ASHA HACKATHON 2025

jobsforher foundation presents

Powered by H2S

Team Details

a. Team name: Alpha

b. Team leader name: Muthu Shree MC

c. Problem Statement: "Build an AI-powered, context-aware chatbot that delivers personalized, meaningful interactions and integrates seamlessly with the JobsForHer Foundation platform to empower women's professional journeys."

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Brief about the idea

- Empowering Women: Asha AI Chatbot helps women explore job opportunities, events, and mentorship programs easily.

- Real-time Information: It fetches latest job listings, upcoming community events, and mentor profiles dynamically through public APIs.

- Retrieval-Augmented Generation (RAG): Combines live knowledge retrieval with AI reasoning for accurate and contextual responses.

- Bias-Free, Ethical AI: Detects and mitigates gender bias, ensuring inclusive, supportive, and respectful conversations.

- Personalized Assistance: Supports multi-turn conversations, delivering context-aware career guidance tailored to user needs.

- Seamless Integration: Built using React (frontend), Flask (backend), Pinecone (vector DB), and Groq API for fast, scalable responses.

Opportunities

How different is it from any of the other existing ideas?

Unlike traditional chatbots that rely only on static FAQ-based responses, Asha AI Chatbot uses dynamic Retrieval-Augmented Generation (RAG) and live public APIs to provide up-to-date job listings,mentorship data, and event information. It ensures inclusivity by detecting and correcting gender bias in real-time.

How will it be able to solve the problem?

Asha AI Chatbot empowers women by simplifying access to career opportunities through intelligent, real-time guidance. It helps bridge the information gap by offering relevant jobs, events, and mentorship connections tailored specifically for women's career growth.

USP of the proposed solution?

✓ Context-aware, multi-turn conversations ✓ Ethical AI focused on bias mitigation

✓ Real-time knowledge base updates from verified APIs ✓ Built specifically for empowering women professionals

✓ Seamless integration of RAG + LLM (Groq API) + Pinecone for accurate and fast responses

List of features offered by the solution

Real-Time Job & Mentorship Search

➔ Instantly fetches latest job openings, mentorship opportunities, and events for women from public APIs.

Retrieval-Augmented Generation (RAG) Technology

➔ Combines live data retrieval with Groq-powered LLMs to deliver contextually accurate and personalized answers.Bias-Free and Inclusive AI➔ Detects and corrects gender bias, ensuring positive, respectful, and empowering interactions.
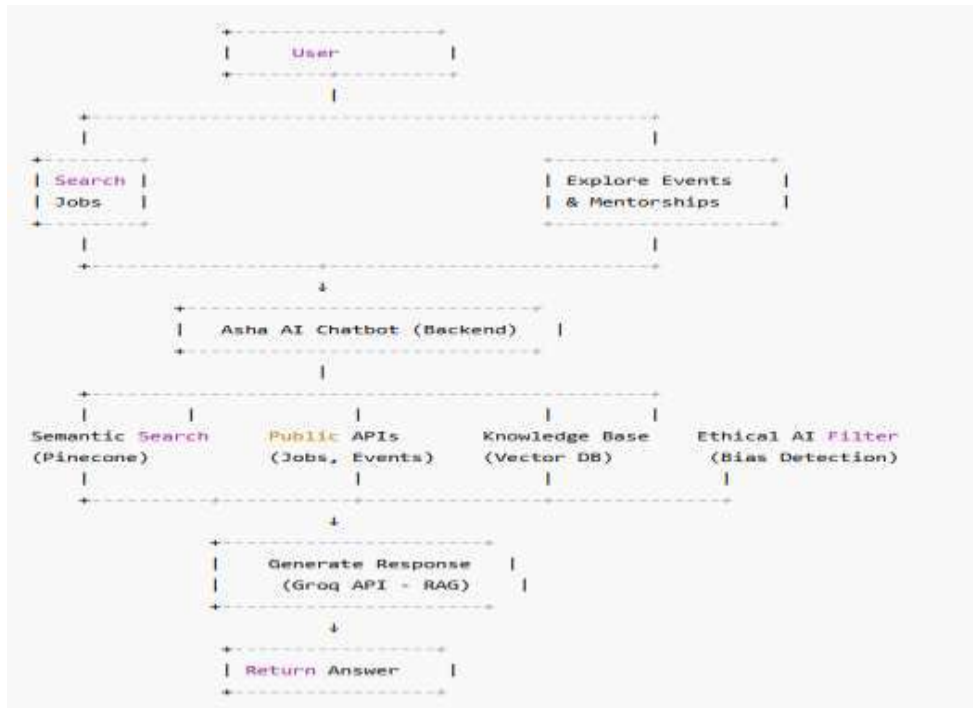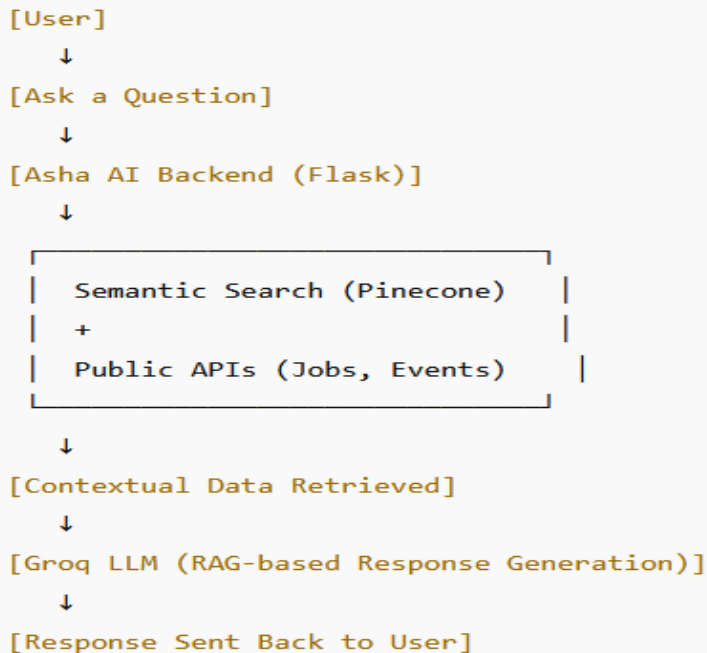
Context-Aware Multi-Turn Conversations

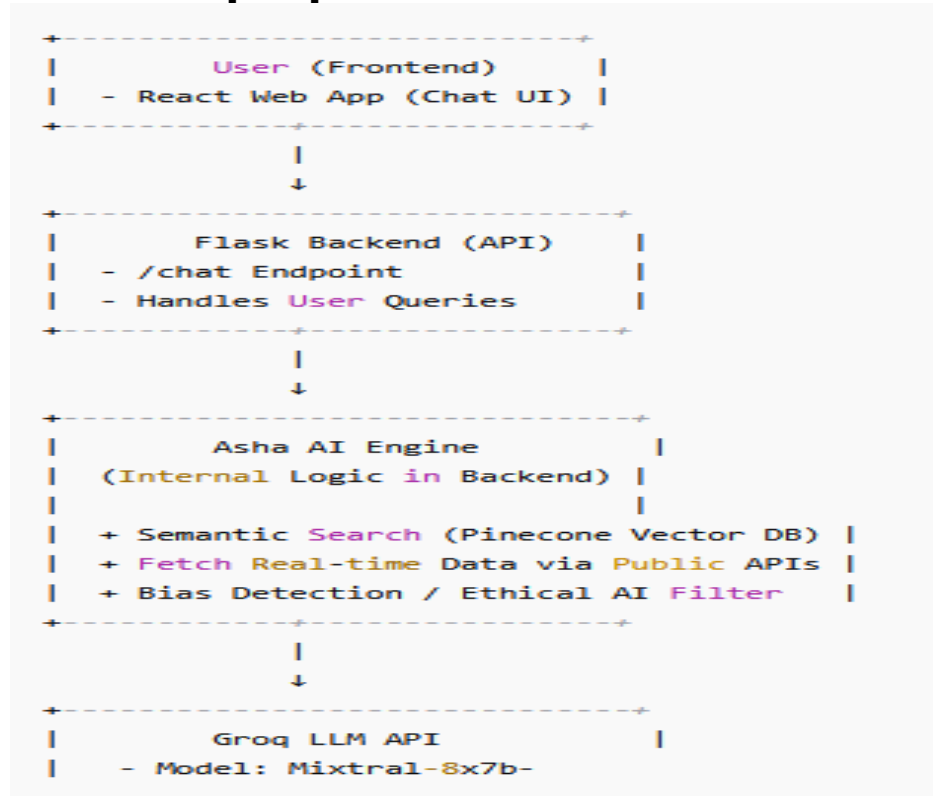➔ Supports continuous dialogue by remembering the conversation flow for better guidance.

Secure, Scalable, and Privacy-First

➔ Built with Flask, Pinecone, and Groq ensuring fast, scalable responses while maintaining strict privacy.

Process flow diagram or Use-case diagram

```
[User]
    ↓
[Ask a Question]
    ↓
[Asha AI Backend (Flask)]
    ↓
    ┌─────────────────────────────┐
    │   Semantic Search (Pinecone)  │
    │   +                           │
    │   Public APIs (Jobs, Events)  │
    └─────────────────────────────┘
    ↓
[Contextual Data Retrieved]
    ↓
[Groq LLM (RAG-based Response Generation)]
    ↓
[Response Sent Back to User]
```

```
                    +─────────────────+
                    |      User       |
                    +─────────────────+
                             |
          +──────────────────┴──────────────────+
    +─────────────+                       +─────────────────+
    | Search      |                       | Explore Events  |
    | Jobs        |                       | & Mentorships   |
    +─────────────+                       +─────────────────+
          |                                       |
          +──────────────────┬──────────────────+
                             ↓
                    +──────────────────────────+
                    | Asha AI Chatbot (Backend) |
                    +──────────────────────────+
          +────────────┬────────────┬────────────┬────────────+
    Semantic Search      Public APIs      Knowledge Base      Ethical AI Filter
    (Pinecone)           (Jobs, Events)   (Vector DB)         (Bias Detection)
          |                   |                  |                  |
                             ↓
                    +──────────────────────+
                    | Generate Response    |
                    | (Groq API - RAG)     |
                    +──────────────────────+
                             ↓
                    +──────────────────+
                    | Return Answer    |
                    +──────────────────+
```

Architecture diagram of the proposed solution

```
+-------------------------------+
|      User (Frontend)          |
|  - React Web App (Chat UI)    |
+-------------------------------+
                |
                ↓
+-------------------------------+
|      Flask Backend (API)      |
|  - /chat Endpoint             |
|  - Handles User Queries       |
+-------------------------------+
                |
                ↓
+-------------------------------+
|      Asha AI Engine           |
|  (Internal Logic in Backend)  |
|                               |
|  + Semantic Search (Pinecone Vector DB) |
|  + Fetch Real-time Data via Public APIs |
|  + Bias Detection / Ethical AI Filter   |
+-------------------------------+
                |
                ↓
+-------------------------------+
|      Groq LLM API             |
|    - Model: Mixtral-8x7b-     |
```

Technologies to be used in the solution

| Layer	Technology	Purpose
Frontend	React.js	Responsive Chat UI
Backend	Flask (Python)	API Server to handle user queries
LLM API	Groq API (Mixtral-8x7b-32768 model)	Generate smart, context-aware responses
Vector Database	Pinecone	Semantic Search and Context Retrieval (RAG)
Embeddings Model	Sentence Transformers (`all-mpnet-base-v2`)	Text Embedding for vector search
APIs	Public Job Board API, Events JSON, Mentorship CSV	Fetch real-time external data
Deployment (Optional)	Vercel (Frontend), Render/Heroku (Backend)	Hosting frontend and backend services
Libraries	axios, dotenv, sentence-transformers, pinecone, flask-cors	API calls, environment variables, ML, CORS handling

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Snapshots of the prototype
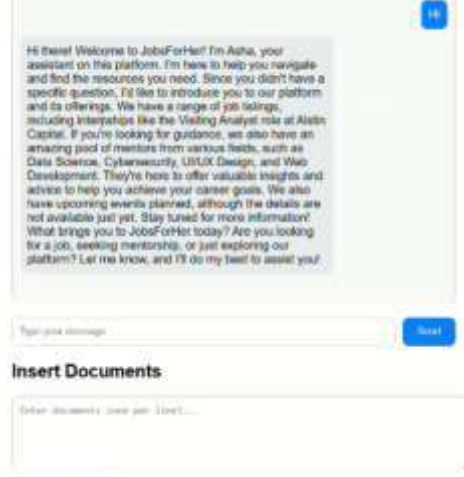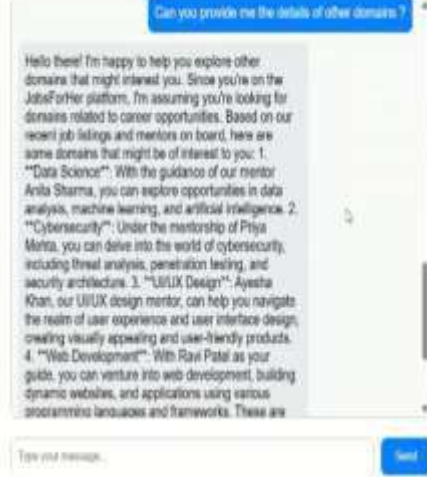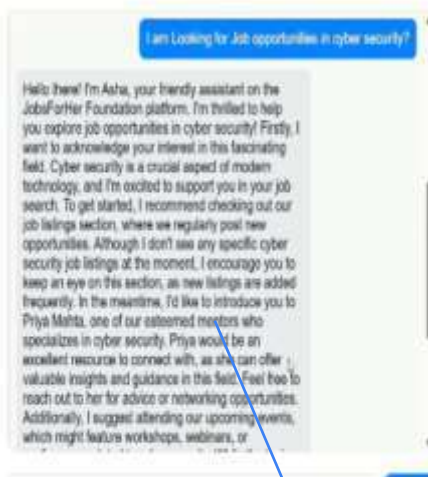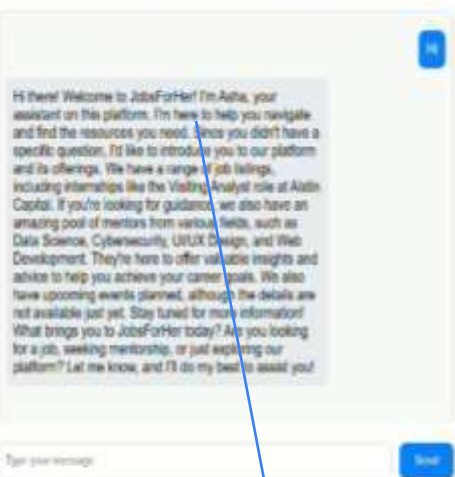
Detailed intro

Response for user question

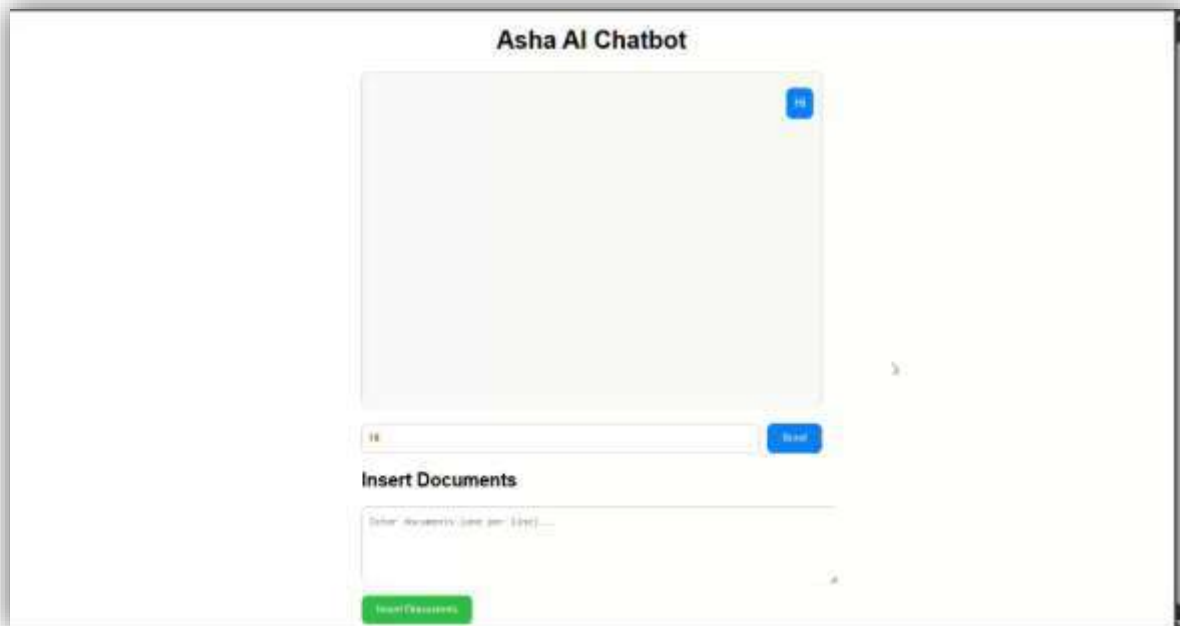**Here you can upload your resume or job description details.**

Source Code Repository:

Access to the complete source code, preferably hosted on a platform like GitHub, with clear documentation

Github Repository link :https://github.com/kavya-ux-2/Asha_ai_bot

Demo Video:

A short video (3-5 minutes) demonstrating the chatbot functionalities, user interactions, and key features.