

Kevin Geiss

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Twenty-one 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, Swift, C++, C, Perl, JavaScript, Swift, TCP, T_EX, HTML, SQL, Ada, Pascal, Fortran 90, Assembly, Bash or Zsh scripting

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

IDEs/tools IntelliJ, Eclipse, Xcode, Maven, Vim, GNU Make, GNU Screen, Zsh

Experience

- 2002– **Principal Engineer I**, *Ticketmaster*, Scottsdale, AZ.
- Present Implemented web and network applications on Apache and Linux. Ported network applications from Windows and VAX to Linux.
- *SalesDeck Mobile* iPad Point of Sale system allowing Venue agents to sell tickets outside the Box Office and deliver tickets via SMS. Swift frontend (iOS), Java/Spring backend.
 - Spearheaded unit testing the Swift/iOS code
 - Evaluated third-party Swift mocking frameworks for writing unit tests (chose MockFive)
 - Mentored the team on unit testing and TDD
 - Mentored the team on calling and debugging the backend Java/Spring and Perl services
 - Mentored the team on using Git, feature branches, and submodules
 - In the spirit of Full Stack Engineering, modified Ticketmaster OnLine (TMOL)'s java service which renders the SMS tickets
 - Refactored calls to backend services to make them asynchronous
 - Added an endpoint: fans can redeem SMS tickets to their TMOL account
 - Used Mustache templates for rendering the frontend

- *SalesDeck Desktop* Point of Sale system for Ticketmaster Box Offices. JavaScript frontend (Backbone), Java backend on Apache Tomcat, with Spring and CXF. 100% unit test coverage of all application code (Java and JavaScript), cucumber BDD integration test suite using Selenium.
 - Responsible for the REST API and the integration and data converter patterns
 - Created a standard pattern of back-end service integrations using `jaxrs:client` proxies
 - Mentored the team on using Git and feature branches
 - Mentored the team on unit testing and TDD
 - Responsible for the platform engineering:
 - Jenkins for the build pipeline which ran the unit tests and created releases
 - Rundeck for deployments
 - Provisioning and configuration of the virtual servers
 - Wrote perl scripts to document releases, and to parse log files for debugging
- *Ticketmaster Online POD team launch* The next-generation ticketmaster.com website. JavaScript front-end, Java/Spring back-end. Cucumber BDD functional test suite using WireMock and TDD principles.
 - Mentored the team on unit testing, integration testing, and functional testing by working in pairs using TDD principles
- *Web Point of Sale (WPS)* Point of Sale system for Ticketmaster Box Offices and Call Centers. Javascript front-end, Apache ModPerl Back-end.
 - Created the overall architecture and all the base classes and patterns for individual commands and actions
 - Expanded and generalized the Actions framework I had created for AVD.
 - Refactored the Kiosk into the same class hierarchy as WPS to maximize code reuse and increase the functionality of the kiosk
- *Kiosk Point of Sale system* Javascript and Flash front-end, Apache ModPerl Back-end.
 - Added the capability to communicate with the Archtics ticketing system to enable willcall pickup
 - Created a framework of classes to format ticket data for printing which abstracted the differences between multiple ticket types from multiple ticketing systems
- *Kiosk Administration tool* Java and Seam on JBOSS
 - Refactored the database interaction to dramatically increase performance
 - Refactored the data structures used, increasing performance from $O(n^2)$ to $O(n \log n)$
- *Authenticate/Verify/Deliver (AVD)* I created a Web Service for resale of Season tickets (Major League Baseball, National Football League, and National Hockey League) on Apache ModPerl.
 - Designed an Actions framework to encapsulate business logic into reusable pieces which became the basis for our other ModPerl web services.
- *statCentral* As the sole developer, I created a C++ network server to provide live onsale data to clients. StatCentral caches data from dozens of production servers, providing custom views of thousands of pieces of data for hundreds of simultaneous clients.
 - 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

- *Persephone* Implementing a C++ Linux ticketing application, replacement for the 25 year-old VAX systems, working as part of a team of 3 developers. Persephone is the core of Ticketmaster's business.
- *Atlas* Ported a C++ request queueing engine from Windows to Linux. Apache-based web applications interact with Atlas via TCP/IP. Atlas interacts with the ticketing system (VAX and Persephone) via UDP/IP.
- *TMLib*: 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– **Database Architect**, *Land of Frankincense Archaeological Project*.

Present <http://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

- 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

2005 **ProcPS Free**, <http://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**, <http://www.isi.edu/~johnh/SOFTWARE/LAVAPS/>, Version 2.0.

Contributed Mac OS X support

2002–2004 **Gentoo Linux PPC on Apple iBook**, <http://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