Editorial Preface

Richard Chbeir
Bourgogne University, France
richard.chbeir@u-bourgogne.fr

1. INTRODUCTION

The *Journal of Multimedia Processing and Technologies (JMPT)* aims to provide a multi-disciplinary forum to present and discuss theory and research, development, architectures, networking, system support tools and applications as well as case studies of multimedia and hypermedia. It also features experimental and survey articles. It seeks to fill the gap that exists between several fields and communities such as image processing, video processing, audio analysis, information retrieval and understanding, data management and mining, security, and education.

This special issue includes extended and revised papers from the IEEE/ACM SITIS Conference series, track on Internet Based Systems and Applications which focuses on emerging and novel concepts, architectures and methodologies for information management. The Internet and the related technologies have created an interconnected world in which information can be exchanged easily, tasks can be processed collaboratively, communities of users with similarly interests can be formed to achieve efficiency and improve performance.

Taking full advantage of these interconnected environments to meet the ever increasing needs of emerging application requires solutions that address new issues and challenges. Novel architectures are being proposed to allow resource sharing and distributed processing of data with increasing complexity. Peer to peer computing, mobile information systems, semantic based applications, and decision support systems are a few examples of these applications and systems.

After a very tight review process, five original research papers were only accepted for inclusion in this special issue out of thirty-nine candidate papers initially submitted. The acceptance rate was thus around 12% and the selected works reflect the high standards for excellence used by the many esteemed members of the reviewing board who contributed to this special issue.

The first paper entitled "*Modeling and Learning Relevant Locations for a Mobile Semantic Desktop Application*" and authored by *Wolfgang Woerndl, Florian Schulze* and *Valentina Yordanova*, addresses Semantic Desktop on mobile devices (SeMoDesk). The idea is to allow users to manage their personal information space using personal ontologies. In this paper, the authors present a solution to improve location-awareness in this scenario. They have designed a location and sensor ontology as an extension to the personal ontology. This ontology is then used to retrieve relevant resources according to the current user context. For this purpose, they have designed a resource recommendation function that is utilizing the ontology graph to find other related resources such as persons or documents. They describe the design, implementation and test of an extended SeMoDesk with a focus on the integration of a RFID infrastructure for indoor location-awareness. Furthermore, they have implemented a method to display current resources and points-of-interests in the user vicinity on a map. To learn relevant user locations, they have designed and implemented a solution based on a time-based clustering algorithm. This method has been evaluated with good results in our scenario.

The second paper is dedicated to "*Searching the Web for Amharic Content*", authored by *Tessema Mindaye, Hassen Redwan,* and *Solomon Atnafu*. Here, the authors address the problem of search engines which are initially designed and optimized for English language and how they fell short when they are used for locating web resources of other languages such as Amharic. This is mainly due to the specific features of the language that are not considered by those search engines. Amharic, which is a family of Semitic languages, is the working language of the federal government of Ethiopia. Currently, there are significant numbers of Amharic documents on the Web. In this work, the authors

have analyzed the specific features of Amharic language, designed a general architecture for Amharic Search Engine, developed the necessary algorithm to realize it and implemented the same for searching Amharic language web documents. The result of the work has become to be a complete language specific search engine that has a crawler, an indexer and a query engine component that are optimized for the language they are designed, Amharic language.

In the third paper, "*Multimodal Document Alignment : Feature-based Validation to Strengthen Thematic Links*", *Dalila Mekhaldi* and *Denis Lalanne* present a validation approach of detected alignment links between dialog transcript and discussed documents, in the context of a multimodal document alignment framework of multimedia events (meetings and lectures). The validation approach consists in an entailment process of the detected alignment links. This entailment process exploits several features, from the structural level of aligned documents to the linguistic level of their tokens. The implemented entailment strategies were evaluated on several multimodal corpora. The obtained results prove that the choice of the relevant entailment strategy depends on the types of documents that are available in the corpus, on their content, and also on the nature of the corpus.

Authored by *Guillermo Valente GUmez Carpio, Lylia Abrouk,* and *Nadine Cullot*, the fourth paper is entitled "*The Query Expansion Method QUEXME in an application environment*". It aims to present and apply a QUery EXpansion MEthod called QUEXME while querying the Euro-Mediterranean Information System (EMWIS) on know-how in the Water sector. EMWIS provides a strategic tool for exchanging information and knowledge in the water sector between and within the Euro Mediterranean partnership countries. Information retrieval on the web or through some cooperation of information sources or some general knowledge bases is a complex process and a great challenge with the emergence of the semantic web. The aim of the query expansion method is to help and guide users to build their requests giving them some usually related terms close to their queries. Information retrieval in EMWIS is based on the use of a thesaurus to query the information system and to find relevant documents on some specific topics in the water sector. This thesaurus can be viewed as a light-weight web ontology. It is multilingual. This paper proposes an experimentation of our query expansion method within the framework of the EMWIS information system.

The last paper of this special issue is written by I*gnazio Infantino, Filippo Vella, Giovanni Spoto,* and *Salvatore Gaglio* and titled "*bi-SIFT: Towards a semantically relevant local descriptor*". Here, the authors propose a feature that is based on SIFT features and tends to capture larger image areas in images and can be used for semantic based task. These features are called bi-SIFT for their resemblance with textual bigrams. They tested the capability of the proposed representation with Corel data-set and publicly available image data- set. In particular, they calculated the most representatives features through a clusterization process and used these value according to the visual terms paradigm. Experiments on the representation of sets of images with the proposed representation are shown. Results appear to be encouraging.

We hope this special issue motivates researchers to take the next step beyond building models to implementing, evaluating, comparing, and extend proposed approaches. Many people helped us that this issue becomes a reality. We would first like to gratefully acknowledge and sincerely thank all the reviewers for their timely and insightful valuable comments and criticism of the manuscripts that greatly improved the quality of the final versions. Of course, thanks are due to the authors, who provided excellent articles and timely revisions.

2. CONTACTS

Questions regarding *JMPT* should be emailed to the editors:
Editor in Chief - **Richard Chbeir**, email: richard.chbeir@u-bourgogne.fr