

## KEITH T. GARNER

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### QUALIFICATIONS

With a B.S. in Computer Science I have 15 years of experience using a unique combination of programming skill, system administration, interpersonal and presentation skills that has allowed me, and the organizations I've worked for, to excel by often finding non-obvious solutions to problems.

My expertise includes the following:

**Languages:** Ruby, Javascript, C, C++, Java, Perl, SQL, Bash, PHP

**Web Technologies:** Rails, React, Redis, Apache, Tomcat, Java Servlets/JSP, HTML

**Server Technologies:** BIND, SSH, Sendmail, Postfix, Samba, LDAP, netatalk

**Databases:** PostgreSQL, MySQL, Oracle

**Operating Systems:** Linux, Mac OS X, Windows, AIX

### PROFESSIONAL EXPERIENCE

**Instructure**, Chicago, IL

**Team Lead, Engineering**

**July 2015 to Present**

**Sept 2015-Present**

Lead of the Gradebook team for Canvas. <https://github.com/instructure/canvas-lms> Managing 9 software engineers (a mixture of remote, SLC office, Chicago office, interns, and contractors) while also contributing hands on to the code base. The team oversees the collection and display of grades throughout Canvas, as well as being responsible for the RollCall LTI app. <https://github.com/instructure/rollcall-attendance> Technologies used include Ruby, Rails, Javascript, React, Redis, and Cassandra. This role includes representing the company at job fairs, meetups, and other recruiting events as a speaker as well as the recruiting function.

- Working with the team and product manager, reduced and maintained an open bug count of less than 5 bugs, down from 50.
- Delivered new version of the main gradebook in time for company conference bring lots of new features and high customer satisfaction.
- Increased team velocity by 35% with the use of weekly metrics and focusing in one-on-ones on distraction points.

**Senior Software Engineer, Engineering**

**July 2015-Sept 2015**

Independent contributor on the Gradebook team for Canvas. <https://github.com/instructure/canvas-lms> Technologies used include Ruby, Rails, Javascript, React, Redis, and Cassandra. Quickly earned a reputation for taking and solving hard problems and closing tickets that were open for years.

**National Association of REALTORS®**, Chicago, IL

**Aug 2001 to May 2015**

**Vice President, Information Technology Services****Sept 2008-May 2015**

Responsible for the day to day operation and future development of the IT Department with a \$6 Million Budget and 25 personnel located in Chicago and Washington, DC. Responsibilities included desktop support, infrastructure, and application development for all of NAR. Environment includes 400 virtual servers (70% Linux,) VoIP, 600+ Lotus Notes/Domino databases, Java, Oracle, 300 staff desktops, Websphere, Tomcat, MySQL, SQLServer, Drupal, Exchange, ActiveDirectory.

- Implemented and managed a complete rebuild of the E-Commerce Payment Gateway run by NAR that was in production and passing Level 1 PCI Audits within 6 weeks.
- Developed and implemented Ruby scripts for metric gathering, report generation, phone billing, and automating capture of phone debugging information.
- Within a 4 week time frame managed the migration of e-mail and calendaring from Lotus Notes/Domino to Microsoft Outlook/Exchange for NAR's 300 employees.
- Oversaw build out and migration to virtualized environment.
- Oversaw NAR's network redesign to modern firewall design and security, hands on with the IP renumbering effort and other tasks as needed.
- Mentored the Managing Director of Application Development to shrink the pending project queue from many months late to on-time deliveries.
- Implemented use of metrics to track projects and infrastructure items such as unscheduled downtime, alerts, and database statistics.
- Hands-on end-to-end implementation of an open source mailing list solution (Sympa) to replace a legacy Lotus Notes application. The software was integrated with Oracle and ActiveDirectory for dynamic list building. Implemented bulk list creation/destruction on yearly cycle.
- Oversaw programming, production, and support of custom e-commerce and membership systems, including web service hooks for 3<sup>rd</sup> party vendor interaction.

**Managing Director, Center for REALTOR® Technology (CRT)****Sept 2006-Sept 2008**

In addition to performing the duties of a Strategic Architect, I was responsible for managing the day to day operation of 4 other members and the \$2 Million budgeted department responsible for the advocacy, education and implementation of technology for the entire NAR membership. Responsibilities included the Real Estate Transaction Standard (RETS) Committee Budget and back-end administration.

- Brought CRT technology survey development in-house that increased quality and saved \$50,000 annually.
- Created "Bloggers' Lounge" at mid-year and annual conferences as a gathering hub and outreach to social media savvy members.
- Responsible for hands on maintenance of CRT servers and open source projects.

**Strategic Architect, Center for REALTOR® Technology (CRT)****Aug 2001-Sept 2006**

Founding member of "skunk-works" department focused on advocacy, education, and implementation of technology focused on NAR membership needs including developing open source projects from

proof of concepts to full software packages in a variety of languages to demonstrate concepts and/or fill holes in the market place, educating REALTORS® in technology through presentations and continuing education sessions at local, state, and national meetings, and participation in the RETS Committee.

- Built and maintained CRT's departmental Linux servers for LDAP, mail, source code repositories, web, and file servers.
- Lead developer on ezRETS, an open-source cross-platform ODBC driver that retrieves data from RETS servers utilizing libRETS. Supported on Windows, Linux, and OS X. <http://nationalassociationofrealtors.github.io/ezRETS/>
- Developer on libRETS, a cross-platform generic RETS library with bindings to many languages including Ruby, PHP, .NET, utilizing libCURL, Boost, expat, cppunit. Supported on Windows, Linux, and OS X. <http://nationalassociationofrealtors.github.io/libRETS/>
- Developer on java-based application-specific LDAP editor JAMM for managing e-mail domains. Still in use on my personal server. <http://jamm.sourceforge.net/>
- Developer on java-based RETS server Variman. <https://code.google.com/p/variman/>
- Created and implemented the CRT blog in August 2005, becoming NAR's first entry into social media. Originally at <http://blog.realtors.org/crt/> now at <http://crt.blogs.realtor.org/>
- Authored articles promoting technology for CRT's newsletter and blog.

**The Net Squad**, Oakbrook, IL

**Aug 2000 to May 2001**

**Internet Solutions Architect, Principal**

Responsible for working with early stage companies to develop their first generation systems, internal and external. Responsibilities in the home office include design, implementation, and maintenance of company network and UNIX based systems, services, and infrastructure.

**Resource Information Management Systems (RIMS)**, Naperville, IL

**Jan 1999 to Aug 2000**

**Manager of Technical Architecture, Development**

Responsible for managing 4 technical architects designing and implementing new software systems for external and internal projects. Responsibilities included developing proof-of-concept projects using new technology, assisting the Development Department in preparing and deploying applications in the RIMSLink facility, helping to shape company policy towards Open Source Software including evaluating which licenses to use when releasing software.

**Strategic Technology Resources (STR)**, Chicago, IL

**Aug 1997 to Jan 1999**

**Consultant**

Responsible for working with project leads on short term projects to deliver multi-tier Java based object oriented solutions.

## **EDUCATION**

University of Illinois, Urbana, IL

B.S. in Computer Science, College of Engineering

## PUBLICATIONS

- “[Not In Service](#)” podcast published weekly from March 12, 2015 to May 29, 2015
- “[Large-Scale Mail with Postfix, OpenLDAP and Courier](#)” published in the February 2003 (Issue #106) of Linux Journal
- “[Using the Encap Package Management System to Manage Non-System Packages](#)” published on Linux Journal website in December 2003

## PERSONAL PROJECTS

- **TiVo2Podcast** – Ruby script to automate downloading content from a TiVo, transcoding, then putting into a feed for podcast retrieval using TiVo's metadata. <http://www.kgarner.com/blog/archives/category/geek/coding/tivo2podcast/> <http://github.com/ktgeek/tivo2podcast>
- Use and tweak OpenWRT/LEDE on personal firewall and auxiliary access points with use of IPv6, tagged VLANs, QoS.
- Administrate co-located Linux server shared by 10 people, maintaining their e-mail, web sites, databases, and source code repositories.
- Used Arduino to build a micro-controller for traffic light as a home hardware project. Video of traffic light in action at [https://www.youtube.com/watch?v=GfQCPwJy\\_j8](https://www.youtube.com/watch?v=GfQCPwJy_j8)
- Moderate the Linux Users' of Northern Illinois (LUNI) mailing list and assist others on the list.
- Member of the ACM@UIUC 1995-1997, chairperson of ACM's Linux Users' Group 1996-1997