KisanCredit

An AI-Enabled Loan Underwriting Agent for Rural and Semi-Urban India

Rural India: The $200 Billion Credit Frontier

- **65%+ of India’s population** resides in rural & semi-urban areas — a largely untapped market.
- **Formal credit penetration < 15%**, leaving millions dependent on informal, high-cost lending.
- **Annual rural credit demand > $200 billion**, growing rapidly with digital adoption.

By unlocking access to affordable, instant credit through AI-driven underwriting, we can capture a massive growth market while driving genuine financial inclusion for over 800 million people

The Core Problems We Solve

Why is Lending in Rural India So Hard?

Problem 1: Lack of Data: No formal credit history makes traditional underwriting impossible.

Problem 2: Digital & Financial Literacy Gap: Complex apps and financial jargon exclude most potential users.

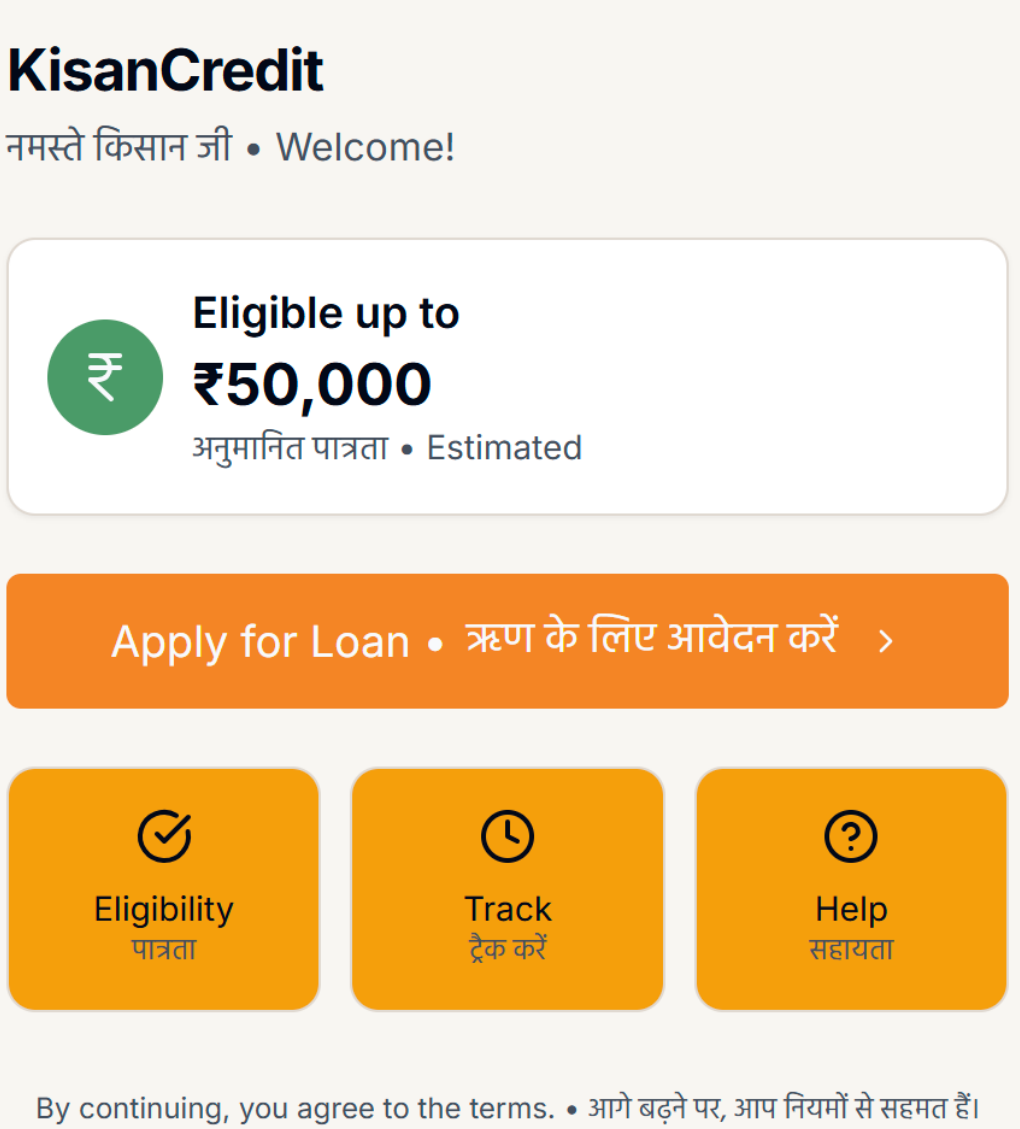
Problem 3: Poor Connectivity: Unreliable internet makes standard digital services fail.

Problem 4: High Turnaround Time: Manual processes lead to long waits and frustrated customers.

Our Solution: The KisanCredit App

THE 4 PILLARS OF OUR SOLUTION:

- **Instant Decisions** — Loan approvals in **minutes**, not days.
- **AI-Driven Underwriting** — Smart credit scoring using alternative & behavioral data for **fairer decisions**.
- **Built for Bharat** — Runs seamlessly on basic smartphones, supports **local languages**, and works in **low-bandwidth** areas.
- **AI Voice Assistant** — Guides users step-by-step in **their preferred language** for effortless navigation, even for first-time smartphone users.



Innovative Feature 1: The Dynamic AI Underwriting Agent

The Brains of Our Operation: The AI Underwriting Agent

An LLM-powered agent that builds a comprehensive credit profile without relying on CIBIL scores.

How it Works:

- **Analyzes Alternative Data: Securely processes user-consented data like SMS transaction alerts (e-g., credits from produce sales, debits for supplies), contact list strength, and location data patterns.**
- **Identifies Behavioral Patterns: The LLM understands unstructured text and patterns to infer income stability, spending habits, and social standing.**
- **Generates a Profitability Score: Instead of just a risk score, it generates a score focused on the likelihood of profitable repayment.**

Inputs (Data Sources)

1. **SMS Transactions** – Sales, expenses, UPI alerts.
Contact Graph Strength – Network size and reliability.
Geo-Location Patterns – Stability and travel for business.

2. Processing (LLM + AI Models)

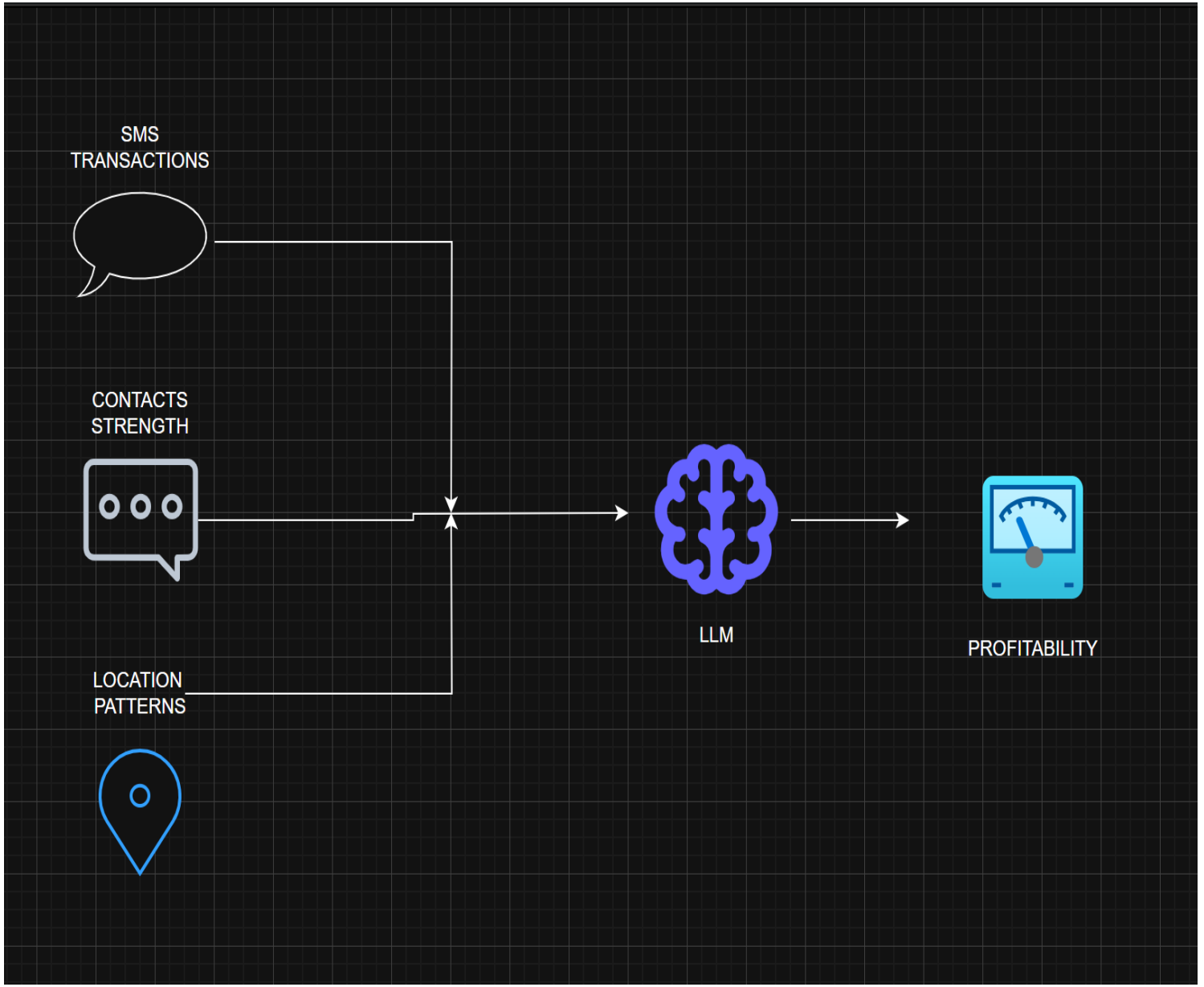
Multi-Modal LLM – Handles text, numbers, and images.
Pattern Recognition – Income stability, spending discipline.
Behavioral Scoring – Trust and repayment likelihood.
Profitability Prediction – Goes beyond just risk scores.

3. Outputs (For Decision Making)

Profitability & Credit Score (0–100 scale)

Confidence Level (Low / Medium / High)

Suggested Loan Terms (amount, tenure, rate)



The Profitability Score: Prioritizing Company Needs

How We Ensure Low Defaults and High Profitability

We created a weighted scoring system that prioritizes parameters directly linked to repayment capacity and intent. The company's financial health is the primary driver of the model.

Bank Parameter Prioritization Matrix:

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Parameter	Weight (Importance to Profit)	Data Source (Alternative)	How AI Validates (LLM Capability)
Income Stability	**40%**	SMS alerts for payments (e.g., Mandi sales), bank transaction messages.	Analyzes frequency, amount, and source of credits to establish a stable income pattern.
Expense Management	**25%**	SMS alerts for utility bills, mobile recharges, other debits.	Identifies regular essential spending vs. erratic or high-risk spending patterns.
Social Network Strength	**15%**	Anonymized contact list analysis (e.g., number of contacts, type).	Infers community integration. A proxy for social collateral; defaults are lower when reputation is at stake.
Financial Discipline	**10%**	History of digital payments (even small ones), paying bills on time via SMS alerts.	Tracks consistency in meeting financial obligations, however small.
Behavioral Red Flags	**10%**	App usage data, frequent location changes, alerts related to gambling apps.	Flags erratic behavior that correlates highly with defaults.

Feature: Vani Sahayak (The Voice Assistant)

- **Overcomes low digital literacy and builds trust. Eliminates the need for users to type or navigate complex menus.**

- **A conversational LLM agent that guides users through the entire process in their local dialect.**
- **It asks simple questions ("Do you need a loan for your business or for personal use?"), collects information, and answers queries 24/7.**
- **It can pre-fill information by asking for permissions to read relevant SMS messages (e.g., bank transactions, bill payments).**

HOW IT WORKS

- **Natural Language Understanding:** Users can speak or type questions in their native dialect (e.g., Hindi, Marathi, Telugu). The LLM understands the intent, not just keywords.
- **Guided Journey:** The assistant vocally guides the user through every step: "अब, कृपया अपने आधार कार्ड का फोटो लें" (Now, please take a photo of your Aadhaar card).
- **Instant Support:** Answers questions about EMI, interest rates, and payment dates in simple, clear language, reducing calls to support centers.

Feature Prioritization: What We Build First

Summary of the Prioritization Matrix

The matrix evaluates features along two dimensions: **Impact** (on business and user adoption) and **Effort** (time, resources, complexity).

Top-Right: High Impact / High Effort – Major Projects

AI Underwriting Agent (P1) – Core engine for risk assessment and profitability. Although it requires significant development effort, it delivers the highest business value and competitive edge.

Top-Left: High Impact / Low Effort – Quick Wins

Simplified Visual Application (P2) – Improves usability for low-literacy users, driving rapid adoption with minimal technical work.

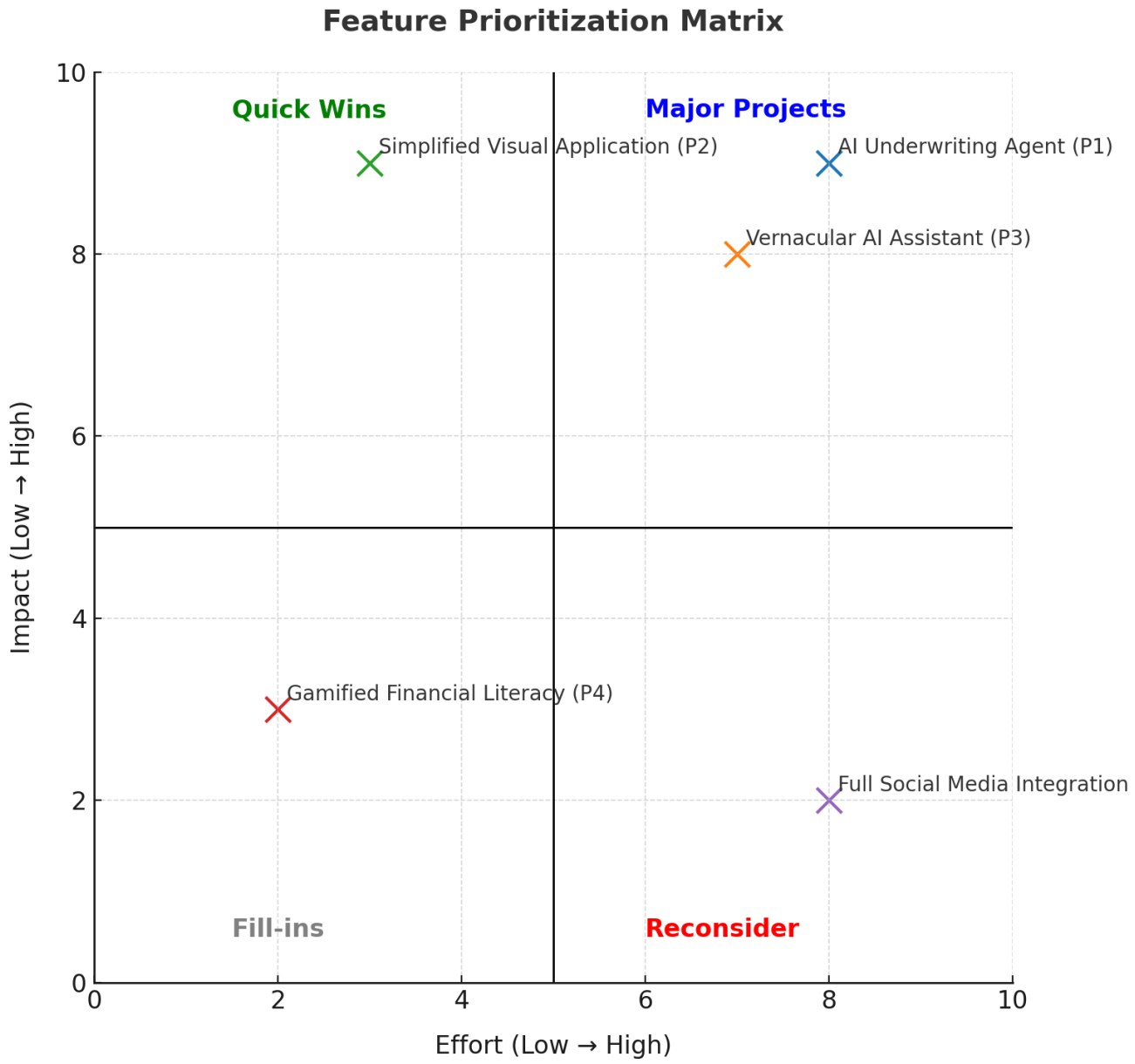
Vernacular AI Assistant (P3) – Enhances accessibility through local language and voice support; quick to implement with modern APIs.

Bottom-Right: Low Impact / High Effort – Reconsider

Full Social Media Integration – Data source for underwriting, but low direct impact and high integration complexity; defer for now.

Bottom-Left: Low Impact / Low Effort – Fill-Ins

Gamified Financial Literacy (P4) – Good for engagement and brand building, but not a priority for launch.



PRIORITIZATION CONCLUSION

- The immediate roadmap should start with **Quick Wins (P2, P3)** to drive adoption, while parallelly investing in **Major Project P1** as the foundation for long-term profitability. Lower impact features (social media integration, gamified literacy) should be deprioritized until core lending and underwriting capabilities are fully operational. **This balanced approach ensures early market traction without compromising strategic depth.**

User Experience: Designing for Trust and Simplicity

How We Accommodate Low Digital Literacy:

Guiding Principles:

- **Vernacular First:** The entire app is available in multiple regional languages.
- **Voice-Led Interaction:** Voice commands and readouts for all major actions.
- **Icon-Based UI:** Big, clear icons and minimal text. Visual cues for success (green checkmark) and error (red cross).
- **Assisted Onboarding:** Step-by-step guidance from the AI assistant.

User Flow: The Loan Journey in 5 Simple Steps

Application Initiation & Permissions

AI voice assistant welcomes user in local language, explains loan process, and tequests consent for SMS, contacts and location

AI-Powered Data Collection

Conversational interface gathers loan details, AI securely scans SMS for income and expenses

Instant Eligibility & Loan Offer

AI underwriting gives pre-approved loan amount; assistant explains offer in simple terms

e-KYC & Bank Linking

Voice-led e-KYC using DiglLocker or document photo capture; bank account linked for disbursal

Confirmation & Disbursal

Loan agreement confirmed, funds instantly transferred; AI assistant confirms vocally

Technical Architecture

High-Level System Design: Built for Scale & Reliability

High-Level System Design:

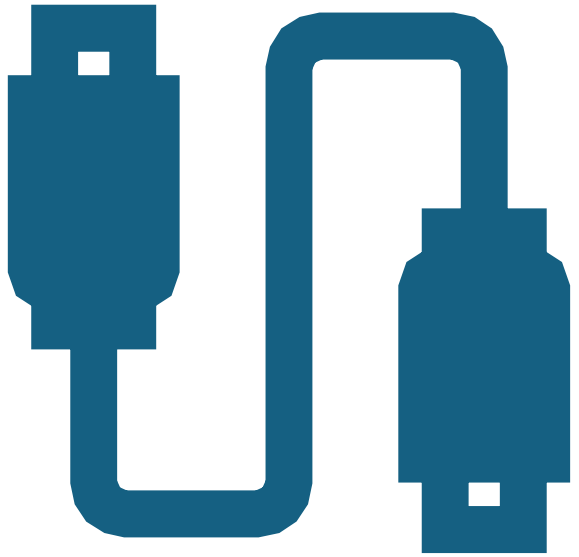
- **Mobile App (Client-Side):**
  - **Lightweight SDK:** Built with modularity. Core functionalities (UI, basic logic) are separate from heavier modules like the AI assistant or document OCR, which can be loaded on demand.
  - **Offline-First Design:** Uses a local database (like SQLite) to store user input, application state, and queued API requests.
  - **Request Queue & Sync Manager:** Manages all outgoing requests. If the network is unavailable, requests are queued. When connectivity resumes, the manager syncs the data with the backend automatically.
- **Backend (Server-Side):**
  - **API Gateway:** A single entry point for all mobile app requests. It handles authentication, rate limiting, and routing to the appropriate microservices.
  - **Microservices Architecture:**
    - **User Service:** Manages user profiles and authentication.
    - **KYC Service:** Integrates with third-party services like DigiLocker and performs document verification.
    - **AI Underwriting Service:** The core of the application. It hosts the LLM and other machine learning models for credit scoring. This is a resource-intensive service running on powerful GPU-enabled servers.
    - **Loan Service:** Manages the entire loan lifecycle, from creation and disbursal to repayment.
    - **Notification Service:** Sends SMS, push notifications, and in-app messages to the user.
- **Data Stores:**
    - **SQL Database:** For structured, transactional data (user info, loan details).
    - **NoSQL Database:** For storing unstructured data from the underwriting process (e.g., processed SMS data, behavioral patterns).
    - **Data Lake:** Aggregates data from all services for analytics and continuous improvement of the AI models.

Handling Low Bandwidth and Retries

- **Smart Data Compression:** Compresses all data payloads before sending them from the client to the server. Images are compressed on the device before upload.

- **Connection Quality Detection:** The app actively monitors the network quality (2G, 3G, 4G, Wi-Fi). It adjusts its behavior accordingly, for instance, by deferring non-critical data syncs on a 2G network.

- **Intelligent Retry Mechanism:** Failed requests are not retried immediately. The app uses an **exponential backoff** strategy, waiting for progressively longer intervals before retrying to avoid flooding the network. For critical uploads like KYC documents, the app supports **resumable uploads**, so if the connection drops, it can resume from where it left off instead of starting over.



Measuring Success (KPIs)

We will track the following Key Performance Indicators to measure the app's success:

- **User & Business Metrics:**
  - **Loan Application Rate:** Percentage of users who start an application after installing the app.
  - **Approval Rate:** Percentage of completed applications that are approved.
  - **Disbursal Rate:** Percentage of approved loans that are disbursed.
  - **Default Rate:** Percentage of loans that are not repaid on time. This is the most critical metric for profitability.
  - **Customer Acquisition Cost (CAC):** The average cost to acquire a new borrowing customer.
  - **Average Loan Value:** The average amount disbursed per loan.

- **Product & Engagement Metrics:**
  - **Application Completion Time:** The average time it takes a user to complete the loan application.
  - **AI Assistant Usage:** Percentage of users who interact with the *Vani Sahayak*.
  - **Drop-off Points:** Identifying where in the user flow users are abandoning the process.
  - **Net Promoter Score (NPS):** A measure of user satisfaction and loyalty.

Investing in an Inclusive Financial Future

- **The Opportunity:** We are targeting a $200 billion rural credit market where formal credit penetration is less than 15%, leaving over 800 million people underserved.
- **Our Solution:** The KisanCredit App, an AI-powered platform providing instant loans to rural and semi-urban India.
- **Core Innovation:** An LLM-powered underwriting agent that assesses creditworthiness using alternative data like SMS alerts and behavioral patterns, generating a "Profitability Score" to ensure low defaults.
- **Designed for Bharat:** A lightweight app built for low-spec phones and poor connectivity, featuring a voice-led AI assistant (*Vani Sahayak*) and a simple, vernacular interface to overcome digital literacy barriers.
- **Strategic Growth:** Our feature roadmap prioritizes a simplified user experience and the AI assistant for immediate adoption, while building the core underwriting agent as our long-term competitive advantage, ensuring both market traction and profitability.

THANK YOU!