Team Details

a. Team name: iQnition
b. Team leader name: Gnaaneswaran Premchand
c. Problem statement: *Millions in rural India lack access to timely , reliable and personalised information about govt. services, agriculture, healthcare, education, disaster alerts, legal rights due to lang barriers , low literacy , poor connectivity- creating an urgent need for intelligent accessible support system.*

Project Brief: SaarthiAI — Intelligent Rural Citizen Support Agent

Existing platforms like CSCs, UMANG, and mKisan fall short in rural areas due to limited accessibility, language barriers, lack of personalization, and high digital literacy requirements. **SaarthiAI** is an AI-powered, multilingual, voice-enabled virtual agent that delivers real-time, personalized support across domains like government schemes, agriculture, healthcare, and education. Accessible via WhatsApp, IVR, or simple apps, and built on Google's AI stack, SaarthiAI bridges the last-mile information gap for underserved rural communities.

Opportunities

- How different is it from any of the other existing ideas?
- How will it be able to solve the problem?
- USP of the proposed solution

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

Solution	Description	Key Limitations
Common Service Centres (CSCs)	Government-run physical service points for rural citizens	Requires physical travel, dependent on human operators, limited hours, slow process
UMANG App	Unified mobile app for accessing government schemes and services	Complex UI, poor multilingual support, requires smartphones and digital literacy
mKisan, Agri Apps	Agriculture-focused apps for crop info, advisories	Single-domain, static content, lacks personalization and multi-lingual intelligence
Government Helplines (104, 112)	Voice-based access to emergency or info services	Often overloaded, non-interactive, not conversational or proactive
NGO/Private Chatbots	WhatsApp or web chatbots offering limited support	Rule-based, limited scope, no personalization, no dynamic response
YouTube/IVR Solutions	Audio-based static content for rural engagement	No interaction, can't answer specific user queries, not real-time or data-driven

What Makes SaarthiAI Different

- ***SaarthiAI*** is not just a chatbot — it's a **dynamic, intelligent, context-aware agent** designed for rural realities. Here's how it fills the gaps left by existing systems:

AI-Powered Personalization

- Uses LLMs (Gemini via Vertex AI) to generate personalized answers
- Tailors responses based on user type (e.g., farmer, student, elderly woman) and location

Multilingual & Voice-First Accessibility

- Speaks and understands local languages (Tamil, Hindi, Bengali, etc.)
- Works over **voice input** and **audio output** for the illiterate population

Low-Bandwidth & Device-Independent

Runs on basic smartphones via **WhatsApp**, **IVR**, or lightweight Android app

Optimized for areas with poor internet or mobile network

Hyperlocal Context Awareness

Uses geolocation and region-specific datasets to deliver accurate, localized responses:

Local government scheme variations

Weather and disaster alerts

Nearest hospital, school, or agriculture center

All-in-One Assistant

Unlike domain-specific apps, SaarthiAI covers:

Government schemes ,Healthcare, Agriculture, Education, Legal rights , Women and child welfare, Disaster response

How will it be able to solve the problem?

•**Language & Literacy Barriers → Multilingual Voice Interface**

SaarthiAI understands and responds in regional languages (e.g., Tamil, Hindi, Bengali) through both text and voice. This allows illiterate or semi-literate users to interact naturally.

•**Low Digital Literacy → Simple, Conversational UI**

Instead of complex apps, users interact via WhatsApp, IVR calls, or a lightweight mobile app. No need for menu navigation—users simply ask questions as they would to a human.

•**Lack of Reliable Information → LLM-Powered Intelligent Agent**

Powered by Google's Gemini and Vertex AI, the agent delivers real-time, accurate, and contextual responses, unlike static content or rule-based bots.

•**No Personalization → Context-Aware Responses**

SaarthiAI uses user profiles (age, occupation, region) and geolocation to provide personalized support—for example, recommending local subsidies a farmer is eligible for.

•**Fragmented Access → One Unified Platform**

Instead of using multiple apps or visiting different offices, SaarthiAI acts as a single-window digital assistant across domains: welfare, healthcare, agriculture, disaster alerts, legal aid, and more.

•**Infrastructure Challenges → Offline-Ready & Low-Bandwidth Support**

Designed to function in areas with poor internet through voice calls or WhatsApp-based messaging; future versions can use edge AI for offline access.

USP of the Proposed Solution: SaarthiAI

•**Multilingual & Voice-Enabled Interface**

Enables access for non-literate users in rural India by supporting local languages and voice-based interaction.

•**LLM-Powered Personalization**

Delivers intelligent, context-aware responses tailored to each user's profile (location, occupation, needs), unlike rule-based systems.

•**Unified Support Across Domains**

Combines multiple services—government schemes, healthcare, agriculture, legal aid—into a single intelligent assistant.

•**Low-Bandwidth & Device-Friendly Access**

Works via WhatsApp, IVR, and lightweight apps, making it usable on basic phones in low-connectivity regions.

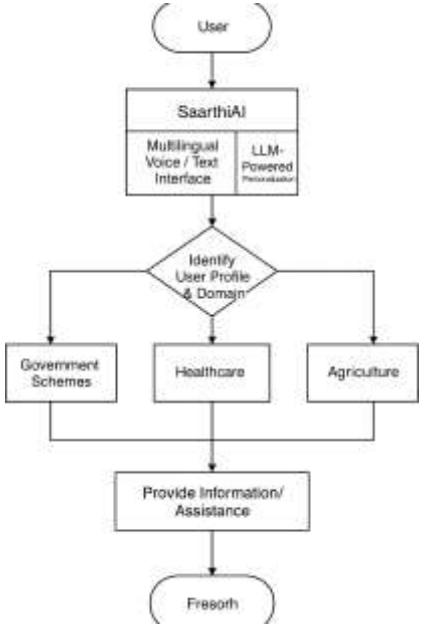
•**Scalable & Pluggable Platform for Partners**

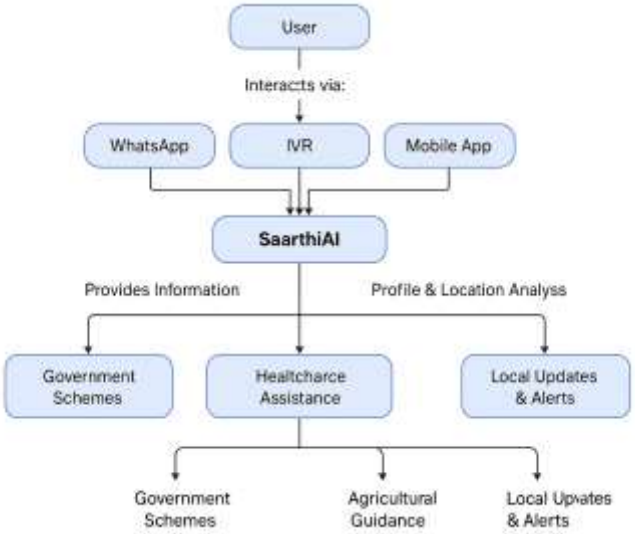
Designed for easy integration by NGOs and governments to extend services regionally and at scale.

List of features offered by the solution :

1.Personalized Assistance Based on User Profile
Adapts responses based on user type (farmer, student, etc.), location, and needs.
2.Access to Multiple Public Services
Provides guidance on government schemes, healthcare, agriculture, education, and legal aid in one platform.
3.Low-Bandwidth Access Channels
Available via WhatsApp, IVR calls, and lightweight Android apps for rural connectivity.
4.Real-Time, Hyperlocal Information Delivery
Offers local weather alerts, scheme eligibility, and nearby facility recommendations using geolocation.
5.Conversational Support in Regional Languages
Understands and responds in major Indian languages through both voice and text.

Process flow diagram or use-case diagram

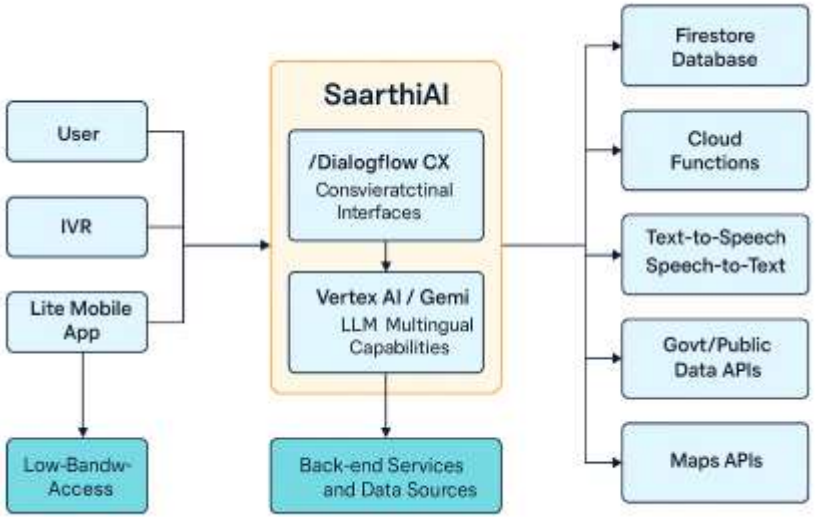




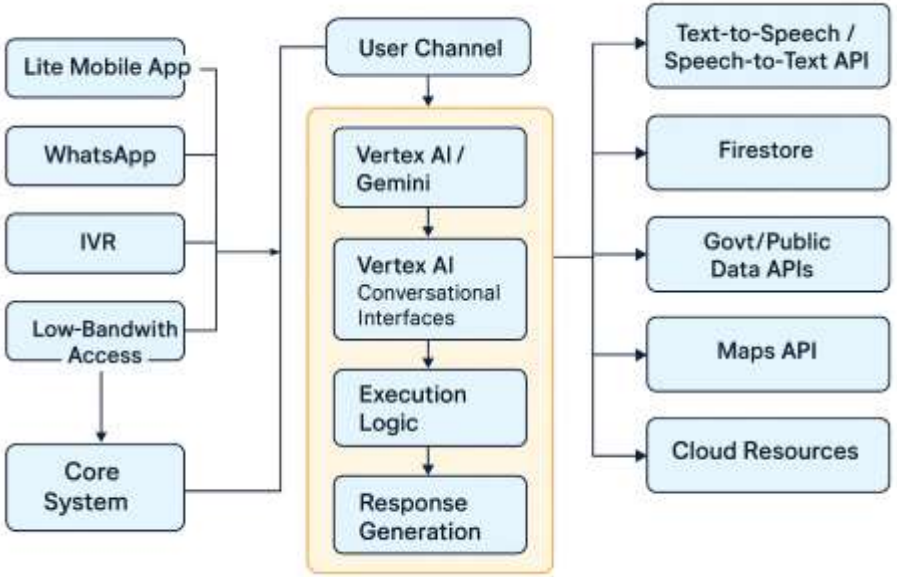
Technologies to be used in the solution

1. **Vertex AI / Gemini** – For natural language understanding and personalized responses
2. **Dialogflow CX** – To build multilingual, voice-enabled conversational flows
3. **Firebase (Firestore, Auth)** – For backend, real-time data, and user management
4. **WhatsApp API / IVR / Android Lite App** – For low-bandwidth, accessible user interfaces
5. **Google Maps & Geolocation APIs** – For hyperlocal info and nearest service mapping
6. **Cloud Functions** – To trigger logic like scheme lookup or alert generation
7. **Speech-to-Text / TTS APIs** – For voice input/output in local languages
8. **Government / Public APIs** – For real-time scheme, weather, agri data

Architecture diagram of the proposed solution



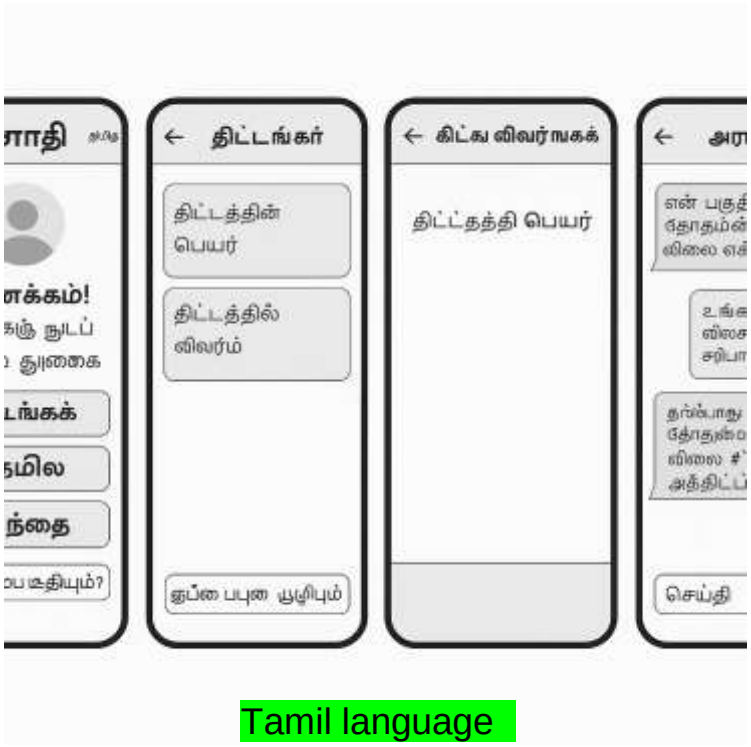
Basic version



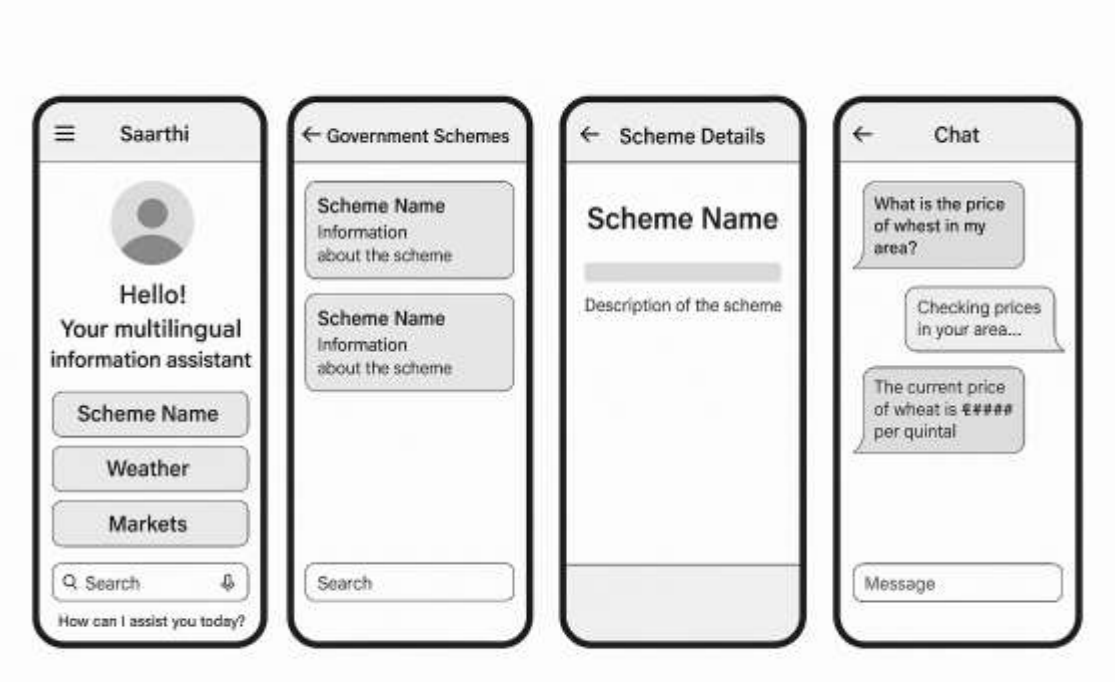
Advanced version

Wireframes/Mock diagrams of the proposed solution

Kannada language



Tamil language



I look forward to taking SaarthiAI beyond this hackathon and building it into a real-world solution with the right support and collaboration.

SaarthiAI *is not just a project—it's a step toward empowering millions of rural citizens with timely, reliable, and personalized access to vital information. By combining the power of AI, multilingual voice interfaces, and scalable cloud technologies, we aim to bridge the digital divide and create a truly inclusive, intelligent support system for every Indian, no matter where they live. With the right support, SaarthiAI can evolve from a prototype to a nationwide impact platform.*

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Thank you!