

From the Executive Editor

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As always I take immense pleasure in presenting to you the fourth issue of SEIJ and hope that it shall inspire the researchers worldwide to utilize the knowledge and knowhow contained in this issue for newer applications and advancement of the frontiers of software engineering.

In this issue the first paper provides a framework for an adaptive service composer. The second research paper proposes a model for change predication using two open source software. The aim of the second paper is to propose use of few machine learning algorithms with an objective to predict change prone classes. The third paper reviews the existing literature on software testing techniques and provides guidelines for future research in this area. The last paper implements a transceiver system on hardware test-beds.

A practical framework of an adaptive service composer is introduced in the first paper. This paper is titled “A Practical Approach to Adaptive Service Composition” and is authored by Dimuthu U. Gamage, Ryan Rybarczyk, Rajeev R. Raje. In this paper, the authors propose a design of an adaptive service composer that will provide a focus on automatic adaptation of semantic and quality of service level contracts in compositions. This proposed implementation is empirically validated on the existing Enhanced Distributed Object Tracking System.

The second research paper titled “Inter Project Validation for Change Proneness Prediction using Object Oriented Metrics” authored by Ruchika Malhotra and Megha Khanna develops an prediction model one project and validate it on another project. For the results validation the authors have used two open

source projects written in Java language. The performance of the predicted models are evaluated using Receiver Operating Characteristic analysis. The results of the study indicates that we can successfully apply the training sets for inter project validation. These results obtained from the study will help the researchers and software practitioners in optimizing time and effort required to generate training set of each project.

The need for efficient and effective software testing techniques is increasing so that the cost of testing can be reduced. The third paper titled “Empirical Evaluation of Software Testing Techniques – Need, Issues and Mitigation”, authored by Sheikh Umar Farooq and SMK Quadri, explores the literature on software testing techniques evaluation and identifies the problems associated with them. The aim of this paper is to provide guidelines for evaluating software testing techniques that will help the researchers in carrying out the research on areas related to software testing.

“FPGA Implementation of MIMO System using Xilinx System Generator for Efficient Hardware/Software co-design”, authored by Sparsh Mittal and Saket Gupta implements a transceiver system on hardware test-beds, which can be useful in video streaming. They employed the 2*2 Alamouti MIMO technique to develop a transmission system and implemented the design on FPGA using Xilinx System Generator and AccelDSP. This paper will help to meet the rapid demands of multimedia services over wireless networks.

I also welcome your comments and reviews on this issue and welcome original research and new ideas in the areas of software engineering.

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