W. Keith Edwards

- Edwards is a professor of Interactive Computing at the Georgia Institute of Technology in the College of Computing.
- Serves on Microsoft’s Trustworthy Computing Academic Advisory Board.
- His research focuses on finding ways to provide a seamless user experience.
- Before becoming a professor at Georgia Tech, he was the Principal Scientist at the Palo Alto Research Center, managing the Ubiquitous Computing group.

Rebecca E. Grinter

- Grinter is a professor of Interactive Computing at the Georgia Institute of Technology.
- Her research centers on understanding the human experience in the building and use of technologies and using that understanding to improve people's' experiences.
- She received her MS and PhD from UC Irvine.

Prior Works

- Cites “The Computer for the Twenty-First Century. Scientific American.” and “Charting Past, Present, and Future Research in Ubiquitous Computing.”
- Classroom 2000: An experiment with the instrumentation of a living educational environment
  - Describes the history of Classroom 2000, the Ga Tech project about a classroom that captures the traditional lecture experience
- Aware Home Research Initiative - an interdisciplinary research endeavor aimed at addressing the fundamental technical, design, and social challenges for people in a home setting
  - Concerned with health and well-being, digital media and entertainment, sustainability, and investigating how new technologies can impact the lives of people at home.
  - “the most advanced glimpses of the potential future of domestic technologies can be found in settings such as the Aware Home laboratory at Georgia Tech”

Research Informed by This Work

Social barriers to the adoption of smart homes

- highlights the importance of barriers such as control, security, and cost, providing insights for policymakers as well as smart-home designers and developers as to how these might be addressed

Smart homes and their users: a systematic analysis and key challenges

- Groups 9 themes into 1) views of the smart home, 2) users and the use of the smart home, and 3) challenges for realising the smart home
- Integrates these themes into an organising framework for future research and illustrates its usefulness in relation to privacy and control

Principles of Smart Home Control

- Uses contextual fieldwork with dual-income families to describe the control that families want, and suggests seven design principles to help end-user programming systems deliver that control

Learning to Live in a Smart Home

- Covers four themes:
- 1) smart home technologies are disruptive; (2) smart homes require forms of adaptation and familiarization; (3) learning to use smart home technologies is a demanding and time-consuming task; and (4) there is little evidence that smart home technologies will generate substantial energy savings

Auk Kim

- Assistant Professor in the Department of Computer Science and Engineering at Kangwon National University in South Korea
- Received Ph.D at KAIST in Knowledge Service Engineering, supervised by Prof. Uichin Lee
- Research focuses on human computer interaction, specifically on understanding the interactions between humans and artificial intelligence systems and designing those systems to interact with humans

Jung-Mi Park

- Park is currently works as the Principal User Experience Designer at Samsung Research.
- Her work focuses on mitigating problems faced by people when using smart machines
- Her work also focuses on helping designers understand the relationship between people and machines.
- She received her Ph.D from KAIST in Industrial Design in 2013

Uichin Lee

- Lee is currently an associate professor in the School of Computing and in the Graduate School of Knowledge Service Engineering at KAIST in South Korea
- Lee received his Ph.D from UCLA in Computer Science.
- His research interests include Human-Computer Interaction, Social Computing Systems, and Ubiquitous Computing.

Prior Works

Interrupting Drivers for Interactions: Predicting Opportune Moments for In-vehicle Proactive Auditory-verbal Tasks

- Earlier paper by the same authors plus a couple others
- Focused on developing a machine learning model that can find opportune moments for the driver to engage in auditory-verbal tasks by using the vehicle and environment sensor data
- Created the dataset used in the framing paper

Preface to the special section on driver distraction

- proposed a control theory-based hierarchical driver model
- “drivers control or make decisions related to their driving and secondary tasks based on their observation of changes in the ongoing performance and the overall demand (workload) of their driving and secondary tasks”

Research Informed by This Work

Hello There! Is Now a Good Time to Talk?: Opportune Moments for Proactive Interactions with Smart Speakers

- built a voice-based experience sampling device and conducted a one-week field study with 40 participants to investigate contextual factors related to interruptibility
- Found that determinants for opportune moments are closely related to both personal contextual factors (mood, multi-tasking, etc.) and contextual factors associated with the everyday routines at home, such as user mobility and social presence

Discussion Question #1

Twenty years later, the statement that the accidental smart home involves incrementally bringing in smart technologies still stands, and many of the issues related to control still exist. Does it seem feasible that we will address these issues in the near future, and what changes to smart technologies need to be made in order to transition to intentionally smart homes?

Discussion Question #2

We’re currently headed down a path where the general public needs to have a certain level of skill with technology. Is it appropriate to require people to acquire knowledge about technology if it’s not directly related to them? Would concerns about privacy be affected if the general population understood more about the devices around them?

Discussion Question #3

In the article, the social impacts made by the examples could be considered positive or neutral. Do you think that we could take technology too far to the point where the social impacts become clearly negative?