

# AI for Bharat Hackathon

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Team Name : PriceSaathi

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## Problem Statement :

Indian micro-sellers are "Busy but Broke" due to unsustainable pricing habits.

- **The Literacy Gap:** Complex business jargon and GST structures alienate non-technical entrepreneurs.
- **The Cost-Leak:** Overlooking labor and overheads leads to selling below the true break-even point.
- **The Precision Void:** Lack of simplified pricing guides forces "guesswork" that erodes profit margins.

## Brief about the Idea:

### AI Pricing Assistant for Indian Micro-Sellers

A mobile-first, chat-based AI assistant that helps small sellers confidently price their products in under 3 minutes. Instead of filling complicated business forms, sellers can simply describe what they sell in natural Hinglish, and the assistant guides them through costs, profit margin, and (optional) GST to recommend safe, profitable pricing options—while preventing pricing below cost.



*Rani is a teenager who makes **beaded earrings** at home and sells them on Instagram. She clicks a picture of her earrings and uploads it (or describes it like: “Main beads wali earrings banati hoon”). The assistant quickly understands the product, asks a few simple questions like material cost + time taken, and then suggests **3 pricing options (Low / Best / Premium)** with profit breakdown—ensuring Rani never sells at a loss.*

**Enables confident pricing decisions in minutes - no expertise required.**

## How it is different from other existing Ideas:

### Existing Solutions:

#### Enterprise pricing platforms (*Pricefx & PriceShape*)

- Built for large retailers & enterprises
- Require structured data, ERP/CRM & teams
- Built for optimization & analytics, **not beginner sellers**
- **English-only**, no Indian language support

#### Repricer & Indian business tools

- **Repricers**: Competitive repricing / Buy Box automation (marketplace-focused)
- **Tally Prime, Zoho**: Billing, accounting & GST – not pricing decisions
- **Shopify**: Help run a store, not decide prices

### Our solution (for micro-sellers in India)

- **Built for Indian micro-sellers** selling on *Instagram / WhatsApp / local markets*—no spreadsheets or business setup needed
- **Guided pricing journey**: *Product → Costs → GST (optional) → Recommended Price* (works even for beginners)
- **Hinglish-first conversational flow** with **smart defaults/assumptions** when the seller isn't sure about exact details
- **Explainable pricing output**: clear **cost breakup, GST impact, and profit visibility** across **Low / Best / Premium** options

We are not a repricer, not an accounting app, not an enterprise optimizer -- we're a pricing coach for India's micro-sellers.

## How will it be able to solve the problem:

*Moving from "Guesstimates" to "Precision Pricing" in 3 minutes*

### From Complexity to Conversation:

*Problem:* Small Sellers/ Beginners are intimidated by spreadsheets and "Business English."

*Solution:* Our Tool uses **Natural Language Processing (NLP)** to handle image based and Hinglish inputs. It feels like texting a friend, not filing a tax return.

### From "Hidden Leaks" to Total Visibility:

*Problem:* Small sellers forget "invisible costs" (packaging, tape, their own labor time, GST).

*Solution:* The **Intelligent Cost Engine** proactively prompts for these. If they don't know the cost, the AI provides **industry-standard defaults** based on 100+ product categories.

### From "Loss-making" to "Safe Profits":

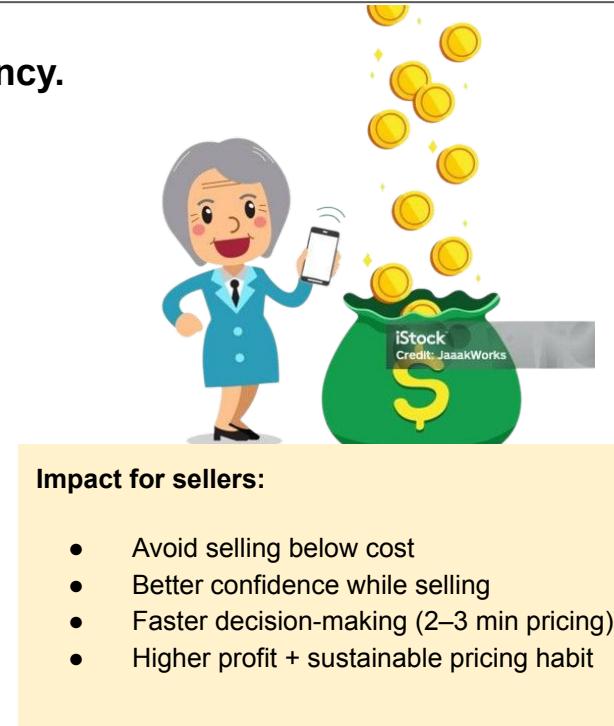
*Problem:* Sellers often price based on "what others are doing" and end up selling at a loss.

*Solution:* The **Anti-Underpricing Shield**. It calculates a **Minimum Safe Price** and visually warns the user with a red alert if their chosen price results in a loss.

## USP of the Proposed Solution

Pricing in 3 minutes, in your own language, with profit transparency.

- **Photo-to-price:** upload product image → instant pricing support
- **No-loss safety net:** warns if price is below cost
- **Explains the ‘why’:** shows profit + cost breakup clearly
- **Made for Indian micro-sellers:** Hinglish, simple, mobile-first
- **Grows with the seller:** Adapts to the user’s pricing/business knowledge

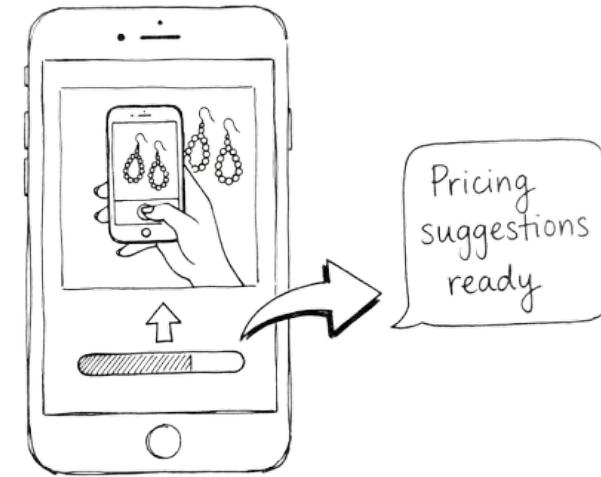
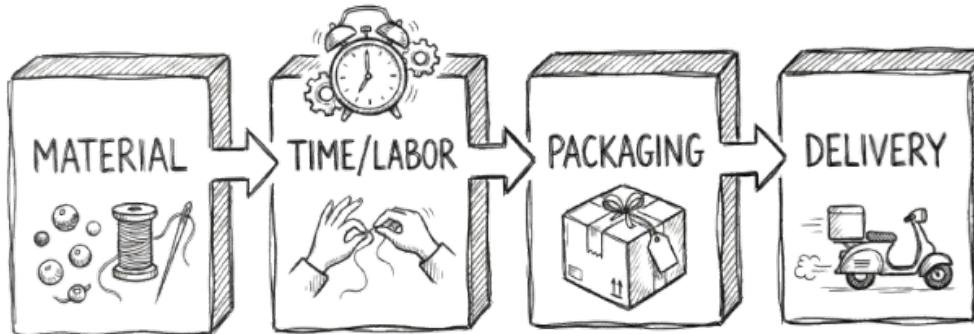


### Impact for sellers:

- Avoid selling below cost
- Better confidence while selling
- Faster decision-making (2–3 min pricing)
- Higher profit + sustainable pricing habit

## List of features offered by the solution

- **Photo / Text Input:** Upload product photo or type a short description (Hinglish supported)
- **Quick Questions Flow:** Minimal inputs, fast pricing in 2–3 minutes



- **Smart Cost Breakdown:** Raw material + labor/time + packaging + delivery + overheads

## List of features offered by the solution

- **Auto Pricing Suggestions:** Gives Low / Best / Premium price options



- **No-Loss Warning:** Alerts if pricing is below total cost

## List of features offered by the solution

- **Easy Chat Interface (No Complex Forms):**

Seller interacts in a simple WhatsApp-style chat—quick prompts, tap-to-select options, and minimal typing.

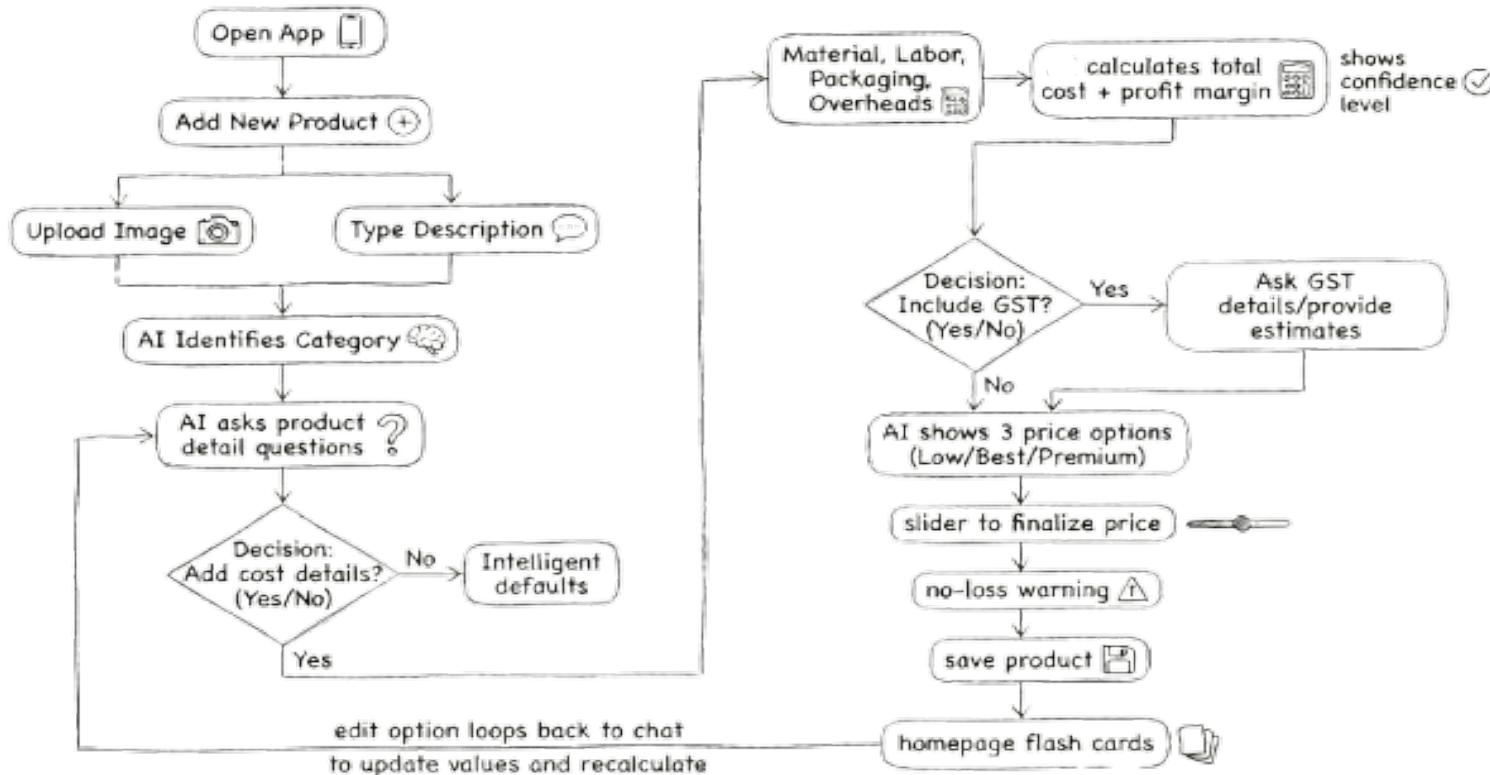


- **Homepage with Saved Products (Flash Cards View):**

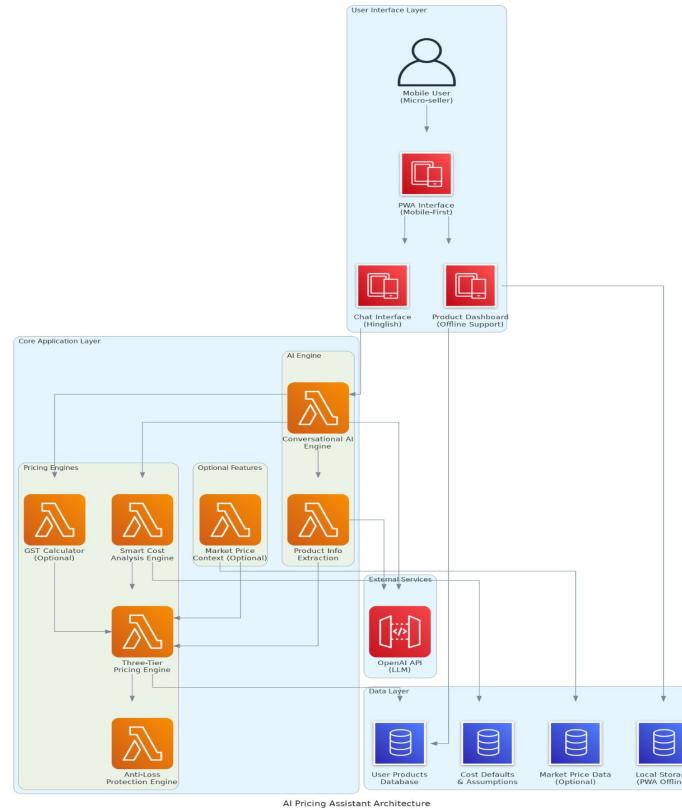
A clean dashboard showing all saved products as **cards** with product details and edit option.



## Process flow diagram



## Architecture diagram of the proposed solution:



## Technologies to be used in the solution:

### AI & NLP Layer:

**Conversational Engine:** Gemini 1.5 Flash (Hinglish-optimized) for natural product intake.

**Vision Engine:** Llama 3.2 Vision via Groq API for instant product & raw material recognition from images.

**Prompt Orchestration:** LangChain or LiteLLM to manage the "Progressive Disclosure" (asking follow-up questions only when data is missing).

### Backend & Logic Layer

**API Framework:** FastAPI (Asynchronous, high-performance Python).

**Extraction Bridge:** Pydantic + Instructor to parse unstructured Hinglish chat into structured JSON pricing parameters.

**Pricing Engine:** Deterministic Python logic for GST calculations and Three-Tier Recommendations

### Frontend & Data Layer

**Mobile-First UI:** Flutter for a smooth, app-like experience on Instagram-seller phones.

**Real-time Interaction:** WebSockets for "as-you-type" pricing updates.

**Database:** Supabase (PostgreSQL) for saving product cards and market price statistics.

Innovation partner **H2S**

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