INNOHACK 2.0

Presented By Bot Buddies

PS : Smart Document Search Engine with Semantic Ranking

NeuralDocs

AI-Powered Search Engine for Documentation & Internal Knowledge Bases

Core Concept:

This system is built on a hybrid search model that combines semantic and keyword retrieval techniques. This powerful search capability serves as the foundation for a RAG architecture, enabling users to query private company documents and Git repositories to get synthesized answers.

Why this Problem Matters

- **Inefficient Information Retrieval**: Engineering teams struggle to quickly find relevant information across vast, disparate internal knowledge sources (private documents, Git repositories, Slack, JIRA, etc.).
- **Context Gaps**: Existing search methods often lack context-awareness, leading to incomplete or irrelevant results, hindering problem-solving and knowledge sharing.
- **Time Loss:** Developers waste valuable time sifting through documentation, code, and communication channels, impacting productivity and project timelines.

Proposed solution

Comprehensive Data Ingestion & Indexing

- Multi-Source Connectivity: Extracts and processes data from essential platforms including JIRA (tickets, comments), GitHub (code, README files, Pull Requests), and Slack (public conversations).
- Advanced Code Analysis: Leverages frameworks like LangChain to perform Retrieval-Augmented Generation (RAG) directly on GitHub repositories, extracting deep contextual insights from the codebase.
- High-Speed Vector Search: Utilizes Qdrant to build a powerful vector index, enabling rapid and efficient similarity search across millions of documents and code snippets.

Intuitive Conversational AI Interface

- Natural Language Queries: Allows users to ask complex questions and search for information using plain, conversational English.
- Intent-Driven Retrieval: The AI intelligently analyzes query intent to fetch the most relevant documents, code blocks, or past solutions, significantly reducing manual search time.

Tech Stack / Architecture
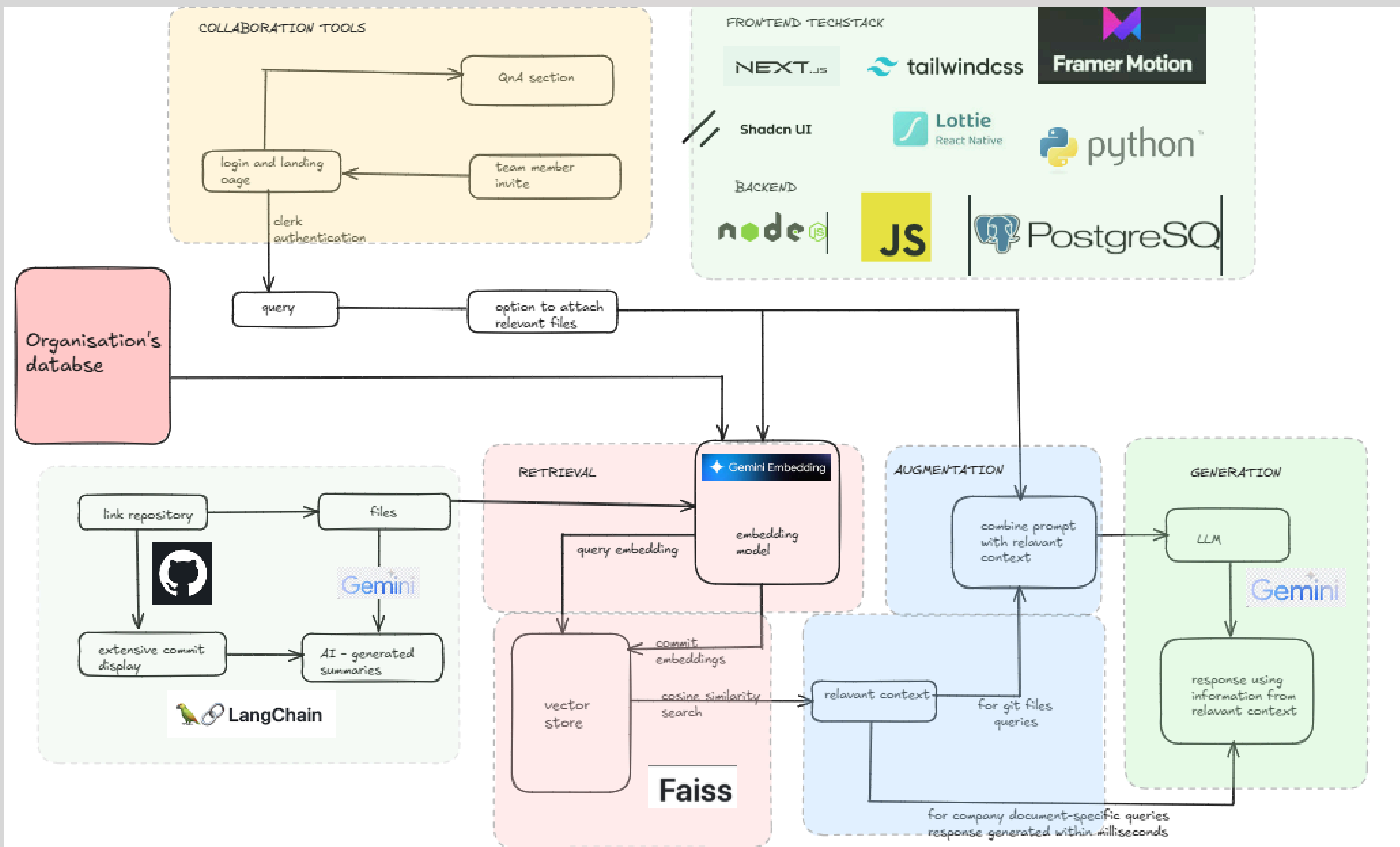
PROTOTYPE / SCREENSHOTS

Prototype Photos Link:
https://drive.google.com/drive/folders/1aeKQWEsdldHFKYRW7r6amgdjx-lQo5gJ

INNOVATION & IMPACT

Security & Privacy

Ensures documents and code remain secure within the network.

Pioneering RAG

Applies AI to internal data, ensuring accurate information retrieval.

Enhanced Decisions

Provides instant, context-rich answers for informed technical decisions.

Multi-Source Integration

Unifies knowledge from various platforms into a single access point.

Productivity Gains

Reduces search time, allowing engineers to focus on development.

Conversational AI

Transforms documentation into an interactive, natural language resource.

TEAM & ROLES

Individual Roles/ Responsibilities:

Aayush: Full Stack (frontend and backend)

Siddhath: Machine Learning and RAG pipelines

Prajwal: Full stack and integrations

Utsavi: UI/UX design, PPT and system architecture