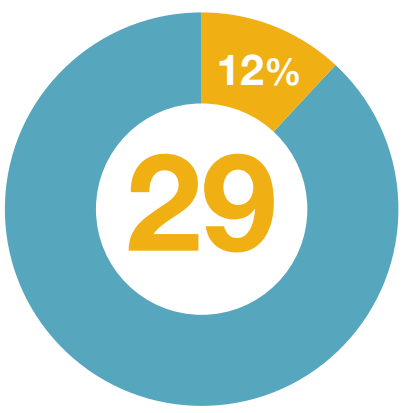
CSCW 2015 | ACM CONFERENCE ON COMPUTER-SUPPORTED COOPERATIVE WORK AND SOCIAL COMPUTING

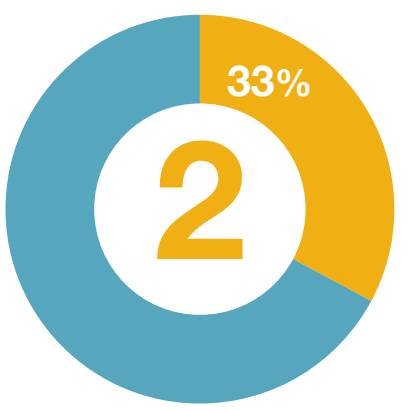
RESEARCH BY GEORGIA TECH

ALUMNI, STUDENTS AND FACULTY

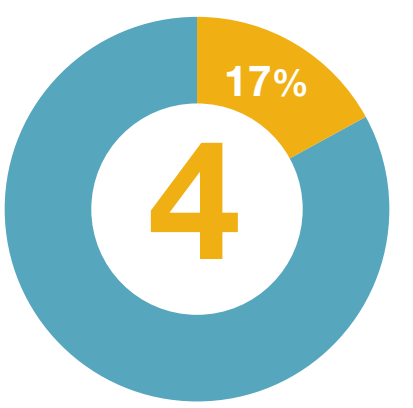
PAPERS



Georgia Tech affiliated papers (241 @ CSCW)

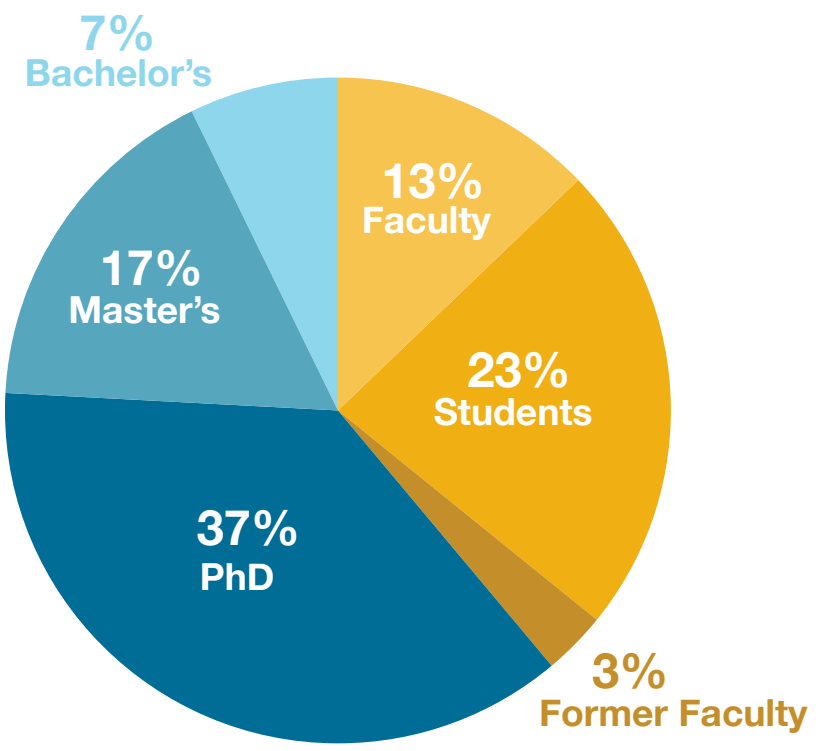


Best Papers (6 @ CSCW)



Honorable Mentions (23 @ CSCW)

AUTHORS



ALUMNI

PhD 11
Computer Science, Human-Centered Computing, Digital Media

Master's 5
Human-Computer Interaction, Digital Media

Bachelor's 2
Computer Science

FACULTY & STUDENTS

Students 7
Human-Computer Computing, Digital Media, Civil and Environmental Engineering

Faculty 4
Interactive Computing, Literature, Media, and Communication, Civil and Environmental Engineering

OTHER

Former Faculty 1

EMPLOYERS OR CURRENT DEGREE PROGRAMS

GEORGIA TECH · UNIVERSITY OF CALIFORNIA IRVINE · YAHOO LABS
UNIVERSITY OF MICHIGAN · CARNEGIE MELLON UNIVERSITY · RIOT GAMES
NORTHEASTERN UNIVERSITY · INDIANA UNIVERSITY—INDIANAPOLIS
UNIVERSITY OF MARYLAND · UNIVERSITY OF WASHINGTON
UNIVERSITY OF NEBRASKA AT OMAHA · VIRGINIA TECH

Infographic: GVU Center at Georgia Tech

Sources: http://cscw.acm.org/2015/program/alumni web pages

Georgia Tech

Mariam Asad

PhD Digital Media student
School of Literature, Media, and Communication, Georgia Tech

MS DM 11

Illegitimate Civic Participation: Supporting Community Activists on the Ground

Civic Participation

Mariam Asad, Christopher A Le Dantec

In this paper we examine the way Information and Communications Technologies (ICTs) support forms of community activism that operate outside formal political and institutional channels. By working with activists concerned with issues of housing justice, we are able gain insight into the way ICTs play a role in complementing forms of civic engagement that challenges, rather than works with, institutional authority. We argue that ICTs are instrumental in supporting and shaping three alternate information practices -- situating, codification, and scaffolding -- that each serve the goals of direct democratic engagement. We also show how local activist communities engage in these three practices through their varied use of ICTs, including the ways they provide mechanisms for informal but politically significant -- and legitimate -- civic engagement.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **2**

Saeideh Bakhshi

Research Scientist
Yahoo Labs

PhD CS 14

Understanding Online Reviews: Funny, Cool or Useful?

Recommender Systems

Saeideh Bakhshi, Partha Kanuparthy, David A Shamma

In order for an online review community to be effective to both users and businesses, it is important to understand what constitutes a high quality review as perceived by people, and how to maximize quality of reviews in the community. We used over 200,000 Yelp reviews available for research to find the factors that contribute to review quality. First, we found the way people vote on reviews, including the sentiment of the text, has a relationship with the tone of the text and the text's rating, depending on the vote type. The findings of our research suggest that there is a deeper meaning and engagement associated with the three signals "cool," "useful," and "funny" than their labels suggest. While many would be correct in associating the useful and funny votes as representing reviews with the most amount of information or humor they contain, these signals are actually a proxy for negativity in reviews. A cool vote is more ambiguous in its meaning, but clearly associates with more positive reviews. Understanding these votes, or signals, and how they affect ratings can better inform customers as they come across reviews and take them into account for their own purposes; ultimately, they could alter one's perception of a business, for better or worse.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Joseph Gonzales

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MS HCI 14

Towards an Appropriable CSCW Tool Ecology: Lessons from the Greatest International Scavenger Hunt the World Has Ever Seen

Creative Collaborating

Joseph A Gonzales, Casey Fiesler, Amy S Bruckman

If you could accomplish a complex, collaborative work task with one tool or many tools working together, which would you choose? In this paper, we present a case study of GISHWHES (the "Greatest International Scavenger Hunt the World Has Ever Seen"), an annual event in which teams spend one week completing complex, creative tasks. Building on the literature of IT ecosystems, we show how teams used different collections of tools to meet their communication needs. We interviewed team members, finding that most teams used multiple tools during GISHWHES. By analyzing which tools they chose over others for each function, we gain insight into the strengths and weaknesses of these tools, and the complexity surrounding work processes. In light of this complexity, this research highlights the importance of designing appropriable tools that can work with unanticipated workflows and mesh well with other tools in a communicative ecology.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Sauvik Das

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HCI Institute,
Carnegie Mellon University

CS 11

The Role of Social Influence in Security Feature Adoption

Influence and the Social Network

Sauvik Das, Adam D Kramer, Laura A Dabbish, Jason I Hong

We analyzed how the adoption of three Facebook security tools—Login Notifications, Login Approvals and Trusted Contacts—diffused through the social networks of 1.5 million people. This work is among the first to quantify how social processes can promote or stifle security tool adoption, with some results that markedly break expectations. Background literature suggests that people who are exposed to more friends who use security tools should be more likely to use those tools themselves. Our results suggest a more nuanced story—exposure to more friends who use security tools does not always increase one's own likelihood of adopting those tools. Furthermore, the effect of social proof on security tool adoption varies markedly across tools. These differences in the effect of social influence on adoption across security tools suggest that the design of a security tool affects its potential for social diffusion. Specifically, it seems that security tool adoption does depend on social influence, but only positively for tools that are observable, socially compatible and/or widely adopted among one's own social network.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Anind Dey

Associate Professor
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Carnegie Mellon University

PhD CS 00

Using Multiple Contexts to Detect and Form Opportunistic Groups

The Powers of Co-location

Adrian A de Freitas, **Anind Dey**

We present a new technique that allows mobile devices to opportunistically group with one another, thus improving their ability to facilitate one-time or spontaneous exchanges of information. In our approach, devices share context with each other, and form groups when these readings are found to be similar to one another. Through a formative study, we examine the limitations of using a single type of context to form groups, and show how leveraging multiple contexts improves our ability to detect and form relevant groupings. We then present DIDJA, a robust software toolkit that automatically collects and analyzes contextual information in order to find and form groups. Through two prototypes, we demonstrate how DIDJA enhances existing user experiences, and show how developers can use our toolkit to easily facilitate frictionless collaborations between users and their environment. We then perform an extended experiment and show how DIDJA is able to accurately form groups under realistic conditions.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **3**

Nicholas Diakopoulos

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College of Journalism,
University of Maryland

PhD CS 09

The Editor's Eye: Curation and Comment Relevance on the New York Times

Journalism and Politics

The journalistic curation of social media content from platforms like Facebook and YouTube or from commenting systems is underscored by an imperative for publishing accurate and quality content. In this work we study the manifestation of editorial quality criteria in comments that have been curated and selected on the New York Times website as "NYT Picks." In particular we examine the relationship between comment selection and comment relevance through the analysis of 331,785 comments, including 12,542 editor's selections. We find a robust association between editorial selection and article relevance as well as conversational relevance. Our results are discussed in terms of their implications for reducing journalistic curatorial work load, or scaling the ability to examine more comments for editorial selection, as well as how end-user commenting experiences might be improved.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **2**

Brian Dorn

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University of Nebraska at Omaha

PhD CS 10

Piloting TrACE: Exploring Spatiotemporal Anchored Collaboration in Asynchronous Learning

Annotation System and Approaches

Brian Dorn, Larissa Schroeder, Adam Stankiewicz

We address shortcomings in current web platforms used in video-based instruction environments like flipped classes and MOOCs. We aim to transform students' interactions with videos from that of passive viewing to active sense-making through collaboration. In particular, we extend anchored collaboration techniques to embed student-driven discussions within videos at moments in time and space where questions naturally arise while preserving the referential context. We present a pilot deployment of a new system called TrACE in two university classes to better understand the capabilities and limitations of this approach.
Our pilot study provides some initial evidence in support of our collaboration techniques, but it also underscores the importance of instructor intentionality in integrating collaborative online work within the broader course culture.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Steven Dow

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PhD HCC 08

Exiting the Design Studio: Leveraging Online Participants for Early-Stage Design Feedback

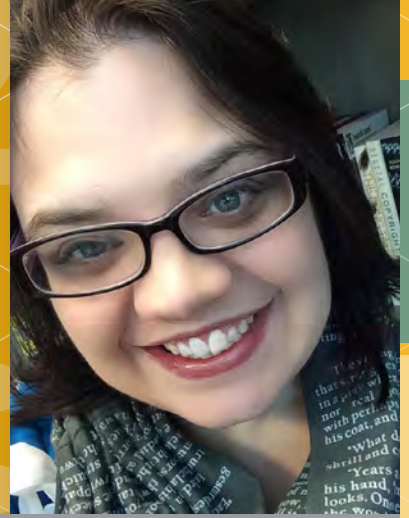
Teamwork Challenges

Xiaojuan Ma, Li Yu, **Steven P Dow**, Jodi L Forlizzi

Online collaboration tools enable developers of interactive systems to quickly reach potential users for usability test-ing. Can these technologies serve designers who seek feedback on user needs during the earliest stages of design? Online needfinding may help designers create products and services that can target a more diverse user population. To explore this, we conducted a feasibility study to compare face-to-face methods with online needfinding sessions. We found that video can sufficiently capture nuanced reactions to preliminary concept storyboards, but that feedback providers need guidance and structure. We then introduce a tool for collect-ing early-stage design feedback from online participants and conduct a case study with a professional design team. The team conducted needfinding activities with local participants, as well as a cost-equivalent number of online participants The case study demonstrates that combining online crowdsourcing with a video survey tool provides a simple and cost-efficient way to collect early-stage feedback.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **4**



Casey Fiesler

PhD Human-Centered Computing candidate
School of Interactive Computing,
Georgia Tech

MS HCI 05

Understanding Copyright in Online Creative Communities

Policy and the Legislative Context

Casey Fiesler, Jessica L Feuston, Amy S Bruckman

Copyright law is increasingly relevant to everyday interactions online, from social media status updates to artists showcasing their work. This is especially true in creative spaces where rules about reuse and remix are notoriously gray. Based on a content analysis of public forum postings in eight different online communities featuring different media types (music, video, art, and writing), we found that copyright is a frequent topic of conversation and that much of this discourse stems from problems that copyright causes for creative activities. We identify the major types of problems encountered, including chilling effects that negatively impact technology use. We find that many challenges can be explained by lack of knowledge about legal or policy rules, including breakdowns in user expectations for the sites they use. We argue that lack of clarity is a pervasive usability problem that should be considered more carefully in the design of user-generated content platforms.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **2**

Sarah Fox

PhD Human Centered Design & Engineering student,
University of Washington

MS DM 13

Hacking Culture, Not Devices: Access and Recognition in Feminist Hackerspaces

Hacking and Making

Sarah Fox, Rachel Rose R Ulgado, Daniela K Rosner

The paper examines the motivations, activities, and ideals of people organizing feminist hackerspaces: collaborative workspaces developed to support women's creative and professional pursuits. Drawing on interviews, participant observation and archival data collected across the Pacific Northwest over nine months, we show how members of these spaces use small-scale collaborative design and acts of making to work out their place in society in ways that contest widely accepted understandings of hacking, technology, and collaboration. In designing how the space should look, feel, and run, feminist hackerspace members reframe activities seldom associated with technical work (e.g., weaving, identity workshops) as forms of hacking. In so doing, they shift concerns for women in technology from questions of access (who is included) to questions of recognition (who is visible) while grappling with productive ambiguities in between.

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Papers Co-authored: **2**

Ellie Harmon

PhD Information & Computer Science candidate
Department of Informatics, University of California, Irvine

MS HCI 07

Circumscribed time and porous time: Logics as a way of studying temporality

Melissa Mazmanian, Ingrid Erickson, **Ellie Harmon**

In this paper, we introduce the notion of a temporal logic to characterize sets of 'organizing principles' that serve to perpetuate a particular orientation to temporality. We identify a dominant temporal logic, circumscribed time, which suggests that time is chunkable, single-purpose, linear, and ownable. We analyze this logic against the everyday temporal experiences of participants in three ethnographic datasets to identify a set of alternative understandings of time, namely that it is also spectral, mosaic, rhythmic, and obligated. We call this initial typology porous time. Our goal in positing porous time as an expansion of circumscribed time is to provoke reflection on how temporal logics underpin the ways that people orient to each other, research and design technologies, and normalize visions of success in contemporary life.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Gillian Hayes

Associate Professor
School of Information and Computer Sciences, University of California, Irvine

PhD CS 07

Estrellita: A Mobile Capture and Access Tool for the Support of Preterm Infants and their Caregivers

My Mobile, My Friends

Gillian Hayes, Karen Cheng, Sen Hirano, Karen Tang, Marni Nagel, Dianne Baker

In this paper, we describe the design process and principles used in the development of a tool to support parents of preterm infants to track health data, Estrellita. We tested Estrellita in the homes of seven families for four months, while following seven additional families without Estrellita. The feedback from this trial, including in-depth interviews, surveys, and log analysis, sheds light on how parents can use a mobile data collection tool to enhance their problem-solving processes about their own health and that of their infants, as well as to share with others who support them in this care. In addition to presenting the design of a recording technology for preterm infants and its use in a real-life setting, the results of this research provide a deep understanding of how technology can and should be used to support home-care of at-risk patients, in which data capture may be unexpected but essential.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **4**

Jason Hong

Associate Professor
HCI Institute, School of Computer Science, Carnegie Mellon University

CS, DMath 97

"You Never Call, You Never Write": Call and SMS Logs Do Not Always Indicate Tie Strength

My Mobile, My Friends

Jason Wiese, Jun-Ki Min, **Jason I Hong**, John Zimmerman

How effective are call and SMS logs in modeling tie strength? Frequency and duration of communication has long been cited as a major aspect of tie strength. Intuitively, this makes sense: people communicate with those that they feel close to. Highly cited research papers have pushed this idea further, using communication as a direct proxy for tie strength. However, this operationalization has not been validated. Our work evaluates this assumption. We collected call and SMS logs and ground truth relationship data from 36 participants. Consistent with theory, we found that frequent or long-duration communication likely indicates a strong tie. However, the use of call and SMS logs produced many errors in separating strong and weak ties, suggesting this approach is incomplete. Follow-up interviews indicate fundamental challenges for inferring tie strength from communication logs.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **2**

Scott Hudson

Professor
HCI Institute, School of Computer Science, Carnegie Mellon University

Associate Professor, College of Computing (1992-97)

Social Eye Tracking: Gaze Recall with Online Crowds

Leveraging the Crowd

Shiwei Cheng, Zhiqiang Sun, Xiaojuan Ma, Jodi L Forlizzi, **Scott E Hudson**, Anind Dey

Eye tracking is a compelling tool for revealing people's spatial-temporal distribution of visual attention. But quality eye tracking hardware is expensive and can only be used with one person at a time. Further, webcam eye tracking systems have significant limitations on head movement and lighting conditions that result in significant data loss and inaccuracies. To address these drawbacks, we introduce a new approach that harnesses the crowd to understand allocation of visual attention. In our approach, crowdsourcing participants use mouse clicks to self-report the positions and trajectory for the following valuable eye tracking measures: first gaze, last gaze and all gazes. We validate our crowdsourcing approach with a user study, which demonstrated good accuracy when compared to a real eye tracker. We then deployed our prototype, GazeCrowd, in a crowdsourcing setting, and showed that it accurately generated gaze heatmaps and trajectory maps. Such an approach will allow designers to evaluate and refine their visual design without requiring the use of limited/expensive eye trackers.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Maia Jacobs

PhD Human-Centered Computing student
School of Interactive Computing, Georgia Tech

Comparing Health Information Sharing Preferences of Cancer Patients, Doctors, and Navigators

Is there a Doctor in the Room?

Maia L Jacobs, James Clawson, Elizabeth D Mynatt

The increase of people engaging in personal health tracking provides the opportunity to change the health-care landscape. The data collected through personal trackers can help providers develop more personalized healthcare practices. For those battling chronic diseases and cancers more personalized care can have drastic influence of health outcomes. However, we don't yet know if the data people are comfortable sharing with their providers is the data that could most benefit their treatment. In this study we compare the health sharing preferences of breast cancer patients, doctors and navigators. We found that discrepancies do exists between what patients are willing to share and the data doctors feel would be useful for aiding treatment. The most significant discrepancy we found was a "loneliness gap". About a quarter of our participants indicated that they would not share feelings of loneliness or fear with their healthcare providers. However, the doctors and navigators felt that knowing this information could be vital to their treatment as these feelings can affect patients' mental and physical wellbeing and their ability to receive care.

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Papers Co-authored: **1**

Christopher Le Dantec

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School of Literature, Media, and Communication, Georgia Tech

PhD HCC 11

Strangers at the Gate: Gaining Access, Building Rapport, and Co-Constructing Community-Based Research

Community-Based Participatory Research

Christopher A Le Dantec, Sarah Fox

This paper is about the work we do to create productive partnerships in community settings: developing relationships, demonstrating commitments, and overcoming personal and institutional barriers to community-based design research. Sometimes we're welcomed with enthusiasm, sometimes we're publicly upbraided for things in and out of our control; sometimes we choose our partners, sometimes our partners choose us. Across all of these, every community engagement requires a deft touch and a willingness to work for and work with (and not work on) the community. By reflecting on the effort and care that went into developing a fruitful community partnership, by recognizing our own fallibility and missteps, we show how our partnership emerged from a highly contentious history and how it ultimately made the research better.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **3**

Kurt Luther

Assistant Professor
Department of Computer Science,
Virginia Tech

PhD HCC 12

Structuring, Aggregating, and Evaluating Crowdsourced Design Critique

Leveraging the Crowd

Kurt Luther, Jari-lee Tolentino, Wei Wu, Amy K Pavel, Brian P Bailey, Maneesh Agrawala, Bjoern Hartmann, **Steven P Dow**

We've all squinted our eyes at an unreadable slide deck or wrinkled our nose at an ugly poster or flyer for a local event. And maybe we can even admit to being responsible for some of these less-than-awesome designs. But "everyday design" is tricky because most people don't have access to a reliable source of useful feedback. To address this, we developed CrowdCrit, a system that allows anyone to submit a visual design, receive crowdsourced feedback from people around the world, and review the aggregated feedback with an interactive visualization. We evaluated CrowdCrit with three studies. In the first study, we compared aggregated crowd feedback to expert critiques and identified some promising similarities. In a second study, a poster design contest for a local music festival, people who got crowd feedback reported that it improved their design process. The third study, an experiment conducted on an online design contest site, showed that designers were enthusiastic about crowd feedback and used it to change their designs.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Aditi Misra

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School of Civil and Environmental Engineering, Georgia Tech

Planning with Crowdsourced Data: Rhetoric and Representation in Transportation Planning

Civic Participation

Christopher A Le Dantec, Mariam Asad, Aditi Misra, Kari Watkins

We are in the midst of a new era of experimentation that blends social and mobile computing in support of digital democracy. These experiments will have potentially long lasting consequences on how the public is invited to participate in governance by elected as well as professional officials. In this paper, we look at how data from a purpose-built smartphone app we deployed were incorporated into a three-day urban planning event. The data collected was meant to help inform design decisions for new cycling infrastructure and to provide an alternate means for participating in the planning process. Through our analysis, we point to three distinct roles the data played at the event -- as authority, as evidence, and as ambivalent. Each role demonstrates the challenge and potential for turning to crowdsourced data as a form of participation and as a re-source for urban planning.

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Papers Co-authored: **1**

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PhD HCC 11

Spaceship Launch: Designing an Exergame for Families

Children and Families

Herman Saksono, Ashwini Ranade, Geeta Kamarthi, Carmen Castaneda-Sceppa, Jessica A Hoffman, Cathy Wirth, **Andrea G Parker**

Parents play a critical role in facilitating children's physical activity, as they are an important source of modeling and support. While Human-Computer Interaction (HCI) researchers have explored exergame design for children or adults separately, an important open area of work is identifying design guidelines for family exergames. One question that researchers have increasingly posed is, how can exergames be designed to avoid potential negative consequences of competition? To address these questions we designed Spaceship Launch, an exergame for parents and kids in lower income neighborhoods, where obesity is most prevalent. We describe our iterative design process: the formative study to identify design opportunities, our resulting system, and our field evaluation of the tool. Our findings highlight the impact of SL on physical activity intentions, and how parental preferences for in-game competition were aligned with the psychological needs of relatedness and competence. We conclude with design recommendations for future family-focused exergames.

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Papers Co-authored: **1**

Jahmeilah Roberson

UX Designer
Riot Games

MS Alumna

Restructuring Human Infrastructure: The impact of EHR deployment in a volunteer dependent clinic

Volunteerism

Charlotte Tang, Bryan C Semaan, Yunan Chen, **Jahmeilah A Roberson**

Resource-restricted non-profit organizations (NPOs) are often volunteer-based; their human infrastructure is thus different from conventional organizations. Hence, technologies that work in conventional organizations with a stable workforce may not work in NPOs. Our study revealed a disrupted human infrastructure after an Electronic Health Record (EHR) system implementation in a safety net free clinic that served underprivileged patients. The EHR system failed to support the dynamism of volunteer work essential to the free clinic. Specifically the mismatch between the technological and human infrastructures led to diminished volunteer roles, increased workload of employees, and impacted quality of patient care. In turn, employees initiated to reconcile the disrupted human infrastructure by creating new work roles for volunteers, re-establishing the quality of patient care, and developing workarounds for volunteers to resume their volunteer work. Finally we discuss how the commercial EHR system failed to support the fluid volunteer-based human infrastructure of the free clinic.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Sarita Schoenenbeck

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University of Michigan

PhD HCC 12

The Modern Day Baby Book: Enacting Good Mothering and Stewarding Privacy on Facebook

Systems in Support of Health & Wellness

Priya Kumar, Sarita Schoenebeck

We conducted an interview study with 22 new mothers about how they share baby photos on Facebook. Mothers share four kinds of baby photos on Facebook: photos where the baby looks “cute”, photos where the baby is doing something funny, photos where the baby is with family or friends, and photos of milestones (e.g., crawling, walking). Mothers don’t share three kinds of baby photos: low quality photos, photos that convey negativity, or photos that overexpose the child (e.g., naked). We introduce the concept of privacy stewardship to describe the responsibility parents take on when deciding what is appropriate to share about their children online and when ensuring that family and friends respect and maintain the integrity of those rules. Parents face a tension between the expectation that they will document and archive their children’s social lives, while simultaneously ensuring that their child’s privacy is protected and identity is carefully stewarded.

18th ACM Conference on Computer-Supported Cooperative Work and Social Computing

Papers Co-authored: **1**

Amy Voida

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School of Informatics and Computing,
Indiana University,
Indianapolis

PhD HCC 08

(Infra)structures of Volunteering

Civic Participation

Amy Voida, Zheng Yao, Matthias Korn

We report on the results of a diary study of the everyday volunteering and help giving of individuals in the millennial generation. We describe the breadth of work structures implicated in volunteering, the social structures implicated in volunteering, and unpack the interdependencies between the two. We analyze the roles that technology plays in volunteering with a particular focus on the forms of infrastructure that are constituted through the work and social structures of this philanthropic activity. Finally, we reflect on design opportunities for infrastructures where work and social structures meet to support more everyday, ubiquitous forms of volunteering.

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Papers Co-authored: **2**