Editorial

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The next generation network (NGN) opens the space for applying *intelligent technologies* in converged processes for providing new telecommunication services, such as value added services (VAS), information services, business services and advanced ICT services. As telecommunication networks and services become more complex, adequate intelligent solutions are needed in various areas of *modern telecommunications*, particularly for network security, availability and robustness, as well as for emerging mobile network services, social networks, and interaction with multiple users. This special issue of the *International Journal of Intelligent Information and Database Systems (IJIIDS)* comprises seven original peer-reviewed research papers related to applying intelligent technologies in ICT domain referring to these topics. Six papers are based on those initially presented at the *10th International Conference on Telecommunications* – ConTEL 2009, held in Zagreb, Croatia, in June 2009. They were selected from a total of 67 papers accepted at ConTEL 2009. One additional paper related to the topic of the special issue has been accepted from the *IJIIDS's* open call for papers. All conference papers were significantly extended before submission for potential journal publication, and all submitted papers were reviewed by at least three independent

reviewers for assessment. Authors had to satisfactorily respond to the reviewers' comments and to revise the papers accordingly before the final acceptance.

The first paper entitled 'RFID-based solution for galleries and museums visit modelling using Markov model, BBN's and MAP decisions' by Petar Šolić, Nikola Rožić, and Joško Radić, deals with RFID technology implemented in exhibitions for describing a visitor's behaviour. The method of building robust N-state Markov model is presented and system performance improvements are realised through Bayesian belief network (BBN) and maximum A posteriori probability (MAP) decision approximation algorithm.

The topic of the second paper entitled 'On the security of reliable server pooling systems' by Jobin Pulinthanath, Martin Becke, Thomas Dreibholz, Xing Zhou, Erwin Rathgeb, and Wencai Du is security for an availability-critical system. Authors introduce reliable server pooling (RSerPool) system in order to prevent attacks and improve the robustness.

In the third paper entitled 'Communicating with multiple users for embodied conversational agents in quiz game context' by Hung-Hsuan Huang, Takuya Furukawa, Hiroki Ohashi, Aleksandra Cerekovic, Igor Pandzic, Yukiko Nakano, and Toyoaki Nishida, the authors address two approaches to achieve attentiveness of a virtual quiz agent interacting with multiple users at the same time. Two related prototype systems are presented and evaluated with an automatic attitude test go/no-go task (GNAT) and regular questionnaires.

The fourth paper entitled 'Agent-based social networking for mobile users' by Rebeka Belavic, Marko Basuga, Vedran Podobnik, Ana Petric, and Ignac Lovrek, focused on social network services in the mobile network domain. Authors present an agent-based social network that enables mobile users to define and customise their social relationships with other users, as well as to use those relationships for planning and managing group events.

The fifth paper entitled 'Improved feature selection method of web page language identification using fuzzy ARTMAP' by Choon-Ching Ng and Ali Selamat deals with the information available in languages other than English on the WWW and producing reliable features of a web page that is to undergo language identification. The idea described in the paper is to enhance the effectiveness of feature selection method of web page language identification by using N-grams.

The sixth paper entitled 'Logical inventory database integration into alarm correlations discovery environment' by Oliver Jukic and Marijan Kunštic deals with detecting problems in network elements in a telecommunication network and enabling automatic recognition of critical parts of the network. The authors present the use of a mathematical a priori algorithm, with proposed improvements that lead toward efficient correlation rules candidates' generation.

In the last paper entitled 'Online charging in IMS for multimedia services with negotiable QoS requirements based on service agreements' by Tomislav Grgic and Maja Matijasevic, the authors propose an online charging model based on the IP multimedia subsystem (IMS) policy control and charging framework specified in the IMS R8. The model requires less signalling than the standard architecture and aims to provide charging for services consisting of a number of media components where the treatment of each media component may differ based on the user's agreement with the service provider.

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