



# CODE RED 3.0

CODE TILL YOU DROP



## SOLUTION OUTLINE/OBJECTIVE

Problem Statement Code: CR(s) 6

Team Name: Amateur Coders

Team Leader Name: Shreeram Suchetan Hegde

Institution Name: NIE(North) Mysuru

# IDEA/APPROACH DETAILS

## Our Solution: DhanSetu

DhanSetu (Bridge to Wealth) is a personal finance intelligence platform that transforms raw SMS transaction data into actionable financial wisdom, helping users achieve financial stability through smart spending, disciplined savings, and credit-building opportunities.

### Key Features

#### 1. Smart Cash Flow Management

AI-powered income pattern detection for irregular earners

Dynamic "Safe Spend" calculator based on upcoming bills and income predictions

Real-time cash flow alerts: "You have ₹2,500 safe to spend this week"

#### 2. Impulse Control & Opportunity Cost Nudges

Detects wasteful spending patterns (frequent food delivery, unnecessary subscriptions)

Shows opportunity cost: "If you had invested ₹500 in gold instead of that purchase, you'd have ₹1,200 today"

Behavioral nudges before payday to prevent overspending

#### 3. Bharat Credit Score

Alternative credit scoring for the unbanked/underbanked

Built from SMS transaction history, payment regularity, and savings discipline

Opens doors to microloans and financial inclusion

#### 4. Goal-Based Savings

Set financial goals (emergency fund, business expansion, festival expenses)

Auto-suggest savings amounts based on income patterns

# IDEA/APPROACH DETAILS

Gamified milestones with rewards and badges

## 5. Financial Health Dashboard

Visual spending breakdown by category

Income vs. Expense trends

Personalized financial health score (0-100)

Monthly financial report cards

## 6. Bill Prediction & Reminders

ML-based recurring bill detection (rent, EMIs, subscriptions)

Proactive reminders: "Rent of ₹5,000 due in 3 days. Current balance: ₹4,200"

# IDEA/APPROACH DETAILS

## Technology Stack

### Frontend

Mobile: React Native / Flutter

Web: React.js with TailwindCSS

Charts: Recharts / Chart.js

### Backend

- API: Node.js (Express) / Python (FastAPI)
- Database: PostgreSQL (structured data) + MongoDB (transaction logs)
- Caching: Redis

### Infrastructure

- Hosting: AWS / Google Cloud
- Storage: S3 (encrypted transaction data)
- Security: End-to-end encryption, OAuth 2.0

### AI/ML Components

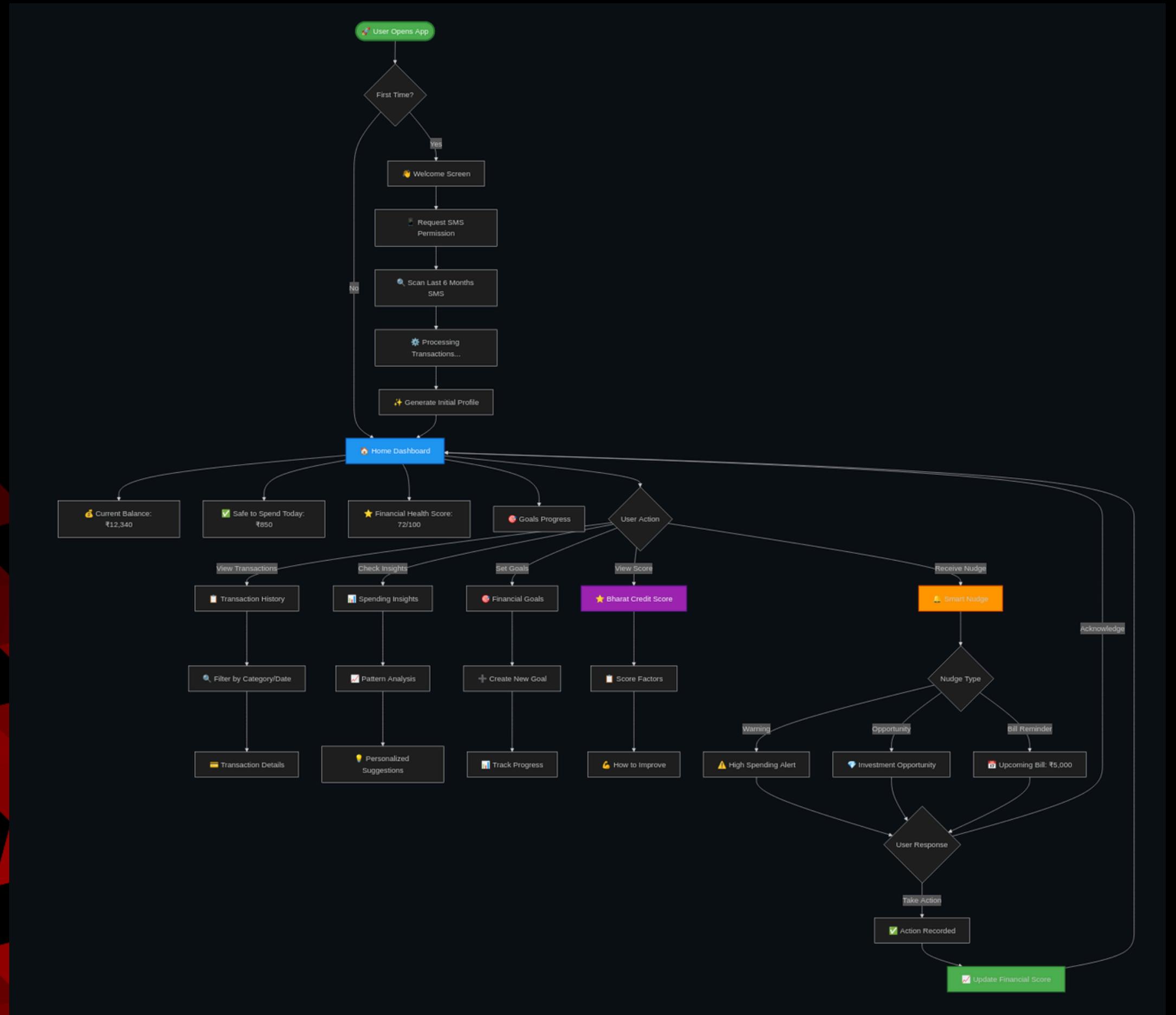
- SMS Parsing: Regex + NLP (spaCy)
- Transaction Categorization: scikit-learn (Random Forest)
- Pattern Detection: Time series analysis (ARIMA/Prophet)
- Anomaly Detection: Isolation Forest
- Credit Scoring: Custom ML model (XGBoost)

# IDEA/APPROACH DETAILS

## Unique Selling Points (USPs)

1. Hyper-localized for India: Understands Indian transaction patterns (UPI, Paytm, PhonePe, local bank SMS formats)
2. Works Offline-first: Core features available without constant internet
3. Privacy-first: All data encrypted, SMS processed locally, no cloud storage of raw SMS
4. Behavioral Psychology: Nudges based on proven behavioral economics principles
5. Financial Inclusion: Alternative credit scoring opens doors for the underbanked

# IDEA/APPROACH DETAILS



# TEAM DETAILS

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