

GUEST EDITORIAL PREFACE

Choices and Internet Service Management

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As ontologies and web oriented applications blossom around the world, tools for supporting users in their growing demands for semantics technologies and data-intensive research support are more and more needed. The workshop Web2Touch in its 2010 edition aimed to introduce both state-of-the-art and advances in Web semantic technologies, Web services and knowledge engineering in various fields. The workshop hosted a set of discussion papers providing a multidisciplinary view of the Web, and demonstrating the potential of the Web as an active medium for cooperation and sharing. In particular, our glance is on the Web as a framework which is continuously evolving toward semantics, services, social networks, ontologies, and a Web of “things”. The 2010 edition was focused on recently emerging Web activities regarding knowledge sharing and creation through the Web woven into social, scientific, business, and real life work environ-

ments. By joining complementary views, the authors have achieved a way of exchanging in the workshop their skills on solutions that can be applied to different problems, sharing issues of cooperation, service-based techniques and tools, and the exploitation of the Web and its architectures.

The paper “*Ontology Mapping Validation: Dealing with an NP-Complete Problem*”, by F. Serpeloni, R. Moraes, and R. Bonacin, is situated in the problem of ontology mapping and their correctness. This paper proposes a semi-automatic tool to validate ontology mapping, adapting approaches used in the field of software validation, such as model based tests and model checking. The paper shows problems connected to ontology mapping and discusses possible heuristics bound to indications provided by the users, which so become active protagonists of ontology interpretation, a strategy which can improve processing times,

so reinforcing and highlighting the necessity of further studies in this area. The N-P complete problem arises when the tool deals with automatic generation of instances trying to validate the associated concepts. A prototype is presented to consolidate the methodology of validation dealing with NP-complete problems in a feasible time.

The paper “*A SOA-Based Environment Supporting Collaborative Experiments in E-Science*”, by A. Bosin, N. Dessì, B. Madusudhanan, and B. Pes, considers that high performance computing infrastructures, such as the Grid, which have become available to scientific communities, still experience limited use due to the complex level of technical details needed for application deployment. The debate of the paper is around the next step needed to support scientists, which consists, according to the authors, in providing tools to execute experiments in a distributed way using high-level services which may be usable while hiding the underlying infrastructure. Towards this aim, the paper proposes the adoption of Service-Oriented Architectures to deploy scientific workflows which inherently need to bring together disparate e-Science resources (end-user, legacy and grid) and applications under the common umbrella of Web services. Encouraging results are provided by the paper, which shows how the authors’ experiments have shown effective applications runs in an e-Science environment. Such environment is built around business domain technologies based on Web services and BPEL, while re-using an existing Grid infrastructure. Specifically, the authors discuss a distributed data mining experiment with the concurrent use of resources on the Italian Grid Infrastructure (heavy computation) and on the user desktop/laptop (visualization).

The paper “*A Semiotic-Based Approach for Search in Social Network Services*” by Júlio C. dos Reis, Rodrigo Bonacin, and M. Cecília Baranauskas proposes search mechanisms for Social Network Services relied on semantic

web technologies and organizational semiotics methods. This work deals with the problem of sharing information between people with different profiles and proposes an automatic procedure to enrich the employed vocabulary with semantic information that will be used to improve the searching method. The vocabularies are enriched with contextual information (e.g., author role, user role, etc.) defined in an Ontology Chart and used within the related social network. The concepts and relations between the selected vocabularies and the contextual information are identified and computationally represented by a “local ontology” that will be used by the search mechanisms to improve the relevance of the search results, refining and ranking them. The described experiments provide a hint to promising results concerning the possibility to manage and optimize searching in social networks through automatic mapping users’ language diversities.

The paper “*Adaptive Ontology-Based Web Information Retrieval: The TARGET Framework*”, by C. Pruski, N. Guelfi, and C. Reynaud, discusses how relevant information on the Web can be retrieved using intelligent techniques able to automatically adapt the search to the domain targeted by users. The paper presents the TARGET framework; in the approach, adaptive ontologies are used to represent both the search domain and the user’s profile. The ontologies offer a vocabulary to express queries, to automatically enrich queries and to define web data structures. In TARGET, ontologies are the base to construct graphs representing the content of the Web from a syntactic and semantic point of view. The graphs help in the retrieval of information and improve its relevance. TARGET also proposes a semi-automatic process to adapt the ontologies according to domain evolutions by applying adaptation rules on its elements. In addition the paper discusses how the adaptive ontologies can be used to improve the web search. Algorithms and metrics are presented

to detail the adaptation processes, the query enrichment and the page rank strategies.

Summarizing, each paper in the pool of Web2Touch presents both novel approaches and tools, even if in a prototype form, developed by the authors through which the proposals have been validated, hence providing an insight into the ideas. This was a major achievement of Web2Touch workshop, where the organizers' aim was to collect papers able to set the framework for a valuable discussion based on

situations tested on the field, rather than on conceptual frameworks only.

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