

Special Issue on the Future Internet, Part II

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Recent dramatic changes such as the rising number of Internet users, the penetration of portable and mobile devices, or the Internet of Things, has motivated a number of research initiatives, labeled “Future Internet” worldwide, supported by NSF in the USA and EU research framework programs in Europe. In Hungary, the “Future Internet Research, Services and Technology - FIRST” project, supported by the European Social Funds, focuses on key theoretical, modeling, planning, application and experimental aspects of Future Internet. The nine papers published in two subsequent special issues of this journal, demonstrate the research results achieved by the FIRST research community in various fields related to Future Internet. Six papers were published in Issue 3, 2014, and further three papers are published in this issue.

The authors of the first paper, “Correlation clustering of graphs and integers”, *Shigeki Akiyama, László Aszalós, Lajos Hajdu, Attila Pethő*, considered the problem of correlation clustering from three different but closely related aspects. First, new results are presented that have been derived for the graph model of the problem, considering an increasing family of graphs. Then particular sets with a specific relation have been investigated. Finally, the set of so-called S-units have been considered, under the same relation as for positive integers. Here the authors have proved that in contrast with the case of positive integers, after

some point the optimal clustering is always given by the trivial clustering (consisting of a single class).

Authors *Károly Farkas, Gábor Fehér, András Benczúr, and Csaba Sidló*, in their paper “Crowdsensing Based Public Transport Information Service in Smart Cities”, introduce the XMPP based communication framework that was designed to facilitate the development of crowd assisted smart city applications. Then the crowdsensing based real-time public transport information service is presented, implemented on top of the framework, and its front-end Android application, called TrafficInfo, in detail, together with the stop event detector developed by the authors. This detector automatically detects halt events of public transport vehicles at the stops.

The survey paper by *Péter Battyányi and György Vaszil*, titled “Membrane Systems from the Viewpoint of the Chemical Computing Paradigm”, deal with membrane systems that are nature motivated abstract computational models inspired by basic features of biological cells and their membranes. The authors first review some of the basic features and properties of the chemical paradigm of computation, and also give a short introduction to membrane systems. Then they examine the relationship of the certain chemical programming formalisms and some simple types of membrane systems.

Guest Editors:



GYULA SALLAI received MSc degree from the Budapest University of Technology and Economics (BME), PhD and DSc degrees from the Hungarian Academy of Sciences (MTA), all in telecommunications. He was senior researcher in telecommunication network planning, then research director, strategic director, later deputy CEO with the Hungarian Telecom Company; then international vice president, after that executive vice president for the ICT regulation with the Communication Authority of Hungary. From 2002 to 2010 he was the head of the Department of Telecommunications and Media Informatics of the BME, and from 2004 to 2008 the vice-rector of the BME as well. From 2005 to 2011 he was also the chairman of the Telecommunication Committee of the MTA and the president of the Hungarian Scientific Association for Infocommunications (HTE). Recently he is full-professor at the BME, Scientific Director of Future Internet Research Coordination Centre, member of the FIRST Project Council and honorary president of the HTE. His main fields of interest are the ICT trends, strategic, management and regulatory issues, Future Internet engineering.



WOLFGANG SCHREINER is since 2004 associate professor of the Research Institute for Symbolic Computation (RISC) at the Johannes Kepler University Linz, Austria. His research areas are formal methods and parallel and distributed computing; he has directed in these areas various national and international research and development projects, participated in the program committees of 90 conferences, served as evaluator for various European projects, and is member of the editorial board of the Journal of Universal Computer Science. Prof. Schreiner has (co-)authored 13 book chapters, 9 journal publications, 46 other refereed publications, 12 non-refereed publications and 70 technical reports.



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