

Foreword

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Published online: 31 July 2012

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Information Technology (IT) has transformed the world in the last seven decades. Inventions of scientific relevance led to innovative applications in almost all possible domains of human life. New business and social structures have been evolving since and still there is no sight of retreat in the near future. The world is experiencing a roller coaster ride with everyday addition of some new IT solution, tool or technique.

Present times are witness to the multi-faceted growth in IT. Unified communication, pervasive and context aware computing are not merely technical jargons but present all over around us, although, yet evolving. With an objective of bringing in contemporary research in such evolving IT, a conference on “Emerging Information Technology and Engineering Solutions 2012” (EITES 2012) was held in Pune, India in February 2012. This special issue is a culmination of EITES 2012 bringing in three selected papers from the conference. A few more relevant papers are adding value to the theme of emerging IT and engineering solutions.

Communication Technology has been an integral constituent of IT. Computer networks have become the lifeline

of all routine and specific activities. Unified communication is an emerging technological solution that develops a communication infrastructure by merging disparate technologies. Distributed systems with loosely bound heterogeneous peer-to-peer nodes face the problems of free-riding by barely-contributing peers. S. Moses Dian and B. Ramdoss propose a robust solution in their paper, “A Grade-based Incentive Mechanism with Starvation Prevention for Maintaining Fairness in Peer-to-Peer Networks”.

In wireless local area networks (WLAN), the transmission medium face limitations of low bandwidth, varying signal strength and vulnerability caused by interference and disturbance. For efficient utilization of bandwidth by avoiding collision in transmissions between transmitting stations, a new variant of Backoff Algorithm has been proposed by Narendran Rajagopalan and Mala C. in their paper, “An Efficient and Dynamic Backoff Algorithm for IEEE 802.11 Networks”. In this world of Internet based social networking, blogs play an important role in terms of communication of ideas, initiation of discussion and dissemination of knowledge. Karan Gupta and Anita Goel devise a comprehensive set of user requirements for integrating blog in the development of a web application in their paper, “Requirement Checklist for Blog in Web Application”.

Industry strength software applications are extremely complex due to the number of constituent elements and discreteness of the resultant system. Achieving a defect free large scale software application first time is a not-yet-accomplished dream of industry. Rigour in the process of defect detection, identification of their causes and measures to eliminate those causes build excellent organizational capabilities. Naomi Honda and Shingeru Yamada bring in the rigor and sophistication in the process of elimination of defect causes in their paper, “Defect Root-Cause Analysis

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and $1 + n$ Procedure' Technique to Improve Software Quality". The role of IT as an enabler to Supply Chain is undisputable. Results of a beer game experiment demonstrate the extent to which IT really helps and the direction that must be taken by future IT solutions for Supply Chains. Manoj Hudnurkar and Urvashi Rathod brings in the insights gained from the experiment in their paper, "Collaborative Supply Chain—Insights from Simulation".

This special issue offers selected works from different emerging arenas of Information Technology. Each paper has added value for its respective discipline by its originality and orientation towards problem solving. We feel contented in putting across a collection of research works that would definitely emerge as a significant piece of knowledge in emerging avenues of IT.