Sample Photo Page</title>
</head>
<body>
<center>
The latest from $username...<br>
<a href="$pageUrl"></a><br>
Title: $title<br>
Uploaded: $datestr<br>
$taglist
</center>
</body>
</html>

```

EOT

The final section of this program outputs some HTML to standard output. To use the program, redirect it HTML file, and then view the HTML file in your web browser.

Here's a sample, run, showing the HTML:

```
> getUsersLatest.pl jbum
<html>
<head>
<title>Sample Photo Page</title>
</head>
<body>
<center>
The latest from jbum...<br>
<a href="http://www.flickr.com/photos/94832693@N00/61321455/"></a><br>
Title: The visitor<br>
Uploaded: 2005-11-08 10:47<br>
alien, coverpop, mosaic, ufo, visitor, paranormal
</center>
</body>
</html>
```

Figure 6-3 shows the result as it looks in my web browser.

Figure 6-3. Viewing a user's latest photo

The latest from jburn...



Title: The visitor

Uploaded: 2005-11-08 10:47

alien, coverpop, mosaic, ufo, visitor, paranormal

The HTML code here that displays the photo embeds it within a link back to the Flickr page for that particular photo. The Flickr Terms of Service request that you always provide a back to Flickr with each photo you display, and this is a common way of doing it.

Some of the data structures involved here are bit complicated, and it is not easy to predict how to generate complex references needed to extract certain fields, as in this line:

```
$photo_id = $xm->{photos}->{photo}->{id};
```

In each case, I first implemented the `Dumper()` part of the program and ran it, so I could view the data structures that I needed to traverse. Regardless of which XML parser you choose to use, this is a helpful technique to figure out what you're dealing with. I've left the data-dumping feature in this program, to be triggered by the `-d` option.

## Viewing a User's Latest Photo Using Flickr::API

This next program is a port of the previous one with exactly the same features. The only difference is that it uses `Flickr::API` instead of `LWP::Simple`. `Flickr::API` is intended to provide a layer of glue, freeing you from the gritty details of dealing with the API. In this case, however, you'll notice that both programs are nearly the same length!

Create a new file called `getUsersLatest2.pl` and add the following Perl code:

```
#!/usr/bin/perl -s

use Flickr::API;      # replaces use of LWP::Simple
use XML::Simple;
use Data::Dumper;
$Data::Dumper::Terse = 1; # avoids $VAR1 = * ; in dumper output

$api_key = 'your_api_key'; # insert your Flickr API key here
$username = shift;
die ("Please specify a Flickr username\n") if !$username;

#
# Initialize Flickr API
#
my $api = new Flickr::API({'key' => $api_key});

#
# Get user's ID
#

my $response = $api->execute_method('flickr.people.findByUsername', {
    username => $username
});

if (!$response->{success})
{
    print "Error getting user id: ", $response->{error_message}, "\n";
    exit;
}
$xml = XMLin($response->{_content});
print Dumper($xml), "\n" if $debug;

$user_id = $xml->{user}->{id};

#
# Get user's most recent photos
#

my $response = $api->execute_method('flickr.people.getPublicPhotos', {
    user_id => $user_id,
    per_page => 1
});

if (!$response->{success})
{
    print "Error getting most recent photo: ", $response->{error_message}, "\n";
    exit;
}
$xml = XMLin($response->{_content});
print Dumper($xml), "\n" if $debug;

$photo_id = $xml->{photos}->{photo}->{id};
```

```

$photo_secret = $xm->{photos}->{photo}->{secret};
$photo_server = $xm->{photos}->{photo}->{server};

#
# Formulate URL to the photo (image)
#
$imgUrl = sprintf "http://static.flickr.com/%d/%d_%s.jpg",
                 $photo_server,$photo_id, $photo_secret;

#
# Formulate URL to the photo's Flickr page
#
$pageUrl = sprintf "http://www.flickr.com/photos/%s/%d/",
                  $user_id, $photo_id;

#
# Get photo info
#
my $response = $api->execute_method('flickr.photos.getInfo', {
                                   photo_id => $photo_id
                                   });
if (!$response->{success})
{
    print "Error getting photo info: ",$response->{error_message},"\\n";
    exit;
}
$xml = XMLin($response->{_content});
print Dumper($xml),"\\n" if $debug;

#
# Get title
#
$title = $xml->{photo}->{title};

#
# Get date uploaded
#
$dateuploaded = $xml->{photo}->{dateuploaded};
($sec,$min,$hour,$mday,$mon,$year,$yday,$isdst) = localtime($dateuploaded);
$datestr = sprintf '%4d-%02d-%02d %2d:%02d', $year+1900,$mon+1,$mday,$hour,$min;

#
# Join tags into a single string
#
$tags = $xml->{photo}->{tags}->{tag};
$taglist = join ', ',map {$tags->{$_}->{content}} keys %{$tags};

#
# Output HTML page containing URL to photo, image, and tags.

```

```

#
print <<EOT;
<html>
<head>
<title>Sample Photo Page</title>
</head>
<body>
<center>
The latest from $username...<br>
<a href="$pageUrl"></a><br>
Title: $title<br>
Uploaded: $datestr<br>
$taglist
</center>
</body>
</html>
EOT

```

If you look closely, you'll see that the two programs are nearly identical and that in this case, `Flickr::API` really buying you very much. An additional line has been added near the top to initialize `Flickr::API`:

```
my $api = new Flickr::API({'key' => $api_key});
```

The calls to `get()` have been replaced by calls to `api->execute_method()`, and the results are processed differently. This program *could* be made slightly shorter, by taking advantage of the XML parsing that `Flickr::API` does. For example, to read the first photo's ID, instead of saying this:

```
$xm = XMLin($response->{_content});
$photo_id = $xm->{photos}->{photo}->{id};
```

you could omit the `XMLin()` step and say this, in just one line:

```
$photo_id = $response->{tree}->{children}->[1]->{children}->[1]->{attributes}->{id};
```

However, you'll notice that the data structure that must be traversed to find the photo ID (a data structure produced by `XML::Parser::Lite::Tree`, the XML parser used internally by `Flickr::API`) is more intricate to my eye, less intuitive because of all those generic-looking `children`) than the structure returned by `XML::Simple`. This intricacy generally leads to more coding mistakes, so I prefer to use `XML::Simple`.

So, why use `Flickr::API` at all? As you'll see in [Hack #40], it is enormously helpful for API calls that require authentication, one of the more complicated bits of the Flickr API.

## See Also

- [Hack #37]
- [Hack #39]



- [Hack #40]



 PREVIOUS

## Hack 39. Talk to the API with PHP

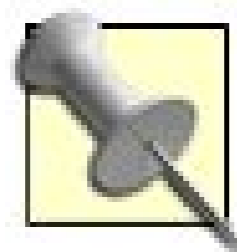


PHP is a good choice for creating web-based Flickr tools .

Having looked at how to talk to the API in Perl [Hack #38] , this hack accomplishes the same tasks in PHP. This is a complicated task using the two available API kits: `PEAR::Flickr_API` and `phpFlickr` . Accomplishing the same

### What You Need

Since we're programming in PHP, you'll need a web server with PHP installed. All the programs in this hack



Some of the XML parsing can be made much simpler if you have access to PHP 5 and with PHP 4, we'll keep these programs compatible with the earlier version.

We'll be using the two currently available API kits for talking to Flickr from PHP: `PEAR::Flickr_API` (available at <http://www.phpflickr.com> ).

Any new API kits that become available after the publication of this book will be listed

Talking to the Flickr API in any language requires that you solve two fundamental problems. The first problem is how to get the data you get back. In PHP 4, solving the first problem is quite simple, but picking your way through the tangled

We'll start with a program that does the bare minimum.

### Getting a User's ID

This first program talks to the API without using an API kit.

Create a new text file called `testapi.php` and enter the following code:

```
<?
$api_key = 'your_api_key'; # Insert your Flickr API key here
$username = 'jbum';
```

```

if (isset($_GET['username']))
    $username = $_GET['username'];

#
# Get user's ID
#
$method = 'flickr.people.findByUsername';
$url = "http://www.flickr.com/services/rest/?method=$method&api_key=$api_key&username=$username";
$response = file_get_contents($url);

echo htmlspecialchars($response);
?>

```

You'll need to change the following line:

```
$api_key = 'your_api_key'; # Insert your Flickr API key here
```

so that it includes your own API key, like this:

```
$api_key = 'e072dadf32c2a6da1b7b7592e88ebe9e';
```

You can apply for an API key at <http://www.flickr.com/services/api/key.gne>.

As you can see, this program is constructing a REST URL that is the same as the URLs you can type directly in your browser. The program uses the `file_get_contents()` function and then displays the result as text. Since the result is XML, you can use `htmlspecialchars()` to display properly in your browser.

To test the program (and all the programs in this hack), upload it to your web server and then type the

```
http://www.yourdomain.com/testapi.php
```

You can test it with a username other than *jbum* (say, *Special*) by adding it as an optional parameter:

```
http://www.yourdomain.com/testapi.php?username=special
```

Here's an example of the XML produced by a sample run:

```
<?xml version="1.0" encoding="utf-8" ?> <rsp stat="ok"> <user id="36521955290@N01" nsid="
```

As you can see, invoking the API is relatively simple. The hard part is extracting the data you need out of the XML.

Since the API kits available for PHP include XML parsing, this is a good time to start using them. We'll start with the XML kit.

## Getting a User's ID Using PEAR::Flickr\_API

Here is a modification of the previous program, using `PEAR::Flickr_API` :

```
<?
require_once 'Flickr/API.php';

$api_key = 'your_api_key'; # Insert your Flickr API key here

$api =&new Flickr_API(array('api_key' => $api_key));

$username = 'jbum';
if (isset($_GET['username']))
    $username = $_GET['username'];

#
# Get user's ID
#
$response = $api->callMethod('flickr.people.findByUsername',
                             array('username' => $username));

if (!$response)
{
    echo "Error getting user id: ".$api->getErrorMessage()."\n";
    exit;
}

$user = $response->getElement(array(0));
$user_id = $user->getAttribute('id');

print "User_ID: $user_id<p>";

?>
```

To use this program, you'll need to again replace `$api_key` with an actual API key. You'll also need to have the four directories in its archive (*Flickr*, *HTTP*, *Net*, and *XML*) into the same directory where your PHF

## Viewing a User's Latest Photo with PEAR::Flickr\_API

The next program expands upon the previous program and introduces two new API calls. The program will look up the most recent photo in the user's stream, using `flickr.people.getPublicPhotos`. It then generates an HTML page that contains a view of the photo and the information that was retrieved.

Create a new file called *getUsersLatest.php* and add the following code:

```
<?
```

```

require_once 'Flickr/API.php';

$api_key = 'your_api_key'; # insert your actual API key

$api =&new Flickr_API(array('api_key' => $api_key));

$username = 'jbum';
if (isset($_GET['username']))
    $username = $_GET['username'];

#
# Get user's ID
#
$response = $api->callMethod('flickr.people.findByUsername',
                            array('username' => $username ));

if (!$response)
{
    echo "Error getting user id: ".$api->getErrorMessage( )."\n";
    exit;
}

$nom = $response->getElement(array(0));
$user_id = $nom->getAttribute('id');

#
# Get user's most recent photos
#

$response = $api->callMethod('flickr.people.getPublicPhotos', array(
    'user_id' => $user_id,
    'per_page' => 1    ));

if (!$response)
{
    print "Error getting most recent photo: ".$api->getErrorMessage( )."\n";
    exit;
}
$photo = $response->getElement(array(0,0));
$photo_id = $photo->getAttribute('id');
$photo_secret = $photo->getAttribute('secret');
$photo_server = $photo->getAttribute('server');

#
# Formulate URL to the photo (image)
#
$imgUrl = "http://static.flickr.com/$photo_server/{ $photo_id }_{ $photo_secret }.jpg";

#
# Formulate URL to the photo's Flickr page

```

```

#
$pageUrl = "http://www.flickr.com/photos/$user_id/$photo_id/";

#
# Get photo info
#
$response = $api->callMethod('flickr.photos.getInfo',
                             array( 'photo_id' => $photo_id    ));

if (!$response)
{
    print "Error getting most recent photo: ".$api->getErrorMessage( )."\n";
    exit;
}

#
# Get title
#
$photo = $response->getElement(array(0));
$title = $photo->getElement(array(1));
$title = $title->content;

#
# Get date uploaded
#
$dateuploaded = $photo->getAttribute('dateuploaded');
$time = localtime((int) $dateuploaded, 1);
$datestr = $dateuploaded;

$datestr = sprintf('%4d-%02d-%02d %2d:%02d',
                  $time['tm_year']+1900,
                  $time['tm_mon']+1,
                  $time['tm_mday'],
                  $time['tm_hour'],
                  $time['tm_min']);

#
# Join tags into a single string
#
$tags = $photo->getElement(array(8));
$n = 0;
$taglist = '';
foreach ($tags->children as $tag)
{
    if ($n++ > 0)
        $taglist .= ', ';
    $taglist .= $tag->content;
}

#
# Output HTML page containing URL to photo, image, and tags.

```

```

#
print <<<EOT
<html>
<head>
<title>Sample Photo Page</title>
</head>
<body>
<center>
The latest from $username...<br>
<a href="$pageUrl"></a><br>
Title: $title<br>
Uploaded: $datestr<br>
$taglist
</center>
</body>
</html>
EOT;

?>

```

The final section of this program outputs the same HTML as the Perl programs in [Hack #38] . To use it be same as in Figure 6-3 .

## Viewing a User's Latest Photo Using phpFlickr

This next program is a port of the previous one with exactly the same features. The only difference is that I think you'll find the code easier to understand. In addition, the support web site for [phpFlickr](http://phpFlickr.com) contains Huzzah!

```

<?

# getLastPhoto - phpFlickr version

require_once("phpFlickr.php");

$api_key = 'your_api_key';

$api = new phpFlickr($api_key);

# This is a good spot to enable caching -- see the ransom note hack
# in Chapter 7 for an example

#
# Get user's ID
#
$username = 'jbum';
if (isset($_GET['username']))
    $username = $_GET['username'];
$user_id = $api->people_findByUsername($username);

```

```

#
# Get user's most recent photo
#

$photos = $api->people_getPublicPhotos($user_id,NULL,1);

$photo = $photos['photo'][0];
$photo_id = $photo['id'];
$photo_secret = $photo['secret'];
$photo_server = $photo['server'];

#
# Formulate URL to the photo (image)
#
$imgUrl = "http://static.flickr.com/$photo_server/{$photo_id}_{$photo_secret}.jpg";

#
# Formulate URL to the photo's Flickr page
#
$pageUrl = "http://www.flickr.com/photos/$user_id/$photo_id/";

#
# Get Photo Info
#
$photoInfo = $api->photos_getInfo($photo_id);

#
# Get title
#
$title = $photoInfo['title'];

#
# Get date uploaded
#
$dateuploaded = $photoInfo['dateuploaded'];
$time = localtime($dateuploaded, 1);
$datestr = $dateuploaded;

$datestr = sprintf('%4d-%02d-%02d %2d:%02d',
    $time['tm_year']+1900,
    $time['tm_mon']+1,
    $time['tm_mday'],
    $time['tm_hour'],
    $time['tm_min']);

#
# Join tags into a single string
#
$tags = $photoInfo['tags'];
$n = 0;
$taglist = '';
foreach ($photoInfo['tags']['tag'] as $tag)

```



```

{
    if ($n++ > 0)
        $taglist .= ', ';
    $taglist .= $tag['_value'];
}

#
# Output HTML page containing URL to photo, image, and tags.
#
print <<<EOT
<html>
<head>
<title>Sample Photo Page</title>
</head>
<body>
<center>
The latest from $username...<br>
<a href="$pageUrl"></a><br>
Title: $title<br>
Uploaded: $datestr<br>
$taglist
</center>
</body>
</html>
EOT;

?>

```

Comparing the two programs, you'll see that `phpFlickr` has an individual function for each API call that r

```

$user_id = $api->people_findByUsername($username);
...
$photos = $api->people_getPublicPhotos($user_id,NULL,1);
...
$photoInfo = $api->photos_getInfo($photo_id);

```

This makes the code more readable, but it also means that `phpFlickr` is closely tied to the particular stat `phpFlickr` won't support it until it is updated to add new glue. At the moment, however, things are prett attentive to updates.

Because of its ease of use, `phpFlickr` is a great choice for most of your PHP-related Flickr projects, and y

## See Also

- [Hack #37]

- [Hack #38]
- [Hack #41]
- [Hack #47]

[← PREV](#)

## Hack 40. Authenticate Yourself



For single-user apps, authentication isn't all that complicated .

Flickr has a nifty little API method called `flickr.photos.transform.rotate` that can rotate a photo by 90, or 270 degrees. This is a cool thing to do, but it's probably not something you want other people doing to your photos. It would be kind of annoying to sign into Flickr only to discover all your photos upside down! This is why this method, and a few others like it, requires authentication: it allows you, the user, to control which apps get to do annoying things to your photos.

However, this also means that if you are the author of an app, and you are the only person using the app, you'll still need to jump through the hurdle of giving your app permission to access your own photos. At the time of this writing, Flickr's older, easier-to-use authentication mechanism still works: you can pass your username and password as parameters to any Flickr API call that requires authentication. But this method is currently being phased out, because it isn't very secure.

Flickr is now phasing in a more cumbersome but more secure authentication API. This hack shows a relatively simple way to authenticate your own apps, using this new API, for your own private use. This method involves only a tiny bit of scripting and is useful for situations in which you are the only one who will be using the app.

If you want to authenticate users other than yourself, see [Hack #41] .

### Authentication Modes

Your application can use one of three different authentication procedures or modes. Documentation describing the three authentication modes can be found at <http://www.flickr.com/services/api/misc.userauth.html>.

Each of the three authentication modes is a procedure that accomplishes the same thing: they each produce an authentication token. This token is passed as a parameter to API calls that require authentication, such as `flickr.groups.pools.remove` .

Flickr uses the token to figure out which Flickr user is using your app and what permissions that user has granted to your app. The differences in the procedures of each mode are due to the nature of the apps for which they are intended to be used.

### Web Applications

This authorization mode is intended to be used by apps that are hosted on web servers. It provides a method

seamless navigational path. If your app needs authorization, it automatically redirects the user to a Flickr-hosted web page, in which the user grants permissions before being automatically directed back to your

Flickr passes some information back to your app (the *frob*, described later in this hack), which is then used to obtain the authorization token. This is the best mode to use if your app is running on a web server and is accessed by more than one person. It provides the best ease of use from the user's point of view, but it's probably the hardest of the three modes for the programmer to implement (although a number of the API toolkits that are available, such as phpFlickr [Hack #41], simplify this considerably).

## Desktop Applications

This authorization mode is similar to the Web Applications mode, but it's designed for standalone (desktop) applications in which there is no direct navigational path back to the application from the authentication page. Therefore, the procedure doesn't require that Flickr return a frob back to the calling application, as the Web Applications procedure does.

Instead, the app requests the frob before the user is sent to the Flickr-hosted permissions page, using the Flickr API `flickr.auth.getFrob` method. This way, when the user grants permission on Flickr, the app already has all the information it needs to generate an authentication token.

## Mobile Applications

This is the most rudimentary of the authentication modes, and it's the one we'll use for authenticating yourself. It is intended to be used on mobile devices and provides an authentication page that is formatted for the small screens on these devices.

The simplicity of this method also makes it ideal for command-line apps or apps that have only a single user, such as apps you write for your own private use. This is a good authentication mode to use for *bot* scripts that administer groups on Flickr, such as the one developed in [Hack #36].

## Frobs and Mini-Tokens

Each of the previous authentication modes generates a random-looking string, which is not the token but is used to obtain the token. In the Web Applications and Desktop Applications modes, this string is called a *frob* (Hackerese for "a little random thing-a-ma-bob"). Your app converts the frob into a token by issuing the `flickr.auth.getToken` method.

The Mobile Applications authentication mode does something similar, but instead of generating a frob, it generates a *mini-token*, which is basically the same thing as a frob, but shorter, so it'll fit in a smaller space (such as the screen of a cell phone). A mini-token is converted into an authentication token via the API `flickr.auth.getFullToken` method. The authentication tokens returned by `flickr.auth.getToken` and `flickr.auth.getFullToken` are the same thing; what's different are the frobs and mini-tokens used to obtain them.

Once you've obtained an authentication token (using either a frob or a mini-token), you can continue using Flickr indefinitely. Tokens don't expire unless the user changes the permissions. Users can remove the permissions for any of the apps they've granted permission by visiting <http://www.flickr.com/services/auth/list.gne>.

## Getting Started

First, get an API key for your app, if you haven't already. Sign in to Flickr and go to the following URL:

<http://www.flickr.com/services/api/>

Click the API Keys link (under "Read these first:"), and then click the "Apply for your key online now" link for more information about getting an API key, see "API Keys and Secrets," earlier in this chapter.

After you get your API key, you'll need to get your shared secret and authentication URL. Reload the API services page (<http://www.flickr.com/services/api/>) and click the word "Yours" on the line that says "API Keys (Yours)."

This will take you to the following URL:

[http://www.flickr.com/services/api/registered\\_keys.gne](http://www.flickr.com/services/api/registered_keys.gne)

You'll see a list of all your API keys, one for each app, as shown in Figure 6-4.

Figure 6-4. Your API keys

The screenshot shows the Flickr API keys management page for user 'jbum'. The page title is 'API keys registered under your "jbum" account'. It lists three API keys with their respective details:

API Key	App Name	Issued	Status	Authentication
928c994909f02385d1d97a457003cb71	Another Test App	2 minutes ago	Active	Not configured
e072dadf32c2a6da1b7b7592e68e9e	TestAPI Test app for Flickr Hacks	3 days ago	Active	Edit configuration
01ef587b676e3b7bd256587cf59d34f4	PHP Demo Demo app for PHP chapter in Flickr Hacks	5 weeks ago	Active	Edit configuration

Your new app will appear at the top of the list, since you just acquired the API key. If you don't see it then wait a minute and reload the page.

To the right will be a link that says "Authentication: Not configured." (If you've already done this once, it will read "Authentication: Edit configuration.") Click this link to configure your authentication, as shown in Figure 6-5.

Figure 6-5. API Key Authentication Setup screen

## Flickr API Documentation

## API Key Authentication Setup

Your Key: 928c994908f02386d1d97a457003cb71

Shared Secret: 8698bb062a08ca11

Application Title: CoolApp

Application Description: My App is going to do awesome things, if I ever get past this whole authentication thing!

- This description will be shown to users of your application when they are asked to authenticate.

Application Logo: CoolLogo.gif

- Logos must be in GIF format with a maximum size of 600 x 300 (we recommend 300 x 90)
- The logo is shown on the Flickr page where the user is asked to authenticate.

Application URL:

Authentication Type:  Web Application  
 Desktop Application  
 Mobile Application

Mobile Permissions:  Read  
 Write  
 Delete

- Please read the [FAQ](#) for more information.
- Your authentication URL is <http://www.flickr.com/auth-6192>

Fill out this form, giving your app a title and description. For Authentication Type, choose Mobile Application. There are two pieces of information on this form to record in your text file. At the top, it will show you the shared secret:

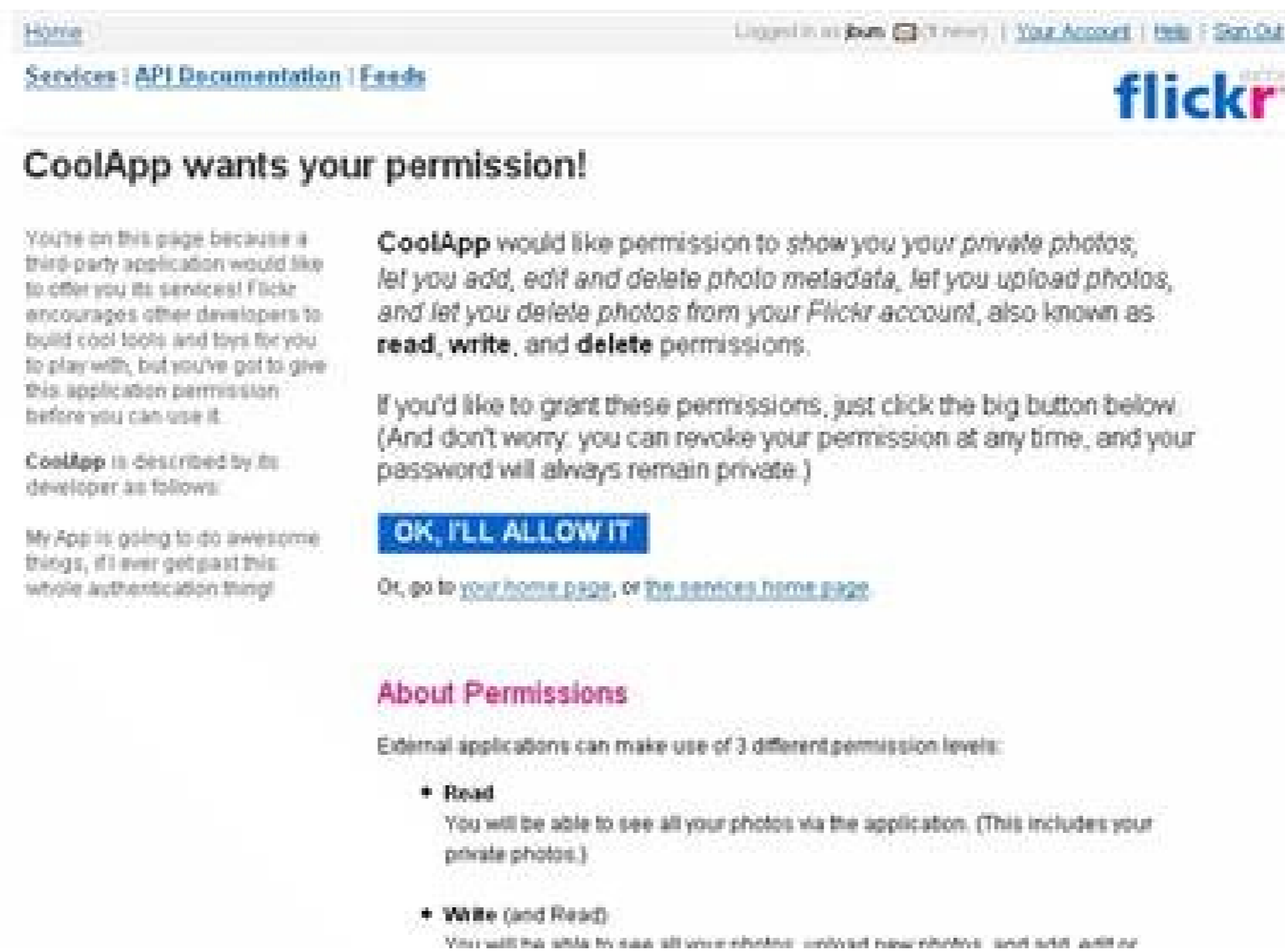
Shared secret: 8698bb062a08ca11

At the bottom, it will show the authentication URL for granting permissions to your app:

Your authentication URL is <http://www.flickr.com/auth-6192>.

Paste the authentication URL into your browser's address bar, and press Return to bring up the screen shown in Figure 6-6.

Figure 6-6. Authentication request screen



Press the button that says "OK, I'll Allow It." You'll be taken to the page shown in Figure 6-7, which disp mini-token.

Figure 6-7. Authorization success screen with mini-token

Copy the mini-token into the text file containing your API key and shared secret.

## The Code

Now, you'll need to use `flickr.auth.getFullToken` to convert the mini-token into a full token. This is the step that requires programming, but not a heck of a lot of it, since we'll be using the `Flickr::API` Perl module.

The following Perl script makes use of two publicly available modules: `Flickr::API` and `XML::Simple`. If you're missing a module, you can install it from CPAN, like this:

```
> perl -MCPAN -e shell
cpan> install XML::Simple
```

Create a file called `getFullToken.pl` and add this code:

```
#!/usr/bin/perl
```

```

# Convert Mini-Token to a Full Token - Jim Bumgardner

use Flickr::API;
use XML::Simple;

# This information is provided on the command line
#
#
$api_key = shift;
$shared_secret = shift;
$mini_token = shift;

die "Syntax: getFullToken.pl api_key shared_secret mini_token\n" if !mini_token;

my $api = new Flickr::API({key => $api_key, secret => $shared_secret});
my $response = $api->execute_method('flickr.auth.getFullToken',{mini_token=>$mini_token);
die ("GetFullToken Failed: " . $response->{error_message} . "\n" ) if !$response->{success};

$auth_token = XMLin($response->{_content})->{auth}->{token};
print "auth_token: $auth_token\n";

# This is commented out but is useful for debugging problems
# with this type of script.
# I used it to figure out how to extract the $token field.
#
# use Data::Dumper;
# print Dumper($response);
exit;

```

## Running the Hack

To run the hack, you'll need the information we collected in the preceding steps. In our example, the variables are:

API key	928c994908f02385d1d97a457003cb71
Shared secret	8698bb062a08ca11
Mini -token	248-818-201

Type the script's name followed by these three parameters on the command line to get the full authentication token:

```

> GetFullToken.pl 928c994908f02385d1d97a457003cb71 8698bb062a08ca11 248-818-201
auth_token: 127122-92395db066e82035

```



Add the authentication token to the collection of information you have saved. You can now issue API calls that require authentication using these three pieces of information (substitute in your own values):

API key	928c994908f02385d1d97a457003cb71
Shared secret	8698bb062a08ca11
Authentication token	127122-92395db066e82035

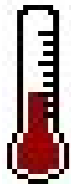
You can record this information directly in your app and use the app indefinitely, as long as you don't renege on your own permissions.

However, a better system is to record these fields in a separate file and include it in the application. For example, using Perl's `require` command. This way, the authentication information is stored separately from your application source code, and you can share the application source code more easily. This is the technique used in [Hack #36], which uses these authentication parameters in a script for Flickr group administration.

## See Also

- [Hack #41]
- [Hack #36]

## Hack 41. Authenticate Users



phpFlickr takes most of the grunt work out of authentication .

Authenticating people is one of the more hassle-prone features of the API. This is why it's a good idea to use a wrapper: it handles the nitty-gritty details.

For PHP programmers, Dan Coulter's [phpFlickr](http://www.phpFlickr.com) does this job admirably well. I've found it to be the most supported of the PHP wrappers currently available for Flickr. It even has its own web site, with documentation and example code, located at <http://www.phpFlickr.com>.

This hack creates a web application that displays a few of a user's most recent photos. We'll use authentication that we can display the user's Private photos as well as Public photos.

### What You Need

These scripts were written for PHP 4, so you'll need a web server with PHP 4 support.

You'll also need the [phpFlickr](http://www.phpFlickr.com) package of API wrappers, which is available from <http://www.phpFlickr.com>. The package includes the following:

#### *phpFlickr.php*

This is the main source code file for [phpFlickr](http://www.phpFlickr.com) . The remaining files are support files that are referenced within *phpFlickr.php* .

#### *auth.php*

This is a sample callback script for authentication that Dan provides. We'll be making some modifications to it.

#### *xml.php*

This source file, written by Aaron Colflesh, provides an XML parser that is used by [phpFlickr](http://www.phpFlickr.com) .

#### *PEAR/*

This directory contains source code for PEAR database access, which is used to implement [phpFlickr](http://www.phpFlickr.com)'s optional caching feature. I highly recommend that you install this code and use caching, because it will improve the performance of [phpFlickr](http://www.phpFlickr.com) and reduce the load on Flickr.

The `phpFlickr` archive also includes some additional files that serve as sample code and are not strictly part of a `phpFlickr` installation. You should install all of the preceding files and the `PEAR` directory to a location where you can find them, such as in the `php_include` path. You might find it simplest, at first, to keep these files in a separate directory as the first test application you write.

## Getting Started

First, get a new API key for the new app, following the instructions in "API Keys and Secrets."

After you've been issued the API key, you'll want to configure the new app for web authentication. Reload the services page (<http://www.flickr.com/services/api/>), and click the word "Yours" on the line that says "API Keys (Yours)."

This will take you to the following URL:

[http://www.flickr.com/services/api/registered\\_keys.gne](http://www.flickr.com/services/api/registered_keys.gne)

You'll see a list of all your API keys, one for each app, as shown in Figure 6-8.

Figure 6-8. Your API keys

Your new app will appear at the top of the list, since you just acquired the API key. If you don't see it there, wait a minute and reload the page.

To the right of the app name will be a link that says "Authentication: Not configured." Click on this link to configure your authentication. After you've done this once, the link will read "Authentication: Edit configuration."

After clicking the link, fill out the form, as shown in Figure 6-9.

Figure 6-9. API Key Authentication Setup screen

## Flickr API Documentation

## API Key Authentication Setup

Your Key: **928c994908f02386d1d97a457003cb71**

Shared Secret: **8698bb062a08ca11**

Application Title:

Application Description:

• This description will be shown to users of your application when they are asked to authenticate.

Application Logo (Optional):

• Logos must be in GIF format, with a maximum size of 600 x 300 (we recommend 300 x 90)  
• The logo is shown on the flickr page when the user is asked to authenticate.

Application URL (Optional):

Authentication Type:  Web Application  
 Desktop Application  
 Mobile Application

Callback URL:

• Please read the [FAQ](#) for more information.

For Authentication Type, select Web Application. For Callback URL, enter the URL where you installed (or install) *auth.php*. You'll find your shared secret at the top of the page. Copy it, and click Save Changes to authentication.

## The Code

Create a file called *testauth.php* and add the following code:

```
<?php

// testauth.php - based on code by Dan Coulter
//
//

ini_set("error_reporting ", E_ALL);

// Configuration stuff
$flickrAPIKey = "your API key goes here";
$flickrSharedSecret = "your shared secret goes here";

// Caching configuration stuff
$cachingenabled = false;
$dbUser = "your database username";
$dbPass = "your database password";
```

```

$dbAddress = "your database domain name (or localhost)";
$dbTable = "database table name";

// Create new phpFlickr object
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey,$flickrSharedSecret);
if ($cachingenabled == true)
{
    $f->enableCache(
        "db",
        "mysql://$dbUser:$dbPass@$dbAddress/$dbTable");
}
$f->auth( );
$token = $f->auth_checkToken( );

// Parse parameters
$page = 1;
if (isset($_GET['page']))
    $page = $_GET['page'];

$columns = 6;
if (isset($_GET['columns']))
    $columns = $_GET['columns'];

$rows = 6;
if (isset($_GET['rows']))
    $rows = $_GET['rows'];

$per_page = $columns * $rows;

// Find the NSID of the username inputted via the form
$nsid = $token['user']['nsid'];

// Get the friendly URL of the user's photos
$photos_url = $f->urls_getUserPhotos($nsid);

// Get the user's first 36 public photos
$photos = $f->photos_search(array("user_id" => $nsid, "per_page" => $per_page, "page" =>

// Loop through the photos and output the HTML
$i = 0;
foreach ($photos['photo'] as $photo) {
    echo "<a href=$photos_url$photo[id]>";
    echo "";
    echo "</a>";
    $i++;
    // If it reaches the sixth photo, insert a line break
    if ($i % $columns == 0) {
        echo "<br>\n";
    }
}
}

```

?>

You'll need to modify the configuration section at the top. Change the `flickrAPIKey` and `flickrSharedSecret` variables to your actual API key and shared secret. If you intend to use database caching (and I highly recommend it, because it will make your app zippier), you'll need to edit the database-related variables as well. Here are some configuration lines, showing sample values:

```
// Configuration stuff
$flickrAPIKey = "928c994908f02385d1d97a457003cb71";
$flickrSharedSecret = "8698bb062a08ca11";

// Caching configuration stuff
$cachingenabled = true;
$dbUser = "krazydad";
$dbPass = "ignatiusluvsdonuts";
$dbAddress = "localhost";
$dbTable = "myflickrbase";
```

After editing the configuration, save the file.

You will also need to make similar modifications to `auth.php`. Add your API key and shared secret to the following lines:

```
$api_key           = "[your API key]";
$api_secret        = "[your API secret]";
```

Now, upload both `testauth.php` and the modified version of `auth.php` to your web server. You're ready to test the app!

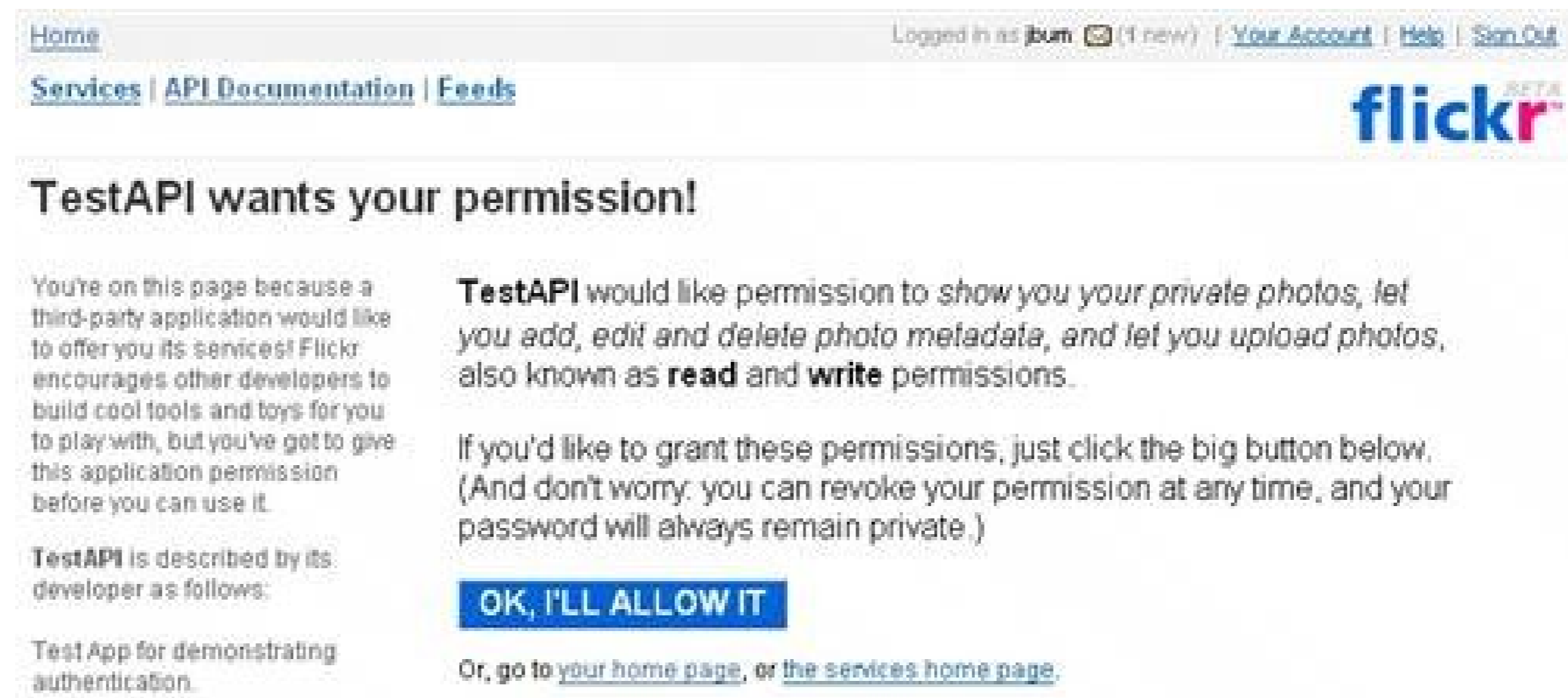
## Running the Hack

Enter the address of the PHP file in your web browser's address bar, like so:

```
http://www.yourdomain.com/testauth.php
```

The first time you do this, the routine `f->auth()` will notice that there is no authentication token for you and will redirect you to the Flickr application permissions page, which looks something like Figure 6-10.

Figure 6-10. Flickr's application permissions page



When `phpFlickr` redirects you to this page, it adds a parameter, `exTRa`, that contains the URL of your test application.

After you press the "OK, I'll Allow It" button, you'll be redirected back to the `auth.php` application. The `ex` parameter will be passed back, so that `auth.php` knows where to ultimately redirect you.

The `auth.php` app will convert the frob [Hack #40] to a full authentication token and store it in the PHP variables; then, it will redirect you back to `testauth.php`. When `testauth.php` runs again, it will retrieve the authentication token from the session variables, and the app will finally be able to make API calls that require authentication.

As a user, fortunately, all this magic happens under the hood. The apparent result of pressing the "OK, I'll Allow It" button is that your pictures will start appearing on the screen, as shown in Figure 6-11.

Figure 6-11. A test run of `testauth.php`



Congratulations, you've been authenticated! Now, any other users who visit this web page can authenticate themselves in the same way, easily and painlessly... at least, for them!

## See Also

- [Hack #40]
- [Hack #14]



## Hack 42. Build a Custom Upload Script



If the existing Flickr upload tools aren't your cup of tea, try brewing your own upload script .

The Tools page at Flickr (<http://www.flickr.com/tools/>) points to a number of different programs that allow you to upload your photos to Flickr [Hack #5] . Many include some extra features, such as the ability to add tags and titles, rotate photos, and resize photos. But if the existing tools don't quite fit with how *you* want to upload photos, you can write your own upload program, thanks to the Flickr API.

Say you perform a certain number of steps for each photo that you upload to Flickr. With some automation, you can combine those steps with the upload procedure, saving you time in the process. This hack shows how to write a custom upload script that resizes photos and adds a copyright notice before sending them off to Flickr. You can

### Authorizing Your Script

The first step to creating a custom upload script is giving your script the authority to add photos to your Flickr account. The Flickr API has a user authentication system [Hack #40] that makes sure only authorized programs can interact with the API at Flickr.

The key to authorizing your own script is requesting an *authentication token*, a string of characters that is a unique combination of user ID and API key. You'll also need a special string called a *shared secret*, which you can generate by configuring your API key. This step is a bit of a hassle, but it ensures your security. Plus, it's a one-time process; once you have your authentication token, you won't need to request one again (for this application, anyway).

To get started, go to the Flickr API page (<http://www.flickr.com/services/api/>) and request a unique API key by clicking the API Keys link on the left side of the page. Note that even if you have an API key for another application, you need a unique key for each application you create. Once you have the key, be sure to copy it to a safe place. Then return to the API page and click the Yours link in parentheses next to the API Keys link.

On the registered keys page, you'll see a list of all your API keys. Each key has an "Authentication Configuration" link associated with your new key to set it up.

On the API Key Authentication Setup page, you'll find your key and your shared secret, and you can specify a name, logo, URL, and authentication type for your application. Because you're authenticating an application for use on a desktop, you need to worry too much about what you enter here. Give your application a memorable name such as "Flickr Upload Script" and choose Desktop Application as the Authentication Type. Copy your shared secret, and click Save Changes.

The following script will request an authentication token for your script. You'll need the nonstandard module `HTTP::Request::Common` (<http://search.cpan.org/~iamcal/Flickr-API-0.07/lib/Flickr/API.pm>) and `XML::Simple` (<http://search.cpan.org/~mike/HTML-Tree-2.14/lib/XML/Simple.pm>) for working with API responses, and `Digest::MD5` (<http://search.cpan.org/~mike/Digest-MD5-0.12/MD5.pm>) for formatting requests.

Copy the following code to a file called `get_auth_token.pl`, and be sure to include your Flickr API key and shared secret at the top of the script:

```
#!/usr/bin/perl
# get_auth_token.pl
# This script requests an authentication token for a user
# given a specific API key and shared secret.
#
# You can get a Flickr API key and shared secret and read the
# full documentation for the Flickr API at:
#
# http://www.flickr.com/services/api/

use strict;
use Flickr::API;
use XML::Simple;
use Digest::MD5 qw/md5_hex/;

# Set your Flickr variables
my $api_key = 'insert Flickr API key';
my $shared_secret = 'insert Flickr shared secret for API key';
my $permission_wanted = 'write';

# Start the API
my $api = new Flickr::API({'key' => $api_key,
                          'secret' => $shared_secret});
my $response = $api->execute_method('flickr.auth.getFrob');

# Grob the frob
my $xmlsimple = XML::Simple->new( );
my $flickr_xml = $xmlsimple->XMLin($response->{_content});
my $frob = $flickr_xml->{frob};

# Get authorization for read access
my $url = $api->request_auth_url($permission_wanted, $frob);

# Open browser with auth URL (Windows only!)
$url =~ s/&/^&/gis; #Escape URL for command line
system "start $url";

# Non-Windows systems should print out the URL
# print "Go to the following URL in a web browser:\n\n$url\n\n";

# Tell the user to check out the Flickr window
print "Return to this window after you've finished the authorization process on Flickr.c
<STDIN>";

# Get the auth token
my $response = $api->execute_method('flickr.auth.getToken', {
    'frob' => $frob});
my $flickr_xml = $xmlsimple->XMLin($response->{_content});

my $auth_token = $flickr_xml->{auth}->{token};
die "Couldn't get authentication token!" unless defined $auth_token;
```

```
print "\nYour auth token is: $auth_token";
```

You can run the script by calling it on the command line:

```
perl get_auth_token.pl
```

The script will contact the Flickr API and assemble the URL for requesting authorization. It will then open that URL, and you'll need to log in and grant your application permission to read and write photos.



The `system "start $url";` command in this script will open a browser with the specified URL on Windows systems only. If you're using a Mac, you can use the `system "open $url";` command. In a Unix-like environment, comment out this line and uncomment the line that prints out the URL. You can then copy and paste the URL into your browser's address bar.

Once you've granted the application permission, return to the command window and hit Enter. You should see a long string of characters that represents your authentication token. Copy down this string, and you'll be ready to build the next script.

## The Code

The following code looks for any photos in a special *Flickr drop folder*, resizes the photos, adds a copyright notice, and uploads them automatically. Once uploaded, the photos are moved to a *Flickr sent folder*. You'll need to set the `$flickr_drop` and `$flickr_sent` variables to folders on your system.

The copyright notice can be any string of text; just set the `$copyright` variable to something like `Copyright © 2008, All Rights Reserved`. You'll also need to set the `$maxsize` variable, which represents the maximum size in pixels you want to upload. You'll want to make the most out of your Flickr bandwidth limit [Hack #4]. This image process is handled by the `Image::Magick` module, so you want to be sure it's installed on your system. You can download ImageMagick from <http://www.imagemagick.org/> and install the PerlMagick module when you install the program.

The final piece you'll need is the `Flickr::Upload` module (<http://search.cpan.org/~cpb/Flickr-Upload-1.2/>). You can install it with CPAN. This module encapsulates all of the necessary Flickr API calls into a single handy `upload` method.

Copy the following code to a file called *flickr\_upload.pl*, and be sure to include your Flickr API key, share secret, and the auth token you acquired:

```
#!/usr/bin/perl
# flickr_upload.pl
# This script loops through photos in a directory, resizes each
# photo to the set maximum size, adds a copyright notice to each
# photo, and uploads each photo to Flickr. You can also specify a
# number of tags to associate with each photo on the command line.
#
# Usage: flickr_upload.pl [tag] [tag] [tag]
#
# You'll need an auth token, which you can acquire by running the
# accompanying get_auth_token.pl script.
#
```

```
# You can get a Flickr API key and shared secret and read the
# full documentation for the Flickr API at:
#
# http://www.flickr.com/services/api/

use strict;
use Flickr::Upload;
use Image::Magick;
use File::Copy;

# Set your environment variables
my $flickrdrop = 'c:/flickrDrop/';
my $flickrsent = 'c:/flickrDrop/sent/';
my $copyright = 'insert your copyright notice';
my $maxsize = 500;

# Set your Flickr variables
my $api_key = 'insert Flickr API key';
my $shared_secret = 'insert Flickr shared secret for API key';
my $auth_token = 'insert Flickr auth token';

# Grab any tags on the command line
my $tags = join(' ', @ARGV);

# Start the Flickr Uploader
my $ua = Flickr::Upload->new({'key'=>$api_key,'secret'=>$shared_secret});

# Open the Flickr drop directory and grab .jpg files
my @IDs;
opendir(DIR, $flickrdrop) || die "Cannot open directory: $flickrdrop: $!";
my @photos = grep { /\.jpg/i } readdir DIR;
closedir DIR;
@photos = sort @photos;

foreach my $photo (@photos) {

    # Tell user which photo is going
    print "Uploading $photo...";

    my $photopath = "$flickrdrop$photo";

    # Read the photo and get the size with Image::Magick
    my $image = new Image::Magick;
    $image->Read($photopath);

    my $width = $image->Get('width');
    my $height = $image->Get('height');

    # Resize the photo with Image::Magick if necessary
    if ($height > $width) {
        if ($height > $maxsize) {
```

```

        my $new_height = $maxsize;
        my $new_width = $width * ($maxsize / $height);
        $image->Resize(
            width=>$new_width,
            height=>$new_height,
            blur=>0.5,
            filter=>'Box');
        print "Resized...";
    }
} else {
    if ($width > $maxsize) {
        my $new_width = $maxsize;
        my $new_height = $height * ($maxsize / $width);
        $image->Resize(
            width=>$new_width,
            height=>$new_height,
            blur=>0.5,
            filter=>'Box');
        print "Resized...";
    }
}

# Add copyright information to the photo with Image::Magick
$image->Annotate(
    font=>'c:/windows/fonts/verdanab.TTF',
    pointsize=>11,
    fill=>'white',
    text=>$copyright,
    gravity=>'SouthEast',
    antialias=>1,
    translate=>5,5);

# Save the photo with changes
$image->Write($photopath);

# Upload the photo to Flickr
my $photoid = $ua->upload(
    'photo' => $photopath,
    'auth_token' => $auth_token,
    'tags' => $tags,
    'is_public' => 1,
    'is_friend' => 1,
    'is_family' => 1,
    'async' => 0,
) or warn "Couldn't upload $photo\n";

if ($photoid ne '') {
    # Tell the user this photo is at Flickr
    print "Done!\n";

    # Store the Flickr ID in an array
    push(@IDs, $photoid);
}

```

```

        # Copy photo to the sent folder
        copy($photopath, "$flickrrent$photo")
        or die "Can't copy $photo.";

        # Delete the original photo
        unlink($photopath);
    }
}

# Build the review images URL
my $flickrURL = "http://www.flickr.com/tools/uploader_edit.gne?ids=";
foreach my $id (@IDs) {
    $flickrURL .= $id . ",";
}

# Open browser with the review images URL (Windows only!)
system "start $flickrURL";

```

As each photo in the folder is processed and sent to Flickr, the script stores each photo's new Flickr ID in an array. At the end of the process, the script builds a URL that will let you edit the title, description, and tags of each of the photos.

Windows users will see the page in their browser, thanks to the final `system "start $flickrURL";` comma-separated list. In another environment, you might want to simply print the URL to the command prompt, like so:

```
print $flickrURL;
```

## Running the Hack

To process a batch of photos with the script, copy the photos to the specified Flickr drop folder and run the script from the command prompt, like this:

```
perl flickr_upload.pl
```

Be sure to put copies of the photos in the Flickr drop folder, rather than the original photos. The script could significantly alter the file, and without a backup, you'll lose the ability to get the original version.

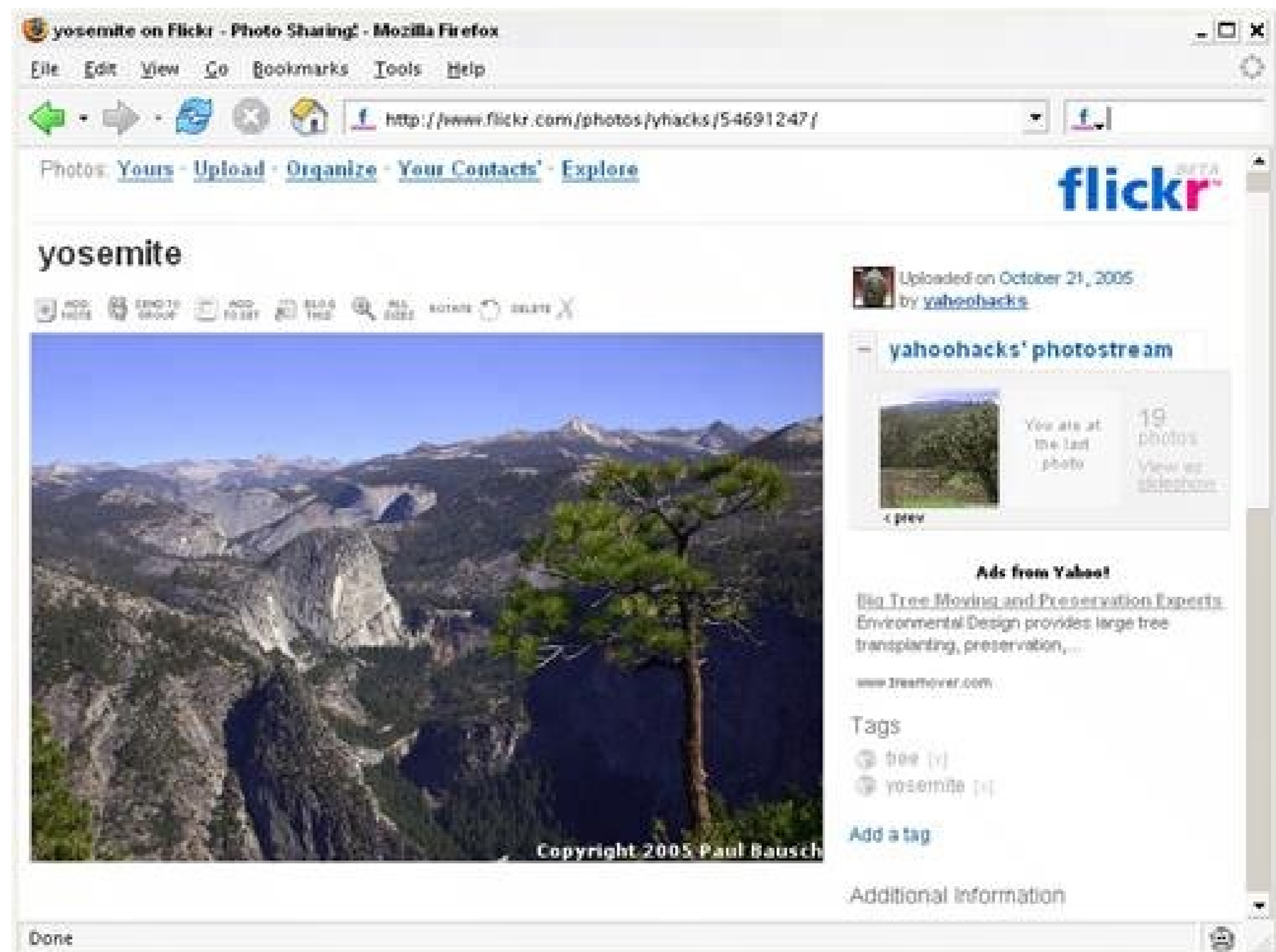
You can also specify tags as you run the script. For example, if you know you just dumped a bunch of photos into the Flickr drop folder, you could automatically tag each photo like this:

```
perl flickr_upload.pl tree green leaves
```

Once at Flickr, each photo will have the tags *tree*, *green*, and *leaves*.

Figure 6-12 shows a photo at Flickr with the copyright notice added to the lower-right corner.

Figure 6-12. Image uploaded and processed with a custom script



Each photo is moved to the Flickr sent folder once it's uploaded, so when the script is finished, the Flickr for another batch of photos to process. A new browser window will open, so you can review all of the photo titles, descriptions, and tags if necessary.

Building your own upload script takes a bit of time, but if you can encapsulate photo processing and Flickr you'll make up that time easily in the future. And you'll have a script that's tailor-made for you!

[← PREY](#)

# Chapter 7. Custom Applications

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← PREV

## Hacks 43-50

Many independent developers have taken photos beyond the Flickr web site and into completely new applications, thanks to the Flickr API. In the same spirit of sharing, they've made their custom Flickr apps available to anyone who wants to play with them.

Some of these Flickr toys can turn your photos into motivational posters [\[Hack #46\]](#) or puzzles [\[Hack #48\]](#) . With a bit of programming, you can also mash up Flickr photos into collages [\[Hack #43\]](#), ransom notes [\[Hack #47\]](#), or complex photo mosaics [\[Hack #49\]](#) .

This chapter will show you what's possible when you go beyond the Flickr API basics into the realm of more fully realized custom applications.

← PREV

## Hack 43. Mash Up Your Photos



ImageMagick is the ultimate tool for making collages.

This is the first in a series of hacks about creating mosaic images. In this hack, we'll build an image that contains a number of other photographs, randomly positioned and rotated. In the course of doing this, we'll learn a bit about the incredibly useful ImageMagick library (plus, we'll make a pretty interesting-looking collage).

### What You Need

To build a collage from Flickr images, you'll need some Flickr images, of course. I like to work with 100 x 100 thumbnails (these are the ones with the `_t` extension) until I'm happy with the final result. Then, I download larger images for the final draft.

This hack relies on the `getPhotoList.pl` script [\[Hack #33\]](#) and the `getSnaps.pl` script [\[Hack #34\]](#).

Finally, you'll need ImageMagick and the `Image::Magick` Perl module. You can obtain both of these from the ImageMagick web site (<http://www.imagemagick.org>).

### ImageMagick

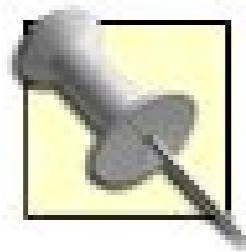
ImageMagick is a library that enables you to automate most image-processing chores nearly everything that you might otherwise do with Photoshop or Gimp.

I usually work with ImageMagick in Perl (via the `Perl::Magick` module); however, ImageMagick has APIs for lots of other languages, including C, C++, Java, Python, PHP, and Ruby.

ImageMagick also comes with some useful command-line programs that allow you to do many common tasks, such as image format conversions.

To illustrate the power of ImageMagick, here's a simple Perl program that reads an input file (such as a PNG image) and saves it out in some other format (such as a JPEG image):

```
#!/usr/bin/perl
use Image::Magick;
($infile, $outfile) = @ARGV;      # read command-line arguments: infile outfile
$image = Image::Magick->new;      # create an image handle
$image->Read($infile);            # load in the source image
$image->Write($outfile);           # save it back out (in some other format)
```



This is something that ImageMagick's `convert` tool does very well, but this code illustrates the basic technique of opening and saving images.

ImageMagick automatically recognizes common image file extensions such as `.png`, `.gif`, `.jpg`, `.tif`, and so on. If you use one of these extensions for the output filename, it will automatically convert to the appropriate format.

Here's a program that creates a new image, fills it with a white background, writes some text on it, and saves it out:

```
#!/usr/bin/perl
use Image::Magick;
$image = Image::Magick->new;
$image->Set(size=>"800x600");
$image->Read('xc:white');
$image->Annotate(text=>'Hello World', x=>50, y=>50);
$image->Write('hello.jpg');
```

Commands such as `Annotate()` offer a wealth of options. Here's a fancier version of the annotation in the previous program:

```
$image->Annotate(text=>'Hello World', x=>50, y=>50,
    font=>'comicbd.ttf', pointsize=>72, style=>'oblique',
    rotate=>30, antialias=>'true', fill=>'#702948');
```

Finally, here's a program that takes two existing images and composites them together to create a third image (this is the basis of the collage program that we'll develop in a moment):

```
#!/usr/bin/perl
use Image::Magick;
$outimage = Image::Magick->new;
$outimage->Set(size=>"800x600");
$outimage->Read('xc:white');

$img = Image::Magick->new;
$img->Read("hello.jpg");
$outimage->Composite(image=>$img, x=>10, y=>10);
undef $img;

$img = Image::Magick->new;
$img->Read("hello.jpg");
$outimage->Composite(image=>$img, x=>410, y=>10);
undef $img;

$outimage->Write('hello2.jpg');
```

Note the use of `undef` to undefine each image when it's no longer being used. Although this isn't strictly necessary for this sample program, it's important for larger collages that use lots of tiles, to reduce memory usage.

## The Code

Create a file called *makeCollage.pl* and add the following code to it:

```
#!/usr/bin/perl -s
#
# makeCollage.pl - Jim Bumgardner
#

use Image::Magick;

$photolist = shift;
$collageName = shift;
die "makeCollage.pl [-big] <photolist_file> [collagename]\n" if !$photolist;

$collageName = $photolist if !$collageName;
$collageName =~ s/\.ph// if $collageName =~ /\.ph$/;

$photolist .= '.ph' if !($photolist =~ /\../);

require "$photolist";

($outW,$outH) = (1024 * ($big? 2 : 1), 768 * ($big? 2 : 1));

$outimage = Image::Magick->new;
$outimage->Set(size=>"${outW}x${outH}");
$outimage->Read('xc:black');

$dirname = $photolist;
$dirname =~ s/\.ph// if $dirname =~ /\.ph$/;

$suffix = $big? '' : '_t';

$n = 0;

foreach $photo (@photos)
{
    $fnam = "$dirname/$photo->{id}$suffix.jpg";
    $img = Image::Magick->new;
    $err = $img->Read($fnam);
    die "Problem reading $fnam: $err" if $err;

    $img->Resize(geometry=>'200x200') if $big;

    ($w, $h) = $img->Get('width','height');
```

```

# this code gives the image a random rotation & opacity
# the mask prevents the bounding rectangle on the rotated image
# from painting over the images underneath
$rot = rand( )*90-45;
$v = int(rand( )*256);
$mcolor = sprintf '#%02x%02x%02x', $v, $v, $v;
$mask = Image::Magick->new;
$mask->Set(size=>"${w}x${h}");

$mask->Read("xc:$mcolor");
$img->Rotate(degrees=>$rot,color=>'black');
$mask->Rotate(degrees=>$rot,color=>'black');

($w, $h) = $img->Get('width','height');
$x = rand( )*( $outW-$w);
$y = rand( )*( $outH-$h);

$outimage->Composite(image=>$img, mask=>$mask, x=>$x, y=>$y);
undef $img;
undef $mask;
print "$n...\n" if ++$n % 100 == 0;
}

$outimage->Write("collage$suffix.png");

# done

```

## Running the Hack

To run the hack, we'll first use some scripts we developed in [\[Hack #33\]](#) and [\[Hack #34\]](#) .

The following command downloads a list of photo records from my friend Fubuki's photostream that have the tag *macro* and saves the information about the photos into a file called *fubuki\_macro.ph*.

```
getPhotolist.pl -u fubuki macro
```

Next, we'll download thumbnails of Fubuki's macro photos (using the information in the *fubuki\_macro.ph* file we just created) and save them into a folder called *./fubuki\_macro*.

```
getSnaps.pl fubuki_macro
```

Finally, we'll execute the collage script we created in this hack:

```
makeCollage.pl fubuki_macro
```

The script reads in the information about the photos from *fubuki\_macro.ph*, loads in the photos themselves (from the *./fubuki\_macro* subdirectory), and composites them into a new collage image

that is saved to the hard drive as *collage\_t.png*.

The result is a collage that looks something like [Figure 7-1](#).

Figure 7-1. A sample collage



As you can see, this script produces a pretty interesting-looking image. In the script, I've given each image a random rotation, using this line:

```
$rot = rand( )*90-45;
```

This assigns a rotation to each image from -45 to +45 degrees. When you rotate images in ImageMagick, the rotated image is contained within a larger square bounding box, which will be visible when the image is composited. To avoid this problem, I've created an image mask, which is also rotated, so that the bounding box corners don't appear in the final result when images are stacked on top of each other.

When I create the mask, I assign it a random color, using these lines:

```
$v = int(rand( )*256);  
$mcolor = sprintf '#%02x%02x%02x', $v, $v, $v;  
$mask = Image::Magick->new;  
$mask->Set(size=>"${w}x${h}");  
$mask->Read("xc:$mcolor");
```

The color of the mask determines the opacity of the image that is being composited. If the mask is white (`#FFFFFF`), the image is fully opaque. If the mask is black (`#000000`), the image is transparent. By using a range of random values for the mask color from black to white, we get a variety of opacities in the final image, which produces a more impressionistic result.

Each image is placed at a random location within the collage by using `randomx` and `y` coordinates:

```
$x = rand( )*( $outW-$w );  
$y = rand( )*( $outH-$h );
```

I subtract the photo's width and height from the range of possible values to ensure that the photos don't accidentally bleed over the right or bottom edge of the collage.

Since this script uses random numbers, your results won't exactly match the results shown here, and you'll get different results each time you run the script. If you want more predictable results, add a line at the beginning to seed Perl's random number generator with a fixed value, like so:

```
srand(27);
```

I chose 27 because it's my favorite number. Try different numbers until you get a result you like.

If you want a high-resolution version, download the larger images and use them, like so:

```
getSnaps.pl -big fubuki_macro  
makeCollage.pl -big fubuki_macro
```

These commands will download the medium-sized versions of Fubuki's images and will produce a nice big collage without the `_t` suffix in the filename: *collage.png*.

## See Also

- [\[Hack #33\]](#)
- [\[Hack #34\]](#)
- [\[Hack #49\]](#)



## Hack 44. Find the Dominant Color of an Image



Flickr doesn't have a color search feature, but that shouldn't stop you from building one!

There are a lot of cool things you can do if you know the dominant colors of a group of images. For instance, Color Pickr [Hack #45], and you can create fascinating collages by arranging the photos by luminance,

The simplest way I've found to find the dominant color of an image is to resize the image to 1 x 1 (proportions close to, depending on the resizing algorithm) the average color of the image.

This hack provides two scripts: *samplePhoto.pl* samples a single photo, and *sampleSnaps.pl* samples a large number of photos by other scripts.

### What You Need

To run the scripts in this hack, you'll need the following two modules:

#### Image::Magick

This Perl module provides an API for the powerful ImageMagick image-processing library. You can

For Windows, the Perl module comes with the latest installer from the ImageMagick website depending on your Perl configuration. If, after installing ImageMagick, you have problems, run the following command:

```
ppm install Image-Magick.ppd
```

#### Data::Dumper

The scripts in this hack produce output in the form of a text file that can be parsed by other Perl scripts. Use `Data::Dumper` to dump it into a text file.

### The Code

Here's a basic script that outputs color information for a single photo, in HTML format, using the `Image::Magick` module:

```
#!/usr/bin/perl -s
```



```

#
# samplePhoto.pl - Jim Bumgardner
#

use Image::Magick;

$Data::Dumper::Terse = 1; # avoids $VAR1 = * ; in dumper output
$Data::Dumper::Indent = $verbose? 1 : 0; # more concise output

$photoname = shift;
die "samplePhoto.pl <photoname>\n" if !$photoname;

my $image = Image::Magick->new;
$error = $image->Read($photoname);
die $error if $error;
my ($w,$h) = $image->Get('width','height');
$image->Resize(geometry=>'1x1');
($r,$g,$b) = $image->GetPixels(x=>0,y=>0,width=>1,height=>1,normalize=>1);
undef $image;

$colorspec = sprintf "%02x%02x%02x", $r, $g, $b;
$textcolor = $g < 128? 'white' : 'black';

print <<EOT;

<html><body>
<table><tr>
<td></td>
</tr><tr>
<td bgcolor=$colorspec>
<font color=$textcolor>
R: $r<br>
G: $g<br>
B: $b<br>
</font>
</td></tr></table>
</body></html>

EOT
# end of script

```

The second script records color information for a large collection of photos, using a photo list created by

```

#!/usr/bin/perl -s

#
# sampleSnaps.pl - Jim Bumgardner
#

use Image::Magick;

```

```

use Data::Dumper;
$Data::Dumper::Terse = 1; # avoids $VAR1 = * ; in dumper output
$Data::Dumper::Indent = $verbose? 1 : 0; # more concise output

$photolist = shift;
$dirname = shift;
die "sampleSnaps.pl <photolist_file> [dirname]\n" if !$photolist;

$dirname = $photolist if !$dirname;
$dirname =~ s/\.ph// if $dirname =~ /\.ph$/;
$photolist .= '.ph' if !($photolist =~ /\../);

require "$photolist";

$n = scalar(@photos); # count photos
print "$n photos in file\n";

@samedPhotos = ( );

$nbrSampled = 0;

$firstPhoto = $photos[0];
$suffix = '_t' if !$suffix;

foreach $photo (@photos)
{
    my ($owner, $secret, $server) = ($photo->{owner}, $photo->{secret}, $photo->{server});
    $fnam = "$dirname/$photo->{id}$suffix.jpg";

    my $image = Image::Magick->new;
    $err = $image->Read($fnam);
    if ("$err") {
        warn "$err";
        next;
    }
    ($w,$h) = $image->Get('width','height');
    $x = $image->Resize(geometry=>'1x1');

    ($r,$g,$b) = $image->GetPixels(x=>0,y=>0,width=>1,height=>1,normalize=>1);
    undef $image;

    ($photo->{r},$photo->{g},$photo->{b}) = ($r,$g,$b);

    ++$nbrSampled;
    print "$nbrSampled...\n" if $nbrSampled % 50 == 0;
}

$ofname = "$dirname/samples.ph";

open (OFILE, ">$ofname");
print OFILE "\@photos = (\n";
$n = 0;

```

```
foreach $photo (@photos)
{
    print OFILE ($n++? ",\n" : "") . Dumper($photo);
}
print OFILE "\n);\n\n";
close OFILE;

print "$nbrSampled sampled to $ofname\n";
```

## Running the Hack

To use the *samplePhoto.pl* script, you'll need a photo to work on. Here's a sample run using a JPEG file c

```
samplePhoto.pl watermelon.jpg >test.html
```

You can view the file *test.html* in a web browser to see the result, as shown in Figure 7-2.

Figure 7-2. Output c

You'll find that the color values produced using this method tend to be more subdued than the colors in colors that have opposite hues, you will end up with a subdued gray color. In the image in Figure 7-2, th

watermelon flesh.

Interestingly, I've found that if you take a large collection of digital photographs from Flickr and average expect. Why this is so, I'm not sure. Some say it has something to do with the qualities of indoor lighting. "It's the color of dirt and people."

To use the *sampleSnaps.pl* script, which samples a large group of images, you'll need the scripts developed by aardvarks:

```
getPhotoList.pl aardvark
getSnaps.pl aardvark
sampleSnaps.pl aardvark
```

The first command uses the Flickr API to produce a list of relevant photos, which are saved in *aardvark.pl*. The final command samples the colors of all the photos and saves the photo and color information into *g*, *b*, and *l* fields, which represent red, green, blue, and luminance, respectively. Here's an excerpt:

```
@photos = (

{'owner' => '24512271@N00', 'isfriend' => '0', 'r' => '0.493690401315689', 'ispublic' => '1',
'secret' => '4551f2bed3', 'b' => '0.44110780954361', 'g' => '0.447013050317764',
'title' => 'Groupportrait', 'server' => '3', 'id' => '5024662', 'isfamily' => '0'},

{'owner' => '66208233@N00', 'isfriend' => '0', 'r' => '0.512062251567841', 'ispublic' => '1',
'secret' => 'fef397ccee', 'b' => '0.466559857130051', 'g' => '0.491554141044617',
'title' => 'Grooming is important', 'server' => '8', 'id' => '11999049', 'isfamily' => '0'}

{'owner' => '44124388719@N01', 'isfriend' => '1', 'r' => '0.60651558637619', 'ispublic' => '1',
'title' => 'The Night Visitor', 'server' => '4', 'id' => '5043567', 'isfamily' => '1'},

# etc...
```

We'll use this data in [Hack #45] to build an interface that quickly searches and returns photos that match a given color.

## Hacking the Hack

The color values in these scripts are normalized color values, which are floating-point numbers that go from 0 to 1. Each color component is a number from 0-255. You can convert the normalized colors to 8-bit integers by adding the following code to the end of the script:

```
# Convert normalized RGB values to 8-bit integers:
$r = int($r*255);
$g = int($g*255);
$b = int($b*255);
($photo->{r}, $photo->{g}, $photo->{b}) = ($r, $g, $b);
```

The three values that we are so interested in *r*, *g*, and *b* represent the respective red, green, and blue components of the color. If you are interested in answering questions such as "How bright is the photo?" or "How colorful is the photo?", you can use the following code:

Other color spaces include CMYK (cyan, magenta, yellow, and black), commonly used in the print industry.

The HSV color space is particularly useful for evaluating color in a more artistic and intuitive way. For example, if the saturation is high, you know the image is *bright*. If you sort the images from left to right to correspond to their hue

I use the following Perl function to convert from RGB to HSV values:

```
sub RGBtoHSV($$$)
{
    my ($r,$g,$b) = @_;
    my $max = $r > $g? $r : $g;
    $max = $max > $b? $max : $b;
    my $min = $r < $g? $r : $g;
    $min = $min < $b? $min : $b;
    my $v = $max;
    my $s = ($max != 0)? ($max-$min)/$max : 0;
    my $h;
    if ($s == 0) {
        $h = 0;    # undefined, actually
    }
    else {
        my $d = $max - $min;
        if ($r == $max) {
            $h = ($g - $b)/$d;
        }
        elsif ($g == $max) {
            $h = 2 + ($b-$r)/$d;
        }
        elsif ($b == $max) {
            $h = 4 + ($r-$g)/$d;
        }
        $h *= 60;
        if ($h < 0) {
            $h += 360;
        }
    }
    return ($h,$s,$v);
}
```

To incorporate this into the *sampleSnaps.pl* script, add the function to the bottom of the script. Then, after

```
($r,$g,$b) = $image->GetPixels(x=>0,y=>0,width=>1,height=>1,normalize=>1);
```

you can convert them to HSV values:

```
($h,$s,$v) = RGBtoHSV($r,$g,$b);
```

Another useful quality to look for is *luminance*, which is a measure of how bright the color appears to the human eye. It comes pretty close, but it doesn't take into account the apparent differences in the brightness of hues; the formula that I often use is Haerberli's luminance equation:

```
$lum = 0.3086*$r + 0.6094*$g + 0.0820*$b; # Haerberli's luminance equation
```

In my own scripts, I usually don't bother storing either the HSV values or the luminance values, since I use other techniques in this hack.

For an excellent introduction to color specification and image coding, check out the Color FAQ:

[http://www.poynton.com/notes/colour\\_and\\_gamma/ColorFAQ.html](http://www.poynton.com/notes/colour_and_gamma/ColorFAQ.html)

## See Also

- [Hack #33]
- [Hack #34]
- [Hack #43]
- [Hack #49]

## Hack 45. Make a Color Picker



This colorful interface is fun to use and functional .

The Flickr Colr Pickr (<http://www.krazydad.com/colrpickr/>) was one of the first Flickr-powered applications I built, and it has been the inspiration for a lot of my other Flickr-related work. The basic idea was to combine an HSV color picker, a common feature in many paint and illustration programs, with a photo browser. When you click on a color on the color wheel, a group of thumbnail images that match the color pops up nearly instantaneously.

Most users quickly grasp the basic concept of "point at a color, see pretty pictures" and have a lot of fun playing with it. Many artists and designers have told me they find this a useful interface for searching for photos that match a particular palette.

People often assume that this interface makes use of a color-search capability built into Flickr, but alas Flickr offers no such service (yet). To make a color picker, you must first precompute the average colors of the photos you wish to search. This is done using the Perl script developed in [Hack #44] . Here, we'll use a new Perl script to convert that information to an ActionScript text file, which we can then include in a Flash movie. The HSV color picker interface is created using Flash ActionScript.

### What You Need

This hack uses the modular Perl scripts developed in [Hack #33], [Hack #34] , and [Hack #44] . The Flash template used in this hack requires Macromedia Flash MX or a later version.

To view the color picker, you'll need a web browser with a Flash plug-in capable of displaying Flash 6 movies or later.

The scripts and the Flash template are all available in a single archive, which you can download here:

<http://www.krazydad.com/sware/JimsFlickrScripts.zip>

### The Code

This Perl script is responsible for converting image data from Perl syntax into ActionScript syntax, so we can include the data in a Flash movie.

This script is included in the collection of Perl scripts in the *JimsFlickrScripts.zip* archive mentioned in the previous section.

Create a new text file called *makeFlashDB.pl* and enter the following Perl code:

```
#!/usr/bin/perl -s
#
# Convert Perl Photo List to Flash/ActionScript list for use in Colr Pickrs.
# - Jim Bumgardner
#
$photolist = shift;
$dirname = shift;
$dirname = $photolist if !$dirname;
$dirname =~ s/\.ph// if $dirname =~ /\.ph$/;
$ifname = "$dirname/samples.ph";

die "makeFlashDB.pl <photolist_file> [<dirname>]\n" if !$photolist;
die "Photos have not yet been sampled with sampleSnaps.pl\n" if !(-e $ifname);

require "$ifname";

$poolname = $dirname;

open (OFILE, ">$poolname.as");
print OFILE "poolname='$poolname';\n";
print OFILE "imgdb = [\n";

$n = 0;
foreach $photo (@photos)
{
    print OFILE ",\n" if $n;
    printf OFILE "{r:%d,g:%d,b:%d,owner:'%s', secret:'%s', server:%d, id:%d}",
        int($photo->{r}*255.999), int($photo->{g}*255.999), int($photo->{b}*255.999),
        $photo->{owner}, $photo->{secret}, $photo->{server}, $photo->{id} ;
    ++$n;
}
print OFILE "\n];\n";

close OFILE;
```

## Running the Hack

A color picker can be made for any collection of photos on Flickr, but it works best if the collection has more than 500 photos. However, you will also encounter performance problems if the number of photos exceeds 20,000 or so. The more photos there are in the database, the longer it will take to identify photos by color and to load the Flash movie.

This hack will make a color picker using the photos in the Stock Repository group pool at <http://www.flickr.com/groups/stock/> . At last count, this group had 1,658 photos in the pool, which is a good number for a color picker.

Start by identifying the group's Flickr group ID. You can do this using a Flickr API call, such as



`flickr.groups.pools.getGroups` , but there is a faster way. In your web browser, examine the URL of the group's image icon (by viewing its properties):

```
http://static.flickr.com/1/buddyicons/49503068103@N01.jpg?1091560577
```

The group ID is the part of the icon filename that precedes the `.jpg` extension in this case, `49503068103@N01`.

Next, download information about each of the photos in the group, using the script developed in [Hack #33] :

```
> getPhotoList.pl -g 49503068103@N01
```

```
Searching for photos in group 49503068103@N01
Page 1 of 4
Page 2 of 4
Page 3 of 4
Page 4 of 4
1658 photos written to 49503068103@N01.ph
```

Then, rename the resulting file to make it a little easier on the eyes:

```
> mv 49503068103@N01.ph stock.ph
```

You now have a file called `stock.ph` , which contains a description of each photo in the Stock Repository pool.

Next, download a thumbnail image for each photo in the group, using the script developed in [Hack #34] . This will create a directory called `stock/` , which will contain all the thumbnail images:

```
> getSnaps.pl stock.ph
```

```
Adding stock/48828925_t.jpg...
Adding stock/20569503_t.jpg...
Adding stock/30148198_t.jpg...
Adding stock/24745811_t.jpg...
Adding stock/56897033_t.jpg...
Adding stock/40633875_t.jpg...
Adding stock/51200366_t.jpg...
Adding stock/26152510_t.jpg...
[etc...]
1610 added
```

Now it's time to sample the colors, using the script developed in [Hack #44] . This will create a file called `stock/samples.ph` , which contains the color information:

```
> sampleSnaps.pl stock.ph
```

```

1658 photos in file
50...
100...
150...
200...
250...
[etc...]
1658 sampled to stock/samples.ph

```

You now must use the script you just created, *makeFlashDB.pl*, to convert the information in *stock/samples.ph* (which is in Perl syntax) to a file with ActionScript syntax (*stock.as*), which you'll be able to use in the Flash movie:

```
> makeFlashDB.pl stock
```

If you look at the resulting *stock.as* file, you'll see an ActionScript table that looks like this:

```

poolname='stock';

imgdb = [
{r:179,g:170,b:104,owner:'74112673@N00', secret:'f0d1bae053', server:21, id:24841261},
{r:70,g:55,b:52,owner:'73624728@N00', secret:'ffb2f98e7d', server:7, id:9848052},
{r:131,g:129,b:109,owner:'46172547@N00', secret:'a396cdca40', server:26, id:56851454},
{r:139,g:137,b:135,owner:'86497205@N00', secret:'44607ffa2d', server:16, id:21641780},
[etc...]

```

You're almost ready to use the Flash template. Copy the Flash template provided in *JimsFlickrScripts.zip* to a new Flash project file:

```
> mv colrpickr_template fla stockPickr fla
```

Then, open the new template, *stockPickr fla*, in the Flash authoring environment. You'll see that the movie has two frames in the timeline. The first frame includes a script that contains the bulk of the code for the color picker:

```
// Colr Pickr Template - by Jim Bumgardner
#include "colrpickr.as"
```

You don't need to modify this script.

The second frame includes a script that is supposed to contain the image database:

```
#include "myphotolist.as"

doPick( );
```

Modify this line:

```
#include "myphotolist.as"
```

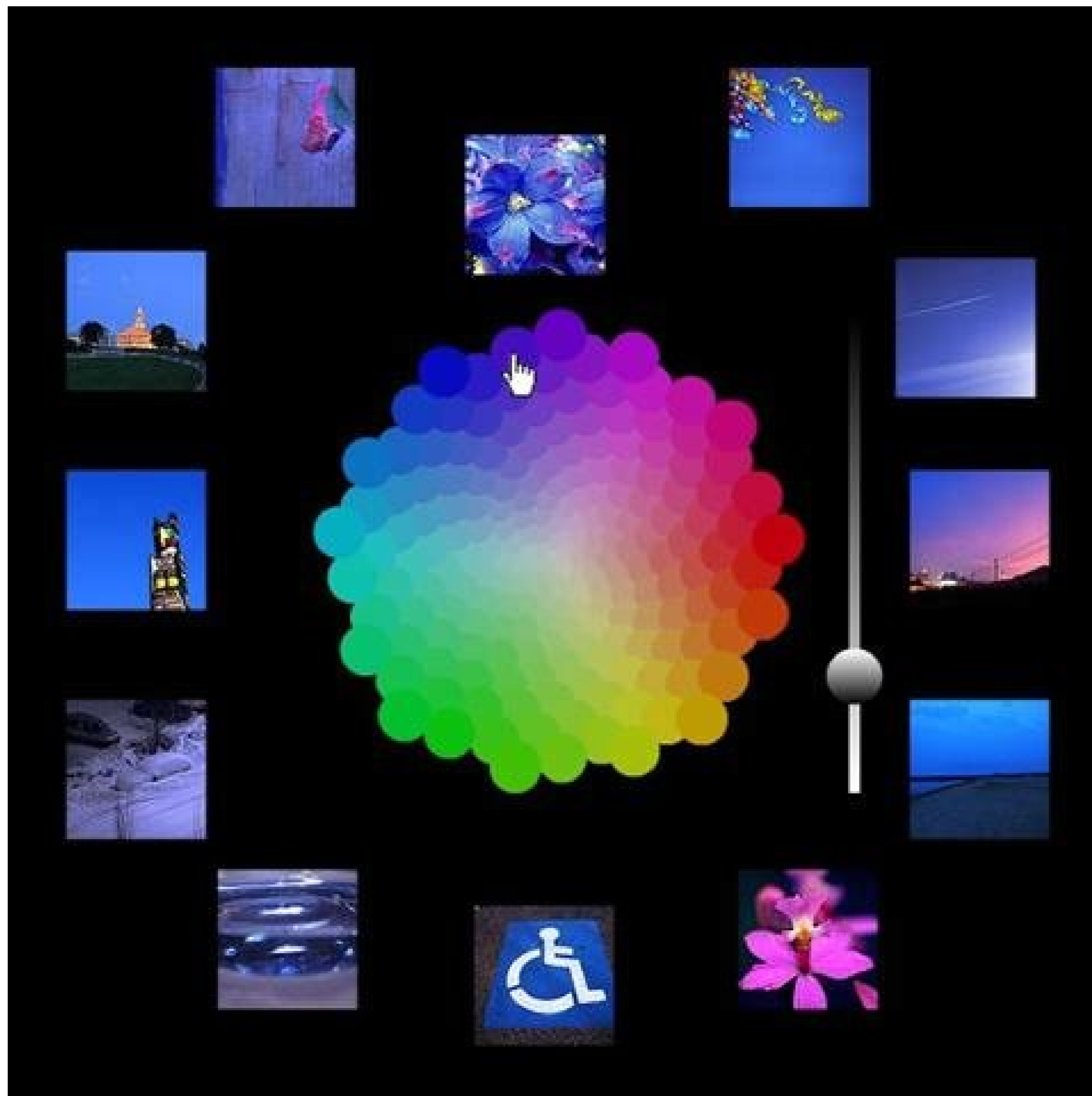
to read like this, substituting the name of the ActionScript database file you just created:

```
#include "stock.as"
```

The color picker is now ready to be tested.

You can use the Control/Play command to test the movie within the Flash authoring environment. The resulting color picker looks like Figure 7-3.

Figure 7-3. A Flickr color picker



Click on the color wheel (or manipulate the light/dark slider) to view photos that match a particular color. Click on any photo to be transported to its web page on Flickr.

If you like the results, select the Publish command on the File menu to create a Flash movie file. This will create two files, *stockPickr.swf* and *stockPickr.html*, which you can upload to your own web server.

## Hacking the Hack

Although not printed in this book, the code for the color picker interface is contained within *colrpickr.as* and is included in the *JimsFlickrScripts.zip* archive.

The ActionScript code draws the HSV color-wheel interface, which allows the user to select an HSV color. This color is converted from HSV to RGB, and the 12 photos closest to the RGB value are selected (from the list of photos we embedded). The script then downloads thumbnails for the photos from Flickr and displays them.

Since the list of photos is embedded within the Flash movie itself, there is a limit to how many photos can be searched this way. The script works best with no more than a few thousand photos. The more photos you add, the bigger the Flash movie gets and the longer it takes to search through them.

In addition to working with Flickr, the code is designed such that it can easily be modified to work with other web-based image-archiving services.

The two key routines that you will need to modify to work with other services are `GetThumbUrl()`, which creates a URL to a thumbnail image, and `GetExternalUrl()`, which creates a URL to the site where the image is hosted. These routines each receive a single argument, which is a record corresponding to the photo:

```
// These two routines can be modified to make the colr pickr work
// with other image archives...

GetThumbUrl = function(imgRec)
{
    return 'http://static.flickr.com/' +
        imgRec.server + '/' + imgRec.id + '_' + imgRec.secret + '_s.jpg';
}

GetExternalUrl = function(imgRec)
{
    return 'http://www.flickr.com/photos/' + imgRec.owner +
        '/' + imgRec.id;
}
```

The only important fields in the image records that are used by the remainder of the program are the `r`, `g`, and `b` fields, which identify the color of each image in 8-bit RGB space. You can add any additional fields you like to these records in order to formulate URLs.

Once you grasp the essentials of this interface, you might want to try extending it. How about adding the ability to search for photos that match two or three colors, or a server-powered color search capability? These features will greatly increase the power and utility of this playful interface.

## See Also

- [\[Hack #33\]](#)
- [\[Hack #34\]](#)
- [\[Hack #44\]](#)



← PREV

## Hack 46. Make a Motivational Poster and Other Swag



Create your own movie posters, magazine covers, and trading cards in seconds .

FD's Flickr Toys (<http://www.flagrantdisregard.com/flickr/> ) are a great collection of online apps that will turn Flickr photographs into all kinds of cool stuff, such as movie posters and magazine covers.

### Flickr Toys

FD, who goes by the name John Watson in real life, currently offers 14 toys, with new ones on the way. Here are some of the features the following:

#### *Badge Maker*

FD's first toy to achieve wide popularity allows you to make your own unofficial Flickr ID badge, such as shown in Figure 7-4. This has become a popular meme on Flickr, and it's a good way to identify yourself in public to other Flickrites. Don't be seen without your badge.

Figure 7-4. A Flickr badge

flickr<sup>BETA</sup><sup>TM</sup>

photographer

**Brian Sawyer**

The Olive Press  
olivepress.blogspot.com  
brian.sawyer@gmail.com  
Cambridge, MA



Status: **pro**

Expiration: 12/28/2006

Member since: 09/24/2004



X

Signature

*Billboard*

Put your photo on a freeway billboard, or at least on a photo of a freeway billboard.

*Calendar*

Feature your photo in a monthly calendar, suitable for hanging in the garage or planning important cleaning the garage.

*Flickr Uploadr*

Upload your photos to Flickr using a Konfabulator widget (this is a different widget than the one discussed in [5]). Konfabulator, available at <http://www.konfabulator.com>, is a cool tool for filling your desktop and gadgets.

*Fortune*

View a random photo, accompanied by a random fortune, pithy saying, or astrological prediction or oracle since the I Ching!

*Framer*

Put your photo into one of 19 unique frames that transform it into something else. Available frames include looking postage stamps, complete with postmarks (as shown in Figure 7-5); autumn leaves; 35mm Polaroids.

Figure 7-5. A stamp made with Framer



### *Magazine Cover*

Incorporate your photo into a slick-looking magazine cover, with suitable story titles, as shown in Choose from several different designs.

Figure 7-6. A magazine cover





### *Mosaic Maker*

Here's yet another method to put a handful of photos into columns and rows. For more methods, :

### *Motivator*

Make a motivating (or unmotivating) poster, suitable for picking up the spirits of your coworkers (trampling up and down on those same spirits). See the following section for an example.

### *Movie Poster*

Make an attractive lobby card with title, taglines, release date, and credits, just like Figure 7-7.

Figure 7-7. A movie poster



### *On Black*

Make a permanent web page displaying your photo on a lovely all-black (or all-white) background. those making web galleries.

### *Random Photo Browser*

Browse a selection of random photos, each of which was made a favorite by at least one person of the crème de la crème.

### *Slideshow*

Create a (JavaScript) slideshow from a group of your photos. Slideshows are hosted on FD's web site. For more information on this method of making slideshows, see [Hack #50] .)

### *Trading Card Maker*

Make a trading card, in the style of Pokemon or Magic, as shown in Figure 7-8. Create custom cards for customized role-playing games.

Figure 7-8. A trading card



Most of these toys use a Flickr photograph as source material and then add text, graphic overlays, and color to produce an authentic-looking result. The great thing about these toys is that FD has excellent design skills and is willing to take on a large amount of free graphic design jobs from a professional.

Many of the toys produce images that make great gifts for birthdays, retirement parties, and other occasions. They are something a little special.

We'll use the Motivator as an example here to show how the toys work. Fill out a few fields in a form, and you'll get a suitably inspiring (or pretentious-looking) motivational poster.

## Creating an Unmotivational Poster

To see how FD's toys work, we'll make an unmotivational poster. First, go to your Flickr photostream and

like. Copy the URL of the page from your browser's address bar. For our example, we'll use the photo from <http://www.flickr.com/photos/krazydad/60145421/>.

Then, go to FD's Flickr Toys site (<http://www.flagrantdisregard.com/flickr/>) and click the Motivator link, presented with the form shown in Figure 7-9.

Figure 7-9. FD's Motivator

This website is for personal use only. The owner is not responsible for the use of images generated by this tool. Use at your own risk.

Enter the URL of the image you want on your motivational poster. You can use a Flickr photo page URL (for example, <http://www.flickr.com/photos/john/1234567/>) or the URL to any other JPG, PNG, or GIF image on the internet (for example, <http://somewhere.com/images/someimage.jpg>).

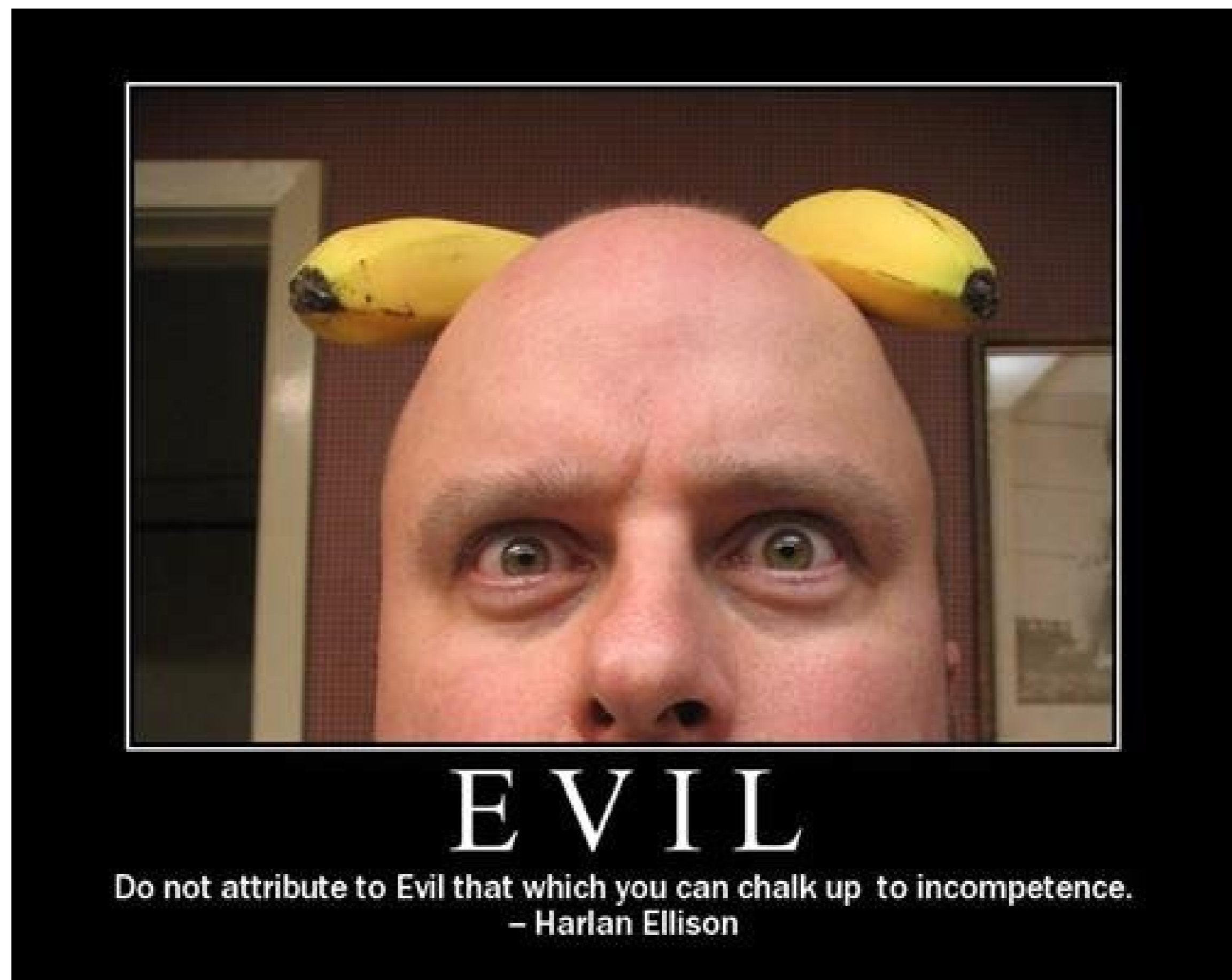
 (required)  
 Keep this part of my photo visible if it must be cropped to fit:  
 Center  Top/Left  Bottom/Right  
 Title:  Color:   
 Motivational text: You've got room for two, maybe three, lines of text.  
  
 Add credit to image  



Paste in the address of your photo, and then enter a title and some motivational text for your poster.

When you press the Motivate button, FD's script will do some processing and then produce an attractive result like the one shown in Figure 7-10.

Figure 7-10. An unmotivational poster



## Rolling Your Own

If you're interested in making your own toy, you're in luck! FD has kindly provided some PHP source code for the Motivator script but uses a stripped-down form. This is an excellent starting point for making other Flickr toys or tweaking Flickr photos.

Before rolling your own, be sure to check out FD's site! Since this was written, he has added a few more Flickr Toys to the collection.

## The code

Create a file called *motivator.php* and enter the following code:

```
<?php
// Configuration stuff
$flickrAPIKey = "<your_api_key>";
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey);

// Fonts to use on the poster
$font1 = "times";
$font2 = "verdana";
```

```

// Get input variables and defaults
$url = '';
$title = '';
$text = '';
$color = "ffffff";
if (isset($_GET['url'])) $url = $_GET['url'];
if (isset($_GET['title'])) $title = $_GET['title'];
if (isset($_GET['text'])) $text = $_GET['text'];
if (isset($_GET['color'])) $color = $_GET['color'];

if (isset($_GET['button'])) {
    // Create a 750x600-pixel canvas, on which we'll draw everything
    $canvas = imagecreatetruecolor(750, 600);

    // Fill the canvas with a black background
    imagefill($canvas, 0, 0, hexdec("#000000"));

    // Add a border by drawing a colored rectangle
    // and then a black rectangle inside of that
    imagefilledrectangle($canvas, 70, 45, 679, 454, hexdec($color));
    imagefilledrectangle($canvas, 72, 47, 677, 452, hexdec("#000000"));

    // Get the Large (_b) version (or the Original
    // (_o) size if Large isn't available)
    $jpg = null;
    $info = array( );
    if (preg_match('!http://.*?/photos/.*/(\d+)!i', $url, $match)) {
        $id = $match[1];
        $info = $f->photos_getInfo($id);
        $sizes = $f->photos_getSizes($id);
        foreach($sizes as $size => $sizedata) {
            if ($size == "Large" || $size == "Original") {
                $source = $sizedata['source'];
                if (preg_match('/\.(jpg|jpeg)$/i', $source)) {
                    $jpg = imagecreatefromjpeg($source);
                }
                if (preg_match('/\.(png)$/i', $source)) {
                    $jpg = imagecreatefrompng($source);
                }
                if (preg_match('/\.(gif)$/i', $source)) {
                    $jpg = imagecreatefromgif($source);
                }
                break;
            }
        }
    }

    // Center the image on the canvas
    imagecopy($canvas, $jpg, 75, 50, (imagesx($jpg)-600)/2, (imagesy($jpg)-400)/2, 600, 400);

    // Draw the title text
    // imagettfbbox( ) is a function that returns the
    // coordinates of a box that would contain the text to be drawn.

```

```

// The output of that function is used to determine how
// to center the image on the canvas.
$title = strtoupper(join(preg_split('//', $title), ' '));
$bbox = imagettfbbox(56, 0, $font1, $title);
$x = (imagesx($canvas) - $bbox[2])/2; // x-coordinate to center the text
$y = abs($bbox[7]-$bbox[1])+465; // y-coordinate
imagettftext($canvas, 56, 0, $x, $y, hexdec($color), $font1, $title);

// Draw the motivational text
$bbox = imagettfbbox(16, 0, $font2, $text);
$x = (imagesx($canvas) - $bbox[2])/2; // x-coordinate to center the text
imagettftext($canvas, 16, 0, $x, $y+30, hexdec("#ffffff"), $font2, $text);

// Save a copy of the image
imagejpeg($canvas, "motivator.jpg", 90);
}
}
?>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/htn
<html>
  <head>
    <title>Motivator</title>
  </head>
  <body>
    <form action="motivator.php" method="get">
      Url: <input name="url">
      Title: <input name="title">
      Text: <input name="text">
      Color: <input name="color"> (Use HTML color codes, e.g. ff0000)
      <input type="submit" name="button" value="Create">
    </form>
    <?php if (isset($_GET['button'])) { ?>
    
    <?php } ?>
  </body>
</html>

```

## Running the Hack

You will need to edit the first line at the top of the file, replacing `<your_api_key>` with your actual API key and then upload the script to your web server.

The code is written to use the Times and Verdana truetype fonts. You can either upload the `C:\WINNT\Fonts\Times.ttf` and `C:\WINNT\Fonts\verdana.ttf` files from a Windows machine, or modify the code to use different fonts (ar

You'll also need write permissions so that the script can create the file `motivator.jpg`.

Most of FD's tools are PHP scripts that use the GD graphics library. The ImageMagick library (<http://www.imagemagick.org>) is also a good choice for this kind of work and is perhaps a bit more powerful but many hosting providers provide GD as a built-in part of their PHP installations, whereas ImageMagick is not.

## See Also

- [\[Hack #43\]](#)
- [\[Hack #47\]](#)
- [\[Hack #50\]](#)





## Hack 47. Make a Ransom Note



Say it with photos, and defy handwriting analysts everywhere!

In these uncertain days of paperless offices and instant messaging, it can be difficult for harried kidnapers to find magazines, newspapers, scissors, and glue. So, it's good to know that high-tech kidnapers can use their stolen laptops to make good old-fashioned ransom notes with Flickr!

Flickr contains a few groups that collect photos of individual characters or glyphs. The first such group was One Letter (<http://www.flickr.com/groups/oneletter/>), which collects photos of the letters A through Z. This was followed by One Digit (<http://www.flickr.com/groups/onedigit/>), which collects photos of the digits 0 through 9. And then came Punctuation (<http://www.flickr.com/groups/punctuation/>), which collects photos of, uh, punctuation you know, the stuff that cartoon characters use to curse with.

The PHP script in this hack translates a string of ASCII text into a sequence of photos from these groups, producing a typesetting job only a felon could love.

In [\[Hack #13\]](#), we looked at the One Word group (<http://www.flickr.com/groups/oneword/>), which contains photos of individual words. You can build a ransom note out of whole words using the techniques in this hack, but here we'll build our words one letter at a time.

### What You'll Need

To use this PHP script, you'll need a web server that supports PHP 4 or later and your own Flickr API key. See [\[Hack #40\]](#) for information on how to get an API key.

You'll also need the phpFlickr scripts [\[Hack #41\]](#). (These scripts also make authenticating other people a snap, but you won't need authentication for this hack.) You can download these scripts from <http://www.phpflickr.com>.

### The Code

Create a file called *ransomNote.php* and add the following code:

```
<?php

// Ransom Note - Jim Bumgardner
//
```

```

// Pulls glyphs from One Letter, One Digit, and Punctuation groups.
//
ini_set("error_reporting ", E_ALL);

// Configuration stuff
$flickrAPIKey = "your API key";
$cachingenabled = true;
$dbUser = "user"; //database user here
$dbPass = "pass"; //database password here
$dbAddress = "localhost"; //location of database
$dbName = "dbName"; //name of database, will create one if it doesn't exist

// Create new phpFlickr object
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey);
if ($cachingenabled == true)
{
    $f->enableCache("db", "mysql://$dbUser:$dbPass@$dbAddress/$dbName");
}

// Exceptional tags - all others are the letter or digit.
$exTags = array(
    'a' => 'aa',
    'i' => 'ii',
    '0' => '00',
    '%' => 'percent',
    '+' => 'plussign',
    '.' => 'period',
    ',' => 'comma',
    '$' => 'dollarsign',
    '!' => 'exclamationpoint',
    '?' => 'questionmark',
    ';' => 'semi colon',
    ':' => 'colon',
    '/' => 'slash',
    '-' => 'dash',
    '&' => 'ampersand',
    '>' => 'greaterthan',
    '<' => 'lessthan');

$oneLetterGroup = '27034531@N00'; // group_id of 'One Letter'
$oneDigitGroup = '54718308@N00'; // group_id of 'One Digit'
$punctuationGroup = '34231816@N00'; // group_id of 'Punctuation'

$phrase = 'pay-up or else!';
if (isset($_GET['phrase']))
    $phrase = $_GET['phrase'];

$size = 'thumbnail';
if (isset($_GET['size']))
    $size = $_GET['size'];

```

```

$len = strlen($phrase);
$ltrphotos = array( );

for ($i = 0; $i < $len; ++$i)
{
    $char = strtolower(substr($phrase,$i,1));
    if ($char == ' ')
        continue;
    // Get photo list for unique letters
    if (!isset($ltrphotos[$char]))
    {
        if (isset($exTags[$char]))
            $tag = $exTags[$char];
        else
            $tag = $char;

        if ($char >= 'a' && $char <= 'z')
            $group_id = $oneLetterGroup;
        else if ($char >= '0' && $char <= '9')
            $group_id = $oneDigitGroup;
        else
            $group_id = $punctuationGroup;
        $photos = $f->groups_pools_getPhotos($group_id,$tag);
        $ltrphotos[$char] = $photos;
    }
}

```

```

function buildPhotoSourceURL ($photo)
{
    return "http://www.flickr.com/photos/" .
        $photo['owner'] . "/" . $photo['id'] . "/";
}

```

```
?>
```

```

<html>
<head>
<title>ransom note</title>
</head>
<body>
<center>

```

```
<?php
```

```

for ($i = 0; $i < $len; ++$i)
{
    $char = strtolower(substr($phrase,$i,1));
    if ($char == ' ')
        echo "<br>\n";
    else {

```

```

    $photoIdx = array_rand($ltrphotos[$char]['photo']);
    $photo = $ltrphotos[$char]['photo'][$photoIdx];
    echo "<a href=" .
        buildPhotoSourceURL($photo) .
        "></a>";
}
}

?>

</center>
</body>
</html>

```

Before uploading the script, edit the following line to use your own API key:

```
$flickrAPIKey = "your API key";
```

The `phpFlickr` wrapper has an optional caching feature. If you wish to use it, modify these lines to provide access information for a database on your server:

```

$cachingenabled = true;
$dbUser = "user"; //database user here
$dbPass = "pass"; //database password here
$dbAddress = "localhost"; //location of database
$dbName = "dbName"; //name of database, will create one if it doesn't exist

```

If you do not wish to use caching, turn it off by replacing this line:

```
$cachingenabled = true;
```

with this:

```
$cachingenabled = false;
```

## Running the Hack

To run the hack, upload the edited script to your web server, and invoke it by typing the URL in your browser's address bar:

```
http://www.yourdomain.com/ransomNote.php
```

You'll see a ransom note appear, like the one shown in [Figure 7-11](#).

Figure 7-11. Flickr ransom note



If the default message, "Pay-up or else!," isn't threatening enough, you can specify a different message by passing the variable `phrase`. Here's an example:

<http://www.yourdomain.com/ransomNote.php?phrase=I+love+kittens>

You can also specify different photo sizes by using the `size` parameter. Here are the available choices (from smallest to largest):

```
square
thumbnail
small
medium
large
original
```

For example:

<http://www.yourdomain.com/ransomNote.php?phrase=teensy+photos&size=square>

Finally, if you want to support your fellow kidnapers, please join the One Letter, One Digit, and Punctuation groups on Flickr, and contribute to these valuable photo pools! With enough photos, we'll be able to typeset longer works of literature than the one shown in [Figure 7-12](#).

Figure 7-12. Excerpt from "Jabberwocky" by Lewis Carroll



## See Also

- [\[Hack #41\]](#)
- [\[Hack #13\]](#)

[← PREY](#)

[← PREVIOUS](#)

## Hack 48. Make a Slider Puzzle



Mix up your photos with this simple puzzle .

In [Hack #50] , we built a simple application in which a PHP script passed parameters to a Flash movie more complex Flash movie that breaks photographs apart into separate tiles to make a slider puzzle.

### What You Need

This hack uses a modified version of the script developed in [Hack #50] , so it might help if you look at Since this hack uses PHP, you will need a web server with PHP support.

To view the results, you'll also need a web browser with a Flash plug-in capable of displaying Flash 7 mc

The hack uses a ready-made Flash movie I developed called FlickrPuzzle. FlickrPuzzle will make a puzzle however, it works best with 500 x 500 square images.

Download the archive from <http://www.krazydad.com/flickrPuzzle/> and include the *flashPuzzle.swf* movie customized version of the puzzle.

You'll also need the phpFlickr scripts [Hack #41] . (These scripts also make authenticating other people hack.) You can download these scripts from <http://www.phpflickr.com>.

### The Flash Movie

*FlickrPuzzle.swf*, the Flash movie, accepts two parameters, which can be passed in via HTML:

`imgUrl`

This is the full URL of the image file to use for the puzzle typically, a JPG, GIF, or PNG. You can use recommend using images that are 500 x 500 squares, such as most of the images in the Squared Flickr. If the image does not have these dimensions, it will be stretched to fit.

`TD`

This is the horizontal (or vertical) dimension of the puzzle, in tiles. If you specify `5` (the default), the numbers `3` , `4` , or `5` . If you use numbers larger than `5` , the puzzle will take longer to load, because each tile in the puzzle. Unfortunately, this is a limitation of Flash. At any rate, puzzles with dimensions

These parameters are passed in two separate locations within the HTML `<object>` tag that loads the Flash

## The Code

The following PHP script is responsible for loading random images from Flickr and then passing the URL to the puzzle. It is a modified version of the script developed in [Hack #50], which uses similar technique:

Create a new text file called *flickrPuzzle.php* and enter the following PHP code:

```
<?php
ini_set("error_reporting ", E_ALL);

// Configuration stuff
$flickrAPIKey = "your API key";
$cachingenabled = true;
$dbUser = "user"; //database user here
$dbPass = "pass"; //database password here
$dbAddress = "localhost"; //location of database
$dbName = "dbname"; //name of database, will create one if it doesn't exist

function buildPhotoSourceURL ($photo)
{
    return "http://www.flickr.com/photos/" .
        $photo['owner'] . "/" . $photo['id'] . "/";
}

// Create new phpFlickr object
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey);
if ($cachingenabled == true)
{
    $f->enableCache("db", "mysql://$dbUser:$dbPass@$dbAddress/$dbName");
}

$per_page = 6;

// Parse parameters
$page = mt_rand(2,3700);
if (isset($_GET['page']))
    $page = $_GET['page'];

$id = mt_rand(1,$per_page);
if (isset($_GET['id']))
    $id = $_GET['id'];

$TD = 5;
if (isset($_GET['TD']))
    $TD = $_GET['TD'];

$group_id = '52242140489@N01';
if (isset($_GET['group_id']))
    $group_id = $_GET['group_id'];
```



```

$photos = $f->groups_pools_getPhotos($group_id,NULL,NULL,$per_page,$page);

?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Flickr Puzzle</title>
</head>
<body>
<center><table><tr>
<td valign=bottom width=100><a href="http://www.krazydad.com/flickrPuzzle/">new random i
<?php
$i = 1;
foreach ($photos['photo'] as $photo) {
    echo "<td align=center width=81><a href=http://www.krazydad.com/flickrPuzzle/index.php?idx=$i&TD=$TD&page=$page><img border='0' width=75 height=75 alt='$photo[title]' src=$f->buildPhotoURL($photo, 'square') . "></a><br><a href=" .
        buildPhotoSourceURL($photo) . ">flickr</a></td>";
    if($i == $idx)
        $imgUrl = $f->buildPhotoURL($photo, 'medium');
    $i++;
}
print <<<EOT
<td valign=bottom width=100 align=right><a href="http://www.krazydad.com/flickrPuzzle/index.php?idx=$idx&TD=4&page=$page">4x4</a>
<a href="http://www.krazydad.com/flickrPuzzle/index.php?idx=$idx&TD=5&page=$page">5x5</a>
</td></tr></table>

<object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"
codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=9,0,124,0"
width="500" height="500" id="flickrPuzzle" align="middle">
<param name="allowScriptAccess" value="sameDomain" />
<param name="movie" value="flickrPuzzle.swf?imgUrl=$imgUrl&TD=$TD" />
<param name="quality" value="high" />
<param name="bgcolor" value="#FFFFFF" />
<embed src="flickrPuzzle.swf?imgUrl=$imgUrl&TD=$TD"
quality="high" bgcolor="#FFFFFF" width="500" height="500" name="flickrPuzzle"
align="middle" allowScriptAccess="sameDomain"
type="application/x-shockwave-flash"
pluginspage="http://www.macromedia.com/go/getflashplayer" />
</object>
EOT;
?>
</center>
</body>
</html>

```

You'll need to modify the configuration information at the top, providing your API key, shared secret, an

information about this, see [Hack #41] .

Upload this PHP file, *flickrPuzzle.php* , as well as the Flash movie, *flickrPuzzle.swf* , to your web server.

## Running the Hack

To run the hack, enter the address of *flickrPuzzle.php* into your web browser's address bar:

<http://www.yourdomain.com/flickrPuzzle.php>

If all goes well you'll see something like Figure 7-13, a set of photograph tiles with one missing.

Figure 7-13. flickrPuzzle

This is a typical slider puzzle. You solve it by clicking on tiles that are adjacent to the hole, causing their original photo will appear in its place. Click the photo to reset the puzzle (with different scrambling) and to reload the page and cause the puzzle to use different numbers of tiles: 3 x 3, 4 x 4, or 5 x 5.

## Hacking the Hack

You can manually modify the puzzle by passing any of the following parameters to the app. I suggest ex browser's address bar:

### group\_id

The group ID of the Flickr group to pull images from. By default, the PHP app uses the ID of the Square puzzles.

### page

The page number of images to load (6 per page). If you don't specify this, you'll get a random page.

### idx

The particular image on the page (from 1-6) to use to make the puzzle.

### TD

The tile dimensions of the puzzle. If you specify `4`, the puzzle will be 4 tiles wide by 4 tiles high. If it is left unspecified, it defaults to `5`.

For example:

`http://www.yourdomain.com/flickrPuzzle.php?page=2&idx=4`

Although it's not included here, you'll find the source code for the 2K Flash movie that animates the puzzle.

## See Also

- [Hack #50]
- [Hack #41]

## Hack 49. Make a Photo Mosaic



Using Flickr, any portrait can be more than the sum of its parts.

Photo mosaics composite artworks in which the mosaic tiles are themselves photographs were first invented by Joseph Francis at the R/Greenberg ad agency in the early 1990s. They weren't popularized until the late '90s, though, when Robert Silver, a Master's student at the MIT Media Lab, came up with the idea independently. Knowing he had a good thing on his hands, Silver trademarked the name PhotoMosaic, applied for a patent, formed his own company, and started selling them. Soon, Silver's beautiful and impressive mosaics were showing up in books, on posters, and on magazine covers.

Not so long ago, photo mosaics would have been hard to make on cheap desktop computers at home. You needed fast processing speeds, very large disk capacity, and thousands of photographs to work with. These days, the cheapest desktop PCs have all the processing power and disk capacity you need, and services such as Flickr provide the final missing ingredient: a huge library of images.

This hack uses a Perl program I wrote to make photo mosaics. But before going down this road, you should know that there are quite a few good third-party applications out there for making photo mosaics (although not all of them are well integrated with Flickr, yet).

Two other popular mosaic-making applications are AndreaMosaic for Windows (<http://www.andreaplanet.com/andreamosaic/>) and MacOSaiX for the Macintosh (<http://homepage.mac.com/knarf/MacOSaiX/>). A third excellent choice is FlickrMosaic (<http://flickrmosaic.sourceforge.net>). This program, written in Java, will work on most platforms, including Linux, and is designed to work specifically with Flickr.

### Making Great Mosaics

To build a photo mosaic, the software selects tiles from a large pool of candidate images. The tiles are picked so that each one matches an area of a target image. For each tile, the software picks the candidate image that is the closest match, typically by comparing the color distance in Euclidean space. So, a candidate image that is pinkish would be chosen for a tile representing a red area over another candidate image that is green, because pink is closer to red. The closer the tiles match, the more the final mosaic will resemble the target image.

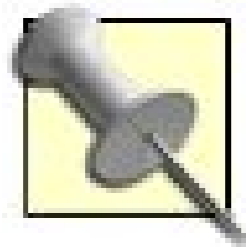
A number of factors affect how well your photo mosaics will come out. Let's take a look at some of the things you'll need to consider.

### The choice of target image

The target image should reproduce well at a very low resolution (it should look good as a thumbnail). Any detail you can't see in a very tiny thumbnail will probably not be visible in the mosaic, unless you use a lot of very small tiles.

It is often best to edit the target image, using Photoshop or another image editor, before making a mosaic from it. Try cropping out a detail such as a face or even an eye. Sometimes, it helps to increase the contrast in the target photo; this will cause a wider intensity range in the candidate tiles that are chosen.

If you are using off-the-shelf mosaic software, you might need to resize the target image down to a smaller size so that the mosaic software doesn't take forever trying to make a huge image.



In the script introduced later in this hack, this is handled automatically. The size of the final mosaic is based on the number of tiles used.

## The choice of candidate tiles

Photo mosaics are most effective when the subject matter of the tiles has something to say (descriptively, affectionately, ironically) about the target image. Thousands of photo mosaics portrait have been constructed from generic stock photos of seascapes and barns. These are technically impressive, but ultimately meaningless, unless the subject of the portrait is a sailor or a farmer.

My mosaic of Botticelli's Venus (<http://www.flickr.com/photos/krazydad/4894509/>) contains photos that match the word *love*, with lots of valentine hearts, people kissing, and people holding hands. My mosaic of my friend Fubuki (shown later in this hack, in [Figure 7-14](#)) consists entirely of photos taken by Fubuki.

## The overall number of candidate tiles to choose from

Generally, the more tiles you have to choose from, the more accurate the result will be. On the other hand, you might like the results you get when there aren't many choices available; this tends to produce more abstract images, and sometimes accidents can be cool.

I have produced a number of mosaics in which I used every single candidate image. In general, these reproductions don't come out as faithfully as mosaics in which you use only a subset of a much larger pool, but it is a fun challenge to try to use every single tile. If you are forced to do so, and you want a high-fidelity result, it helps if the distribution of colors in the target image is close to the distribution of colors in the candidate images. If your target has a brown face, but most of your candidate images are green, you're going to get a green face. If you have a choice of target images, pick one that more closely matches the colors in your candidate tiles.

## The number of candidate tiles used to overlay the target image

I usually do a few runs trying different numbers of tiles until I find a coverage I like. I prefer to try to use the smallest number of tiles I can get away with, because this makes the individual tiles larger and easier to appreciate. If there are a gazillion teensy, tiny tiles, you may as well be looking at the

target image itself. However, there is a tradeoff between tile size and fidelity to the target image: fewer tiles means less fidelity. Experiment with different tile sizes and try to use the largest one you can while still retaining good fidelity.

## What You Need

To run the script in this hack, you'll need the `Image::Magick` Perl module, which provides an API for the powerful ImageMagick image-processing library. You can find it at <http://www.imagemagick.org>, or you can download it from CPAN.

You'll also need the following two modules, which I wrote: `Image::Mosaic` and `Image::FlickrSet`. You can find these on my web site in the following archive, which also contains a copy of the script developed in this hack:

<http://www.krazydad.com/sware/JimsFlickrScripts.zip>

`Image::Mosaic` depends on `Clone`, which you can obtain from CPAN.

You'll also need the scripts developed in [\[Hack #33\]](#) and [\[Hack #34\]](#).

## The Code

Here's my script for making photo mosaics with Flickr photos, using my `Image::Mosaic` module. Create a file called *makeMosaic.pl* and enter the following code (or grab the latest version from the archive mentioned in the previous section):

```
#!/usr/bin/perl -s

#
# sub-sampling photo mosaic - Jim Bumgardner
#
# this script uses a subset of images from a larger set
# to make a mosaic against a target image
#
# work on reducing globals - store shared variables in an object...

use Image::Mosaic;
use Image::FlickrSet;

$photolist = shift;
$basepic = shift;
$max_images = shift;
$imagedir = shift;

$imagedir = $photolist if !$imagedir;
$photolist .= '.ph' if !($photolist =~ m/\.ph/);

$syntax = <<EOT;
pmosiac_subset.pl [options] <photolist> <basepic> [<max_images>]
```

Options:

```
-dupesOK      Allow duplicate tiles
-noborders    Reject images with solid-color borders or over 2:1 aspect ratio
-noflops      Images may not be swapped horizontally
-reso=#       Subsamples per photo - default = 7
-cellsz=#    Size of tiles - default = 20
```

EOT

```
die "$syntax\n" if !$basepic;
```

```
require "${photolist}";
```

```
#
```

```
# these are all command-line options
```

```
#
```

```
$reso = 7 if !$reso; # number of subsamples per tile = reso x reso
```

```
$cellsize = 20 if !$cellsize;
```

```
$cellsize = 100 if $big;
```

```
$doflops = 1 if !$noflops && !$noflips;
```

```
$max_images = scalar(@photos)/4 if !$max_images;
```

```
my $imageset = Image::FlickrSet->new(\@photos, {imageDir => $imagedir, verbose=>1});
```

```
my $moz = Image::Mosaic->new({reso=>$reso,
                             max_images=>$max_images,
                             imageset=>$imageset,
                             basepic=>$basepic,
                             noborders=>$noborders,
                             doflops=>$doflops,
                             cellsize=>$cellsize,
                             verbose=>1
                             });
```

```
$moz->generate_mosaic( );
```

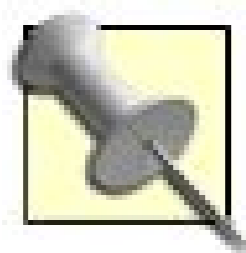
## Running the Hack

To use the *makeMosaic.pl* script, you'll need a target photo to work with and a pool of candidate photos. To make a mosaic of my friend Fubuki, I first downloaded a list of Fubuki's photos to a file called *fubuki.ph*, using this command:

```
getPhotoList.pl -u fubuki
```

Then I downloaded thumbnail versions of each of his photos, using the information in the file I had just created:

```
getSnaps.pl fubuki.ph
```



This step is actually optional, because the `Image::FlickrSet` module used in the `makeMosaic.pl` script will automatically download photos if you don't already have them. I like to do this separately, though, as it's the most time-consuming part of the process.

Next, I chose a specific target image I wanted to make a mosaic of. I did this by examining Fubuki's Flickr stream in my web browser to locate a portrait, right-clicking the image, and saving the JPEG as `fubuki_portrait.jpg`. The actual image I used is at <http://www.flickr.com/photos/fubuki/2303451>.

Finally, I made the mosaic by entering the following command:

```
makeMosaic.pl fubuki fubuki_portrait.jpg 800
```

The first argument references the name of the `fubuki.ph` file that contains the list of candidate photos. It is also used to specify a subdirectory, `fubuki/`, to find the thumbnails in. The second argument indicates the name of the target image file. The last argument, `800`, indicates the approximate number of tiles to use in the mosaic. The number actually used might be slightly more or less, in order to fill out the rectangular shape of the mosaic.

By default, the script produces a low-resolution version of the mosaic. I generally try a few different versions (experimenting with editing the target image and altering the number of tiles) till I find one like. If you like the result, you can produce a high-resolution mosaic using the `-big` option:

```
makeMosaic.pl -big fubuki.ph fubuki_portrait.jpg 800
```

When you use the `-big` option, the script will automatically download large versions of the tiles that will eventually be chosen to be used in the image. This saves time, because you don't need large versions of every single candidate image; you just need the thumbnails, unless the image goes into the final mosaic.

[Figure 7-14](#) shows how my mosaic of Fubuki came out.

Figure 7-14. Fubuki mosaic





Pretty sweet, eh?

## How It Works

If you're interested in the nitty gritty, I suggest taking a closer look at the `Image::Mosaic` module, which does most of the heavy lifting.

This module is written to be service-agnostic; it doesn't know anything about Flickr. Instead, it works with an iterator class, which provides a list of images to work with. The iterator class must implement a method called `get_image()`, which retrieves images one at a time. I designed `Image::Mosaic` this way so that it can be used with other image services, such as Google Image Search, or with my own collections of photographs. My Flickr-based iterator class is called `Image::FlickrSet`. This class is designed to work with the image lists produced by the `getPhotoList.pl` script from [\[Hack #33\]](#).

`Image::Mosaic` performs four main steps:

1. Examines all the candidate images and records their overall luminance values. During this step,

`Image::Mosaic` calls the image iterator's `get_image()` routine and asks for thumbnail-sized images. If `Image::FlickrSet`, our iterator, can't find a particular image referenced in its image list, it will download the thumbnail from Flickr. `Image::Mosaic` records the luminance values to build an index so that the images can be grouped by luminance, which speeds up step 3, in which we select tiles for the mosaic.

2. Sets up a data structure describing each of the cells in the target image that will be occupied by a tile. For each cell, it records the colors contained in that cell in the target image. To speed things up, the target image is reduced in size to match the subsampling resolution (which defaults to 7), so that each cell contains no more than 7 x 7 pixels. The cell list is sorted so that cells that contain edges are resolved first; this produces a better-looking final result.
3. Selects the most appropriate candidate image to fill each target cell. For each target cell, a subgroup of candidate images is chosen, using the luminance group closest to the target cell. Each of the candidates in the subgroup is evaluated for the target cell by comparing the differences in the color values. The candidate with the fewest differences (the closest in the RGB space) is chosen. If it fails to pick a tile because all the tiles in the luminance group have already been selected for other cells, it looks further afield, at nearby luminance groups.
4. Loads in the selected tiles and builds a composite image from them. During this step, if the `-big` option was employed, larger versions of the selected tiles will be downloaded by the `Image::FlickrSet` module, as necessary.

## Hacking the Hack

Although some people might feel that photo mosaics are passé, there is still enormous potential for innovations in making them. For example, while existing photo mosaic software produces mosaics with square or rectangular tiles, there is certainly no reason why photo mosaics have to have square tiles on a rectangular grid.

Try using hexagonal tiles, diamonds, or other shapes. How about a hexagonal tiled mosaic resembling a honeycomb, in which all the tiles contain images of bees and flowers? Try rotating the tiles, or giving them more randomized placements. Experiment with circular tiles arranged in a Fibonacci spiral, like the seeds in a sunflower.

The tiles don't need to have hard, sharply defined edges, either. You can use image masking to give the tiles fuzzy edges that blend into each other.

Finally, photo mosaics do not need to be static pieces of art that hang on a wall. You can build an interface, using Flash or Ajax, that will make your mosaic interactive, perhaps providing individual photo credits for the tiles or making the tiles come to life. I've created such interfaces for my CoverPop web site (<http://www.coverpop.com>), which contains interactive mosaics built from various sources. See the CoverPop FAQ (<http://www.coverpop.com/faq/>) for more information about building interfaces for interactive mosaics.

## See Also

- [\[Hack #33\]](#)

- [\[Hack #34\]](#)
- [\[Hack #44\]](#)
- [\[Hack #43\]](#)

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## Hack 50. Make a Slideshow



PHP and Flash combine to create eye candy with extreme flexibility .

In [Hack #41] , we built an app that displays a grid of images. Wouldn't it be nice to get those same in slideshow? That's what this hack is about.

### What You Need

This hack uses a modified version of the script developed in [Hack #41] , so you'll need to have success starting this one. You'll also need a web server with PHP 4 support.

In this hack, we'll be making a Flash movie that is compatible with Flash 7. You'll need a version of Macromedia Flash MX 2004.

### The Flash Movie

If you're a programmer who has never learned Flash, you'll like this hack, because the movie requires v (which is artist-friendly but hacker-unfriendly). Instead, the effects in the movie are accomplished exclusively in ActionScript.

Create a text file called *slideshow\_script.as* and add the following ActionScript code:

```
// Basic Looping Slideshow for Flash 7
//
// - Jim Bumgardner
//
// Parameters:
// flickrSnaps - list of server/id/secret triplets (delimited by commas)
// timeBetweenSlides (milliseconds)
// fadeTime (milliseconds)
// debug (adds status msgs)

flickrSnapAry = _root.flickrSnaps.split(',');

// Create containers/loaders here...
containers = [];
curSlide = 0;
curSlot = 0;
if (!timeBetweenSlides)
    timeBetweenSlides = 5000;
if (!fadeTime)
```

```

fadeTime = 3000;

doNextSlide = function( )
{
  clearInterval(this.intH);
  curSlide = (curSlide + 1) % flickrSnapAry.length;
  this.altSlot.doLoad(curSlide);
}

fadeInStep = function( )
{
  var r = (getTimer( ) - this.fxStart)/this.fxDuration;
  if (r >= 1) {
    r = 1;
    clearInterval(this.intH);
    this.intH = setInterval(this, "doNextSlide", timeBetweenSlides);
  }
  // This applies an ease in/out to the fade effect
  r = r*r*(3-2*r);
  this._alpha = r*100;
  this.altSlot._alpha = (1-r)*100;
  // This next line provides the barn-door effect
  // Comment it out for a more standard-looking
  // cross-fade effect
  this._xscale = r*100;
}

doFadeIn = function(duration)
{
  this.fxStart = getTimer( );
  this.fxDuration = duration;
  this.fxStep = fadeInStep;
  this.intH = setInterval(this, "fxStep", 1000/30);
}

handleLoadInit = function(target)
{
  // Center the slide
  this._x = (Stage.width - target._width)/2;
  this._y = (Stage.height - target._height)/2;
  this.doFadeIn(fadeTime);
}

handleLoadError = function(target, errorCode)
{
  _root.errMsg.text = 'got load error ' + errorCode + ' on image ' + this.itsURL;
}

doLoad = function(slideNbr)
{
  if (_root.debug)
    _root.errMsg.text = "loading " + slideNbr + ' ' + flickrSnapAry[slideNbr];
}

```

```

var fVars = flickrSnapAry[slideNbr].split('/');
this._alpha = 0;
this.itsURL = 'http://static.flickr.com/' + fVars[0] + '/' +
    fVars[1] + '_' + fVars[2] + '.jpg';
this.itsLoader.loadClip(this.itsURL, this.loadee);
}

// Initialize two movieclips for slideshow
for (var i = 0; i < 2; ++i)
{
    var mc = _root.createEmptyMovieClip('ctr_'+i,i+1);
    mc.createEmptyMovieClip('loadee', 1);
    mc.idx = i;
    mc.doLoad = doLoad;
    mc.doFadeIn = doFadeIn;
    mc.doNextSlide = doNextSlide;
    mc.onLoadInit = handleLoadInit;
    mc.onLoadError = handleLoadError;
    var loader = new MovieClipLoader( );
    loader.addListener(mc);
    mc.itsLoader = loader;
    containers[i] = mc;
}
containers[0].altSlot = containers[1];
containers[1].altSlot = containers[0];

_root.createTextField('errMsg', 10, 10, 10, 480, 50);
_root.errMsg.textColor = 0xFFFFFFFF;

// Load the first slide
if (flickrSnapAry.length <= 0)
    _root.errMsg.text = "No snaps specified";
else
    containers[curSlot].doLoad(curSlide);

```

Then, run Flash and create a new project. Use the Modify Document menu and specify the following

#### *Dimensions*

500 x 500 pixels

#### *Background Color*

Black

#### *Frame Rate*

30 fps

Select the first frame of the movie on the timeline, and then open the ActionScript editing window by selecting **Actions** from the menu.

In the ActionScript window, enter the following one-line script, which causes the script you just created

```
#include "slideshow_script.as"
```

That's about all the Flash authoring you need to do. As you can see, most of the interesting stuff is in the



If you like Flash's text editor, feel free to put the complete script inside the ActionScript include file. I prefer to keep my scripts separate, so I can use a more full-featured text editor.

Save the project as *slideshow fla*, and then select **File** → **Publish**. This will produce a Flash movie file called *slideshow.swf*, approximately 1 KB in size. This is one of the nice things about making ActionScript-centric Flash movies: no annoying preloaders.

Upload *slideshow.swf* to your web server.

The Flash movie does not talk to the Flickr API directly. Instead, it accepts a list of Flickr photos as one of its arguments, separated by commas. Each individual photo is specified by three strings: the server number, the photo ID, and the photo title. Each of these triplets is separated by a slash. Thus, a list of two photos looks like this:

```
29/44754794/29dbf5c75a,29/47126414/42ce67e060
```

The Flash movie takes this information and uses it to construct URLs that are used to pull the photos off the Flickr server. The Flash movie will build this list of photos by querying the Flickr API for information about your photos.

## The Code

The PHP script is a modified version of the script developed in [Hack #41].

Create a new text file called *testSlideshow.php* and enter the following PHP code:

```
<?php
ini_set("error_reporting", E_ALL);

// Configuration stuff
$flickrAPIKey = "your API key goes here";
$flickrSharedSecret = "your shared secret goes here";

// Caching configuration stuff
$cachingenabled = false;
$dbUser = "your database username";
$dbPass = "your database password";
$dbAddress = "your database domain name (or localhost)";
$dbTable = "database table name";
```

```

// Create new phpFlickr object
require_once("phpFlickr.php");
$f = new phpFlickr($flickrAPIKey,$flickrSharedSecret);
if ($cachingenabled == true)
{
    $f->enableCache(
        "db",
        "mysql://$dbUser:$dbPass@$dbAddress/$dbTable");
}
$f->auth( );
$token = $f->auth_checkToken( );

// Parse parameters
$page = 1;
if (isset($_GET['page']))
    $page = $_GET['page'];

$per_page = 30;
if (isset($_GET['per_page']))
    $per_page = $_GET['per_page'];

$fade_time = 2000;
if (isset($_GET['fade_time']))
    $fade_time = $_GET['fade_time'];

// Find the NSID of the username inputted via the form
$nsid = $token['user']['nsid'];

// Get the friendly URL of the user's photos
$photos_url = $f->urls_getUserPhotos($nsid);

// Get a set of the user's photos
$photos = $f->photos_search(array("user_id" => $nsid, "per_page" => $per_page, "page" =>

$flickr_snaps = '';
$i = 0;
foreach ($photos['photo'] as $photo) {
    if ($i++)
        $flickr_snaps .= ',';
    $flickr_snaps .= $photo['server'] . '/' . $photo['id'] . '/' . $photo['secret'];
}

print <<<EOT
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xht
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>slideshow</title>
</head>
<body bgcolor="#000000" color=white><?php
<object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"

```



```

codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version
width="500" height="500" id="slideshow" align="middle">
<param name="allowScriptAccess" value="sameDomain" />
<param name="movie" value="slideshow.swf?fadeOut=$fadeOut&flickrSnaps=$flickr_snaps"
<param name="quality" value="high" />
<param name="bgcolor" value="#000000" />
<embed src="slideshow.swf?fadeOut=$fadeOut&flickrSnaps=$flickr_snaps"
quality="high" bgcolor="#000000" width="500" height="500" name="slideshow"
align="middle" allowScriptAccess="sameDomain"
type="application/x-shockwave-flash"
pluginspage="http://www.macromedia.com/go/getflashplayer" />
</object>
</body>
</html>
EOT;
?>

```

You'll need to modify the configuration information at the top, providing your API key, shared secret, and caching. For more information about this, see [Hack #41] .

Upload *testSlideshow.php* to your web server, into the same location where you uploaded the *slideshow.*

## Running the Hack

To run the hack, enter the address of *testSlideshow.php* into your web browser's address bar:

```
http://www.yourdomain.com/testSlideshow.php
```

If you have not yet been authenticated, you'll see the Flickr permissions screen. Once you've granted permissions, the slideshow will appear.

The slideshow provides a transition effect between photos by using both an alpha cross-fade and a scaling effect. The photos appear to move like a closing door.

You can modify the slideshow by passing any of the following parameters to the app:

**per\_page**

This controls how many photos are used in the slideshow before it loops.

**page**

This controls which page of photos from your photostream is loaded.

**fadeOut\_time**

This specifies, in milliseconds, how long the cross-fade effect lasts. This particular parameter gets

Here's an example URL that passes these parameters to the PHP script:

```
http://www.yourdomain.com/testSlideshow.php?per_page=10&page=4&fade_time=1000
```

## Hacking the Hack

To keep things simple, I've written this script to pass only one adjustable parameter, `fade_time`, to the Flash movie. I could have passed a whole slew of parameters so you can customize the slideshow to your liking.

If you want to pass additional parameters to the Flash movie, they can be accessed from within the ActionScript (if the actions are attached to the `_root` timeline). Follow the PHP variable `fade_time`, which gets converted to the ActionScript variable `fade_time` (if this works).



Because of differences between web browsers, parameters to the Flash movie need to be passed in different locations within the `<object>` tag.

I would suggest adding additional transition effects to the slideshow ActionScript and adding additional parameters to the Flash movie.

A great number of web developers never get past learning one language or technology, but you'll find that combining different technologies, as we have done here, can greatly enrich the kinds of end-user experience you can provide.

## See Also

- [Hack #41]
- [Hack #45]

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