

AI-Driven Trust & Fraud Prevention in Credit Card-Based Payments

Product Requirements Document (PRD)

📌 TL DR

This PRD outlines a **credit card-based payments app** designed to address **trust and fraud prevention** for users and merchants in India. By integrating with **NPCI's infrastructure**, the app offers **AI-driven fraud detection**, **secure transactions**, and **merchant verification** to promote wider credit card adoption.

The app directly addresses **three key challenges** in digital credit transactions:

- 1 **Fraud risk** - Users hesitate to link credit cards due to security concerns.
- 2 **Merchant resistance** - High MDR (Merchant Discount Rate) discourages small businesses from accepting credit-backed UPI payments.
- 3 **Transparency issues** - Hidden fees and poor spend tracking make users reluctant to use credit for digital transactions.

This product will solve these issues through:

- ✓ **AI-powered fraud prevention & secure onboarding**
 - ✓ **Real-time transaction monitoring & merchant trust verification**
 - ✓ **UPI-credit card integration with lower fees & instant settlements**
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🎯 Goals

📊 Business Goals

- 🚀 **Increase credit card linkage by 30% within the first year.**
- 🛡️ **Reduce fraudulent transactions by 20% within six months.**
- 🏪 **Grow merchant adoption of credit-backed UPI by 25% in Tier 2/3 cities.**

👤 User Goals





- ✅ Provide a **secure** and **seamless** credit card linking experience.
- 📊 Empower users with **detailed spending insights** and **proactive repayment assistance**.
- 🔍 **Enhance transparency** in digital payments to **build trust**.

🚫 non-goals




- ❌ Integrating with **non-NPCI** infrastructure.
- ❌ Developing **physical** payment hardware.
- ❌ Expanding to **international** markets in the initial rollout.

User Stories

Persona: End User (Consumers using credit cards for payments)

-  **As a user, I want to securely link my credit card**, so that I feel confident using it for digital payments.
-  **As a user, I want to track my spending easily**, so that I can manage my budget without stress.
-  **As a user, I want fraud alerts and spending controls**, so that I can protect myself from unauthorized transactions.
-  **As a user, I want to know if a merchant is verified**, so that I can avoid scams and fake businesses.

Persona: Merchant (Businesses accepting credit-backed UPI payments)

-  **As a merchant, I want lower interchange fees**, so that I can accept credit payments without impacting my margins.
 -  **As a merchant, I want instant settlement of transactions**, so that my cash flow isn't disrupted.
 -  **As a merchant, I want customer trust indicators**, so that I can attract more buyers to my store.
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Functional Requirements

1 Fraud Prevention & Trust-Building (Priority: High)

Zero-Fraud Onboarding & Secure Linking

- **Biometric verification** (Face ID/Fingerprint) required before linking credit cards.
- **AI-powered risk scoring** to detect stolen or fraud-prone cards before approval.

AI-Driven Transaction Monitoring

- **Real-time AI fraud detection** using transaction history and user behavior.
- **Auto-lock feature** for high-risk transactions, requiring additional authentication (Face ID/OTP).

Merchant Verification & Trust Indicators

- **"Verified Merchant" program** to flag **trusted businesses** with strong transaction history.
 - **User-generated trust scores** to improve **merchant credibility and prevent scams**.
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2 UPI-Credit Card Integration & Merchant Adoption (Priority: High)

Driving Merchant Adoption

- **Lower interchange fees** (MDR < 1%) for small merchants accepting credit via UPI.
- **Instant settlements** (within 30 minutes) to improve cash flow.

✓ Making Credit-Backed UPI Seamless

- **One-tap credit payments** for UPI transactions with a **default credit card setting**.
- **Partial credit/debit split payments** for users with low credit limits.

✓ Tier 2/3 City Growth Strategies

- **No-cost EMI for big purchases** in smaller cities to drive affordability.
 - **Cashback rewards** for first-time credit card UPI users to encourage adoption.
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3 AI-Driven Credit Utilization & Spend Control (Priority: Medium)

✓ Smart Spending Insights

- **AI categorizes transactions** into **Food, Travel, Bills, etc.**, providing users with a **monthly breakdown**.
- **“Safe to Spend” alerts** prevent users from overspending by analyzing income, past spending, and upcoming payments.

✓ Proactive Repayment Assistance

- **Auto-micropayments** break down large repayments into smaller, automated deductions to reduce interest burden.
- **Pay-when-paid feature** syncs credit card bill repayments with salary credit dates, avoiding late fees.

✓ Optimized Credit Utilization

- **AI-driven alerts** notify users **when to repay early** to maximize cashback or interest-free periods.
 - **Gamified credit score boosts** by rewarding users for timely payments and responsible credit usage.
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4 User Experience & Transparency (Priority: Medium)

✓ Real-Time Transaction Visibility & Spend Tracking

- **Instant notifications** for transactions above ₹100, including **merchant details & spend category**.
- **Hidden Fee Transparency Dashboard** shows a **breakdown of transaction fees, interest, and charges** before users complete a payment.

✓ Gamification & Engagement

- **Trust Score:** Users get a **dynamic score based on responsible credit usage**, unlocking perks like lower interest rates.
 - **Spending Challenges & Rewards:** Users can participate in challenges like “**Spend ₹10,000 on essentials = ₹200 cashback**” to build habits.
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User Experience Flow

Entry Point & First-Time User Experience

- 1. Users discover the app through **organic search, partner promotions, or referrals**.
- 2. Guided onboarding tutorial helps users securely link their **credit cards using biometrics**.

Core Experience

- ✓ **Step 1:** User links a credit card securely with **AI risk scoring & biometric authentication**.
- ✓ **Step 2:** User makes a transaction with **real-time fraud detection & spending insights**.
- ✓ **Step 3:** User receives **spend tracking insights** and **detailed transaction breakdowns**.

Advanced Features & Edge Cases

- Users can **customize notifications & tracking settings** based on transaction size & category.
- AI detects and handles **disputed transactions automatically**, notifying users for verification.

5. Regulatory & Compliance Considerations (Priority: High)

✓ Alignment with NPCI/RBI Guidelines

- **AI-based compliance monitoring** flags transactions that violate **RBI digital payment regulations**.
- **Tokenization & device binding** ensures **secure card transactions** per RBI’s security mandates.

✓ Ethical AI & Data Security

- Users can **contest flagged transactions** via in-app dispute resolution.
 - **Privacy-first spend tracking:** Users control **which data is shared and how it’s used**.
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Success Metrics



User-Centric Metrics

- 🚀 **40% increase in credit card linkages** within 6 months.
- ✓ **75% user satisfaction** in transparency & ease of use (measured via app feedback).

Business Metrics

- 📊 **10% increase in merchant transactions** via credit-backed UPI.
- 💰 **15% reduction in user acquisition cost** due to higher retention & referrals.

Technical Metrics

-  **99.9% uptime** for transaction processing.
 -  **False-positive fraud alerts reduced to <2%** through AI improvements.
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Technical Considerations

Technical Needs

- APIs for **biometric verification & AI fraud detection**.
- **Secure backend infrastructure** to support high transaction volumes.

Integration Points

- **NPCI & RBI compliance systems**.
- **Third-party AI platforms** for advanced fraud analytics.

Data Security & Compliance

- **Tokenization & encryption** for all sensitive data.
 - **Strict compliance with India's data protection laws**.
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Milestones & Sequencing

Phase 1: Design & Prototype (Week 1)

- ✓ **Deliverables:** Initial **UI/UX wireframes**, onboarding flow design.
- ✓ **Dependencies:** Market research & compliance validation.

Phase 2: Development (Weeks 2-3)

- ✓ **Deliverables:** MVP with **card linking & fraud detection**.
- ✓ **Dependencies:** Backend APIs for NPCI & AI engine setup.

Phase 3: Testing & Launch (Week 4)

- ✓ **Deliverables:** Beta testing feedback, final **security audits**.
 - ✓ **Dependencies:** Marketing materials, compliance approvals.
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Conclusion

This **AI-powered credit card payments app** enhances **trust, security, and adoption**. By focusing on **fraud prevention, transparency, and compliance**, it creates a **safe and seamless experience** for both users and merchants, driving **long-term digital payment adoption in India**.