Search over corpora on mathematical texts

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EuDML

The EUROPEAN DIGITAL MATHEMATICS LIBRARY

Motivation

- Existing mathematical database.
  - ArXiv
  - Mathdex
- Their problem.
  - Full text search
- Continue in Martin Liška's Bachelor's thesis

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About corpus

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- MatCo - Mathematical Corpus
- ArXiv.org
    - Physics
    - Mathematics
    - Computer Science
    - Quantitative Biology
    - Quantitative Finance
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Download files

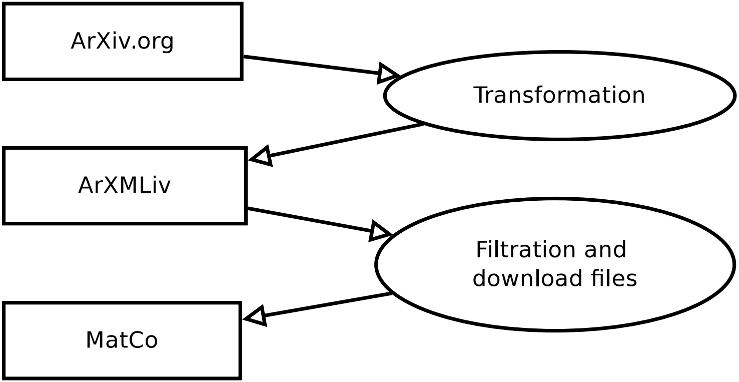

Figure: Download proces.

ArXMLiv

- Transformation TEX documents to XML documents with MathML.
- Almost 500 000 documents.

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return value	count	result	count	%
unknown	697	none	0	0.00
no_latex	8986			
missing_errlog	0			
fatal_error	30156	incomplete	35932	6.82
timeout	5776			
error	37770	complete with errors	138755	26.32
missing_macros	100985			
warning	286946	success	352408	66.86
no_problems	65462			

Corpus purpose

- Create index with Lucene and Manatee & Bonito.
- Compare:
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  - speed
  - performance
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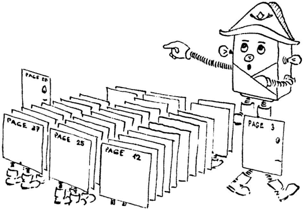
Questions?



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