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Seeking positions in the *San Jose, greater Silicon Valley and San Francisco areas only*.
This resume was updated on Tuesday September 12 2017

Objective
Seeking a creative and challenging position in software design and development. San Francisco Bay Area Only. Prefer permanent full time positions. My most recent positions have involved cloud development with OpenStack. I run my own server farm.

Experience Summary
Proven track record possessing over twenty-five years experience developing for a number of hardware platforms ranging from IMSAI 8080, Apple II, Atari 800, Apple Macintosh, Commodore Amiga, IBM PC, and the Java virtual machine. Developed commercial software under MacOS, DOS, Windows, and Java. Contributed to high profile projects for Apple Computer, Netscape Communications, and Amazon (Lab126).

I have written software for Apple Computer, Netscape and Amazon. My work appears on every Macintosh build from the mid '90s on and every Kindle. My code is in use by millions of happy users worldwide. I am the primary contributor to a patent on some of the Kindle code.

Proficient in C, C++, Java and Python, as well as various machine languages (Intel, Motorola, PICMicro). Developed code under Eclipse, MPW, GNU toolchain, Think, Cafe, CodeWarrior, and Visual C++ development environments, among others.

My most recent positions have involved Java on embedded Linux (I patented part of the Kindle) and coded embedded Java on DirecTV set top boxes. I employed Java / PHP to develop a cloud based provisioning system called LinMin Bare Metal provisioning. This appliance is sold by Cisco as part of it's UCS solution. It involved the use of VMWare virtualization to simulate a small cloud for development and testing. Web based application development involved the use of technologies such as JMS, Web services (Tomcat), Spring, Tapestry, and Hibernate.

I run my own CentOS Linux based server farm and manage it using tools such as Puppet and Git for source code control. See the Code Samples and Project page at http://chrishull.com/career/codesamples.html

Platforms
Openstack, Linux, Java/JDK, J2EE, WindowsNT/98/95/3.x, MacOS, DOS, PIC Micro, Arduino, Apple 2, and older systems.

Languages
Java, C/C++, Python, BASH, PHP, Node.js, various assembly languages (Intel, Motorola, PICMicro), Perl, Postscript, Pascal, Forth, Ruby (Rails)

Development Environments and Tools
vi / shell (various Unix), Eclipse, GIT, Mercurial, SVN, CVS,, Perforce, JDK, J2EE, Chef, Visual C++, Code Warrior, MPW, Win3.1 SDK, Think C, Star Team, Projector.

Internet Related
LAMP, Apache, Tomcat, Servlets, Struts, ISAPI, CGI - Perl, Linux, Solaris, XML, XSLT, WML, and PHP.

Java Related
JMS, Tomcat / Apache, AJAX (own and maintain several CentOS Linux servers), Spring, Hibernate, Tapestry, JNI JINI, JSON, and Java on embedded Linux

Hardware
FPGA (Altera), PIC, ARM (Kindle) Adruino.   Simple robotics.   Working on a Paralax Quadbot.

Patents:

Software Architecture for Interaction with Dynamic Data Sources and Role Based Access Control – for Mediagate
 - United States Patent WO/2002/050691 Issued December 19, 2000

Electronic Paper Display Updates – for the Amazon Kindle
- United States Patent 8819568 Issued August 26, 2014

I have a total of four patents. These two are still in force. See the United States Patent and Trademark Office website at www.uspto.gov for details, or simply Google the patent numbers.

Work History:
All positions are full-time perm except NASA, Cisco and DirecTV which are short term contracts.

NASA Ames Research Center - TESS Mission - May 2016 - present

Skills used: Java/j2EE, Python, Git, SVN, Agile/Scrum, Hibernate, FITS (an astronomical file format)

As a member of the Science Pipeline Operations Center (SPOC), I am tasked with adapting code used in the Kepler space telescope mission to work with the upcoming TESS mission.

You can read about TESS via google. I worked on a Python based user interface known as the SPOCOPS GUI. I am the lead engineer on the Archiver (AR) portion of the pipeline. The Archiver receives all data involved in planet searches (light curves, transit data, full field star images and the like) and uses it to generate a variety of files used for analysis by NASA, MIT and the public. This task involves a great deal of data marshaling and adaptation for use by the astronomical community. The results of this work will be publicly available when the mission takes place. There is a lot of detail work in the Archiver.

TESS is scheduled to launch in March of 2018. I am very proud to be a part of this mission. Space exploration is a life long passion of mine. Our work on the software ends in August or September.

Cisco Systems - January 28 2015 – March 5 2016

Skills used: Java/J2EE, Python, Git, Openstack, Hibernate, Tomcat, REST, Cloud development, Virtualization, Agile/Scrum

I worked with a team in Ottawa Canada on a project called the Elastic Services Controller. ESC is an appliance designed to scale and monitor services running in an Openstack and/ or VMWare cloud. I developed parts of ESC's REST interface and implemented authentication for REST. I also developed many tests as the product evolved in order to assist QA in automation.

ESC is an important tool for maintaining cloud infrastructures and services. Google Cisco ESC.

While on this project I also developed a tool for Openstack configuration management. See http://chrishull.com/career/openstack. I will present this tool to SFBay Openstack for consideration in a couple of weeks. Various stackers are testing it now.

This work was done thru Cisco Canada. They consolidated and ended contracts in the US.

Cisco Systems - September 15 2014 - January 23 2015

Skills used: Python, Node.js, SVN, Openstack, Hibernate, REST, VMWare, Cloud development, Virtualization

I've been working with the MOS Platform group at Cisco developing REST APIs in both Python and Node.js. MOS Platform is a sort of cloud operating system based on both OpenStack and VMWare (ESX). It supports Cisco's Cloud Video product and is used by companies such as Comcast to provide content to viewers without the use of a DVR.

I have also developed several Continuous Integration / QA tests for portions of the MOS Platform.

I proposed a redesign of REST which will allow both consistent JSON communication back to the caller (currently plain text is sent back), and will also support asynchronous REST calls needed by functions such as node upgrade. I deployed both OpenStack (DevStack) and ESX on systems at Cisco and at home to set up small clouds.

Due to budget cuts my contract is being cut short and will end on January 23. Please see written recommendations from my manager and members of the team (LinkedIn). The MOS Platform group is one of the best groups I've worked with and they will be missed.

While working for LinMin I also helped develop the Cisco Server Provisioner, sold with Cisco's UCS server product. See below.

DirecTV June 3 2013 – December 3 2013

Skills used: Java/J2EE, Mercurial, Eclipse, CVS, Git, BASH, Python, Chef, Linux, Build and deploy system development

At DirecTV I developed a simple tool which allowed us to diagnose problems with the set top box advertisement system. Some of this code was also used as part of the ad system in the set top box itself.

I also diagnosed and fixed bugs related to the set top box's "Cloud VOD" (internet based video on demand) system.

I documented and wrote scripts for our rather complex checkout, build, and deploy system as a side project along with a co-worker. This greatly improved the development process, but my contract ended before it could be completed.

DirecTV suddenly closed their offices in Cupertino, California, thus cutting my time short there. I was offered an opportunity to work for them in Los Angeles, but declined.

LinMin June 2010 – November 2012

Skills used: Java/J2EE, Eclipse, PHP, Python, Perl, BASH, Cisco, Servers, Virtualization, Linux

LinMin is a software company that creates provisioning software that runs on CentOS / RHEL based systems. Provisioning software allows you to install operating systems and other software in an unattended fashion on thousands of servers on a local area network.

LinMin is a small company so I performed many different functions while there. I did a great deal of QA, setting up virtual clouds so that I could simulate banks of servers and provision them.

I wrote automated test tools in object oriented PHP, which accessed the LinMin API and tested the code. This PHP layer can also serve as a basis for our eventual GUI rewrite.

I did quite a bit of testing at Cisco on their UCS system, insuring that drivers we injected were compatible with B series blades and C series chassis. I learned to use UCS Manager, a very complex hardware configuration tool developed by Cisco which allows you to configure the BIOS on banks of servers.

I migrated the LinMin Java code base from 1.4.2 to 1.5 so that I could integrate the Jakarta Commons multithreaded TFTP server into our product.
As the only Java developer on the team, I made many enhancements to the Java code, forking on the LinMin license code, BootP, and TFTP servers. Some portions of the Java code base now actually use generics which makes things more typesafe and clean.

Lab126 (an Amazon company) June 2007 – May 2010

Skills used: Java/J2EE, embedded Java, C/C++, Eclipse, BASH, J-Tag, embedded Linux, Liunx, Agile/Scrum, JNI

Lab126 develops the hardware and software for the Kindle ebook reader from Amazon

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I worked on the Framework for the device. As a part of this work I developed a rudimentary windowing system, allowing the Kindle II and it's successors to have a more complex user interface than the first Kindle. I also wrote some of the power management code, event manager, and miscellaneous other parts.

Visible components of the Kindle that I worked on include the screen saver, USB network screen, and others which will be mentioned upon release.

I was the primary contributor on a patent for the windowing system.

Shopping.com (an eBay Company) December 2005 – June 2007

Skills used: C/C++, Java, J2EE, Tomcat, Perforce, Linux, Tapestry, Spring, Hibernate, Ruby on Rails, JBoss, ActiveMQ, JMS

While at Shopping.com I helped maintain the merchant feeds system. This position involves Java code running JMS queues and interacting with SQL. I have also done some front end work in Tapestry.

I also developed code in C using ImageMagick to display images on the website. This code allows Shopping.com to store images of items for sale in a single small size, and resize them at high speed, on the fly for display.

Altera, Santa Cruz CA. March 2005 – December 2005

Skills used: C/C++, Java, J2EE, Eclipse, Perforce, Linux.

Designed and implemented a set of Eclipse plug-ins for Altera's Nios II soft processor. Nios II is a virtual CPU that runs on Altera's Stratix FPGA.

OpenCountry, Menlo Park CA. December 2002 – February 2005

Skills used: C/C++, Java, J2EE, BASH, Perl, gmake, gcc, gpp, CVS, PHP, Linux, SOAP, MySQL

Responsible for gathering requirements, designing, and developing OpenCountry's OC-Provision product. OC-Provision allows any Linux machine to be used as a PXE installation server. OC-Provision will run on all RedHat based distributions and will install all RedHat and SUSE based distributions on any PXE capable machine. Currently I support a total of twelve forms of Linux.

Also developed a Linux based management tool. This tool allows administrators to easily and quickly keep large numbers of Linux nodes, such as routers, switches, and user machines, updated with the latest software. It is divided into two components: OCHost, and OCAgent. The Agent is a tiny, powerful piece of code that receives commands from the host and manages the machine that it's running on. The host serves as a software repository and communicates with a large number of Agents.

I was team lead, and designed and implemented a large portion of the OCAgent. I was also involved in much of the technical decision-making that goes into the product.

Mediagate, San Jose CA. August 1998 – January 2002
Engineering Applications Manager / Architect reporting to Director of Engineering.

Skills used: WindowsNT/98, Linux, Java, J2EE, JDK1.3, Tomcat, ISAPI, Apache, Engineering Management, XML, XSLT

With a team of ten engineers, designed and developed a distributed application server, known as Quicksilver. This involved development entirely in Java, using JINI, Xalan and Xerces, so as to generate and transform XML using XSL. I also developed servlets for the Tomcat servlet engine. I was one of four inventors on the project, and lead a team of four developers, two in Israel.

Quicksilver is a complex data aggregation engine, which allows disparate and alien data sources to cooperate and communicate to arbitrary interfaces, either over a local network or on the same computer. Easy to use adapters allow developers to integrate their services into the system. XML and XSLT allow for easy user interface development.

Aided an attorney in writing patents for this project containing over fifty claims relating to dynamic XML generation, XSL, dynamic datasource mapping to XML fragments, and other aspects of the architecture.

On the project before Quicksilver, I wrote a parser for an XML like language called Page. I developed a suite of ISAPI DLLs to run the parser and produce web pages based on Page documents.

This is one of the most interesting projects I have worked on.

Microsoft Hotmail, San Jose CA. January 1998 - June 1998
Senior Software Engineer

Skills used: Solaris, Java,JDK, CVS, C/C++, BASH, Apache

Set up and administered a CVS source code control system for Hotmail.

With a team of three engineers, redesigned Hotmail architecture with the intent of rewriting it in Java. This was never executed.

Netscape Communications, Mountain View CA. August 1996 - January 1998
Senior Software Engineer

MacOS, WindowsNT, Java, C/C++, JDK, CodeWarrior

I worked on Netscape 6.0 (Gecko), which was the largest Java project of its day. I designed an event and graphics system for the project before it was decided to use IFC. Developed some IFC and JFC HTML elements for the product. Designed and developed the Form Manager. This is the software that handles HTML form data collection and submission to the server. Also developed all of the form elements themselves which is the actual code that draws the HTML form itself and handles user input. Wrote part of the HTML parser for the product. Designed an internal testing mechanism for Java applications and applets called SelfTest which is used throughout the product to test the robustness of Java objects at runtime.

For Netscape Communicator Version 4.0 for the Macintosh, I developed the address book user interface code for the Macintosh client (CodeWarrior C++). Designed and developed the AppleScript code allowing other applications to communicate with Communicator. The AppleScript code allows other Macintosh applications to extract mail and HTML pages from

Communicator and allows these applications to control a wide variety of Communicator functions.

Apple Computer, Cupertino, CA. June 1992 - August 1996
Senior Software Engineer

MacOS, C/C++, MPW, CodeWarrior

EZAV:
Along with a team of two other engineers, architected a driver and user interface system based on QuickTime Components. EZAV allows developers of Macintosh peripheral hardware to easily write drivers and user interfaces for their products. This system replaces the tedious DRVR and CDEV resource scheme implemented by earlier versions of System Software. EZAV will also allow applications access to Macintosh peripheral hardware. A multimedia application can offer easy access to volume controls, cameras and other media devices without forcing the user to use several different control panels to accomplish simple tasks.

QuickDraw GX Printing System:
Developed drivers for the StyleWriter II, Apple Color Printer, and LaserWriter LS. These are hybrid GrayShare-QuickDraw GX drivers which use GrayShare technology for imaging and device communications while taking advantage of the QuickDraw GX user interface. Developed some of the code necessary to make QuickDraw GX backwards compatible with the existing Macintosh printing architecture (fixed bugs in the "old UI" code).

GrayShare:
Assisted in completion of Apple's GrayShare product. Located and fixed several QuickDraw related bugs. Wrote some hardware level code for the StyleWriter II to allow simultaneous support for GrayShare and QuickDraw GX.

Skill Matrix
In an effort to keep this resume short I have omitted the skills matrix but left the search terms in place. Please click this link: http://faq.chrishull.com for full details on the following skill set. If there is a skill that you are interested in and it's missing please don't hesitate to ask. Chances are I have some experience in that area.

ActiveMQ, Agile/SCRUM, Algorithms, Ant, Apache Commons, Assembly Language, BASH, C, C#, C++, CDT, CSS, CVS, Design Patterns, Eclipse, Eclipse Plugin Development, GCC Toolchain, Git, Gnu Debugger, Gradle, Hardware / EE, Hibernate, Java/J2EE, Javascript, JAXB, JAX-RS, JBoss, Jenkins, JMS, JNI, JQuery, JSON, JUnit, Linux, Log4j, Macintosh, Mercurial, Node.js, NoSQL, OOP Object Oriented Programming, Open Source Tools, Openstack, OSGi, Perl, PHP, Ruby on Rails, REST, Spring, SQL, Test Driven Development, Tomcat, Virtualization Environments, VMWare, Web Services, Windows, XML, XPath, XSLT, Zookeeper.

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Thank you for your interest.
-Christopher T. Hull