Opas - An Ontology-based Library Help Desk Service

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An Ontology-based Library Help Desk Service
- Developed by Antti Vehviläinen

- Based on an existing the national Ask a Librarian service of the Kirjastot.fi portal

- 20 000 textual question-answer (QA) pairs

- A common Finnish thesaurus (YSA) is used to annotate QA pairs with index terms
Why Opas?

To ease the indexing task:
- Choosing appropriate index terms can be difficult and time-consuming
- Different librarians have different conventions in choosing index terms.

Solution:
Semi-Automatic Semantic Indexing
Why Opas?

To find similar Question-Answer pairs:
- Questions tend to repeat themselves
- Librarians don't have a systematic way to search the QA-archive

Solution:
Retrieval of similar QA-cases
Why Opas?

To support background information:
- Background information is needed for the answering
- Integrated sources may be suggested automatically based on the content of a question.

Solution:

Integration of Information Sources
Solutions

Semi-Automatic Semantic Indexing:
- OPAS uses an ontology-based information extraction tool to suggest possible indexing terms

- Suggested terms are ordered on likely relevance:
  
  Semantic cluster --> more weight
  High term frequency --> more weight
Solutions

Retrieval of similar QA-cases
- Opas applies case-based reasoning techniques to find QA pairs similar to a new question
- The search is based on the list of suggested index terms for the question
Solutions

Integration of Information Sources
Library system classification ontology (HCLCS) is utilized to
- find classifications
- find books from the library collection
- find essential links from the library's link collection
Extract -concepts -places -persons

Choose indexing terms

Retrievesimilar QA-cases -books -links

Opas