Carnegie Mellon Personal Statement

Part I

My primary interest of study within HCI is in ubiquitous computing. Specifically, I am interested in coming up with new input and sensing technologies, as well as investigating usable privacy and security in ubiquitous computing.

Part II

My objective in pursuing a PhD is to make scientific and technological contributions to the field of HCI while continuing to learn as much as possible. I am applying to Carnegie Mellon because its creative atmosphere and collection of scholars eminent in my fields of expertise and interest make it the ideal school for me to pursue research.

I was immediately impressed with the creative atmosphere at Carnegie Mellon when I spent 12 weeks working on a research project with Jen Mankoff. This creative atmosphere is largely due to the freedom professors give their students in and outside of research. For instance, my advisor listened when I told her I wanted to do more than just build a carbon footprint calculator for my research, and encouraged me to come up with my own ideas for how to sense human activity using financial data. My advisor was also encouraging of the side projects I pursued this summer, illsendyoucookies.com (which I used to send people who wanted cookies for free) and openmosiac.org (a canvas that anybody can edit). She even let me take a few days off to float a raft which two HCII graduate students and I had built 35 miles down the Allegheny River for three days(http://www.cmu.edu/news/piper/ThePiperOct08.pdf page 8).

Not only does Carnegie Mellon have a very positive atmosphere, it also has a group of scholars that I would be very interested in working with. First, I really enjoyed working with Jen Mankoff last summer when I developed a new method to sense human activity using financial data, and am interested in continuing to work with her on this project. Scott Hudson's work on hardware, new sensors, and displays blends well with my interest in new input and sensing technologies. In particular, I would like to explore how technologies such as Chris Harrison's Scratch Input can be expanded upon, and to come up with similar input techniques. Finally, Jason Hong's work on usable security fits my interest in the same area perfectly. I've worked quite extensively with RFID technology as an undergraduate, and am currently exploring how we can design devices to increase peoples' awareness of RFID and other sensing technologies. I would be honored to have the chance to continue this research with an expert in the field such as Dr. Hong. I am pursuing a PhD because I love to do research, and Carnegie Mellon would be the ideal place for me.

Part III

I discovered Human-Computer Interaction (HCI) three summers ago at the Microsoft Faculty Summit where I demonstrated Classroom Presenter, a research project I was working on. There,

I saw a device that one researcher from MSR—Patrick Baudisch—had built. It was a mouse (called SOAP) that could be controlled by rolling in the palm of one's hand much like a bar of soap. I was so captivated by this device that I decided to build it. I'd never taken apart a mouse much less soldered wires before, but after a few days I had a working prototype. Building this mouse sparked my interest in HCI. Since then, I've had many experiences which have given me insight into the research process and prepared me for the fast-paced, innovative and interdisciplinary nature of HCI research.

First, I learned how to rapidly develop small prototypes when I worked at Google the as part of a 20 person team building a next generation search engine. My project was to come up with new ways to help people find what they need. Working with one other person, I built a framework for rapidly developing search prototypes, and independently built several functional prototypes illustrating different ways to improve users' search experience. From this, I learned that I really enjoy coming up with new ideas and building prototypes, both of which are fundamental aspects of HCI research.

My interest in HCI became more fine-tuned as I became fascinated with the power of ubiquitous computing after joining the RFID Ecosystem team at the University of Washington. The RFID Ecosystem is a network of RFID readers in the UW Computer Science building deployed to study and discover alternative uses of RFID tags. I independently designed and built a Facebook application which uses the RFID Ecosystem to show users where their friends are. This application is currently used as part of a 50-person user study to examine how people use the RFID Ecosystem.

Drawing on my skill set, I took my fascination with ubiquitous computing and developed a new method to sense human activity under the mentorship of Dr. Jen Mankoff at Carnegie Mellon last summer. I designed and built four applications to show that financial transactions can be used to sense human activity[i]. The most rewarding part of this research was that thanks to the freedom my advisor gave me, I was the lead investigator in all aspects of this project (related works search, design, development, and evaluation). This gave me a deep understanding of what leading a research project is like. In this project I learned what completing a research project in HCI is like according to the standards of one of the top professors in the field, and loved it.

The final reason why I want to pursue a career in research is because my father always wanted me to be a professor. He thought I would be happy as a professor because of my love for learning, travel, and teaching. After my father's death this passion turned into a promise—I would become a professor one day to fulfill his wish and mine. This promise, combined with my previous experiences, makes me want to pursue a research career in HCI above all else. I hope that I can fulfill my promise by pursuing a research career in HCI at Carnegie Mellon.

---

[i] Schwarz, Julia and Jen Mankoff. **Reflections of Human Activity Using Financial Data.** Accepted into CHI 2009.