

OPINION

on the thesis of Viktor Ernestov Senderov

“The Open Biodiversity Knowledge Management System in Scholarly Publishing”

presented for awarding the educational and scientific degree "PhD"
Professional Area 4.6 "Informatics and Computer Science"

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General information

The thesis “The Open Biodiversity Knowledge Management System in Scholarly Publishing” is written in English and consists of 123 pages, spread into introduction, eight chapters, conclusion, acknowledgments, list of abbreviations and list of sources.

The abstract is written in Bulgarian and is a brief exposition of the thesis chapters’ content and conclusions in 56 pages.

Also, copies of eight papers, related to the dissertation, were presented.

Content of the Doctoral thesis

The introduction briefly describes the field, the motivation for the doctoral work, presents the goals and tasks of the dissertation thesis and the methodology of work. The following six chapters reflect the implementation of the six tasks formulated in the introduction.

Chapter 1 presents the OpenBiodiv architecture and provides the basis for the next chapters.

In Chapter 2, the author describes the development of OpenBiodiv-O ontology.

Chapter 3 provides a description of the OpenBiodiv-LOD – an open source dataset, based on the OpenBiodiv-O and derived from three sources.

Chapter 4 is devoted to the work with RDF4R R software package developed by author.

The next chapter discusses the processes of data exchange and automatic generation of manuscripts from other repositories.

Chapter 6 briefly describes a website that assists the work with OpenBiodiv-LOD. Chapter 7 contains some code, and the last, eighth chapter – a brief information about a seminar related to the data exchange work.

The clarification of the problems, the choice of methodology and the solutions achieved by the author are relatively well presented. The work could be structured in a better way - some of the chapters, like Chapter 6 and Chapter 8, are too short; the code section in Chapter 7, as well as Chapter 8 could be organized as applications.

Contributions

The scientific and applied contributions of the dissertation are mainly related to the proposed conceptual solution for publishing the knowledge about the biological diversity, the created ontology OpenBiodiv-O and the software implementation of the proposed concepts, including the linked open dataset OpenBiodiv-LOD as a result of performing the work described in Chapter 3.

Publications related to the Doctoral Thesis

Eight publications, based on the dissertation are presented. All publications are made between 2016 and 2018. All publications are collective. Viktor Senderov is the first author for three of them. Publication 3, 7, 8 from the List of publication are published in journals indexed in Web of Science and Scopus, two of them with impact factor.

In addition, the author presents a list of seminars presentations, as well a list of citations of his publications.

Critical remarks and Recommendations

I encourage the author to publish his future scientific results in more specialized conferences and/or journals as well as to provide more independent research.

Abstract

The abstract formally follows the content of the thesis, but is not well balanced and could be more informative.

Conclusion

In conclusion, in his doctoral thesis Viktor Senderov presents valuable results that fully cover the set of requirements of the Law on the Development of the Academic staff in the Republic of Bulgaria, as well as the specific requirements for acquiring academic degrees and positions at the Institute of Information and Communication Technologies - BAS. Therefore, I recommend the honorable scientific jury to award the educational and scientific degree "doctor" in the professional field 4.6. "Informatics and Computer Sciences" to Viktor Ernestov Senderov.

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Sofia



(Prof. Dr K. Kaloyanova)