

# Jeffrey Greenberg

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## Background Summary

- CTO / VP Engineering / CIO: product creation, management, development & operation at large scale. Ran technology for companies sold for as much as \$200mm.
- Hands-on architecture and development of effective, automated, and scalable systems
- a passion for building value, delivering products, and building effective teams

## Goals

- Oversee development of beautiful, desirable products and services at the CTO / CIO / VP Engineering / Director level.
- Ready to immediately consult in the following capacities:
  - CTO-consulting: hitting business goals or triaging troubled initiatives
  - Architect & coding complex one-page Javascript web app and/or Cordova/ Phonegap based native apps
  - Product management and/or multi-function project management

## Work History

1986 - present, San Francisco, Palo Alto

### **Inventivity.com LLC : Principal Consultant, CTO, Founder**

A boutique CTO consulting practice providing technology strategy, assessment, management, process improvement, and development. From a solo consulting practice, I gathered an impressive array of CTOs with skills and experience ranging from from bioengineering and AI, to technical founder of DoubleClick and other major startups, to building cameras for the Lunar Orbiter.

Clients:

- Startups: Siri - pre-Apple, Tangoe, Tweettronics, LinesPuzzle, Aptegritty, Rocketseed, HearPlanet, Aptegritty, Om-direct
- Established: Liberty Travel, Aon/Hewitt, Scient, Verizon / Nynex, Rovi / Sonic Solutions, Bell Laboratories / Bell Communication Research, HP Labs, Investor Growth Capital, , Inxight (Parc spin-out), FSMLabs,

For these I consulted in a variety of capacities ranging from hands-on engineering, system architecture, project and product management, CTO, CIO and Founder.

2013 - present, San Francisco

### **LinesPuzzle.com : Founder, CTO**

Freemium IOS mobile game app built on Javascript / HTML5. 100% of code. Managed outsourced design, advertising, and game UX resources.

2009 - 2015, San Francisco

### **Tweettronics.com : Founder, CTO**

Brand tracking of Twitter and Facebook for marketing firms . Developed custom sentiment engine technology, URL mentions, credit cards, scheduling. 100% automated business. Google ad advertising. Sold business.

2007-2008, San Francisco

**Meemli : CTO**

As CTO of this education focused startup, I presented to Angels and helped obtain funding. I worked with CEO on product definition, and I built MVP prototypes in full LAMP stack.

2006 - 2008, San Francisco, CA & Ramsey, NJ

**Liberty Travel : CTO**

Liberty Travel is located in the northeast US (especially NYC) and was the largest purveyor of leisure travel in the US including services to American Airlines Vacation travel, and services to 4,000 internal travel agents and 10,000 external ones. located in business's brick & mortar storefronts. My job was to manage a team of 225 people who provide all technology for the company. This involved day-to-day operations of multiple data centers, API services, phone & desktop services, HR & ERP / financial services, customer support, and services to storefronts across the northeast. And strategically it involved triaging a large-scale multi-million dollar development of next-generation Java-based technology, saving costs by replacing old technology with new approaches, enhancing business value through product & process improvement, and representing the company's entire technology offering to company buyers. The business was sold in 2008 for nearly \$200mm.

2004-2005, Mountain View

**Inight (Parc spin-out) : System Architecture**

Report to CTO as Systems Architect for next generation, state of art search technology for NASA. Based on large-scale search systems using taxonomies, NLP, and automatically generated metadata.

2004-2005, New Mexico

**FsmLabs : Product Management**

Product plans and development for the innovator of real-time and reliable-time technology products built on Linux and Windows.

2004 - 2005, San Francisco

**Yackpack : CTO consulting**

Develop technology strategy, budgets, and plans for Stanford professor founded startup.

2004 - 2005, San Francisco, New York City

**Zogo: Product Management & Systems Architect and Coding**

Product planning, technology strategy, budgets, architecture, and development of a web-based dating application.

2004 - 2005, San Francisco

**stealth : Systems Architect and Coding**

Product planing, architecture and coding of a Web/RSS and Windows-based product for financial and investment industry.

2003 - 2004, Cupertino

**Rio Audio / SanDisk : Product & Engineering Manager**

For the #2 maker of handheld MP3 players, managed outsourced development of iTunes plugin-in. Initiated innovative music search product including managing product function, UI/UX direction, branding, budget, and approach.

2002 - 2003, Bay Area

**Rovi / Sonic Solutions : Engineering Process Leader, Project Management, Engineer**

For the world leader in CD & DVD technologies, led senior corporate executives to focus on improving company-wide engineering processes and instigated a variety of initiatives that yielded measurable and rapid ROI for three business units, involving 75 engineers. Hired and managed first outsourced development forays to scale-up development. Consulted on projects delivering software to Sony and Hitachi HiFi devices. Hands on porting of their strategic C++ codebase from Windows to Linux.

1999-2000, San Francisco, Chicago

**Aon / Hewitt / Scient : Consulting CTO, Systems Architect**

For a multi-billion dollar company provided technology strategy and architecture, and managed development of large-scale insurance/HR spin-out serving Fortune 50 customers. Started with providing technical advice as part of the business definition then went on to architect the approach, then help build team of 70 engineering staff as part of an overall staff 120, and manage core development of the product and systems. Interfacing with all business functions and working directly with senior management, including CEO, and CIO. Multiple server sites connected with fiber.

1999, Cupertino, CA

**Hewlett-Packard Corp. / HPLabs : Senior Software Engineering / Research**

Programming and software architecture for HP Labs' effort to create a market for internet services.

1996 - 1999, Mountain View, CA

**Siemens / Acuson Corporation : Software Manager / Project Management / Research**

- Authored two patents and participated in a third all related medical diagnostic ultrasound.
- Project managed multiple simultaneous projects. Oversaw FDA ISO9000/MDD/TUV/CE conformance, hired developers, and managed schedules.
- Invented new web-based medical product demonstrated by CEO of Cisco to VP Al Gore as future use of Web.
- Architected and managed development of DICOM networking stack on top of TCP/IP

used in ultrasound machines, PCs, and Macs.

- Lead and participated in several company-wide strategic engineering investigations.

1993 - 1996, New York City.

**Verizon / NYNEX : Systems Architect & Software Manager**

Managed and lead architecture and development of the front-end UI and supporting backend systems for a \$100-million dollar project revamping the residential telephone service billing service for this major telecom. Technology due diligence on 3rd party solutions.

1991 - 1994, New York City

**NewTools : Founder & CTO**

Starting from shareware went on to seek venture funding and commercialized one of first drag & drop, iconic interfaces for Windows. Negotiated funding and distribution arrangements. WinTools and WinDesk were reviewed and recommended by PC Magazine (cover), Byte, PC World, and other computer tech magazines, and also featured in books including "Windows Power Tools" by Bantam, and "Killer Windows Apps" by Que Books.

1989 - 1991 White Plains, NY

**Nynex Science and Technology Research : Lead Engineer**

Obtained technical requirements for an application to improve handling of residential telephone service problems for the northeastern US. Then designed and implemented it in C++ including porting Lisp to C++.

1986 - 1988, White Plains, NY

**Prodigy : Advanced Technology Lead Engineer**

For this IBM / Sears / CBS founded startup, I developed one of the first CDROM authoring tools that could create video and scripted content for entertainment including ads from Macys.

1984 - 1989, New Brunswick, NJ, Naperville Illinois, Bell Laboratories Illinois

**Bell Laboratories / Bell Communications Research : Lead Engineer and Instructor**

- Designed and supervised development of a C and UNIX-based distributed filesystem and network router for AT&T 800 & 900 services
- Taught Unix Internals (Virtual memory, buffer subsystem, filesystems, terminal i/o, TCP/IP, streams, vnodes, swapping/paging, db filesystems) , and C portability and style to Bell Labs engineers.

1982 - 1984 . Englewood Cliffs, NJ

**Auragen Systems Corp : Unix Internals Designer & Programmer**

Helped architect and develop a state-of-the-art Unix kernel capable of software fault-tolerance. Designed and implemented Process services, Virtual Memory Paging services, and portions of the Filesystem services. Designed and implemented 90% of Unix System 5.3 system calls including signals. Added 4.2BSD features to System 5 including Fast-File Systems features. Low-level debugging, some in assembly on new hardware, using bus analyzers and instruction traces. Detailed knowledge of computer hardware issues and implications on software debugging

of operating systems. Also, high-level language debugging of C language. Supervised CS graduate students in file system work.

1979 - 1982, San Diego, CA.

### **UCSD : Software & Firmware Programmer**

For Harold Cohen's AI project AARON, I designed and implemented real-time firmware (ROM) for a plotter, and helped operate one of the early UNIXes on the Internet. See the Kurzweil AI site now (2015) to see AARON in action.

### **Education**

MFA Visual & Performance Art: University of California, San Diego (UCSD)

BA Bioengineering, University of California, San Diego (UCSD) 3.8 GPA:

Academic awards: William W. Stout Foundation Academic Scholarship, Louis B. Mayer, Provost's Honor List .

### **Patents Awarded**

- 6,511,426: Medical diagnostic ultrasound system and method for versatile processing. Multiple citations
- 6,514,201: Voice-enhanced diagnostic medical ultrasound system and review station. Multiple citations

### **Press** (selected)

- "Acuson Joins Cisco in Live Internet Ultrasound Demo For VP Gore and Russian Prime Minister Chernomyrdin"  
Dignitaries View Acuson's WebPro(TM) Package and Cisco Technology, Making Far-Reaching Internet Diagnoses Possible Today <http://www.prnewswire.com/news-releases/acuson-joins-cisco-in-live-internet-ultrasound-demo-for-vp-gore-and-russian-prime-minister-chernomyrdin-77100102.html>
- WinTools and WinDesk were reviewed and recommended by PC Magazine (cover), Byte, PC World, and other computer tech magazines, and also featured in books including "Windows Power Tools" by Bantam, and "Killer Windows Apps" by Que Books.
  - "WinTools offers the most powerful tools for customizing the Windows desktop that PC Week Labs has tested..." — PC Week
  - "A revolutionary revamping of the way Windows works and looks! ...You'll love WinTools." — PC Magazine
  - "WinTools is the most gracefully graphical way to work in Windows... Get Wintools. It's great stuff." — Computer Shopper
  - "If you're a Windows fanatic, you'll love it..." — From John Dvorak

### **Publications & Teaching**

- "Applied UML for Engineers". Courses (2003)
- "Best Practices Software Management" Seminars (2002)
- Papers and work on A I related to the game of Go at <http://inventivity.com/opengo> and sourceforge <http://opengo.sf.net>:

- "Expert Supplied Random Functions in Genetic Programming as a Means to Reducing the Search Space of Very Large Problems", 1997.
- "The Evolution of Cirlet: A "Learning"; Go Program Using Genetic Programming.", 1997.
- "Breeding Software to Play the Game of Go", 1995.
- "Architecture of a Go Programming Environment", 1997.
- "Architecture of Cirlet on Windows", 1998.
- "Use of Voice Technologies in Ultrasound Radiology" presentation at *Society for Computer Applications in Radiology*. 1998
- WebPro app. reviewed by: *Advance for Administrators in Radiology & Radiation Oncology*. 1998
- Presentation "Use of Voice Technologies in Ultrasound Radiology". at *Society for Computer Applications in Radiology* (1998)
- "Overview of Genetic Programming" – Engineering Seminar (1997)
- "Unix Internals", and courses in Effective Software Techniques Courses at Bell Labs and Bell Communications Research, now Lucent.

## Art & Technology + Recognition

- I've started the 'with ( software ) art();' meetup for art and technology in San Francisco in 2015. That is a critical and supportive forum for apps-as-art and for the generation of software-artworks across genres.
- I also am a student of West African drumming, and have a project of translating that into a music for keyboards.
- I was the Founder & Managing Editor of [The ACT](#) - a journal of advanced art, and founder of Performance Project Inc. 501(c)3 non-profit in NYC. <http://www.inventivity.com/PP>. This work received numerous grants from:
  - National Endowment for the Arts
  - Ford Foundation
  - New York State Council for the Arts
  - Art Matters Inc. (and others)
- Some coverage of my art activities are in: *The Drama Review*, *Art Papers*, *Printed Matter*, and *The ACT*, *New York Times*, *Village Voice*, *Art and Artists*, *The New Art Examiner*, *High Performance Magazine*, *The Library Journal*, and others.
- Art lectures, performances, and visiting artist at: Bucknell University, University of Tennessee, Maryland Art Institute, Franklin and Marshall College, Chicago Art Institute, Nova Scotia College of Art & Design, and Ohio State University.
- Volunteer Technical Group at Presidio Hills School

## Skills & Acronyms

Overall: Full stack development, core / deep infrastructure, scalable architectures, network protocols, language interpreters, front-end technology, apps, multi-server pipelines, project management, product management, process improvement

Systems: 24x7 fully fault tolerant architectures, Security challenges, UNIX/Linux OS internals, Caching systems, queuing systems, scatter/gather processing (ala hadoop), AIX, Solaris, Sparc Hardware, IBM hardware, NPM, mainframes, rack systems, networking stacks, data center technology, Solaris, SunOS, LynxOS, MacOS, UBUNTU, Windows APIs, TCP/IP, Streams, EC2, EBS, S3, Mechanical Turk, LAMP, Node.js, NPM, app servers, MySQL, Memcache, CorbaMed, EMR,

Languages: JavaScript, PHP, C++, Java, Perl, Python, VB, C, Shell, HTML5, CSS, Java JDK 1.2, C++, Python, VB, lint, bison/yacc/lex, XSLT, XML, VoiceXML

Frontend libraries: Dojo, JQuery, custom, micro-libraries on GITHUB

Network and data transport protocols: TCP/IP, Streams, SLP v1&2 (LDAP alternative), multicast & unicast socket technology, X.25, TLI., DICOM 3.0, HL7, CorbaMed, CometD, sockets.io

Interface Technology: Speech to Text, Text-to-Speech (SAPI), Language Translation, haptic and voice interfaces,

Machine Learning and Algorithms: genetic algorithms, bayesian learning, sentiment analysis, Monte Carlo search, MCTS, alpha-beta techniques, neural nets, Research into AI, machine learning, and Go Programming. Investigating automatic acquisition of knowledge: patterns, tactics and strategy. Involves Hidden Markov Models, search theory, pattern acquisition, hierarchical and adversarial goal planning, neural networks, genetic & evolutionary algorithms., JPEG/MPEG DCT and color-space compression, LZW

Mobile Apps: Apple Connect & iTunes, Apache Cordova, Xcode, Testflight, headless testing, TDD, Apache Cordova, PhoneGap

Software architectures: STL, Patterns, MVC, CodeIgniter

3rd party APIs: Twitter, Facebook, Authorize.net, Credit Card Processing, Mixpanel.com,

UX: usertesting.com, user interviews

SCCS: Git, SVN, SCCS, PVCS

Processes: metrics based, agile/scrum, TDD/BDD, web metrics, advertising metrics

Ad Vendors: AdMob, inMobi, MobFox

Business systems: content management, Wikis, Blogs, RSS, content aggregation, link testers, uptime monitoring services, ITIL reviews, security reviews, ERP, CRM, call-center support technology

**Business Sectors**

Diagnostic Medical Equipment, Travel, Education, Insurance, HR, Retail, Telecom, Consumer Electronics, High Technology, Financial, Venture, Marketing, Games, Apps,

(Last Modified - June 16, 2015)