

Knowledge Update

(1) Question: What is the typical memory usage per session for batch resume processing?

Correct Answer: Around 140MB per session

LIGHT with all components: ~140MB

LIGHT wo scratchpad: The typical memory usage per session for batch resume processing can vary widely depending on the complexity of the resumes and the system’s available memory, but optimizing with batch sizes and efficient data handling can keep it under 100MB per resume.

Scratchpad cue (excerpt):

..... [truncated]

- Memory optimization:

- Reduce peak memory usage from 250MB to 140MB per batch.

..... [truncated]

(2) Question: What is the deadline for completing the Instagram automation prototype sprint?

Correct Answer: April 5, 2024

LIGHT with all components: April 5, 2024

LIGHT wo scratchpad: April 1, 2024

Scratchpad cue (excerpt):

****PROCESSES & WORKFLOWS:****

1. ****Project Planning & Sprint Management:****

..... [truncated]

- Instagram automation sprint extended to April 5, 2024.

Temporal Reasoning

(1) Question: How many days passed between when I met my mom at home and when I completed my first successful batch of Miche’s sourdough?

Correct Answer: Jan 6 – Jan 1 = 5 days

LIGHT with all components: 5 days

LIGHT wo scratchpad: 37 days

Scratchpad cue (excerpt):

****IMPORTANT DATES:****

- ****January 1, 2024:**** Met mother Brittney at home.

- ****January 5-6, 2024:**** Completed first batch of Michele’s sourdough.

..... [truncated]

(2) Question: How many days do I have between finalizing my survey plans at Café Soleil and attending the Raymondburgh Startup Meetup to prepare effectively?

Correct Answer: Mar 28 – Mar 10 = 18 days

LIGHT with all components: 18 days

LIGHT wo scratchpad: 28 days

Scratchpad cue (excerpt):

****IMPORTANT DATES:****

- ****March 10, 2024:**** Paper-based customer survey at Cafe Soleil.

- ****March 28, 2024:**** Raymondburgh Startup Meetup.

..... [truncated]

Takeaways. Across abilities, removing the scratchpad consistently causes failures that the full model avoids. In *Information Extraction*, the scratchpad aggregates dispersed entity/version mentions so the model can recover exact tool versions and bios (city/age). For *Instruction Following*, it retains user meta-preferences (e.g., “always include team count”), ensuring style/format compliance even many turns later. For *Knowledge Update*, it encodes overrides (e.g., extended deadline; reduced memory), preventing stale answers. For *Temporal Reasoning*, it surfaces normalized date anchors, enabling simple, correct day-difference calculations. These examples show that the scratchpad provides a high-utility semantic scaffold that complements working (recency) and episodic (retrieval) memory, yielding robust long-context behavior.