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When is a good time?

Mediating Notification Delivery to Reduce Cost of Interruption

Interruptions in the workplace are becoming increasingly prevalent due to the proliferation of proactive behavior within communication applications and collaborative practices. Research has shown that interruptions at inopportune moments often result in substantial costs to users and their tasks, e.g. frustration and reduced productivity. However, information conveyed by notifications is also often beneficial to users. A current thrust within the HCI community has been to develop solutions that reduce the cost of interruption caused by notifications while maintaining their utility.

In this talk I will present my research on developing and evaluating a new solution to the problem of notification management – mediating notifications to be delivered at breakpoints during user tasks. I will first present empirical results from a study that applies theories of memory and action to understand why breakpoints have lower interruption costs. Next, I will describe a new technique derived from theories of event perception that can detect multiple levels of breakpoints during free-form tasks without requiring any knowledge of the task. I will then present OASIS, a system for scheduling notification delivery at moments it detects as breakpoints. OASIS allows effects of notification scheduling to be studied in practical settings and provides a test bed for experimenting with various scheduling policies. Finally, I will discuss empirical results demonstrating the utility of the system in context of authentic tasks and discuss its impacts on productivity and user affect. This work provides the first empirical evidence that intelligent notification management benefits the end user and contributes new lessons for designing effective notification management systems.

Biography

Shamsi T. Iqbal is a Ph.D. candidate in the Department of Computer Science at the University of Illinois at Urbana-Champaign, with a focus in the area of Human-Computer Interaction. She received an M.S. in Computer Science from the University of Illinois in 2004 and a B.S. in Computer Science and Engineering from Bangladesh University of Engineering and Technology in 2001. Her dissertation work focuses on developing and evaluating computational methods for intelligently managing notifications in the desktop. Her broader research interests are in attention management, development of models of user activity, physiological measures as evaluation metrics and educational technology. Shamsi's work on interruption management has been featured in the media, e.g. the New York Times and the American Way magazine in 2007. She has served on program committees of several leading conferences in the field of human-computer interaction, including ACM UIST (Poster committee, 2007) and ACM CHI (Notes committee, 2008). More information can be found here: <http://netfiles.uiuc.edu/siqbal/www>.