

9. IR-Systeme

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Ebenenarchitektur

Funktionalität	Konzeptionelle Ebene
	Präsentationsebene
	semantische Ebene
	logikorientierte Ebene
	physische Ebene

- ▶ konzeptionelle Ebene
- ▶ Präsentationsebene
- ▶ semantische Ebene
 - ▶ FERMI-Multimedia-Retrievalmodell
 - ▶ POOL
- ▶ logikorientierte Ebene
 - ▶ logische Retrievalmodelle
 - ▶ logische Dokumentmodelle (ODA, SGML)
- ▶ physische Ebene
 - Zugriffsstrukturen und Algorithmen
 - ▶ Scanning
 - ▶ invertierte Listen

Konzeptionelle Ebene

Where should the person stop and the information search interface start?

[Bates 90]

Levels of system involvement

- 0 – No system involvement All search activities human generated and executed.
- 1 — Displays possible activities. System lists search activities when asked. Said activities may or may not also be executable by system (higher levels).
- 2 — Executes activities on command System executes specific actions at human command.
- 3 — Monitors search and recommends System monitors search process and recommends search activities:
 - a) Only when searcher asks for suggestions.
 - b) Always when it identifies a need.
- 4 — Executes automatically. System executes actions automatically and then:
 - a) Informs the searcher.
 - b) Does not inform the searcher.

Type of search activity

Level	Name	Definition
1	Move	An identifiable thought or action that is a part of information searching.
2	Tactic	One or a handful of moves made to further a search.
3	Stratagem	A larger, more complex set of thoughts and/or actions than the tactic; a stratagem consists of multiple tactics and/or moves, all designed to exploit the file structure of a particular search domain thought to contain desired information.
4	Strategy	A plan, which may contain moves, tactics, and/or stratagems, for an entire information search.

Monitoring and File Structure Techniques

Monitoring Tactics

- CHECK To review the original request and compare it to the current search topic to see that it is the same.
- RECORD To keep track of followed and of desirable trails not followed or not completed.

File Structure Tactics

- SELECT To break down complex search queries into subproblems and work on one problem at a time.
- SURVEY To review, at each decision point of the search, the available options before selection.
- CUT When selecting among several ways to search a given query, to choose the option that cuts out the largest part of the search domain at once .
- STRETCH To use a source for other than its intended purposes.

Search Formulation Tactics

- | | |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SPECIFY | To search on terms that are as specific as the information desired . |
| EXHAUST | To include most or all elements of the query in the initial search formulation; to add one or more of the query elements to an already-prepared search formulation. |
| REDUCE | To minimize the number of the elements of the query in the initial search formulation; to subtract one or more of the query elements from an already-prepared search formulation. |
| PARALLEL | To make the search formulation broad (or broader) by including synonyms or otherwise conceptually parallel terms. |
| PINPOINT | To make the search formulation precise by minimizing (or reducing) the number of parallel terms, retaining the more perfectly descriptive terms. |

Term Tactics

SUPER	To move upward hierarchically to a broader (superordinate) term.
SUB	To move downward hierarchically to a more specific (subordinate) term.
RELATE	To move sideways hierarchically to a coordinate term.
REARRANGE	To reverse or rearrange the words in search terms in any or reasonable orders.
CONTRARY	To search for the term logically opposite that describing the desired information.
RESPELL	To search under a different spelling.
RESpace	To try spacing variants.

Idea Tactics

- RESCUE** In an otherwise unproductive approach, to check for possible productive paths still untried.
- BREACH** To breach the boundaries of one's region of search, to revise one's concept of the limits of the intellectual or physical territory in which one searches to respond to a query.
- FOCUS** To look at the query more narrowly, in one or both of two senses: (1) to move from the whole query to a part of it or (2) to move from a broader to a narrower conceptualization of the query.

Example stratagems

Journal Run Having identified a journal central to one's topic of interest, one reads or browses through issues or volumes of the journal.

Citation Search Using a citation index or database, one starts with a citation and determines what other works have cited it.

Area Scan After locating a subject area of interest in a classification scheme , one browses materials in the same general area.

Footnote Chase One follows up footnotes or references, moving backward in time to other related materials.

Index or Catalog One looks up subject indexing terms or free text terms in a catalog or abstracting and indexing service (online or offline) and locates all references on one's topic of interest.

Subject Search

Tactics suggested in response to searcher request

SEARCHER COMMAND	SYSTEM RESPONSE LIST
Too many hits	SPECIFY EXHAUST PINPOINT BLOCK SUB
Too few hits	NEIGHBOR TRACE PARALLEL FIX SUPER RELATE VARY

SEARCHER COMMAND	SYSTEM RESPONSE LIST
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No hits

RESpace
RESPELL
REARRANGE
CONTRARY
SUPER
RELATE
NEIGHBOR
TRACE

Need other terms
or
wrong terms

NEIGHBOR
TRACE
SUPER
SUB
RELATE

SEARCHER COMMAND	SYSTEM RESPONSE LIST
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Revise terms

SPACE
RESPELL
FIX
REVERSE
CONTRARY
SUPER
SUB
RELATE

Revise search formulation

SPECIFY
EXHAUST
REDUCE
PARALLEL
PINPOINT
BLOCK
