

## Foreword from Al-Sakib Khan Pathan, Editor-in-Chief Multi-Dimensional Networking and Distributed Computing Services

Various types of wired and wireless networks and their applications can be seen in many places now-a-days. In the past decade, we have witnessed a significant increase in the number of Internet users and technology hunters. With the aid of wireless communications and demand of flexible anytime, anywhere networking, many types of wireless self-organizing networks have already gained huge popularity among users. For wider support of wireless connectivity and developing easy-to-use technologies, substantial efforts are underway to reduce human intervention in the configuration, formation, and maintenance processes of these networks. Furthermore, different types of distributed computing technologies are widening the scope of our thinking and research issues in networking. The multi-dimensional research issues include wireless and mobility problems, routing protocols and algorithms, resource and service location protocols, performance evaluations of networking systems, ubiquitous systems, context aware ubiquitous environment, mechanisms to improve throughput over wireless links, network management and network security, and other related areas.

To meet the vast demand of networking and distributed computing knowledge in the current times, IJIDCS was launched in the year 2010. It is my pleasure to see that the second volume is coming out with some important and solid contributions. The first issue of the second volume includes some of the papers chosen from the 4th International Workshop on Internet and Distributed Computing Systems (IDCS 2011) in conjunction with ICA3PP 2011 conference, held from October 24 to October 26, 2011 in Melbourne, Australia. The selected papers have been considerably extended and revised. Other regular papers are also included to put multi-dimensional fields in one single issue. The topics range from failure detection to secure transactions, processing online documents to complex wireless system and signaling.

The first paper titled, “*A Failure Detection Service Based on Epidemic Dissemination for Peer-to-Peer Networks*” by Sousa and Duarte presents a failure detection service for P2P networks based on a gossip strategy. The service was implemented on the JXTA (Juxtapose) platform. Authors have done a good work to show that increasing the frequency in which gossip messages are sent gives better results than increasing the fan-out.

The second paper, “*A Flexible Authentication and Authorisation Mechanism for Securing Transactions in Digital Ecosystem*” by Pranata et al. introduces the notion of Digital Ecosystem (DE). As the authors define, DE is a loosely-coupled and interactive environment that allows its member entities to share their information and resources in a secure and open manner. It is expected that the implementation of DE would bring significant advantages for Small and Medium Enterprises (SMEs), which further contributes to the world economy.

Deepika and Mahalakshmi contribute a very interesting topic in their paper “*Towards Knowledge based Impact Metrics for Open Source Research Publications*”. This work proposes a new technique for the calculation of Impact Factor for research publications. The proposed method includes assessing the semantic content of the publications and excludes several issues of the existing traditional methods where impact factor calculation is based only on the citation factor. The different approach takes into consideration, author popularity, article’s content analysis, article individuality and some other factors including article’s citation analysis. These joint factors are the likely considerations in assessing the quality of a journal via Impact Factor which would help the relevant research areas. The addition of this paper should give the readers a good view how to assess online open source publications.

The paper by Sharmila et al. titled “*Design and Development of a Script Recognition Tool for Indian Document Images*” takes a bit different direction but applicable for online document images. Though the

work is mainly based on Indian languages and characters, the idea could be similarly applied for other online publications for other languages.

The final paper is a short one by Faisal et al., titled, “*Simulation Based Performance Analysis of MCCDMA and CDMA over Rayleigh Fading Channel*”. This paper is related to wireless communications. The authors compare the performance of CDMA and MC-CDMA over Rayleigh Fading Channel and by analyzing BER with respect to signal to noise ratio (SNR), they show that MC-CDMA performance is better than CDMA since its BER is less than CDMA over Rayleigh Fading Channel.

Given all these works in this issue, directing to various fields related to network and distributed computing or often simple computing, it is hoped that multi-dimensional readers will find the articles useful for their research areas. Also, general readers could get chance to see various working areas that are often not linked but may have options of combining them to a single research issue. As an example, the concept of failure detection mechanism in the first paper could also be used for Digital Ecosystem to build a robust and secure architecture for information sharing.

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