

JOHN QUIGLEY
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Create. Innovate. Make beautiful software. I aspire to lead a team working on very hard problems.

KNOWLEDGE

- Areas: Distributed systems, Linux kernel, storage systems, information theory, network communication
- Languages: C, C++, Java, Python, Scala, ANSI Common Lisp, Erlang, Io, Lua, Perl, Latex, Bash
- Tools: vim, gdb, valgrind, JProfiler, Wireshark, bdb, PostgreSQL
- Platform: Linux (Debian, RHEL), Solaris, OpenBSD, FreeBSD, Mac OS, Windows

EMPLOYMENT

Technical Lead Jan 2008 – Present
Cleversafe, Inc. www.cleversafe.com

Acting in a leadership role with focus on long-term research and development of dispersed storage technologies, augmentation of intellectual property holdings, and development of Open Source product and community.

- Engineering manager responsible for the full development and release process across the core software development and delivery teams. Responsible for delivery of software used to create three of the company's flagship storage appliances. Partial time spent traveling to customer engagements with presales team.
- Technical lead of five developers implementing distributed storage authentication and authorization subsystem. Full storage stack integration of Java's JAAS framework with network security provided by GSSAPI / SPNEGO negotiation. Offers unified authentication of biological (password-challenge) and silicon (PKI) users.
- Technical lead of four developers implementing distributed queue for asynchronous P2P messages and events. Offering producer / consumer interface into transports (XMPP, JMS, AMQP, syslog), message life cycle controlled by external configuration and processing intelligence for aggregation, filtration and persistence.
- Listed as an inventor on two patents, all currently pending.

Senior Engineer Oct 2005 – Dec 2007
Cleversafe, Inc. www.cleversafe.com

Acted as a senior engineer and agile scrum master within the core development team, implementing a distributed storage system with theoretical scalability into the exabytes. I also worked in an engineering management role to expand the agile processes, implementing policies refining feature implementation, integration and ownership.

- Technical lead of eight engineers on design and implementation of iSCSI and SCSI target server, allowing a user to interface with a dispersed storage network as a standard block device. Targets are RFC 3720, SAM-2, SBC-3-compliant, and support initiators on all major platforms. Full life-cycle involvement from design to deployment.
- Scrum master and engineer alongside team of ten, working on full life-cycle design and implementation of Cleversafe's dispersed storage software, implemented in Java. Provides a distributed system for the storage of data that had been operated on by a channel coding algorithm. The algorithm decomposes input into data and code symbols, allowing the original source data to be reconstructed by various recombinations of symbols.
- Personally designed and implemented the entire asynchronous network communication layer using Apace Mina, co-designed grid protocol as ASN.1 presentation layer, designed and implemented network session management.
- Personally designed and implemented POSIX-compliant file system for Cleversafe's unveiling demo at LinuxWorld. Allows a user to interact with a Cleversafe dispersed storage system as a standard UNIX file system.

Built in user-space in C with FUSE, supporting standard POSIX operations and prototype clustering support.

- Information theory research and design to improve kernel algorithm (information dispersal algorithm), including focused study of linear-time fountain codes. Work to design foundational storage components, including data transformation / codecs stack, Cauchy Reed-Solomon information dispersal and integrity verification.
- Listed as an inventor on eight patents, all currently pending.

Engineer Jan 1999 – Jan 2003
Ad Ink, LLC www.adinknetwork.com

- Personally designed and implemented company's content delivery system in Python. Provides simple WebDAV content management and REST interface for data collection and sharing with the back-end legacy B2B system.
- Personally designed and implemented company's Internet magazine advertisement purchasing system, including integration with our back-end for fully automated purchase processing and intelligent auditing.
- Designed, built and maintained the original high-availability back-end infrastructure on which the company was founded. Deployment included RDBMS, MTA, web server, Samba CIFS server, Cisco VPN and DNS.

RESEARCH

Researcher Jan 2003 – May 2004
IIT Code Group dijkstra.cs.iit.edu

- Conceived, and led design and development, of the White programming language, an ambient-oriented distributed programming language for mobile networks based on the network actor model. System inspiration taken from Erlang, Self, Lisp, Io and Smalltalk. Prototype-based and highly introspective object model.

Research Assistant Jan 2002 – Jan 2003
IIT Information Retrieval ir.iit.edu

- Lead performing development and statistical analysis of the classified (DoD) Diesel Search Engine, a clustered and highly-concurrent retrieval system for multi-terabyte datasets. Developed analysis tool chain in Python and R.
- Developer of SQLGenerator, the custom XML-QL grammar, parser and query compiler, allowing XML documents to be indexed into a RDBMS and queried via XML-QL and Xpath.
- Developer of the Mediator Search Engine, a Java- and Python-based Mediator search engine, a data mediator that integrates searching structured, unstructured and semi-structured data sets. Development focus on the natural language query parser and results algorithms.

EDUCATION

Illinois Institute of Technology www.iit.edu
Computer Science, Psychology

OPEN SOURCE

Chicago Linux www.chicagolug.org
Founded group to discuss Linux topics from low-level kernel programming to system administration.

Chicago Lisp www.chicagolisp.org
Founded group to discuss advanced functional language theory, design and semantics.