Preface

Special Issue on
Software Optimization and Security

This special issue of the International Journal of Software Engineering (IJSE) presents state of the art research on current practices in Software Engineering (SE). The issue is motivated by the guiding theme current practices in Software Optimization and Security. The issue presents a collection of invited papers presented by prominent researchers and professionals in the Software Engineering Track of the 2009 International Conference on Information Technology: New Generation (ITNG). These papers were peer reviewed by the track reviewers and the Track Chairs. Extended versions of selected papers were invited for this issue and blind-reviewed by experts in the field.

The quality of the underlying software engineering processes and methods is essential for the success of software development. The ITNG SE Track provided researchers and practitioners a forum to present and discuss their ideas and experiences in current SE practices. The track received a wide range of research papers that address current practices in SE including surveys of methods and techniques, experience reports in application development, and reports on tool development. The presented work aimed to improve SE processes, methods, technologies, and development paradigms, and it covered different research areas in the SE field.

The goal of this issue is to present current research in the area of software optimization and security. The quality and relevance to current issues and challenges in software development make selected papers of interest to SE researchers and practitioners. Through their work, the authors have demonstrated valuable contributions to SE research and practices with emphasis on the development of tools to improve practices in two specific areas: compilation and translation (specifically, agent-oriented source-level debugging, byte code-level cross compilation, and checking design constraints at run-time), and application security (specifically, component-based implementation for network security, security risk assessment in web applications, and software watermarking application). The papers discussed tools and methods to enhance these areas of software development.

We would like to extend our sincere appreciation to the reviewers who contributed to the review process in a timely manner given the tied schedule we had for this issue. The quality of their reviews and feedback are invaluable. We also thank the authors for accepting our invitation and taking the time and effort to revise and prepare their submissions for this issue. We also would like to extend our gratitude to IJSE Editor-in-Chief and the Editorial Office staff for giving us the opportunity to compile this special issue. Their encouragement and support are invaluable.

Guest Editors:

Dr. Hisham Haddad - Professor of Computer Science at Kennesaw State University, Georgia, USA. He received his M.S. degree in Computer Science from Northrop University, Los Angeles, California, and Ph.D. degree in Computer Science from Oklahoma State University, Stillwater, Oklahoma. He served at Marshall University, Huntington, West Virginia, as Assistant and Associate Professor. Before joining Kennesaw State University, Kennesaw, Georgia, in 2001, he worked in the private sector as Senior Software Architect and Project Manager. At Kennesaw State University, he served as undergraduate CS Program Coordinator and Assistant Chair. He teaches in both the undergraduate and graduate CS programs. He has been involved in the development of computer-based instructional tools for classroom teaching and participates in ongoing curriculum development efforts. His research interests include Software Engineering, Object-Oriented Technology, Software Reuse, and CS education. He is actively working in these and other areas as he actively involves undergraduate and graduate students in research activities. He is active participant in funded research activities sponsored by government and private agencies. His research work is published in professional journals and refereed International and National conferences. Dr. Haddad is active member of the professional community, active participant in professional activities, and a member of several professional organizations. He is active participant in conference organization and regular technical reviewer for many conferences and journals.

Dr. Mohammad Eyadat - Mohammad received the Ph.D. in Computer Science/Engineering Mathematics from Claremont Graduate School in Claremont, Master of Science Degree in Computer Science from the University of Southern California, and Bachelor of Science Degree in Computer Science from Yarmouk University - Jordan. He has been serving as professor at different institutions international and domestic. The institutions where he has taught courses in Computer Science, Computer Information Systems, Information Technology, and Mathematics provide graduate and undergraduate degree. His working experience ranges from Software Designer and developer to Business Consultant. As a researcher, he has been a collaborator for organizing several research activities including professional research conferences. His research interests include software engineering and software reliability models, multimedia software security, watermarking algorithms for images and video data, Education and Information Technology, and Web accessibility.