

Chris Ball

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Employment

2006/10- *Lead Software Engineer, One Laptop Per Child.*

Software generalist work all over the OLPC stack:

- Designed and implemented OLPC's userspace power management software, taking advantage of custom hardware features that enable aggressive suspend/resume during normal use.
- Created and maintained "Tinderbox", an automated hardware and software test harness that can flash new OS builds onto an OLPC laptop, boot and run functional and performance tests on the image, and take power measurements.
- Participated in two "factory bringups" in China and Taiwan as the hardware bringup team's kernel and OS support, helping to debug and test early laptop prototypes.
- Led OLPC's [WikiBrowse](#) project to create compressed offline Wikipedia snapshots for the XO. WikiBrowse has been used to bring a snapshot containing the most popular 30,000 Spanish Wikipedia articles to over 100,000 children in Peru.
- Was the release engineer and build engineer for OLPC's 8.2.1 operating system release.
- Worked on Linux kernel drivers, including upstream patches for OLPC's wifi, video, audio, SD, and camera drivers.
- Worked on, and became the current maintainer of, the AMD Geode Xorg video driver used by the XO-1.
- Modified the "Vino" remote desktop software to accept input from multiple pointers and keyboards at the same time as an experiment in new collaboration models, creating a [Multi-pointer Remote Desktop](#).
- Wrote several popular "Sugar" activities in Python: Pippy, Words, Screencast, Arithmetic.
- Deployed and administered internal and public-facing servers and services for OLPC, including scalability work on OLPC's main website and wiki.
- Was elected into a seat on the [Sugar Labs Oversight Board](#) for 2008-2009.

2005/07- *Internet Services Engineer, Netcraft Ltd.*

2006/09 Netcraft have been performing surveys of the Internet since 1995. My role involved generating reports based on survey data, running and maintaining the survey tools themselves, performing security penetration tests for customer applications and networks (such as the websites and customer access areas of multinational companies and banks), and working on novel tools and data visualisations. I also implemented and deployed a request tracker for Netcraft's "Takedown" service for phishing sites using a modified version of the Mantis bug-tracker, written in PHP.

Development was mostly in C, Perl and PHP. Techniques used for web security tests included TCP-level analysis with Wireshark, and a rewriting forwarding proxy that allowed HTTP(S) requests to be hand-modified before they went out on the wire.

2003/09- *Research Associate, Cambridge University.*

2005/09 Working in the Cambridge University Physics Department's [Inference Group](#), as lead developer and project manager of the [Dasher Project](#). Dasher is an open-source text entry system with roots in information theory and arithmetic coding, written in C and C++. My role involved development of new features, managing Dasher's volunteer developer community, and working on Dasher's inclusion into the [GNOME Project](#).

Publications:

[Efficient communication with one or two buttons](#)

[Efficient communication by breathing](#)

[Dasher's One-button Dynamic Mode - Theory and Preliminary Results](#)

2002/06- *IT Analyst*, Morgan Stanley UK.
2002/09 Took part in a three-month summer internship for Morgan Stanley's internal IT department based in Canary Wharf, London, working in the Unix Engineering, Information Security and Floor Support groups. As well as experiencing a huge technology-oriented company, I worked with Solaris, Sybase and a large VeritasFS-based fibrechannel SAN; I also worked on tools for debugging outages on the SAN. While interning, I was fortunate to be part of a small group receiving four days of intensive Perl training from Damian Conway, a leading Perl developer. At the end of the internship I was given full marks and a recommendation for re-hiring by my line manager.

2000/12- *Web Engineer*, FAST Web Media Ltd.
2002/06 Working part-time (20 hours/week, alongside my undergraduate degree) for Fast Web Media, a Manchester-based company owned by [FAST](#), I maintained one of the layers in their search engine: a large repository of Perl code responsible for adaptively parsing HTML coming from the web and emitting structured data into a database running on Oracle and Linux. While working at FAST, I began my contributions to free software with some modules in Perl's CPAN archive, some patches to Perl itself, and technical writing about the process of web spidering.

Publications:

Article for perl.com: [Create RSS channels from HTML news sites](#)

Article for perl.com: [Screen-scraping with WWW::Mechanize](#)

Two chapters of [Spidering Hacks](#), published by O'Reilly and Associates.

Education

2000/09- *B.Sc. (Hons) Computation*, University of Manchester Institute of Science and Technology (UMIST).
2003/09 Undergraduate degree, with classes in computer science and mathematics. Throughout my degree, I helped to maintain the University of Manchester Computer Society's Unix network as a systems administrator. My undergraduate thesis ("A Java compiler retargeted at .NET") explored an interest in compiler design, modifying an existing Java compiler (IBM's Jikes, written in C++) to output .NET assemblies instead of Java classes. The conversion was somewhat fragile, and there were some types of inheritance it couldn't handle, but it was able to emit working .NET bytecode for a wide range of the small Java programs in its test suite.

Volunteer work on Free Software

- Madeleine Ball and I wrote [ExploreTree](#), a tree visualization program written in the [Processing](#) programming language. ExploreTree was a winning entry in the [Processing Time](#) code jam at MIT.
- I maintain [Bugs Everywhere](#), a "distributed bugtracker" written in Python.
- I created the [Xorg Tinderbox](#), which continuously compiles and tests each of the drivers, libraries and applications in the Xorg project on different classes of machines.
- I volunteer in the development of [btrfs](#), a next-generation filesystem for Linux.
- In 2006, Hanna Wallach and I proposed and ran the [GNOME Women's Summer Outreach Program](#), which raised USD \$20k in grants to fund six summer internships for women on the GNOME project.
- I was a mentor in Google's [Summer of Code](#) program for the GNOME Foundation in 2006, and for OLPC in 2007-2008.