

## Call for Papers

### 6<sup>th</sup> International Workshop on Middleware for Pervasive and Ad-Hoc Computing (MPAC2008)

<http://www.smartlab.cis.strath.ac.uk/MPAC/>

#### **A Workshop of Middleware 2008**

Leuven, Belgium

December 1<sup>st</sup> – 5<sup>th</sup>, 2008

#### **Problem Space**

Building on the success of the 2003, 2004, 2005, 2006 and 2007 workshops, this workshop seeks to develop a roadmap for research on the essential middleware abstractions and infrastructures for ad-hoc and pervasive computing in general, and sensor-based services in particular.

Over the past decade, large-scale ad-hoc and pervasive computing environments have grabbed the attention of the research community as evidenced by the large number of research and development projects in the area. However, despite considerable progress, the promise of pervasive computing still remains elusive. The diversity in currently available devices, networking infrastructure and information content has complicated research efforts, forcing many projects to focus only on point-examples of this technology.

This workshop is premised on our belief that underpinning middleware mechanisms are central in weaving together the multitude of computing, communication and information technologies. In this respect, middleware for pervasive computing and ad-hoc networking provides two core research areas. In particular, pervasive computing middleware will allow you to take advantage of the resources in your environment to tailor your services and applications for seamless access and unrestricted mobility. Ad-hoc networking middleware will permit the formation of ad-hoc communities for new applications. However, such pervasive and ad-hoc environments pose some serious challenges to existing middleware technologies and approaches.

A synthesis of the discussion that took place in previous MPAC workshops has led to the identification of the following general themes of interest for the workshop. This list is by no means exhaustive.

#### **1. Cross-device experiences**

- Support for zero configuration;
- Resource/service discovery, management, and composition;
- Implications of heterogeneity (addressing needs for protocol interaction across technologies);
- Technology trade-offs (agent infrastructures, mobile code systems, event based middleware);
- Virtualisation technologies and applications, especially for task migration;

#### **2. Security and Privacy**

- Trust, security, and privacy for pervasive and ad-hoc systems;
- Privacy preservation and identity management for device-to-device interactions;
- Roles and responsibilities in ad-hoc communities;
- Security architectures balancing risk and utility

#### **3. Mobile Web**

- Web architectures (REST, Ajax) in ad-hoc computing and pervasive computing;
- Context adaptation and management in pervasive computing;
- Mobile web scalability and reliability in access;

#### **4. Emerging Wireless Technologies and Platforms**

- Experiences or case studies with new technologies (WiMax, WiBree, LTE, etc.) and devices (e.g. MID, UMPC, wearables, etc.);
- Use of emerging mobile platforms (e.g. Android) as enabler for pervasive computing;

#### **5. Vertical Application Domains**

- Middleware infrastructures supporting novel applications of pervasive and ad-hoc computing (e.g. advertising, healthcare, gaming, mobile TV, smart spaces, device ensembles, etc.);

#### **6. Autonomics**

- Service-connection middleware and architectures;

- Middleware for self-assembly, self-configuration, self-distribution and autonomic computing in general;
  - Reliability and availability in pervasive and ad-hoc systems;
  - Ad-hoc network communications, quality of service, management and middleware support;
- 7. Supporting context-awareness and user interaction and experiences**
- Theoretical foundations and middleware support for context based adaptation for mobile pervasive systems;
  - New notations for specifying context-sensitive systems;
  - Ad-hoc communities: applications, infrastructure and middleware support;
  - Group management and communication support for ad-hoc communities;
  - Tangible computing (surface computing, RFID / NFC, 2D and 3D barcodes).

### **Submission**

The workshop format will be focused around submission of position papers of no more than 6 pages. Please submit your papers in PDF, using the ACM proceeding format (see <http://www.acm.org/sigs/pubs/proceed/template.html>), to the web site <http://www.cis.strath.ac.uk/external/mpac2008/openconf/>.

Papers are solicited that present a view of the state of the art in a particular sub-problem area, identify specific middleware challenges, and suggest potential avenues for exploration by proposing models, abstractions and infrastructure components addressing these challenges. Approximately two thirds of the workshop will be devoted to the presentation and discussion of these papers, while the remaining third of the time will be devoted to the development of the research roadmap.

Papers will be reviewed by at least 2 members of the program committee. The review process will be based upon identifying the relevance and potential of the position statement to contribute to the elaboration of the roadmap and to stimulate discussion.

All accepted papers will appear in a special workshop proceedings volume in the [ACM Digital Library](#) as well as in a CD companion proceedings issued to the workshop participants. Appropriate publication of revised versions of the best workshop submissions and the research roadmap along similar lines to the special issue on middleware and systems software for pervasive computing of the [Journal of Personal and Ubiquitous Computing](#) and [IEEE Distributed Systems Online](#) is being investigated.

### **Important Dates**

Workshop paper submission: **August 1<sup>st</sup>, 2008**  
 Workshop paper notification acceptance: **September 15<sup>th</sup>, 2008**  
 Workshop paper camera-ready: **October 8<sup>th</sup>, 2008**  
 Workshop date: **December 2<sup>nd</sup>, 2008**

### **Program Committee**

Christian Becker, University of Mannheim, DE  
 Dan Chalmers, University of Sussex, UK  
 Paolo Costa, Vrije Universiteit, NL  
 Domenico Cotroneo, University of Naples, IT  
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If you have any question then contact either Sotirios.Terzis<at>cis.strath.ac.uk (replace <at> with @).