Editorial

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We are pleased to see in the second year of production of our journal how the field of Intelligent Environments Reliability is expanding to encompass new research topics, growing in quantity and quality. This issue includes four papers. Two are related to situational-awareness in intelligent environments and adopt formal modeling and verification in order to prevent dangerous situations or manage changes within the environment. The third article reports a study on the deployment of smart home applications for elderly people. The fourth paper is focused on performance of basic infrastructure based on mobile ad hoc networks.

Semantic analysis and verification of context-driven adaptive applications in intelligent environments, by Davy Preuveneers and Wouter Joosen; approaches both the design, as well as, the runtime verification of context-driven adaptive applications deployed in intelligent environments. The proposed framework faces the understanding and the prediction of the impact of changes even if they have not been specifically modeled at design time. The developer's point of view—at design time—as well as the user's point of view—at runtime after deployment—are taken into account. The methodology for change impact analysis is founded on the formal semantic modeling of the intelligent environment and the runtime verification of rules and constraints with the goal to avoid undesired risks.

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User constraints for reliable user-defined smart home scenarios, by Thibaut Le Guilly, Michael K. Nielsen, Thomas Pedersen, Arne Skou, Jesper Kjeldskov, and Mikael Skov; introduces a framework for modeling smart home environments and scenarios. Scenarios are formally described based on timed automata and then verified against formal requirements representing constraints on possible control commands sent to the system. A relevant feature is the possibility of automatic extraction of models.

Smart Home in a Box: Usability Study for a Large Scale Self-Installation of Smart Home Technologies, by Yang Hu, Dominique Tilke, Taylor Adams, Aaron S. Crandall, Diane J. Cook, and Maureen Schmitter-Edgecombe; evaluates the ability of users to self-install a Smart Home application. The study concentrates on elderly people who on the one hand are in special needs for assistive home technologies, but on the other hand are subject to critical usability issues or 'human factors'.

Intelligent Probabilistic Broadcasting in Mobile Ad Hoc Network: A PSO Approach, by Sumit Kumar and Shabana Mehruz; approaches the optimization and performance of Mobile Ad Hoc Networks in the context of Intelligent Environments. The paper presents a probability-based broadcasting techniques which relies on fuzzy controllers. The approach is validated via simulations that demonstrate how it outperforms the classic ones.

We encourage our readers to consider this journal as a forum to address the agenda of our area and one option we make available to our colleagues to bring the focus of attention of our community to specific bottleneck issues for progress an innovation is the possibility to run Special Issues. Colleagues interested in this opportunity should contact the Editors in Chief of JoRIE with a proposal including the proposed topic, schedule and Guest Editors.