

AI for Bharat Hackathon

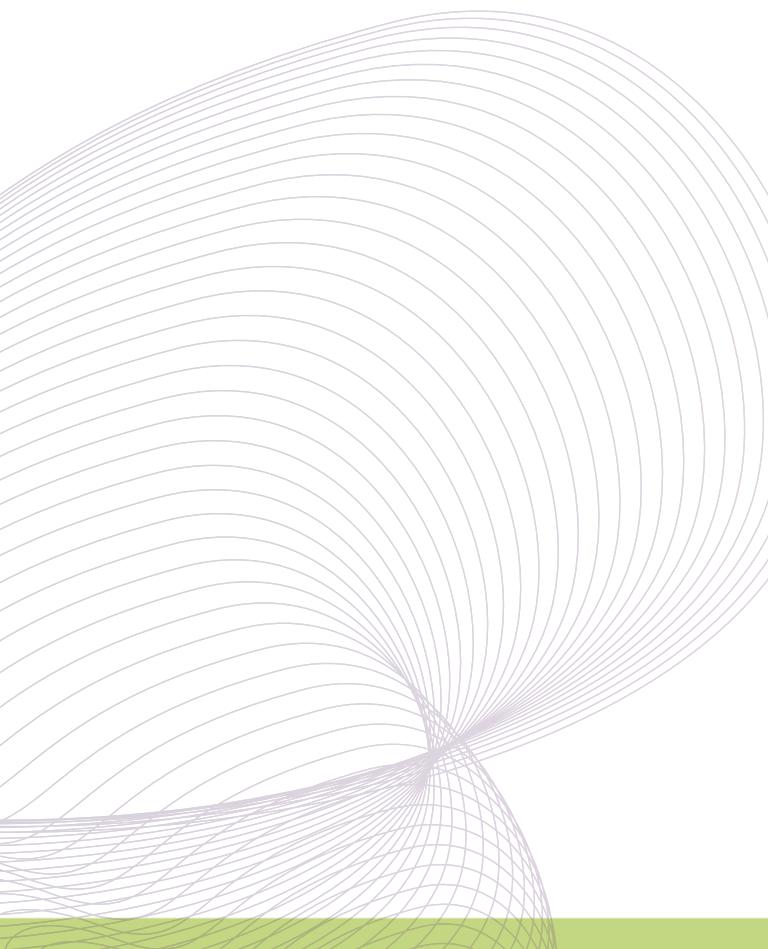
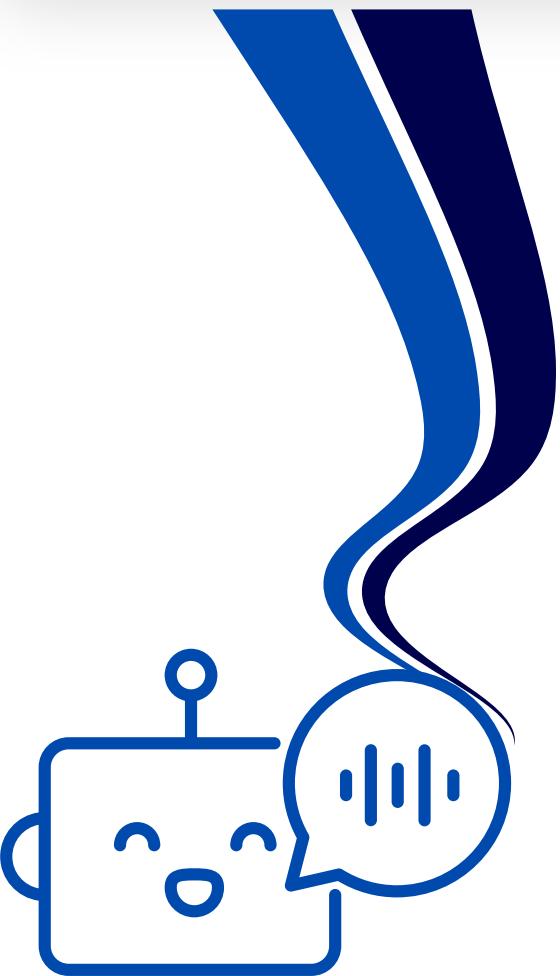
Powered by **aws**



Team Name : Suicide Squads

Team Leader Name : Karan Juneja

Problem Statement : Build an AI-powered solution that improves access to information, resources, or opportunities for communities and public systems.



Brief about the Idea:

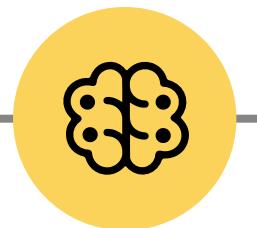
This solution is a voice-first AI assistant designed to help citizens discover and access government welfare schemes through natural conversations in their native language. By simply speaking a real-life need; such as, assistance for marriage, farming, healthcare, or pensions, users receive personalized scheme recommendations, eligibility details, required documents, and guidance on the application process.

The system leverages AWS Transcribe for multilingual speech recognition, Amazon Lex for intent understanding, and a Retrieval-Augmented Generation (RAG) pipeline powered by Amazon Bedrock and OpenSearch to ensure accurate, verified, and hallucination-free responses. Scheme data is retrieved from structured databases and official government sources before generating responses, ensuring reliability.

Built on a scalable, serverless AWS architecture, the platform supports web and WhatsApp channels, with a roadmap for IVR and offline access. The goal is to bridge the digital divide and democratize access to welfare schemes for low-literacy and underserved communities across India.



Differentiation, Problem-Solving Approach & USP

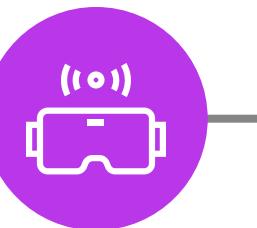


How Is It Different from Existing Solutions?

Existing platforms are primarily text-based portals that require manual search, offer limited personalization, lack conversational AI, and are not optimized for low-literacy or multilingual users.

Our solution:

- Voice-first, natural language interaction
- Multilingual & code-mixed language support
- RAG-powered retrieval from verified government sources
- Personalized eligibility-based scheme matching
- Hyper-local recommendations (nearest centers)
- Multi-channel access (Web, WhatsApp, scalable to IVR)



How Will It Solve the Problem?

Barrier	Our Approach
Lack of awareness	Conversational discovery through voice
Language gap	Multi-language voice interface
Complex eligibility	AI-based personalized filtering
Bureaucratic confusion	Step-by-step guidance
Digital literacy issues	No typing required



USP (Unique Selling Proposition)

Core USP:

A voice-first AI assistant that helps citizens access verified government schemes through natural conversations in their native language.

Key USP Points:

- Multilingual, code-mixed conversational AI
- RAG-powered retrieval from verified government sources
- Personalized eligibility-based scheme matching
- Hyper-local center recommendations
- Multi-channel access (Web + WhatsApp, scalable to IVR)
- Scalable serverless AWS architecture

This is not just an assistant, it is AI infrastructure for inclusive public service delivery.

List of Features Offered by the Solution

Voice-First Interface

Natural conversational flow with multi-language support

Intelligent Scheme Discovery

Semantic search for relevant schemes

Personalized Eligibility Matching

AI filters schemes based on user profile

Comprehensive Scheme Information

Clear explanations of benefits and criteria

Application Guidance

Step-by-step instructions for applications

Location-Based Assistance

GPS-powered suggestions for nearest offices

User Profiles & Context Memory

Maintains session history for conversations

Verified Responses

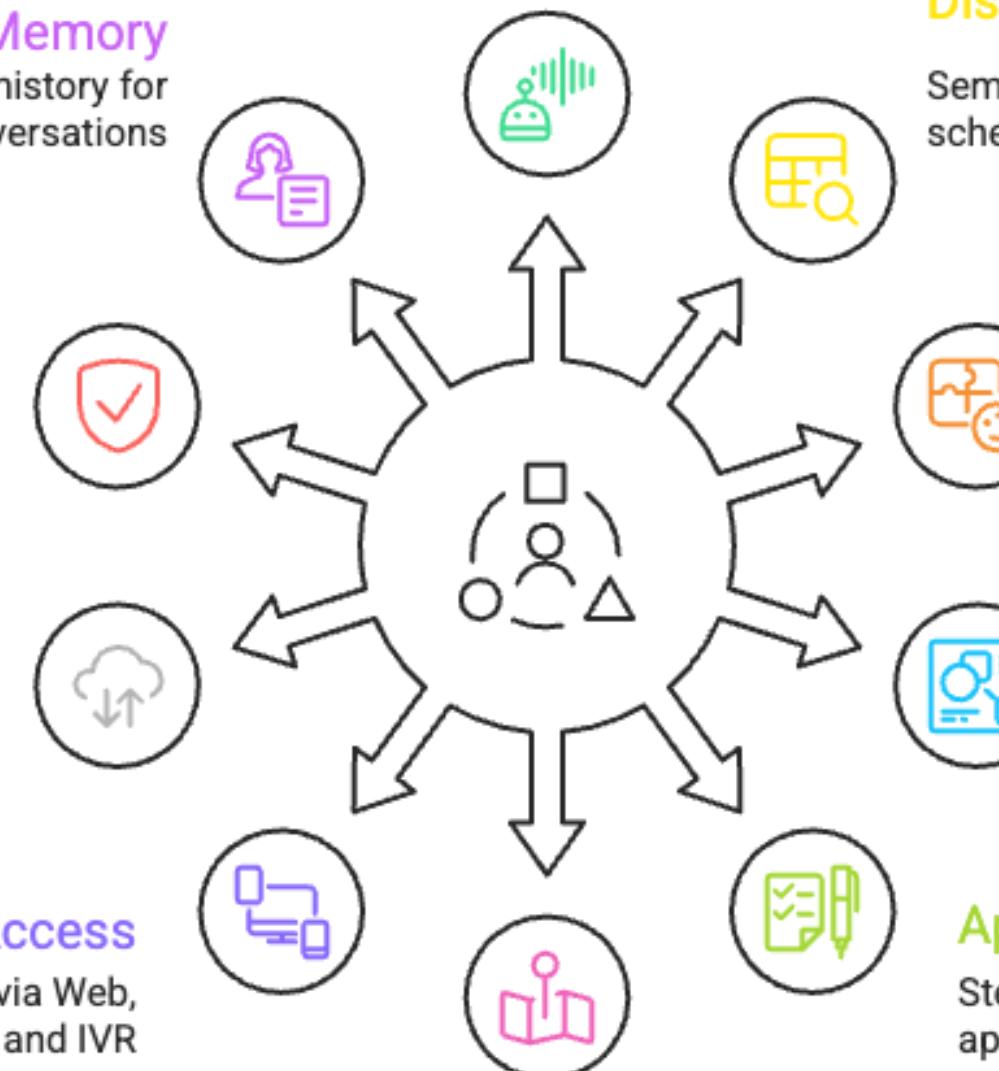
Factual responses from government sources

Offline Mode

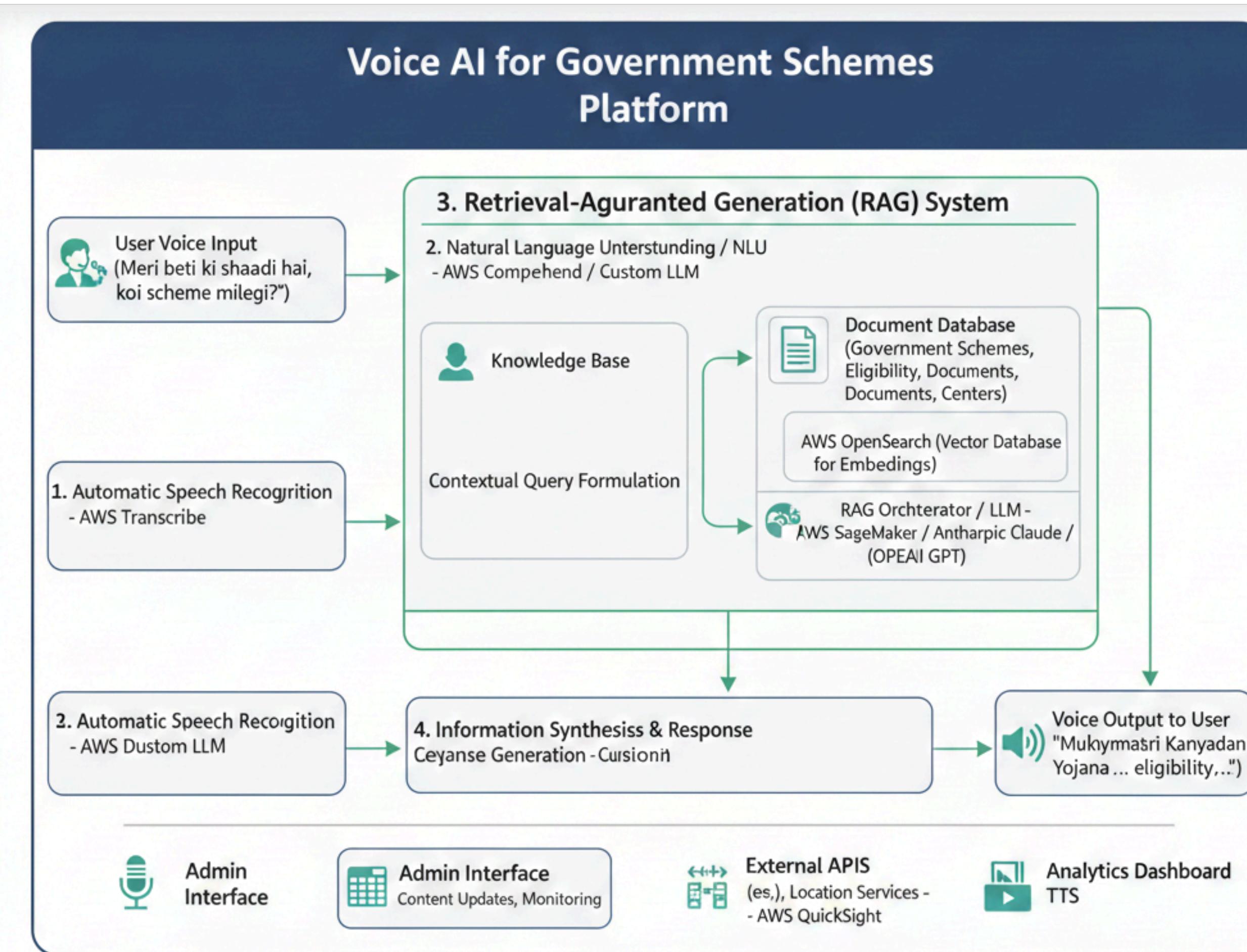
Cached scheme access in low-connectivity areas

Multi-Channel Access

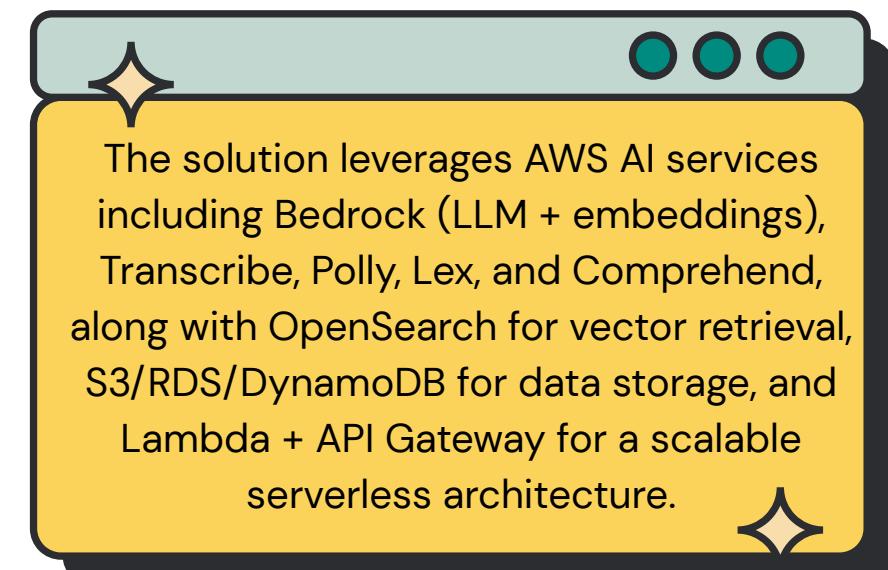
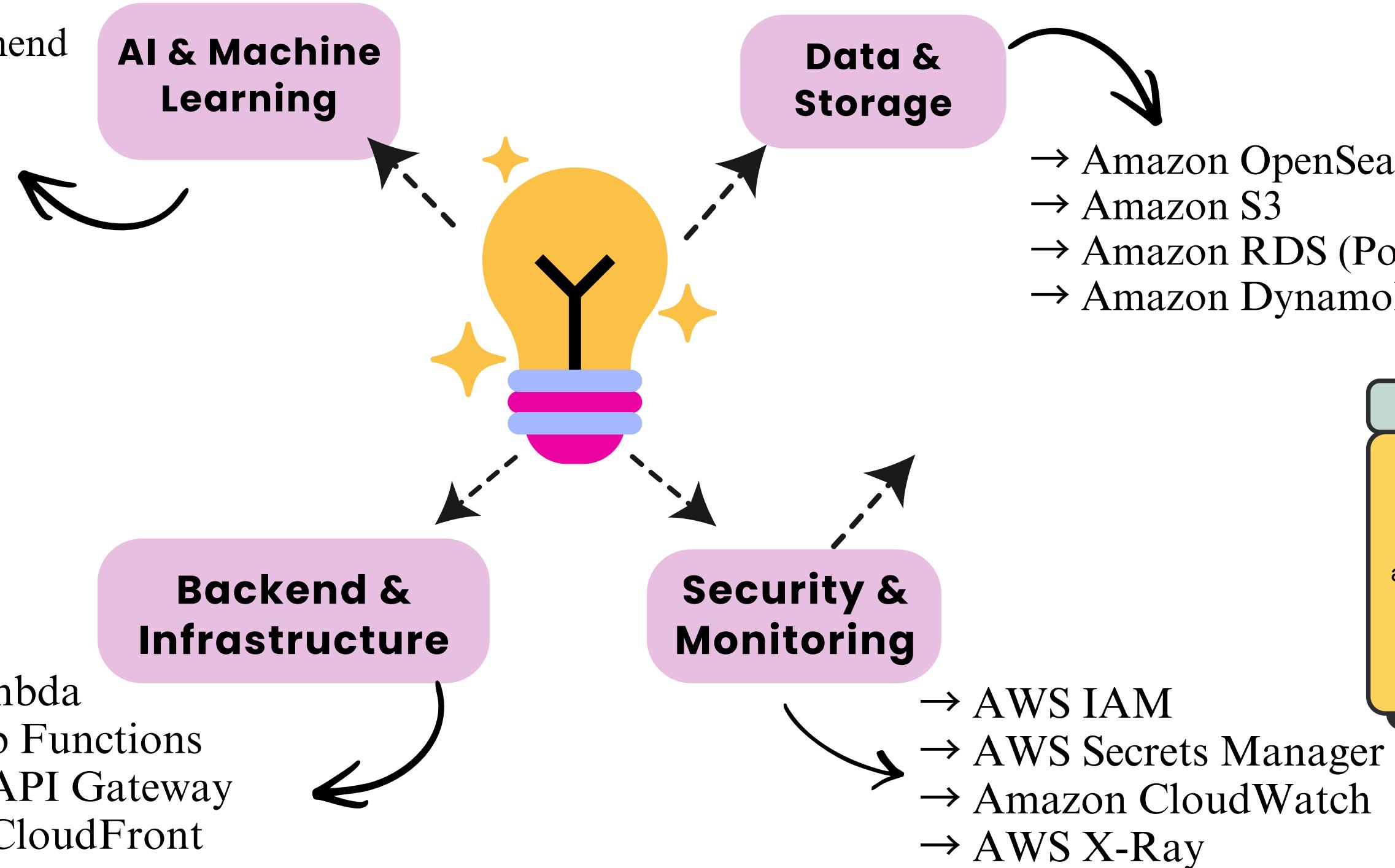
Available via Web, WhatsApp, and IVR



Conceptual Architecture and Flow diagram



- Amazon Bedrock (Claude 3.5 Sonnet)
- Amazon Bedrock Titan Embeddings
- Amazon Bedrock Knowledge Bases
- Amazon Lex
- Amazon Comprehend
- AWS Transcribe
- AWS Polly



The solution leverages AWS AI services including Bedrock (LLM + embeddings), Transcribe, Polly, Lex, and Comprehend, along with OpenSearch for vector retrieval, S3/RDS/DynamoDB for data storage, and Lambda + API Gateway for a scalable serverless architecture.

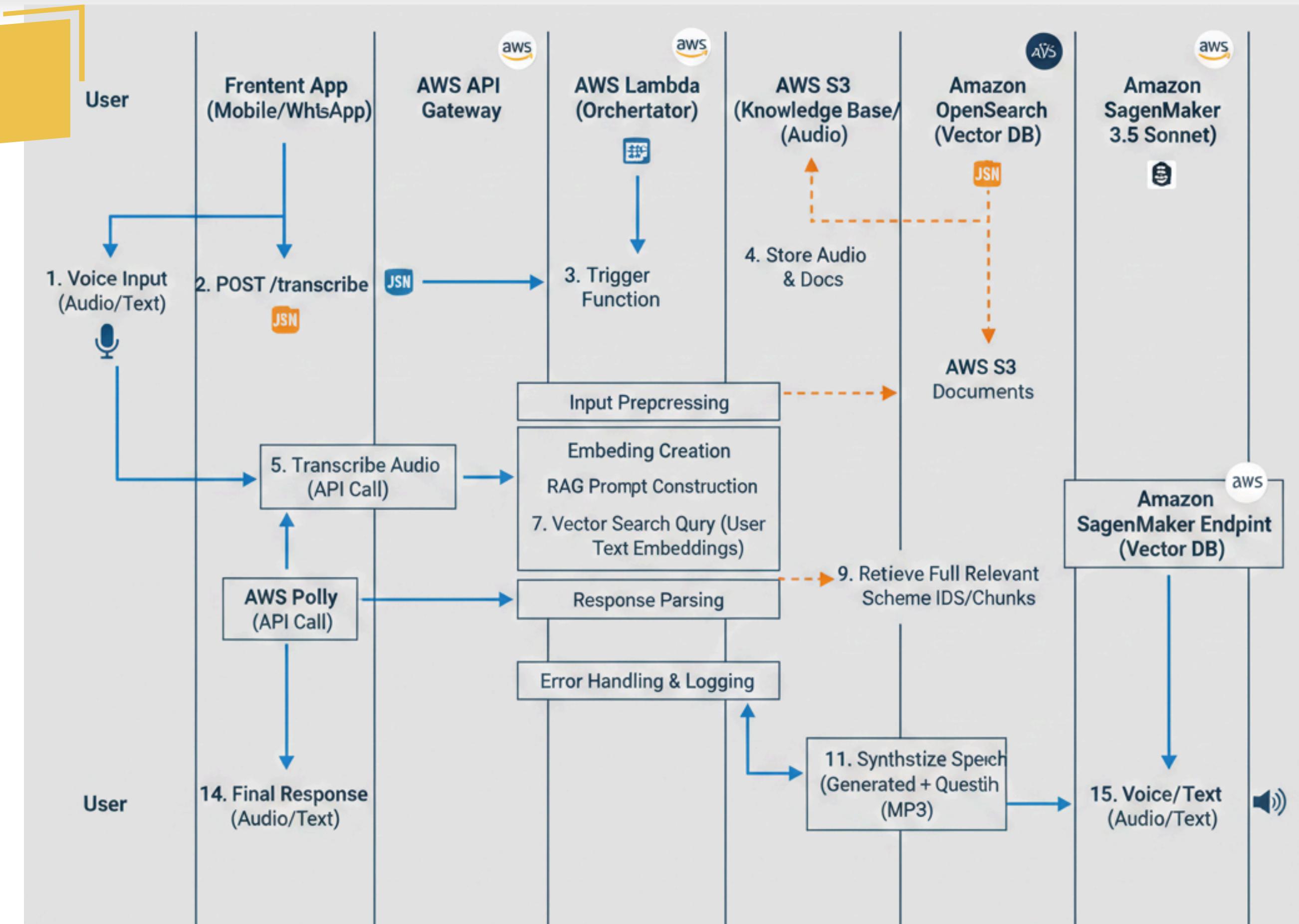
Technical Sequence Diagram

Illustrating the Retrieval-Augmented Generation (RAG) Pipeline for the ideation. It maps out the end-to-end data flow from the moment a user provides a voice query to the point they receive a synthesized audio response.

here,

 lines represent: real time API call

 lines represent: Data storage/retrieval



Additional Requirements for Hackathon



Alignment with Hackathon Theme:

- AI for Communities & Public Impact
- Voice-first digital inclusion
- Designed for rural & underserved users
- Real-world GovTech application



Scalability & AWS-Native Design:

- Fully serverless architecture
- Auto-scaling on AWS
- Low-latency & cost-efficient
- Secure & monitored deployment



Working MVP (What We Will Demonstrate):

- Voice query in Hindi & English
- AI-powered scheme recommendation
- RAG pipeline using Amazon Bedrock
- WhatsApp/Web prototype
- End-to-end demo on AWS



Expected Impact:

- Increased scheme awareness
- Reduced dependency on middlemen
- Faster access to welfare benefits
- Inclusive access for low-literacy users



AI for Bharat Hackathon

Powered by **aws**

Thank You

