

Todd D. Hodes

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Education

Ph. D. in Computer Science (Computer Networking), 2002
M. S. in Computer Science (Computer Music), 1997
University of California, Berkeley
GPA: 3.95

B. S. in Computer Science, high honors, 1994
B. S. in Applied Mathematics, high honors, 1994
University of Virginia
GPA: CS: 3.97, Mathematics: 3.90, Cumulative: 3.77
SAT: M: 800 V: 690, GRE: Q: 800 A: 800 V: 690, CS subject: 840 (98%)

Honors & Awards

- Webby Award (Mobile) & Webby People's Choice Award (Mobile) for m.ask.com, 2007
- Best Paper Award, 3rd ACM/IEEE International Conference on Mobile Computing, 1997
- California Fellowship in Microelectronics, University of California, Berkeley, 1995
- Louis T. Radar Award, U. Va. Computer Science Department, April 1994
- Intermediate Honors, Dean's List, Tau Beta Pi, Golden Key; University of Virginia, 1991-1994
- Finalist, University of Virginia Research & Design Competition, 1994
- National Merit Scholar, 1990
- Duke University Summer Computing Program, Full Scholarship, 1987

Publications

- A. Freed, T. Hodes, J. Hauser
"Apparatus and Method of Additive Synthesis of Digital Audio Signals
Using a Recursive Digital Oscillator,"
Patent #7,317,958: UC Berkeley Regents, Berkeley, California
filed 03/2000, accepted 01/2008.
- 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.
- 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.

Publications, cont.

- 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.
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 thesis report, December 1997.
UCB Technical Report CSD/98/1007.
- 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 #5,695,400: BoxerJAM Films, Charlottesville, Virginia
filed 1/96, 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.

(additional patents pending)

Work Experience

- Senior Scientist & Director of Mobile Technologies, WaveMarket/LocationLabs* 2002-present
Java+frameworks+MySQL/noSQL, javascript, shell, JavaME, Android, Blackberry, WinPhone7, WinMo, HTML5/xHTML, and similar.
- *MapMe*: A feature phone Yellow Pages point-of-interest finder + route generator, communicating to a custom in-house geoserver backend. WaveMarket's first handset software product release. Myself and one other engineer were responsible for every aspect of the project, including hardware acquisition, OS install + configuration, sysadmin, colocation hosting setup, operations, VPN to partner site (via Cisco router), load-balancing and failover (via Alteon ACEdirector), data integration, plus all the client and server application software itself. J2ME code was limited to 100KB, heap to 256KB.
 - *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 the Dynamic Mapping Environment (DyME) toolset. DyME provides XML-defined UI specification (ala Silverlight's XAML), but also, XML-defined screen and 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).
 - *m.ask.com*: xHTML-MP/WAP portal access to ask.com syndicated backend. Web search, image search, maps/directions, weather, horoscopes, etc. Implemented by team of two engineers.
 - *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). Implemented by team of two engineers.
 - *streethive.com*: a web+handset location-based social media content sharing site, focused on situating posts (photos/comments) atop an interactive map. I was responsible for the J2ME handset client, and shared responsibility for architecting the backend/APIs to be amenable to both web and mobile content access.
 - *'Sparkle' location-as-a-service agent*: A suite of thin smartphone application "agents" providing remote control of handset features, including especially end-to-end user-plane locates (hybrid cell-sector/WiFi/GPS), avoiding carrier infrastructure for cost reasons. API/architecture contributor, contributor to Android and RIM codebase, sole contributor to Windows Mobile implementation.
 - *coop.wavemarket.com*: aggregate WiFi and Cell Sector data, mapped to GPS coordinates. Phones with GPS available collect the readings; those without, query them. Uses Hadoop MapReduce to generate estimates from observations, and integrated with veriplace.com.
 - AT&T FamilyMap Windows Phone 7 native client.
 - Safely Finder suite xHTML clients.
- Graduate Student Researcher, UC Berkeley Computer Science division* 1995-2002
Work on mobile computing & location-based services, applications of same [WINET99, USITS99, PersComm98]; multimedia networking [CompSurveys99, MMCN99]; peer-to-peer service location [WINET02, Mobicom99]; fast sine synthesis techniques with vector instruction sets [ICASSP99, ICMC99, Patent #7,317,958]
- IBM Almaden Research Center, Almaden, California* 1999-2000
Summer internship and continuing work with the T-Spaces middleware project [IECON99]
- BoxerJam Films, Charlottesville, Virginia* 1994
Early-stage start-up company; design and implementation of a multi-platform (Win32 PC client/AIX server) system communicating via both dial-up and IP networks. Addressed wide-area latency-hiding and user interface issues. This work resulted in the game "Strike-A-Match," which can be played on America Online (AOL) and Yahoo! Games [Patent #5,695,400]
- Unix Consultant, U. of Virginia Information, Technology, and Communications (ITC)* 1993-1994
Answered questions via phone and email on any issues related to the University's available UNIX platforms, including SunOS/Solaris, AIX, IRIX, and NeXT
- HBO & Company, Advanced Technologies Group, Atlanta, Georgia* 1991, 1993
Designed and implemented tools and utilities to integrate PCs with their legacy mainframe (MV/40000) medical system.