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Cool Tech

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For this edition of Cool Tech we'll take a look at three interesting open source programs covering a collaboration platform, a customer relationship management (CRM) package and an infrastructure-monitoring program. Next we'll move on to our first hardware project—how to create your own PBX phone system for home or office using Asterisk. Also, I also show you how to:

- Integrate SugarCRM with Asterisk in order to make automated client calls.
- Create PDF files using the free PDFCreator program.
- Convert your PowerPoint presentations to video for uploading to YouTube.
- Raise money through your Web site with this cool widget I found called ChipIn.
- Use GIMP in place of PhotoShop to enhance your snap shots, and how to make some money in the process.
- Introduce you to the world of sundials.

MY VIEW

Several years ago I stumbled onto Asterisk, which is a free Private Branch Exchange (PBX) phone system for office or home. I installed Asterisk on a cheapie bare-bones computer using the Asterisk@Home installation disk. It's quick to install, but you'll need to spend some time figuring out how everything works.

A couple of years ago I got sucked into the world of sundials after reading an article by the *Smithsonian* magazine. I did some research over several months and tracked down several programs that will allow you to design your own sundial. You can use this information to design a sundial that accurately shows the time and date for your specific location. A sundial must be location specific to work properly. That's why store bought sundials never work correctly.

As a hobby I've been playing around with photography. So I'm introducing you to GIMP, which you can use in place of PhotoShop.

I'm in the process of creating an eBook on a wonky topic that you wouldn't be interested in, but I stumbled onto a great program called PDFCreator in the process.

PDFCreator intercepts your printer data and redirects it to a PDF file instead. [*Editor's Note: There are quite a few other free utilities available, and many more available for a fee*].

MINDTOUCH, SUGARCRM AND HYPERIC

MindTouch Deki is a collaboration, wiki and mashup platform.

MindTouch Wiki Standard: *http://www.mindtouch.com/Download*

MindTouch Wiki Enterprise: *http://www.mindtouch.com/Old_Site_Archive/Download*

More Information: *http://www.mindtouch.comProducts/How_to_Buy*

Click on "Learn More" links at the "How to Buy" page if you want more information.

SugarCRM is a customer relationship management (CRM) program. It tracks and organizes contacts with customers. It's customizable, and scales well for both small and large businesses. There are also plug-ins available to add even more features. Also, some people are even integrating SugarCRM with Asterisk (the open source PBX system).

http://www.sugarforge.org/content/downloads/
http://www.sugarforge.org/
http://www.sugarforge.org/content/open-source/
http://www.sugarcrm.com/crm/
http://en.wikipedia.org/wiki/Sugarcrm

Hyperic is a tool for managing and monitoring your computer system and network. It auto-discovers all system resources and their metrics.

http://www.hyperic.com/
http://www.hyperic.com/downloads/hyperic-hq-open-source-downloads.html
http://en.wikipedia.org/wiki/Hyperic_HQ

CREATE YOUR OWN PBX SYSTEM WITH ASTERISK IN ONE HOUR

This is a seriously cool project that will give you the ability to create a Private Branch Exchange (PBX) system for your house or business. Here are some of the features of this system: voice mail, conference calling, interactive voice response (phone menus), and automatic call distribution. And there is a lot more you can do by programming the system yourself.

While Asterisk itself is not easy to set up, other people have already done the legwork for you. Check out these three (free) systems: PBX in a Flash, AsteriskNow and TrixBox. PBX in a Flash seems to be the favorite from what I can tell. It took the developers of PBX in a Flash about 500 hours to get its configuration working just right.

Web sites:
http://pbxinaflash.net/
http://www.pbxinaflash.com/forum/index.php
http://www.asterisknow.org/
http://www.trixbox.org/

The best part about this project is that you can get it up and running in an hour. You download an ISO image and burn a bootable CD. Next, take an old computer or buy a barebones system. Put the CD in the drive and boot the computer. The CD will install a Linux operating system and the already configured Asterisk system.

You can read up on Asterisk here: *http://en.wikipedia. org/wiki/Asterisk_PBX*

Here's how you can create a very inexpensive PBX system using an old computer and Asterisk software.

1. Go to Walmart.Com and order a cheapie Linux computer with no monitor. Your favorite local computer store might work as well.
2. Buy a cheapie used monitor for about $10 from your local computer store.
3. Download PBX in a Flash
4. Do the installation. See a tutorial on the PBX in a Flash Web site.

What about hardware? You will need two pieces of hardware. One card to accept POTS calls (Plain Old Telephone System). And you may need an adapter for VOIP calls (voice over Internet protocol) depending on the phones you have. This adapter allows you to plug a regular phone into an Internet connection.

I bought this POTS card on eBay for $16, including shipping, a few years ago: *Digium Wildcard X100P OEM FXO PCI Card Asterisk PBX*

You may also need an Analog Telephone Adapter for VOIP depending on the phone used. Here is what I bought a few years ago:

Sipura SPA-1001 Analog VOIP Adapter ATA SIP FXS

I've given you just enough information to be dangerous. Hopefully, you can take it from here.

HOOKING UP SUGARCRM TO ASTERISK

Some people are integrating SugarCRM with Asterisk in order to make automated phone calls to clients. You could use this to make sales calls or as an appointment reminder.

This might take a little bit of work to get going.

Install SugarCRM on a "PBX in a Flash" Machine
http://pbxinaflash.com/forum/showthread. php?t=131&highlight=SugarCRM

SugarCRM Telephoney Integration Plug-Ins
http://www.sugarforge.org/softwaremap/trove_list. php?form_cat=345

Liz v1 Plug-In
http://www.talkto-outdare.com/

http://www.talkto-outdare.com/liz-product-info/

VoiceRD Asterisk Integration Professional Plug-In
http://www.voicerd.com/VoiceRD_integration_mod-ules_sugarCRM.php

http://www.sugarforge.org/frs/?group_id=204

Asterisk SugarLookup Plug-In
http://www.sugarforge.org/projects/sugarlookup

HOW TO CREATE A PDF FILE

PDFCreator is a free open source program that will convert any printable document into a PDF file. PDFCreator is one of the leading open source PDF creation applications.

Warning! Watch out for PDF Creator and PDF-Creator. These are NOT the free PDFCreator. These are commercial programs with names that look PDFCreator, but they charge you a fee. Make sure to get your free

version of PDFCreator from here:

http://www.pdfforge.org/products/pdfcreator

PDFCreator converts documents into the Portable Document Format (PDF) format on Microsoft Windows operating systems. You select the PDFCreator as a printer destination then print it out. Instead of going to a printer, it heads to a PDF file.

You can also create PDF documents with Word 2007. It requires Service Pack 1. You must manually install the Microsoft Save as PDF Add-in.

CONVERTING POWERPOINT TO VIDEO

Getting back to my Web site about international conflict. I've been toying with the idea of creating some presentations and putting them on YouTube. The idea is to attract visitors to my Web site. I need a way to convert my PowerPoint presentation to a video format acceptable to YouTube. The links below handle this quite nicely:

PPT to Video
http://www.authorstream.com/
http://blog.authorstream.com/2008/03/powerpoint-presentations-as-video.html

FUNDRAISING

Do you have the need to do fund-raising for your Web site. The ChipIn widget below handles this very nicely. You should expect to get contributions from about 1 percent of your regular readers.

On my Web site I get about 1,500 visitors a day. Half of those are regular readers and the other half come in from search engines. The vast majority of search engine traffic is from Google. Anyway, 1 percent of 750 people is seven to eight people. That's about how many donated when I tried a fund-raiser.

From ChipIn.Com
ChipIn is a Web-based service that simplifies the process of collecting money from groups of people. We make this process quick, easy and secure, and we provide organizers with numerous ways to get the word

out about their ChipIn event. *http://www.chipin.com/*

MAKING MONEY FROM YOUR SNAP SHOTS

Did you know that you could make $2,000 a week taking pictures in your own backyard, on vacation or anywhere?

OK, $2,000 a week is probably a bit much, but how about earning a couple of hundred bucks a month from your snap shots?

So how are you going to make the big bucks? By selling your snap shots to stock photo agencies on the Web like *iStockPhoto.Com, BigStockPhoto.Com, ShutterStock. Com,* and *DreamsTime.Com.*

In order to end up with fantastic pictures, often one needs to manipulate or combine multiple pictures in something like Photoshop. But Photoshop is a little pricey so we're going to use an open source replacement called GIMP.

GIMP stands for GNU Image Manipulation Program. It is a graphics editor used to process digital graphics and photographs. Some typical uses include creating graphics and logos, resizing and cropping photos, altering colors, combining multiple images, removing unwanted image features, and converting between different image formats.

GIMP is often used as a replacement for Adobe Photoshop.

You can find tutorial information here:
http://gimp.org/tutorials/
http://gimp.org/downloads/

SUNDIALS

About two years ago I got sucked into the world of sundials after reading a very interesting article about a guy that creates very unique sundials that actually work.

A leading expert on the history of timekeeping has set out to create a sundial unlike anything the world has ever seen ...

http://www.smithsonianmagazine.com/issues/2007/ january/sundial.php

I spent months tracking down software and articles about how to actually create sundials that work. Check out the links below if this interests you:

Sundial Design Software
http://www.sundials.co.uk/comprogs.htm
Flat Sundial Computations
http://home.san.rr.com/slawek/Tata/astro/sundials. html
DeltaCAD Macros
http://www.illustratingshadows.com/stats-DeltaCAD. html
North American Sundial Society
http://www.sundials.org/publications/publications.htm
The Sundial Primer
http://www.mysundial.ca/sdu/sdu_easy_make_sundials.html
Sundial
http://en.wikipedia.org/wiki/Sundial

SAMPLE EXCEL PROGRAMS FOR DOWNLOAD

Sort_Routines.xls is an Excel spreadsheet that I created a few years ago to show five different methods of sorting data in a macro.
http://www.1913intel.com/demo/Sort_Routines.zip

cSpot_Forward_Rates.xls is an Excel spreadsheet that calculates spot and forward rates. There is also a macro that calculates cubic splines if you're interested.
http://www.1913intel.com/demo/cSpot_Forward_Rates.zip ∎

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