

## Call For Paper ADPUC'07

# 2<sup>nd</sup> International Workshop on Advanced Data Processing in Ubiquitous Computing

[http://www.cl.cam.ac.uk/~ey204/ADPUC2007/ADPUC\\_NEWS/news.html](http://www.cl.cam.ac.uk/~ey204/ADPUC2007/ADPUC_NEWS/news.html)

In conjunction with [ACM/IFIP/USENIX 8th International Middleware Conference 2007](http://middleware2007.ics.uci.edu/)

<http://middleware2007.ics.uci.edu/>

November 26th - 30th, 2007, Newport Beach, California, USA

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### IMPORTANT DATES

Paper Submission	<a href="#">September 3, 2007</a>
Acceptance Notification	<a href="#">September 15, 2007</a>
Camera Ready Due	<a href="#">October 1, 2007</a>
Workshop	<a href="#">November 26 or 30, 2007</a>

### THEME

Research in ubiquitous computing environments is now turning to novel concepts to address the challenge of providing data and query services. Middleware techniques can make key contributions to these needs. This workshop will address issues of data management in ubiquitous computing environment with a special focus on data processing. It will analyse paradigms for query and data processing that are rooted in the middleware community and may be beneficial in the future of ubiquitous computing.

Current research often focuses on P2P networks that are extending to ubiquitous environments. Sensor data are captured beyond edge nodes in wide area networks. Initial research in wireless sensor networks (WSN) often focused on WSN itself. However, in the near future those data will be integrated in Internet environments. At the same time, queries originated in the Internet will be propagated into WSN environments. Data will be stored and shared among different applications over the Internet. Middleware systems will bridge the gap between these two different networks systems.

Aggregating data/events in ubiquitous computing requires management of stateful events. In addition, time in distributed and unreliable environments as well as asynchrony and unstable communication create further challenges. The workshop aims at addressing a global view of data/event correlation, filtering and aggregation over whole distributed systems. One of the goals of the workshop is the definition of key terms of data processing (e.g., aggregation, filtering, correlation, indexing, query, subscription, composition) in the light of different contexts and backgrounds.

In addition, there is no single typical WSN application, and dependency on applications is higher than in traditional distributed applications. The application/middleware layer must provide fundamental services for efficient extraction, manipulation, transport, and representation of information derived from sensor data. Data will be shared by different applications over Internet. This requires the database community to revisit data models, query languages, storage support, query optimization, as well as, data and application services integration. It also requires further interaction with information retrieval, programming languages, artificial intelligence, distributed computing, and workflows.

The Workshop solicits contributions on topics related to, but not limited to, the following:

- Data aggregation/correlation (e.g., for sensor data in ubiquitous environment)
- Reactive systems
- Event filtering/correlation over distributed systems
- Context extracting (e.g. meta-data extraction and annotation)
- Search/Query/Indexing mechanisms over P2P based systems
- Process models for ubiquitous/P2P environments (e.g. event-based, communication, selection)
- Multidimensional data/query model (e.g. Spatial and temporal attributes)
- Semantic data model
- Semantic interoperability, and integration
- Filtering/composition algorithms also filtering/correlation engine
- Location over distributed systems
- Representation of database query in complex format for active database
- Data mining and knowledge discovery in distributed systems
- High-level language for event query and query task propagation
- Distributed stream processing and dissemination
- Stream-based and continuous query processing
- Query planning and optimization in distributed systems

### GOAL

The goal of this workshop is to share and discuss original and innovative ideas. We intend this workshop to act as an initial forum where people from different areas can find a forum to discuss issues of data management and processing in these new and emerging environments. Therefore, we invite authors from diverse communities that are interested in data processing in ubiquitous environments, such as middleware, distributed systems, ad-hoc and peer-to-peer systems, delay tolerant networks, streaming sensor networks, wireless sensor networks, databases, mobile computing. Papers do not have to be based on complete and comprehensive works. In fact, we welcome position papers, requirements for real-world applications, as well as papers based on preliminary results, provided that they are forward-looking and that they remain well-argued and justified in terms of existing work.

### SUBMISSION REQUIREMENTS

Submissions should not exceed 6 (six) pages in ACM proceedings style, including all text, references, appendices, and figures. Please submit your paper by e-mail to <mailto:eiko.yoneki@cl.cam.ac.uk> no later than the 15th August 2007. Your submission e-mail must have "ADPUC submission" as subject and contain the PDF file as a MIME attachment. The sender of the submission will be the contact person, unless otherwise requested in the submission. At least one of the authors of accepted papers is expected to participate in the workshop. The paper template can be found at <http://www.acm.org/sigs/pubs/proceed/template.html#aL1> (Option 1). A proceedings including CD for the workshops will be produced. The papers will also be submitted to the ACM Digital Library.