Kevin Geiss

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Twenty-five years professional experience developing large-scale software projects in various UNIX-style environments. Solid knowledge of algorithms, complexity, and computer science theory

Skills

Languages Java, Spring, Perl, C++, C, JavaScript, Swift, TCP, TEX, HTML, SQL, Ada, Pascal, Fortran 90, Assembly, Bash or Zsh scripting

Version Control Git, Git Submodules, Git-lfs, Git-annex, Mercurial, Subversion, CVS, RCS, Clear Case, and SCCS

IDEs/tools Linux, Apache, Docker, Kubernetes, Cloudstack, IntelliJ, Eclipse, Xcode, Maven, Vim, GNU Make, GNU Screen, Zsh

Experience

2020–Present **Senior Software Development Engineer (SDE3)**, *Amazon*, Tempe, AZ.

2002–2020 **Principal Engineer I**, *Ticketmaster*, Scottsdale, AZ.
Implemented web and network applications on Apache and Linux. Ported network applications from Windows and VAX to Linux.

- Containerized Perl and C++ products to run on Kubernetes
  - Deployed with Helm and Tiller
- Created a Gatling Capacity Test suite for the Company-wide NFL initiative
  - Tuned products from four teams, which form the B2B Secondary Market stack
  - Adjusted Apache configurations, VIP setup, and system configurations
  - Increased the existing system's capacity 100-fold, to handle sustained 320 RPS
- Mentored teams on technologies, processes, and platforms
  - Docker, Kubernetes, Linux
  - Java and Perl
  - Unit testing and Test-Driven Development
  - Code reviews
  - Integrating with other services
  - Git (feature branches, merging, rebasing, submodules, git-lfs, git-annex)
- Created a public-facing webapp to render Tickets on mobile devices
  - Implemented asynchronous calls in Java 8 to backend services
  - Used mustache templates for rendering the frontend

- Created a B2B point-of-sale REST API using Java, Spring, CXF on Tomcat
  - Integrated with other services using `jaxrs:client` proxies
  - 100% unit test coverage of all application code (Java and JavaScript)
  - Responsible for the platform engineering: Continuous integration
    - Jenkins build pipeline, Rundeck for deployments
    - Provisioning and configuration of the virtual servers
  - Wrote perl scripts to document releases, and to parse log files for debugging
- Wrote JavaScript code to generate a public/private keypair and make a Certificate Signing Request, replacing the deprecated "keygen" browser tag
- Implemented SSL Certificate Pinning in an iOS app (Swift and Objective-C)
- Shepherded multiple products through the PCI certification process
  - Documented the protections for Sensitive Cardholder Data
  - Presented the documentation to the PCI Auditors through live interviews
- Spearheaded unit testing Swift code
  - Picked MockFive after evaluating Swift mocking frameworks for unit tests
- Refactored a B2B web app (Java, JBoss and Seam) to increase performance
  - Adopted standard Seam design patterns to speed up the database interaction
  - Changed runtime complexity from $O(n^2)$ throughout the app to $O(n)$ in some cases, $O(n \log n)$ in others, by changing data structures
- Created a B2B web service for Resale/Secondary Market ticket exchange and transfer (ModPerl, Apache)
  - Designed and implemented an Actions framework to encapsulate business logic into reusable pieces which became the basis for our other ModPerl web services.
  - Refactored multiple B2C apps into the class hierarchy to maximize code reuse and increase their functionality
- Created a B2B service to provide live onsale data to clients (C++)
  - One server handled hundreds of simultaneous requests
  - Implemented a priority queue using a heap to ensure data returned to clients at specified intervals
  - Used the `select` system call to manage the pool of sockets
- Ported a C++ request queueing engine from Windows to Linux which services tens of thousands of simultaneous requests
- Modified a Windows-only C++ service and utility framework so it is now cross platform, running on both Linux and Windows. TMLib is used in all other Ticketmaster C++ applications.

2013–2018 **Database Architect**, *Land of Frankincense Archaeological Project.*
ualr.edu/anthropology/archaeology/land-of-frankincense
Designed and implemented Filemaker database to store all Archaeological data from the dig

- Created over 100 tables with one-to-many and many-to-many relationships between multiple sets of tables.
- Collaborated with the UI designer to implement Forms for inputting data in the field, leveraging the table relationships to pre-fill generated data where possible.

2000–2002 **Software Engineer**, *VoiceViewer Technologies, Inc., and Gordon Minns & Associates*, Scottsdale, AZ.
The VoiceViewer is a cell phone with integrated microdisplay; resolution of 800x600 pixels with 24-bit color

- Implemented Linux device driver, console, and Linux kernel frame buffer in C to abstract the microdisplay for application use (e.g., XFree86)
- Modified XFree86 for compatibility with the microdisplay
- Implemented image processing utilities in C++ to pre-process bitmaps for use on the microdisplay

2000–2001 **Software Engineer**, *Sensory Science Corporation*, Scottsdale, AZ.
The EDGE Media Appliance (convergence entertainment device on a Linux platform)

- Detailed software design and C++ implementation of the media appliance software
- Created the software build system of Makefiles which compile the software over a hierarchy of directories
- Designed, implemented, and administered the Linux development network, including nightly backups, revision control software (CVS), firewall, NFS File server, NIS (yp), and Domain Name Server (DNS)

1998–2000 **Senior Staff Analyst**, *Compuware Corporation*, Phoenix, AZ.
Under contract to American Express Corporation, International Risk Management Automation

- Member of the Infrastructure Team. Responsible for creating C++ tools for the development and maintenance of *Virtual Analysts* (VAs) which automate human analysts' tasks on American Express mainframes.
- Implemented utilities in C++ and Perl to secure VA login passwords using strong cryptography
- Designed and implemented a C++ application which monthly changes the passwords of 1500 VA IDs on 22 heterogenous mainframe systems. The application replaces a nine-hour manual procedure. Supporting additional mainframe systems requires only linking in new code; existing code needs no recompilation (avatar factory pattern).
- Examined and repaired legacy C++ code for Y2K problems

1996–1998 **Software Engineer**, *Lockheed Martin Tactical Defense Systems*, Goodyear, AZ.
Helped develop a large-scale data processing application

- Participated in high-level and detailed software design of the C++ application. Called upon to make critical design decisions
- Researched and Prototyped calls to commercial and vendor libraries to discover their best application
- Created the software build system of Makefiles which compile the software over a hierarchy of directories

1995–1996 **Systems Programmer**, *Lunar & Planetary Lab, University of Arizona*, Tucson, AZ.
The NASA Imager for Mars Pathfinder (IMP) project created a CCD stereo imaging device which traveled with the NASA Mars Pathfinder mission to the Martian surface.

- Developed real-time, embedded software in C to control the imager and interface with the lander. The system on the lander was VxWorks on a VME platform.
- Created OpenGL application on Silicon Graphics IRIX to display the stereo images in 3D.
- Wrote software to collate data from dozens of sensors used in the temperature cycling tests

1995 **Graduate Teaching Assistant**, *University of Arizona Computer Science Department*, Tucson, AZ.
Assisted with CSC432 (Data Structures and Algorithms)

Professional Training

Ticketmaster

- AWS Certified Solution Architect Associate BootCamp
- Dynamic Leadership Training
- DevOps Training
- Swift/iOS Training
- Cucumber BDD Training
- Agile Training

Lockheed Martin

- Perl Training
- C++ Training
- Digital Signal Processing

Free Software Contributions

2006 **ABClock**, *www.let.rug.nl/~kleiweg/abclock/*, Version 1.0d.
Added support for X11 application dock withdrawn state

2005 **ProcPS Free**, *astrophoenix.com/gitlist/free*, Version 3.1.9.
Ported the "free" command-line memory display utility from Linux's *procps* to Mac OS X

2003 **LavaPS**, *www.isi.edu/~johnh/SOFTWARE/LAVAPS/*, Version 2.0.
Contributed Mac OS X support

2002–2004 **Gentoo Linux PPC on Apple iBook**, *astrophoenix.com/ppc*, Linux 2.6.7.
Maintained information and configurations for installing Gentoo Linux on an Apple iBook

Awards

Nov. 2015 **Mark 1 Award**, *Ticketmaster*, Scottsdale, AZ.
Nominated by peers as the most valuable contributor to the current iteration.

- "I am nominating Kevin G for his contribution towards Identity Adapter integration in WPS and Ticketing Service which unblocked all the three teams to move forward."
- "I would like to nominate Kevin Geiss for the Mark 1 Award for the work he has been doing for the Identity Adapter and always being available to help/debug WPS issues as they arise. Plus he helps everyone on his team get their work done."
- "Kevin Geiss gets my nomination for this iteration for his dedication in getting the SalesDeck Application up in Pre-prod. He went above and beyond to help others and took passion in his own work to resolve all the issues that arose in the Pre-prod effort. Thanks Kevin! We would not have gotten this far without your dedication and hard work!"
- "I would like to nominate Kevin for the Mark 1 Award. His work over the last few weeks to get the identity adapter integrated with our dependencies has finally paid off! We recognized this would be a major challenge right from the get-go, and Kevin stepped up to solve this problem."
- "To get SalesDeck working in Portal, Kevin Geiss took on the tasks of verifying Identity Adapter in all environments and got WPS and Ticketing to work with Identity Adapter. Kevin is a great team member. He leads by example. He is very easy to work with and always ready to help his teammates."

Education

1994–1996 **Master of Science**, *University of Arizona*, Tucson, Arizona, *3.4* .
Computer Science

1990–1994 **Bachelor of Science, with Distinction in Computer Science**, *Missouri State University*, Springfield, Missouri, *3.63* .
Computer Science & Mathematics Double Major; Physics Minor