

Chris Ball

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2015/09- **Software Engineer**, Keybase, Inc. *Skills: Go, Node, Electron, React, React Native, Redux*
Keybase is working on crypto for everyone. I mainly work on developing our Mac/Windows/Linux/iOS/Android apps, which use a shared React/React Native codebase.

2015/03- **Sabbatical**, Recurse Center (formerly Hacker School). *Skills: Distributed Systems, Node*
2015/07 The Recurse Center runs an intensive three-month programming workshop (like "a writers' retreat for programmers") in New York City. As an attendee I created a project called [GitTorrent](#) – a "decentralized GitHub", using BitTorrent for peer-to-peer Git repository hosting, a Distributed Hash Table for user data, and Bitcoin's blockchain for user registration. I presented GitTorrent at the [Data Terra Nemo](#) conference on decentralization in May 2015.

2013/06- **Vice President of Engineering**, FlightCar, Inc. *Skills: Django, Python, JavaScript, Node, AWS, HTML5, CSS3*
2015/03 FlightCar was a carsharing startup operating at airports. I joined as their first developer hire after seed funding, and was promoted to VP of Engineering in September 2013. FlightCar [raised \\$13.5M in Series A funding](#) in September 2014, and was ultimately acquired by Mercedes-Benz.

I was responsible for technology development, hiring, and ensuring high availability at a 24/7 business running at twelve physical airport locations. I led a remote-friendly team, and we wrote about [building a telepresence robot](#) for a remote coworker using Arduino, a motorized pan head, Bluetooth Low Energy, and iOS.

2006/10- **Lead Software Engineer**, One Laptop Per Child. *Skills: Python, Linux kernel, C, Android*
2013/06 Software generalist work throughout OLPC's software platform:

- **Prototype to production** – Participated in four "factory bring-ups" in China and Taiwan as the hardware bring-up team's software support, helping to debug and test early laptop prototypes for each of OLPC's four laptop models.
- **UX research** – Modified "Vino" remote desktop to create a [Multi-pointer Remote Desktop](#).
- **Automated testing** – Created a "Tinderbox" for OLPC: an automated hardware and software test harness (written in Python) that can upgrade an OLPC laptop, run a test suite against each new build, and take power measurements.
- **Kernel drivers** – Worked on OLPC's wifi, video, audio, SD, and camera drivers.
- **Kernel maintainer** – In 2010 I took over as the upstream SD card subsystem maintainer for the Linux kernel.
- **Community leadership** – Was a founding member of [Sugar Labs'](#) Oversight Board in 2008, re-elected through 2012.
- **Offline Wikipedia** – 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 hundreds of thousands of children in Peru, as described in [this blog post](#).
- **Android app** – Worked on OLPC's Literacy Project in Ethiopia, which introduced Android tablets with educational apps to illiterate villages. I wrote an Android app for assessing progress with pre-literacy concepts, and analyzed the data it generated. More details are in a [short video by CNN](#) and a [Technology Review](#) article. We published [Growing Up With Nell: A Narrative Interface for Literacy](#).

2005/07- **Internet Services Engineer**, Netcraft Ltd. *Skills: C, PHP*
2006/09 Netcraft has been performing analytics on the Internet since 1995. I ran tests against large blocks of Internet hosts, analyzed the results, and developed new tools. I performed security penetration tests on customer websites, and wrote a request tracker for Netcraft's "Takedown" service for phishing sites, based on the Mantis bugtracker (written in PHP).

2003/09- **Research Associate**, Cambridge University. *Skills: C, C++*
2005/09 Working in the Cambridge University Physics Department's [Inference Group](#), as lead developer and project manager of the [Dasher Project](#), which 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 and managing Dasher's volunteer developer community.

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.

Skills: Unix, Perl

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.

2000/12- **Web Engineer**, FAST Web Media Ltd.

Skills: SQL, Oracle, Perl

2002/06 Working part-time (20 hours/week, alongside my undergraduate degree), I maintained one of the layers in FAST's search engine: a large repository of Perl code responsible for scraping and parsing HTML coming from the web and placing structured data into an Oracle database on 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 volunteer 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.

Hobbies and volunteer work on Free Software

- **New web technology** – I'm excited about WebRTC (a standard for peer-to-peer audio/video and general data transfer between web browsers). In 2013 I [blogged about an experiment](#) I created with JavaScript to use WebRTC in a more decentralized way. I've since [added Node support](#) to the project, and in 2014 WebRTC Conference and Expo named me a [WebRTC Pioneer](#) for this work.
- **Puzzles** – I have competed in MIT's [Mystery Hunt](#) on Team Codex since 2009. In 2011, we won the hunt: this made us responsible for putting together the 2012 hunt, which was a large organizational and technical challenge. We competed again in 2013, and I helped develop a website for team collaboration using JavaScript, node.js, Meteor and MongoDB.
- **Continuous integration** – 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.
- **Arduino** – I enjoy learning about embedded hardware, especially microcontrollers. In March 2010, Madeleine Ball and I made an [e-mail counting t-shirt](#) using an Arduino Lilypad. It went viral, with articles on sites like [Engadget](#) and more than 150,000 views on the [YouTube video](#).
- **Collaboration tools** – From 2008-2012, I maintained [Bugs Everywhere](#), a "distributed bugtracker" written in Python.
- **Data visualization** – Madeleine Ball and I wrote [ExploreTree](#), a tree visualization program written in the [Processing](#) programming language. ExploreTree was a winning entry in the 2009 [Processing Time](#) code jam at MIT.
- **Mentorship** – I was a mentor in Google's [Summer of Code](#) program for GNOME in 2006, and OLPC in 2007-2008.
- **Diversity** – 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 talked about our experience running this project as an invited panelist on the subject of recruiting and retaining women in free software projects at the [LibrePlanet 2010](#) conference.