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Project: DBLP

Ontology Requirements Specification Document

1	Purpose
	The purpose of this ontology is to semantically represent and organize data and information available in DBLP, a reference source for academic publications in computer science and computing in general. The main goal of the ontology is to facilitate the retrieval, integration, and analysis of information about publications, authors, conferences, and more, within the domain of computer science.
2	Scope
	The scope of the ontology for DBLP includes the general coverage of concepts and entities within the domain of computer science, as represented in the DBLP dataset.
3	Implementation Language
	First of all, OntoUML was used in conjunction with Visual Paradigm. After that, the model was transferred to Protege for the final steps of ontology development.
4	Intended End-Users
	User 1. Academic researchers who want to find and explore information about publications, authors, conferences, and research topics in DBLP. User 2. Undergraduate and graduate students conducting academic research who want to access relevant bibliographic references. User 3. Educators looking for academic materials and resources for classroom or research use. User 4. Developers who want to integrate DBLP information into applications, academic search systems, and other services.
5	Intended Uses
	Use 1. Information Retrieval: The ontology can be used to improve information retrieval systems, making it easier for users to search and access academic publications and related information from the DBLP. Use 2. Data Integration: It can facilitate data integration across various sources by providing a common semantic framework for representing academic publications, authors, conferences, and other related entities. Use 3. Data Analysis: Researchers and data scientists can use the ontology to analyze and gain insights from academic publication data, including trends, collaborations, and citation network
6	Ontology Requirements
	a. Non-Functional Requirements
	NFR 1. The ontology must at least use English NFR 2. The ontology should be designed to handle a large volume of data and a significant number of publications and authors. NFR 3. Documentation: The ontology should be very well-documented and easily

	understandable for users.
	b. Functional Requirements: Groups of Competency Questions
	CQG1. Comparing authors and academic production between the universities UERN (University of the State of Rio Grande do Norte), UFERSA (Federal Rural University of the Semi-Arid), and UFRN (Federal University of Rio Grande do Norte (5 CQ) CQ1. What is the total number of academic publications (papers, conferences, monographs, etc.) associated with each university over a specific period CQ2. What is the average number of publications per author for each university? CQ3 .How often do authors from the three universities collaborate on publications? CQ4. Is there a growing or declining trend in the academic production of each university over time? CQ5. What are the international collaborations of each university? How often do authors collaborate with institutions from other countries?
7	Pre-Glossary of Terms
	a. Terms from Competency Questions
	Academic publications | Recent Publications Specific Period | Average Number of Publications per Author Collaborate | Academic Publications Growing or Declining Trend | International Collaborations
	b. Terms from Answers
	Publication Types | Research Impact Metrics | Interuniversity Collaborations | Research Funding Sources Doctoral and Postdoctoral Researchers | Research Outputs Authorship Guidelines | Publication Records
	c. Objects
	Papers, Publications, Database