

Xiying Wang

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Address: E370 Westgate Building, IST, Pennsylvania State University, University Park, PA 16801

Education

Ph.D. student in Information Science, Cornell University | 08/2011-Present

Advisor: Susan R. Fussell

Committee members: Dan Cosley, Malte Jung

3.8 Cumulative GPA

Core Courses: Qualitative Research Methods, Learning from Web Data, Advanced Human-Computer Interaction, Analytic of Social System, Computer Mediated Communication (CMC), Social Statistics

M.S. in Human-Computer Interaction / Design, Indiana University Bloomington | 09/2009-05/2011

Advisor: Eli Blevis

3.95 Cumulative GPA

Core Courses: Foundation of Human-Computer Interaction, Interaction Design Practice, HCI Methods and Evaluations, Experience Design, HCI Design Theory, Meaning and Forms of Interaction Design, Graphic Design

B.E. in Software Engineering, Sun Yat-sen University | 09/2005-06/2009

Best Graduated student of 2009, Best Capstone paper of 2009

3.9 Cumulative GPA

Ranking: 1/68

Research Experience

Smart and Connected Health | 08/2017-Present

Pennsylvania State University, University Park, PA, USA

My current research focuses on community's health and well-being. In this project, I conducted a number of user and design studies to explore older adults' well-being, innovation, informal learning, and their use of technology. Based on the study insights, I identified ways to support active aging through mobile technology.

Understanding People with Visual Impairment (PVI) | 08/2017-Present

Pennsylvania State University, University Park, PA, USA

In this project, I built a partnership with three vision organizations to understand the role of mobile technology in PVI's lives and designed mobile systems to support the daily experience of PVI.

Culture, Heritage, and Community Data | 08/2017-Present

Pennsylvania State University, University Park, PA, USA

In this project, I investigated the data practices of community groups to develop technological platforms to support informal learning of science and data sharing.

EnergyHome: A Mobile Application to Motivate Sustainable Behavior | 05/2013-08/2017

Cornell University, Ithaca, NY, USA

My Ph.D. research focuses on mobile design, persuasive technology, user experience, and sustainable behavior change. Advised by my advisor Susan R. Fussell, I designed, developed, deployed, and evaluated a mobile application called EnergyHome, to understand what design features engage roommates/families in saving energy and the reasons. I found that social dynamics played an influential role in behavior change. This work was published on MobileHCI'17 and presented in Vienna, Austria.

EnergySense: A Mobile Application to Regulate Energy Use | 09/2015-08/2017

Cornell University, Ithaca, NY, USA

Advised by my advisor Susan R. Fussell, I designed, developed, and deployed a mobile application with three Cornell students. This application sensed sleeping status and a user's current location. It automatically controlled lighting based on sleeping status or the user's current location. I led a field study to understand the user experience of this application and found that EnergySense effectively balanced social conflicts and facilitate energy conservation.

Energy Management and Conflicts of Housemates | 09/2015-08/2017

Cornell University, Ithaca, NY, USA

Advised by my advisor Susan R. Fussell, I studied how housemates or roommates use energy at home. In particular, I examined conflicts in energy use among those who lived together but did not belong to the same family.

User Experiences of Energy Use in Hotels | 01/2013-08/2017

Cornell University, Ithaca, NY, USA

Advised by my advisor Susan R. Fussell, I investigated everyday user experiences of energy use in hotels using interviews and diary studies, and explored design opportunities for motivating energy-saving behavior in hotels. The research abstract was published in MobileHCI'14 and presented in Toronto.

SafeSense: A Wearable Armband for Field Workers | 06/2014-08/2014

IBM, Yorktown Heights, NY, USA

This research explored how wearable devices encourage behavior change. Advised by my mentor Justin Weisz, I was conducting user studies to understand workers' behaviors of health and safety at work, designing and building a wearable armband, and evaluating the device (surveys, interviews). We patented my work on SafeSense and the patent was granted in January 2018 (U.S. Patent 9858794B2).

User Experiences of Energy Use in Offices | 09/2012-12/2012

Ericsson, Inc., CA, USA

This research aimed to understand how connectivity motivates sustainable energy behaviors in office environments. I was responsible for designing a research agenda and protocols, recruiting participants, conducting interviews, and analyzing interview data.

Food safety in Guangzhou, China | 09/2010-05/2011

Indiana University Bloomington, USA

My master's capstone included conducting UX research (cultural probes, ethnographic observation, personal narratives) to explore how people and food relate, and how food safety affects people's daily lives; and developing an interaction design called iFoodCard to support Guangzhou citizens' daily choices of food.

Cross-Culture Dream Kitchen | 08/2010-05/2011

Indiana University Bloomington, USA

Advised by my professor and mentor Eli Blevis, I researched the domains of food, kitchen, sustainability and human-computer interaction. I conducted several design studies to understand how food and kitchen connect people in different cultures and to identify new implications for a connected kitchen design.

musicWALK-Tunes from your walking experience | 10/2009-10/2010

Indiana University Bloomington, USA

The project was purposed to understand people's motivations of walking and walking behaviors, and to design with the intention of evoking people's desire of walking. We used music as an incentive to encourage people to walk. I presented the project paper in the 7th International Conference on Design and Emotion in Chicago on October 6th, 2010.

Hierarchy fisheye menu design and realization based on DOI | 09/2008-05/2009

Sun Yat-sen University, China

The research project was purposed to use fish eyes as a metaphor to develop a menu based on Degree of Interest (DOI), better support long-list menu reading, and improve the current fisheye menu designed by Ben Bederson. I developed a menu called hierarchy fisheye menu. The project paper was published in the in the 5th Joint Conference on Harmonious Human Machine Environment of China.

Tri-Sun Smart Home | 09/2008

Apple Laboratory, SYSU, China

This research project aimed at understanding the environment of Tri-Sun (Tri-Sun Electronics Limited.) smart home and designing a virtual map for the smart home sample. Advised by my supervisor and mentor Jianmin Wang, I was responsible for analyzing the environments of Tri-Sun smart home by doing ethnography research and field study.

ITV (Interactive Television) Specifications | 12/2007-06/2009

Digital Home Research and Supporting Centre of Guangdong Province, China

The project aimed at writing usability specifications for Guangdong local electronics. I was responsible for researching ISO patents, usability patents and interactive TV, as well as writing the Patent of Usability Testing and Usability Evaluation for ITV.

Usability Study | 09/2007-12/2007

Usability Laboratory, SYSU, China

Advised by my supervisor and mentor Jianmin Wang, I was responsible for collecting quantitative data and qualitative data while observing people interact with software prototypes, analyzing the data, and providing suggestions.

Publications

Papers

Wang, X., Knearem, T., Gui, F., Gupta, S., Zhu, H., Williams, M., & Carroll, J. M. (2018). A Safety Net: How Older Adults Build and Maintain Interpersonal Relationships. In *Proc. CHI'18*.

Wang, X., & Fussell, S. R. (2017). EnergyHome: Leveraging Housemate Dynamics to Motivate Energy Conservation. In *Proc. MobileHCI'17*.

Wang, X., & Fussell, S. R. (2015). Designing Mobile Technology for Motivating Sustainable Behavior Change. *iConference ICT4S Workshop*.

Wang, X., & Fussell, S. R. (2014). Mobile Designs to Support User Experiences of Energy Conservation in Hotels. In *Proc. MobileHCI, '14* 555-560.

Wang, X., & Cosley, D. (2014). TweetDrops: a visualization to foster awareness and collective learning of sustainability. In *Proc. CSCW'14*. ACM, New York, NY, USA, 33-36.

Cheong, C., Halabi, A., Khanduja, V., & **Wang, X.** (2010). musicWALK-Tunes from your walking experience. In *Proc. 7th Design & Emotion*.

Wang, J., **Wang, X.**, & Zhang, Z. (2009). Hierarchy fisheye menu design and realization based on DOI. In *Proc. Harmonious Human Machine Environment*, Xi'an, China.

Patents

McCleary, D. W., Rosato, S.M., Uchidiuno, J.O., **Wang, X.**, & Weisz, J.D. (2018). Detecting and notifying of various potential hazards. U.S. Patent #9858794B2, filed 2015, issued 2018.

Uchidiuno, J.O., **Wang, X.**, & Weisz, J.D. (2016). Communicationmode control for wearable devices. U.S. Application #20160283412A1, filed 2015.

Work Experience

Web Designer | 02/2016-08/2017

Computer-Human Interaction Conference, SIGCHI, ACM

- Designed and developed CHI (Computer-Human Interaction) 2017 website: <https://chi2017.acm.org/>
- Currently maintained CHI 2017 website
- Currently designed and modified CHI mini-web app: <https://chi2017.acm.org/program/>

Graduate Assistant | 08/2011-08/2017

Cornell University, NY, USA

- Head teaching assistant for Human-Computer Interaction, Fall 2016, Fall 2015
- Head teaching assistant for Intermediate Web Design, Spring 2017, Spring 2016, Spring 2015, Spring 2014, Spring 2013
- Head teaching assistant for Introduction to Programming and Designing Web Applications, Fall 2014, Fall 2013, Fall 2011
- Research assistant for Professor Geri Gay in Spring 2012

- Advised over 600 students on web design and development for four years; mentored over 120 undergraduate students and four graduate students on HCI research and interaction design
- Researched the user experience in the context of mobile technology and sustainability, identified key strategies to motivate sustainable behavior change; mentored four graduate students on HCI research

UX Research Intern | 06/2015-08/2015

National Public Radio (NPR), Washington, DC, USA

- Conducted a user study (diary studies and interviews) to understand how people follow news stories
- Designed a UX research toolkit, used by NPR design team

User Research Intern | 05/2014-08/2014

IBM, Yorktown Heights, NY, USA

- Designed, built (using LilyPad Arduino), and evaluated a wearable device
- Conducted user study (interviews and surveys) to evaluate the wearable device and analyzed study data
- Patented strategies for detecting and notifying potential hazards using sensing devices
- Designed and built an iPhone app which reads and displays data from T.I. SensorTag
- Designed the user interface of an Android app called TeaTime (a hackathon project)

User Research Intern | 09/2012-12/2012

Ericsson, Inc., CA, USA

- Conducted user interviews to understand the user experience of energy use in commercial buildings, analyzed interview data using affinity diagrams
- Designed and developed an interactive website for monitoring energy use
- Designed the user interface of a disaster notification Android application

Product Design Intern | 05/2011-08/2011

Wandou Lab, Beijing, China

- Analyzed use cases, wireframed, and prototyped different design ideas for the Wandoujia Android app
- Designed the user experience (information architecture, functions, etc.) and user interfaces for the Wandoujia Android app, used by thousands of Chinese users

Associate Instructor (Teaching Assistant) | 09/2009-05/2011

Indiana University Bloomington, IN, USA

- Associate Instructor for Professor Eli Blevis (Foundations of Human-Computer Interaction Design, Fall 2010)
- Associate Instructor for Professor David Wild (Information Representation, Spring 2009)
- Associate Instructor for Professor Dennis Groth (Design and Develop an Information System, Fall 2009)
- Mentoring undergraduate students with design research and human-computer interaction design practice

Engineering Intern | 06/2008-08/2008

Sun Yat-sen Software Technology Co. Ltd

- Led a team of six engineers to design and develop a Logistics Service Management System
- Used Unified Process (UP Model) to manage the design process—balanced time, risks, quality and made sure proper communications
- The only person who received the Best Weekly Report twice. The weekly reports were published as posters

Conferences Attended

- **CHI 2018** (Montreal, Canada) | 05/2018 (will present a paper)
- **MobileHCI 2017** (Vienna, Austria) | 09/2017 (**Presented a paper**)
- **CHI 2017** (Denver, CO, USA) | 05/2017 (**Wed designer & webmaster**)
- **CHI 2016** (San Jose, CA, USA) | 05/2016
- **iConference 2015** (Irvine, CA, USA) | 03/2015 (**Presented in ICT for Sustainability workshop**)
- **MobileHCI 2014** (Toronto, Canada) | 09/2014 (**Presented a paper**)
- **CHI 2014** (Toronto, Canada) | 04/2014
- **CSCW 2014** (Baltimore, MD, USA) | 02/2014 (**Presented a paper**)
- **Interaction 11** (Boulder, CO, USA) | 02/2011
- **7th International Conference on Design and Emotion** (Chicago, IL, USA) | 10/2010 (**Presented a paper**)
- **CHI 2010** (Atlanta, GA, USA) | 04/2010

Honors & Awards

- **Special Award** of Orientation Volunteering of Indiana University Bloomington | 08/2010
- **Valedictorian** of Sun Yat-sen University | 06/2009
- **Honored Thesis** of Sun Yat-sen University | 06/2009
- **1st Prize of the “Citi Cup” Technology Application Competition** of Sun Yat-sen University | 05/2008-10/2008
This project is about a bank application we designed, which is called NAVIBANK—navigating and locating banks system. It aims at improving bank service and shortening people’s waiting time.
- 2007-2008 National Scholarship of China (**top 1%**) | 02/2008
- 2007-2008 First Scholarship of Sun Yat-sen University (**top 1%**) | 02/2008
- 2006-2007 National Scholarship of China (**top 1%**) | 02/2007
- 2006-2007 First Scholarship of Sun Yat-sen University (**top 1%**) | 02/2007
- 2005-2006 Second Scholarship of Sun Yat-sen University (**top 5%**) | 02/2006
- Superior Prize of the 3rd National Creative English Composition Competition (top 13%) | 02/2005

Academic Services

- **Paper Reviewer** of DIS 2018 (reviewed 3 full papers and 2 pictorials)
- **Paper Reviewer** of CHI 2018 (reviewed 9 full papers and 5 LBW)
- **Web Designer & Webmaster** of CHI 2017, responsible for designing and building the website, web app for CHI 2017
- **Paper Reviewer** of MobileHCI 2017 (reviewed 3 full papers)
- **Paper Reviewer** of INTERACT 2017 (reviewed 2 full papers)
- **Paper Reviewer** of CHI 2017 (reviewed 7 full papers)
- **Paper Reviewer** of HRI 2017 (reviewed 2 full papers)
- **Reviewer** of IxDa 2017 (reviewed 5 entries)
- **Paper Reviewer** of CHI 2016 (reviewed 4 full papers and 1 short paper)
- **Reviewer** of IxDa 2016 (reviewed 5 design entries)
- **Paper Reviewer** of CHI 2015 (reviewed 3 full papers and 3 short papers)
- **Reviewer** of IxDa conference (reviewed 15 design entries)
- **Paper Reviewer** of DIS 2014 (reviewed 3 short papers)
- **Paper Reviewer** of MobileHCI 2014 (reviewed 3 full papers and 3 short papers)

- **Student Volunteer** of CSCW 2014 (Baltimore, MD, USA) | 02/2014
- Member of **Women in Engineering** of Cornell University, USA | 08/2011-Present
- **Student Volunteer** of interaction'11 (Boulder, CO, USA) | 02/2011
- Member of **Association for Computing Machinery (ACM)** | 11/2010-Present
- **Student Volunteer** of the 7th International Conference on Design and Emotion (Chicago, IL, USA) | 10/2010
- Member of **Sustainable CHI** | 09/2010-Present
- Member of **Women in Computing (WIC)** of Indiana University Bloomington, USA | 09/2009-Present

Skills

- Languages | Mandarin (native), Cantonese (native), English (fluent)
- User-Centered Methods | Diary Studies, Mind Mapping, Ethnographic Observation, Contextual Inquiry, Interviews, Field Studies, Focus Group, Surveys, Lab Experiments, Participatory Design, Photo Documentary, Cultural Probes, Use Cases, Persona, Scenario, Sketch, Wireframe, Prototyping, Storyboarding, Affinity Diagram, Card-sorting, Usability Tests, Wizard of Oz
- Visualization | Adobe Creative Suite (Illustrator, Photoshop, InDesign, Muse), Premiere, After Effect, Expression Blend, Expression Design
- Wireframe, Prototype | Axure RP, Balsamiq, InVision, Sketch, Adobe XD, Framer, Proto
- Programming | HTML/CSS, JavaScript, PHP, Java (Processing, Arduino Sketch), Objective C, Python, SQL
- Modeling | UML, IBM Rose, Visio, Enterprise Architecture
- Hardware | LilyPad Arduino, LittleBits, iBeacon, TI SensorTag
- Analysis | Qualitative Analysis (Atlas.ti, Maxqda), Quantitative Analysis (minitab, SPSS, SAS, JMP, Excel), Comparative Analysis

Social & Campus Work

- **Student Volunteer** of Fall 2010 International Student Orientation of Indiana University Bloomington | 08/2010
- **Student Volunteer of 2010 Asian Games** | 01/2009-03/2009
- **Volunteer of Da Tong Social Service Center** (Guangzhou, China) | 2008
- **Social Chair** of Students Union in Software School of Sun Yat-sen University | 2006-2007
- **Vice president** of Software Technology Club of Sun Yat-sen University | 2006-2007
- Member of Microsoft Club of Sun Yat-sen University | 2005-2006

Selected Portfolio

EnergyHome | Mobile Application Design and User Experience Research, 2014

EnergyHome is a mobile application designed to motivate families or housemates to conserve household energy collectively and collaboratively. The two key features, personal energy goal-tracking and group energy goal-tracking, allow users to keep track of energy-saving tasks both individually and collaboratively.

EnergySense | Mobile Application Design and User Experience Research, 2015

EnergySense is an iOS mobile application that balances automation and personal control to reduce energy consumption by supporting users' experiences (e.g., comfort, sense of secure)

TweetDrops | Data Visualization and User Experience Design, 2014

People talk and discuss sustainability online. The idea of TweetDrops is to aggregate tweets related sustainability from Twitter and visualize those data to draw people's attention on sustainability issue.

Time Album | Design Research and Design Concept, 2010

Time witnesses a person's path of growing and developing. It tells us stories of life. The idea of Time Album aims to connect the notion of time with memories and dreams—not letting memories fade away, and fulfilling people's dreams of seeing their future.

Communication Wall | Design Research and Design Concept, 2010

Music can convey meanings through cultures, languages, and ages. It is a tool to inform communication. The idea of Communication Wall is based on this assumption, which aims to use music to be responsive and communicative to people's emotional. It is an ambient wall that can communicate with people. It responds to people's emotion or feeling with ambient music and picture.

musicWALK—Tunes from your walking experience | Interaction Design, 2010

Walking, as a fundamental part in our daily life, needs to be promoted. musicWALK is an iPhone application that uses music as an incentive to encourage people to walk. It enables people to generate music while walking and the generated music is influenced by people's walking experience.

e-board: expressive, emotive, electronic | Interaction Design, 2009

Nowadays, many people have trouble finding time to be with their families. For some people, this comes from the time constraints placed on a family in which all the members have separate, and demanding, schedules. For other people, the constraint is geographic and monetary that they can't be expected to regularly visit their families without suffering significant financial burden. e-board is an internet-based bulletin board that facilitates families communications despite geographic or chronological constraints. It aims to provide an emotionally fulfilling, immediate communication medium that could utilize a wide array of communication styles, without putting serious time constraints on the users.