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RESEARCH INTERESTS

My research interests are in Human-Computer Interaction (HCI), particularly Domestic and Ubiquitous Computing. I am interested in designing and evaluating technologies for families. My research method involves studying families' use of technology, followed by the design, implementation, and evaluation of domestic computing systems. In my dissertation, I explored the use of always-on video to connect families separated by distance. My dissertation provides a typology of communication, awareness and connectedness practices between families and design recommendations for domestic communication systems. My other research interests are in Computer Supported Collaborative Work (CSCW), Computer Mediated Communication (CMC) and Design. I worked with software designers at IBM to understand collaboration in the workplace, introduced and validated the use of a new design tool called collaboration personas.

EDUCATION

PhD in Computer Science, Virginia Tech - Blacksburg, VA (Expected) August 2011
Dissertation Topic: *Moving Media Spaces Into The Home: Redefining Communication, Connectedness And Awareness Between Families*
Specialization: Human-Computer Interaction
Advisor: Steve Harrison
Committee: Dr. Dennis Kafura, Dr. Andrea Kavanaugh, Dr. Manuel Perez-Quinones, Dr. Deborah Tatar, Dr. Carman Neustaedter (Simon Fraser University)
GPA: 3.88/4.0

Graduate Certificate in Human-Computer Interaction, Virginia Tech - Blacksburg, VA December 2010

MS in Computer Science, Virginia Tech - Blacksburg, VA December 2009
Specialization: Human-Computer Interaction
GPA: 3.88/4.0

BS in Computer Science, University of Wisconsin-Madison - Madison, WI May 2006
GPA: 3.40/4.0

INDUSTRY AND RESEARCH EXPERIENCE

Research Intern, USER Group, IBM Almaden Research Center, San Jose, California Sept 2010 – Dec 2010

- Mentored by Dr. Stephen Whittaker and Dr. Tara Matthews
- Validated the usefulness of collaboration personas for designing team based software
- Planned and conducted interviews and design activities with 15 IBM designers and UX researchers to compare the usefulness of collaboration personas vs. individual personas; analyzed interview data using open coding
- Led to submitted journal article [J.3]

Research Intern, Kodak Research Labs, Rochester, New York May 2010 – Aug 2010

- Mentored by Dr. Carman Neustaedter
- Designed and implemented (using C#) a multifamily domestic media space with three-way video called Family Portals (FP) (*focus of dissertation research*)

- Designed and conducted field trials in the homes of 6 families for 8 weeks to learn about families' usage of FP, changes in communication practices, and privacy concerns; analyzed interview data using open coding
- Led to conference publication [C.6] and workshop proposal [WO.2]

Research Intern, Kodak Research Labs, Rochester, New York

Jun 2009 – Aug 2009

- Mentored by Dr. Carman Neustaedter
- Conducted interviews with 21 participants to learn about families' use of video conferencing in the home
- Designed and implemented (using C#) a dyadic domestic media space with two-way always-on video called the Family Window (FW)
- Designed and conducted field trials in the homes of 4 families for 6 weeks to learn about families' usage of FW, changes in communication practices, and privacy concerns; analyzed interview data using open coding
- Led to conference publications [C.3], [C.4], video [V.1], pending patent [P.1], and technical report [TR.4]

Usability Consultant, Meridium, Roanoke, Virginia

Jan 2008 – May 2008

- Designed and prototyped web interface to access Meridium database and run SQL queries
- Planned and conducted usability walkthrough and usability evaluations with potential users of the system
- Led to conference publication [C.5]

Software Engineering Intern, Meridium, Roanoke, Virginia

Jun 2007 – Aug 2007

- Created a User Synchronization module (using C#) to enable administrators to schedule synchronization of user data between LDAP and a local directory
- Created an Autologin module which centralizes authentication based on user information in LDAP

Research Assistant, University of Washington-Seattle, Seattle, Washington

Jun 2005 – Aug 2005

- Mentored by Dr. Linda Shapiro
- Designed and developed a Java application to query similarities and differences between human and mouse anatomy; application was called Comparative Anatomy Information System (CAIS)
- Led to conference publication [C.1], journal article [J.1] and journal article [J.2]

PATENT

[P.1] Neustaedter, C., **Judge, T. K.**, Kurtz, A., Fedorovskaya, E. "Time Shifted Video Communications."
Publication date: 03/17/2011. Patent application number: 2011/0063440.

PUBLICATIONS

Refereed conference papers

[C.6] **Judge, T.K.**, Neustaedter, C., Harrison, S., and Blose, A. "Family Portals: Connecting Families Through A Multifamily Media Space." In Proceedings of *ACM Conference on Computer-Human Interaction (CHI 2011)*, Vancouver, Canada, May 2011, ACM. Pgs. 1205-1214. *Acceptance rate 26%*.

[C.5] Lee, J.C., **Judge, T.K.**, and McCrickard, D.S. "Evaluating eXtreme Scenario-Based Design in a Distributed Agile Team." In Extended Abstracts of *ACM Conference on Computer-Human Interaction (CHI 2011)*, Vancouver, Canada, May 2011, ACM. Pgs. 863-877. *Acceptance rate 50%*.

[C.4] **Judge, T.K.**, Neustaedter, C., and Kurtz, A. "The Family Window: The Design and Evaluation of a Domestic Media Space." In Proceedings of *ACM Conference on Computer-Human Interaction (CHI 2010)*, Atlanta, Georgia, April 2010, ACM. Pgs. 2361-2370. *Acceptance rate 22%*.

Nominated for CHI Best Paper Award. Awarded to top 5% of accepted papers.

[C.3] **Judge, T.K.**, and Neustaedter, C. "Sharing Conversation and Sharing Life: Video Conferencing in the Home." In Proceedings of *ACM Conference on Computer-Human Interaction (CHI 2010)* Atlanta, Georgia, April 2010, ACM. Pgs. 655-658. *Acceptance rate 22%*.

[C.2] Neustaedter, C., Tang, A., and **Judge, T.K.** "The Role of Community and Groupware in Geocache Creation and Maintenance." In Proceedings of *ACM Conference on Computer-Human Interaction (CHI 2010)* Atlanta, Georgia, April 2010, ACM. Pgs. 1757-1766. *Acceptance rate 22%*.

[C.1] Travillian, R.S., Diatchka, K., **Judge, T.K.**, Wilamowska, K., and Shapiro, L.G. "A Graphical User Interface for a Comparative Anatomy Information System: Design, Implementation and Usage Scenarios." In Proceedings of *Conference of American Medical Informatics Association (AMIA 2006)*, Washington DC, November 2006. Pgs. 774-778. **Nominated for AMIA Best Paper Award.** Awarded to top 5% of accepted papers.

Refereed journal articles

[J.3] Matthews, T., Whittaker, S., Moran, T., Yuen, S., and **Judge, T. K.** "The New Organizational Ecology: Symbiotic Relationships Between Collaborations." (Under review) Special Issue of *Journal of Computer Supported Cooperative Work (JCSCW) on Collective Intelligence in Organizations*. Submitted: January 2011.

[J.2] Travillian, R.S., Diatchka, K., **Judge, T.K.**, Wilamowska, K., and Shapiro, L.G. "An Ontology Based Comparative Anatomy Information System." *Artificial Intelligence in Medicine (2011)*. Vol. 51 (1). Pgs. 1-15.

[J.1] **Judge, T. K.**, Diatchka, K., Shapiro, L.G., Wilamowska, K., Travillian, R.S. "The Comparative Anatomy Information System for the Foundational Model of Anatomy and Mouse Anatomy Ontology." *Wisconsin Undergraduate Journal of Science (WISCI 2006)*.

Refereed short papers with videos

[V.2] Neustaedter, C., and **Judge, T.K.** "Peek-A-Boo: The Design of a Mobile Family Media Space." In Adjunct Papers of *ACM International Conference on Ubiquitous Computing (UBICOMP 2010)*, Copenhagen, Denmark, September 2010, ACM. Pgs. 449-450. *Acceptance rate 63%*.

[V.1] Neustaedter, C., **Judge, T.K.**, Kurtz, A., and Federovskaya, E. "The Family Window: Connecting Families over Distance with a Domestic Media Space." In Video Proceedings of *ACM Conference on Computer Supported Cooperative Work (CSCW 2010)*, Savannah, Georgia, February 2010, ACM.

Workshop proposals/organized workshops

[WO.3] **Judge, T.K.**, Vega, L., and Poole, E. "Betting on Yourself: Regaining and Maintaining Confidence as a Woman in Computing". (To appear) In Proceedings of *Grace Hopper Celebration of Women In Computing (GHC 2011)*, Portland, OR, November 2011.

[WO.2] Neustaedter, C., **Judge, T.K.**, Harrison, S., Sellen, A., and Cao, X. "Connecting Families: New Technologies, Family Communication, and the Impact on Domestic Spaces." In Proceedings of *ACM Conference on Supporting Group Work (GROUP 2010)*, Sanibel Island, Florida, November 2010, ACM. Pgs. 363-366.

[WO.1] **Judge, T.K.**, Neustaedter, C., Tang, A., and Harrison, S. "Bridging the Gap: Moving From Contextual Analysis to Design." In Extended Abstracts of *ACM Conference on Computer-Human Interaction (CHI 2010)*, Atlanta, Georgia, April 2010, ACM. Pgs. 4497-4500.

Workshop papers

[WP.2] Pyla, P. S., Hartson, H. R., and **Judge, T. K.** "Bridging Artifacts: Leveraging Duality to Bridge The Gap between Analysis and Design." In Workshop on "Bridging the Gap: Moving From Contextual Analysis to Design," *ACM Conference on Computer-Human Interaction (CHI 2010)*, Atlanta, Georgia, April 2010.

[WP.1] **Judge, T. K.**, Pyla, P. S., McCrickard, S., and Harrison, S. "Affinity Diagramming in Multiple Display Environments." In Workshop on "Beyond the Laboratory: Supporting Authentic Collaboration with Multiple Displays," *ACM Conference on Computer Supported Cooperative Work (CSCW 2008)*, San Diego, California, October 2008.

Refereed poster

[P.1] Forsman, A., Probus, S., Rivera, L., **Judge, T.K.**, and McCrickard, S. "Affinity Diagramming Goes Digital: Supporting users through a large multi-touch display and PDAs." *STARS (Students & Technology in Academia, Research and Service) Celebration 2009*, Tallahassee, Florida, August 2009.

Technical reports

[TR.4] **Judge, T.K.**, and Neustaedter, C. "The Family Window: Perceived Usage and Privacy Concerns." Technical Report TR-10-01, Dept of Computer Science, Virginia Tech, 2010.

[TR.3] **Judge, T.K.**, Pyla, P., McCrickard, S., and Harrison, S. "Studying Group Decision Making in Affinity Diagramming." Technical Report TR-08-16, Dept of Computer Science, Virginia Tech, 2008.

[TR.2] **Judge, T.K.**, and McCrickard, S. "Collaborating on Affinity Diagrams Using Large Displays." Technical Report TR-08-18, Dept of Computer Science, Virginia Tech, 2008.

[TR.1] **Judge, T.K.**, Kopper, R., Ponce, S., Silva, M., and North, C. "BABES: Brushing+Linking, Attributes, and Blobs Extension to Storyboard". Technical Report TR-08-02, Dept of Computer Science, Virginia Tech, 2008.

INVITED TALKS

[IT.11] "Family Portals: Connecting Families Through A Multifamily Media Space," **Center for Human-Computer Interaction (CHCI) Seminar**, Virginia Tech, Blacksburg, Virginia, April 2011.

[IT.10] "The Family Window: Connecting Families With a Media Space," **Palo Alto Research Center (PARC)**, Palo Alto, California, November 2010.

[IT.9] "The Family Window: Connecting Families Across Distance," **Google**, Mountain View, California, November 2010.

[IT.8] "The Family Window: Connecting Families Across Distance," **FX Palo Alto Laboratory (FXPAL)**, Palo Alto, California, November 2010.

[IT.7] "Connecting Families with a Media Space," **IBM Almaden Research Center**, San Jose, California, October 2010.

[IT.6] "Why Always-On Video Will and Will Not Work in the Home: Connecting Multiple Families with a Media Space," **Kodak Research Labs**, Rochester, New York, July 2010.

[IT.5] "The Family Window: The Design and Evaluation of a Domestic Media Space," **Center for Human-Computer Interaction Seminar**, Virginia Tech, Blacksburg, Virginia, April 2010.

[IT.4] "Moving Media Spaces Into The Home With The Family Window," **Kodak Research Labs**, Rochester, New York, Aug 2009.

[IT.3] "Bridging the gap between analysis and design in interactive systems development," **Kodak Research Labs**, Rochester, New York, Jun 2009.

[IT.2] "Grad School 101," **Department of Computer Science Seminar**, Virginia Tech, Blacksburg, Virginia, Sept 2009.

[IT.1] "Finding a Research Topic," **CRA-W Grad Cohort**, San Mateo, California, Mar 2009.

AWARDS AND HONORS

- **Davenport Fellowship** for *Academic Excellence and Leadership*, College of Engineering, Virginia Tech, Feb 2011
- CHI 2010 **Best Paper Nomination**, awarded to top 5% of accepted papers, April 2010
- **Davenport Fellowship** for *Academic Excellence and Leadership*, College of Engineering, Virginia Tech, Mar 2010
- Nominated as **Outstanding Student in College of Engineering**, Virginia Tech, Jan 2010
- **Pratt Fellowship** for *Academic Excellence and Service to the Department*, Department of Computer Science, Virginia Tech, Mar 2009
- AMIA 2006 **Best Paper Nomination**, awarded to top 5% of accepted papers, November 2006
- **President's Merit Award (Malaysia)** for *Academic Excellence (top 1% out of 10,000 students)*, May 2001

RESEARCH GRANTS

- **Research grant from Kodak** in the amount of **\$40,000**,
To conduct research on domestic media spaces (focus of PhD research), Oct 2009
- Graduate Research Development Project (GRDP) grant in the amount of **\$500**,
To conduct PhD research, Mar 2009

SCHOLARSHIPS

- Association for Women in Computing (AWC) Scholarship in the amount of **\$1000**,
To attend Grace Hopper Celebration of Women In Computing (GHC) 2010, Oct 2010
- Association for Women in Computing (AWC) Scholarship in the amount of **\$1000**,
To attend GHC 2009, Oct 2009
- Computer Research Association's Committee on the Status of Women in Computing Research (CRA-W) Scholarship in the amount of **\$1000**,
To attend CRA-W Career Mentoring Workshop at SIGCSE 2009, Mar 2009
- CRA-W Scholarship in the amount of **\$1500**,
To attend CRA-W Grad Cohort, Mar 2009
- Anita Borg Institute for Women and Technology (ABI) Scholarship in the amount of **\$1500**,
To attend GHC 2008, Oct 2008
- CRA-W Scholarship in the amount of **\$1500**,
To attend CRA-W Grad Cohort, Mar 2008
- CRA-W Scholarship in the amount of **\$1500**,
To attend CRA-W Grad Cohort, Mar 2007

- **Government of Malaysia Scholarship** in the amount of **\$200,000**, awarded to **top 1%** of students, For pursuing Bachelor's degree, Aug 2002

TECHNICAL SKILLS

- **Prototyping and Design**
Scenarios, personas, storyboards, wireframes, Wizard of Oz, paper prototyping, rapid prototyping, participatory design, design guidelines
- **User Research**
Lab based studies, ethnography, contextual inquiry, observations, videos, surveys, logs, open coding
- **Usability Evaluations**
Cognitive walkthrough, heuristic evaluation, quantitative & qualitative user studies, lab & field evaluations
- **Programming Languages**
Java, C#, C++, HTML, CSS, SQL
- **Operating Systems**
Windows, Macintosh, UNIX

PROFESSIONAL ACTIVITIES

- **Conference Program Committee**
ACM Conference on Human Factors in Computing Systems (CHI 2011) Work in Progress
- **Workshop Organizer**
ACM Group Conference (GROUP 2010)
ACM Conference on Human Factors in Computing Systems (CHI 2010)
- **Reviewer**
ACM Conference on Human Factors in Computing Systems (CHI 2011)
International Conference on Intelligent Tutoring System (ITS 2010)
ACM Conference on Human Factors in Computing Systems (CHI 2010)
Students & Technology in Academia, Research and Service Celebration (STARS 2009)
- **Student Volunteer**
ACM Conference on Human Factors in Computing Systems (CHI 2011)
ACM Conference on Human Factors in Computing Systems (CHI 2009)
ACM Special Interest Group on Computer Science Education (SIGCSE 2009)
ACM Conference on Computer Supported Cooperative Work (CSCW 2008)

TEACHING EXPERIENCE

Instructor, Department of Computer Science, Virginia Tech

- CS 1604 Introduction to the Internet – online course (Fall 2008)

Graduate Teaching Assistant, Department of Computer Science, Virginia Tech

Planned and conducted weekly programming labs, graded assignments and tests, conducted in-class activities, and sometimes lectured:

- CS 1705 Introduction to Object Oriented Development 1 (Java) – Undergraduate course (Spring 2009)
- CS 1706 Introduction to Object Oriented Development 2 (Java) – Undergraduate course (Fall 2006, Spring 2007, Fall 2007)

STUDENTS ADVISED

- **Steven Probus**, BS in Computer Science (Jan 2009 – May 2009). Conducted undergraduate research funded by *STARS (Students & Technology in Academia, Research and Service)*. Led to poster [P.1] and 3rd place in the 2009 Virginia Tech Undergraduate Research Symposium.
- **Andrew Forsman**, BS in Computer Science (Aug 2008 – May 2009). Conducted undergraduate research funded by *STARS (Students & Technology in Academia, Research and Service)*. Led to poster [P.1] and 3rd place in the 2009 Virginia Tech Undergraduate Research Symposium.
- **Luis Rivera**, BS in Computer Science (Aug 2008 – May 2009). Conducted undergraduate research funded by *STARS (Students & Technology in Academia, Research and Service)*. Led to poster [P.1] and 3rd place in the 2009 Virginia Tech Undergraduate Research Symposium.

LEADERSHIP AND SERVICE

Computer Science Graduate Council, Virginia Tech

- **President**, May 2009 – May 2010
- Graduate Student Representative to the Graduate Program Committee (GPC), Aug 2007 – May 2009
- Advertising Chair, Aug 2006 – Aug 2007

Association for Women in Computing (AWC), Virginia Tech

- Treasurer, May 2008 – May 2009
- Advertising Chair, May 2007 – May 2008

Women in Computer Science (WICS), University of Wisconsin-Madison

- Undergraduate Chairperson, Aug 2005 – May 2006

PROFESSIONAL MEMBERSHIPS

- Usability Professionals' Association (UPA)
- ACM Special Interest Group on Computer-Human Interaction (ACM SIGCHI)
- San Francisco Bay Area chapter of the ACM SIGCHI (BayCHI)
- Member of Upsilon Pi Epsilon (UPE), National Computer Science Honor Society