

CURRICULUM VITAE

Koji Yatani, Ph.D.

January, 2012

PERSONAL DATA

Company	Microsoft Research Asia, HCI group
Title	Associate Researcher
Office Address	Microsoft Asia Beijing West Campus, T2-14128, No. 5, Danling St., Haidian District, Beijing, PRC, 100080.
E-mail	koji@microsoft.com
Website	http://yatani.jp
Nationality	Japan

RESEARCH INTERESTS

My research interests are Human-Computer Interaction (HCI) and ubiquitous computing with an emphasis on hardware and sensing technologies. More specifically, I am interested in developing interaction techniques and interactive systems for mobile devices, and developing new hardware and sensing technologies to support user interactions in mobile/ubiquitous computing environments. I am also interested in understanding user practices and uncovering problems in difficult interaction contexts through quantitative and qualitative approaches. Beyond HCI, I am interested in machine learning, computational linguistics, statistics, psychology, and physiology.

EDUCATION

- 09/2006 – 11/2011 **Department of Computer Science, University of Toronto, Toronto, Canada**
Degree conferred: **Doctor of Philosophy**
Thesis title: *Spatial Tactile Feedback Support for Mobile Touch-screen Devices*
- 04/2005 – 08/2006 **Department of Frontier Informatics, Graduate School of Frontier Sciences, University of Tokyo, Tokyo, Japan**
Ph.D. candidate
- 04/2003 – 03/2005 **Department of Frontier Informatics, Graduate School of Frontier Sciences, University of Tokyo, Tokyo, Japan**
Degree conferred: **Master of Science**
Thesis title: *Intuitive Interaction Techniques for Mobile Devices with Human Gestures*
- 04/1999 – 03/2003 **Department of Information and Communication Engineering, Faculty of Engineering, University of Tokyo, Tokyo, Japan**
Degree conferred: **Bachelor of Engineering**
Thesis title: *A System for Supporting Children's Collaborative Learning in a Museum with Handheld Devices* (written in Japanese)

WORK EXPERIENCE

- 11/2011 – present **Associate Researcher at Microsoft Research Asia**
Manager: Dr. Desney Tan and Dr. Wei-Ying Ma
- 10/2010 – 01/2011 **Research intern at Microsoft Research (Cambridge, UK)**
Host: Dr. Nicolas Villar, Manager: Dr. Steve Hodges
- 04/2009 – 07/2009 **Research intern at Microsoft Research (Redmond, USA)**
Host and manager: Dr. Ken Hinckley
- 05/2007 – 08/2007 **Research intern at PARC**
Host: Dr. Kurt Partridge, Manager: Dr. Bo Begole

PUBLICATIONS

This list does not include the papers written in Japanese and published in Japanese journals or conferences. The publication list including Japanese publications is available upon request.

Journal Papers

- [J4] Koji Yatani, and Khai N. Truong. An Evaluation of Stylus-based Text Entry Methods on Handheld Devices Studied in Different Mobility States. *Pervasive and Mobile Computing*, Vol. 5, No. 5, pp. 496 – 506, October 2009.
- [J3] Elaine M. Huang, Koji Yatani, Khai N. Truong, Julie A. Kientz, and Shwetak N. Patel. Understanding Mobile Phone Situated Sustainability: The Influence of Local Constraints and Practices on Transferability. *IEEE Pervasive Computing*, Vol. 8, No. 1, pp. 46 – 53, January 2009.
- [J2] Koji Yatani, Koiti Tamura, Keiichi Hiroki, Masanori Sugimoto, and Hiromichi Hashizume. Toss-It: Intuitive Information Transfer Techniques for Mobile Devices Using Toss and Swing Actions. *IEICE Transactions on Systems and Computers*, Vol. E89-D, No. 1, pp. 150 – 157, January 2006.
- [J1] Koji Yatani, Mayumi Onuma, Masanori Sugimoto, and Fusako Kusunoki. Musex: A System for Supporting Children’s Collaborative Learning in a Museum with PDAs *Systems and Computers in Japan*, Vol. 35, No. 14, pp. 54 – 63, December 2004.

Conference Full Papers

- [P16] Koji Yatani, Nikola Banovic, and Khai N. Truong. SpaceSense: Representing Geographical Information to Visually Impaired People Using Spatial Tactile Feedback. *To appear in the SIGCHI Conference on Human Factors in Computing Systems (CHI 2012)*, 2012.
- [P15] Koji Yatani, Darren Gergle, and Khai N. Truong. Investigating Effects of Visual and Tactile Feedback on Spatial Coordination in Collaborative Handheld Systems. *To appear in Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW 2012)*, 2012.
- [P14] Nikola Banovic, Frank Chun Yat Li, David Dearman, Koji Yatani, and Khai N. Truong. Design of Unimanual Multi-finger Pie Menu Interaction. In *Proceedings of the ACM International Conference on Interactive Tabletops and Surfaces (ITS 2011)*, pp. 120 – 129, November 2011.

- [P13] Frank Chun Yat Li, Richard Guy, Koji Yatani, and Khai N. Truong. The 1Line Keyboard: A QWERTY Layout in a Single Line. In *the Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2011)*, pp. 461 – 470, October 2011.
- [P12] Koji Yatani, Michael Novati, Andrew Trusty, and Khai N. Truong. Analysis of Adjective-noun Word Pair Extraction Methods for Online Review Summarization. In *Proceedings of the International Joint Conferences on Artificial Intelligence (IJCAI 2011)*, pp. 2771 – 2776, July 2011.
- [P11] Koji Yatani, Michael Novati, Andrew Trusty, and Khai N. Truong. Review Spotlight: A User Interface for Summarizing User-generated Reviews Using Adjective-Noun Word Pairs. In *the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2011)*, pp. 1541 – 1550, May 2011.
Best paper award winner
- [P10] Ken Hinckley, Koji Yatani, Michel Pahud, Nicole Coddington, Jenny Rodenhouse, Andy Wilson, Hrvoje Benko, and Bill Buxton. Pen + Touch = New Tools. In *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2010)*, pp. 27 – 36, October 2010.
- [P9] Jeremy Scott, David Dearman, Koji Yatani, and Khai N. Truong. Sensing Foot Gestures from the Pocket. In *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2010)*, pp. 199 – 208, October 2010.
- [P8] Eunyong Chung, Carlos Jensen, Koji Yatani, Victor Kuechler, and Khai N. Truong. Sketching and Drawing in the Design of Open Source Software. In *Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2010)*, pp. 195 – 202, September 2010.
- [P7] Koji Yatani and Khai N. Truong. SemFeel: A User Interface with Semantic Tactile Feedback for Mobile Touch-screen Devices. In *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2009)*, pp. 111 – 120, October 2009.
- [P6] Koji Yatani, Eunyong Chung, Carlos Jensen, and Khai N. Truong. Understanding How and Why Open Source Contributors Use Diagrams in the Development of Ubuntu. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2009)*, pp. 995 – 1004, April 2009.
- [P5] Koji Yatani, Kurt Partridge, Marshall Bern, and Mark W. Newman. Escape: A Target Selection Technique Using Visually-cued Gestures. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2008)*, pp. 285 – 294, April 2008.
- [P4] Koji Yatani, and Khai N. Truong. An Evaluation of Stylus-based Text Entry Methods on Handheld Devices in Stationary and Mobile Scenarios. In *Proceedings of the ACM SIGCHI International Conference on Human Computer Interaction with Mobile Devices and Services (MobileHCI 2007)*, pp. 145 – 152, September 2007.
- [P3] Hiromichi Hashizume, Ayumu Kaneko, Yusuke Sugano, Koji Yatani, and Masanori Sugimoto. Fast and Accurate Positioning Technique Using Ultrasonic Phase Accordance Method. In *Proceedings of the IEEE Region 10 Conference (TenCon 2005)*, pp. 826 – 831, November 2005.
- [P2] Fusako Kusunoki, Takako Yamaguti, Takuichi Nishimura, Koji Yatani, and Masanori Sugimoto. Interactive and Enjoyable Interface in Museum. In *Proceedings of the ACM SIGCHI International Conference on Advances in Computer Entertainment Technology (ACE 2005)*, pp. 1 – 8, June.
- [P1] Koji Yatani, Koiti Tamura, Masanori Sugimoto, and Hiromichi Hashizume. Information Transfer Techniques for Mobile Devices by Toss and Swing Actions. In *Proceedings of the IEEE Workshop on Mobile Computing Systems and Applications (WMSCA 2004)*, pp. 144 – 151, December 2004.

Tech Notes and Short Papers

- [N1] Koji Yatani, Masanori Sugimoto, and Fusako Kusunoki. Musex: A System for supporting children's collaborative learning in a museum with PDAs. In *Proceedings of the IEEE Workshop on Wireless and Mobile Technology in Education (WMTE 2004)*, pp. 109 – 113, March 2004.

Papers in Extended Abstracts (Posters, Demos, and Work-in-progress)

- [EA3] Ken Hinckley, Koji Yatani, Michel Pahud, Nicole Coddington, Jenny Rodenhouse, Andy Wilson, Hrvoje Benko, and Bill Buxton. Manual Deskterity: An Exploration of Simultaneous Pen + Touch Direct Input. In *Extended Abstracts of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2010)*, pp. 2793 – 2802, April 2010 (alt.chi paper, oral presentation).
- [EA2] Koji Yatani, Masanori Sugimoto, and Hiromichi Hashizume. A Multiplayer Whack-A-Mole Game Using Gestural Input in a Location-Sensitive and Immersive Environment. In *Extended Abstracts of International Conference on Entertainment Computing (ICEC 2005)*, pp. 9 – 12, September 2005 (demo presentation).
- [EA1] Koji Yatani, Koiti Tamura, Keiichi Hiroki, Masanori Sugimoto, and Hiromichi Hashizume. Toss-It: Intuitive Information Transfer Techniques for Mobile Devices. In *Extended Abstracts of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2005)*, pp. 1881 – 1884, April 2005 (poster presentation).

Doctoral Symposium

- [DS1] Koji Yatani. Towards Designing User Interfaces on Mobile Touch-screen Devices for People with Visual Impairment. In *Extended Abstract of the ACM Symposium on User Interface Software and Technology (UIST 2009)*, pp. 37 – 40, October 2009.

Conference and Workshop Presentations without Proceedings

- [CP2] Frank Chun Yat Li, Alyssa Rosenzweig, Koji Yatani, and Leila S. Rezai. Rollotext: A User Interface with Coarse User Input on a Pressure-sensitive Keyboard. UIST Student Innovation Competition, October 2009. **2nd place award for most useful interfaces winner**
- [CP1] Koji Yatani, Masanori Sugimoto, and Hiromichi Hashizume. ARHunter: A Multiplayer Game Using Gestural Input in a Location-Sensitive and Immersive Environment. *Workshop on Ubiquitous Computing, Entertainment and Games in the Seventh International Conference on Ubiquitous Computing (UbiComp 2005)*, September 2005.

Invited Talks and Other Presentations

- [OP14] Koji Yatani. The Fun of Failure: Lessons Learned from Designing Interactive Systems. Invited talk at the VRSJ Annual Conference (a Japanese domestic conference), September 2011.
- [OP13] Koji Yatani. Ideas + Observations = New Interface Designs. Talk at Telefónica Investigación y Desarrollo (Barcelona), July 2011.
- [OP12] Koji Yatani. Review Spotlight: A User Interface for Summarizing Online Reviews. Talk at CS4HS Summar Program for HS Teachers, University of Toronto, July 2011.
- [OP11] Koji Yatani. Cutting Edge Research: Input Devices. Participated as a speaker and panelist at the INplay conference, May 2011.

- [OP10] Koji Yatani. Spatial Tactile Feedback Support for Mobile Touch-screen Devices. Talk at SIGCHI Paris, January 2011.
- [OP9] Koji Yatani. Interactive Systems with User-generated Data and Content. Talk at DCS Symposium on Trends in Computing, University of Toronto, May 2010.
- [OP8] Koji Yatani. Interactions in Difficult Contexts. Talk at Human Interface Engineering Lab, Osaka University, January 2010.
- [OP7] Koji Yatani. Users and Mobile Devices: Interactions and Implications. Talk at ERATO Igarashi Design Interface Lab, University of Tokyo, December 2009.
- [OP6] Koji Yatani. Users and Mobile Devices: Interactions and Implications. Talk at Graduate School of Information Science and Technology, University of Tokyo, December 2009.
- [OP5] Koji Yatani. Users and Mobile Devices: Interactions and Implications. Talk at NTT DoCoMo Research Center, December 2009.
- [OP4] Koji Yatani. Interactions in Difficult Contexts. Talk at Accessibility Group, IBM Research Tokyo, December 2009.
- [OP3] Koji Yatani. Interactions in Difficult Contexts. Talk at Yairi Lab, Sophia University, December 2009.
- [OP2] Michael Novati, Koji Yatani, and Khai N. Truong. Making User-submitted Reviews More Useful By Using Novel Extraction and Visualization. Demo presentation at University of Toronto Research in Action Showcase, March 2009.
- [OP1] Koji Yatani, and Khai N. Truong. A User Interface with Semantic Tactile Feedback for Mobile Touch-screen Devices. Demo presentation at University of Toronto Research in Action Showcase, March 2009.

Patent

- [PA24] Ken Hinckley, and Koji Yatani. Multi-screen synchronous slide gesture. United States Patent Application 20110209104.
- [PA23] Ken Hinckley, and Koji Yatani. Multi-screen hold and drag gesture. United States Patent Application 20110209103.
- [PA22] Ken Hinckley, and Koji Yatani. Multi-screen dual tap gesture. United States Patent Application 20110209102.
- [PA21] Ken Hinckley, and Koji Yatani. Multi-screen pinch-to-pocket gesture. United States Patent Application 20110209101.
- [PA20] Ken Hinckley, and Koji Yatani. Multi-screen pinch and expand gestures. United States Patent Application 20110209100.
- [PA19] Ken Hinckley, and Koji Yatani. Page manipulations using on and off-screen gestures. United States Patent Application 20110209099.
- [PA18] Ken Hinckley, and Koji Yatani. On and off-screen gesture combinations. United States Patent Application 20110209098.
- [PA17] Ken Hinckley, and Koji Yatani. Use of bezel as an input mechanism. United States Patent Application 20110209097.

- [PA16] Ken Hinckley, and Koji Yatani. Radial menus with bezel gestures. United States Patent Application 20110209093.
- [PA15] Ken Hinckley, and Koji Yatani. Multi-screen object-hold and page-change gesture. United States Patent Application 20110209089.
- [PA14] Ken Hinckley, and Koji Yatani. Multi-finger gestures. United States Patent Application 20110209088.
- [PA13] Ken Hinckley, and Koji Yatani. Multi-screen hold an tap gesture. United States Patent Application 20110209058.
- [PA12] Ken Hinckley, and Koji Yatani. Multi-screen hold an page-flip gesture. United States Patent Application 20110209057.
- [PA11] Ken Hinckley, and Koji Yatani. Multi-screen bookmark hold gesture. United States Patent Application 20110209039.
- [PA10] Ken Hinckley, and Koji Yatani. Off-screen gestures to create on-screen input. United States Patent Application 20110205163.
- [PA9] Ken Hinckley, Koji Yatani, Andrew Allen, Jonathan Harris, Georg Petschnigg, and Michel Pahud. Cut, punch-out, and rip gestures. United States Patent Application 20110191719.
- [PA8] Ken Hinckley, Koji Yatani, Andrew Allen, Jonathan Harris, and Georg Petschnigg. Contextual multiplexing gestures. United States Patent Application 20110191718.
- [PA7] Ken Hinckley, Koji Yatani, Jonathan Harris, Andrew Allen, Georg Petschnigg, and Michel Pahud. Contextual multiplexing gestures. United States Patent Application 20110191704.
- [PA6] Ken Hinckley, Koji Yatani, and Georg Petschnigg. Cross-reference gestures. United States Patent Application 20110185320.
- [PA5] Ken Hinckley, Koji Yatani, and Georg Petschnigg. Edge gestures. United States Patent Application 20110185318.
- [PA4] Ken Hinckley, and Koji Yatani. Brush, carbon-copy, and fill gestures. United States Patent Application 20110185300.
- [PA3] Ken Hinckley, and Koji Yatani. Stamp gestures. United States Patent Application 20110185299.
- [PA2] Ken Hinckley, Koji Yatani, and Michel Pahud. Copy and staple gestures. United States Patent Application 20110181524.
- [PA1] Kurt Partridge, Koji Yatani, Mark W. Newman, and David Goldberg. Method and apparatus for selecting an object within a user interface by performing a gesture. United States Patent Application 20090077501.

Selected Press Coverage

- Manual Deskterity
 - “Microsoft Patenting Multi-Screen, Multi-Touch Gestures” *Tech Crunch*, August 2011.
 - “Microsoft’s Manual Deskterity project reveals pen and touch input, Courier’s future?” *Engadget*, April 2010.
 - “Microsoft Shows Off Finger/Stylus Combo Multitouch Magic” *Gizmode*, April 2010.
 - “New Computer Interface Goes Beyond Just Touch” *MIT Technology Review*, April 2010.
 - “TechBytes: Microsoft’s Mystery Event” *ABC News*, April 2010.

- Toss-It
 - “Exchanging Data by ‘Throwing’” *Nihon Keizai Shibun (Japan Economic Times)*, March 2005.
 - “Toss-It” *TV Tokyo World Business Satellite, Trend Tamago*, March 2005.

FELLOWSHIPS AND SCHOLARSHIPS

- | | |
|-------------------|--|
| 05/2011 – 11/2011 | Doctoral Completion Award |
| 09/2008 – 08/2009 | Wolfond Fellowship |
| 09/2006 – 08/2007 | Wolfond Fellowship |
| 04/2005 – 03/2006 | Japan Society for the Promotion of Science Research Fellowship for Young Scientists (DC1) |
| 10/2003 – 03/2005 | NTT Docomo Scholarship |

AWARDS

- | | |
|---------|---|
| 05/2011 | CHI Best paper award (for P11) |
| 10/2009 | UIST Student Innovation Competition 2nd place award for most useful interfaces (for CP2) |

PROFESSIONAL ACTIVITIES

Program Committee

- **Ubicomp**: International Conference on Ubiquitous Computing (2012)

Reviewer (Journal)

- **ACM Transactions on Computer-Human Interaction**
- **Personal and Mobile Computing (Elsevier)**

Reviewer (Conference)

- **ACE**: ACM International Conferences on Advances in Computer Entertainment Technology (2010, 2011)
- **APSIPA Annual Summit and Conference** (2010, 2011)
- **CHI**: ACM SIGCHI Conference on Human Factors in Computing Systems (2008 – 2012)
- **CSCW**: ACM Conference on Computer Supported Cooperative Work (2010)
- **Internet of Things Conference** (2008)

- **IUI**: ACM International Conference on Intelligent User Interfaces (2010, 2012)
- **ITS**: ACM International Conference on Interactive Tabletops and Surfaces (formally TableTop; 2008, 2011)
- **MobileHCI**: ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (2008, 2009, 2011)
- **Pervasive**: International Conference on Pervasive Computing (2010)
- **TEI**: International Conference on Tangible, Embedded and Embodied Interaction (2012)
- **Ubicomp**: International Conference on Ubiquitous Computing (2009 – 2011)
- **UIST**: ACM Symposium on User Interface Software and Technology (2008 – 2011)
- **3DUI**: IEEE Symposium on 3D User Interfaces (2009)

Reviewer (Japanese Domestic Journal)

- **IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences**
- **IEICE Transactions on Information and Systems**
- **Transactions of Human Interface Society**

Student Volunteer

- **CHI**: ACM SIGCHI Conference on Human Factors in Computing Systems (2010)
- **IJCAI**: International Joint Conferences on Artificial Intelligence (2011)

TEACHING EXPERIENCE

Teaching Assistant (Department of Computer Science, University of Toronto)

- | | |
|-------------------|---|
| 01/2010 – 04/2010 | Course: CSC 318 The Design of Interactive Computational Media
Lecturer: Ilona Posner |
| 09/2009 – 12/2009 | Course: CSC 428/2514 Human-Computer Interaction
Lecturer: Khai N. Truong |
| 01/2009 – 04/2009 | Course: CSC 108 Introduction to Computer Programming
Lecturer: Diane Horton |
| 09/2008 – 12/2008 | Course: CSC 309 Programming on the Web
Lecturer: Nan Niu |
| 01/2008 – 04/2008 | Course: CSC 108 Introduction to Computer Programming
Lecturer: Karen Reid |
| 09/2006 – 12/2006 | Course: CSC 428/2514 Human-Computer Interaction
Lecturer: Tovi Grossman |

STUDENTS MENTORED

Microsoft Research Asia (2011 – present)

Research Intern Yang Zhao (University of Utah, Jan. 2012 – Apr. 2012)

University of Toronto (2006 – 2011)

Graduate Students (Masters) Nikola Banovic (University of Toronto, 2010 – 2011)
Eunyoung Chung (Oregon State University, 2008 – 2010)
Dustin Freeman (University of Toronto, 2009 – 2011)
Frank Chun Yat Li (University of Toronto, 2011)

Undergraduate Students Michael Novati (University of Toronto, 2008 – 2009)
Jeremy Scott (University of Toronto, 2009 – 2010)

University of Tokyo (2003 – 2006)

Graduate Students (Masters) Keiichi Hiroki (University of Tokyo, 2004 – 2006)
Ayumu Kaneko (University of Tokyo, 2005 – 2006)

Undergraduate Students Aoi Ishikawa (Tama Art University, 2003 – 2004)
Ayumu Kaneko (University of Tokyo, 2004 – 2005)
Toshiya Kishimura (University of Tokyo, 2003 – 2004)
Yusuke Sugano (University of Tokyo, 2004 – 2005)
Koiti Tamura (University of Tokyo, 2003 – 2004)
Takako Yamaguchi (Tama Art University, 2003 – 2004)

MEMBERSHIP

- **ACM:** Association for Computer Machinery, Member (2003 – present)
- **IEEE:** Institute of Electrical and Electronics Engineers, Member (2004 – present)