



Conferences

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UbiComp 2006 Workshops, Part 2

John Krumm and Ken Anderson

EDITORS' INTRODUCTION

This is the second part of the workshop summaries from the 8th International Conference on Ubiquitous Computing. The first part appeared in the Jan.–Mar. issue. We asked each workshop's organizers to highlight the more interesting and unexpected parts of their workshops.

—John Krumm and Ken Anderson

SYSTEM SUPPORT FOR UBIQUITOUS COMPUTING

Rodger Lea and Michael Blackstock, University of British Columbia

This year's UbiSys workshop focused on four interrelated themes: common abstractions, new and emerging middleware and software engineering approaches, widescale interdomain deployment, and techniques and benchmarks for effective evaluation of ubicomp systems.

Owing to the workshop's large size (47 participants), the day started with a "one-minute madness" where each participant had a minute to state his or her position on these issues. It then continued with a mix of two paper sessions and three panel discussions.

During the discussions, several key issues emerged. One subject of lively debate was the possibility of a common set of ubicomp abstractions and of the community adopting a toolkit or platform to facilitate research. Many felt this would help address a second issue that participants frequently raised—namely, evaluation and benchmarking

of ubicomp systems research. A key aspect of this issue, described as "magic in ubicomp systems," was that many researchers failed to adequately explain their assumptions and relied on some future "magic" to help justify their approach.

An equally important issue was the community's poor record in addressing resilience and reliability. Many participants perceived this problem as a stumbling block to real-world deployment of ubicomp technologies. As an antidote to this problem, many participants agreed with the suggestion that ubisys researchers should increasingly strive to reuse their own work and reduce reinvention and replication within the community.

The metatheme that evolved during the day was the need for better coordination among the community. This theme was particularly evident in the last panel, which focused on common scenarios to aid evaluation and on the need to develop a community-supported set of grand challenges.

More details, including an online paper archive, are at www.magic.ubc.ca/ubisys.

PERVASIVE IMAGE CAPTURE AND SHARING

Mirjana Spasojevic, Nokia Research Center

Mizuko Ito, University of Southern California

Nancy Van House, University of California, Berkeley

Ilpo Koskinen, University of Art and Design, Helsinki

Fumitoshi Kato, Keio University

The second Pervasive Image Capture and Sharing: New Social Practices and Implications for Technology workshop brought together a diverse, multidisciplinary group of researchers. Our goals were to examine new technical developments and social practices and their implications for further research.

During the opening presentations, the participants shared their research covering new applications and services for capturing images and context, augmenting the images and context with sound or text, and sharing them via the Web or in printed form. We also learned about new practices in certain countries, such as Japanese teenage girls' use of Purikura (printed sticker pictures).

Most of the day involved field and design exercises. We used the ZoneTag camera phone application, which automatically tags photos with the time and location and uploads them to Flickr, a photo-sharing Web site. In addition, users can add tags that ZoneTag suggests or that they create. The field exercise aimed

sticky notes. After open-ended discussion, we formed new teams that merged the collections of sticky notes into a group affinity diagram. Negotiating boundaries, especially between parents and children as in the tent example, emerged as one of the strongest themes across groups. Other themes included ways of being alone together, environments that support playful exploration, and physical expressions of transition.

The 20 participants' diverse backgrounds—computer scientists, anthropologists, designers, and psychologists, from industry and academia—contributed to lively discussions. Although the participants specialized in a broad range of technologies (for example, videogames and home automation) and application domains (for example, healthcare, home entertainment, and

spiritual practices), enough common ground existed for a cross-fertilization of ideas.



UBIHEALTH

Thomas Riisgaard Hansen, University of Aarhus

Jakob E. Bardram, IT University of Copenhagen

Ilkka Korhonen, VTT Technical Research Centre of Finland

This was the fourth UbiHealth workshop in conjunction with UbiComp; its main goal was to provide an overview of the state of the art of pervasive and ubiquitous computing in healthcare. Healthcare and ubiquitous computing fit together in the sense that healthcare involves collaborating in the physical world, mov-

ing around, working in a special environment, using many different systems, and relying on systems that are tailored to the task at hand. Ubiquitous computing can potentially address some of these issues. However, combining advanced technology with a complex work setting in a safety-critical environment isn't easy, and some of the workshop's recurring themes addressed this problem.

One very practical topic was the ease of doing research in an actual health facility. Many participants had very different experiences in dealing with hospital review boards. One researcher had to wait more than 18 months for approval to shadow nurses. Others knew clever tricks to get the approval more smoothly—for example, by directly involving clinicians in the research team.

Another hot topic was the use of sen-

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sors in healthcare, which proved to be both technically challenging and challenging for these systems' end users.

At a breakout session, one group focused directly on human factors in healthcare systems, and the outcome was the manifesto, "Ten Commandments for Human Factors in UbiHealth—For Mental, Social and Physical Wellness." For

example, the sixth commandment was, "Thou shalt incorporate exception handling, creating fail-safe, fail-soft systems and backup systems incorporating hazard/risk management for Food and Drug Administration compliance."

Overall, the workshop's most interesting part was hearing how people addressed related problems. Each research

group had different approaches. For instance, when designing sensors to detect falls, should you use cameras, accelerometers, or another type of sensor? Can you actually detect that people are about to fall and take preventive measures?

Workshop slides and notes are available at www.healthcare.pervasive.dk/UbiHealth2006. ■

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