

MARK S BALDWIN

Donald Bren School of Information and Computer Science
Department of Informatics
University of California, Irvine
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EDUCATION

Ph.D., Informatics 2014-2020 (Expected)
University of California, Irvine
Advisors: Gillian R. Hayes, Jennifer Mankoff
THESIS - Tangible Activity-Centric Assistive Technology for Blind and Low Vision Users

Master of Human Computer Interaction, Human Computer Interaction Institute August 2013
Carnegie Mellon University, Pittsburgh, PA

Bachelor of Arts in Computing, College of Computing and Digital Media July 2012
DePaul University, Chicago, IL

PROFESSIONAL EXPERIENCE

University of California, Irvine, CA 2014 - Present
Graduate Student Researcher
Social and Technological Action Research Group
Advisor: Dr. Gillian Hayes

Belkin, Playa Vista, CA Summer 2015
Research Intern
Eco Water Research Group

Extron Electronics, Anaheim, CA 2013 - 2014
Software Interaction Designer

Carnegie Mellon University, Pittsburgh, PA 2012 - 2013
Graduate Student Research Assistant
Advisor: Dr. Jennifer Mankoff

Baldwin Technology Consulting, Chicago, IL 2002-2012
Founder, President

Bender, Browning, Dolby & Sanderson, Chicago, IL 1998-2001
Manager of Interactive Services

Medwind LLC, Chicago, IL 1998-1999
Co-founder, Lead Software Engineer

Static Multimedia, Chicago, IL 1997-2000
Co-founder, Lead Software Engineer

Cyberdyne Technologies, Chicago, IL 1997-1998
Web Developer

CONFERENCE PAPERS and JOURNAL ARTICLES

- [C.4] **Baldwin, M. S.**, Mankoff, J., Nardi, B., Hayes, G. (In Press) “An Activity Centered Approach to Nonvisual Computer Interaction”. *ACM Transactions on Computer-Human Interaction*.
- [C.3] **Baldwin, M. S.**, Hirano, S. H., Mankoff, J., Hayes, G. R. (2019). “Design in the Public Square: Supporting Cooperative Assistive Technology Design Through Public Mixed-Ability Collaboration.” *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 155.
- [C.2] **Baldwin, M. S.**, Mankoff, J., Hayes, G. R., Haimson, O., Hudson, S. (2017). “The Tangible Desktop: A Multimodal Approach to Nonvisual Computing.” *ACM Transactions on Accessible Computing (TACCESS)*, 10(3), 9.
- [C.1] Ringland, K. E., Wolf, C. T., Boyd, L. E., **Baldwin, M. S.**, and Hayes, G. R. (2016). “Would you be mine: Appropriating minecraft as an assistive technology for youth with autism.” In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility* (pp. 33-41). ACM. ***Best Paper**.

BOOK CHAPTERS

- [B.1] **Baldwin, M.**, Khurana, R., McIsaac, D., Sun, Y., Tran, T., Zhang, X., Fogarty, J., Hayes, G.R., and Mankoff, J. (2019) *Tangible Interfaces*. In Harper, S., & Yesilada, Y. (Eds.) *Web Accessibility: A Foundation for Research*. Springer Science & Business Media.

POSTERS and WORKSHOPS

- [P.4] **Mark Baldwin**, Sen Hirano, RJ DeRama, Jennifer Mankoff and Gillian Hayes (2019). “Blind Navigation on the Water through Shared Assistive Technology.” *Workshop: Hacking Blind Navigation*. ACM SIGCHI Conference on Human Factors in Computing Systems. Glasgow, Scotland.
- [P.3] **Mark Baldwin**, LouAnne Boyd, Jennifer Mankoff and Gillian Hayes (2018). “Sensory Inclusive Design for Voice Interfaces.” *Workshop: Accessible Voice Interfaces*. ACM SIGCHI Conference on Computer Supported Cooperative Work. Jersey City, NJ.
- [P.2] **Mark Baldwin**, Jennifer Mankoff, Gillian Hayes, Scott Hudson and Jeff Bigham (2016). “Reappropriating Desktop Computing Metaphors for Nonvisual Tactile Interaction.” *Workshop: Touch, Taste, & Smell User Interfaces: The Future of Multisensory HCI*. ACM SIGCHI Conference on Human Factors in Computing Systems. San Jose, CA
- [P.1] Raymond Liaw, Ari Zilnik, **Mark Baldwin**, and Stephanie Butler. (2013, May 1). “Maater: Crowdsourcing to Improve Online Journalism”. *Student Design Competition*. ACM SIGCHI Conference on Human Factors in Computing Systems. Paris, France.

INVITED DOCTORAL CONSORTIA

- [DC.2] **Mark Baldwin** (2018). “Activity Theory as a Framework for Nonvisual Computing.” *HCIC Pajaro Dunes Resort, Watsonville, CA*.
- [DC.1] **Mark Baldwin** (2017). “Beyond Audition: Tangible Alternatives for Nonvisual Computer Interaction.” *Doctoral Consortium at ACM International Joint Conference on Pervasive and Ubiquitous Computing*. Maui, HI.

TECHNICAL SYSTEMS

- [TS.5] **Mark Baldwin**, Sen Hirano, RJ DeRama. “CoOP: Cooperative Outrigger Paddling.” A system to

support one person outrigger canoeing for blind and low vision paddlers. 2018.

[TS.4] **Mark Baldwin**. “KinD: Kinesthetic Interaction Device.” Software and physical hardware to support tangible activity-based computing. 2016.

[TS.3] **Mark Baldwin**, Leon Cao, Niraj Patel, Paul Dao, Kevin Truong. “Granular Jamming Refreshable Tactile Display.” A refreshable tactile display that utilizes a granular jammed substrate to support individual pin actuation. 2016.

[TS.2] **Mark Baldwin**. “The Tangible Desktop.” A suite of 3D printed, motorized computer peripherals and supporting software that, place visual computing metaphors in the physical world. 2014.

[TS.1] **Mark Baldwin**, Meng Shi, Nikola Banovic, Jennifer Mankoff and Scott Hudson. “3D Printed Refreshable Braille Display.” A motor and gear driven twelve character braille display that converts digital text into braille. 2013.

MEDIA COVERAGE

[M.3] “Paddling toward a more accessible future” UCI News, Reported by Daisy Murguia, November 14, 2018.

[M.2] KUCI News, Interview by Jana Magbitang, October 30, 2018.

[M.1] “UCI student helps design canoe that allows the blind to paddle solo” LA Times, Reported by Charity Lindsey, October 23, 2018.

AWARDS

UCI Engage Graduate Student Great Partnership Award	2019
Ford Foundation Predoctoral Fellowship, Honorable Mention	2017
ASSETS Conference, Best Paper	2016
CHI Student Design Competition, 3rd Place Winner	2013

SERVICE

<i>Web Chair</i> , ACM International Joint Conference on Pervasive and Ubiquitous Computing	2016-2017
<i>Student Volunteer</i> , ACM Conference on Human Factors in Computing Systems	2017
<i>Social Chair</i> , Informatics Graduate Student Association	2016-2017
<i>Treasurer</i> , Informatics Graduate Student Association	2015-2016
<i>Teaching Assistant</i> , Empowertech, Los Angeles, CA	2015
<i>Teaching Assistant</i> , Blind Children’s Learning Center, Tustin, CA	2012
<i>Tutor</i> , Inner City Impact, Chicago, CA	1997

TEACHING EXPERIENCE

Primary Instructor

ICS 10 How Computers Work, University of California, Irvine	Fall 2019
INF 286 Innovations in HCI, University of California, Irvine	Summer 2019
INF 286 Innovations in HCI, University of California, Irvine	Summer 2018
INF 286 Innovations in HCI, University of California, Irvine	Summer 2017

Teaching Assistant

INF 280 Overview of Human-Computer Interaction and Design, University of California, Irvine	Summer 2018
INF 280 Overview of Human-Computer Interaction and Design, University of California, Irvine	Summer 2017
INF 280 Overview of Human-Computer Interaction and Design, University of California, Irvine	Summer 2016
INF 162w Organization Information Systems, University of California, Irvine	Winter 2016
INF 133 User Interaction Software, University of California, Irvine	Fall 2015

Guest Lecturer

<i>Design in the Public Square</i> Human Computer Interaction, CPSC 355, Chapman University	Spring 2019
<i>Accessibility in HCI</i> Human Computer Interaction, CPSC 355, Chapman University	Spring 2018
<i>Agile Practices in UX</i> Human Computer Interaction, CPSC 355, Chapman University	Spring 2017
<i>Assistive Technology Research</i> Special Topics in Computer Science: Assistive Technology, CPSE 370, Chapman University	Winter 2017
<i>Accessibility in HCI</i> INF 131 Human Computer Interaction, University of California, Irvine	Fall 2016
<i>Accessibility in HCI</i> ICS 4 Human Factors for the Web, University of California, Irvine	Winter 2016
<i>Physical Prototyping for Assistive Technology</i> INF 131 Human Computer Interaction, University of California, Irvine	Winter 2015

STUDENT MENTORING**Capstone Supervision**

Team Obsidian, MHCID Capstone, Informatics	2019
Tactile Display, Senior Design Capstone, EECS	2016 - 2017
Water Fixture Automation, Senior Design Capstone, ICS & EECS	2016

Research Supervision

Angel Mendoza, B.S. Computer Science	2018 - 2019
Mark Jeremy Delarosa, B.S. Electrical Engineering	2017 - 2019
Alexander Arrieta, B.S. Software Engineering	2017 - 2018
Leon Cao, B.S. Computer Science and Engineering	2016 - 2017
Niraj Patel, B.S. Computer Science and Engineering	2016 - 2017
Paul Dao, B.S. Computer Science and Engineering	2016 - 2017
Kevin Truong, B.S. Computer Science and Engineering	2016 - 2017
Abhimanyu Tripathi, B.S. Informatics	2016
Sania Bishnoi, B.S. Informatics	2015 - 2016
Jasmine Nguyen, B.S. Informatics	2015 - 2016
Yuang Li, B.S. Informatics	2015
Ziyu Yi, B.S. Informatics	2015
Neeraj Kumar, M.S. Informatics	2014 - 2016

MEMBERSHIPS

IEEE, Student Member	2011 - Present
ACM, Student Member	2011 - Present
ACM SIGACCESS, Accessible Computing	2012 - Present