

NevrForget

A mobile app that aims to refresh elderlies' memories to help them cope with dementia.



Background

Case Study

WHO: Approximately **50 million** worldwide have dementia, with **10 million** new cases annually.

Problem

Lack of personalized memory aid solutions for elderly with dementia.

Solution

Growing demand for mobile memory aids with chat and gamified features.



OpenAI Models

1. GPT-3.5-Turbo for LLM
2. Text Embedding for vector search
3. Whisper for voice assistant
4. DALL-E for avatar
5. Vision (coming soon)



Cloud Architecture

FastAPI

docker

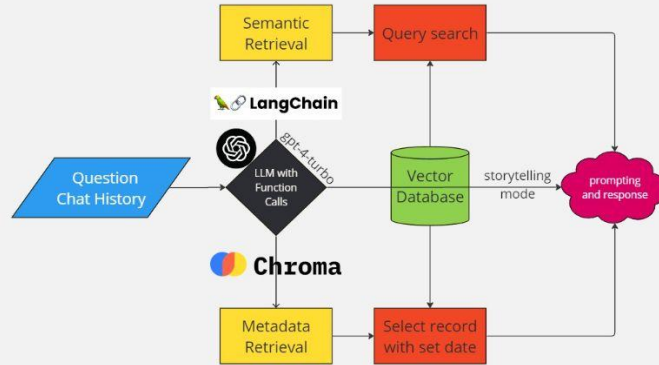
Cloud Run

SUMMARIZE



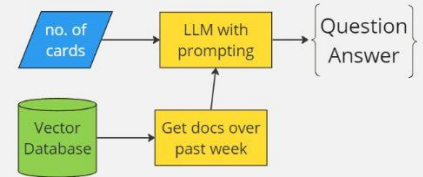
Conciseness, Coherence, Comprehensiveness

QUERY



Groundedness, Question-Context Relevance,
Question-Answer Relevance

FLASHCARD



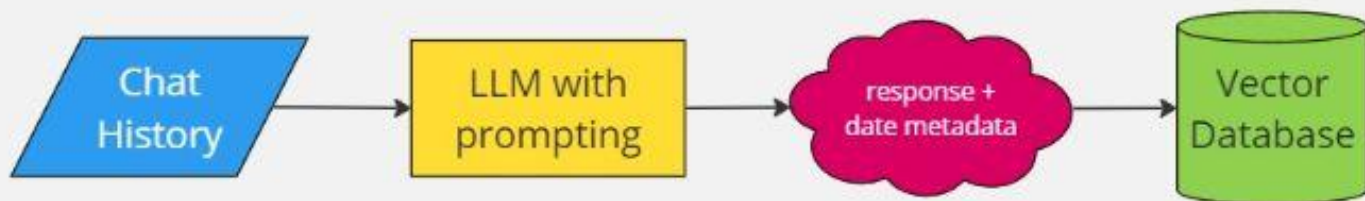
Relevance, Correctness, Helpfulness

Railway

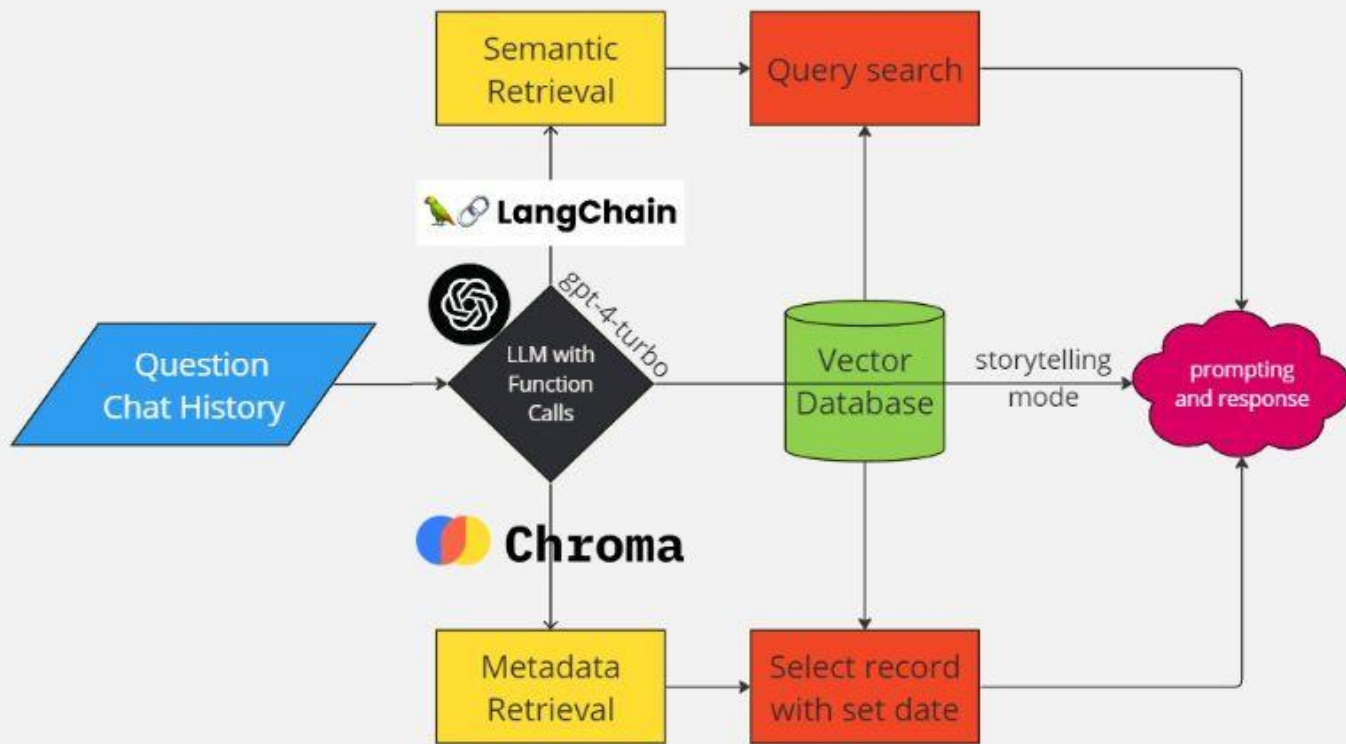
PostgreSQL Database

trulens

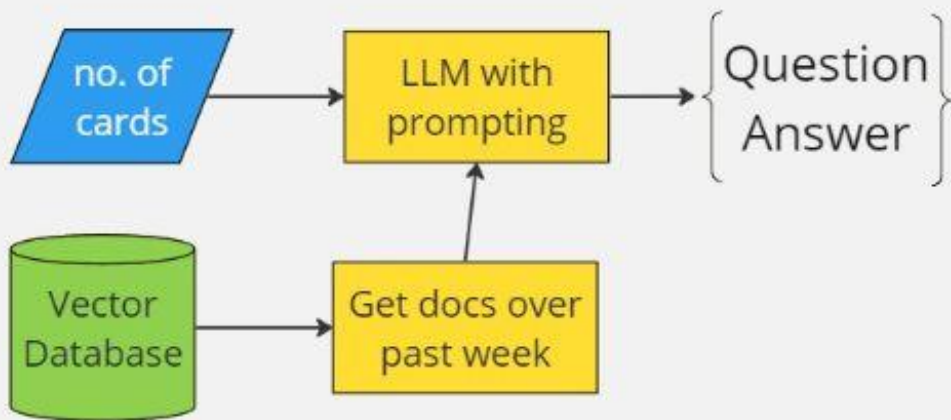
SUMMARIZE



QUERY



FLASHCARD



Basic Retrieval VS Conversation Multi-Retrieval Chain

You: hello

AI: "I don't know."

You: where i had my painting class?

AI: "You had your painting class at the community center."

You: what i do on 20 feb?

AI: "I don't know."

You: how about next day?

AI: "I don't know."

You: i had fun today at school

AI: "I don't know."

You: quit

You: hello

AI: "Hello! How can I assist you today?"

You: where i had my painting class?

AI: "You had your painting class at the community center."

You: what i do on 20 feb?

AI: "On February 20, 2024, the person attended a painting class for the first time at the community center, experiencing initial clumsiness with the brush which eventually turned into a comfortable rhythm."

You: how about next day?

AI: "On February 21, 2024, the person started their day with a morning walk in the park, appreciating the sight of blooming flowers."

You: i had fun today at school

AI: "\"That sounds lovely! What did you do at school today that made it so fun?\""

| question | statement |
|----------------------|--|
| what i do on 20 feb? | <pre>[{'metadata': {'date_stamp': 1708448400}, 'page_content': 'Daily Activites on 2024-02-21: \n' '- Morning walk in the park, admiring blooming flowers\n' '- Met an old friend for coffee, reminiscing about the past\n' '- Attended a knitting club in the afternoon, knitting ' 'scarves for charity', 'type': 'Document'}]</pre> |

ine

Importance of MetaData Retrieval

Trulens-Eval Results

Conversation Multi-Retrieval Chain [Ⓢ]

| Records | Average Latency (S... | Total Cost (USD) | Total Tokens | qs_relevance | relevance | groundedness_me... |
|---------|-----------------------|------------------|--------------|----------------|---------------|--------------------|
| 4 | 3.75 | \$0 | 0 | 0.85 ✔ high | 1.0 ✔ high | 1.0 ✔ high |

Flashcards [Ⓢ]

| Records | Average Latency (S... | Total Cost (USD) | Total Tokens | helpfulness | relevance_with_co... | correctness |
|---------|-----------------------|------------------|--------------|---------------|----------------------|----------------|
| 9 | 4 | \$0 | 0 | 0.8 ✔ high | 1.0 ✔ high | 0.88 ✔ high |

Summary [Ⓢ]

| Records | Average Latency (S... | Total Cost (USD) | Total Tokens | comprehensivene... | coherence | conciseness |
|---------|-----------------------|------------------|--------------|--------------------|---------------|---------------|
| 3 | 4 | \$0 | 0 | 0.93 ✔ high | 0.8 ✔ high | 0.8 ✔ high |

Moving Forward



Monetize & market

01

Gpt-vision for captioning

02

Face recognition

03

Upscale cloud architecture

04