

The Open Pitt



What's cooking in Linux and Open Source in Western Pennsylvania

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Book Review: *Ajax Construction Kit* by Patrick Wagstrom

Author: Michael Morrison
Publisher: Prentice Hall
ISBN: 0-13-235008-4
\$39.99, 312 pages, 2008

It wasn't too long ago that a web site that was just visually appealing was considered to be a great and useful site. Interactivity was handled through a series of links and page refreshes—banishing all logic from the browser and forcing the server to keep track of all information. This approach worked, but severely limited the potential of web applications. Then in 2005, Google Maps stormed onto the web and the world realized how powerful these applications could be. By loading content asynchronously in the background, Google Maps allows users to go from looking at the entire globe down to a micro

level without ever experiencing a browser refresh. This all happens thanks to the magic of AJAX—asynchronous JavaScript and XML.

The world of AJAX is nothing if not confusing. In *Ajax Construction Kit*, author Michael Morrison attempts to remove a lot of the confusion around the technology and provide practical advice without having to worry about the nitty-gritty details of the implementation. After all, you just want your web application to work on Firefox, Internet Explorer, Safari, and Opera without worrying about the minutiae of browser-specific implementations. While books about CSS and HTML provide examples that run in any browser, no server required, the interactive nature of AJAX means that you'll need a web server at hand to run the CGI scripts. Luckily,

the book comes with a Linux live CD that is preconfigured with all of the software you'll need to get up and running. Just drop it in and reboot, or start it up in your favorite virtual machine environment.

The core of AJAX magic is the interaction between JavaScript and server scripts. In my own experience developing AJAX applications, much of the complexity lies in the JavaScript, which must be tuned to deal with multiple browsers and configurations. The author provides a customized toolkit with the descriptive but uninspired name of “AJAX Toolkit” to handle the JavaScript issues. He also provides prewritten PHP scripts to handle the responses from the server as well as the HTML pages. Unfortunately, in attempting to include everything, he obfuscates so much that it can be difficult to tell which concepts the reader should be learning.

See *AJAX*, p. 2

July/September/October Roundup

Jul. 14 General User Meeting: **Todd Blumer, Aric Blumer, and Ben Friedberg** of **SDG Systems** spoke about their company's work porting Linux to embedded systems. They described their initial effort developing for the Sharp Zaurus handheld and subsequent projects with GPS devices, limited-function touchscreen PCs for students, and a specialized device for uploading photos to a server. They detailed some of the steps involved in embedded development such as gathering hardware information, properly installing the boot loader, and setting up cross-compilation tools.

Sep. 8 General User Meeting: Some issues surrounding setting up enterprise Linux systems were covered by **Bryan Smith**. He went into directory services, network filesystems, mail

and calendaring, the domain name system, and backups.

Sep. 15 Special Event: Six WPLUGers celebrated the international Software Freedom Day by handing out pamphlets promoting Free Software and copies of *TheOpenCD* and Ubuntu in Oakland. Well over 200 CDs were distributed to the public.

Oct. 20 General User Meeting: **Patrick Wagstrom** gave an overview of the capabilities of MythTV, a personal video recording system that runs on Linux and is a TiVo replacement. He described hardware requirements and basic setup suggestions and showed off features like skipping commercials and scheduling recordings. Also covered were issues surrounding capturing and handling high-definition video.

Coming Events

Dec. 8: General User Meeting,
Topic: Bricolage Content
Management System. 10AM to
2PM, 3002 Newell-Simon Hall,
CMU

Dec. 12: Roundtable Discussion.
6:30PM to 8PM, Panera Bread—
Waterworks Mall

Jan. 12: General User Meeting.
(Time and location TBA, see
web site for details)

The public is welcome at all events

AJAX, from p. 1

Within the book there is little discussion of the intricacies of the XmlHttpRequest command that is core to AJAX and how to handle responses. Furthermore, once responses are obtained, there isn't much discussion about the issues with various DOM implementations in modern browsers. In addition, the author doesn't comment on how to get around the fact that most AJAX applications break the traditional browser interaction model by not allowing for bookmarking or the use of browser navigation buttons. To his credit, however, he is very strict about using only DOM functions and makes a note about the pitfalls surrounding the innerHTML property of nodes when one is forced to use it.

While there isn't anything earth-shattering in *Ajax Construction Kit*, it is an excellent set of ideas of what you can do with AJAX. Each chapter presents a possible application such as an XML e-book reader, rating engine for a web site, or automatically com-

pleting text entry. It then walks the reader through a bit of the implementation and provides a set of tasks that give the application an "Extreme Ajax Makeover." These makeovers can be fairly intense, such as modifying a shipping application to interact with the actual United States Postal Service web APIs.

For the beginner, there's lots to learn here and the book does a fair job of trying to cover a complicated subject. The included AJAX Toolkit seems to be useful for small projects, but it is probably not suitable for something on a larger scale. If you're an experienced developer looking to do more with AJAX systems, this book is probably too basic and you'd be better off looking for references on some of the more popular AJAX toolkits on the web, such as Prototype, MochiKit, and script.aculo.us.

Patrick Wagstrom is a Ph.D. candidate at Carnegie Mellon University researching communication and collaboration in Open Source development. He has been using Linux since 1994.

Distribution Harvest Time

Autumn has rolled around—leaves are falling from the trees, there's a chill in the air, and we're seeing a new crop of Free and Open Source operating systems come in. If you're stuck in a rut, why not try one (or two, or three) of these for a change of pace? They're all well-established and have a community base to help you get started.

PC-BSD

PC-BSD aims to break BSD out of the data center by providing a great desktop user experience including simplified application installation. Based on FreeBSD 6, the 1.4 release features improved support for Flash media while browsing the web and includes new versions of the KDE desktop environment and X Window System. <<http://www.pcbsd.org/>>

openSUSE

The community version of Novell's popular SUSE Linux distribution, it is coming along nicely with the 10.3 re-

lease. Major changes include built-in MP3 playing codecs, improvements to the YaST program for system configuration, and dramatically reduced boot time. <<http://www.opensuse.org/>>

Mandriva

For the 2008 version, Mandriva Linux comes in three varieties: One, a live CD with either the KDE or GNOME desktop that can also be installed to the hard drive; Free, a three-CD or single-DVD install containing no proprietary software; and Powerpack, a commercial-only edition available for purchase from the Mandriva store. <<http://www.mandriva.com/>>

Ubuntu

Version 7.10 of this massively popular Linux distribution, code-named "Gutsy Gibbon," is now available in its many variants. Notable features new to this release are convenient desktop search, Compiz Fusion 3-D effects, and AppArmor security protection. <<http://www.ubuntu.com/>>

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What is Linux?

Linux is a *kernel*, the core of a computer operating system, created by Linus Torvalds. It is typically packaged as a *distribution*, which includes the extra programs necessary to make a computer functional and useful. Since 1991, it has grown from a one-man project which ran on one computer to one with thousands of contributors running on everything from personal organizers to million-dollar supercomputers.

What are Open Source and Free Software?

Open Source and Free Software provide you, the user, with the opportunity to see the source code of the programs you use. You are free to use it, share it with others, and even make changes to it if you wish. While the Free Software and Open Source communities differ in their philosophical approach, in practical terms they share nearly identical goals. Learn more at <<http://www.opensource.org/>> and <<http://www.gnu.org/>>.

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OpenBSD

The BSD for the heavily security-minded person, 4.2 provides expanded hardware support, a new installable ISO image, and an improved filesystem. <<http://www.openbsd.org/>>

Fedora

Not to be outdone by Ubuntu, Fedora 8 makes building derivatives easier and enhances the multimedia experience with the PulseAudio sound framework and automated installation of video and audio codecs. Network and firewall setup are also easier. <<http://fedoraproject.org/>>

Linux Mint

A newcomer, this Ubuntu-based distribution customizes the desktop and menus and features unique configuration and installation tools to provide a slick, easy desktop system. The developers focus strongly on user input. <<http://www.linuxmint.com/>>