Rob Vaughn

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Experience Summary

Over 20 years of software & web development, design, coding; product and project management; quality assurance and testing; hardware deployment, maintenance and support; and security audits and pen testing across a wide range of platforms. Adept at translating business stakeholder needs into cost-effective, secure and user-friendly solutions for quality and scalability. Dedicated to applying best practices and delivering defect-free code, intuitive and robust software. Founding employee of several startups, instrumental in securing seed & series A funding and acquisition thereof.

Professional Experience

Software & Security Consulting | freelance, Portland OR   1996-current, periodic

Website Design & Development | Austere   2019

Responsible for all mobile-forward design, layout, development, registration/hosting and testing for https://austere.xyz, including images, coding, social media integration, SEO optimization, JSON & Open Graph specs and search engine submission/monitoring.

- Mobirise with PHP, JavaScript, custom CSS on Windows, Linux / shell, Gimp, Inkscape

E-Commerce Developer | GEMM, La Jolla CA   1998-2016

GEMM was an online music marketplace with over 100% year-to-year revenue growth and a final inventory of approx. 20 million items.

Front-end UI/UX design, customization and automated testing. Back-end development & debugging, including credit card processing, inventory management and reporting. Systems administration and automation of maintenance.

- Linux with Perl, PHP, JavaScript / jQuery, Python, shell, CSS / Sass

Security Consultant | Thorne Group, San Francisco / HP, Vancouver, WA   2015

Audit of security practices and procedures for PII and CCI shared between business, engineering and support units, including PCI DSS compliance.

Senior Web Developer | Joingo, San Jose CA   2013

Joingo provides mobile marketing and customer loyalty solutions for the casino gaming industry.

Back-end services QA, bug resolution, optimization and site automation.

- Linux with Python, JavaScript / jQuery, Compass / Sass, Perl

Security Auditor | ADP Dealer Services, Portland OR   2010

Server-side security analysis and review, penetration testing and patches. Deployed updated security and user support infrastructure across Linux, Windows and legacy server product lines. Authored Security Compliance and Planning documents for 2010-2014.

- CentOS / RedHat, Windows, VMWare ESX on Intel; DEC Alpha / Tru64 Unix

E-Commerce Developer | Vitamart, Bath UK   2009-2010

Vitamart was an online vitamin / supplement retailer similar to Vitacost.

Converted old credit card processing system to Virtuemart. Updated site design, automated maintenance processes and tested Web interfaces.

- Linux with PHP, Joomla, Virtuemart, MySQL, shell

Software Engineer | ADP Dealer Services, Portland OR   2009

Systems software development, including some dynamic conversion of PICK/Reality data to relational database.

QA Engineer | ADP Dealer Services, Portland OR   2001

QA development, testing and bug fixes for backport of system and new network utilities to meet release schedule from three week deficit.

- C, Perl, shell scripts, Log4j on DEC Alpha / Tru64 Unix; Motorola MV 88K / SYSV/88

Founding Member | Natural Messaging, Portland OR   2001-2002

Natural Messaging was a startup for natural-language/voice instant messaging applications in corporate environments. Received $1.7 million in venture capital. Sold to Akonix Systems in 2004.

Technical lead on pre-funding startup requirements, prototyping, UI design and testing.

- LAMP with C++, PHP, MySQL, lex

E-Commerce Developer | Rot Doctor, Seattle WA   1998

Online retailer of specialized wood treatment and preservation products.

- Unix with Perl, PHP

Web Developer | Nuprl Group, Cornell Computer Science, Ithaca NY   1994

Designed and implemented Web-based interface to Nuprl theorem prover.

- C, Lisp, Perl, shell scripts on Sun SPARC / Solaris; NeXT / NeXTSTEP with CERN httpd & Mosaic / Netscape

Consultant | Amazing! Online, Portland, OR   1996-2009

Web, E-Commerce and B2B design and development from requirements, time/cost estimates, prototypes and wireframes and usability testing to deployment, SEO, marketing and support for clients:

Oregon Public Broadcasting (OPB) Portland OR   2008-2009

Grant-funded educational and instructional content for online adult and grade-school learning projects.

- LAMP w/Drupal, PHP, Perl

Envoy Global, Portland OR   1996-2001

Envoy Global was a business telecommunications provider, offering bulk fax / voicemail / VoIP services.

Systems development, tuning & optimization, QA/testing and debugging.

- FreeBSD with Java, Tomcat, Jakarta Struts, Java applets, Perl, shell, telecom protocols

Technical Lead & Development Manager | Pheedo, Portland OR   2005-2008

Pheedo offered profit-driven advertising middleware for online and distributed content for top-tier publishers and advertisers.

- Designed and developed proof-of-concept prototype for online advertising and tracking for blogs and newsletters, leading to USD $4MIL in first round and $2.6MIL in supplemental angel backing.

- Led technical development to build and scale a top-tier online advertising network to 71 million monthly impressions (3400% growth from launch) for customers including The New York Times, Forbes, CNet, MSNBC, Huffington Post, Wired and USA Today.

- Hired and managed Portland-based hardware engineering and software development teams in an Agile/Scrum environment.

- Oversaw specification, purchase and installation of Dell blade web and database servers with Foundry load-balancing switches. Developed view/click display and recording protocols with statistics analysis and reporting gathered from server farm in high-traffic environment.

- Developed and implemented all QA and load & balancing testing systems and procedures for both hardware and software with NUnit, Apache Jmeter and other assorted load testing software.

- Oversaw development of JSON / REST Web Services for partner companies such as AD2, Japan's largest online advertising company, Transcosmos, Kanoodle, Lockergnome, SimpleFeed and others. Led localization projects for Japanese markets.

- Intel / Linux w/PHP, Javascript, MySQL, JSON/REST, RSS/Atom

Lead J2EE Application Developer | AM&A, Portland OR   2004-2005

Arnerich Massena is a boutique investment services firm focused on building better portfolios for our clients through unbiased research.

- Solely responsible for moving 850k LOC J2EE application, used to manage client account and performance data, to in-house development and support from an offshore company. Converted existing code base to Eclipse IDE and MS Visual SourceSafe for version control.

- Migrated source to Subversion (svn) due to performance issues and unnecessary HW/SW costs for 10-fold decrease in commit/checkout times. Developed new database schema to migrate data to MS SQL Server. Designed and automated quarterly report generation and custom on-demand reports for analysts.

- Designed and implemented highly-secure anti-spam/virus Linux mail server to replace unreliable Windows PC-based spam and virus filters after multiple breaches, saving dozens of man-hours per week.

- Java / J2EE on Windows 2K Server & clients, JBoss, Tomcat and MS SQL Server with JSP, JavaScript, Eclipse IDE, MS VSS, MS Excel, Crystal Reports; C# / .NET

Lead Systems Architect, Developer & Support | MYBv (WiredFlyer) Austin TX   2001 – 2005

MYBv (formerly WiredFlyer) was a spin-off company based on a business model for Make Your Bet Vacations that provided turnkey custom branded websites for privately owned and operated independent travel agencies.

- Drove online vs. in-store sales from 9% of $5MIL in 1999, 16% in 2000 and 24% in 2001 up to 56% of $8.5MIL in 2004 for Make Your Bet Travel. Grew client base from approx. a dozen to over 150 in four years. Increased site visits from 500k in 2001 to over 2MIL in 2005 with approx. 1500 SEO keywords on 60 search engines.

- Designed and implemented weekly fixed-price package sales with custom self-booking interface with destination-specific RSS feeds accounting for 23% of online sales by 2004.

- Integrated expanded travel destinations from Las Vegas and Mexico with the Caribbean, Hawaii and ski vacations to 1000's of options. Compiled all data on resorts and hotels in Hawaii including photography.

- Solely responsible for all software architecture and development, hardware purchase and deployment and client / customer support. Purchased server paid for in 9 months by eliminating software licenses and rental costs.

- Redesigned existing Windows 2K/ASP.NET system and implemented on LAMP w/PHP. Converted all static data to database-driven dynamic model capable of generating over 10k unique pages for products, including a suite of robust back-end administration tools which allowed for complete site customization.

- Intel / Linux with Apache, MySQL, PHP, Perl, ImageMagick, RSS/Atom

Senior Software Engineer | PassEdge (InterTrust) Beaverton OR   1999-2000

PassEdge (an Intel spinoff) developed Digital Rights Management for Video (DRMV) software solutions to enable secure delivery of streaming video over broadband IP networks.

- Server-side prototyping and development for DRM services including key management and distribution systems. Assisted development of automated system, functional, and unit tests and QA procedures. Led evaluation and testing of Tamper-Resistant Software (TRS) components and packages. Reviewed patent applications.

- Sole design and development on "tiger team" for fully-functional multi-client/server demonstration system needed for CES and other trade shows, later used to complete sale of company to InterTrust in Dec 2000. Tech lead on trade show setup & teardown, demos and support.

- Technical liaison for partner integration and demonstrations to sales leads, potential investors and sale of company to InterTrust in Dec 2000.

- C/C++, Java, JavaScript, Perl, PHP, XML, shell scripts on Win NT/2K and Solaris platforms running Oracle 8i, Apache Tomcat, Sun Java SDK

Product Architect & Team Lead | Zombie, Seattle WA   1999

A startup prototype project for "Crypto!", a freeware Windows-based client/server encrypted email / vault utility.

- Led design, development and testing of multi-tier server system with associated client offered as freeware monetized by ads. Responsible for research and implementation of crypto protocols, patent applications, and all client/server/UI/protocol design.

- Designed and implemented X.500-compliant public/private key infrastructure using XML and LDAP. Researched and developed crypto protocols including two submitted patents.

- Intel / Windows; Sun SPARC / Solaris with C, Perl, Oracle 8, OpenLDAP, ActiveX, Kerberos

Senior Software Engineer | ADP Dealer Services, Portland OR   1995-1999

ADP Dealer Services (now CDK Global) is the largest global provider of integrated information technology and digital marketing solutions to the automotive retail industry.

- Development of systems-level software for auto dealer platforms and infrastructure, evolving from server/terminals to client/server to virtual hosting SaaS / PC workstations architectures. Responsible for productizing, packaging and supporting rebranded customized hardware ranging from servers to peripheral devices to networking. Current vintage of server product is installed in over 12k sites in North America and 27k worldwide.

- Introduced new programming languages to port and rewrite installation and systems tools across multiple platforms (Motorola 88K / System V/88, DEC / Tru64, Intel / Linux, CentOS.) Member of System Engineering Y2K team.

- Lead on design, hardware procurement and installation of dedicated server room hosting 150+ systems across multiple platforms with dedicated routers, switches and load-balancers which allowed creation of private test networks using patch bays (still in use as of 2014.)

- Liaised on multiple joint projects with QA, hardware, networking and support groups. Loaned to QA and hardware projects over deadline to meet release dates.

- Technical lead and support from 1996-1999 for national NADA (auto) and NTEA (truck) trade shows highlighting rollout of new PC-based client platform, including one-day setup and teardown of Unix servers and dozens of clients.

- Helped maintain and evolve System Engineering's build environment from Makefile/CVS to ClearCase (and later to git/Ant.)

- Motorola 88K / System V/88; DEC Alpha / Tru64 UNIX; Compaq PC / Windows and Linux with C, Perl, shell

Systems Admin & Developer | Materials Science Center, Cornell University, Ithaca NY   1990-1994

The Materials Science Department at Cornell University is one of the top-ranked research facilities worldwide.

- Administration and support of all hardware, software and networking in mixed Unix client/server, PC and Mac doctoral and postdoc research environment.

- Unified all servers and accounts under a single domain name for email (sendmail), Web (CERN httpd) and other services.

- Convex C2 / ConvexOS; Sun SPARCstations / SunOS, Solaris; IBM RS/6000 / AIX; PC / MS-DOS, Windows 3.1, Netware, SCO Xenix/Unix; Mac / MacOS with Perl, shell, sendmail, Kerberos

Education & Certifications

M.Eng. Computer Science, GPA 3.4 – Cornell University, Ithaca NY (1994)
Focus in Programming Languages, Networking, and Highly-Available Fault-Tolerant Distributed Systems

B.S Computer Science, GPA 3.7 – SUNY Plattsburgh, Plattsburgh NY (1990)
Minors in Physics, Math and English

CISSP (2007-2014), ISSA (2006-2014), OWASP (2008-2013)

Volunteering

Transition Projects (TPI) – PC Lab Technician & Monitor (2006-2010, 2013-2016)

Oregon Food Bank – Volunteer / Team Captain (2001 – 2010)

Technology Summary

Languages: PHP, Perl, Python, JavaScript / jQuery, Java / J2EE, C, C++, C#, Unix shell (bash, csh, ksh, etc.) / PowerShell, ML/SML, Lisp/Scheme, Erlang, Prolog, Ada, BASIC, Pascal, REXX, misc. assembly

Operating Systems: Linux (CentOS, Ubuntu, Debian/Kali, RedHat/Fedora, Raspbian), Unix (SunOS / Solaris, AIX, Tru64, Sys V/88), Windows (DOS to Win10), Mac OS, VirtualBox / VMWare ESX, Berkeley BSD, FreeBSD, ConvexOS, DEC VMS / RSX-11 / RT-11

Platforms: Intel, DEC Alpha, Raspberry Pi, Mac, Motorola 88k, Sun SPARC, Convex, RS/6000, PDP-11/24 & 34, DEC VAX

Web/Markup: HTML / XHTML, CSS / Compass / Sass, RSS / Atom, AJAX, UML, XML / XSL / XSLT, WSDL, JSON / REST / SOAP

Databases: MySQL 3.23-5.7, Oracle 7-8i, MS SQL Server 2000-2008, SQLite, Postgres 4.2-PostgreSQL 6, DB2

Source Control & Build: Git, Subversion (svn), CVS/rcs, ClearCase, Visual SourceSafe, Vault, make, Ant

Networking: Full TCP/IP stack and services (HTTP, SMTP, FTP, POP/IMAP, SNMP, SMB etc.), socket UDP/TCP programming, hardware/software VPN, routers/firewalls/switches/WAP, monitored UPS

Quality Assurance & Testing: NUnit, Python unittest, Log4j, JMeter, LoadRunner, HTTPerf

Defect Tracking: Bugzilla, Lighthouse, Trac, Clear Quest

SDLC: Scrum, Agile, Waterfall, Iterative Waterfall, UML 2.0 / Use Cases, Test Driven Development (TDD)

CMS: Joomla, Drupal, WordPress, Virtuemart

IDEs: Eclipse, MS Visual Studio 2000-2013, vi/emacs

Patterns: Model View Controller (MVC), Responsive Design

Productivity: MS Office Suite, OpenOffice, Visio 2003-2010, Dia, Creately, Mobirise, Adobe Illustrator / Photoshop, Gimp, Inkscape

Security & Penetration Testing

Analysis: Nessus, Nmap/netcat/ntop, arp-scan, DMitry, DNSRecon, SSLyze, skipfish, redfang

Exploit: JohnTheRipper/hashcat, Armitage/Metasploit Framework, Burp Suite, WPScan, Linux Exploit Suggester

Forensics: Capstore, dnSpy

Network/IDS: Snort, Ethereal (some Wireshark)

Recovery: Backup and disaster recovery, fire suppression assessment

Stress: DHCPig, mdk3, fragroute

Wifi: Aircrack-ng suite/Kismet, coWPAtty, Reaver