

PREFACE

This special issue introduces recent works related to software engineering practices. To be specific, this special issue elaborates on the current knowledge relevant to a various areas and research related to software engineering technology and the applications. The issue carries sixteen extended versions the papers presented during the Eighth Malaysian Software Engineering Conference (MySEC 2014) held in Langkawi on the 23-24 September 2014. MySEC 2014 is the premier regional conference on Software Engineering in the South East Asia with the aim to gather researchers and practitioners from academia, industry, and government in order to critically discuss and expose the current state-of-the-arts related to software engineering research and practices.

In line with the aforementioned aim, the extended versions of the papers carry three main themes specifically on improving the current-state-of-the-arts related to Service Oriented Architecture, enhancing general software engineering practices as well as refining the technological aspects on infrastructure support from computer networking and scheduling.

Concerning the first theme, a total of seven papers is of interests. A.A. Mohammed Elhag and R. Mohamad elaborate on a set of Service Oriented Design metrics that can be adopted to objectively select amongst alternative service oriented design styles. N. M. Nik Daud and W.M.N. Wan Kadir itemise the existing metrics for Service Oriented Architecture in order to identify the patterns for each group and expose their relation with structure and behaviour of software. Complementing the two aforementioned works, N.A. Saadon and R. Mohamad discusses an enhanced framework for cloud-based Mobile Web Services (MWS) discovery based on REST-based architecture. In another work, N. Mohd Hamka and R. Mohamad introduce an ontology validation algorithm to measure coverage of the domain knowledge in use. Based on a more focused application, K.A. Sedek *et al* elaborate on a study of a hybrid e-government architecture based on architectural principles, enterprise operational interoperability architecture and service component architecture (SCA) in order to satisfy interoperation in terms of potentiality, compatibility, and performance tests for integration and interoperability e-government applications and services. Taking views from the design perspective, A. Nanthamornphong and R. Wetprasit demonstrate the usefulness of Visitor design pattern. On a similar note, S. A. Halim *et al.* demonstrates the usefulness of a multi attribute architecture design decision technique for core asset derivation from within software product lines using Fuzzy Analytical Hierarchy Analysis (Fuzzy AHP) along with lightweight architecture design decision documentation.

As highlighted earlier, the second theme focuses on the software engineering best practices partly on the organizational perspectives as well as on the general software development activities phases. On this theme, there are seven papers. T.J. Gandomani *et al.* study the challenges that plague Agile process transformation from the perspectives of transformation prerequisites, facilitators, framework, assessment, and coaching. Taking a macro organizational perspective, F.F. Ismail and R. Razali highlight a systematic study on contributing success factors for software testing outsourcing projects through semi-structured interviews involving clients and vendors. Focusing on requirements elicitation, A.F. Arbain *et al.* highlight a

Traceability Process Model (TPM) for tackling the NFR relating to security and performance using precision/recall method via a tool support. On similar focus, N. Ibrahim *et al* demonstrate the usefulness of boilerplates as templates to specify the functional and non-functional requirements in the form of natural language statements. Using scenario modeling, Ali *et al* demonstrate the precise modelling of the scenarios through a scenario language (and direct mapping to finite state machine) allowing early software reliability assessment through direct probability of failure calculation and reliability measurement. From the perspective of code evaluation (and programming assessment), Rohaida *et al.* highlights a new test data generation framework for automatic program assessment. A. Mubarak Ali and S.Sulaiman evaluates a hybrid process of pre-processing and transformation process of code clone detection for the .Net application.

Finally, the third theme zooms on the supporting infrastructure that can be of interests for software engineers alike. Two papers fall in to this theme. The first paper, I. H. Alshami *et al* evaluates the effect of people's presence for Indoor Positioning System (IPS) using Wireless Local Area Network (WLAN). The last paper, H. Ismail and D.N. Abang Jawawi demonstrate the weakly hard scheduling approach and schedulability analysis consisting of the partitioned multiprocessor scheduling techniques, called R-BOUND-MP-NFRNS (R-BOUND-MP with next-fit-ring noscaling).