
Editorial

Lorna Uden

FCET,
Staffordshire University,
The Octagon, Beaconstide,
Stafford, ST18 0AD, UK
Email: L.uden@staffs.ac.uk

Biographical notes: Lorna Uden is Professor Emeritus of IT Systems in the Faculty of Computing, Engineering and Technology at Staffordshire University. Her research interests include technology learning, HCI, big data, mobile learning, activity theory, knowledge management, web engineering, multimedia, e-business, service science and innovation, semantic web, software as a service (SaaS), internet of things and problem-based learning.

Welcome to V11, N1 of *IJWET*. There are three papers in this issue. The first paper is ‘Objective assessment of the performance of data grid replication strategies based on distribution quality’ by T. Hamrouni, C. Hamdeni, and F. Ben Charrada. In this paper, the authors addressed the key problem related to the impact of the replica placements on the performances of data grid. They studied the impact of the distribution of replicas on the evaluation results of replication strategies and took as an example the response time (RT) and the effective network usage (ENU) metrics. In this paper, the authors propose a new evaluation metric called the distribution quality known as DisQ. This metric quantifies, at a given point in time, the quality of a given distribution of replicas through the grid nodes.

These authors argue that DisQ helps to know beforehand that a given distribution will contribute in obtaining interesting data grid performance or it will degrade them. Using DisQ, they propose a correction for the evaluation metrics of replication strategies to make them more reliable. They used the OptorSim simulator to validate their theoretical contributions.

The second paper is ‘A navigational role-centric model oriented web approach – MoWebA’ by Magalí González, Luca Cernuzzi and Oscar Pastor. This paper presents model-oriented web approach (MoWebA), a proposal for the development of web applications. MoWebA defines navigation from a behavioural point of view, instead of a structural (data-oriented) one, trying to better capturing the requirements of users’ interaction, and it considers navigation as the starting point of the modelling process for web applications. It also includes an appropriate syntax to model the dynamic navigation observed during the users’ interaction and the inter-intra contextual navigation. Another innovative contribution in MoWebA is the ASM – architectural specific model, which define an architectural level of modelling definition separated from the PIM, in order to facilitate the evolution of applications. MoWebA adopts the standards proposed by MDD (languages, tools, architecture, among others) in every phase. An important effort is devoted to personalisation aspects. Various experiments were performed. The study also discusses the contributions and weaknesses of MoWebA in each phase.

The third paper is ‘An approach to detect web services vague datatype specifications to enhance understandability’ by Samer Hanna. This paper describes a novel approach for detecting vague, custom and inconsistent XSD-based datatype specifications produced by different web services development techniques. It investigates the previous problem by analysing the datatype specifications inside WSDLs generated when developing web services by different techniques. Based on this analysis, the paper proposes an approach to detect vague, custom, and similar datatype specifications produced by each of the investigated web services development techniques. When service providers detect such specifications, they can then annotate these specifications to reach for more understandable WSDL interfaces and hence more understandable web services. To demonstrate the usefulness of the proposed approach, a proof of concept tool has been built and this tool proved to be efficient in detecting vague, custom and similar datatype specifications serialised by different web services development techniques.