

Information Access by Association

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“Informatics of Association”

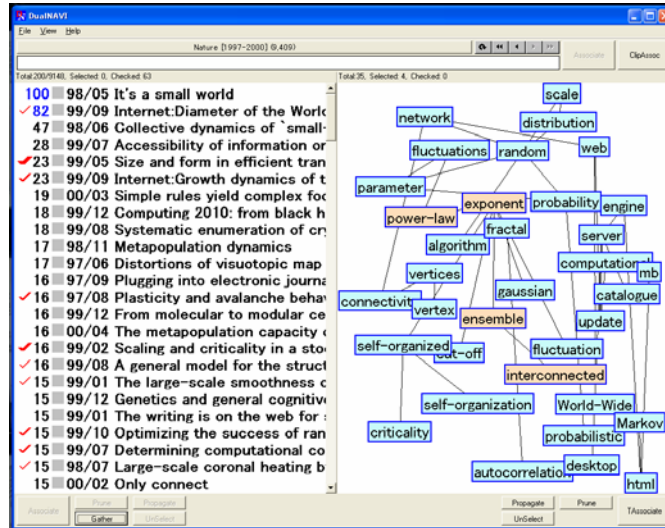
Target of research:

- Human: Associative search of memory in brain
- Cyber space: Flexible access to relevant information
- Creative interaction of above two activities
- Can cyber space become our second brain?

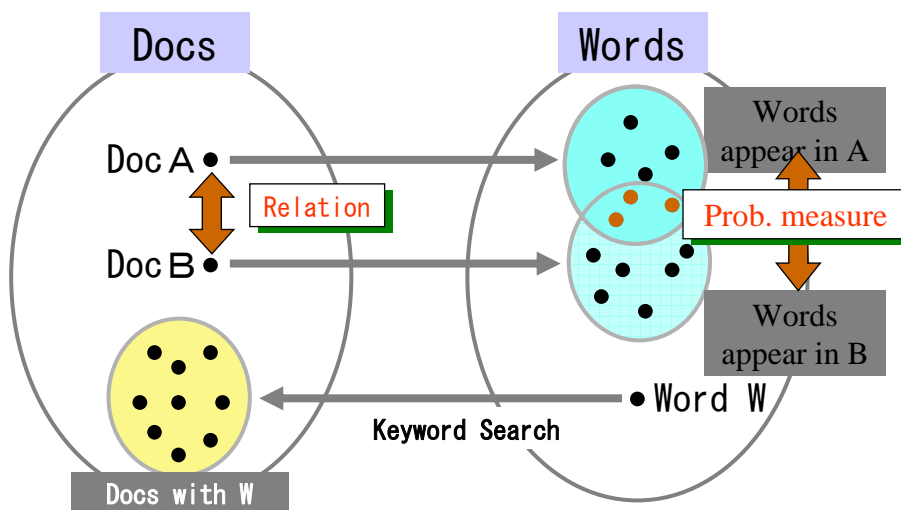
Results so far:

- DualNAVI (Associative information access)
 - Associative search, Topic word graph, Dual space metaphor
- GETA (Generic Engine for Transposable Association)
 - Efficient and scalable association support many similarity measures, clustering, compound word analysis

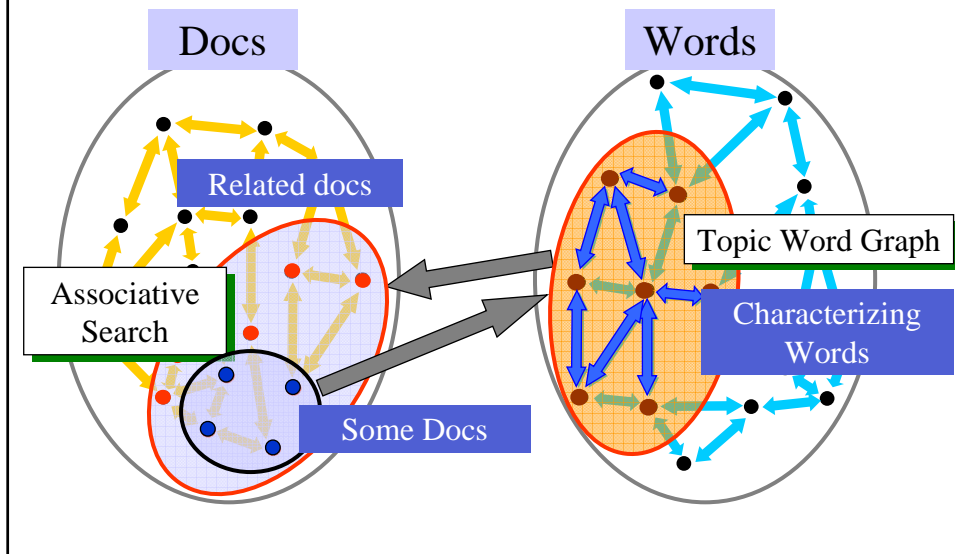
Search Nature Articles with DualNAVI(2)



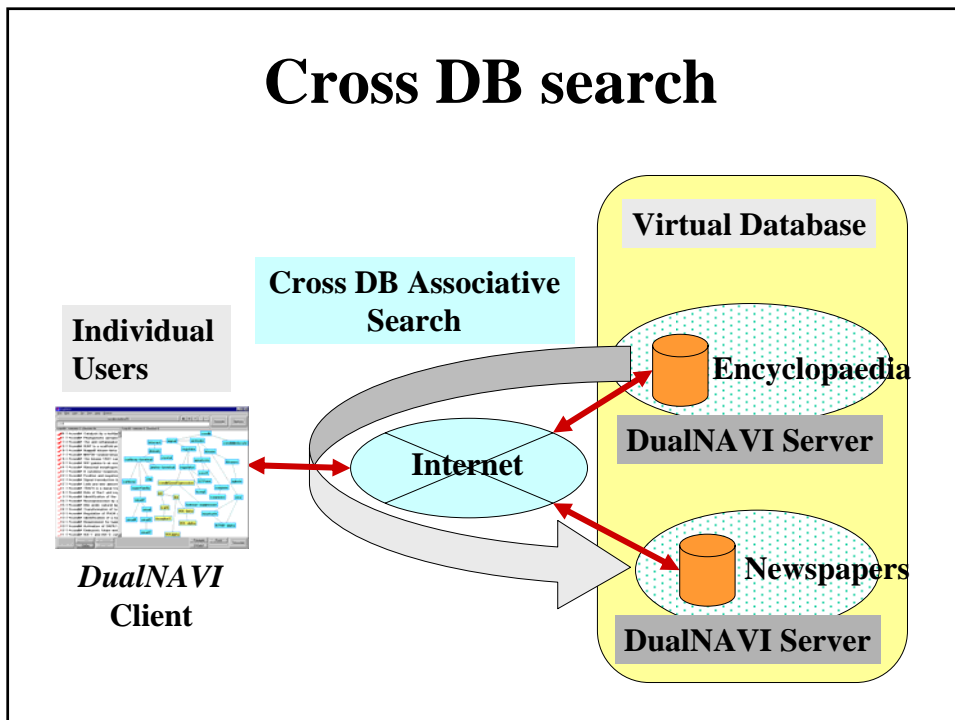
Duality between Doc space and Word space



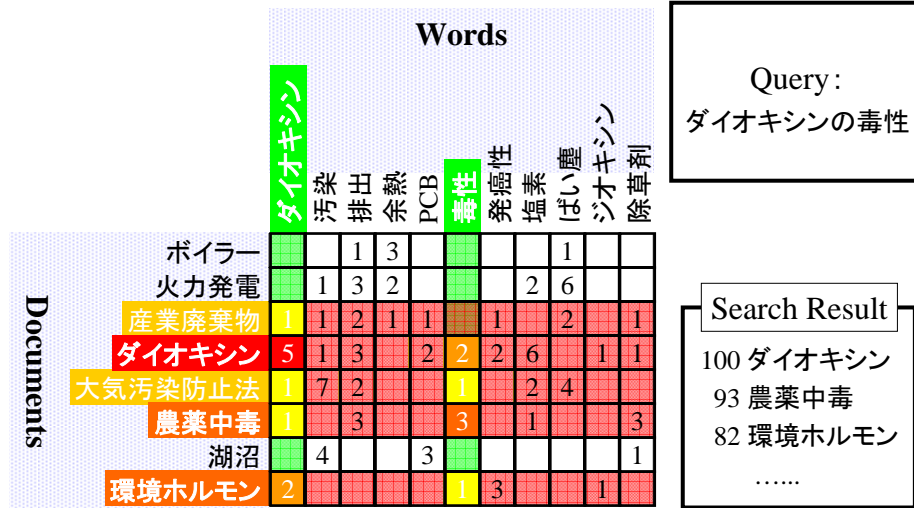
Association based on "Topology"



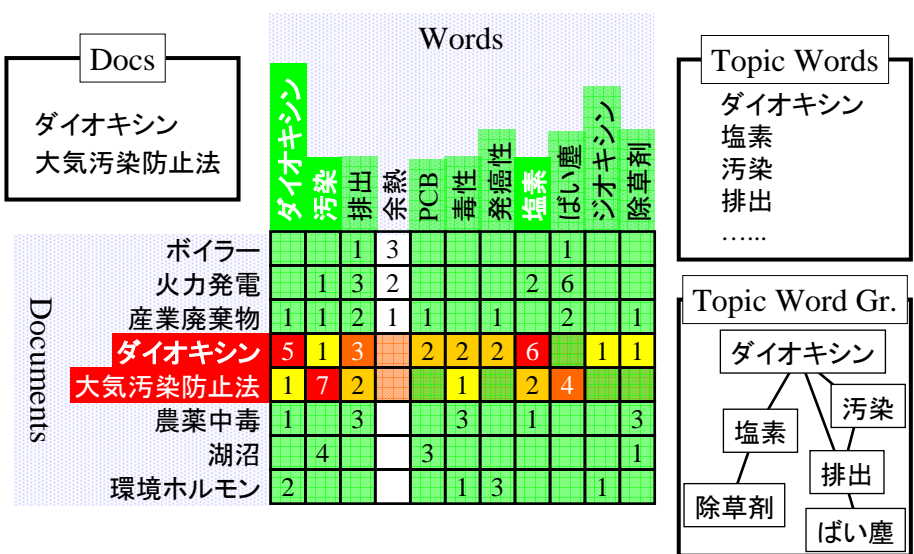
Cross DB search



Phrase Associative Search using WAM



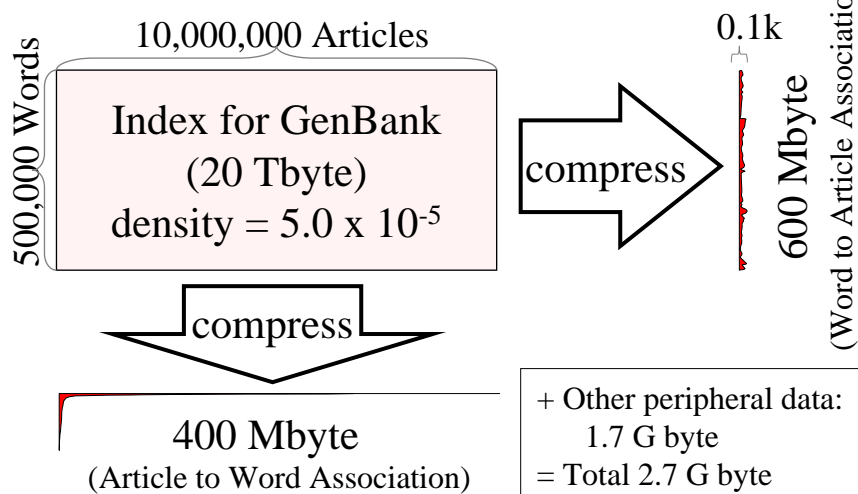
Summarization (Topic Word Graph)



GETA (Generic Engine for Transposable Association) Powered by

- Efficient and generic computation for association
- Portable to Unix's on PC servers/clusters
- Association computation for 10M documents can be performed on PC clusters (8-16 nodes)
- Similarity measures among docs and words can be switched dynamically
- Interface for C, Perl, Haskell, etc.

Associative Calculation Engine using Highly Compressed Matrix



Web Services with Association

- Information Service for non-experts
 - Associative Search by free texts or keywords
 - Topic Words to summarize search results
 - Search results can be used to elaborate query (relevance feedback)
 - ⇒ Explore freely in cyber space without straying
- Dynamic coordination among related services
 - Association with free texts or topic words
 - Screening and detection of the relevant info

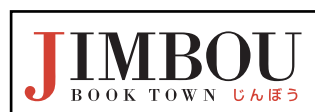
Web Services with Association



<http://bunka.nii.ac.jp/>



<http://webcatplus.nii.ac.jp/>



<http://jimbou.info/>



<http://shinshomap.info>



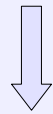
<http://photobank.pictopic.info/>
To be open soon

New Chiyoda Library

To be open in May 2007

GETA is now used for serious service

GETA
(Generic Engine for
Transposable Association)



**Union Catalog of
1000+ Libraries**

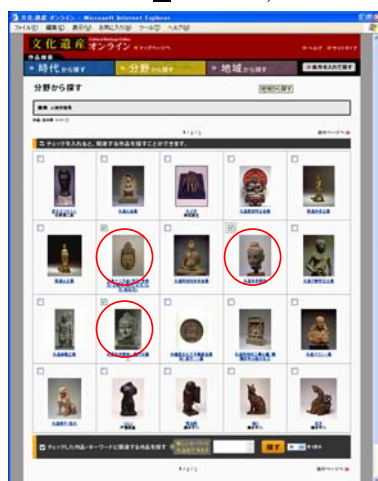
Webcat

Associative Search
(Search based on the
information similar to the
query)

- ◆ 9.4M books (AD1000—this week)
- ◆ A long document can be used as a query
- ◆ Search similar books from the search results
- ◆ Unexpected encounter with books

Interaction with Search Results

Users can select the interested items within the search results, and the system returns the similar items automatically. This **associative search** function is realized by **GETA** (Generic Engine for Transposable Association) which is an open source software developed at NII.



Check the three statues of Buddha head
→ System collects the other similar
statues from the database.



Powered by <http://geta.ex.nii.ac.jp/>

Detail information of each item

Corresponding page at home museum

Zoom in buttons if available

Dynamic link to Webcat Plus

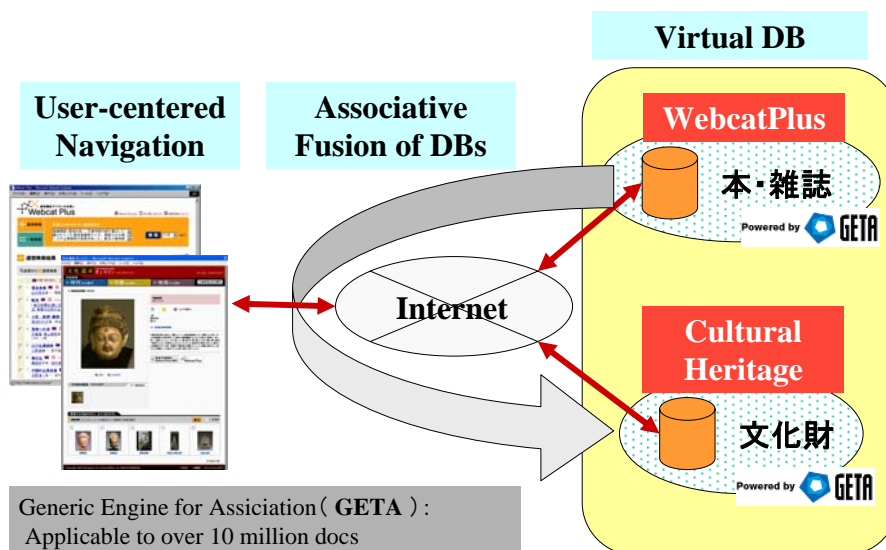
Photos from different angles

Similar five items within database

Search related books based on the description.

Webcat Plus <http://webcatplus.nii.ac.jp/>

Dynamic coordination of DBs



想 IMAGINE

想いを連ね、想いを映し、その響きに耳を澄まそう



図書館の蔵書DB、古書店の在庫DB、テーマ別新書ガイド、百科事典、博物館収蔵品DB、新聞記事DB、報道写真アーカイブなど、さまざまなジャンルの情報源から、関連する情報を連想計算で収集して一覧表示します。その中からさらに深く知りたい情報を指定して、それを基点に連想を深めることが可能です。従来の検索では不可能だった、多様な情報によって自分の想いを確かめながら深めていける情報探索が経験できます。人間の連想を刺激して発想力を高める、まったく新しい情報利用環境をお楽しみください。

