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Cool Tech

By Matthew Wilson

The purpose of Cool Tech is to expose you to a lot of different programs available on the Web. In the last edition of CompAct I referenced over 200 free programs available on the Web that do all kinds of cool things. In this edition I'll show you even more free programs to check out. I'm covering a cool way to hack Web pages in the Firefox browser. The general idea is that I want the world to conform to your ideas instead of the other way around. The Greasemonkey Firefox add-on plus a Javascript script helps you to move along that path.

I discuss the trials and tribulations of creating a photography Web site using Gallery 2.

I regularly make changes to my Web site (www.1913intel.com). Most of the time the changes don't work out all that well, but occasionally something does work. I effectively blew up 33 percent of my traffic by going to a membership site, but my site revenue is up anyway. I discovered a social browser that allows me to blog post about five times faster than before. So I'm spending much less time on my blog than before, but earning more.

I take a look at how you can use phpMyAdmin for the administration of your MySQL databases. Sometimes you have to snoop around a database if there is a problem, and phpMyAdmin is the way to go.

It might not be entirely clear if a particular open source package is going to work for you. That means installing several different packages to see what works. It would be nice if there were demo versions to play around with. You need to try out Click2Try.

I provide a short review of the Google browser called Chrome, and how to build a simple fulltext search engine using PHP and MySQL.

In the download section is a spreadsheet containing the Mersenne Twister code for a random number generator that started out in C++, moved to VB, and I moved it to Excel.

MY VIEW

Recently I was advising a coworker (Karl) on how to put together a photography Web site. As a hobby Karl likes to take quality portrait pictures of people. He had a free Web site, but wanted to do better.

Karl mentioned over and over that he wanted something real simple. OK, I got the hint. He wants something real simple. I was thinking about a real simple html based Web site until he mentioned that he wanted folders to be password protected. One can protect folders by setting ".htaccess" appropriately, but a much better way to go is to use a photo gallery package based on PHP and MySQL. But which one should we use?

Based on feedback from a photography forum, we chose the Gallery 2 photo package. It's a very popular open-source package that uses PHP and MySQL, and it fulfilled Karl's requirement for password protection. I thought this was going to be very easy to install given that it uses PHP and MySQL, but I made a strategic mistake in the selection of host. I suggested the Yahoo! hosting service, because it has worked for me in the past and provides quicker help than my current host—dreamhost.com. Unfortunately, Karl couldn't get the Gallery 2 package to work properly. Yahoo! was blocking some files from being uploaded and the thumbnail pictures wouldn't work properly.

Sometimes there are dependency issues that make it difficult to get a software package to work properly. You may need to install additional libraries or programs in order to get your primary program working correctly. If a host has one-click installs then they have already solved the dependency issues for you.

After two weeks of playing around it was time to bail out. I suggested that Karl use the one-click installs at dreamhost.com. The Gallery 2 package was one of the one-click installs. Within one weekend Karl had the Gallery 2 package installed and working properly. He also tracked down a new template to give his Web site a slick new look.

You can check out Karl's Web site here: <http://karlkramerphotography.com>



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You can get the Gallery 2 photo album package here: <http://gallery.menalto.com/>

In order to install Gallery 2 one should download the Gallery 2 zip file. Unzip the file on your PC, then go into the top-level directory and upload all of the individual files and folders to your Web site folder on your host's machine.

On the host's machine there exists a file folder called karlkramerphotography.com. In that folder is a file called index.php. When someone enters www.karlkramerphotography.com in their browser window the index.php program gets executed. So that program had better be there or the Web site is not going to work. Index.htm or Index.html work for Web sites not using PHP.

Next create a MySQL database (Db), and be sure to write down the key information about your database: Connection (localhost?), Db name, Db ID and password.

Gallery 2 has a quick installation guide: <http://tinyurl.com/226qcc>

After two weeks of failing with Gallery 2 we were getting close to the point where I was going to step in and do it for him. But changing hosts did the trick.

In the end it all worked out because Karl's Web site is now looking pretty good. Unfortunately, he had to waste a couple of weeks to get everything working correctly.

We did learn one other lesson from Karl's experience of having to switch hosts after a few weeks. When you sign up for a Web host get the monthly payment plan even though it's more expensive. After three or four months then you can switch to the yearly payment plan if you wish.

While Karl was playing around with his Web site I was trying to make some major changes to my Web site—1913intel.com. I wanted a way to accelerate the posting of news articles, and I wanted to change my Web site to a membership site.

I post news articles each day to 1913intel.com on various topics. I was thinking that I could develop my own browser that grabs an article title, link and the first X number of characters of the story. I could use the WordPress API in order to post automatically to the blog. Finally, I could hire an Indian programmer through Elance (elance.com) to put this together for me.

This type of project is actually not that hard. You can get the code for a full featured browser using VB.Net at planetsourcecode.com. This browser piggybacks on the Microsoft Internet Explorer browser. Check out Web Browser/IE Clone at <http://tinyurl.com/mlf2wt>

It's pretty easy to create a browser right in Excel too. I have created a simple demo browser in Excel. Here's the link: http://www.mattstechnotes.com/files/My_Web_Browser.zip

As I was putting together the specs for this project, I decided to search the Web for a browser that also does blogging. That's when I stumbled onto the Flock social browser at flock.com. Flock works with WordPress, Blogger, Twitter, Facebook, MySpace, YouTube, Flickr and a lot more. It also works with different mail systems, so you can easily fetch your e-mail. Flock is free and piggybacks on the Firefox browser.

In order to use Flock for blogging, one simply selects some text from an article. Next you right click and select "Blog This." An editor will pop up with your selected text in a block quote. You can add to the selected text if you wish. Also, you can add tags. Finally, after you publish it you can select the categories for the article.

The entire posting process is significantly faster using Flock versus doing it manually in WordPress.

I did have a problem using Flock in WordPress 2.8.1. It wouldn't work until I went into the WordPress settings area concerning remote posting. That's located at Settings, Writing, and then selecting both boxes at the remote publishing section.

The next item I worked on was converting my blog to a paid membership site. After quite a bit of research I

decided to use a strategy that separates the billing from WordPress. This means I would handle billing manually through PayPal and simply find a way to restrict article viewing to members only. After some research I selected a plug-in called Member Access.

Member Access is a simple plug-in that basically does what I need, but did require a tweak. It restricts viewing for any article that I wish. Also, I could set the default value to public or private viewing.

You can get the plug-in here: <http://wordpress.org/extend/plugins/member-access/>

It didn't work exactly the way I wanted, so I needed to go into the MySQL database and manually execute a query to change the member_access_visibility field in the wp_posts table. I was interested in changing the default value to public for old posts, and I wanted the default value for new posts to be private.

Here's the MySQL update query that I used in phpMyAdmin to change the table:

```
update wp_posts set member_access_visibility =  
replace(member_access_visibility,'default','public');
```

This query changes the default value for existing posts to public. So old posts will be public, but new posts will be default (private).

I installed a PayPal button on a subscription page. When a person paid for a subscription, PayPal sent me an e-mail. I then manually registered the individual and sent them an e-mail with the log-in information.

Ultimately, only 10 people were interested in signing up for the membership section at \$4/month. I really needed about 50 people to express interest before it was worth my while to launch this section. So it didn't work out. While all the membership coding remains in place, I now just make all of the articles viewable to the public.

On a more positive note, my regular advertising revenue is now over \$200 per month. My sources of ad revenue are Google AdSense and Text Link Ads.

I created a simple PHP ad rotator program that randomly selects different AdSense ads each time a page is selected. The ads vary by size, shape and color. Regular readers quickly become immune to one type of ad, so it's important to keep the ads changing.

You can get the ad rotator program here: <http://www.mattstechnotes.com/files/admain.php>

My website will probably never bring in a lot of revenue due to strategic reasons. As Felix Dennis said in How to Get Rich, "Keep your eye on the ball. The one that says—the money is here." Meaning that in order to have a decent chance of making money one must focus on areas that a lot of money is flowing into. Clearly, news on emerging risks and international conflict is not an area that much money is flowing into.

How can I jump-start my Web business if I'm only going to make between \$200 and \$300 per month? It turns out that the average salary in the Philippines is less than \$300 per month. I can hire someone in the Philippines to start creating content for more Web sites. My next stop is Craigslist- Philippines.

There is quite a bit of competition for good English writers in Craigslist-Philippines. You can get articles written for about \$3 per one-page article. A U.S. writer will typically charge \$10 or more per one-page article. I have an ad in Craigslist-Manila, but I won't be able to report my results until next quarter. I'm running up against a publishing deadline.

A few months ago I used Elance to hire a Philippine company to do Web research for me. It cost me \$5 per hour for the project. They did the research that I required, but there were a few issues. They were late and didn't keep me informed very well during the project. Still, I got what I wanted.

PHPMYADMIN (HTTP://TINYURL.COM/5RCRW)

Since I used phpMyAdmin to update my MySQL database, I thought I would discuss how this program works.

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phpMyAdmin should really be called MySQLAdmin. It's a great program that allows you to snoop around your MySQL databases. You can browse tables, look at structures and even change things if you want to. You can manually edit records or easily execute queries. It's a big time-saver.

If your host offers MySQL databases, then most likely it also offers phpMyAdmin too.

phpMyAdmin gives you the ability to dump your database to a text file through its export feature. This could come in handy if you want to back-up your database or port it to another Web site. It also has an import feature that will read the exported dumps.

There is a problem with the phpMyAdmin import feature. If you try to import a large database then you could get timed out by PHP. You generally have 30 seconds before a PHP script will time out. What if you need a couple of minutes to import a large database? Think BigDump!

BigDump gives one the ability to import a big dump or large database dump file. It imports the database file in discrete chunks then automatically restarts the session to ensure that you don't encounter a time out problem.

Here's the link to Bigdump: <http://www.ozerov.de/bigdump.php>

CLICK2TRY WEBSITE

Click2Try is a demo Web site where you can try out all kinds of open source software packages to see if they meet your needs. Here are some of the categories:

Business, Accounting, CRM/ERP, Document Mgmt, E-Commerce, Groupware, Human Resources, Project Management, Education, Course Management, Linux, Centos, Ubuntu Desktop, Office/Productivity, Office Suites, Productivity, Software Development, Developer Workstations, IDEs, Software Project, Management, System/Network Admin, Backup, Help Desk, Monitoring, Utilities, File Management, Vertical Applications, Real Estate, Web Development, Blogs, Content Management, Editors, Forums, Wikis.

Here is the link: <http://www.click2try.com/catalog/>

LIST OF OPEN SOURCE PACKAGES IN WIKIPEDIA

Wikipedia has a list of packages that is so large it would be difficult to list them all. This is definitely a good source for open source software.

Here is the link: <http://tinyurl.com/pmst7>

GREASEMONKEY – A FIREFOX ADD-ON

Greasemonkey is a seriously cool add-on for the Firefox Web browser. Actually, Greasemonkey doesn't do anything by itself, rather it gives you the ability to inject Javascript code into a Web page and execute it. Effectively, you can operate on all of the content on a Web page. In order to make Greasemonkey do something, you will need to get Javascript scripts or write your own.

Here's the link to the Greasemonkey add-on: <https://addons.mozilla.org/en-US/firefox/addon/748>

Check out the free online book called Dive into Greasemonkey: <http://diveintogreasemonkey.org/>

Here's a list of 25 useful scripts: <http://tinyurl.com/3xzwaz>

You can get a complete list of scripts here: <http://user-scripts.org/>

You can use another add-on called Platypus to create your own scripts. Platypus gives you the ability to modify a Web page and save the changes as Javascript code that can be used by Greasemonkey. Here's the link: <https://addons.mozilla.org/en-US/firefox/addon/737>

Want to learn more about Greasemonkey? Check out the Greasemonkey Hacks book. You can get a used copy for under \$5 plus shipping. Here's the link: <http://tinyurl.com/l3qqcy>

You can get a lot of these links at my new Web site called Matt's Tech Notes. During my Web surfing I post short article snippets on anything that I find interesting. Here's the link: <http://www.mattstechnotes.com/>

CHROME—THE GOOGLE BROWSER

I tried Chrome out the other day just to see what it could do. I regularly open about 50 tabs at once in Firefox, and occasionally there are stability problems. Chrome is built such that if one window (tab) crashes then none of the other windows is affected.

It turns out that Chrome is a fairly plain browser. It didn't have any trouble opening 50 tabs at one time; however, it is clearly slower when initially opening a tab than Firefox or IE. Once the tab is open, then it seems to work better. For example, moving tabs around is very easy even though there are 50 open. Also, system stability seems to be high.

Overall, there are probably not enough bells and whistles in Chrome to make switching from IE or Firefox to be worthwhile. However, if you like to have 30 or 40 tabs open at the same time then you might want to give this browser some consideration.

For most people Firefox is going to be a better browser than Chrome because of its ability to incorporate add-ons. Firefox is my favorite browser unless I'm blogging. I switch to the Flock browser for blogging purposes because of its social media abilities. Flock can accept many Firefox add-ons too.

BUILDING A FULLTEXT SEARCH ENGINE WITH PHP (HTTP://WWW.ZEZ.ORG/ARTICLE/VIEW/83)

In this section I review some PHP coding that gives you the ability to create a fulltext search engine. It's a simple search engine, but will be just fine for most Web sites.

In building this search engine we first create three tables:

1. A table holding the actual text documents.
2. A table holding all of the words in all of the documents.
3. A table providing a link between the words and the actual documents.

The first part of the process involves indexing your data. This involves counting the occurrences of each word in each document. The words and occurrences are stored in table #2. A link between the words and associated document are stored in table #3.

To determine the relevance of an article one needs to calculate the word density (percentage)—the number of times a word is used in a document as compared to total words in the document.

One could easily improve the word density calculation by determining a weight based on position. For example, the earlier a word appears in the document then the more weight it gets.

A search query involves individually searching for each word in the query to find the word density for each document. The document with the highest sum of densities wins.

I used this code to create my own search engine several years ago. I used a spider to gather news information every day (See the last issue of CompAct to get the code for these spiders). I put the information into a searchable MySQL database and used the code in this section to add search capability.

You can download all the code and read the full article here: <http://www.zez.org/article/view/83>

DOWNLOAD SECTION: MERSENNE TWISTER

The Mersenne Twister is a random number generator based on Mersenne prime numbers – form $2^N - 1$

The code for this program was originally written in C++. Carmine Arturo Sangiovanni translated the C++ into Visual Basic. I took Carmine's code and got it working in Excel. Additionally, I created a working example showing how it works.

Here's the link: http://www.mattstechnotes.com/files/Mersenne_Twister_v2.zip ■