Topic 14
Mobile and Ubiquitous Computing

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Topic Chairs

Wireless communications along with portable computers, digital assistants and sensor devices provide a pervasive base for mobile computing. However realizing truly ubiquitous mobile computing requires innovative theories, paradigms and applications in various research areas including algorithms, networking, software architectures and data management. Topic 14 covers all such aspects. This topic attracted 33 submissions showing the increasing interest in the field. From the submitted papers, 8 were accepted as full papers (24% acceptance rate). The selected papers cover various aspects of mobile and ubiquitous computing highlighting the diversity of the field and thus making up an interesting and stimulating track.

Paper presentations are divided into three sessions. Two papers in the first session address consistency issues. In *"Efficient and Fault-Tolerant Update Commitment for Weakly Connected Replication"*, J. Barreto and P. Ferreira propose a novel epidemic weighted voting protocol for achieving eventual consistency in optimistic replication that allows multiple update candidates in an election. In *"Controlling Concurrency in Mobile Computing Environments with Broadcast-based Dissemination"*, J. M. Monteiro and A. Brayner present a new serializability-based protocol for ensuring data consistency and currency when data are disseminated to clients through wireless broadcast. The last paper in this session, *"Integrating Mobile Devices into the Grid: Design Considerations and Evaluation"* by S. Isaiadis and V. Getov, discusses implementation and performance issues for integrating mobile devices into the grid. The second session is shared with Topic 8. The two papers address aspects related to frequency utilization in wireless networking. In *"New Bounds on the Competitiveness of Randomized Online Call Control in Cellular Networks"*, I. Karagiannis, C. Kaklamanis and E. Papaioannou present new upper and lower bounds for the online version of the call control problem in wireless cellular networks. In *"A Multiple Channel Access Protocol for Ad Hoc Wireless Networks"*, K-W. Jang considers the problem of enhancing channel utilization in wireless ad hoc networks through channel exchange between neighboring nodes. In the last session, in *"Personalized Access to Semantic Web Agents Using Smart Cards"*, R. C. Erdur and G. Kardas argue for storing personal information on smart cards. The other two papers focus on secure networking. K. Kim, J. Hong and J. Lim present a *"Fast and Secure Communication Resume Protocol"* to speed up connection resume after a communication error. In *"On AAA with Extended IDK in Mobile IP Networks"*, H. Jeon, M. Y. Chung and H. Choo discuss how to attain fast and secure mobile IP networking by addressing problems of the hand-off process in a secure way.

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