

Ambient Information Systems

<http://ambientinformation.org>

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ABSTRACT

Ambient Information Systems (AIS) are applications that publish information in a nonintrusive or calm manner, following on from Mark Weiser's concept of calm technology. Building on the success of AIS2007 at Pervasive 2007, this workshop will bring together researchers working in the areas of ambient displays, peripheral displays, slow technology, glanceable displays, calm technology, and subtle technology to discuss and collaborate on developing new design approaches for ambient information systems. The main outcomes of the workshop will be a set of online proceedings, and a paper outlining the grand challenges for the field of ambient information systems based on the discussions held at the workshop.

Author Keywords

Ambient information systems, methods and frameworks, ambient displays, peripheral displays, glanceable displays, calm technology, subtle technology

WORKSHOP THEME

Research trends in ubiquitous computing direct us toward a future in which we are constantly surrounded by information sources competing for our attention. These are likely to manifest both as stand-alone devices and devices embedded in everyday objects. While this vision of the future has prompted great advances in context-aware computing, wireless connectivity, and smart materials there is a concern that such a proliferation of technology will cause us to become overwhelmed by the amount of available information. This "information overload" problem inhibits us from realizing Weiser's vision of calm technology [1].

We define ambient information systems (AIS) as describing a set of technologies that have been called ambient displays, peripheral displays, slow technology, glanceable displays, calm technology, and subtle technology. These technologies are meant to be minimally attended and perceivable from outside the range of a person's direct attention, providing pre-attentive processing without being overly distracting.

WORKSHOP CONTEXT

This workshop proposal follows on from an earlier workshop on Ambient Information Systems that ran at Pervasive

2007 (AIS2007). AIS2007 was very successful, with eleven oral presentations, a workshop website¹, and a set of proceedings published online². Feedback from AIS2007 indicated significant interest in running a follow-up website. The workshop is taking a slightly different direction to last year's workshop following this feedback, with additional conference organizers, new program committee members, and a different workshop agenda. At the workshop's inception, the organizers decided to make it a policy to move the workshop's home every year, and in 2008 our intention is to target Ubicomp as the home venue. We believe Ubicomp's interdisciplinary and wide appeal, as well as the fact that it is located in South Korea in 2008 will serve to broaden the existing AIS community.

WORKSHOP ORGANIZATION

We will encourage researchers who are working in the field of ambient information systems to submit position papers to this workshop. In addition, there are several academic and industrial research labs exploring this domain directly by working on ambient information displays and developing smart materials and indirectly by developing ubiquitous technologies that could be used by ambient information systems (e.g., context awareness and location sensing). We will send our CFP directly to researchers at the various institutions, as well as to relevant pervasive computing, ambient intelligence, and art and design mailing lists. We will strive for a broad range of participants, representing multiple disciplines and institutions. Based on the success of last-year's workshop, and on feedback on last year's attendees we expect 20 to 30 attendees at this year's workshop.

Though final themes of the workshop will be determined by the submissions of attendees, we will favor submissions that address certain core issues, including the questions of how ambient information systems distinguish themselves from other information technologies; how much ambient information can one perceive and comprehend effectively; what types of information are best conveyed by an ambient dis-

¹The AIS2007 workshop is here:
<http://www.informatics.indiana.edu/subtletech/>

²The online proceedings for AIS2007 is here:
<http://CEUR-WS.org/Vol-254/>

play; finding examples of heuristics, frameworks, taxonomies, or design principles for implementation of ambient information; what interaction methods are best for ambient information devices; how can existing technologies be best used to develop ambient information systems (e.g., smart materials or wearable systems); how can ambient information systems be evaluated; and how knowledge from other domains that should be applied to the design and evaluation of ambient information systems (including art, cognitive science, design, psychology, and sociology)?

Assuming this year's workshop attracts a similar number of submissions as AIS2007 did, we will accept no more than eight papers for presentation. Each submission will be blind reviewed by at least three members of our program committee. We have gathered a preliminary list of candidates to form an excellent, internationally-diverse program committee that will select the best papers for oral presentation. These candidates were chosen for their international recognition, domain-specific knowledge, and contribution to research on the topics proposed for this workshop. Most served on last year's workshop program committee and most of the new candidates participated at AIS2007. As well as driving the review process, these researchers will be encouraged to submit their own papers to the workshop:

Liam Bannon, University of Limerick, Ireland
Frank Bentley, Motorola Labs, USA
Sunny Consolvo, Intel Research Seattle, USA
Jodi Forlizzi, Carnegie Mellon University, USA
Lars Erik Holmquist, Viktoria Institute Göteborg, Sweden
Jennifer Mankoff, Carnegie Mellon University, USA
Tara Matthews, UC Berkeley, USA
Steve Neely, University College Dublin, Ireland
Aaron Quigley, University College Dublin, Ireland
Yvonne Rogers, Open University, UK
Abigail Sellen, Microsoft Research Cambridge, UK
Ian Smith, Intel Research Seattle, USA
John T. Stasko, Georgia Institute of Technology, USA
Erik Stolterman, Indiana University, USA
Alex Taylor, Microsoft Research Cambridge, UK
Andrew Vande Moere, University of Sydney, Australia

Following on from attendee feedback from AIS2007, we will publish the workshop online proceedings before the workshop takes place. This will give attendees the opportunity to learn more about each others' research before meeting them. To this end, we will request camera-ready copies of the accepted submissions in July and compile online workshop proceedings in early September. We will distribute the online proceedings to attendees prior to the workshop and provide printed versions of these proceedings to all attendees. The workshop timeline will be as follows:

Distribution of Cfp: 30 May 2008
Submission Deadline: 27 June 2008
Submissions sent to PC: 28 June 2008
Deadline for PC reviews: 23 July 2008
Acceptance Notification: 25 July 2008
Deadline for camera-ready submissions: 29 August 2008
Distribution of website proceedings: 12 September 2008
Workshop Date: 21 September 2008

The workshop will be opened by the organizers and proceedings will begin with an invited talk by a leading researcher in the field who will be given a platform to outline their personal view of the grand challenges for the field. The invited presentation will conclude with a round-table discussion of the challenges, which will act as a locus for the discussions throughout the remainder of the workshop.

The authors of accepted papers will be invited to present their papers orally. Each presentations will last 15 minutes, with 5 minutes for questions/discussions. The presentations will serve to allow attendees to share their work and to get useful feedback to direct future work. Where possible we expect attendees to present demonstrations of working applications. Each presenter will be asked to conclude his/her presentation with a comment on the grand challenges outlined in the earlier round-table discussion. These comments will be used to help define topics for discussion at the end of the workshop. We will invite all attendees (including those that are not presenting orally) to produce posters describing their current research. We will schedule poster presentation sessions during the coffee breaks where participants will be able to discuss topics of mutual interest at a more individual level. Throughout the workshop the organizers will document the challenges identified during the discussions and use these to form the basis of a journal publication.

Expected Outcomes

The purpose of this workshop is to continue the work started with AIS2007. The workshop will be used as an opportunity to work as a group to identify problems in the design, development, and evaluation of AIS and to derive fundamental challenges of AIS research. Attendees should develop a deeper understanding of challenges that need to be addressed and some potential solutions to the problems that have been encountered by others. The group discussions throughout the workshop will also be used to encourage new collaborations within the community.

We will publish the accepted submissions and slides on the workshop's website upon receiving consent from the authors. The publication of submissions to the website will not be considered official publications and therefore will not prohibit attendees from developing their work further and publishing it elsewhere. This will be made clear on the website and on the submission documents themselves. After the workshop, the organizers will contact relevant journals with the goal of producing a special issue on ambient information systems containing extended versions of the best papers from this workshop. The organizers will also put together a document outlining the grand challenges for the field of ambient information systems with a view to publishing either in the special issue or as a stand-alone journal publication.

REFERENCES

1. Mark Weiser and John Seely Brown. *The coming age of calm technology*, pages 75–85. Copernicus, New York, NY, USA, 1997.