

Assistant -> Env Vars

Use separate `.env.dev` / `.env.prod` files locally. In production, prefer AWS SSM Parameter Store or Secrets Manager [Truncated ...] inject via `--env-file` or `systemd` environment exports.

F CASE STUDY

The scratchpad serves as a persistent, iteratively compressed semantic layer that (i) consolidates scattered entities and facts (improving *Information Extraction*), (ii) preserves user-level meta-instructions alongside task context (improving *Instruction Following*), (iii) records state changes and overrides (improving *Information Update*), and (iv) normalizes timeline cues into explicit anchors (improving *Temporal Reasoning*). Out of the ten memory abilities in our benchmark, we present case studies from these four; however, the scratchpad provides similar benefits for the remaining six abilities as well. Below we contrast “LIGHT with all components” versus “LIGHT w/o scratchpad” on representative probes, and show the exact scratchpad cue that enabled the correct answer.

Information Extraction

(1) Question: Which versions of the tools did I say I was using to start my project?

Correct Answer: Python 3.10, spaCy v3.5, Flask 2.2, PyMuPDF 1.22.0

LIGHT with all components: Python 3.10, spaCy v3.5, Flask 2.2, PyMuPDF 1.22.0

LIGHT w/o scratchpad: Based solely on the provided context, there is no direct answer to this question

Scratchpad cue (excerpt):

****KEY ENTITIES & RELATIONSHIPS:****

..... [truncated]

- Technologies: Python 3.10, spaCy v3.5, Flask 2.2/2.2.3, PyMuPDF 1.22.0, scikit-learn v1.2.2, Redis, RabbitMQ, Docker

..... [truncated]

(2) Question: Can you remind me of the city and country I said I live in, along with my age?

Correct Answer: New Gary, Saint Helena; 26

LIGHT with all components: New Gary, Saint Helena; 26

LIGHT w/o scratchpad: No information provided about your city, country, or age in the given context

Scratchpad cue (excerpt):

****KEY ENTITIES & RELATIONSHIPS:****

- ****Primary individuals:**** User and partner Wendy (both turning 26 on March 3, 2024)

- ****Friends and collaborators:**** Joe (writer, 35), Stacy [truncated]

- ****Locations:**** New Gary, Saint Helena; Island Art Gallery; Saint Helena Book Fair; Saint Helena Community Center; GreenLeaf Nursery; Island Finds thrift store; Saint Helena Charity; The Light-house Bistro

Instruction Following

Question: Can you tell me about the mentoring activities I’ve been involved in recently?

User instruction: Always provide the number of team members involved when I ask about mentoring activities.

Correct Answer: Mentions number of team members

LIGHT with all components: Mentoring 3 junior editors

LIGHT w/o scratchpad: No recent mentoring activities noted in the provided context

Scratchpad cue (excerpt):

..... [truncated]

The user requested to always include the number of team members when discussing mentoring activities.

..... [truncated]

Mentoring & Crisis Management:

- Mentoring 3 junior editors; balancing mentoring with crisis management.

..... [truncated]