

2nd PerAda Workshop on User-Centric Pervasive Adaptive Systems (UCPA 2010) Sydney (@Mobiquitous 2010)

Call for Papers

We are currently standing on the brink of a new era of computing systems: moving on from desktop computers, computing intelligence will be woven into the "fabric of everyday life", seamlessly and almost invisibly pervading our environment and delivering services adapted to ourselves and our context of use. One of the key aspects of such user-centric pervasive-adaptive systems is their ability to sense and react to the user's personal experience. Different aspects are taken into account: emotional state, cognitive engagement, physical conditions and social situation. The combination of these characteristics together with recognizable human behavioural patterns forms the personal awareness of the system. Additionally, information about the surroundings is gathered and used to establish environmental awareness. Considering such a setting, the overall goal of user-centric pervasive adaptation is to create systems that are able to derive, suggest and perform actions to optimize user comfort and performance, assisting people in their specific activities and situations. That implies systems tailored to the specific user, everywhere, always available, seamless and responsive to the situation in real time and life.

In order to find ways of realizing empathic user-centric pervasive adaptation, several issues have to be addressed that require research in different disciplines, from psychology and sociology to man-machine interaction and computer science. Psychology has to provide methods to sense, analyse and influence the psycho-physiological state of the users. These results could then be taken into account to optimize the design of intuitive interactions between the user and the system. The main concern of computer science is to establish a basis that allows autonomous computer systems to interpret the acquired sensor data and make reasonable decisions on which adaptation steps to conduct. Besides this, the complexity of pervasive adaptivity calls for novel software engineering approaches and architectures that are able to support the development process by addressing the special dynamic properties of the aspired systems.

The goal of this workshop is to bring together researchers from different fields of expertise, widen mutual understanding and promote more intense collaboration in this new interdisciplinary domain. Furthermore a cross-discipline forum should create an opportunity for the participants to exchange ideas about a wide range of topics related to pervasive adaptation and contextual/personal awareness, covering theoretical aspects as well as practical methods, concrete applications, system architectures and use cases. A special attention should be paid to preserving privacy. In a massively interconnected cyber space that relies on sensitive users' data, protecting privacy is a major issue, usually neglected in the euphoric tendency to develop smart systems. Attention needs to be paid to engineering privacy i.e. to such software solutions that create safe clouds of personal data which can be used for local control and still remain invisible to the outside world.

Examples of topics include, but are not limited to:

- Software engineering for pervasive adaptive systems
- Architecture and infrastructure of pervasive adaptive systems
- Algorithms for data processing, learning and reasoning
- Ontology and modelling of pervasive adaptive systems
- Formal notations and methods for modelling adaptation
- Agent-based approaches to software adaptation
- User-centric adaptive software
- Middleware for pervasive adaptive systems
- Physiological/Affective computing
- Seamless methods to sense, analyze and influence the psycho-physiological state of the user
- Design of user interfaces for pervasive adaptive applications
- Man-machine confluence
- Empathic applications
- Ethical issues

Workshop Format

The workshop will consist of a keynote address, regular paper presentations and a panel that will close the workshop. There will be up to 4 thematic sessions organized around major workshop topics. The final session will be a panel, addressing issues related to engineering a new generation of smart systems that should understand users' emotions, needs, intentions and social situations and provide appropriate assistance in a discrete and personalized manner.

For each session presentation the authors will have 25 minutes for paper presentation, leaving 5 minutes for the discussion. Each thematic session ends with a discussion moderated by the session chair. A session is planned to be 90 minutes in length. The panel session should inspire further work and set research trends in the area of pervasive adaptive systems as it will pose numerous challenges which need to be addressed in years to come.

Submission

Paper submission will be handled electronically via ASSYST system (see the instructions for the main conference at <http://mobiqitous.org/authors/index.html>). Authors should prepare an Adobe Acrobat PDF version of their full paper. Papers must not exceed 8 pages single column (US Letter size, 8.5 x 11 inches) including text, figures and references. The font size must be at least 10 points. When submitting the paper through ASSYST system please select the event UCPA 10.

Publication

Papers will be rigorously reviewed by the international program committee. Accepted papers will be published in the conference proceedings. Extended version of the selected papers will be considered for a publication in a journal special issue or in a monograph (to be decided during the workshop).

Important Dates

Submission Deadline: September 15, 2010
Notification of Acceptance: October 10, 2010
Deadline for Camera Ready Copy: October 31, 2010

Workshop Organisers

Nikola Serbedzija, Fraunhofer FIRST, Germany
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Local Arrangements:

Igor Hawryszkiewicz, UTS Sydney, Australia

Programme Committee

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