Editorial

The beginning of another publishing year – and this would be our jubilee 25th – usually provides the opportunity to perform changes in the organization of a scientific journal. In this respect I am pleased to present you a recent reshape of our editorial team, which has been enhanced in order to better cope with the increasing number of submissions. Namely, our former Associate Editors Siniša Šegvić and Jan Šnajder have been co-opted into the Editorial Board, while Bruno Blašković, Goran Delač, Domagoj Jakobović, Alan Jović, Miljenko Mikuc and Stjepan Picek took over the positions of Associate Editors. I am fully confident that with such a strengthened editorial team *CIT. Journal of Computing and Information Technology* will succeed in better accomplishing its publishing mission, targeting the improvement of its publishing effort as well as the shortening of submissions' processing times.

In contrast to the above, with regret I have to announce that after completing her long and fruitful career at *CIT's* earlier publisher *University Computing Centre SRCE* and afterwards serving as a consultant in transferring it to the new publisher *Faculty of Electrical Engineering and Computing (FER)*, our long-term Assistant Editor Vesna Hljuz Dobrić left our editorial team. I am sure to express the general opinion of all of us affiliated with *CIT's* publishing when I say that Vesna was its moving spirit almost from its inception, caring for the totality of the activities related to its publishing. Without her commitment, enthusiasm and hard work *CIT* wouldn't have been that successful. Thank you Vesna!

And after this introduction mostly related to organizational issues, let me as usual provide you with a short overview of the papers published in this issue. This volume's first issue (March 2017) of *CIT. Journal of Computing and Information Technology* brings five papers from the broad areas of computer networks, agent technology, security systems as well as computer graphics and visualization.

The first paper addresses the study of network lifetime, which is one of the most important topics in wireless sensor networks (WSN), as they mostly find their application in circumstances which prohibit nodes and their batteries to be replaced easily. It has been proved that energy efficiency in WSNs can be ensured through an optimal Cluster Head (CH) selection. Thus, in their paper titled *OPEN: Optimized Path Planning Algorithm with Energy Efficiency and Extending Network-Lifetime in WSN*, Syed Bilal Hussain Shah, Chen Zhe and Yin Fuliang propose a novel planning protocol for WSNs to be executed both in homogeneous and heterogeneous environments, which is based on clustering and uses the timer value parameter to select the optimal CH. Simulation results show that improvements are thus achieved in terms of throughput, energy consumption and network lifetime over other well-known protocols.

The paper *H.264/MPEG-4 AVC Video Streaming Application over LR-EE-AOMDV Protocol in MANET* by Periyasamy Pitchapillai and Karthikeyan Eswaramoorthy deals with performance evaluation of a routing protocol for MANETs (Mobile Ad-hoc NETworks), which supports video streaming applications, with the emphasis on provision of Quality of Service (QoS) and Quality of Experience (QoE). Specifically, they study the Link Reliable Energy Efficient Ad hoc On-demand Multipath Distance Vector (LR-EEAOMDV) routing protocol with two different distributed coordination functions over H.264/MPEG-4 AVC video streaming applications. The simulation performed within given scenarios shows that this protocol exhibits better performance over other routing protocols (AOMDV and OMMRE-AOMDV) for this type of applications.

In their paper titled *Unibot, a Universal Agent Architecture for Robots*, Goran Zaharija, Saša Mladenović and Lada Maleš describe the development of an agent architecture for a universal robot model. The robot agent, named *Unibot*, is capable of learning new concepts and performing actions in the physical world. *Unibot* learns by applying learning principles based on classical conditioning through reinforced learning and operant conditioning, and cognitive learning. Furthermore, it can execute several simulations of a problem of interest, e.g. path-finding. In order to support this functionality, a Multi-Agent Decision Support System (MADSS) is developed and integrated into the agent architecture. The agent is then able to select between multiple solutions, eventually executing an action in the physical world. The authors also provide an experimental evaluation of the Unibot agent architecture.

The paper *Online Voting System Based on Image Steganography and Visual Cryptography* by Lauretha Rura, Biju Issac and Manas Kumar Haldar discusses the implementation of an online voting system named *eVote*. The system was developed targeting a reasonably secure environment for online voting, hence implementing security through a combination of encryption methods of low computational cost. These included techniques like password hashed based scheme, visual cryptography, F5 image steganography and threshold decryption cryptosystem. Additionally, in order to both reduce the corresponding cost and to speed up the process, personal computers/smart phones are used instead of external hardware. The system was evaluated against user acceptance by using Davis' Technology Acceptance Model (TAM).

Maritime simulators are important tools in mariners' training and certification, as well as in marine accident and navigation security assessment. Therefore, as accurate as possible simulations are required, among which whitecap simulation occupy a significant place. Since existing rendering methods do not generate realistic whitecaps, a novel method for realistic real-time rendering of the whitecap formed upon the breaking of ocean waves in a maritime simulator is introduced in the paper *Ocean Wave Rendering with Whitecap in the Visual System of a Maritime Simulator* by Lining Chen, Yicheng Jin and Yong Yin. The basic method of whitecap coverage calculation, originally proposed by Dupuy and Bruneton, is in this paper enriched by the use of vertical wave acceleration for calculating the coverage, which is applied in whitecap rendering. Specifically, two main issues are solved: the first one is computation of vertical acceleration on the wave crest, while the second is usage of vertical acceleration to compute the whitecap coverage.

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Editor-in-Chief