

Abstract: Cyber-environments have become increasingly popular in disseminating scientific and educational resources. One of the primary methodologies for evaluating the scholarly impact of a cyber-environment is through bibliometric and scientometrics analyses of publication and citation data.

However, it is often difficult to create a workflow and software environment that can address this problem in serious ways. This work presents the software architecture for creating a web-based interface for managing citations and demonstrating visually the scholarly impact of a cyber-environment.



Workflow:



Bibliographic metadata acquisition: There are two major challenges in acquiring bibliographic metadata.

- Metadata is acquired in different formats
- Metadata is changing on time.



Full text download: Content analysis has to be performed over publication full text.



Data sources

Citation management

Private web interface

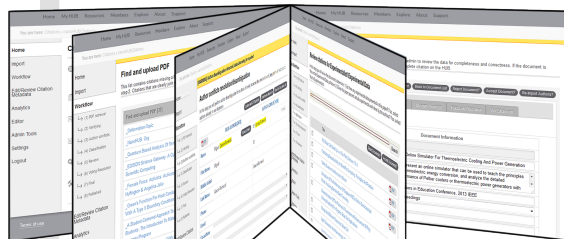
Bibliographic metadata correction and completion: metadata acquired from the data sources in many cases contain incomplete and even incorrect data.

Name disambiguation: involving humans in the decision-making process produce higher-quality result



Visual analytics

Public web interface



E-team

Supplemental annotations: Content analysis often requires more insightful and elaborative data

Final review: E-team leader reviews the bibliographic metadata and supplemental annotations, a citation could be accepted, reworded or rejected.

**Project director
Evaluator
Hub user**



Table 7: Citations by type

CITATION_TYPE	CITATIONS_PERCENT	CITATIONS_TOTAL
Journal	20.2%	142
Proceedings	1.2%	8
Conference	1.2%	8
Article	1.2%	8
Pat. Theses	1.2%	8
Review Papers	1.2%	8
Book	1.2%	8
Report	1.2%	8
Abstract	1.2%	8
Preprint	1.2%	8
Blogpost	1.2%	8
Wiki	1.2%	8
Preprint/Thesis	1.2%	8
Patent	1.2%	8
Letter	1.2%	8

Table 8: Research Topics

RESEARCH_TOPIC	RESEARCH_PERCENT	RESEARCH_TOTAL
nanotechnology	10.2%	72
nanosensors	1.2%	8
nanomedicine	1.2%	8
nanomaterials	1.2%	8
nanosystems	1.2%	8
nanoscale	1.2%	8
nanoscale devices	1.2%	8
nanoscale systems	1.2%	8
nanoscale materials	1.2%	8
nanoscale structures	1.2%	8
nanoscale properties	1.2%	8
nanoscale phenomena	1.2%	8
nanoscale interactions	1.2%	8
nanoscale dynamics	1.2%	8
nanoscale transport	1.2%	8
nanoscale energy	1.2%	8
nanoscale information	1.2%	8
nanoscale communication	1.2%	8
nanoscale computation	1.2%	8
nanoscale simulation	1.2%	8
nanoscale modeling	1.2%	8
nanoscale analysis	1.2%	8
nanoscale synthesis	1.2%	8
nanoscale fabrication	1.2%	8
nanoscale characterization	1.2%	8
nanoscale packaging	1.2%	8
nanoscale integration	1.2%	8
nanoscale applications	1.2%	8
nanoscale challenges	1.2%	8
nanoscale opportunities	1.2%	8
nanoscale future	1.2%	8