

**Noah Spurrier** noah@noah.org ƒ (415)261-0930

**Qualifications** I am a versatile software engineer with strengths in Linux development and systems architecture (Debian/Ubuntu, uBoot/uClinux, Red Hat). My design style is to keep interfaces simple and flat, reduce component coupling, and emphasize logging and audit trails. I have worked in a wide variety of environments, from large securities firms to small start-ups (I prefer the later). I have built virtual host servers, front-end GUI components, and embedded Linux systems. I work well with non-technical users to understand their work flow and user stories/requirements. My technical strengths are Ubuntu Linux, Bash, Python, and C/C++. I have a fair bit of electronics and mechanical hardware experience. I enjoy profiling, benchmarks, and long walks with strace.

## Professional Experience

### **Jan 2016 - now -- AI App Works, inc.**

<https://www.aiapp.works/>

Architect / CTO

- Applications architecture and project management for software and hardware engineering outsourcing consultancy.

### **Jul 2014 - Feb 2016 -- Zephyr Health, inc.**

<http://www.zephyrhealth.com/> Unix admin, AWS virtualization and automation

- Managed AWS cloud consisting of over 500 instances in Europe, US East, and US West Availability Zones.
- Help migrate from AWS classic to VPC with clearly defined security groups.
- Reduced application environment instance build times from 3 days to 1 hour.
- Automated instance image gold master build process.
- Integrated Bamboo application build system with application deployment.
- Primary responsibility for providing reports and documentation of enterprise-wide security protocols during third party security audit (SOC 1, type

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### **Jun 2012 - Jul 2014 -- SquareTrade, inc.**

<http://www.squaretrade.com/> Unix admin, Xen virtualization

- Built and managed a virtual environment that provides the sole means of development for a team of 30 engineers (over 300 guest environments).
- Built clustered Xen environment for production and staging.
- Migrated version control from CVS to git (including upgrading build tools that relied on CVS).
- Planned migration to from Xen to OpenStack/KVM for virtual management, and migration from Puppet to Ansible for configuration management. Migrated the dev group from Puppet to Ansible.

### **Oct 2008 - Oct 2011 -- Pie Digital, inc.**

<http://www.piedigital.com/> Sr. Linux Platform Engineer

- Managed integration of our application with custom embedded hardware.
- Solely responsible for the configuration and installation of Linux kernel and rootfs (uBoot).
- Setup Subversion and built a release management tool to provide provenance tracking and to allow defects to be logged and tracked to specific SVN tags at various system levels (app, kernel, rootfs, bootloader flash image).
- Helped port our Java application from PowerPC to MIPS in partnership with Netgear.
- Discovered a fatal bug in Freescale's MPC5121e DMA controller that resulted in Freescale recalling all units, respinning the silicon, and replacing all units.
- Worked with our ODM in China to help their engineers debug and fine tune the integration of our hardware and Linux platform -- successful despite the nearly complete lack of English comprehension by their engineers, and my complete lack of Chinese comprehension (we communicated mainly in C).
- Sanity checked ODM's hardware circuit design and PCB layout. Made recommendations for PCB and mechanical redesigns to include test points and headers to allow easier system testing, improve power supply safety, gracefully handle power loss, improve heat dissipation and airflow.
- Built custom test hardware to stress test OS and filesystem. Graphed power

drain and thermal profile under various workloads.

- Identified bug in Texas Instruments RTC chip and developed software work-around.
- Stress tested mechanical components and made recommendations for mold changes to strengthen weak spots. Improved LED placement, simplified light-pipe design, and reduced light leakage into non-opaque portions of the plastic case.

### **Feb 06 - Oct 08 -- Vinyl Interactive**

<http://www.vinylinteractive.com/> Sr. Linux Engineer, back-end architecture and system administration

- I was the primary system administrator for 8 production machines running 20 high-volume web sites that generated nearly \$2 million a month in gross receipts.
- Created and managed the Subversion source code repository for the development team.
- Built staging and deployment system based on subversion tags.
- Built virtual development stack based on VMWare which gave each developer a full environment that mirrored production (PHP app server, MySQL and PostgreSQL databases, Apache server, and a NginX static asset server).

### **April 04 - Jan 06 - Sharechive**

<http://www.sharechive.com/> Linux build, release, and deployment engineer

- Built system in Python, Javascript AJAX for building, deploying, and confirming installation of patches on wireless tablets in the field (construction engineers and architects).
- Migrated source control system from CVS to Subversion.
- Tested and evaluated flash memory for use as a primary Linux rootfs (Compact Flash was more than ready despite the naysayers at the time).

### **Mar 03 - April 04 - Aramova**

<http://www.aramova.com/> Sr. Software Engineer

- Built system for European WISPs (KPN and E-Plus) to allow administrators to package and schedule software updates to be delivered to customers over wireless networks.
- Built deployment system to central servers based on Subversion.

## Sep 00 - Aug 01 - BlueLight.com

<http://www.bluelight.com/> Sr. Engineer of Supply Chain Integration

- Wrote a supply chain management system in Python and C for handling outsourced goods.
- Created business requirements and API documentation for our partners to communicate with K-Mart via EDI X.12, XML, or flat files.
- Wrote tools for support and claims team to help detect fraudulent orders. determine status of orders, and track deliveries.

**Open Source Work** Pexpect (<https://github.com/pexpect/pexpect>) I wrote a *better-than-Expect* module for Python. It's written in pure Python. It's powerful, elegant, and much easier to use than that other thing from Don Libes.

**Education** Bachelor of Computer Science University of California at Santa Cruz (UCSC) <http://www.ucsc.edu/>

**Other Interests** I love science and in my spare time I am usually fabricating lab equipment and experimental apparatus. I've built a CT scanner, telescopes, microscopes, a rayon fiber extruder, cryptographic entropy collectors, RC drones, stereo video recorders, automated wildlife video recorders, clocks, steel smelters, rockets, hydrogen dirigibles, a 2 axis rotomold spinner, a better toaster oven, and toys for my daughter.