Bernd Schoner, Ph.D.

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EMPLOYMENT

THINGMAGIC, A DIVISION OF TRIMBLE NAVIGATION LIMITED *2010 – present*
Cambridge, Massachusetts.
VP Business Development.
Leading integration of ThingMagic product within Trimble vertical divisions in engineering, construction, and mobile computing. Managing ThingMagic's largest OEM accounts. Selling high-profile technology projects in heavy-civil and vertical construction.

THINGMAGIC, INC. *2005 – 2010*
Cambridge, Massachusetts.
Co-Founder and President.
Led corporate conversion to C-Corporation. Hired senior executives and middle management to scale the company to 60 people. Managed a team of 40 in charge of all technical operations, development and manufacturing. Led intellectual property strategy including the establishment of the RFID patent pool and defensive licensing arrangements. Transitioned into business development managing key accounts and worldwide sales. Travelled to more than fifty countries to build an international distribution channel for ThingMagic's products.

THINGMAGIC, LLC *2000 – 2005*
Cambridge, Massachusetts.
Co-Founder and Managing Partner.
Set-up corporate structure, legal representation, accounting. Led project and customers acquisition. Negotiated high-profile technology licensing deals. Hired executive advisor and CEO. Led transformation from services to product and manufacturing-based business model. Negotiated manufacturing relationships in the US and Asia.

MIT MEDIA LABORATORY *1995 –2000*
Cambridge, Massachusetts.
Research Assistant in Neil Gershenfeld's Physics and Media Group and in the Things That Think Consortium. Research in modeling and prediction of nonlinear, dynamical systems, driven stochastic systems, machine learning, neural networks, and audio processing. Developed detection, estimation and prediction algorithms for applications in musical synthesis, nonlinear device characterization, risk prediction and fraud prevention.
Collaborations: *The un-private house*, Museum of Modern Art, New York, 1999. *L'UNIVERSE* with the Flying Karamazov Brothers, Seattle, 2000.

GERMAN ARMY MUSIC CORPS *1989 - 1990*
Kassel, Germany. Military service.
Cellist and band flautist.

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY *1995 – 2000*
Cambridge, Massachusetts
Doctor of Philosophy in Media Arts and Sciences (September 2000).
Thesis title*: Probabilistic Characterization and Synthesis of Complex Driven Systems*.

ÉCOLE CENTRALE DE PARIS *1992 – 1994*
Paris, France.

Ingénieur des Arts et Manufactures (Master of Science) in Industrial Engineering (September 1996).

RWTH AACHEN 1990 – *1992, 1994 – 1995*
Aachen, Germany
Diplom-Ingenieur (Master of Science) in Electrical Engineering/Information Technology. Valedictorian (June 1996). Thesis title*: State Reconstruction for Determining Predictability in Driven, Nonlinear, Acoustical Systems.*

HONORS

Distinguished Paper Award, International Computer Music Conference (Michigan, 1998); Siemens Best Presentation Award, Symposium on Neural Computation (Vienna, 1998).

Henry Ford II Prize 1996 (Ford AG, Germany) for RWTH Aachen's best engineering diploma in 1996; Otto Junker Prize (Aachen, 1997) for the Diploma Thesis; Springorum-Medal (RWTH Aachen, 1997) for academic excellence.

Scholar of the Studienstiftung des Deutschen Volkes (1992-1996), of the Otto-Junker-Foundation (1995-1996) and of the Franco-German College (1992-1994).

LANGUAGE SKILLS

Fluent in German and English. Conversant in French. Familiar with Spanish and Italian.

BOOK

The Tech Entrepreneur's Survival Guide. How to Bootstrap Your Startup, Lead Through Tough Times, and Cash In for Success, by Bernd Schoner, to be published by McGraw-Hill on May 16, 2014.

ARTICLES

Mary Farbood, Bernd Schoner. *Determining Feature Relevance in Subject Responses to Musical Stimuli. Communications* in Computer and Information Science: Mathematics and Computation in Music, vol. 38, pp. 115-129. Springer Verlag, 2009.

Tristan Jehan, Bernd Schoner*. An Audio-Driven Perceptually Meaningful Timbre Synthesizer*. Proceedings ICMC, 2001.

Mary Farbood, Bernd Schoner.*. Analysis and Synthesis of Palestrina-Style Counterpoint Using Markov Chains.* Proceedings ICMC, 2001.

M. Reynolds, B. Schoner, J. Richards, K. Dobson, N. Gershenfeld. *An Immersive, Multi-User, Musical Stage Environment.* Siggraph Proceedings. Los Angeles, 2001.

Bernd Schoner, Neil Gershenfeld. Cluster-Weighted Modeling: Probabilistic Time Series Prediction, Characterization and Synthesis. In: *Nonlinear Dynamics and Statistics*, Alistair Mees Ed., 2001.

Tristan Jehan, Bernd Schoner *An Audio-Driven, Spectral-Analysis Based, Perceptual Synthesis Engine* Audio Engineering Society, Proceedings of the 110th Convention, Amsterdam, The Netherlands, 2001.

Bernd Schoner. *Probabilistic Characterization and Synthesis of Complex Driven Systems*. Ph.D. Thesis. MIT Media Lab 2000.

Bernd Schoner, Charles Cooper, Neil Gershenfeld*. Cluster-Weighted Sampling for Synthesis and Cross-Synthesis of Violin Family Instruments*. Proceedings ICMC, Berlin, Germany, 2000.

O. Omojola, R. Post, M. Hancher, Y. Maguire, R. Pappu, B. Schoner, P. Russo, R. Fletcher, N. Gershenfeld. *An Installation of Interactive Furniture*. IBM Systems Journal, 2000.

Tuomas Lukka, Bernd Schoner, Alec Marantz. *Phoneme Discrimination from MEG Data*. Elsevier Journal for Neuroscience, Special Issue on Neural Computation, 1999.

Bernd Schoner, Neil Gershenfeld*. Data-driven modeling of nonlinear microwave devices*. Digest 53rd ARFTG Conference on Nonlinearity Characterization, Anaheim, California, 1999.

Bernd Schoner, Charles Cooper, Christopher Douglas, Neil Gershenfeld. *Data-driven Modeling of Acoustical Instruments*. Journal for New Music Research **28**(2), 1999.

Neil Gershenfeld, Bernd Schoner, Eric Metois. *Cluster-Weighted Modeling for Time-Series Analysis*. NATURE **397**, P. 329-332, January 28, 1999.

Bernd Schoner, Charles Cooper, Christopher Douglas, Neil Gershenfeld. *Data-driven Modeling and Synthesis of Acoustical Instruments*. Proceedings International Computer Music Conference, Ann Harbor, Michigan, 1998.

Tuomas Lukka, Bernd Schoner, Alec Marantz. *Auditory Stimulus Discrimination from MEG Data*. Proceedings of ICSC/IFAC Symposium on Neural Computation, Vienna, Austria, 1998.

Bernd Schoner. *State Reconstruction for Determining Predictability in Driven, Nonlinear, Acoustical Systems*. Diploma (Masters) Thesis. MIT Media Lab / RWTH Aachen, 1996.

PATENTS

US patent application 13/410,084, *Method and system for rfid-assisted imaging*, Brian Ahern, Bernd Schoner, published 9/5/2013.

US patent application 13/899,361, Bernd Schoner et al., filed 5/21/2013.

US patent application 13/669,365, Bernd Schoner et al., filed 11/5/2012.

US patent application 13/228,005 A1, *Radio frequency identification tiles*, Ravikanth Pappu, Bernd Schoner, Harry F. Tsai, Brian Fiegel, published 03/15/2012.

US patent No. 7,999,658, *Methods and apparatus for operating a radio device*, Matthew S. Reynolds, Joseph L. Richards, Sumukh N. Pathare, E. Rehmatulla Post, Yael G. Maguire, Harry F. Tsai, Ravikanth S. Pappu, Bernd Schoner, issued 8/16/2011

US patent application 13/036,182, *Methods and apparatus for operating a radio device*, Matthew S. Reynolds, Joseph L. Richards, Sumukh N. Pathare, E. Rehmatulla Post, Yael G. Maguire, Harry F. Tsai, Ravikanth S. Pappu, Bernd Schoner, published 6/23/2011

US patent No. 7,961,078, *Methods and apparatus for operating a radio device,* Matthew S. Reynolds, Joseph L. Richards, Sumukh N. Pathare, E. Rehmatulla Post, Yael G. Maguire, Harry F. Tsai, Ravikanth S. Pappu, Bernd Schoner, issued 6/14/2011.

UK patent No. GB2453289, *Radio devices and communication*, Ravikanth S. Pappu, Yael G. Maguire, Bernd Schoner, Brian Fiegel, Arun Viswanathan, issued 3/16/2011.

US patent application 12/333,988, *Radio devices and communication*, Ravikanth S. Pappu, Yael G. Maguire, Bernd Schoner, Brian Fiegel, Arun Viswanathan, published 6/17/2010.

US patent application 11/171,444, *Configurable, calibrated radio frequency identification tag system*, Matthew S. Reynolds, Bernd Schoner, published 1/4/2007.

US patent No. 7,075,412, *Methods and apparatus for operating a radio device,* Matthew S. Reynolds, Joseph L. Richards, Sumukh N. Pathare, E. Rehmatulla Post, Yael G. Maguire, Harry F. Tsai, Ravikanth S. Pappu, Bernd Schoner, issued 7/11/2006.

US patent application 11/369,679, Bernd Schoner et al., filed 3/7/2006.

US patent No. 6,000,833, *Efficient Synthesis of Complex, Driven Systems*, Neil Gershenfeld, Bernd Schoner, Eric Metois, issued 12/14/1999.

TALKS & PANELS

How To Start an RFID Company, MIT Enterprise Forum, May 14, 2012

Wireless on Wheels -- Innovations in Smart Transport, MIT Enterprise Forum Auto-ID SIG, March 28, 2011.

Starting an RFID Venture - Why Now is the Best Time, University of the Philippines, Manila, March 5, 2010.

Passive UHF RFID, MIT technology breakfast, June 12, 2008.

Opportunities in RFID, Future Forward Conference, Newburyport, November 7, 2003.

No Money Down: Raising Capital from Unconventional Sources, MIT Enterprise Forum, September 18, 2003.

PRINT MEDIA

DiscoverRFID.org, What Experts have to say, Interview with Bernd Schoner, co-founder of ThingMagic, now Trimble, 2011.

RFID Readers Power International Retail Inventory Management Solution, RFID SwitchBoard - News & Announcements, December 23, 2010

ThingMagic Celebrates 10 yr. Anniversary with RFID Predictions, moreRFID.com, September 2010.

The Boston Globe, Q&A, ThingMagic's Bernd Schoner on inventory technology, November 16 2003.

www.SiliconInvestor.com, Are you ready for RFID, November 14, 2003.

ThingMagic teams up with Intel, RFID Journal, September 10, 2003.

Tyco to Mass-Produce RFID Readers, RFID Journal, February 2003

Alien Demos World's First Sub-10-Cent RFID Tag, RFID Journal, July 2002.

ThingMagic Conjures Up a Low-Cost EPC Reader, RFID Journal, May 2002.

Strads for the Masses, Red Herring Magazine, December 4, 2000.

Stradivarisch, Lufthansa Magazine, September 2000.

Un stradivarius numerique, l'Ordinateur Individuel, July 2000 (in French).

Violoncelo stradivarius digital, MUY INTERESANTE, June 2000 (in Spanish).

Mellow Cello, Financial Times Magazine, 2000.

Cello unter Strom, Bild der Wissenschaft, January 2000 (in German).

MIT, Die Schule der Genies, GEO, October 1999 (in German).

The Digital Stradivarius, FRAMES, Media Lab, March/April 1999.

Die Technik als englischer Butler / Das Phantom der Gehirnoper, FAZ, January 12, 1998 (in German).

Arbeit am digitalen Bruder der Geige / Preis fuer digitale Geige aus Aachen, Koelner Rundschau / Aachener Volksblatt, Mai, 1997 (in German).

RADIO AND TV

UNIVERSE / The Flying Karamazov Brothers, NPR, January 2000.

Amerikanische Privatunis: das MIT, Bayrischer Rundfunk, 1999 (in German).

Welt der Wunder: MIT, Pro Sieben, 1998 (in German).