

Foreword

We are delighted to present you the first issue of the *International Journal on Smart Homes (IJSH)*. This inaugural issue contains nine technical papers dealing with cutting-edge research and technology related to the design, modeling, and implementation of architectures, algorithms and protocols of smart homes or environments. Actually, this is a special issue of extended papers selected from two events: International Workshop on Smart Homes (IWSH 2006) and International Conference on Hybrid Information Technology (ICHIT 2006).

In the paper “SMART: High Performance Internet Server for High Definition Streaming Service,” Y. Bak et al. propose and implement an efficient system architecture called SMART (Server for Multimedia Applications for Residence community) for transferring diverse information in our daily lives such as multimedia streaming services.

The paper “Design and Prototype Implementation of a Novel Automatic Vehicle Parking System” by Chou, Sheu, and Chen demonstrate how wireless sensor networks and infrared technology can be effectively used to enhance the accuracy of positioning for automatic parking of unmanned vehicles in a garage.

T. Yamazaki proposes a test bed “The Ubiquitous Home,” in which a robot interfaces with the residents. Real-life living experiments were conducted and results reported by implementing three kinds of context-aware services.

In “Multicast Transmission Protocol for Multimedia Services in Smart Home,” J. Suh, et al. design multicast algorithms with enhanced performance and streaming quality for wireless multimedia service delivery to smart home users.

Y. Kishino, et al. in the paper “A Position Detection Mechanism Enabling Location-Aware Pin & Play,” propose a scheme to detect the positions of inserted pins by processing images. The scheme also avoids the accumulation of position errors.

The paper “Self-adaptable Routing Scheme for In-network Processing” by Zhao, Makki, and Pissinou, deals with wireless sensor networks. In particular, it claims that the physical signal field of sensory data can be converged to local extremes along its gradient direction and can also be integrated with the cost field routing scheme for efficient delivery of data to the sink.

A. Moon, et al. in the paper “Development of CAMUS based Context-Awareness for Pervasive Home Environments,” propose an architecture CAMUS (Context-Aware Middleware for URC Systems) that responds in a timely fashion to contexts, service agents and active services applied to the pervasive home environments.

In the paper “A Standard Method-Based User-Oriented Integrated Architecture for Supporting Interoperability among Heterogeneous Home Network Middleware,” Lee and Kim implement an integrated architecture called HOMI (HOMenetwork Middleware for Interoperability) that provides an interface to identify and utilize seamless services among heterogeneous appliances, thereby supporting interoperability among heterogeneous middleware.

The paper “The Customized Personal Services for Providing Active Action in the Variable Circumstance and Location on Home Network System” by K. Sung, et al. investigates an intelligent control model that offers active service based on learning user behavior pattern with a goal to predict user activities, device control and operations for optimal performance of the home network.

Finally, we would like to express our sincere appreciation to all the authors for their valuable contributions and also to the referees for their cooperation and hard work in reviewing the papers in a timely and professional manner.

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