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This volume contains the abstracts of the International conference “NooJ 2015”. The research presented covers different aspects of natural language processing using NooJ, including formalizing such levels of linguistic phenomena as syllabification, phonemic and prosodic transcription, multiword units and discontinuous expressions, local and structural syntax; transformational syntax and paraphrase generation, semantic analysis and machine translation, etc.

Abstracts are published in the form presented by authors.

У дадзеным зборніку прадстаўлены тэзісы дакладаў Міжнароднай канферэнцыі “NooJ 2015”. Разглядаюцца розныя аспекты апрацоўкі натуральнай мовы з выкарыстаннем лінгвістычнага асяроддзя распрацоўкі NooJ, улічваючы фармалізаванне такіх напрамкаў лінгвістычнага аналізу як склададзяленне, фанетычная і прасадычная транскрыпцыі, устойлівыя выразы і дыскрэтныя слоўныя канструкцыі, лакальны і структурны сінтаксісы, трансфармацыйны сінтаксіс і перафразаванне, семантычны аналіз і машынны пераклад і г. д.

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TOWARDS BUILDING OSTIS TECHNOLOGY-BASED SEMANTIC NLP APPLICATIONS USING NOOJ

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Nowadays, applied intelligent (knowledge-based) systems are quite complex to operate and usually require fairly deep understanding of artificial intelligence concepts. Natural language interfaces (NLI) aim to simplify those interactions, bring machine closer to human. Furthermore, the NLI is essential for the next generation of educational and training systems [1]. NLI obviously makes substantial use of natural language processing (NLP) technologies. While lexical and syntactical aspects of NLP are fairly well understood today, further research is still needed in its semantical aspects. In this paper, we will have a closer look at semantical side of things, particularly at integrating various NLP software pieces to achieve a better understanding of natural-language user input and a better, more user-friendly, natural-language output from computer system.

The article will cover an approach to integrating NooJ linguistics processor with natural language interface technology of Open Semantic Technology for Intelligent Systems (OSTIS) project. OSTIS project provides common formal and technological base for various traditional and intelligent computer systems to interact and augment each other in useful ways. This approach is based on using unified semantic networks (USNs) [2] that are able to represent a wide range of knowledge, both declarative and programmatic, due to their versatility. USNs are particularly useful in formalizing natural language knowledge in a way that is succinct enough for humans and at the same time is interoperable with whichever OSTIS-based applied intelligent system that is in need for linguistic services. OSTIS-NooJ integration is beneficial for NooJ [3] in that it allows for both efficient representation of NooJ grammars and extending and enhancing NooJ's semantic analysis capabilities. OSTIS project benefits from this integration by using NooJ's powerful syntactic engine, thus further facilitating its natural language interface technology.

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CONTENTS

PREFACE	5
Ben Ali H., Rhazi A., Aouini M. Translating Arabic Active Sentences into English Passive Sentences using NooJ Platform 7	
Benet V. Semantic Tags for NooJ Russian Dictionary.....	9
Blanco X. A Hierarchy of Semantic Labels for Spanish Dictionaries.....	10
Chernyshevich M., Stankevitch V. A Hybrid Approach to Extracting and Encoding Disorder Mentions from Clinical Notes.....	12
Collec Clerc V. Mixed Prolog and NooJ Approach in Japanese Benefactive Constructions.....	14
Buono di M.P. Semi-Automatic Indexing and Parsing Information on the Web with NooJ.....	16
Duran M. The Annotation of Compound Suffixation Structure of Quechua Verbs.....	18
Dzenisiuk D., Hetsevich Yu. Processing of Publication References in Belarusian and Russian Electronic Texts.....	20
Ghezaiel N., Haddar K. Study and Resolution of Arabic Lexical Ambiguity through the Transduction on Text Automaton.....	21
Hetsevich Yu., Borodina J. Using NooJ for the Processing of Satellite Data.....	23
Hetsevich Yu., Okrut T., Lobanov B. Grammars for the Sentence into Phrase Segmentation: Punctuation Level.....	25
Hiuntar A., Zahariev V. Grammars for Making Written Orthographic Words from Transcribed Spoken Language.....	26
Kaigorodova L., Hetsevich Yu., Nikalaenka K., Prakapovich R., Gerasuto S., Sychou U. Language Modelling for Robots-Human Interaction.....	28

Kirova M. Translating Spacial and Temporal Deixis in Near Languages: A Comparative Classification Approach with NooJ.....	30
Kocijan K., Librenjak S. Recognizing Verb-Based Croatian Idiomatic MWUs.....	31
Koshchanka U., Hetsevich Yu., Varanovich V., Tretyak A. Comparison of Lexical and Grammatical Base of Belarusian N-Korpus with Dictionary Properties' Definition File of Belarusian NooJ Module.....	33
Le Pesant D. Semantic Tagging of the Sentiment Words with NooJ.....	34
Loskutova A. Creation of Geographical Names Dictionary of Alaska Toponyms.....	35
Lysy S., Hiuntar A., Hetsevich Yu. Addition of Phonetic Transcriptions to Belarusian Module of NooJ.....	36
Maisto A., Guarasci R. Morpheme-Based Recognition and Translation of Medical Terms.....	38
Mesfar S., Najar D. How to Automatically Enrich Linguistic Resources Using NooJ: Application on Arabic Module.....	40
Monteleone M. Local Grammars and Formal Semantics: Past Participles Vs. Adjectives in Italian.....	41
Mota C., Carvalho P., Raposo F., Barreiro A. Paraphrasing Human Intransitive Adjective Constructions in Port4NooJ.....	43
Najar D., Mesfar S. A Large Terminological Dictionary of Arabic Compound Words.....	46
Okrut T., Lobanov B., Yakubovich Y. Context-Sensitive Homograph Disambiguation with NooJ in Belarusian and Russian Electronic Texts.....	48
Patsiomkin A., Hetsevich Yu. Semantic Analysis for Locating Expressive Means and Stylistic Devices in Authentic English Texts, Ranging and Classification.....	49
Pejar T., Kocijan K., Bekavac B. Normalization of Tweets in Croatian Language Using NooJ.....	51

Pelosi S. Morphological Relations for the Automatic Expansion of Italian Sentiment Lexicons.....	52
Reentovich I., Hetsevich Yu., Varanovich V., Kachan E., Kozlovskaya H. First One Million Corpora for Belarusian NooJ Module.....	54
Rodrigo A.F. A Proposal for the Treatment of Clitics in Rioplatense Spanish Verbs Using NooJ.....	56
Rusetski K., Ilyushchenia D., Nikalaenka K., Lysy S. Towards Building Ostis Technology-Based Semantic NLP Applications Using NooJ.....	58
Sazhok M., Robeiko V., Fedoryn D., Selyukh R., Yukhymenko O. Ukrainian Data and Knowledge Base and its Adaptation to NooJ.....	60
Seideh M.A.F., Fehri H., Haddar K., Ben Hamadou A. Named Entity Recognition from Arabic-French Herbalism Parallel Corpora.....	62
Silberztein M. Transformational Analysis of Transitive Sentences.....	64
Sovpel I. From Linguistic to Knowledge Processor.....	65
Veka A., Yakubovich Y. Automatic Translation from Belarusian into Spanish Based on Using NooJ's Linguistic Resources.....	66
Yamouni F. A French-Tamazight MT System for Computer Science.....	68