Repo Analysis Chatbot

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Overview

The Repo Analysis Chatbot is an innovative tool designed to change the way developers interact with, and understand codebases.

It utilizes OpenAI's language models to provide real-time, conversational insights into GitHub codebases.

The Problem

Developers often struggle to navigate through big & complicated codebases, especially when working with new libraries or frameworks.

Non-technical team members, such as product managers and QA engineers, frequently encounter difficulties in understanding technical aspects of codebases

End users and other non-developer roles often struggle to comprehend the underlying technologies powering applications

The Solution - Repo Analysis Chatbot

Interactive Code Insights: Provides real-time, conversational answers about any GitHub repository.

Easy Documentation: Automatically generates and updates documentation.

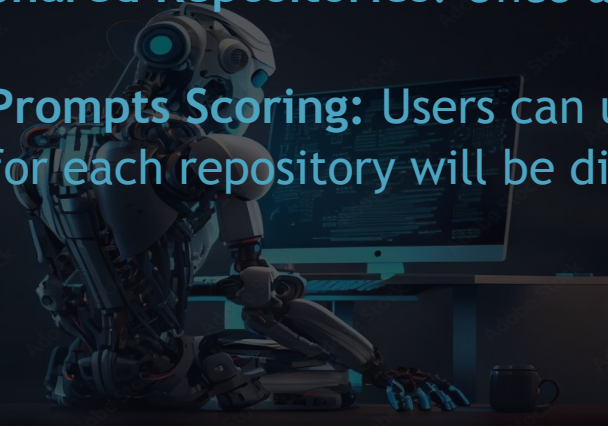**Community-Driven:** Share scanned repositories with others to foster collaboration.

Key Features

RAG for Data Ingestion: Efficiently processes and stores code from GitHub repositories.

Chat Interface: Users can ask questions about the code and get detailed, understandable answers.

Shared Repositories: Once a repository is scanned, it's accessible to all users.
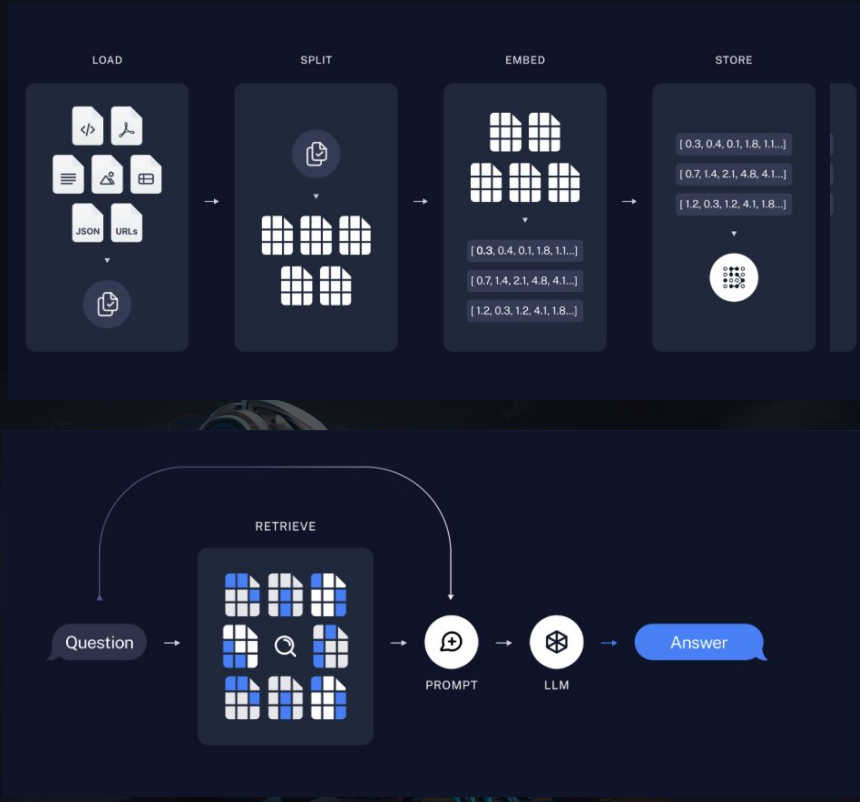
Prompts Scoring: Users can upvote or downvote prompts, and the top 4 prompts for each repository will be displayed as default prompts.

Live Session

How It Works

RAG - Retrieval Augmented Generation

A technique that enhances the capabilities of language models by combining retrieval-based methods with generation-based methods. In RAG, relevant information is retrieved from a database or vector store and used to augment the language model's knowledge when generating responses. This approach improves the accuracy and relevance of the generated answers, particularly in complex or context-specific queries.
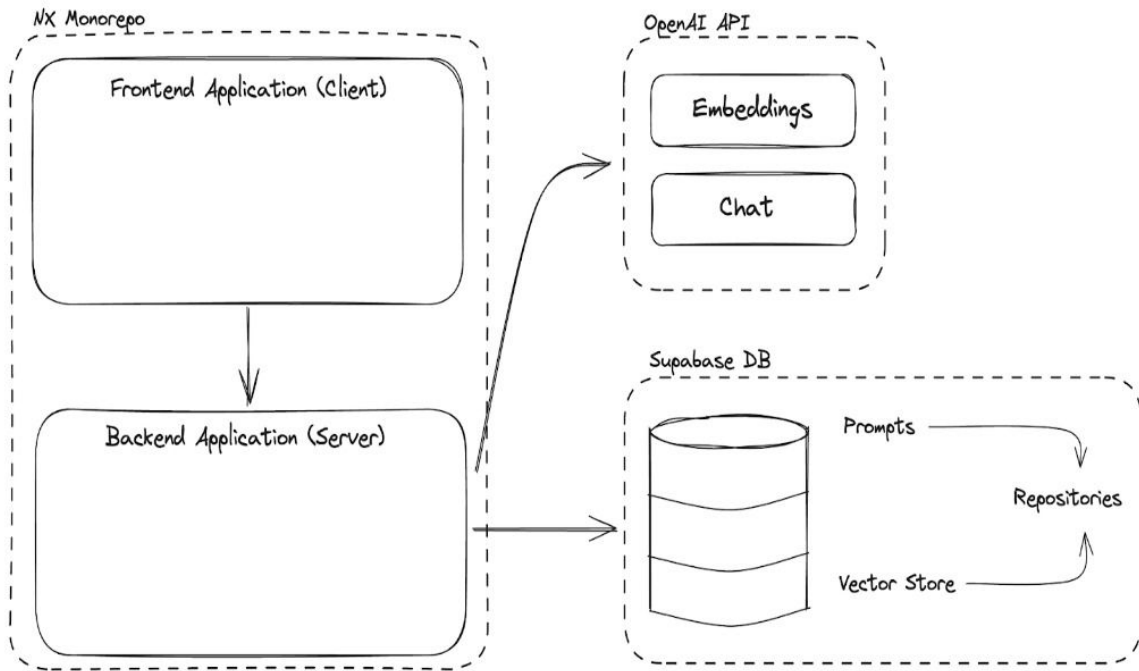
Tech Stack

Frontend:

Backend:

High Level Design

Competition

1. General Chatbots like ChatGPT, Gemini or Bard.
2. Open-source code analysis tools

Our Advantages:

1. Specialized Focus: Designed specifically for understanding GitHub repositories.
2. Ease of Use: Users only need to input a repository URL.
3. Community Collaboration: Shared repositories enhance collective knowledge and reduce redundant work.

Summary

Our Repo Analysis Chatbot is transforming codebase analysis with real-time insights and community collaboration.

Key Benefits:

- Enhances developer productivity and understanding.
- Provides non-technical roles with clearer insights into codebases.
- Promotes a collaborative environment through shared resources.

Future Plans:

- Support more source control tools like Bitbucket and GitLab.
- Private repository scanning for enhanced privacy.