

Howard Stearns

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EDUCATION

Massachusetts Institute of Technology

Cambridge, MA

B.Sc. Ocean Engineering
B.Sc. Electrical Engineering

1986
1987

EXPERIENCE

Senior Software Engineer

High Fidelity, San Francisco, CA

2015-present

I code in all areas of this industry-leading virtual-worlds R&D startup. We use head-mounted displays, low-latency controllers, and dynamically assigned participant computers to create a next-generation, large-scale metaverse for creativity, education, exploration, and play.

Senior Developer / Lead

Shocase, San Francisco, CA

2014-2015

This social network automatically suggests individual pre-loaded portfolios for new members. I prototyped, architected, and deployed the system with 100k projects identified and processed from the Internet.

Senior Developer / Lead

TuneUp Media, San Francisco, CA

2011-2014

Working closely with product management, I architected a system that automatically corrects metadata in the music collections of 9 million users.

Senior Application Lead

HP WebOS (Palm), Sunnyvale, CA

2011

I delivered a new tablet app using Palm's first test-driven development process, and led the team for the release of Palm's most complex and visible mobile app.

Member of the Technical Staff

Teleplace (Qwaq), Redwood City, CA

2007-2011

Lead Developer

University of Wisconsin, Madison, WI

2004-2007

The Croquet Project was convened by computing pioneers Alan Kay and David Reed to advance 3D virtual worlds for real-time, persistent collaboration. I led the development team at UW before joining the enterprise commercialization, Teleplace. My direct accomplishments include the first end-user installations, an interactive authoring language for non-programmers, avatar animation on business-class computers, and (iOS, Blackberry, Android) apps that allowed mobile users to participate in collaborative meetings with shared applications and multi-media.

Technology Strategist

Curl, Cambridge, MA

1999-2002

Curl was an MIT startup created by Tim Berners-Lee that created the rich internet architecture model of Web apps. I identified and articulated technical and competitive strengths, defining product positioning, products, and demos. I wrote the formal language specification and the systems to produce it.

Technology Director

Elwood, Oak Creek, WI

1992-1999

Elwood is a small industrial firm with products in electronics, hydraulics, and robotics that transformed the artificial diamond market. My group created micro-controller firmware, factory automation, realtime controls, programmable logic controllers, and Web catalogs. I also created the Eclipse ANSI Common Lisp system, including compiler, object system, complete portable standards-conforming system library, test suite, and documentation.

Applications Consultant

Engineering Intent, Waltham, MA

2003-2004

Manager Of Applications

ICAD, Cambridge, MA

1987-1992

ICAD was a 3D mechanical knowledge-based engineering startup that spawned an IPO, three spin-offs and sale to Oracle. Engineering Intent was a spinoff that was purchased by Autodesk. I created the application group that produced 13 products that integrated the system with seven different CAD systems.

SKILLS

Major works in Smalltalk, Objective-C, Lisp, Javascript, Node.js, C, C++, native plugins, Unity, iOS, specifications, documentation, unit testing. Minor works in Cg shaders, Python, Java, XSL, CSS. Industry experience in consumer products, enterprise, mobile, media, 3d systems, social networks, large-scale data, realtime distributed systems, industrial systems, embedded systems, expert systems, SQL and no-SQL databases, and startups.

PUBLICATIONS

Blog: [wetmachine:Inventing the Future](#), including:

“[Mostly Reliable Performance of Software Processes by Dynamic Control of Quality Parameters](#)”, 2011, and “[Controlling Time](#)”, 2011, a seven part survey of the overall accomplishments of the Croquet Project and the key insights that made it possible.

Howard Stearns, Joshua Gargus, Martin Schuetze, and Julian Lombardi. “[Simplified Distributed Authoring Via Component-based Object Construction and Deconstruction in Collaborative Croquet Spaces](#),” and “[A Language Supporting Direct Manipulation of Component-based Object Construction and Deconstruction in Collaborative Croquet Spaces](#),” in Proc., Fourth Conference on Creating, Connecting, and Collaborating through Computing (C5 '06), IEEE Computer Society Press, 2006.

Rieko Kadobayashi, Julian Lombardi, Mark McCahill, Howard Stearns, Katsumi Tanaka, and Alan Kay. “[Annotation Authoring in Collaborative 3D Virtual Environments](#),” and “[3D Model Annotation from Multiple Viewpoints for Croquet](#),” in above and in Proc., 15th International Conference on Artificial Reality and Telexistence (ICAT '05). The Virtual Reality Society of Japan, 2005.

[Croquet@UW Newsletter](#). Volume 1. 2006-2007.

“Curl Language Specification.” Curl Corp. internal memo, 2001. 664 pages, including rationale, language comparisons with Java, C++ and others, and extensive cross-index.

“[A Whirlwind Tour of Curl Technology for the Web](#),” in Lightweight Languages Workshop CD-ROM. Dr. Dobb's Journal workshop CD, 2002.

“[Lisp/C Integration in Eclipse](#),” in Proc., 40th Anniversary of Lisp Conference, Berkeley, CA, 1998. “[Eclipse Product Documentation](#).” Elwood Corporation, 1997.

“Designing a Knowledge Based Ship Design System,” in Proc. 4th International Marine Systems Conference, Kobe, Japan, 1991.

OPEN SOURCE

High Fidelity: <https://github.com/highfidelity/hifi>

Qwaq/Croquet: <http://code.google.com/p/openqwaq/>

Eclipse Common Lisp: <https://github.com/blakemcbride/eclipse-lisp>

GitHub: <https://github.com/howard-stearns>

BOARD MEMBERSHIPS

Pre-school: Little City Kids , Franksville, WI and San Mateo, CA	1998-2015
Non-Profit: Collaborative For Croquet, Waunakee, WI	2006-2007
Public Policy: Citizens for Responsible Energy, Waunakee, WI	2006-2007
International professional organization: Association of Lisp Users	1997-2002
Commercial real-estate: Third Little Pig, Franksville, WI	1998-2000
Bookpublishers' production services: City Desktop Productions, Franksville, WI	1990-2000
