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EDUCATION

- 2009 - University of Washington, Seattle WA
Present Ph.D student in Computer Science
Advisor: Richard Anderson
- 2007 Colby College, Waterville ME,
Majors: Computer Science, Spanish
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PUBLICATIONS

- 2010 Chaudhri, R., O'Rourke, E., McGuire, S., Borriello, G., Anderson, R. FoneAstra: Enabling Remote Monitoring of Vaccine Cold-Chains Using Commodity Mobile Phones. *ACM Symposium on Computing for Development (DEV 2010)*.
- 2010 Anderson, R., Blantz, E., Lubinski, D., O'Rourke, E., Summer, M., and Yousoufian, K. SmartConnect: Last mile data connectivity for rural health clinics, *4th ACM Workshop on Networked Systems for Developing Regions (NSDR 2010)*.
- 2007 Interrante V., O'Rourke E., Gray L., Anderson L. and Ries B. A Quantitative Assessment of the Impact on Spatial Understanding of Exploring a Complex Immersive Virtual Environment using Augmented Real Walking versus Flying. *Short paper in the Proceedings of the 13th Eurographics Symposium on Virtual Environments*.
- 2007 Interrante, V., Anderson, L., Ries, B., O'Rourke, E., and Gray, L. Experimental investigations into the feasibility of using augmented walking to facilitate the intuitive exploration of large scale immersive virtual environments. *Abstract in Proceedings of the 4th Symposium on Applied Perception in Graphics and Visualization (APGV 2007)*. vol. 253. ACM, New York, NY, p.144.
- 2007 Interrante, V., Ries, B., O'Rourke, E., Gray, L., Lindquist, J., & Anderson, L. Evaluating alternative metaphors for augmented locomotion through large-scale immersive virtual environments [Abstract]. *Journal of Vision*, 7(9):145, 145a.
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RESEARCH PROJECTS

- 2010 - **Smart Connect**
- 2011 Rural health facilities in developing countries collect valuable data relating to patient care, however it is challenging and time consuming to report this data to the urban facilities where it could be aggregated and utilized. To address this problem, we are developing Smart Connect, a facility-based communication device that uses SMS messages to provide a data link between peripheral health facilities and a server connected to the Internet. In collaboration with PATH, we have completed fieldwork in Nicaragua that indicates that a variety of processes could be improved with the use of this device. These include filing epidemiological surveillance reports, receiving results of diagnostic test, and providing automatic monitoring of vaccine refrigeration equipment. My focus in this work was to complete field work in Nicaragua to gather requirements to influence the design of the Smart Connect functionality and interface.

- 2010 **FoneAstra**
FoneAstra is a low-cost, programmable device that extends capabilities of the non-programmable, low-tier mobile phones that are most prevalent amongst low-income groups in developing regions. FoneAstra enables interesting mobile applications in a variety of domains ranging from participatory sensing to remote monitoring to healthcare. Two specific applications that are currently under development include using FoneAstra to remotely monitor the temperatures of vaccines stored in a national vaccine cold chain, and using FoneAstra to monitor the milk pasteurization process at human milk banks. Both of these applications are being developed in collaboration with the Seattle-based global health non-profit PATH. My role in this work as to conduct an initial field trial of the FoneAstra system for cold chain monitoring in Nicaragua, and to develop an initial web application for viewing collected data.
- 2010 - **SPACE**
2011 The cold chain is a complex sequence of refrigeration equipment used to ensure that vaccines retain the correct temperature during transport and storage. In developing countries, district level cold chain supervisors play an important role in managing and monitoring refrigeration equipment to promote vaccination in the most rural areas. While there are applications available to support national cold chain management, no tools currently address the needs of the district level supervisor. The System for the Portal Analysis of Cold-chain Equipment (SPACE), an Android application to support decision-making at the district level, has been designed to address this need. My role in this project was to conduct an initial paper prototype of the system and validate the design through work with cold chain experts at the global health non-profit PATH. I am currently developing a functioning prototype of the SPACE system.

RESEARCH EXPERIENCE

- 2009 - Research Assistant, University of Washington, Seattle WA
Present Worked as a graduate research assistant to Professor Richard Anderson. Participated in numerous projects that professor Anderson initiated during his sabbatical at PATH during the 2009-2010 academic year and is continuing as a part-time contracted employee there, including Smart Connect, FoneAstra, and SPACE.
- 2010 Intern, PATH, Seattle WA
Summer internship work with the Health Management and Information Systems team at PATH working on the Smart Connect project. I spent the first six weeks of the internship designing and developing the Smart Connect system at PATH's office in Seattle, and spent the following six weeks completing a field trial of the system at PATH's office in Nicaragua.
- 2007 Senior Honors Project: POV-IT, Colby College
Developed and implemented an interactive online tutorial teaching the ray-tracing software POV-Ray. Used an Apache Web Server, HTML, JavaScript, Ruby on Rails, and Ajax. Completed a 120-page thesis paper describing the project's development. View online at <http://cs.colby.edu/departments/projects.php> under POV-IT.
- 2006 Distributed Mentoring Project, University of Minnesota, Minneapolis MN
Worked with Professor Victoria Interrante to develop experiments testing the effectiveness of various modes of navigation through an immersive virtual environment. Short paper published in the proceedings of the 2007 Eurographics Symposium on Virtual Environments.
- 2005 Research Assistant, Smith College, Northampton MA
Assisted in the writing and diagram design of a textbook designed to teach geometry to high school level students through pop-up cards.

WORK EXPERIENCE

- 2007 - Outcome Sciences, Associate Developer, Cambridge MA
2009 Position as a full-time developer for Outcome Sciences, a medical research company focused on developing patient registries. Work on a team of five using Java, Java Servlets, AJAX, CSS, and SQL to develop new studies and update existing studies. View more online at outcome.com
- 2007 SeamlessTransition Web Developer, Cambridge MA
Worked as the contracted web developer for SeamlessTransition, a company that supplies short-term housing for relocating and traveling professionals. Designed the front and back end capabilities of the site as well as its MySQL database. View online at seamlesstransition.com.

AWARDS AND HONORS

- 2011 NSF Graduate Research Fellowship: Honorable Mention
2010 Microsoft Research Graduate Women's Scholarship: Recipient
2010 NSF Graduate Research Fellowship: Honorable Mention
2007 Member of the Phi Beta Kappa Chapter of Maine at Colby College

COMMUNITY INVOLVEMENT

- 2010 - Since Spring 2010 I have been in charge of organizing the Change seminar, a group of
Present students, faculty and staff from around the UW campus that meet every week to talk about technology for under-resourced communities. This position involves scheduling talks, updating media to announce talks (blog, email), planning and leading discussions, as well as arranging lunch. More information about the seminar can be found at: <http://change.washington.edu>