

Ubi-Islands 2009 – Interconnecting Ubiquitous Islands using Mobile and Next Generation Networks

Workshop at MOBILWARE 2009 in Berlin, April 27, 2009

<http://www.uia.no/ubiislands2009>

Objective

With the broad deployment of high-speed packet networks based on IP and NGN technologies, the rise of advanced mobile devices supporting multiple accesses, and the wide deployment of wireless LANs and sensor network technologies the vision of ubiquitous computing is finally ready to meet reality. This workshop seeks to discuss what it would take to leverage existing networks together with emerging services to create truly ubiquitous connectivity. We solicit contributions that combine aspects of mobile, ad-hoc, wide-area, broadband, and ubiquitous computing by discussing, for example:

- New applications and user interface concepts for utilizing ubiquitous connectivity.
- Requirements from ubiquitous consumer and enterprise services on networks and network interconnectivity.
- Interconnection of systems and networks for ubiquitous services through mobile and broadband networks.
- Use and development of open mobile platforms, femto cells, sensors and other advanced technologies to build systems and services for ubiquitous computing.
- Security, privacy and trust aspects for services combining global and local connectivity.
- Techniques, requirements, architectures and examples of sharing and creating services in global networks that leverage ubiquitous computing technology.
- Operations, administration, management, and provisioning of services and technology for the interconnection of ubiquitous islands.

Expected Outcome

The workshop will contribute to consensus building around areas for further investigation by academia, in particular with regards to service requirements and their impact on network design, as well as requirements for standardization, including current best practices for network interconnection based on requirements from users and services.

Call for Papers

We solicit papers, demonstrations, videos, and posters for the workshop "Ubi-Islands 2009 – Interconnecting Ubiquitous Islands using Mobile and Next Generation Networks ", to be held at the MOBILWARE 2009 conference on Monday, April 27, 2009, in Berlin, Germany.

Position papers will be required for participation in the workshop. Papers should be 2-4 pages in length, and present a relevant research topic, study area, or company position. Contributions that are likely to demonstrate diverging views in a constructive way will be preferably selected for presentation by the program committee.

Submissions are due on Friday, February 20, 2009 at 23:59 French Polynesian time. Papers shall be submitted to ubiislands@uia.no. Notification of acceptance will be on March 6, 2009, with camera-ready papers due on March 20, 2009.

Program Committee

The program committee will include the following participants:

- Frank Reichert, University of Agder, Norway (chair).
- Andreas Fasbender, Ericsson GmbH, Germany.
- Frank den Hartog, TNO, Netherlands.
- Hiroyuki Morikawa, University of Tokyo, Japan.
- R. Venkatesha Prasad, TU Delft, Netherlands.
- Johan Hjelm, Nippon Ericsson KK, Japan.

The program committee can be contacted at ubiislands@uia.no.

Publication

Papers from the workshop will be published electronically in the MOBILWARE 2009 conference proceedings that will be handed out on CD to conference participants.

Workshop Scope and Background

Services leveraging ubiquitous networking technologies are often running in small islands of connectivity, here called “ubiquitous islands”. Examples are home networks, in-car networks, personal area networks, and to a limited extent also private company networks. At the same time, networks widely exist that can be used to interconnect them.

The requirements for and constraints of deploying services across ubiquitous islands are highly complex and as of yet poorly understood and identified, due to the high degree of heterogeneity, mobility and other dynamics involved on each layer. For ubiquitous computing solutions for health care, for instance, the requirements differ significantly from those where the interconnection is of systems used for entertainment services. Even within the latter service area, the consumption of music and the playing of online games will present a completely different set of requirements.

While not generally considered a technology for ubiquitous computing, the mobile phone increasingly features as the terminal device of choice for service management and consumption in different environments. Recent advances in web technologies, screen size, memory footprint, I/O and sensor technologies allow for vast improvements in service design and management. However, several service enablers that are today built into the mobile phone by default (such as video telephony or sensors) are still underutilized today.

With the growing importance of pervasive services and cloud computing technologies, mobile networks, and the resources they expose, are increasingly in focus for service development for ubiquitous computing. Cellular networks are evolving towards ‘long-term evolution’ (LTE) and IMS, with the effect that even higher data rates and better support for mobility, roaming or handover will be widely available within a few years. At the same time, the combination with resources from other computing environments such as local area networks becomes increasingly important.

On the fixed side the issue is not so much the development of new access technologies, but the continued build-out of broadband technology and the transition towards new service delivery

platforms, and the result is similar: More bandwidth for interconnection on top of a less fragmented delivery base. Still, how to set up interconnections between network islands in a trusted and secure way is not self-evident, neither in practice nor in standardization.

Gathering requirements, identifying architecture gaps and exploring solution alternatives for connecting user devices across ubiquitous islands and for supporting the delivery of a flexible service mix into this environment is essential at this stage of standards and industry development. This has a strong impact not only on the current work scope of bodies such as 3GPP, ETSI TISPAN, OMA, DLNA, UPnP, Home Gateway Initiative, or Broadband Forum, but also on service and software platform design efforts such as Android and Symbian Foundation and in the development of flexible service developer APIs.

The workshop will be used as an opportunity to work as a group to identify problems in the design, development, and evaluation of ubiquitous computing applications and networking technologies, and to derive fundamental challenges of related research. The group discussions throughout the workshop will be used to encourage new collaborations within the community.

For more information refer to the Ubi-Islands 2009 workshop site
<http://www.uia.no/ubiislands2009>

Please feel free to redistribute this Call for Papers as appropriate.