# Mimi president

aishift

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## Contents



# 1 Closed beta

## 1.1 Problem

The rapidly developing Cyber Valley project has diverse sources of truth represented in the following resources:

- X.com tweets
- Telegram group chat messages
- Logseq knowledge base git repositories
- GitHub issues

Searching all of them becomes a time-consuming process and requires a simple way of querying all of them at one time.

## 1.2 Solution

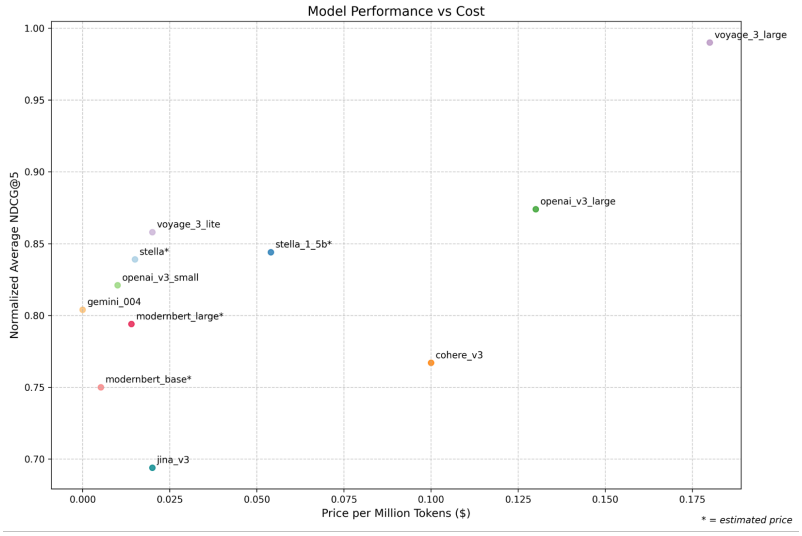
### 1.2.1 Announce

Develop RAG over all resources mentioned in the problem statement and provide an LLM-driven chat bot, which allows interactive and free-form querying of all of them at once.

### 1.2.2 Implementation details

1. Embedding model

   We keep in mind that in the future it could be great to change the chosen model, but it requires complete recalculation for the whole dataset (because of different dimensions and algorithms in general). To handle this, we will store all source data "as is", so making embeddings will be a question of computation. For the POC we will stick to the OpenAI text-embedding-3-small which is pretty cheap and should work well enough.




2. LLM chat bot

   Our solution is completely model-agnostic, so any provider could be used and switched on the fly.

3. Data store

We choose Turso as our DBMS; it works perfectly with vector search, scales greatly on HDD drives, and has zero network latency because it's built on libSQL.

4. Programming language

   We will use Python & LangChain for the project because it'll just need glue between IO operations. Rust wouldn't make a visible difference in speed or durability and lacks ready-to-use packages for fast idea testing.

5. Parsing

   (a) X.com

   We don't know for sure the general required number of accounts, their requirements, and their publicity. So for the start and completely for free, it's possible to use Google news RSS. As an example, here is the RSS feed generated for @levelsio - `https://news.google.com/rss/search?q=site:twitter.com/levelsio+when:7`

   (b) Telegram groups

   We offer to use the Telegram Client API. It requires its own Telegram account but in exchange has access to the whole history of messages (in super groups where it's allowed). The algorithm for adding support for a new group will be the same as adding a new participant to the group. Then we will download all message history (with a given threshold or fully), then listen to new messages and process them as well.

   (c) GitHub

   We can use the Webhooks API to get updates on commits to the LogSeq files and issues.

### 1.3 Feature improvements

- Embed media (pictures, video, and audio) as well
- Query and embed provided URLs in the text info
- Include URLs to the initial sources found with RAG
- Allow querying only given resources e.g., "What are the statuses of the current projects with aishift in GitHub issues"

# 2 Minimal valuable product

## 2.1 Problem

Straight forward RAG solution doesn't work good enough in case of awareness of sources and types of information, so queries about concrete messages in telegram groups or issues assigned to exact people and time boundaries don't work.

## 2.2 Solution

Enrich documents metadata with all possible tags and implement additional filtering by them with LLM

### 2.2.1 Additional improvements / features

1. Self aware prompt

   Make Mimi to know in general in what field of data it operates and what are it's responsibilities

2. Store chat history

   Keep each user's conversation so Mimi will know about previous messages

3. Add GitHub project's board parsing

   Pure GitHub issues scraping isn't enough, more information should be fetched from the API. TBD @MichaelBorisov

### 2.2.2 Implementation details

- Migrate from SQLite to CozoDB for the better metada search and future easier improves
- Add context about CyberValley directly to the system prompt
- Store all chat history in CozoDB as well but take only fixed amount of messages to fit in the context window
- Improve GitHub scraper to parse more data
- Use LLM to extract required filters from customer's query and convert them into Datalog query