

# 5th Symposium on Languages, Applications and Technologies

SLATE'16, June 20–21, 2016, Maribor, Slovenia

Edited by

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## ■ Preface

SLATE, the International Symposium on Languages, Applications and Technologies is an international conference with a long Portuguese tradition. It is rooted in two former conferences, each with a life span of about 10 years: Compilers, Programming Languages, Related Technologies and Applications (CORTA) ; and XML, Applications and Associated Technologies (XATA). The creation of SLATE was part of an effort to promote the internationalization of those conferences, by creating critical mass, attracting foreigners as participants, program committee and steering committee members, and by opening to new venues, specifically Madrid and Maribor.

The current fifth edition has papers from 25 authors, where Portuguese are outnumbered by the non-Portuguese authors. At first glance this could be interpreted a sign of success of the internationalization strategy. Unfortunately this is not the case because, this year, the overall number of submissions did not follow the growing trend of previous editions. In this process, SLATE may have lost contact with its Portuguese backbone, in particular due to the fact that this year's venue was too distant from the Iberian Peninsula.

As in previous editions, SLATE is divided in three main tracks: the processing of languages used to communicate among humans; the processing of languages used by humans to communicate with computers; and the processing of languages used for the communication among computers. These proceedings follow this same structure.

The Human-Human Languages track includes the following contributions:

- In “*Co-bidding graphs for constrained paper clustering*” the authors describe an approach for scheduling the presentations of conference papers on available slots, where papers are clustered based on the similarity of their content and on the reviewers preference to review them;
- In “*A Re-ranking Method Based on Irrelevant Documents in Ad-hoc Retrieval*” the authors describe a new information retrieval method that uses negative feedback to re-rank documents;
- In “*Comparing the Performance of Different NLP Toolkits in Formal and Social Media Text*” the authors compare the performance of the default pre-trained models of several NLP toolkits, freely available and developed in Java or Python, in the tasks of tokenization, part-of-speech tagging, chunking and named entity recognition, both in a newspaper corpus and in social media text;
- In “*Comparing and benchmarking semantic measures using SMComp*” the authors describe an on-line testbed tool for computing well-known or user-defined path-based similarity and relatedness measures, of word pairs or datasets, on different versions of WordNet.

The Human-Computer Languages track includes the following contributions:

- In “*LLL Parsing: a Combination of LL and LR Parsing*” a new LLLR parsing approach is described, which is a combination of LL and LR parsing. Whenever LL conflict appears it triggers small embedded LR parsers. The approach has been validated on Java 1.0 programming language;
- In “*Locating User Interface Concepts in Source Code*” the authors explore whether strings and concepts displayed in the GUI of a running program can be located in its static source code, too. The study is performed on four Java applications (ArgoUML, FreeMind, PDFsam and Weka);

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- In “*Declarative Rules for Annotated Expert Knowledge in Change Management*” a declarative domain-specific language for representing expert knowledge in the field of change management is presented. The declarative rules are written as an extension of the well-known deductive database language Datalog;
- In “*A Metamodel for Jason BDI Agents*” the authors describe a meta-model for modelling Belief-Desire-Intention (BDI) agents working on Jason platform;
- In “*Profile detection through source code static analysis*” an approach how to infer a programmer’s profile through the analysis of his source code is analysed. The approach can be useful for the continuous evaluation of a student’s progress on a programming course;
- In “*Context-Free Grammars: Exercise Generation and Probabilistic Assessment*” the authors deal with a probabilistic assessment whether two context free grammars (CFGs) are equivalent using a system of non-linear equations. The approach is exemplified on a simple CFG example of arithmetic expressions;
- In “*A Model-driven Engineering Technique for Developing Composite Content Applications*” a Domain-Specific Modelling Language (DSML) for composite content applications is proposed. It is then evaluated within an industrial case study.

The Computer-Computer Languages track includes the following contributions:

- In “*Eshu: an extensible web editor for diagrammatic languages*” the authors present a visual language environment for editing diagrammatic languages on the web;
- In “*Sni’per - a Code Snippet RESTful API*” the authors support web based collaboration for programmers, allowing them to share code snippets using a REST API;
- In “*Building a Dictionary using XML Technology*” the authors present an approach to the construction of an on-line dictionary using XML-based tools;
- In “*Automata Serialization for Manipulation and Drawing*” the authors present a visual language environment for handling and visualizing automata.

The articles published here focus very different and interesting areas of languages processing.

In conclusion, it is hoped that all the aforementioned papers will provide readers with some glimpse of research on different and interesting areas of languages processing that are presented at SLATE. Last but not least, we would sincerely like to thank the Program Committee for their assistance in the reviewing process.

Marjan Mernik  
José Paulo Leal  
Hugo Gonçalo Oliveira



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