ai discovery library engine — concept framework

version: v1.0

status: public reference

purpose

the ai discovery library engine converts structured knowledge sources such as books, outlines, and reference materials into guided inquiry-driven learning pathways.

instead of presenting books as static reading material, the system transforms the structure of a book into an interactive exploration map.

the goal is to support deeper understanding through guided discovery rather than passive reading.

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core idea

the system analyzes the structural components of a book and converts them into navigable learning paths.

input sources may include:

- table of contents
- chapter titles
- section headings

• glossary terms

• index themes (optional)

from these elements the system constructs:

• a hierarchical topic map

• overlapping conceptual pathways

• discovery-oriented questions

• structured exploration routes

the book becomes a navigable knowledge space rather than a fixed sequence of chapters.

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how it works

step 1 — structural extraction

the system identifies structural signals such as:

• major conceptual domains derived from chapters

• subdomains derived from section headings

• key vocabulary derived from glossaries

• recurring themes detected through term repetition

these elements form a conceptual lattice rather than a linear structure.

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step 2 — question generation

instead of summarizing chapters, the system generates guided inquiry prompts.

examples include:

- foundational orientation questions
- exploratory “why” and “how” questions
- concept-bridging questions
- application and synthesis prompts

questions are layered across levels of understanding:

- surface understanding
- structural understanding
- system interaction
- cross-domain connection

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step 3 — overlap detection

books often contain implicit conceptual bridges between chapters.

the system analyzes structural patterns such as:

- repeated vocabulary across chapters
- themes that evolve over time
- hidden dependencies between concepts

from these signals the system generates:

- convergence prompts
- comparative prompts
- integration challenges

this prevents silo learning and encourages conceptual integration.

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result

the book becomes:

- a guided inquiry engine
- a personalized exploration system
- a modular learning map
- a self-directed curriculum

instead of a directive such as:

“read chapter five”

the system can present exploration options such as:

“do you want to understand the mechanism, the implications, or the historical development of this idea?”

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why this matters

many readers skim books without deeply engaging with the ideas.

passive reading often produces low retention.

guided inquiry changes the learning dynamic.

when learners answer questions and choose exploration paths:

- retention increases
- engagement increases
- intellectual ownership increases
- conceptual connections become clearer

this transforms static content into active cognition.

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architectural note

the discovery library engine operates as a structural layer on top of existing learning systems.

it integrates with:

- guided learning orientation modules
- vocabulary scaling logic
- safety boundary enforcement
- adaptive response density systems

the engine does not replace these systems.

it supplies them with structured conceptual input.

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end ai discovery library engine — concept framework