

Smart Financial Coach is a lightweight personal finance application designed to help users understand their spending, identify hidden recurring costs, and track progress toward financial goals. Many people struggle with personal finance because traditional budgeting tools are either too complex or not personalized enough. This project focuses on transforming raw transaction data into clear and actionable insights using AI, making financial guidance accessible and easy to understand.

The target audience includes individuals who want better visibility into their financial habits, young adults learning to manage money, gig workers with inconsistent income, and anyone who may overlook recurring subscriptions or small hidden fees. Users interact with the system by uploading a CSV of their bank transactions. The backend processes the file, stores the transactions, and uses AI models to categorize spending, detect patterns, and generate personalized financial insights.

The solution is built with a React frontend and a Node.js and Express backend. MongoDB stores transactions and goals, while the Hugging Face Router provides AI features such as transaction categorization, subscription analysis, and natural-language financial insights. The dashboard presents total monthly spending, projected savings, subscription information, spending categories, and AI-generated suggestions. Users can also create financial goals, and the system calculates how much they need to save each month and whether they are on track.

Subscription detection is handled in two ways. First, if a transaction is marked as a subscription in the uploaded CSV, it is treated as a confirmed recurring charge. Second, the system analyzes all transactions to find recurring patterns such as charges from the same merchant with similar amounts. It also identifies unusual small charges, which often represent fees or trial renewals that users may not recognize.

The prototype uses CSV uploads instead of live bank connections because it allows secure, fast, and simple testing without requiring sensitive financial credentials. This architecture leaves room for future expansion into real-time bank syncing, user authentication, personalized budgeting, multicategory charts, and notification systems. Adding login functionality would allow each user to maintain their own private dashboard and improve long-term usability.

Smart Financial Coach demonstrates how AI can simplify financial data and help users make better decisions. Even in its prototype form, it provides meaningful insights, tracks goals, detects hidden costs, and shows how automation can empower financial awareness. Future versions will focus on expanding personalization, improving forecasting, integrating real bank data, and enhancing the user experience.