

Keith Reynolds
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EXPERIENCE

TellusLabs.com, Architect & Principal Software Engineer

June, 2016 - current

TellusLabs provides a daily signal for crop health and US crop yield for both corn and soybeans. We are breaking into new crops and geographies currently.

- Implement a Reporting REST based API to store/retrieve daily updates
- Create a resilient architecture to generate daily predictions at scale.
- Implement performance improvements for several areas of the code to speed up predictions with 15x results.
- Bring a startup into an enterprise process for source code control, AWS architecture, AWS machine reservation and CloudFormation creation.
- Diagnose issues in several code bases; Python, Java, R, shell scripting.

Quickbase/Intuit.com, Senior Software Engineer

October 2013 - May, 2016

Quickbase provides a customizable online SAS database with rich reports, permissions model, API access and expansive UI.

- Rewrote C++ query engine code which has improved customer experience 7x
- Profiled several areas of code and provide visual feedback to users around specific areas
- Implemented OAuth2 for connecting Quickbase to any QuickBooks
- Implemented synchronization of data between QuickBase and QuickBooks
- Currently involved in a Re-architecture of entire product within AWS environment
 - Design & Implement several REST APIs under modern toolchain
 - Design & Implement user permissions Model
 - Design & Implement a performance framework to measure product inside of AWS
 - Implemented Sonar rules to flag code patterns with performance issues
- R&D
 - Rewrote query expressions reducing duplicates and optimizing order of evaluation
 - Added code coverage framework to 15+ y/o C++ codebase
 - Rewrote lower level C++ code and proved performance increases
 - Multithreaded current C++ single-threaded architecture

Kiva Systems an Amazon.com company, Senior Software Engineer

December 2011 - July 2013

Kiva has revolutionized warehouse storage and retrieval using robotics. The solution is a hive-like system using mobile shelving and robots for transport of consumer products such as books, shampoo, etc. The software product uses Enterprise Java and MySQL.

- Using Mule ESB as a framework for messaging; design and implement APIs to connect several systems with the Kiva system through the use of J2EE, Tomcat, Spring and JAXB components.
- Architected and implemented a health monitoring service with SQS messages.
- Rewrite a SQS Mule connector for queue storage and retrieval of messages along with S3 data.
- Architected and Implemented a product information service for obtaining product updates from Amazon through the use of AWS in Java and MySQL.
- Designed and implemented customer specific workflows with safety detection controls.
- Expanded general robustness of the product; standardizing logging, recovering from failure modes, detecting memory leaks, and covering code with JUnit tests to minimize bugs.

Avid Technology, Principal Software Engineer

June 2004 - December 2011

Avid created the first non-linear editor and creates the Emmy award winning digital non-linear Editing Suite on MAC & Win. The products are mainly written in C++ and development is an Agile process.

- Stock footage ecommerce store: Implement both the frontend and backend components for users to search, review and integrate purchasable content seamlessly with their own content using QtWebKit components.
- Phonetic search implemented several features to enhance the media database to include audio speech to text for search and categorization

- Optimize updates of shared media into a multi-threaded background task in a multi-node network, enabling users to work efficiently.
- Standardized text display across the MediaComposer displays so that the product would allow for multi-lingual support (Chinese, English, Spanish, etc.) Developers only needed to write in their native language along with a translation file without recompilation.
- Various features to manipulate metadata and material creation in a multi-node network.
- API creation and support allowing multiple customers to exchange digital material and metadata. This allowed plugins to be written to playback or create proprietary media formats. In addition these APIs allowed for digital archival and retrieval among other purposes.

Biscom, Inc., Senior Software Engineer

June 1999 - October 2001, May 2002 - June 2004

Biscom provides a hardware and software solution to high volume faxing. The products are mainly written in C++ on Windows and Unix.

- Designed, developed & implemented a secure, automated medical order processing system using bar-codes and image recognition along with custom system monitoring.
- Created custom reports for HIPPA medical record retrieval along with other customer specific reports using Crystal Reports.
- Design, implement and support multiple features in fax client (desktop, Microsoft Exchange, Lotus Notes and Citrix).
- Integrated fax solutions with several customers including eCopy and Xerox. Travel to customers, gather requirements and develop custom code solutions.

Molecular, Software Engineer

October 2001 – May 2002

Consultants for businesses in the Boston area for website design and implementation.

- Payment processing Harvard Business School (ASP and COM components).
- Implemented database backend for several clients (SQL).
- Created an random advertising engine (ASP & Perl).
- Create a secure product catalog and search tool for users for Analog Devices (ASP).
- General search optimizations, create secure logins and certificate storage.

TECHNICAL

- **Languages:** Java, C/C++, JSon, Spring, C/C++, Java, Trolltech's Qt, XML, SQL, Perl, Python, R
- **Test/Tracking:** TestNG, Sonar, JUnit, JIRA, Coverity, Google Test, Windbg
- **Performance:** AQTime, JProfiler, Splunk, Grinder
- **Build:** Gradle, Maven, Hudson/Jenkins, Incredibuild
- **SCM:** GIT, Subversion, Accurev, ClearCase
- **Applications:** IntelliJ, MS Visual Studio, Eclipse, XCode, Tomcat, Mule ESB
- **Operating Systems:** Windows, MAC, Ubuntu, Linux, RHEL
- **Database Systems:** Oracle 12c, SQL Server, MySQL, sqlite3, ConfD
- **Certifications:** Agile Development, Avid Video Editing

EDUCATION

University of Massachusetts, Amherst, MA May 1999

B.S. Major in Mathematics, Minor in Computer Science

COMMUNITY ACTIVITIES

- Vice President of a condominium association for 4 years
- Vice President of local bicycle club for 3 years

Outside interests/projects

- RFID applications
 - key-card door access & laundry usage using PIC microcontroller and discrete electronics
- Several LED based lights using PWM technologies to maximize/optimize battery life
- Created weather tracking device
- Home water usage alerting
- Location & mobile device application development