Todd D. Hodes

6709 Arlington Blvd.
Richmond, CA 94805
(510) 332-0399

todd@toddh.org
http://toddh.org

Education

Ph. D. in Computer Science, 2002
M. S. in Computer Science, 1997
University of California, Berkeley

B. S. in Computer Science, high honors, 1994
University of Virginia

Honors, Awards, Achievements

- 2007 Webby Award (Mobile) & Webby Peoples Choice Award (Mobile) for m.ask.com
- Best Paper Award, 3rd ACM/IEEE International Conference on Mobile Computing, 1997
- California Fellowship in Microelectronics, University of California, Berkeley, 1994-1995
- Louis T. Radar Award, U. of Virginia Computer Science Department, April 1994
- Dean's List, Intermediate Honors, Tau Beta Pi, Golden Key, University of Virginia 1991-1995
- National Merit Scholar, 1990
- American Computer Science League All-Star Contest, first place in division, Washington, DC, 1990
- Duke University Summer Computing Program, Full Scholarship, 1987

Publications

Jesse Meyers, Scott Hotes, Todd Hodes
"System and method for range search over distributive storage systems"
Patent #8924365, issued 12/2014.

Brian Martin, Joseph Augst, Jesse Meyers, Todd Hodes, Scott Hotes
"System and method for managing third party application program access to user information via a native application program interface"
Patent #8683554, issued 3/2014.

Adrian Freed, Todd Hodes, John Hauser
"Apparatus and Method of Additive Synthesis of Digital Audio Signals Using a Recursive Digital Oscillator"
Patent #7317958: UC Berkeley Regents, Berkeley, California, issued 1/2008.

Todd Hodes
"Discovery and Adaptation for Location-Based Services"
Ph.D. thesis, University of Califonia, Berkeley. 2002.
Randy Katz, thesis advisor

T. Hodes, S. Czerwinski, B. Zhao, A. Joseph, R. H. Katz
"An Architecture for Secure Wide-area Service Discovery"
ACM Wireless Networks Journal, Special Issue
Volume 8, Issue 2/3, March/May 2002, pp. 213-230

M. Munson, T. Hodes, T. Fischer, K. H. Lee, T. Lehman, B. Zhao
"Flexible Internetworking of Devices and Controls"
25th Annual Conference of the IEEE Industrial Electronics Society (IECON),
San Jose, CA, December 1999.

Publications, cont.

T. D. Hodes, R. H. Katz
"Composable Ad hoc Location-based Services for Heterogeneous Mobile Clients,"
ACM Wireless Networks Journal, Special issue on Mobile Computing
Vol. 5, No. 5, October 1999, pp. 411-427.

T. Hodes, R. H. Katz
"A Document-based Framework for Internet Application Control"
2nd USENIX Symposium on Internet Technologies and Systems
Boulder, CO, October 1999, pp. 59-70.

T. Hodes, J. Hauser, A. Freed, J. Wawrzynek
"Second-order Recursive Oscillators for Musical Additive Synthesis
Applications on SIMD and VLIW Processors,"
International Computer Music Conference (ICMC), Beijing, China, October 1999.

S. Czerwinski, B. Zhao, T. Hodes, A. Joseph, R. H. Katz
"An Architecture for a Secure Service Discovery Service"
5th ACM/IEEE International Conference on Mobile Computing
Seattle, WA, August 1999, pp. 24-35.

Steven McCanne, Eric Brewer, Randy Katz, Elan Amir, Yatin Chawathe, Todd Hodes, et. al.
"MASH: Enabling Scalable Multipoint Collaboration"
ACM Computing Surveys, Volume 31, No. 2es, June 1999.

T. Hodes, J. Hauser, A. Freed, J. Wawrzynek, D. Wessel
"A Fixed-point Recursive Digital Oscillator for Additive Synthesis of Audio,"
IEEE International Conference on Acoustics, Speech, and Signal Processing,
Phoenix, Arizona, March 1999.

T. Hodes, M. Newman, S. McCanne, R. H. Katz, J. Landay
"Shared Remote Control of a Videoconferencing Application: Motivation, Design, and Implementation,"
SPIE Multimedia Computing and Networking 1999,
San Jose, California, January 1999, pp. 17-28.

E. Brewer, R. H. Katz, E. Amir, H. Balakrishnan, Y. Chawathe, A. Fox, S. Gribble, T. Hodes, G. Nguyen,
V. Padmanabhan, M. Stemm, S. Seshan, T. Henderson
"A Network Architecture for Heterogeneous Mobile Computing,"
IEEE Personal Communications Magazine, October 1998. Invited Paper.

T. D. Hodes, R. H. Katz
"Enabling 'Smart Spaces:' Entity Description and User Interface Generation
for a Heterogeneous Component-Based Distributed System,"
DARPA/NIST Smart Spaces Workshop,
Gaithersburg, Maryland, July 1998. pp. 7/44-7/51.
also, UC Berkeley Technical Report CSD/98/1008.

T. D. Hodes, R. H. Katz, E. Servan-Schreiber, L. A. Rowe
"Composable Ad hoc Mobile Services for Universal Interaction,"
3rd ACM/IEEE International Conference on Mobile Computing,
Budapest, Hungary, September 1997, pp. 1-12.
Best Paper award.

T. D. Hodes
"Recursive Oscillators on a Fixed-Point Vector Microprocessor
for High Performance Additive Synthesis of Audio,"
MS report, December 1997. also, UCB Technical Report CSD/98/1007.

Publications, cont.

R. H. Katz, E. A. Brewer, E. Amir, H. Balakrishnan, A. Fox, S. Gribble, T. Hodes, D. Jiang, G. Nguyen, V. Padmanabhan, M. Stemm.
"The Bay Area Research Wireless Access Network (BARWAN),"
41st IEEE Computer Society International Conference (COMPCON), 1996.

W. T. Fennell, Jr., T. Hodes, S. Witherell, C. Goebel, R. Thakkar, T. Schwenk,
"Method of Managing Multi-Player Game Playing Over a Network,"
Patent #5695400: BoxerJAM Films, Charlottesville, Virginia, accepted 12/97.

T. D. Hodes, B. A. McCoy, G. Robins
"Dynamically Wiresized Elmore-Based Routing Constructions,"
1994 IEEE International Symposium on Circuits and Systems,
London, England, May 1994, Volume I, pp. 463-466.

Work Experience

Senior Staff Engineer, Director of Engineering, Senior Scientist — June 2002 - January 2021
Avast s.r.o. / AVG LLC / LocationLabs LLC (dba WaveMarket)
White-label family safety applications for cellular telephone carriers. As employee number 12, took LocationLabs, a very-early-stage series-A startup, from no products and no income to a $220,000,000 acquisition by AVG LLC, wearing every possible engineering hat along the way. AVG was then itself acquired by Avast corp. I continued on the engineering team as Senior Staff Engineer in both aquisitions. Original title in 2002 was Senior Scientist. In 2006 became Director of Engineering and Director of Mobile Technologies. In 2015 migrated to Senior Staff Engineer, with no direct reports, allowing me to focus on architecure. Started as full-stack backend and web, then specialized in J2ME, currently specialized in Android. Various projects I committed to are highlighted in the **Projects** section. See also [Patent #8683554, Patent #8924365].

Graduate Student Researcher, UC Berkeley Computer Science division — 1995-2002
Work on mobile computing & location-based applications [WINET99, USITS99, PersComm98]; multimedia networking [CompSurveys99, MMCN99]; peer-to-peer service location [Mobicom99]; fast sine synthesis techniques with vector instruction sets [ICASSP99, Patent #7317958].

Technical Staff, Luxxon corporation, San Jose, California. — 2000-2001
Worked one day a week assisting with R&D, especially protocols for discovery and negotiation of client device characteristics and media caching in service of their media transcoding software and hardware.

Graduate Internship and Contracting, IBM Almaden Research Center, Almaden, California — 1999-2000
Summer internship and follow-up research work with the IBM Almaden TSpaces middleware project, as detailed in the [IECON99] paper.

Graduate Student Instructor, UC Berkeley Computer Science division — Fall 1996
Teaching Assistant for *Computer Architecture and Engineering* (CS152), taught by David Patterson and Sun Microsystems visiting professor Robert Yung.

BoxerJam Films, Charlottesville, Virginia — 1994
Design and implementation of a multi-platform client/server system communicating via both modem and IP networks. Addressed wide-area latency-hiding and user interface issues as detailed in [Patent #5695400]. The resulting game, "Strike-A-Match," was deployed to America Online (AOL) and Yahoo! games.

Work Experience, cont.

Unix Consultant, U. of Virginia Information, Technology, and Communications (ITC) 1993-1994
Answered questions via phone dealing with issues on all the University's available UNIX platforms, including SunOS, AIX, IRIX, and NeXT.

HBO & Company, Advanced Technologies Group, Atlanta, Georgia 1991,1993
Designed and implemented interfaces and utilities to assist integrating PC-based clients with their legacy mainframe (MV/40000) medical system.

Projects:

Current deployed software:

- Verizon Smart Family: Android architecture & client team.
- AT&T Secure Family: Android architecture & client team.
- T-Mobile FamilyWhere: Android architecture & client team.
- Sprint Family Locator (SFL): Android architecture & client team.

Sample previous projects:

- AT&T FamilyMap: Android architecture & client team / Windows Phone 7 sole contributor.
- Verizon FamilyBase: Android architecture & client team.
- `veriplace.com` Sparkle location-as-a-service: A suite of thin smartphone application agents providing end-to-end user-plane locates (hybrid cell-sector/WiFi/GPS), avoiding carrier infrastructure for cost reasons. API/architecture, sole contributor to Windows Mobile implementation, contributor to Android/J2ME/RIM shared codebase.
- `streethive.com`: location-based social sharing site, focused on situating posts (photos/comments) atop a map. J2ME handset client, web. and shared responsibility for architecting the backend/APIs so that they were amenable to both web and mobile content access. Java backend with MySQL.
- `m.ask.com`: xHTML-MP/WAP portal access to ask.com syndication backend. Web search, images search, maps/directions, weather, horoscopes, etc. Implemented with Java servlets/JSP + MySQL by myself and one other engineer. The site won the Webby Award in the Mobile category.
- `cmprssr.com`: In order to view the resulting content discovered via queries on m.ask.com, web pages needed to be transcoded from free-form HTML to valid xHTML-MP. cmprssr provided this service at extremely high volume (millions/day). Written in perl by myself and one other engineer.
- InterActiveCorp / IAC `gps.ask.com`: voice turn-by-turn navigation on GPS-enabled feature phones to aggregated IAC properties CitySearch, Evite, Ticketmaster, Ask.com. The underlying technology innovation used to manage app complexity under memory and processing constraints was a declarative UI screen specification augmented with novel XML-defined action flows called chains. These XML descriptions were compiled down into primitives for efficiency, and could be updated at runtime, to overcome the lack of a ClassLoader in JavaME (pre-MIDP3.0).
- MapMe: on-handset point-of-interest finders + route generator, communicating to a custom geoserver backend. WaveMarkets first handset software product releases. Responsible for hardware acquisition and co-location hosting, OS installation and configuration, sysadmin / operations, Cisco VPN to partner site, hardware load-balancing and failover (via Alteon ACEdirector), data integration, plus all the client and server application software itself. Code size was limited to 100KB, heap to 256KB.