

Smart Expense Tracker with AI-Driven Financial Insights

Problem Statement:

Managing personal finances is challenging due to fragmented data from UPI, email receipts, and SMS notifications. Traditional tools lack real-time updates, intelligent insights, and proactive alerts, making it hard to track expenses, analyze spending, and plan budgets effectively.

Solution:

The Smart Expense Tracker is an Android app that simplifies personal finance management by automatically consolidating transaction data and providing actionable insights using AI and ML.

Key Features

- **Automatic Transaction Tracking:**
Extracts data from UPI, email, and SMS using NLP.
- **Expense Categorization:**
Categorizes transactions using ML, with manual correction for improved accuracy.
- **Real-Time Alerts:**
Sends notifications for transactions, budget limits, and unusual spending.
- **Predictive Analysis:**
Forecasts spending trends and offers personalized budget suggestions.
- **Anomaly Detection:**
Flags suspicious transactions using statistical models.
- **Secure Data Handling:**
Ensures privacy with AES encryption and regulatory compliance.

Technology Stack:

- Kotlin/Java for Android development
- TensorFlow Lite for on-device ML
- Firebase for backend and notifications
- NLP for text extraction
- MPAndroidChart for visualizations

Workflow:

1. Collects transaction data from UPI, email, and SMS.

2. Categorizes expenses using ML and improves accuracy over time.
3. Provides real-time alerts and spending insights.
4. Flags anomalies and optimizes budgets.

Conclusion:

The Smart Expense Tracker is a secure and user-friendly tool for modern financial management. It consolidates transaction data, provides intelligent insights, and empowers users to take control of their finances with real-time alerts and predictive analysis.

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