

**Tom Melendez**  
(516) 220-5177  
Mountain View, CA  
[tom@supertom.com](mailto:tom@supertom.com)

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Hadoop • API • MySQL • Java • PHP • Cloud • Linux • Python • C/C++ • NoSQL • SOA • Infrastructure

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## PROFILE:

I'm an extremely motivated self-starter, committed to results whether it be by leading or doing. Dedicated to both my team and my craft, I generally play well with others – but I'm not afraid to call "BS" when I see it. I'm also a big proponent of early automation, rapid prototyping and seeing my projects through the entire lifecycle – from initial idea through production launch and subsequent iterations.

## WORK EXPERIENCE:

*December 2011 to present*

**Skybox Imaging, Inc.**, Mountain View, CA 94043, [skybox.com](http://skybox.com)

*\*Engineering Manager/Technical Lead, Data Platform – Hadoop, Hbase, Java, Python, PHP, Memcache, Lucene/Solr, System Architecture*

*As we ramped up and prepared for launch, I became the sole authority on the Data Platform and lead a team of 4 to build out its core functionality. As such, I wore many hats:*

- Product Manager - created and owned the Product Roadmap (and backlog) for over a year with complete autonomy (*along the way I hired and trained a Product Manager to take over this responsibility.*).
- Architect - conceptualized, designed, commissioned several applications (including cross-team) and components
- Engineering Manager - sourcing, hiring, on-boarding, performance evaluation, career-building, resource planning, release planning
- ScrumMaster - ran successful scrums, meeting deliverables and increasing velocity
- Software Engineer - developed several internal tools in wide use (HDFS file browser, HDFS notification system); filled technical gaps in sprints when required.
- Integration/QA - before I was able to hire QA engineers, I WAS the QA engineer.
- Technical Advisor - worked with executive team on investor due-diligence projects
- Developer Support – assisted with Git migration and support, system debugging, roadblock-removal

*January 2011 to November 2011*

**Skybox Imaging, Inc.**, Mountain View, CA 94043, [skybox.com](http://skybox.com)

*\*Senior Platform Software Engineer – Hadoop, Hbase, Java, Python, Lucene/Solr, System Architecture*

- Second Software Engineer at Skybox; first Data Platform engineer
- Conceptualized, pitched and prototyped our C++ framework for Hadoop: Busboy
- (initially) worked along side Imaging Scientists to enable execution of algorithms on Hadoop via Pipes
- Co-architect of our Data Platform, personally ensuring it was data-agnostic and extensible
- Personally prototyped the key applications including data transfer, satellite stream parsing, data ingestion, processing management, workflow management, indexing and serving
- Built Skybox's first Hadoop Cluster from the ground up, from rack-and-stack, power and network through software configuration and user management
- "Spark Project" - lead engineer. Created a workflow system to crowdsource satellite imagery data for analysis. PHP, PostgreSQL, Gearman. Created the php-crowdflower API currently on github
- Extended YCSB to generate workloads via a json document
- Side Project: Wrote initial compiler to convert Spacecraft Command Language to binary format understood by Spacecraft Flight Computer.
- Presented my work to a panel of external reviewers as part of our Series C fundraising.

- Build/Release and Process contributions:
  - sole creator of Pkger, a json-driven tool to create debian packages
  - first installation and advocate of both Jenkins and Puppet
  - heavy contributor to Ant/Ivy build system
  - Recommended, installed and administered Jira

*August 2009 to January 2011*

**Yahoo!, Inc.**, Sunnyvale, CA, 94089, yahoo.com (news, sports, finance, entertainment)

\*Tech Lead, Grid Programming Team, Y! Media – Java, Hadoop, Python, PHP, MySQL

- **Tweets by URL API** – provide caller with all tweets that contained a particular URL. Processed Twitter firehose once per hour. Hadoop, Pig, Cassandra (0.6.5), Python, Thrift, PHP
- **Social Dashboard** - Mining of sharing data (facebook shares, tweets, etc.) across Media (news, sports, finance, entertainment) to provide near-real-time feedback to several Knowledge Engines, dashboards as well as editorial for content optimization. Hadoop, Pig, Java, Spring, Python, PHP, MySQL
- **Social Conversations** (Comment Quality and Personalization) – Analysis of UGC data to show relevant, personal and high-quality comments on a per-user basis. Worked with research scientists in Beijing to create user profiles as well as Knowledge Engine team to determine intrinsic interests for displaying comments. Created Hadoop jobs using Pig and UDFs to analyze comment data. Created multi-threaded java app to update a database with the latest comment data using an internal API. Created custom package to upload/download data to/from grid via custom package using a headless user and scp. Architecture and coding to serve this data via Sherpa, Yahoo!'s NoSQL platform.

*June 2007 to August 2009*

**Yahoo!, Inc.**, Sunnyvale, CA, 94089, news.yahoo.com

\*Technical Yahoo (Sr. Software Engineer), Y! News - PHP, MySQL, Apache TS, Perl, C, FreeBSD/Linux

#### ◆ Product Launches

- **Global News** (news.yahoo.com) – worked with teams in India, Taiwan and Norway on the release of Yahoo! Global News. Designed and implemented a platform on top of RHEL 5 that leveraged the latest Yahoo! technology, including Cloud deployment, that was sharable across Media. Spent two weeks in Taiwan training back-end engineers for project handoff as well as best practices. Wrote a custom installer in Perl that would build and configure developer virtual machines with a single command. Built and configured Apache Traffic Server for internal use and provided guidance to Service Engineering for the production deployment. Pioneered build engineering techniques (Hudson API usage, branching techniques, shared resourcing, collaborative development) that later became Yahoo-wide standards.
- **Story Page Redesign** (news.yahoo.com) – The most viewed page of Yahoo! News - over 1 billion page views per month. Coded key MetaData API (low cache hit rate by nature) and key category APIs (fast and highly cacheable by design). Wrote a front-end daemon using Perl/PHP to fetch XML “map” files from API servers to FE machines. Contributed software packaging and provided architecture input. Integrated proprietary template mapping module and coded related accessory software into the News implementation of Yahoo's development framework.
- **Good Morning Yahoo!** (gmy.news.yahoo.com, since retired). Sole BE Engineer managing a 5 person consulting team (Avenue A/Razorfish) in the creation of this property. Wrote key pieces of code as well as ensuring compliance with Yahoo! Platform standards and deployment policies. Conducted weekly meetings, code reviews and daily backend support, including coding and integration with internal platforms. Project was delivered on time and on budget. 2008 sponsorship was worth over 3 million dollars.

- **Yahoo! Elections Redesign** (elections.yahoo.com; since retired) – again, as the sole backend engineer created a fast site with small footprint. Due to time and resource constraints, came up with a fast and scalable solution using the proprietary blogging tool to act as a software configuration tool/admin panel. Worked with the flash team and data providers to reduce and streamline data delivery for the Political Dashboard portion of the site, which received accolades from political media for its performance and timeliness. I handed this project off to another team in April of 2008.
- **Democratic Candidate Mashup** (debates.news.yahoo.com; since retired) – as the sole backend engineer I integrated video, polls and message boards into a small yet highly scaleable website. The site works completely on web services and features both squid and view level module caching. Cache times and web service urls are configurable via package settings that can be modified in real time without a software build. Sped up front end processing of message board data by over 80% by crunching data offline and distributing custom XML. DCM served 3.7 video streams in its first week. The site was featured on CNN and the Wall Street Journal along with many other media outlets worldwide.
- **Flickr Integration Tool** – took a “dead” project consisting of loose diagrams and untested code and revamped it into something widely used by the editorial team today.
- ◆ **Infrastructure Engineering** (API development, Feed Processing Farm, Continuous Integration)
  - **RSS and API programming** – RSS contributes to nearly one half of the total traffic to Yahoo! News servers. I made several large significant changes to these feeds as well as internal APIs consumed across Yahoo!.
  - **Build Engineering (Continuous Integration)** – installed and configured Hudson (1 Master/ 5 Slaves), Unit Testing (PHPUnit), Build Status notifications (wrote client in C/Ruby); various other tools using the Hudson API. My system supported running performance tests at key milestones and parallel lines of development on 6 different platforms. Designed and implemented a procedure to support a two-week release cycle with completely automated handoffs to QA and Operations with audit trail, which became the standard for Yahoo! Media. Consulted with groups across Media on how I integrated Hudson into the Yahoo! Deployment system and presented this in a tech talk to Media Engineering in 11/2009. This was also submitted as a poster (mini-presentation) to TechPulse 2010.
  - **Firefox Toolbar** – conceptualized and created a Firefox toolbar that integrates many common functions that Engineers, Editors, QA and News Operations need to handle on a daily basis. Technologies used include XUL, Javascript, CSS, image editing; builds with Ant. Presented to the News Team at Hack Day where it was widely received and adopted.
  - **Migration from CVS to SVN** - moved the Yahoo! News code base from CVS to SVN – over million lines of code; over 75,000 commits; close to 100 branches. Also integrated SVN into other internal tools, such as Bugzilla and the proprietary build and editorial tools. Presented my work to the Media Tech-Leads group in 1/2009 and provided technical training on Subversion migration and usage to all of Media Engineering in 4/2009. This later became a Yahoo! standard.
  - **Feed processing and publishing** – programming in Perl to add new feeds (various formats; NewsML) and features while staying consistent with our 15-second SLA. Contact with providers (such as AP and Reuters) when required. Both US and International News properties
  - **On-call/triage** - spent extensive amounts of time as the on-call engineer (by choice) where I worked with teams and people across the world working on issues from all platforms and customers. Databases, DNS, ACLs, proxies, caches, ad-serving, hardware issues, etc.

- **Architecture and Capacity Planning** – active contributor to architecture design and review sessions. Worked on various tests and proposals pertaining to capacity planning.
- **Sprint Task Engineer** - followed the sprint cycle (Agile) – I completed many tasks to the core site and other sub-properties, including our international properties. Tasks included feature enhancements, bug fixes, log cleanup and package upgrades.

◆ **Company-Wide Contributions**

- **ScanBuild** – tool to scan the console output of all jobs in a Hudson view via the API to report on the reason for failures. Optionally tickets could be filed via the Bugzilla API and report criteria could be customized/overridden with user-supplied PHP code.
- **WSDist** – internal file distribution system based on Web Services. The system would make a request for an “outline” (OPML) of what it should do and then proceed to make the appropriate requests and perform the necessary actions. WSDist was built in OO/PHP5 and can be configured by inheriting its parent classes. The system is designed to run as a command line utility (for use with cron or by sys-admins, for example) or can be executed via its public methods by instantiating it in your own PHP code.
- **HostDiff** – created a script to compare package versions and settings between hosts (handling both virtual machines and physical hosts), with output format options be exclusive or inclusive of package or settings, etc. and to allow users to upgrade a machine to match. Not trivial in an organization with many thousands of hosts. This package has been well received by my peers.

*April 2004 to June 2007*

**Bascom Global Internet Services, Inc.**, Hauppauge, NY, 11788, bascom.com

\*Senior Software Developer - PHP, Apache, MySQL, Perl, Linux, RPM, IPTables, Kernel, Squid

- Web Development and Systems Programming using PHP, Perl, Mod Perl, Bash, MySQL, SQLite, on Bascom’s custom Linux distribution (based on SUSE), as well as Redhat Enterprise Linux (RHEL 4) and SUSE Enterprise Linux (version 9).
- **Global Chalkboard Server** – An “internet appliance” designed for schools that performs basic network functions (Firewall, DNS, DHCP, Web Proxy, Web Cache, Web Filter, Print Server, etc.) as well as provide curriculum tools for teachers to build “Web Lessons” for students to use in classrooms and computer labs. I designed the Web application framework and internal libraries using PHP PEAR and PECL modules. Designed database structure and implemented with SQLite (we later moved to Postgres and finally to MySQL). System level programming using Perl, Bash. Software packaging and distribution using RPM. Internal support and configuration (recompiling, small patches) of open source packages including the Linux kernel, Apache, iptables, sshd and Squid.
- **Web Library** – Educational portal maintained by both Schools and BASCOM, available to BASCOM subscribers. Maintained existing system and added new “district site sharing” functionality, using Mod Perl and MySQL. Integrated mnoGoSearch into website to allow for faster searching and more thorough indexing of sites.
- **Internal Servers** – Personally responsible for internal servers, including test and production development machines, SVN, Twiki and internal system management tools, as well as public web and mail servers, including maintenance of internally built software (I added YUIs autocomplete functionality to the RPM manager, for example), package and system upgrades.
- **Managed Development Team** – managed the development team, including product roadmaps, task scheduling and Project Management. Report directly to CTO.

- **Customer Meetings/Tradeshows** – actively attended customer meetings and participate in company-attended tradeshows in a sales-engineering capacity.

*September 1998 to April 2004*

**Desktop Solutions Software, Inc.**, Hauppauge, NY, 11788, desktopsolutions.com

\*Chief Technology Developer (company's first employee) – PHP, MySQL, Apache, Linux, SysAdmin, Perl, C++

- **Web Application Development (Programming, RDBMS)** - designed, programmed and maintained web applications using PHP, Perl, MySQL on the Unix/Linux/Apache platform and Cold Fusion and Sybase on the NT4/IIS4 platform. E-commerce, B2B, B2C
- **www.lawrencemetal.com** - designed and programmed many portions of the site, including: product catalog "configurator" system; multi-level security; B2B discount mechanism and Net 30 terms; multi-cart shopping system; FAQ, Best Sellers, Registration, Checkout, Administration. Real-time credit card processing, real-time tax calculations (e-salestax.com, authored official PHP API to server software), order status and print invoice functions. (This project was a finalist in the 2001 Web Awards of Long Island). The site generated over 3 million dollars in sales in 2002.
- **www.fada.com** - designed and programmed site for this 30+ member organization. Features include multi-level security, artist approval mechanism, smart gallery search, request information routing, artist biographies, essays with linked images and more.
- **www.thegoldbook.com** - programmed and maintained all front-end functions (search by product, category, price, name, event, etc) and back end administration section (view, add, edit, delete on system tables, data export, reports, customer records/status etc.) Designed and programmed user subscription system; Designed and programmed secure credit card processing system (AuthorizeNet Secure Processing API).
- **www.shogyo.com** - programmed component parts system, designed and programmed RFQ system, administrative functionality
- **www.legalpronet.com** - programmed advanced administrative search functions and facility to email attorneys when a new document has been added (this project was a finalist in the 2000 Long Island Software Awards).
- **www.innvest.com** – designed and programmed 'search by category and 'search by company name' functions, code maintenance.
- **www.desktopsolutions.com** – company portfolio web site in which I worked on many of the sites listed. Companies include: Verizon, Cablevision, Barron's Educational Books, New York Eye and Ear Infirmary, Rent-A-PC, Regent Sports Corporation, Ramp Chevrolet and many more.
- ◆ **Web Site Development (Graphics, User Interface, Multimedia)** - worked on many web sites using:
  - HTML/Frontpage, CSS, Javascript, Photoshop/Imageready, Flash, MP3/Real Audio, Video., IE/Netscape Compatibility
- ◆ **Project Management, Training and Support**
  - Lead team of in-house developers/programmers and independent contractors on several web site projects.
  - Training of employees and end users in: MS Frontpage, Photoshop 5.5, PHP, MySQL, email configuration, FTP, 3rd party software, etc.
  - Technical liaison between customers and developers
  - Reported to President frequently with progress, technical issues

- ◆ Version Control System
  - Installed, configured and maintained company CVS system and provided training and written documentation for company president and all developers.
- ◆ Internal Code Library Maintenance and Documentation
  - Major contributor to the company's internal code library and co-author of developer's handbook.
- ◆ Web server administration
  - Installation, configuration and support of Linux (Redhat, Intel SMP) servers running Apache, SSL, FTP, stats, Email services, DNS, MySQL, Backup and UPS services, Sendmail, Perl, PHP, CVS, etc.
  - Installation, configuration and support of Windows NT servers running IIS3/IIS4, Cold Fusion, Sybase
- ◆ Network Integration - 100BaseTX, T1 via Cisco 2600
  - Helped design network architecture to allow staff members and developers to connect to company production servers from behind company firewall or remotely using samba and IP authentication.

*April 2002 to 2013*

**Long Island Software, NY/CA/remote**, [lisoftware.com](http://lisoftware.com)

*\*Founder and Chief Consultant*

Most recent projects include:

- ◆ Data Engineering, Cell Phone Price Comparison website (2013) - responsible for ingesting, processing, serving and reporting on data acquired (mostly scraped) from over 100 locations. VMWare and SVN administration before IT staff came onboard
- ◆ REST API, Retail iPhone Application (2013) – Python/django. Inherited project. New Features: custom radius search, image upload with S3 integration and thumbnail creation; dynamic filtering API. Also double test suite and created and git branching strategy, as well live and build environments to support development
- ◆ AWS Lamp Stack Migration (2012) - migrated a physical instance LAMP stack to EC2 multi-colo. MySQL master <--> master replication with SSL and EBS. Built and deployed custom AMIs for each tier. CentOS, custom software building, user privileges with IAM.
- ◆ ETL consultant (2011, 2012) - ETL architecture and coding for automated and human-in-the-loop data import into web-based system. Extensive Web Services API programming with Python (1 ½ year project)
- ◆ Chief Developer, Social Commerce startup (2011) - took over site originally developed by offshore team. API integration: Facebook, Twitter, Zendesk, Google Analytics. PHP, Zend Framework, MySQL, Linux, performance testing, EC2

*September 2002 to June 2007*

**Farmingdale State College (SUNY Farmingdale)**, [www.farmingdale.edu](http://www.farmingdale.edu)

*\*Adjunct Instructor, Computer Systems Department*

- ◆ Courses taught:
  - BCS 215: *Intro to UNIX I*
  - BCS 185: *Programming in Visual Basic*
  - BCS 350: *Web Application Development with PHP and MySQL*
  - BCS 301: *Systems Analysis and Design*

*March 2003 to June 2007*

**Long Island PHP Users Group**, [www.liphp.org](http://www.liphp.org)

*\*Founder and Past President*

- ◆ Organized, promoted and booked speakers for meetings. Personally gave presentations on PHP and Dynamic Flash Generation with Ming, NuSphere's PHPed, and PDF creation with PHP, Zend IDE, XML, MySQL replication, SQLite, PHP5, AJAX, Regular Expressions and several others. Created mailing list and website on dedicated machine for which I negotiated hosting. When I resigned, membership was over 200 individuals, corporations and non-profit organizations. The group still exists today and can be found on LinkedIn and Facebook.

*October 2003 to June 2007*

**Linux in Business SIG, Long Island Software and Technology Network (LISTNET),**

<http://www.listnet.org>

\*Co-Founder and Co-Chairman

- ◆ Developed, organized and led meetings of local executives and IT professionals to discuss business issues, such as ROI, staffing, support, etc. with high profile industry leaders in Linux. Previous speakers have included:
  - VP of International Sales, Redhat Inc. (<http://www.redhat.com>)
  - Founder and Chairman, Xandros, Inc (<http://www.xandros.com>)
  - Senior Open Systems Consultant, IBM Americas, IBM, Inc (<http://www.ibm.com>)

*September 1999 to February 2006*

**YumYum.Com – The Recipe Web Site for Everyday Cooks!™**, [www.yumyum.com](http://www.yumyum.com)

\*Co-Owner and Lead Developer

- PHP/MySQL port of recipe search scripts from Perl/FoxBase
- Programming to allow for automated download of recipes to From Scratch (web site companion software)
- Design and programming of web-based administration section, allowing non-technical people to maintain the site
- Many features, including: Searching, 'Email this recipe', 'Print recipe' and product upsell features, banner creation and HTML code for "Link to Us" section
- Managed independent contractor in the win16 to win32 port of From Scratch (recipe software)
- Complete Linux server build, including hardware, software, backup, security, configuration
- Work directly with major advertising agencies and advertising customers (Avenue A, HerAgency, GreatFoods.com, Kitchen Collection, Family.com); responsible for online and print promotion of site
- Presenter, Long Island Capital Form 2000
- YumYum.Com was a finalist in the 2001 Web Awards of Long Island
- YumYum.Com was sold to an internet-media firm in February 2006

**OPEN SOURCE CONTRIBUTIONS:**

- ◆ Presentation, "Using Cassandra in your Web Applications", International PHP Conference 2010, Mainz, Germany, 10/2010  
<http://www.slideshare.net/supertom/using-cassandra-with-your-web-application>  
<http://phpconference.com/2010/speaker/>
- ◆ Presentation, "Increase uptime and performance with Apache Traffic Server", International PHP Conference 2010, Mainz, Germany, 10/2010  
<http://www.slideshare.net/supertom/apache-traffic-server>  
<http://phpconference.com/2010/speaker/>
- ◆ Presentation, "Building configurable applications for the web", International PHP Conference 2009, Karlsruhe, Germany, 11/2009  
<http://www.slideshare.net/supertom/building-configurable-applications-for-the-web>  
<http://it-republik.de/php/phpconference09/speaker/>

- ◆ Developed Menugen, a javascript menu generator, with over 7,000 users to date, including corporate clients such as Bank of America, Cisco, Xilinx and many more
- ◆ PHP ShipTrack class at [phpclasses.org](http://phpclasses.org)
- ◆ WebhelpX software at <http://webhelpx.sf.net> (no longer maintained)
- ◆ Contributed patches to DotProject (<http://www.dotproject.net>), SQLiteManager, (<http://sqlitemanager.sf.net>) and others
- ◆ Founded and developed db\_2\_pdo, a PHP class for using PEAR DB code with the PDO extension (at the time, needed to use SQLite3, PHP5, and PEAR together)
- ◆ Presentation on PHP on OS/2, given at Warpstock 2005 October 6<sup>th</sup>, 2005, available at <http://www.supertom.com/warpstock2005>
- ◆ Code Snippets and Tutorials at <http://www.supertom.com/code>. GitHub: <http://www.github.com/supertom>

#### **TRAINING AND CERTIFICATIONS:**

- ◆ Courses in Java (core), Spring Framework, UC Santa Cruz, Silicon Valley Extension, July – Dec 2010
- ◆ Many training courses provided by Yahoo!, including “MySQL and High Availability” and “Building PHP Extensions”
- ◆ Zend Certified PHP Engineer (ZCE), September 6, 2005
- ◆ President’s Club graduate, Sandler Sales Institute (5 month course), July-November 2005
- ◆ Microsoft Certified Professional (MCP) Windows 95, January 1998 (since retired)
- ◆ Notary Public, New York State, County of Suffolk, commissioned September 1997 – 2009
- ◆ Many tradeshow and conferences throughout the years, including Hadoop Summit, Cloud Expo, Linux World, Oracle Developer Days, MySQL conference and Web 2.0

#### **EDUCATIONAL BACKGROUND:**

- ◆ M.S., Information Systems, Long Island University, C.W. Post Campus, May 2006
  - Independent Research in Robotics, Summer 2005
  - Recipient of the John T. Keane III Memorial Award in Outstanding Achievement in Graduate Information Systems (highest GPA in dept)
- ◆ B.A., Sociology, Stony Brook University, August 1998
  - Conducted independent research (college-accredited) in survey methodology
  - One year of Calculus; One year of Quantitative/Qualitative analysis
- ◆ A.A.S., Computer Information Systems, Suffolk County Community College, May 1999
  - Courses taken in C++/Data Structures, Visual Basic, COBOL, HTML/JavaScript

- Started this degree while simultaneously pursuing my B.A.
- ◆ A.A.S., Business Administration, Suffolk County Community College, August 1996
  - Courses taken in Managerial Science and Accounting
- ◆ Computer Science Major, SUNY College at Old Westbury, January - May 2002
  - Courses taken in Computer Architecture and Systems Programming

**LINKS:**

- **LinkedIn:** <http://www.linkedin.com/in/supertomcom>
- **Github:** <http://www.github.com/supertom>
- **Presentations:** <http://www.slideshare.net/supertom>
- **Rate My Professor:** <http://www.ratemyprofessors.com/ShowRatings.jsp?tid=634101>
- **CrowdFlower:** <http://success.crowdfunder.com/customer/portal/articles/1305154-crowdfunder-php-interface>
- **Website:** <http://www.supertom.com>