

CORE

Lab 3: Designing Cartographic Memory

Simulate RAG, chunking, and strategic recall with free browser LLMs

Chapter Chapter 3	Level Beginner	Time ~90–110 min
Mode Individual or pair	Technology Any course-approved LLM	Deliverable Baseline response and three generic assumptions

Why This Lab Matters

Chapter 3 argues that memory becomes a design problem as soon as execution is delegated. In this lab, you will simulate retrieval-augmented generation without installing anything: you will create a small cartographic memory packet, test how it changes an LLM's response, and revise the memory itself when it over-remembers or under-remembers.

Essential question

What cartographic decision should you be able to defend by the end of this lab?

Learning Objectives

- Explain RAG as designed recall rather than model retraining.
- Distinguish general model knowledge from retrieved situational knowledge.
- Use chunking to shape what an LLM emphasizes in a map concept.
- Explain why forgetting outdated guidance can be responsible maintenance.
- Create a small memory packet that can be reused in later prompt cartography work.

At a glance

Inputs: Lab scenario, prompts, data notes, or map concept supplied in the activity.

Outputs: Baseline response and three generic assumptions; Your completed memory packet Version 1; Retrieval-simulated output.

Evaluation: Clear purpose, defensible cartographic judgment, concise prompting, and evidence of human verification where needed.

LAB WORK

Setup: Choose a Memory-Sensitive Map Topic ~7 min

Choose a topic where the map design depends on remembered rules, cautions, or values. Keep the same topic for the entire lab.

- Heat vulnerability and cooling centers
- Traffic crashes near schools
- Invasive species reporting
- Storm shelters and evacuation routes
- Access to parks, groceries, clinics, or transit

Setup deliverable

Write your topic, intended audience, and one risk you do not want the map to imply.

PROCEDURE

Part 1 — Baseline Without Designed Memory ~12 min

Start by letting the model respond from general knowledge. This gives you a baseline for comparison.

Create a concept for an interactive web map about [YOUR TOPIC] for [AUDIENCE]. Include map purpose, likely data layers, visual design, interactions, and one design risk. Do not write code.

Save the response and identify where the model relied on generic cartographic habits.

- Which conventions appeared without being requested?
- Which assumptions about audience or data were invented?
- Which risks were ignored?
- Which parts sound confident but ungrounded?

Mini-deliverable

Copy three generic assumptions from the baseline response.

PROCEDURE

Part 2 — Ask the LLM to Explain Memory Before Using It ~10 min

Use the LLM as a study partner. This primes your own reading of Chapter 3 before you build a memory packet.

I am studying Chapter 3 of Prompt Cartography, especially the idea that retrieval-augmented generation makes memory a design problem. Explain the difference between general model knowledge and retrieved situational knowledge in the context of interactive web map design. Then explain why chunking and strategic forgetting are editorial decisions, not just technical details.

Compare the answer to Chapter 3. Mark one useful explanation, one oversimplification, and one idea you would phrase differently.

Reminder

The model can help you study the concept, but the chapter remains your authority.

PROCEDURE

Part 3 — Build a Cartographic Memory Packet ~20 min

Create a short knowledge document the LLM should retrieve before designing your map. Keep it compact enough to paste into a free LLM chat.

KNOWLEDGE DOC: Cartographic Memory Packet for [TOPIC]

Audience memory:

- [Who this map is for and what they likely know]

Purpose memory:

- [What the map should help users understand or do]

Design rules to remember:

- [Rule 1]
- [Rule 2]
- [Rule 3]

Risks to avoid:

- [Risk 1]
- [Risk 2]

Things to forget or ignore:

- [Outdated convention, irrelevant data layer, misleading default, or tempting feature]

Clarifying question rule:

- If the dataset is not provided, ask one clarifying question before recommending a final map design.

Mini-deliverable

Your completed memory packet with at least three design rules and two things to forget.

PROCEDURE

Part 4 — Simulate Retrieval ~15 min

Paste your memory packet into the LLM, then immediately run this prompt beneath it.

Using only the KNOWLEDGE DOC above as the primary memory for this task, revise the map concept for [YOUR TOPIC].

Return:

1. map purpose
2. intended audience
3. recommended map type and why
4. 3-5 data layers
5. interaction ideas
6. design risks avoided because of the knowledge doc
7. one thing you deliberately did not include because the knowledge doc told you to forget or ignore it

If the knowledge doc is not specific enough, ask one clarifying question.

Compare this output to the baseline from Part 1.

Mini-deliverable

Write a before/after note naming what retrieval changed most.

PROCEDURE

Part 5 — Test Chunking ~20 min

Now reorganize the same memory into smaller titled chunks. You are not adding new content. You are changing what ideas travel together.

CHUNK 1: Audience and Purpose
[Audience and purpose details]

CHUNK 2: Design Rules
[Design rules]

CHUNK 3: Risks and Misreadings
[Risks to avoid]

CHUNK 4: Strategic Forgetting
[Things to ignore, retire, or avoid]

CHUNK 5: Clarifying Question Rule
[Question rule]

Paste the chunked version into a new chat and run the same retrieval prompt from Part 4. Then compare.

- Which ideas became more prominent?
- Which ideas became less prominent?
- Did the model cite or follow the “forgetting” chunk?
- Was the output easier to audit?

PROCEDURE

Part 6 — Critique the Memory, Not Just the Output ~15 min

Ask the LLM to critique the memory packet itself. This is where Chapter 3’s idea of memory maintenance becomes practical.

Critique my KNOWLEDGE DOC as a cartographic memory artifact. Identify:

- 2 memory rules that are useful
- 2 places where the memory is too vague
- 1 rule that might be over-constraining
- 1 idea that should be forgotten, narrowed, or retired
- 2 revisions that would improve retrieval for future map design tasks

Mini-deliverable

Revise your memory packet into Version 2 and note what you changed.

DELIVERABLE

Submission ~15 min

Submit or save the following:

- Baseline response and three generic assumptions
- Your completed memory packet Version 1
- Retrieval-simulated output
- Chunked-memory output and comparison
- Memory critique and Version 2 packet
- A 300-500 word reflection on how designed memory changed the LLM's behavior