

BJÖRN HARTMANN

University of California, Berkeley
Electrical Engineering and Computer Sciences
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RESEARCH INTERESTS

Human-Computer Interaction, User Interface Software Tools,
Physical & Tangible Computing, Prototyping & Design Processes.

My research focuses on the design, implementation, and evaluation of authoring environments for novel user interfaces and interactive media. My dissertation introduced tools that enable interaction designers to create functional prototypes of ubiquitous computing interfaces as well as techniques that facilitate gaining insight from prototypes.

EDUCATION

- Stanford University, Stanford, CA
09/2009 PHD in *Computer Science*
Advisor: Scott R. Klemmer
- University of Pennsylvania, Philadelphia, PA
12/2002 MSE in *Computer and Information Science*
BSE in *Digital Media Design*, summa cum laude
BA in *Communication*, summa cum laude, with minor in *Fine Arts*

EMPLOYMENT

- University of California, Berkeley, CA
01/2010 - PRESENT *Assistant Professor, Department of Electrical Engineering and Computer Sciences*
- Microsoft Research, Redmond, WA
04/2008 - 06/2008 *Research Intern*
Research with Merrie Morris, Andrew Wilson, and Hrvoje Benko.
Designed, fabricated, and programmed a large interactive table for design teams.
- Stanford University, Stanford, CA
09/2004 - 09/2009 *Graduate Research Assistant & Course Assistant*
Research with Scott R. Klemmer. Course assistant for Terry Winograd, Scott R. Klemmer, and John C. Mitchell.
- IUT Montreuil, University of Paris-8, Montreuil, FRANCE
01/2004 - 09/2004 *Research Engineer*
Research with Catherine Pelachaud. Developed a framework to synthesize emotionally expressive gesturing behavior of embodied agents.
- Contexterior Media, Amsterdam, NETHERLANDS
01/2003 - 12/2003 *Principal*
Managed graphic design, distribution, and promotion of independent record label.
Designed and programmed online label textone.org. Recording artist and DJ.
- University of Rome "La Sapienza," Rome, ITALY
06/2001 - 08/2001 *Research Assistant*
Research with Catherine Pelachaud. Developed a system to procedurally generate gestural animation for embodied agents using the MPEG-4 body animation standard.
- University of Pennsylvania, Philadelphia, PA
01/2001 - 12/2002 *Undergraduate Research Assistant & Teaching Assistant*
Research with Norm Badler. Teaching assistant for Norm Badler, Joshua Mosley and Steven Lane in Computer Science; for Sharka Hyland in Fine Arts.

TEACHING EXPERIENCE

SPRING 2010 UC BERKELEY	CS160: User Interface Design <i>Co-taught with Maneesh Agrawala. GSIs: Kenrick Kin, Anuj Tewari</i>
	CS298-48: HCI Design Clinics: UI Prototyping <i>Co-organizers: Lora Oehlberg, Niranjan Krishnamurty, Jessica Santana</i>
FALL 2007 STANFORD UNIVERSITY	CS242: Programming Languages <i>Course Assistant for John C. Mitchell</i>
SPRING 2006 STANFORD UNIVERSITY	CS294H: Integrating Physical and Digital Interactions <i>Course Assistant for Scott R. Klemmer</i>
WINTER 2006 STANFORD UNIVERSITY	CS247: Human Computer Interaction Design Studio <i>Course Assistant for Scott R. Klemmer</i>
SPRING 2005 STANFORD UNIVERSITY	CS378: Phenomenological Foundations of Cognition, Language, and Computation <i>Course Assistant for Terry Winograd</i>
FALL 2002 U. OF PENNSYLVANIA	CSE399: Special Topics in Robotics and Computer Animation <i>Teaching Assistant for Steven Lane</i>
SPRING 2001 U. OF PENNSYLVANIA	CSE377: Virtual World Design <i>Teaching Assistant for Norm Badler and Joshua Mosley</i>
FALL 2001 + SPRING 2002 U. OF PENNSYLVANIA	FNAR265: Digital Imaging <i>Software Tutor (Photoshop, Illustrator, Quark) for Sharka Hyland</i>

REFEREED PUBLICATIONS

- CONFERENCE PAPERS **Björn Hartmann**, Daniel MacDougall, Joel Brandt, and Scott R. Klemmer. What Would Other Programmers Do? Suggesting Solutions to Error Messages. In Proceedings of CHI 2010: *ACM Conference on Human Factors in Computing Systems*. Atlanta, GA, 2010. (RECEIVED HONORABLE MENTION)
- Björn Hartmann**, Sean Follmer, Antonio Ricciardi, Timothy Cardenas, and Scott R. Klemmer. d.note: Revising User Interfaces Through Change Tracking, Annotations, and Alternatives. In Proceedings of CHI 2010: *ACM Conference on Human Factors in Computing Systems*. Atlanta, GA, 2010.
- Björn Hartmann**, Meredith Ringel Morris, Hrvoje Benko, and Andrew Wilson. Pictionaire: Supporting Collaborative Design Work by Integrating Physical and Digital Artifacts. In Proceedings of CSCW 2010: *ACM Conference on Computer Supported Cooperative Work*. Savannah, GA, 2010. (NOTE)
- Björn Hartmann**, Meredith Ringel Morris, Hrvoje Benko, and Andrew Wilson. Augmenting Interactive Tables with Mice and Keyboards. In Proceedings of UIST 2009: *ACM Symposium on User Interface Software and Technology*. Victoria, BC, 2009. (NOTE)
- Björn Hartmann**, Loren Yu, Abel Allison, Yeonsoo Yang, and Scott R. Klemmer. Design as Exploration: Creating Interface Alternatives through Parallel Authoring and Runtime Tuning. In Proceedings of UIST 2008: *ACM Symposium on User Interface Software and Technology*. Monterey, CA, 2008. (BEST STUDENT PAPER AWARD)
- Björn Hartmann**, Leslie Wu, Kevin Collins, and Scott R. Klemmer. Programming by a Sample: Rapidly Creating Web Applications with d.mix. In Proceedings of UIST 2007: *ACM Symposium on User Interface Software and Technology*. Newport, RI, 2007.
- Björn Hartmann**, Leith Abdulla, Manas Mittal, and Scott R. Klemmer. Authoring Sensor Based Interactions Through Direct Manipulation and Pattern Matching. In Proceedings of CHI 2007: *ACM Conference on Human Factors in Computing Systems*. San Jose, CA, 2007. (BEST PAPER AWARD)

Björn Hartmann, Scott R. Klemmer, Michael Bernstein, Leith Abdulla, Brandon Burr, Avi Robinson-Mosher, and Jennifer Gee. Reflective Physical Prototyping through Integrated Design, Test, and Analysis. In Proceedings of UIST 2006: *ACM Symposium on User Interface Software and Technology*. Montreux, Switzerland, 2006. (BEST PAPER AWARD)

Scott R. Klemmer, **Björn Hartmann**, and Leila Takayama. How Bodies Matter: Five Themes for Interaction Design. In Proceedings of DIS 2006: *ACM Conference on the Design of Interactive Systems*. State College, PA, 2006.

Björn Hartmann, Maurizio Mancini, and Catherine Pelachaud. Formational Parameters and Adaptive Prototype Instantiation for MPEG-4 Compliant Gesture Synthesis. In Proceedings of Computer Animation. Geneva, Switzerland, June, 2002.

JOURNAL ARTICLE Stéphanie Buisine, **Björn Hartmann**, Maurizio Mancini, and Catherine Pelachaud. Conception et Evaluation d'un Modèle d'Expressivité pour les Gestes des Agents. *Revue en Intelligence Artificielle RIA édition spécial "Interaction Emotionnelle"*, 2006.

BOOK CHAPTER **Björn Hartmann**, Leslie Wu, Kevin Collins, and Scott R. Klemmer. Programming by a sample: Leveraging Web sites to program their underlying services. In A. Cypher, M. Dontcheva, T. Lau, J. Nichols (eds). *No Code Required: Giving Users Tools to Transform the Web*. Burlington: Morgan Kaufmann, 2010, pp. 191-211.

MAGAZINE ARTICLE **Björn Hartmann**, Scott Doorley, and Scott R. Klemmer. Hacking, Mashing, Gluing: Understanding Opportunistic Design. In *IEEE Pervasive Computing* 7(3), 2008.

WORKSHOP PAPERS Scott R. Klemmer, **Björn Hartmann**, and Leila Takayama. Interaction Design for Active Bodies: Two Themes. In Proceedings of CHI 2006: *ACM Conference on Human Factors in Computing Systems: Workshop on The Next Generation of Human-Computer Interaction*. Montréal, Quebec, April, 2006.

Björn Hartmann, Maurizio Mancini, and Catherine Pelachaud, Implementing Expressive Gesture Synthesis for Embodied Conversational Agents. In Proceedings of Gesture Workshop 2005. Springer, 2006.

Björn Hartmann, Maurizio Mancini, and Catherine Pelachaud. Towards Affective Agent Action: Modelling Expressive ECA Gestures. In Proceedings of IUI 2005: Workshop on Affective Interactions. San Diego, CA, January, 2005.

POSTERS & DEMONSTRATIONS **Björn Hartmann**, Daniel MacDougall, and Scott R. Klemmer. What Would Other Programmers Do? Suggesting Solutions to Error Messages. In Conference Supplement to UIST 2009: *ACM Symposium on User Interface Software and Technology*. Victoria, BC. Poster.

Timothy Cardenas, Marcello Bastea-Forte, Antonio Ricciardi, **Björn Hartmann**, Scott R. Klemmer. Testing Physical Computing Prototypes Through Time-Shifted & Simulated Input Traces. In Conference Supplement to UIST 2008: *ACM Symposium on User Interface Software and Technology*. Monterey, CA. Poster.

Haiyan Zhang, and **Björn Hartmann**. Extending Everyday Play. In Extended Abstracts of CHI 2007: *ACM Conference on Human Factors in Computing Systems*. San Jose, CA, 2007. Demonstration.

Björn Hartmann, Scott Doorley, Sohyeong Kim, and Parul Vora. Wizard of Oz Sketch Animation for Experience Prototyping. In Adjunct Proceedings of Ubicomp 2006: *Ubiquitous Computing*. Orange County, CA, 2006. Video.

Björn Hartmann, Meredith Ringel Morris, and Anthony Cassanego. Reducing Clutter on Tabletop Groupware Systems with Tangible Drawers. In Adjunct Proceedings of Ubicomp 2006: *Ubiquitous Computing*. Orange County, CA, 2006. Poster.

Björn Hartmann, Scott R. Klemmer, and Michael Bernstein, Prototypes Enable Collaboration in Product Design – Let’s Help Designers Build More of Them. Boaster Paper in *Human Computer Interaction Consortium Winter Workshop*. 2006: Fraser, Colorado.

Björn Hartmann, Scott R. Klemmer, Michael Bernstein, and Nirav Mehta. d.tools: Visually Prototyping Physical UIs through Statecharts. In Conference Supplement to UIST 2005: *ACM Symposium on User Interface Software and Technology*. Seattle, WA, 2005. Demonstration.

Jennifer Carlile and **Björn Hartmann**. Oroboro: a collaborative music controller with interpersonal haptic feedback. In Proceedings of NIME 2005: *New Interfaces for Musical Expression*. Vancouver, BC, 2005. Demonstration.

Björn Hartmann, Maurizio Mancini, Stéphanie Buisine, and Catherine Pelachaud. Design and Evaluation of Expressive Gesture Synthesis for Embodied Conversational Agents. In Proceedings of AAMAS 2005. Utrecht, Netherlands, July, 2005. Poster.

Maurizio Mancini, **Björn Hartmann**, Catherine Pelachaud, Amaryllis Raouzaoui, and Kostas Karpouzis. Expressive Avatars in MPEG-4. In Proceedings of ICME, 2005. Poster.

Maurizio Mancini, **Björn Hartmann**, and Catherine Pelachaud. Gesture Expressivity in Embodied Conversational Agents. In Proceedings of ISGS 2005: *Second Conference of the International Society for Gesture Studies*. Lyon, France, May, 2005. Poster.

INVITED PUBLICATIONS

BOOK CHAPTER **Björn Hartmann**, Netlabels and the Adoption of Creative Commons Licensing in the Online Electronic Music Community, in *International Commons at the Digital Age*. Romillat: Paris, France, 2004.

TALKS

PRESENTATIONS Enlightened Trial and Error.
Qualcomm Research Silicon Valley, Santa Clara, CA, 18 February 2010.

Collaborative Design Tools.
Computer Science Faculty Lunch, Stanford, CA, 24 November 2009.

Research Overview: Design & Development Tools.
Disney Research, Glendale, CA, 11 November 2009.

Crowdsourced Debugging.
Adobe Workshop, Stanford, CA, 27 October 2009.

Physical Computing: Inspiration, Tools & Research.
UC Berkeley INFO262 Guest Lecture, Berkeley, CA, 20 October 2009.

Enlightened Trial and Error.
IxDA - Interaction Design Association Conference, Vancouver, BC, 8 February 2009.

Job Talk: Enlightened Trial and Error.
Adobe Research, University of Calgary, Simon Fraser University - SLAT, UC San Diego, New York University, Microsoft Research Redmond, Brown University, Cornell University, University of Wisconsin-Madison, UC Berkeley, January - April 2009.

Redrawing the line between CPU and MCU.
Sketching in Hardware Workshop, Providence, RI, 27 July 2008.

The intersection between physical computing and web services.
O’Reilly Foo Camp, Sebastopol, CA, 13 July 2008.

Enlightened Trial and Error.
University of Washington DUB Lunch, Seattle, WA, 30 April 2008.

Enlightened Trial and Error.

MX Conference, San Francisco, CA, 22 April 2008.

Design as Exploration.

Adobe Systems, San Francisco, CA, 10 March 2008.

Enlightened Trial and Error.

UC Berkeley Design Futures lecture series, Berkeley, CA, 28 February 2008.

Enlightened Trial and Error.

University of Pennsylvania, Philadelphia, PA, 25 February 2008.

Prototypes and Mash-Ups: Tool Support for Rapid Off-the-Desktop Interaction Design.

Frog Design, San Francisco, CA, 21 May 2007.

Prototypes and Mash-Ups: Tool Support for Rapid Off-the-Desktop Interaction Design.

UC Berkeley IEOR170 guest lecture, Berkeley, CA, 7 February 2007.

Browse-Mash-Remix: Tools for rewriting the web.

Web Monday, Cooley Godward Kronish, Palo Alto, CA, 29 January 2006.

Prototypes and Mash-Ups: Tool Support for Rapid Off-the-Desktop Interaction Design.

Yahoo! Research, Berkeley, CA, 10 November 2006.

Prototyping Know-How: Rapidly prototyping active objects.

IDEO, Palo Alto, CA, 06 November 2006.

Reflective physical prototyping through integrated design, test, and analysis.

IBM Almaden Research Center, San Jose, CA, 25 October 2006.

Taking Mash-Ups beyond the Browser.

Silicon Valley Code Camp, Los Altos Hills, CA, 07 October 2006.

Ubiquitous Computing Mash-Ups. *Stanford BarCamp*, Stanford, CA, 27 August 2006.

Beyond APIs for buttons and sliders: Prototyping with integrated design, test and analysis.

Sketching in Hardware Workshop, Dearborn, MI, 25 June 2006.

d.tools - Rapid Interaction Prototyping for Information Appliances.

Stanford Computer Forum Human Computer Interaction Workshop, Stanford, CA, May 2005.

PANELS Krisztian Flautner, Trishul Chilimby, **Björn Hartmann**. Panel on Reality Checks for Energy Research. Workshop on Power Aware Computing and Systems (HotPower '09), Big Sky, MT, October 2009.

Thomas Dreier, Armin Medosch, Till Jaeger, Christiane Asschenfeldt, Lawrence Lessig, Michael Grob, **Björn Hartmann**. *Launch Panel for Creative Commons Germany*. Wizards of OS Conference 3, Berlin, June 2004.

Volker Grassmuck, Kristin Thomson, Wendy Selzer, **Björn Hartmann**, Karsten Kinsat. *Compensation Decentral Panel* at Free Bitflows Conference, Vienna, June 2004.

ADVISING

SUMMER 2009 Daniel MacDougall

SUMMER 2008 Antonio Ricciardi, Timothy Cardenas, Sean Follmer — Sean now at MIT Media Lab

SUMMER 2007 Loren Yu — CRA Outstanding Undergraduate Honorable Mention

SUMMER 2006 Manas Mittal — Master's, MIT Media Lab; now PhD student, Berkeley EECS

SUMMER 2005 Michael Bernstein — now at MIT CSAIL

SPRING 2005 Nirav Mehta — now at VMware

AWARDS AND HONORS

- 2010 CHI Conference Honorable Mention
UC Berkeley Townsend Center G.R.O.U.P. Funding for Summer apprenticeship \$5,000
UC Berkeley Townsend Center Course Thread on Human-Centered Design \$30,000 *Undergraduate Education Grant, with Greg Niemeyer*
- 2008 UIST Conference Best Student Paper Award
- 2007 CHI Conference Best Paper Award
- 2006 UIST Conference Best Paper Award
- 2006-2009 Stanford Graduate Fellowship
- 2006 Stanford Centennial Teaching Assistant Award
- 2006 Color Field Camera: Best Flickr Project, Yahoo! Open Hack Day
- 2006 d.tools: 3rd place, Microsoft Research Silicon Valley Road Show
- 2004-2006 Stanford School of Engineering Fellowship
- 2002 Phi Beta Kappa honor society
- 1997-2002 University of Pennsylvania Dean's List

PROFESSIONAL ACTIVITIES

- PROGRAM COMMITTEE ITS 2010, CHI 2010, UIST 2009, IUI 2009, TEI 2009, TABLETOP 2008, UBICOMP 2008 DEMOS
- REFEREE SIGGRAPH ASIA ETECH 2009, IEEE SOFTWARE 2008, CSCW 2008-10, CHI 2005, 2007-2010, IUI 2008, UIST 2005-2010, GI 2005, 2007, NIME 2005, GMOD 2005, GI 2005, ADS 2004, AAMAS 2004, SIGGRAPH 2004, CASA 2004, SCA 2004
- PANELIST NSF 2010
- CHAIR CSCW 2011 DEMONSTRATIONS (CO-CHAIR)
- STUDENT VOLUNTEER CHI 2007 (PC MEETING), IUI 2005

MEDIA COVERAGE

- Barras, Colin. *Touchscreen merges the real and digital worlds*. New Scientist, 1/22, 2010.
- Saffer, Dan. *Designing Gestural User Interfaces*. O'Reilly, 2008. (d.tools & Exemplar)
- Igoe, Tom. *Making Things Talk*. O'Reilly, 2008. (Exemplar)
- Virtel, Martin. *Qualität durch Basteln*, *Financial Times Deutschland*, 2/23, 2006. (d.tools)
- Roettgers, Janko. Labels ohne Platten, 2004. *WDR3* - German Public Radio Station.
- Schenker, Jennifer L., New copyright grants artists greater license, *International Herald Tribune*, June 14, 2004.

PERSONAL

- Editor for *Ambidextrous Magazine*, Stanford's Journal of Design. Creator of interactive art installations with Digital Dacha. Recording artist for record labels Background, Camomille, Mille Plateaux, Pokerflat, Regular, Textone, Tuning Spork.
- Citizen of Germany. United States permanent resident.