Drug Discovery Assistant

A unified platform for assisting drug discovery research

Problem

According to arXiv, there has been 2017 articles alone published till today, this year under quantitative biology[1]

Keeping a track on latest trends in drug discovery has become difficult due to increasing rate at which the research has progressed with intersection of drug discovery and AI

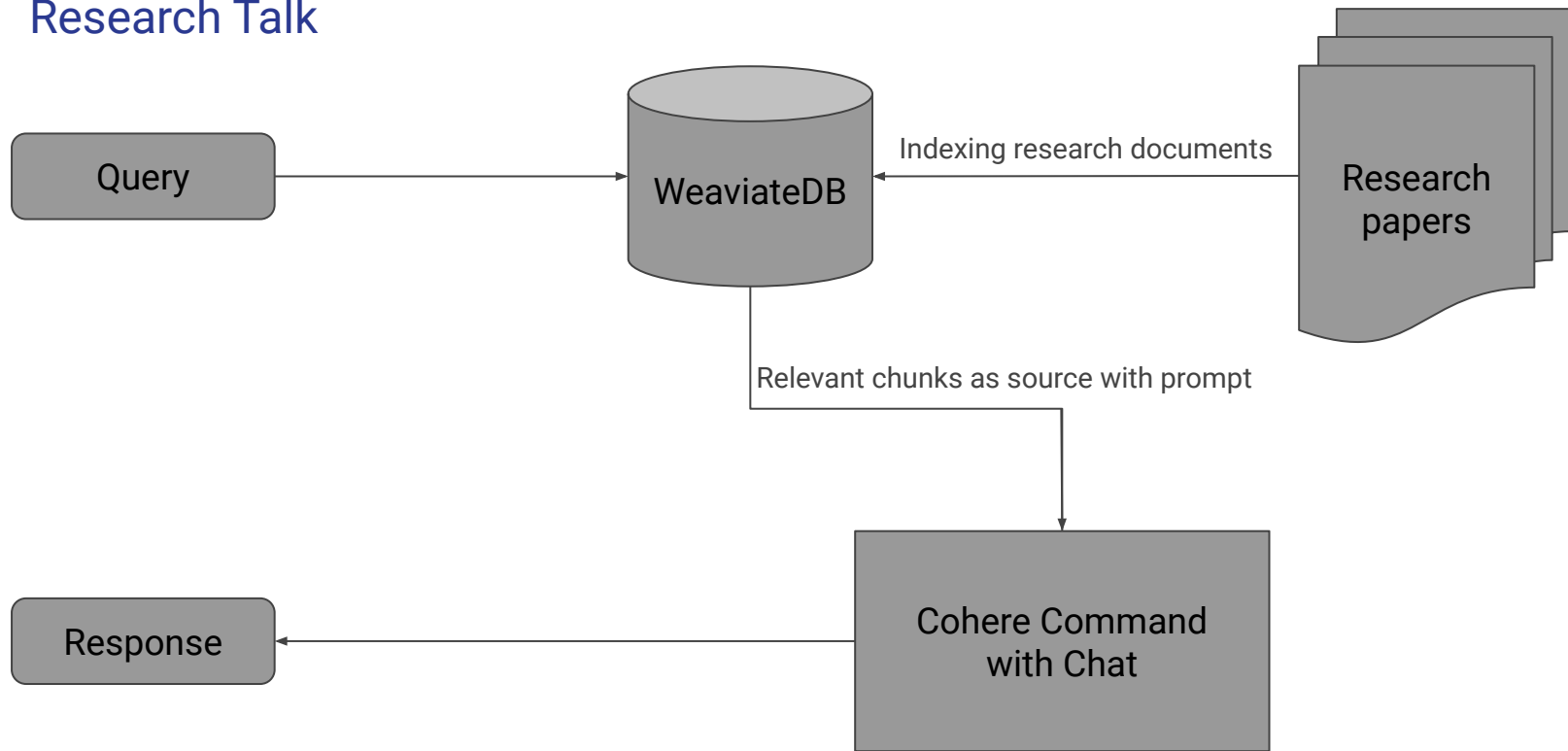1. Quantitative Biology Article statistics for 2023 https://arxiv.org/year/q-bio/23

Solution

A single interface for reading drug discovery research papers and getting a dictionary to search over a list of drugs

Implementation
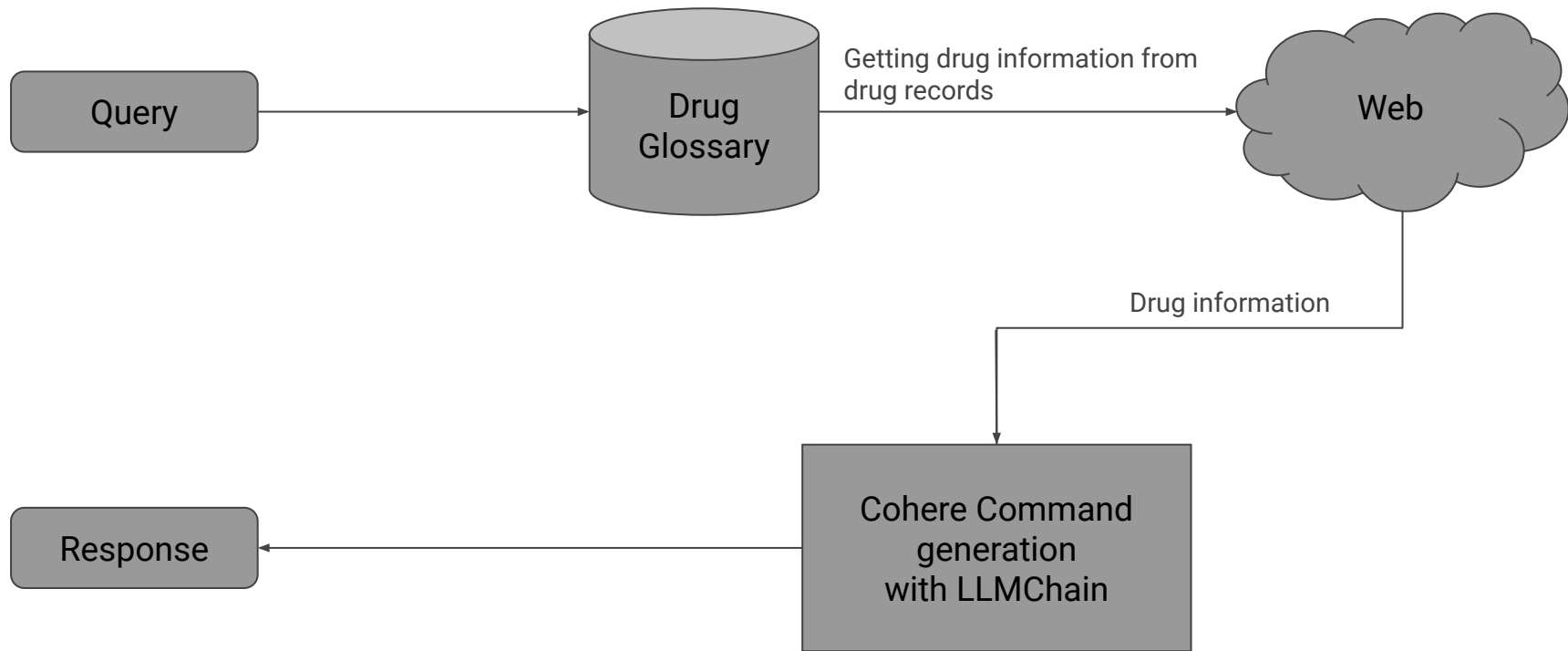
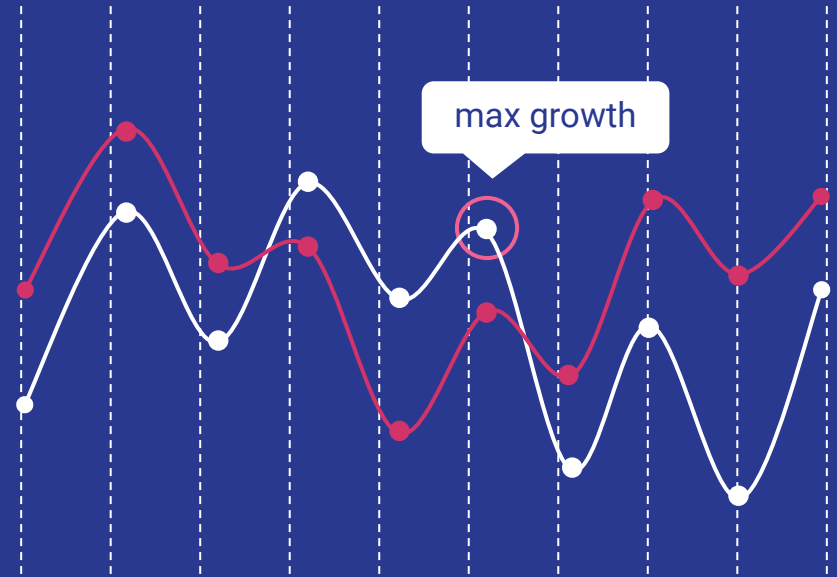- Research Talk
- Drug Search

Research Talk

Query → WeaviateDB

Indexing research documents ← Research papers

Relevant chunks as source with prompt → Cohere Command with Chat → Response

Drug Search

```
Query  →  Drug Glossary  →[Getting drug information from drug records]→  Web
                                                                          |
                                                                    [Drug information]
                                                                          ↓
Response  ←  Cohere Command generation with LLMChain
```

Impact

-   Researchers and Doctors can reduces a lot of time using this app instead of searching over the archives.

-   A quick search over the list of drugs also gets handy when in need.

Future work

- Adding a KG + RAG chat over large open databases like Drug Repurposing Knowledge Graph (DRKG).
- Enhancing the drug search with chemical properties and other details.

Contact

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Thank You