AI for Bharat Hackathon

Powered by aws

Team Name : GenGurus

Team Leader Name : Vedika Mishra

Problem Statement : **[Professional Track] AI for Retail, Commerce & Market Intelligence**

Brief about the Idea: AI Sahayak

What is AI Sahayak?

AI-powered retail intelligence platform for Indian retailers & MSMEs

Life-event driven demand forecasting system

Detects real-world triggers (festivals, weddings, seasonal trends)

Uses aggregated public signals (privacy-compliant)

Generates regional **Event Confidence Score**

Recommends base pricing & promotional strategies

Provides what-if simulations before execution

Enables proactive, data-driven decision-making

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

1. Proactive vs Reactive Systems
Most retail tools react to past sales data
AI Sahayak detects life-event signals before demand spikes occur

2. Leading Indicators vs Historical Data
Traditional systems rely only on historical trends
AI Sahayak uses real-world event triggers (festivals, weddings, seasonal shifts) as early demand signals

3. Enterprise-Centric vs MSME-Focused
Existing AI pricing platforms are built for large corporations
AI Sahayak is modular, affordable, and designed for Bharat retailers & MSMEs

4. Static Recommendations vs Intelligent Simulation
Most tools suggest price changes without testing impact
AI Sahayak provides "what-if" scenario simulation before execution

5. Black Box AI vs Explainable AI
Many AI systems lack transparency
AI Sahayak explains every pricing or promotion recommendation with clear reasoning

How Will AI Sahayak Solve the Problem?

1. Bhashini Layer (Voice-First AI)
Ask in Hindi, Tamil, Hinglish via WhatsApp or voice
Example: *"Agale mahine shaadi ka season hai, kya stock karu?"*
30-sec daily AI voice briefing with pricing & demand insights

2. Udhaar (Credit) Intelligence
Analyzes digital ledger (Khatabook/Tally data)
Predicts repayment probability
Suggests best timing for collection (harvest, payday, festival)

3.ONDC Market Intelligence
Detects trending products within 5km radius
Benchmarks prices against ONDC network
Helps retailers stay competitive

4. Event Confidence Score (Scientific Model)
Weighted score based on:
Historical sales patterns
Social/Search trend intensity
Event proximity
Converts signals into demand probability

5. Hyper-Local Stock Sharing (Co-op Mode)
Identifies excess stock in nearby shops
Suggests local inventory swaps
Reduces dead stock & procurement cost

6. AR Visual Merchandising Assistant
Retailer clicks shelf photo
AI suggests product placement optimization
Based on detected regional trends

USP of the proposed solution?

1. "Sachet" AI – Micro Subscription Model
Event-based access (₹50 Diwali Pass / Wedding Week Boost)
Pay only when needed
Designed for small retailers' cash flow cycles

2. Panchang-Based Demand Intelligence
Integrates Indian calendar (Dhanteras, Muhurat timings)
Predicts demand based on cultural events, not just months
Region-specific festive forecasting

3. Khaata-to-Insights Integration
One-click sync with Khatabook / OKCredit
Auto-detects top customers & repayment cycles
Predicts restock timing based on ledger trends

4. Low-Bandwidth Lite Mode
Works in weak internet zones
Offline-first design
Sends critical alerts via SMS / WhatsApp

AI Sahayak: Unique Selling Points

Sachet" AI – Micro Subscription Model
Event-based access
Pay only when needed; Low uplored for MSME cash cycles

One-click sync with digita ledor
khatabook

Khaata-to-Insights Integration
Auto-detects top customers
Predicts restock based trends

Event-based access (e.50 Diwali Pass)
Low upproint cost
Tailored for MSME cah flow

Low-Bandwuich Lite Mode
Works in week internet zone
Offline-first
Critical architecttue

Panchang-Based Demand Intelligence
Predicts Indian cultural
Predicts demand by
not just month

Integrates Indian calendar
Muhurat, not just
Region-specific festive forecasting

Works in week internet
Critical alerts via SMS / WhatSApp

AI Sahayak: The Bharat Advantage

List of features offered by the solution

1. Predictive Intelligence (The "Brain")

Life-Event Detection Engine
Tracks 50+ Indian festivals, wedding muhurats & harvest cycles
Regional Event Confidence Score (0–100)
Pin-code level demand intensity indicator
Hyper-Local SKU Forecasting
Product-level demand projections using historical + real-time event triggers

2. Strategic Decision Tools (The "Optimizer")

Elasticity-Aware Pricing
Balances competitive pricing with margin protection
Deterministic Impact Modeling (What-If Lab)
Simulates Revenue, Volume & Gross Margin shifts before execution
Promo ROI Guard
Detects cannibalization & prevents unprofitable discounts

3. Bharat-First Accessibility (The "Bridge")

Bhashini Voice Interface
Multilingual WhatsApp & Voice bot (Hindi, Tamil, Hinglish)
**ONDC Competitive Benchmarking**
Compares shop prices with local network average
**Lite-Mode Architecture**
Works on low bandwidth (2G/3G) & entry-level smartphones
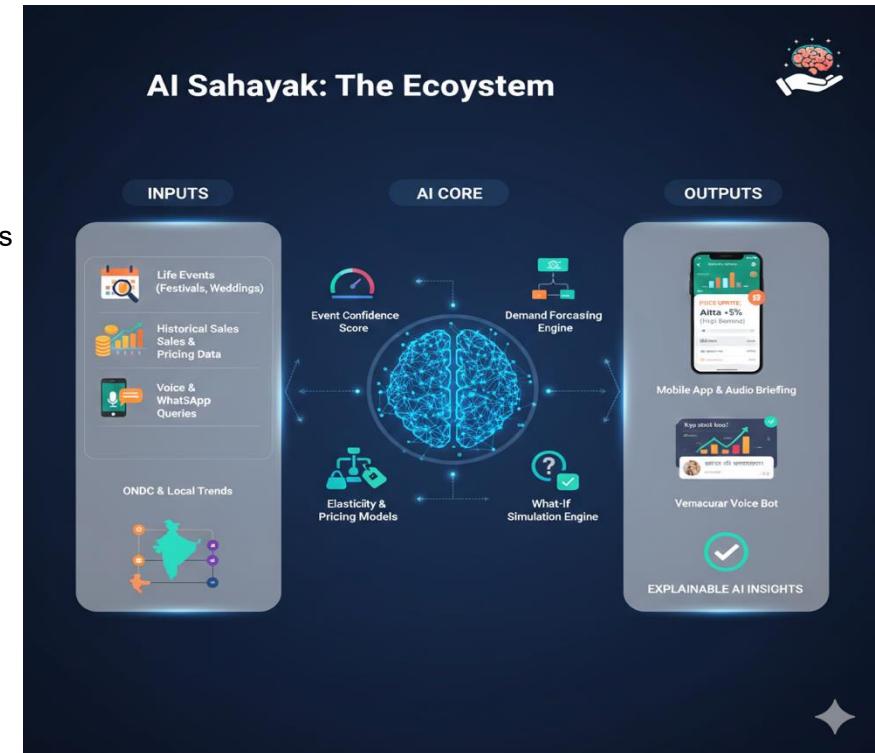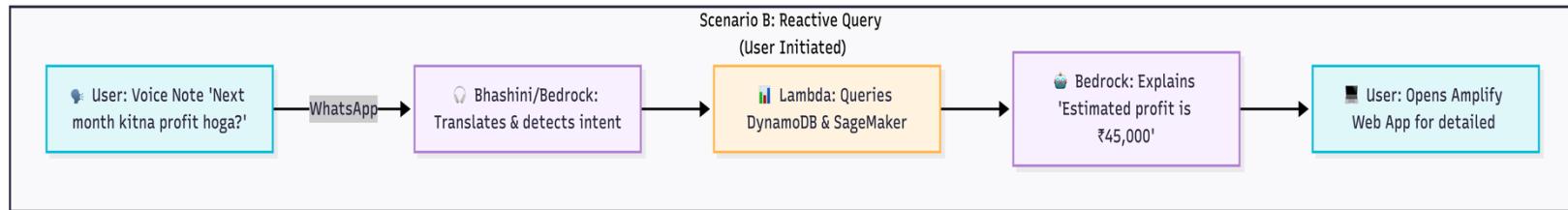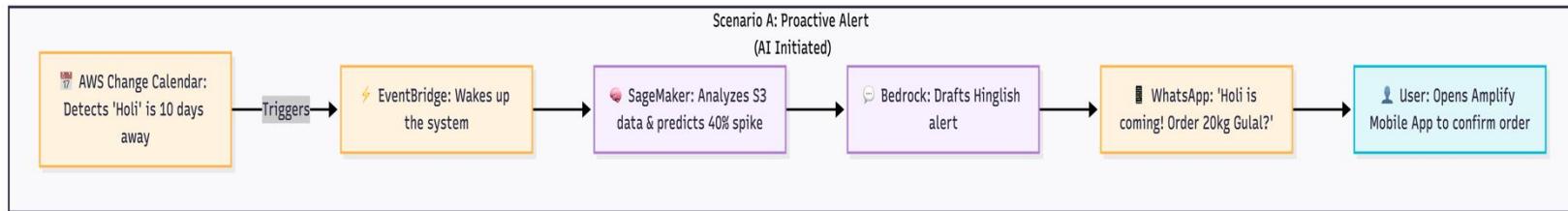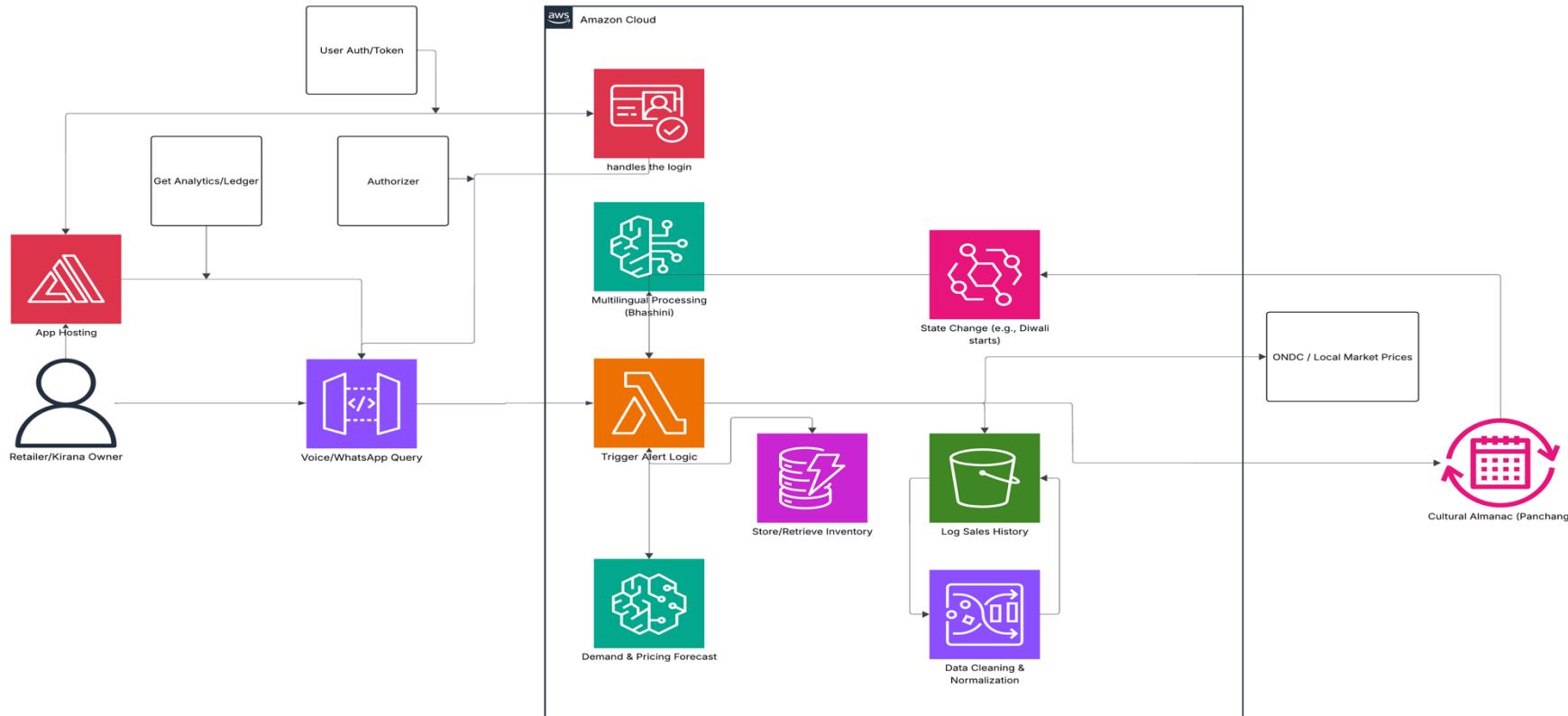
AI Sahayak: The Ecoystem

Process flow diagram or Use-case diagram

Scenario A: Proactive Alert (AI Initiated)

📅 AWS Change Calendar: Detects 'Holi' is 10 days away → **Triggers** → ⚡ EventBridge: Wakes up the system → 🔴 SageMaker: Analyzes S3 data & predicts 40% spike → 😐 Bedrock: Drafts Hinglish alert → 📱 WhatsApp: 'Holi is coming! Order 20kg Gulal?' → 👤 User: Opens Amplify Mobile App to confirm order

Scenario B: Reactive Query (User Initiated)

🎙️ User: Voice Note 'Next month kitna profit hoga?' → **WhatsApp** → 🎧 Bhashini/Bedrock: Translates & detects intent → 📊 Lambda: Queries DynamoDB & SageMaker → 🍰 Bedrock: Explains 'Estimated profit is ₹45,000' → 💻 User: Opens Amplify Web App for detailed

Architecture diagram of the proposed solution:

Technologies to be used in the solution:

1. Generative AI Core – Amazon Bedrock

Claude 3 / Llama 3 via Bedrock
Powers multilingual WhatsApp & Voice bot (regional switching)
Bhashini Integration (via AWS Lambda)
High-accuracy translation for Bharat users
Knowledge Bases for Bedrock
Stores Panchang & cultural event data for contextual AI reasoning

2. Demand & Pricing Intelligence – Amazon SageMaker

Time-Series Forecasting (Canvas / Studio)
Combines historical sales + Event Confidence Score
Elasticity Simulation Models
"What-If" pricing impact on Revenue & Margins before execution

3. Data Pipeline & Serverless Backend

AWS Glue + DataBrew
Cleans & normalizes ledger data (Khatabook / Excel)
Amazon S3 + Amazon DynamoDB
Data lake storage + real-time SKU & inventory access

4. Client Interface & Identity – Amplify & Cognito

AWS Amplify (Web/Mobile Hosting)
Hosts the Sahayak Dashboard (Desktop + Mobile)
Visualizes SageMaker forecasts & DynamoDB real-time inventory
Amazon Cognito (Secure Identity)
Enterprise-grade authentication & access control
Ensures store-level data isolation (Khaata privacy compliant with AWS Well-Architected Security pillar)

5. Proactive Event Logic – Systems Manager & EventBridge

AWS Systems Manager – Change Calendar
Acts as a digital Panchang tracking festivals, wedding seasons & harvest cycles
Converts AI from reactive chatbot → proactive demand planner
Amazon EventBridge
Triggers SageMaker forecasts on calendar state changes
Sends stock alerts 7–10 days before demand surge (prevents stock-outs)

AI for Bharat Hackathon

Powered by aws

Thank You